Mitigating IT Risks with Data Classification and Access Control

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Overview

"Fireside chat" format

- Tim introduces a subject
- Jeff answers a related question

Jeff then presents on Netwrix

Attendee Q/A

GDPR

General Data Protection Regulation (25 May 2018)

European Union (EU)

Aims to give citizens greater control over their personal data

"Businesses here in the US might have heard of GDPR but not believe it affects them. Please explain how GDPR may indeed affect US organizations."

Question for Jeff

Data Classification

The process of organizing data into categories for its most effective and efficient use. This can be of particular importance for risk management, legal discovery, and compliance.

Microsoft File Classification Infrastructure (FCI)

Windows Server feature	Rules for automatically classifying files	Classify by location, content, PII
Take actions: encryption, move, etc.	Admins can perform manually classification	Dynamic Access Control (DAC)

Boldon James

A UK-based software company incorporated in February 1985, and specializing in data classification and secure messaging solutions aimed primarily at the commercial, defense, intelligence and government marketplaces.

"Some discovery/auditing software uses Boldon James keyword classification. What does Netwrix use, and why?"

Question for Jeff

"What are the risks for data classification implementation? How can a business avoid pitfalls in data classification initiatives?"

Question for Jeff

Access Control

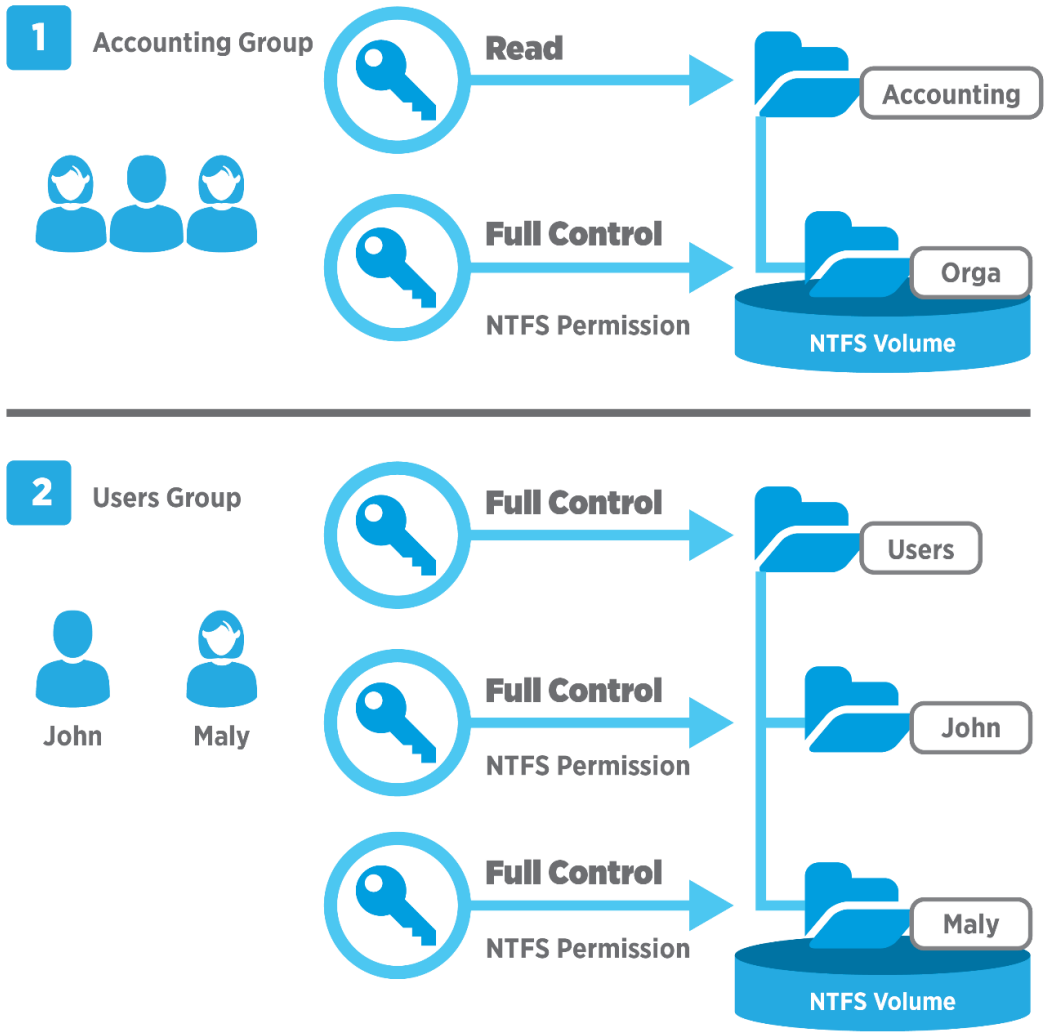
Also called *authorization*. A security technique that can be used to regulate who or what can view or use resources in a computing environment. Compare with *authentication*.

Shared Folder and NTFS Permissions

Effective permissions

Least privilege

Inheritance



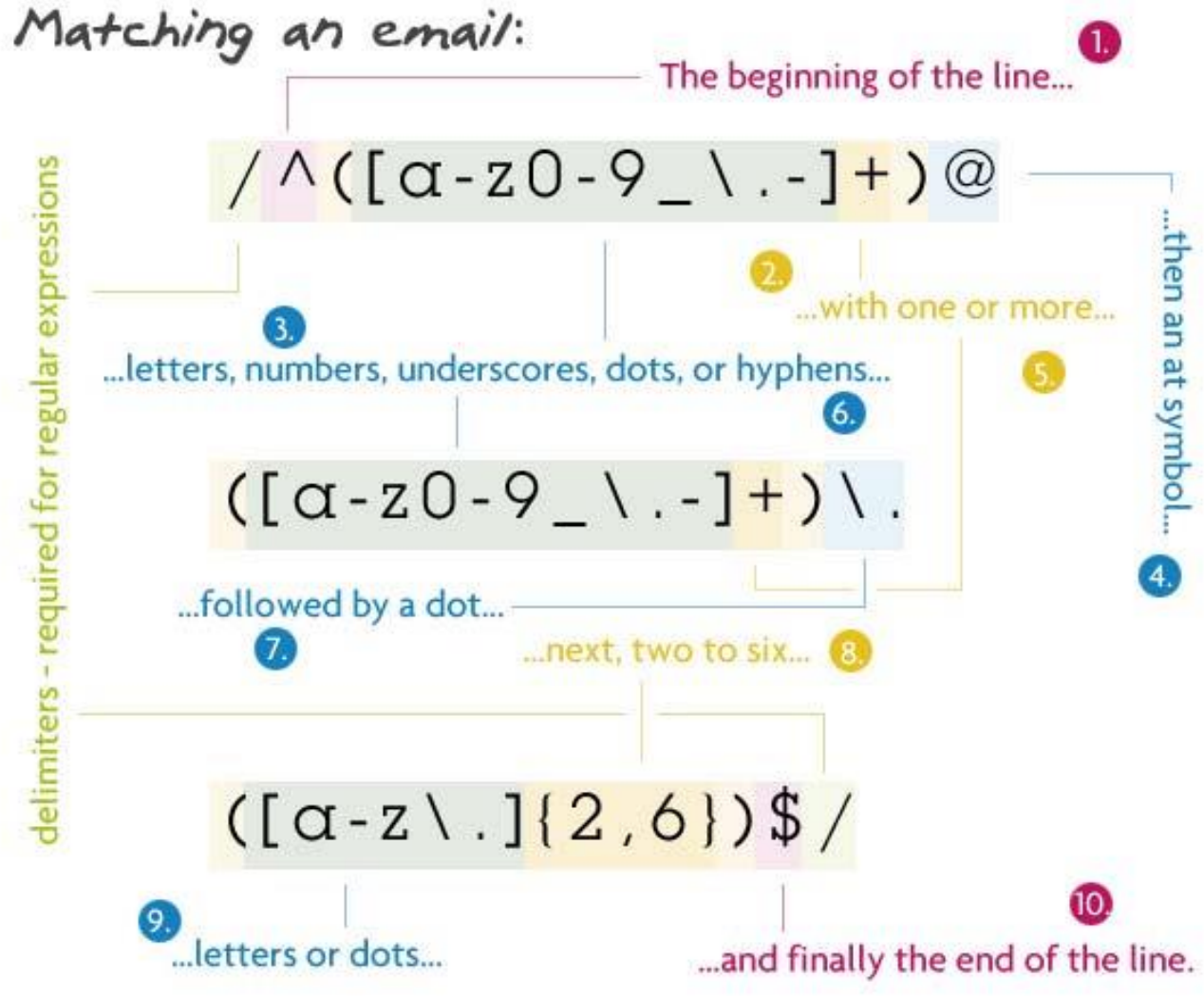
timw.info/fsv

Regular Expressions (Regex)

Character sequence that defines a string search pattern

Originated in cognitive science

Enormously useful in IT

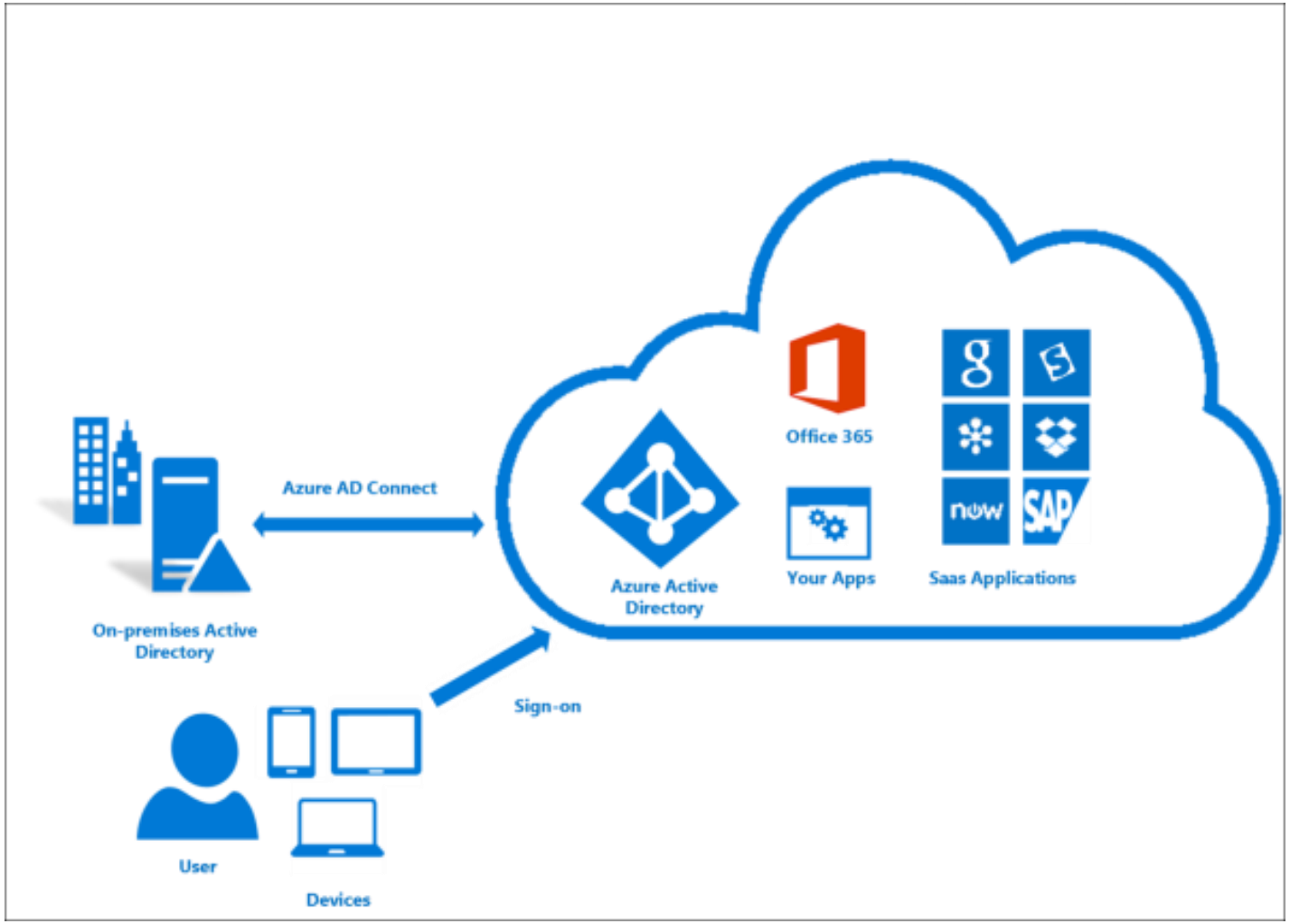


timw.info/rex

"How can businesses use regexes to discover sensitive data?"

Question for Jeff

Hybrid Cloud/SaaS Infrastructure



SaaS

SSO

Cloud storage

timw.info/hyc

"How can data classification work in a hybrid cloud situation; say with Dropbox, OneDrive, Amazon S3, or Azure storage?"

Question for Jeff

Real-life breach example: Sony Pictures Hack (2014)

Disgruntled ex-employee

He/she was able to gain access to their personal and company-related data remotely

Results:

- Corporate public embarrassment
- PII exposure
- IP exposure
- Lost public trust
- Lost revenues

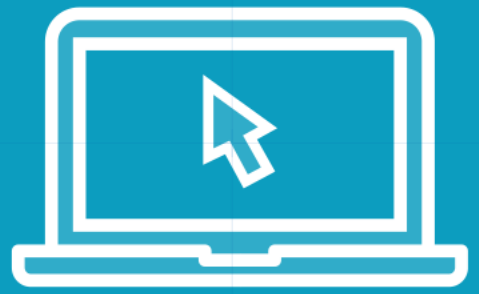
"How can Netwrix help businesses identify whether sensitive data has been breached?"

Question for Jeff

"Regarding compliance: Assuming there has been a breach, how can Netwrix help determine the breach's severity?"

Question for Jeff

Demo



Netwrix Auditor

IT Risk Assessment

IT Risk Assessment: Overview

Gives you a bird's eye view of risks in your organization. Control and mitigate your IT risks by continuously monitoring and addressing weak points in your environment, such as chaotically organized privilege structure, "shadow" user and computer accounts, and improper content on your file shares.

Total risk level for Permissions: Acceptable

Risk	Level
User accounts with administrative privileges	Acceptable
Administrative groups	Acceptable
Empty security groups	Acceptable

Total risk level for Data: Take action

Risk	Level
Shared folders accessible by Everyone	Take action
File names containing sensitive data	Take action
Potentially harmful files on file shares	Take action
Direct permissions on files and folders	Pay attention

Total risk level for Users and Computers: Pay attention

Risk	Level
User accounts with Password never expires	Pay attention
User accounts with Password not required	Acceptable
Disabled computer accounts	Acceptable
Inactive user accounts	Acceptable
Inactive computer accounts	Acceptable

Potentially Harmful Files on File Shares

Lists files on your file shares that may be harmful or malicious, such as executables, installers, scripts, and registry keys. These files may be malware, viruses, or inappropriate distributives and should not be stored on shared resources. Use this report to detect potentially harmful files and prevent security threats.

Object Path	Owner	Creation Date
\\FS1\Shared\Accounting\Cryptolocker.msi	BUILTIN\Administrators	9/30/2017 4:32:33 AM
\\FS1\Shared\Accounting\Virus.exe	BUILTIN\Administrators	10/10/2017 5:50:34 AM
\\FS1\Shared\Finance2017\Report.docx.cmd	BUILTIN\Administrators	8/16/2017 6:59:16 AM
\\FS1\Shared\IT\installers\BitTorrent.exe	BUILTIN\Administrators	7/7/2017 9:12:23 AM
\\FS1\Shared\IT\installers\BitCoin Miner.exe	BUILTIN\Administrators	7/7/2017 6:42:08 AM
\\FS1\Shared\Managers\3xdhdnlcr.reg	BUILTIN\Administrators	7/7/2017 7:55:54 AM
\\FS1\Shared\Managers\picture.jpg.jar	BUILTIN\Administrators	7/7/2017 2:06:07 AM
\\FS1\Shared\ProductManagement\Q4plans.xlsx.bat	BUILTIN\Administrators	9/27/2017 6:37:38 AM

Alerts on Threat Patterns

Netwrix Auditor Alert

Possible ransomware activity

The alert was triggered by 150 activity records being captured within 60 seconds. The most recent of those activity records is shown below. To review the full activity trail, use the interactive search in Netwrix Auditor.

Who:	ENTERPRISE\J.Carter
Action:	Modified
Object type:	File
What:	\\fs3.enterprise.com\Documents\Contractors\payroll2017.docx
When:	4/28/2017 11:35:17 AM
Where:	fs3.enterprise.com
Workstation:	mkt025.enterprise.com
Data source:	File Servers
Monitoring plan:	Enterprise Data Visibility Plan
Details:	Size changed from "807936 bytes" to "831488 bytes"

This message was sent by Netwrix Auditor from **au-srv-fin.enterprise.com.**

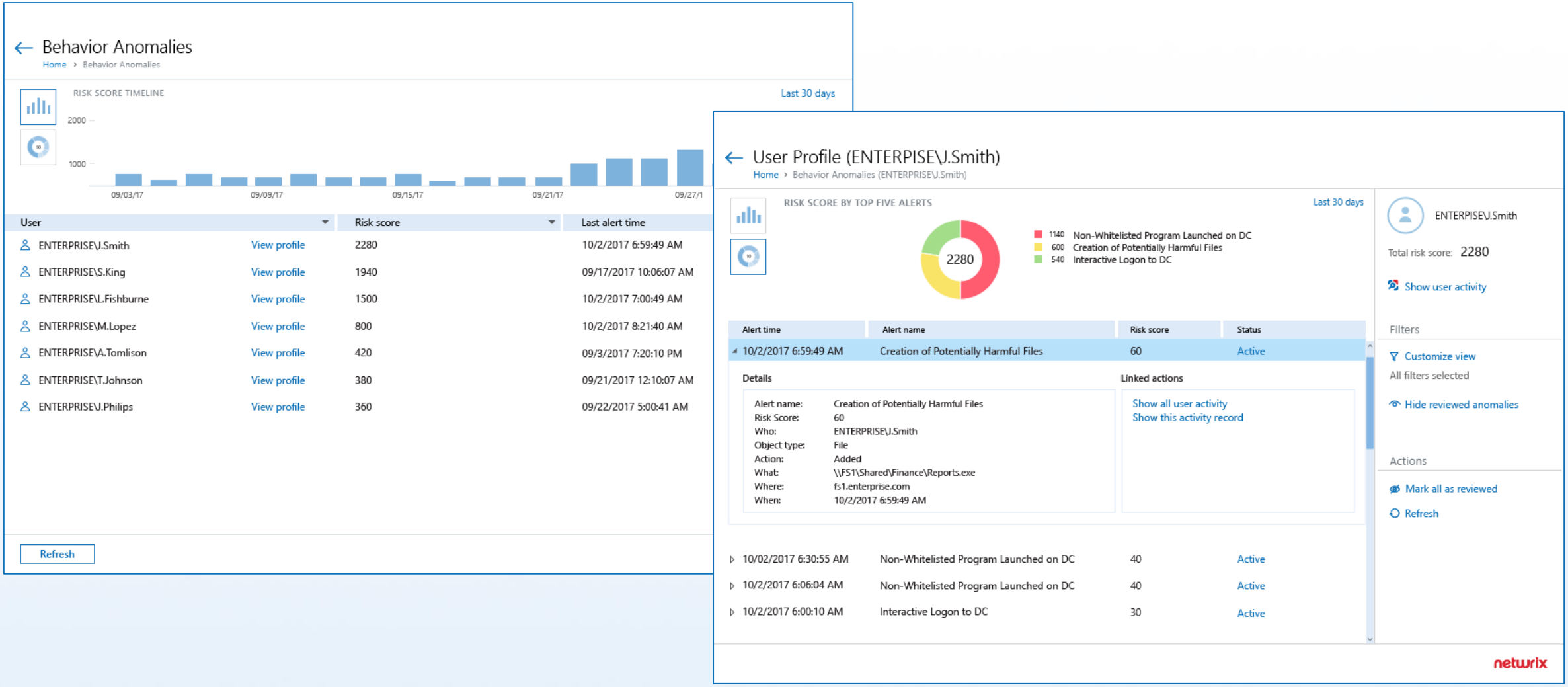
Netwrix Auditor Alert

Possible DBA privilege abuse

Who:	ENTERPRISE\J.Smith
Action:	Removed
Object type:	Table
What:	Databases\Customers\Tables\dbo.Cardholders
When:	5/3/2017 7:19:29 AM
Where:	sql2.enterprise.com
Workstation:	mkt023.enterprise.com
Data source:	SQL Server
Monitoring plan:	Enterprise Database Visibility Plan

This message was sent by Netwrix Auditor from **au-srv-fin.enterprise.com.**

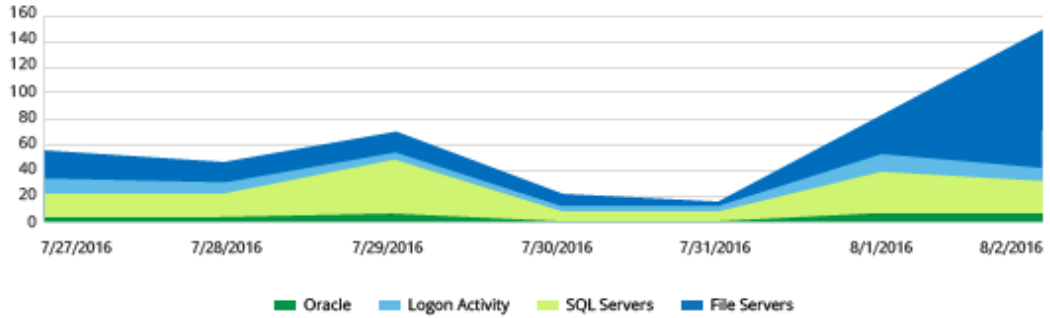
Behavior Anomaly Discovery



User Behavior and Blind Spots Analysis

Failed Activity Trend

Shows consolidated statistics on failed actions, including failed read attempts, failed modification attempts, failed logons, etc. The report also lists the users with most failed attempts.



Date: 8/2/2016 (Attempts: 145)

Who	Attempts
ENTERPRISE\D.Harris	78
ENTERPRISE\G.Brown	7
ENTERPRISE\T.Simpson	5

Activity Outside Business Hours

Shows users who performed any actions outside their business hours. Use this report to detect suspicious user activity.

User Name	Actions
ENTERPRISE\D.Harris	663
ENTERPRISE\J.Carter	44
ENTERPRISE\T.Simpson	21
ENTERPRISE\A.Watson	15
ENTERPRISE\G.Brown	8

User Behavior and Blind Spots Analysis

Excessive Access Permissions

Shows accounts with permissions for infrequently accessed files and folders. Use this report for spotting unnecessary permissions and preventing data leaks. Track permissions assigned to accounts directly or by group membership.

Object: \\fs1\Accounting (Permissions: Different from parent)

Account	Permissions	Means Granted	Times Accessed
ENTERPRISE\N.Key	Full Control	Directly	0
ENTERPRISE\T.Simpson	Full Control	Group	0
ENTERPRISE\P.Anderson	Full Control	Group	0
ENTERPRISE\K.Miller	Write and list folder content	Directly	0
ENTERPRISE\T.Allen	Read (Execute, List folder content)	Group	0

Logons by Single User from Multiple Endpoints

Shows users who logged on from several endpoints within a short period of time. Such occurrences may indicate that the account's password was stolen or compromised. Use this report to detect suspicious user activity and prevent data breaches.

User: ENTERPRISE\J.Carter (First Attempt: 7/27/2016 2:02:26 PM)

Endpoint	Logon Attempts
172.17.6.36	2
ENTWKS0376	6

User: ENTERPRISE\D.Harris (First Attempt: 7/26/2016 5:13:16 PM)

Endpoint	Logon Attempts
WST055	12
192.168.1.1	1
ENTWKS0376	1

Data Discovery and Classification

Sensitive Files Count by Source

Shows the number of files that contain specific categories of sensitive data. Clicking the "Categories" or "Source" link narrows your results down to a certain file in this report. Use this report to estimate amount of your sensitive data in each category, plan for data protection measures and control their implementation.

Content source	Categories	Files count
\\fs1\Accounting	GDPR	1300
	PCI DSS	585
\\fs1\Finance	GDPR	715
	HIPAA	250
	PCI DSS	952
\\fs1\HR	GDPR	1500
	HIPAA	1085

Sensitive Files and Folders by Owner

Shows ownership of files and folders that are stored in the specified file share and contain selected categories of sensitive data. Use this report to determine the owners of particular sensitive data.

Owner: ENTERPRISE\E.Anderson

UNC path	Categories
\\fs1\HR\Annual Report	PII
\\fs1\HR\Compensation & Benefits	PII
\\fs1\HR\Exit Interviews	PII

Owner: ENTERPRISE\J.Carter

UNC path	Categories
\\fs1\HR\Training Program	PII
\\fs1\HR\New Employees\Europe	GDPR

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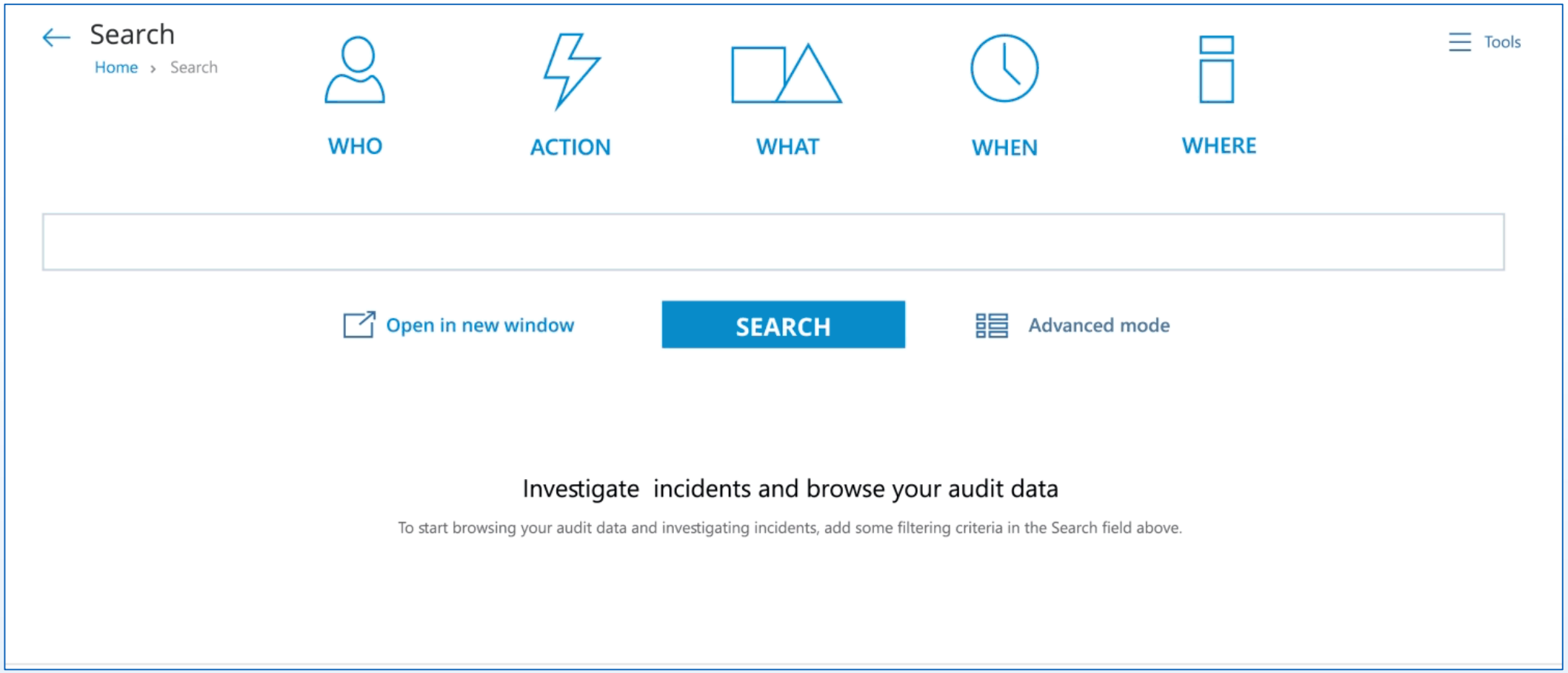
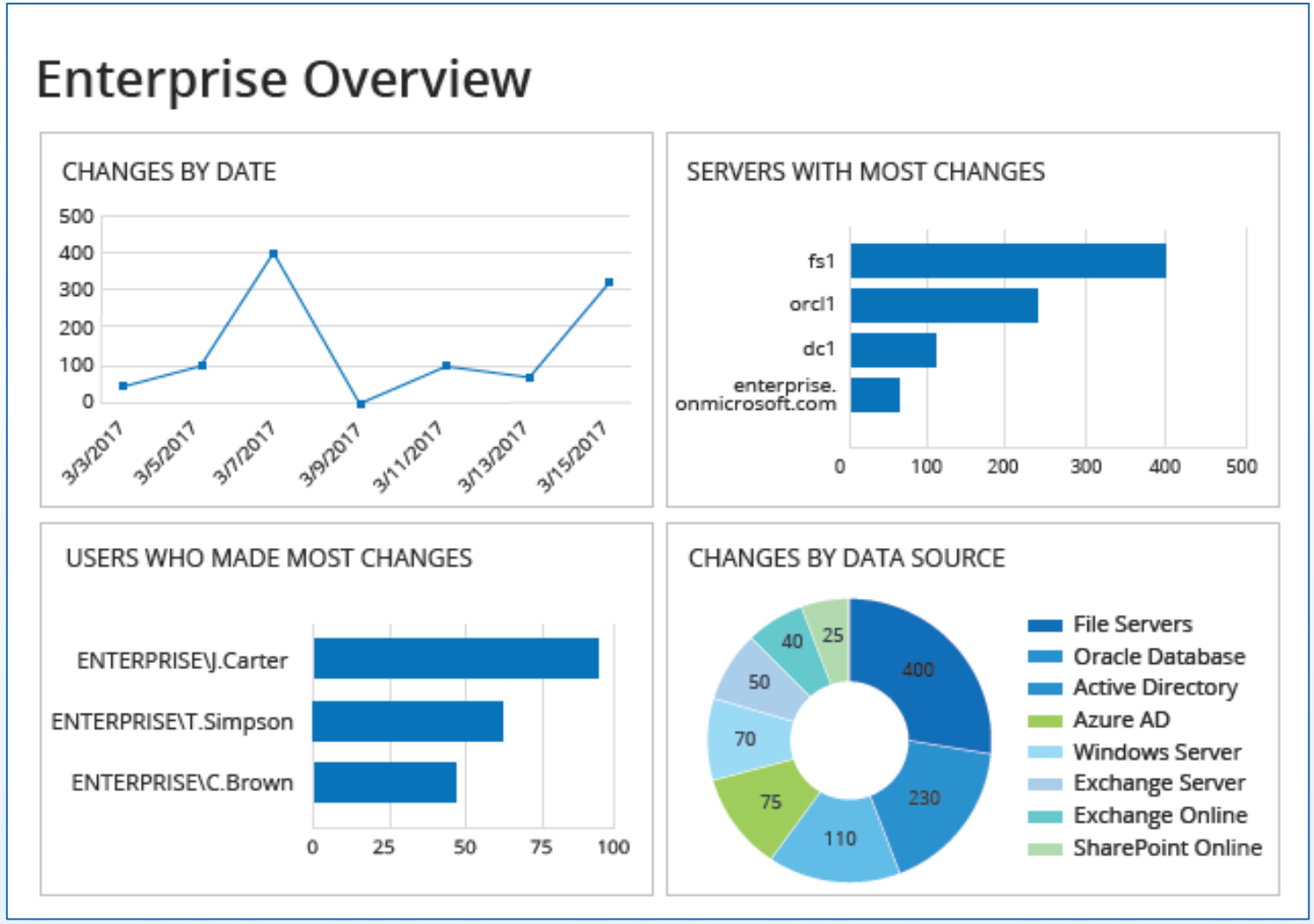
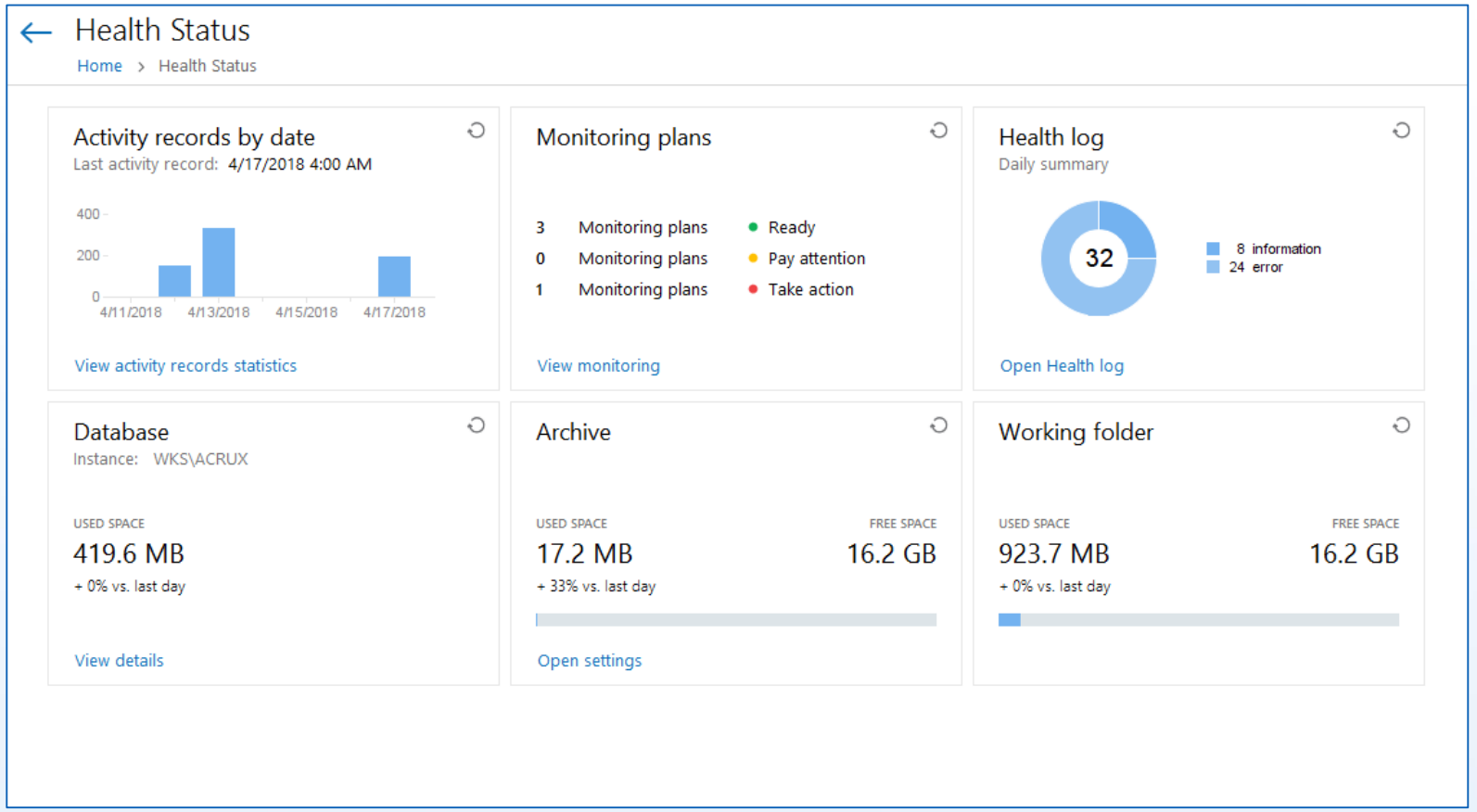
Interactive Search



Enterprise Overview Dashboards



Health Status Dashboard



File Analysis

Potential Data Owners by Folder

Shows users who frequently access files in a given folder. Use this report to identify factual data owners and analyze usage patterns.

Folder: \\fs1\Shared\Finance
Owner: ENTERPISE\S.Coleman

Who	Changes	Reads
ENTERPRISE\S.Coleman	88	178
ENTERPRISE\A.Dowson	43	118
ENTERPRISE\E.Swift	17	67
ENTERPRISE\E.Robinson	2	41

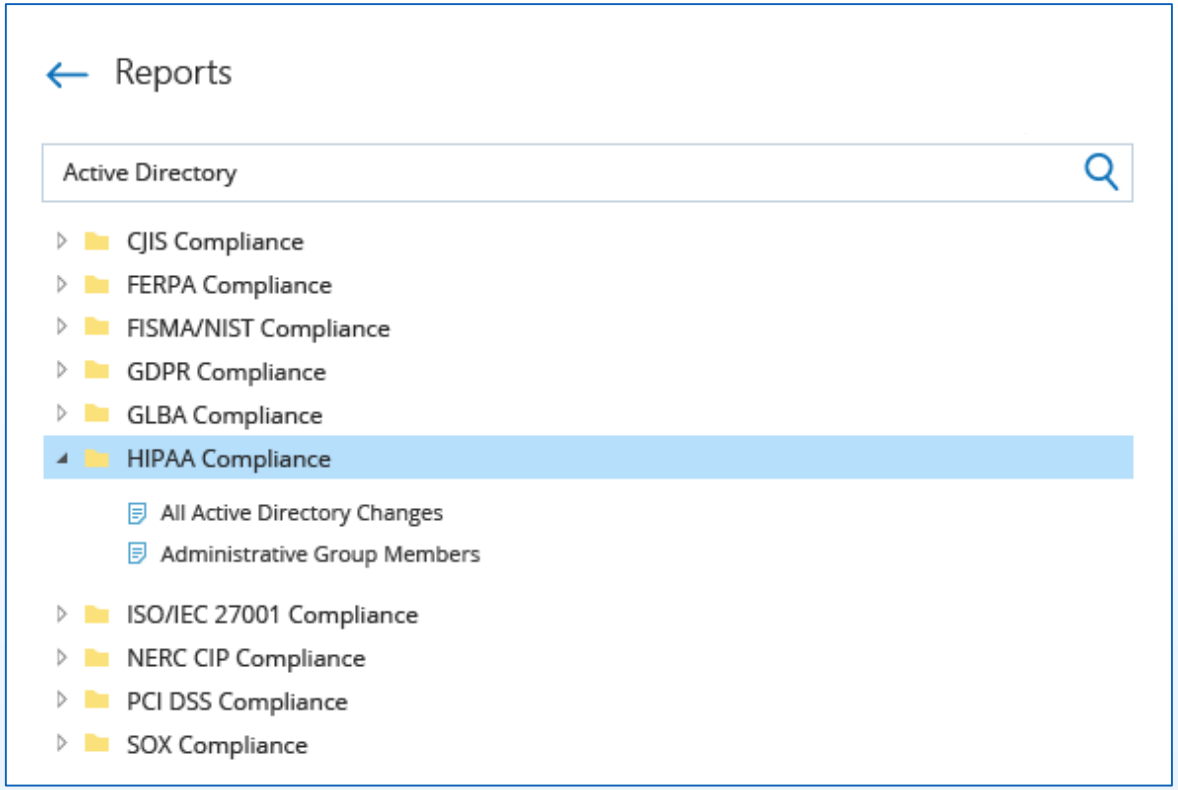
Duplicate Files

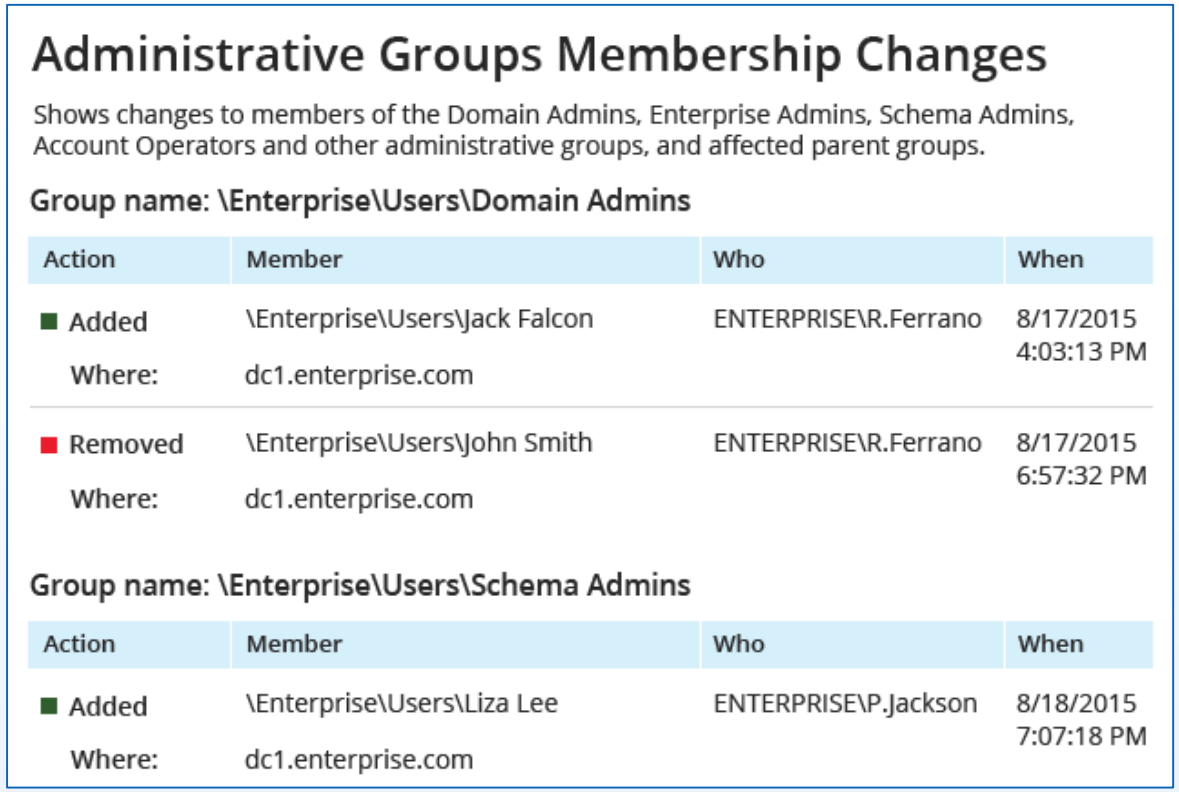
Shows files with the same name and size. Use this report for detecting potentially duplicate files that can be safely removed.

Object Name: Strategy2016.pptx (Size: 0.0002 MB)

Object Path	Modification Date
\\fs1\shared\Managers	11/11/2015 2:45:00 PM
\\fs1\shared\Finance	11/09/2015 10:32:11 AM

Out-of-the-box Compliance Reports





Administrative Groups Membership Changes

Shows changes to members of the Domain Admins, Enterprise Admins, Schema Admins, Account Operators and other administrative groups, and affected parent groups.

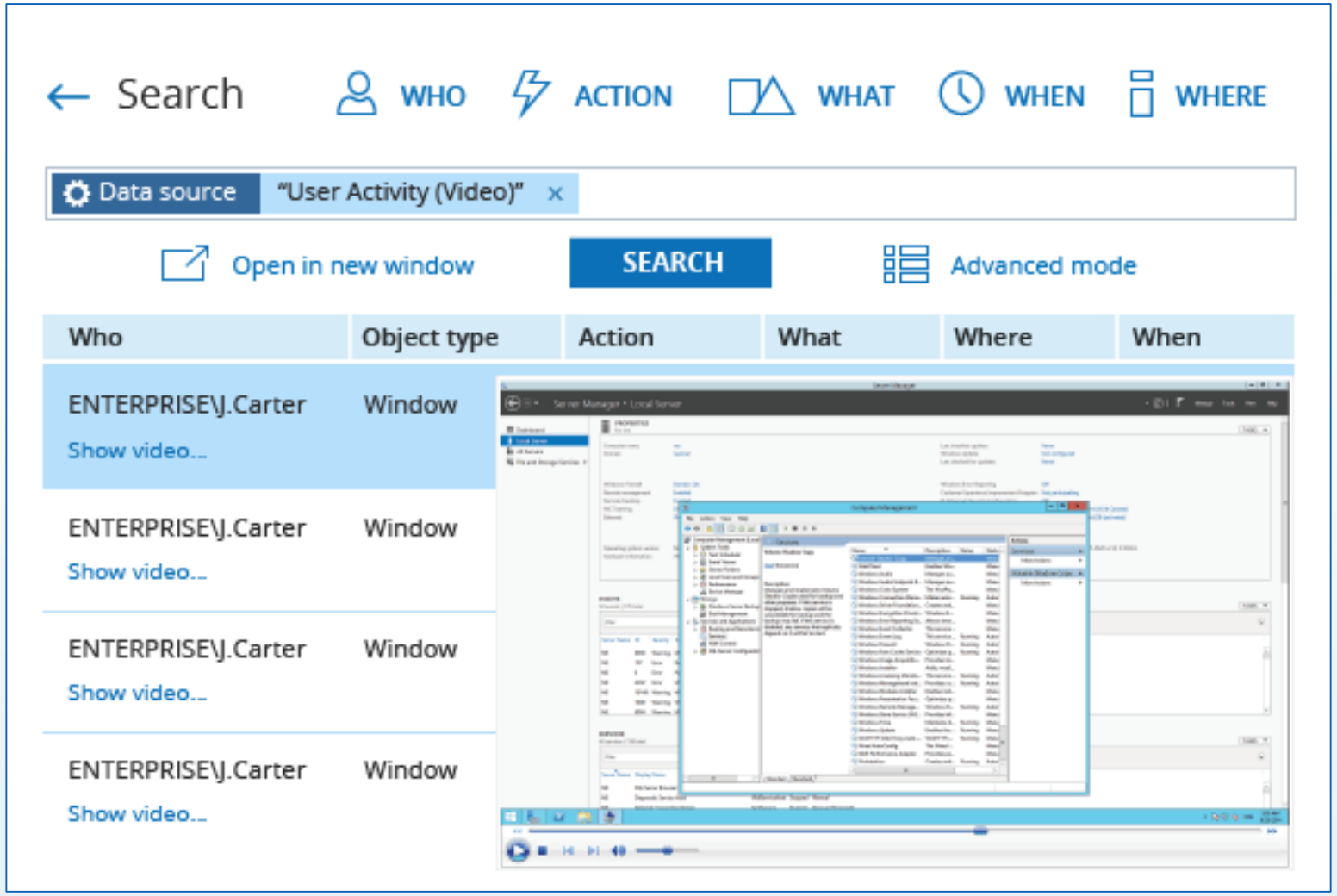
Group name: \Enterprise\Users\Domain Admins

Action	Member	Who	When
Added Where:	\Enterprise\Users\Jack Falcon dc1.enterprise.com	ENTERPRISE\R.Ferrano	8/17/2015 4:03:13 PM
Removed Where:	\Enterprise\Users\John Smith dc1.enterprise.com	ENTERPRISE\R.Ferrano	8/17/2015 6:57:32 PM

Group name: \Enterprise\Users\Schema Admins

Action	Member	Who	When
Added Where:	\Enterprise\Users\Liza Lee dc1.enterprise.com	ENTERPRISE\P.Jackson	8/18/2015 7:07:18 PM

User Activity Video Recording



Useful links

Free 20-Day Trial: setup in your own test environment: netwrix.com/freetrial

Live One-to-One Demo: product tour with Netwrix expert: netwrix.com/livedemo

Contact Sales to obtain more information: netwrix.com/contactsales

Referral program for customers: netwrix.com/become_netwrix_referrer.html

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Summary

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