# SailPoint IdentityIQ

Version: 8.4.0.3000

# File Access Manager v8.4 Service Pack 3 Deployment Guide

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# Table of Contents

## Table of Contents

# List of Figures

# Chapter 1: Planning Your Service Pack Deployment

## What is a Service Pack?

Service Packs are cumulative packages containing all released E-Fixes to date since the last Major or Patch release. Service Packs allow customers to stay up to date with the latest bug fixes and performance enhancements, with minimal down time and without the need to upgrade. Service Packs only update the File Access Manager components for which bug fixes or performance enhancements were issued, while the rest of the system remains untouched.

## Service Packs Deployment Process

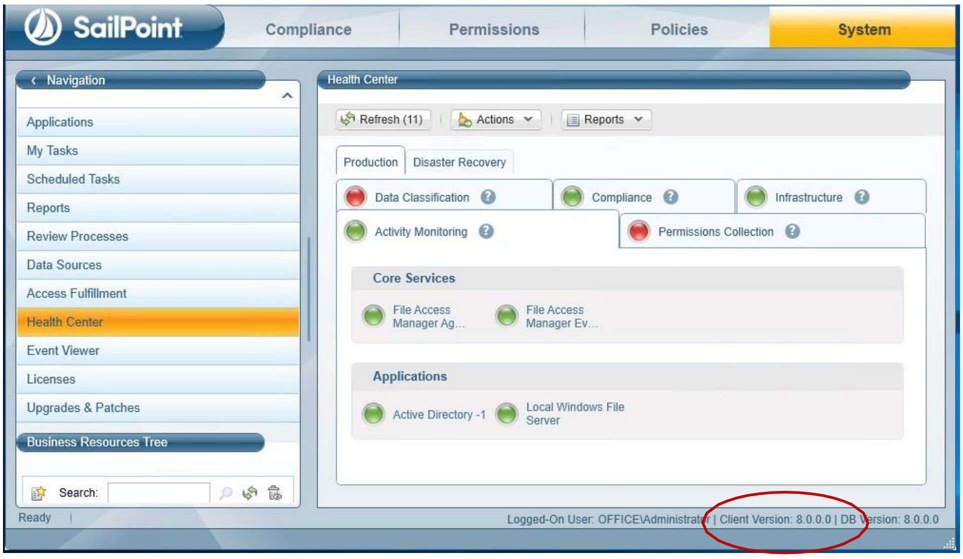
Starting from version 6.1, SecurityIQ (FAM) Service Packs deployment is done automatically. Service Packs are deployed by the File Access Manager update deployment mechanism. By simply uploading a Service Package through the Administrative Client, and pressing a button to initiate the deployment, the Service Pack will be deployed and will automatically update all relevant File Access Manager components.

All File Access Manager components, including Web Sites, Administrative Clients, Core Services, Activity Monitors, Permission Collection and Data Classification Engine and Collectors, Watchdogs and the File Access Manager Database, will be updated – provided that the service pack contains update for the specific component.

The only exception to that is the File Access Manager Collector Manager – used to deploy Collectors and Activity Monitoring Agents – which is a standalone application, and will need to be updated manually, if an update is available.

## Version Numbers

The current version number is displayed on the bottom right corner of the Administrative Client screen.



Logged-On User: OFFICE\Administrator | Client Version: 8.0.0.0 | DB Version: 8.0.0.0

**Figure 1 Application Monitors Screen**

File Access Manager version numbers are represented by a four-section number, e.g., 8.4.0.3000.
The first two sections represent major releases. File Access Manager 8 GA release number is 8.0.0.0. whereas File Access Manager 8.4 release will be represented by the number 8.4.0.0.
The next section represents Patch Releases, e.g., File Access Manager 8.0P1 version number is 8.0.1.0.
Service Pack updates are reflected in the last section, and so File Access Manager 8.4 Service Pack 3 version number is 8.4.0.3000.
The Database version number will be updated with every service pack. For File Access Manager 8.4 Service Pack 3, the database version number is 8.4.0.3000.
The Client version number will be updated if the service pack includes changes to the Administrative Client. For File Access Manager 8.4 Service Pack 3, the Client version number is 8.4.0.3000.

Infrastructure components, such as Elasticsearch and RabbitMQ will retain the same version number, unless an update to the actual infrastructure components is applied, in which case their version number will be updated as well. 8.4 Service Pack 2 does not include any updates to such infrastructure components.

## Versions included in this release:

**Table 2 File Access Manager Component Version Details**

| Component | Version |
|---|---|
| File Access Manager Database | 8.4.0.3000 |
| File Access Manager Elasticsearch | 8.2.2 |
| File Access Manager RabbitMQ | 3.9.14 |
| File Access Manager SCIM API | 8.4.0.3000 |
| File Access Manager REST API | 8.4.0.3000 |
| File Access Manager Business Website | 8.4.0.3000 |
| File Access Manager Administrative Client | 8.4.0.3000 |
| File Access Manager Data Classification | 8.4.0.3000 |
| File Access Manager Permission Collection | 8.4.0.3000 |
| File Access Manager Activity Analytics | 8.4.0.3000 |
| File Access Manager Agent Configuration Manager | 8.4.0.3000 |
| File Access Manager Collector Synchronizer | 8.4.0.3000 |
| File Access Manager Crowd Analyzer | 8.4.0.3000 |
| File Access Manager Event Manager | 8.4.0.3000 |
| File Access Manager Reporting Service | 8.4.0.3000 |
| File Access Manager Scheduled Task Handler | 8.4.0.3000 |
| File Access Manager User Interface | 8.4.0.3000 |
| File Access Manager Watchdog | 8.4.0.3000 |
| File Access Manager Workflow Service | 8.4.0.3000 |
| File Access Manager Activity Monitor | 8.4.0.3000 |

# Backup Measures

Backups are important. Having the original deliverable readily available will allow you to quickly and easily rollback changes if needed. One of the great things about Service Packs is that they allow for small surgical changes to be made to the system, by changing only what is necessary. For that reason, they are also easy to roll back, provided that backup measures have been taken.

**Database**

As a rule, we recommend that regular backups be performed on the IdentityIQ File Access Manager database.

Service Packs can occasionally require changes to the database, either in the form of content modification on specific tables or in the form of schema changes to the tables and object in the database.

In the case of schema changes, we recommend that a copy of the original database object be taken. The simplest way of doing that is creating a backup object with a different name, using the script of the original object. In most cases, that would entail generating a Create script of the original object and renaming the object name in the script before execution.

You can consult your DBA on how to create such backup objects.

**Other Components**

The IdentityIQ File Access Manager updates' deployment mechanism creates a backup for every component updated by the service pack. Once the service pack package is loaded and its deployment started, before any changes are made, a backup copy of the updated component is taken and stored in the designated Backup folder. The Backup folder is located under the SailPoint home directory (set by the SAILPOINT_HOME environment variable and is by default at C:\Program Files\SailPoint\). A folder bearing the Service Pack name will be created in the main Backup folder, and a backup of each of the updated components will be created.

For SP3 the Backup folder would be {%FILE_ACCESS_MANAGER_HOME%}\Backup\8.4.0.3000} (*the contents of the folder will be related to the pre-upgraded version*).

# Chapter 2: Support Matrix

Table 3 IdentityIQ File Access Manager Server Support Details

| System | Supported Versions |
|---|---|
| IdentityIQ File Access Manager Servers | Windows 2016/2019/2022 |
| Workstation | Windows 8 and above |
| Browser | Edge, Firefox, Chrome, Safari |
| Database | MS SQL Server 2014/2016/2017/2019/2022 |

# Chapter 3: Deploying Version 8.4 Service Pack 3

The deployment process consists of the following steps:

1. Downloading the Service Pack from this Compass Location
2. Read the Service Pack deployment guide thoroughly.
3. Pre-deployment Steps
4. Service Pack Deployment
    a. Upload the Service Pack through the Administrative Client
    b. Kick-Off the Service Pack deployment
    c. Verify successfully deployment
5. Post Deployment Steps

## Pre-upgrade Steps

### Install Service Pack 3 Prerequisites.

This Service Pack requires a couple of Prerequisites Scripts to be executed prior to the actual Service Pack installation (in case they were not applied previously on 8.4 Service Pack 2). Those prerequisites are required to renew and internal certificate that FAM uses to communicate with other components. For further information please refer to this article.

Instructions:

1. Using "sa" credentials on SQL Management Studio (or similar GUI), execute Prerequisite_1.sql script. Execution must be successful, and no errors thrown.
2. Make sure that the FAM Admin Client is fully closed.
3. Open a PowerShell Command Prompt as Administrator and run the Prerequisite_2.ps1; make sure that it completes properly and that the message “Changed the state variable to 2” is displayed (FAM User Credentials are required on this step).
4. Apply the provided WBXPackage using the regular procedure (Open FAM Admin Client and within it upload and apply the provided WBXPackage file).
5. Close the FAM Admin Client and Execute the provided ClientInstaller_x64.msi so it can get updated as well.
6. Once the Client has been upgraded, validate that FAM is working as expected with the updated version.

In the unlikely event of Prerequisite_1.sql completing successfully but Prerequisite_2.ps1 failing, a rollback option is provided. Please refer to the included Rollback folder for further instructions.

### Install EXO PowerShell module.

For those who use Exchange Online Connector please follow the installation prerequisites section: **Chapter 4, SIQSUS-881 – Modernize EXO Connectivity v3.0.**

# Service Pack Deployment

- Extract the “File Access Manager v8.4.0.3000.zip” installation  package.

- Navigate to the “Service Pack 3”  folder.

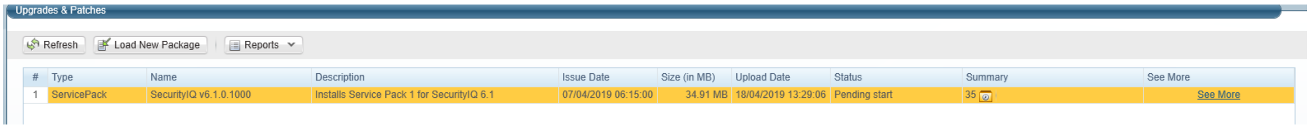
- Log into the IdentityIQ File Access Manager administrative client Client

- Click **System** >> **Upgrades & Patches** >> **Load New Package**
  This will open the **Load Package** dialog.

- Press **Browse** and load the file “**File_Access_Manager_v8.4.0.3000.wbxpkg**” from the Service Pack folder.

- Press **Upload Package**.
  The system will upload and validate the file. This might take a few minutes.

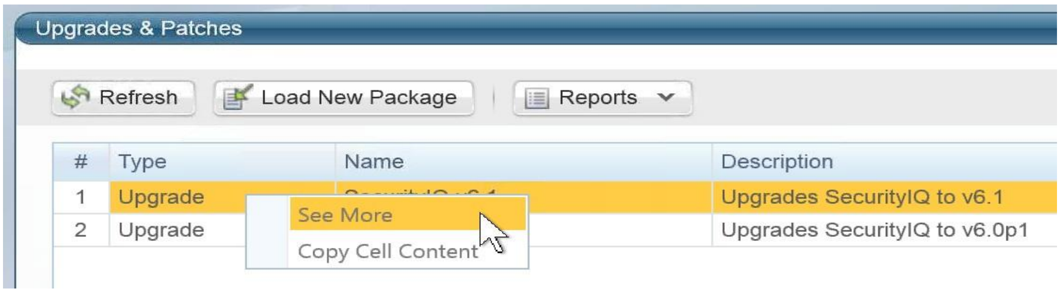
- Once it is validated, press **Save**. This will add the upgrade package to the upgrades page.



| # | Type | Name | Description | Issue Date | Size (in MB) | Upload Date | Status | Summary | See More |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ServicePack | SecurityIQ v6.1.0.1000 | Installs Service Pack 1 for SecurityIQ 6.1 | 07/04/2019 06:15:00 | 34.91 MB | 18/04/2019 13:29:06 | Pending start | 35 | See More |

**Figure 2: Upgrades & Patches table**

- Right click the upgrade package and select **See More** from the menu.

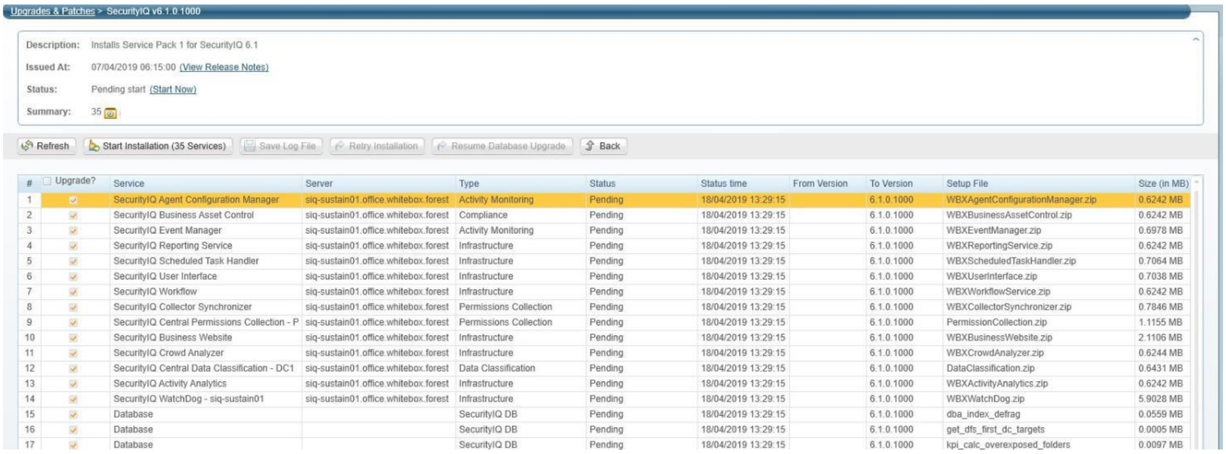


| # | Type | Name | Description |
|---|---|---|---|
| 1 | Upgrade |  | Upgrades SecurityIQ to v6.1 |
| 2 | Upgrade |  | Upgrades SecurityIQ to v6.0p1 |

**Figure 3: Expand Service Pack package - Details**

This will open the upgrade detail panel, showing a list of the upgrade steps included in this package.

Each installation line is listed in “Pending” state when it is added to the upgrade/installation list.


Upgrades & Patches > SecurityIQ v6.1.0.1000
Refresh
Start Installation (35 Services)
Save Log File
Retry Installation
Resume Database Upgrade
Back

Description: Installs Service Pack 1 for SecurityIQ 6.1

Issued At: 07/04/2019 06:15:00 (View Release Notes)

Status: Pending start (Start Now)

Summary: 35

| # | □ Upgrade? | Service | Server | Type | Status | Status time | From Version | To Version | Setup File | Size (in MB) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ☑ | SecurityIQ Agent Configuration Manager | siq-sustain01.office.whitebox.forest | Activity Monitoring | Pending | 18/04/2019 13:29:15 |  | 6.1.0.1000 | WBXAgentConfigurationManager.zip | 0.6242 MB |
| 2 | ☑ | SecurityIQ Business Asset Control | siq-sustain01.office.whitebox.forest | Compliance | Pending | 18/04/2019 13:29:15 |  | 6.1.0.1000 | WBXBusinessAssetControl.zip | 0.6242 MB |
| 3 | ☑ | SecurityIQ Event Manager | siq-sustain01.office.whitebox.forest | Activity Monitoring | Pending | 18/04/2019 13:29:15 |  | 6.1.0.1000 | WBXEventManager.zip | 0.6978 MB |
| 4 | ☑ | SecurityIQ Reporting Service | siq-sustain01.office.whitebox.forest | Infrastructure | Pending | 18/04/2019 13:29:15 |  | 6.1.0.1000 | WBXReportingService.zip | 0.6242 MB |
| 5 | ☑ | SecurityIQ Scheduled Task Handler | siq-sustain01.office.whitebox.forest | Infrastructure | Pending | 18/04/2019 13:29:15 |  | 6.1.0.1000 | WBXScheduledTaskHandler.zip | 0.7064 MB |
| 6 | ☑ | SecurityIQ User Interface | siq-sustain01.office.whitebox.forest | Infrastructure | Pending | 18/04/2019 13:29:15 |  | 6.1.0.1000 | WBXUserInterface.zip | 0.7038 MB |
| 7 | ☑ | SecurityIQ Workflow | siq-sustain01.office.whitebox.forest | Infrastructure | Pending | 18/04/2019 13:29:15 |  | 6.1.0.1000 | WBXWorkflowService.zip | 0.6242 MB |
| 8 | ☑ | SecurityIQ Collector Synchronizer | siq-sustain01.office.whitebox.forest | Permissions Collection | Pending | 18/04/2019 13:29:15 |  | 6.1.0.1000 | WBXCollectorSynchronizer.zip | 0.7846 MB |
| 9 | ☑ | SecurityIQ Central Permissions Collection - P | siq-sustain01.office.whitebox.forest | Permissions Collection | Pending | 18/04/2019 13:29:15 |  | 6.1.0.1000 | PermissionCollection.zip | 1.1155 MB |
| 10 | ☑ | SecurityIQ Business Website | siq-sustain01.office.whitebox.forest | Infrastructure | Pending | 18/04/2019 13:29:15 |  | 6.1.0.1000 | WBXBusinessWebsite.zip | 2.1106 MB |
| 11 | ☑ | SecurityIQ Crowd Analyzer | siq-sustain01.office.whitebox.forest | Infrastructure | Pending | 18/04/2019 13:29:15 |  | 6.1.0.1000 | WBXCrowdAnalyzer.zip | 0.6244 MB |
| 12 | ☑ | SecurityIQ Central Data Classification - DC1 | siq-sustain01.office.whitebox.forest | Data Classification | Pending | 18/04/2019 13:29:15 |  | 6.1.0.1000 | DataClassification.zip | 0.6431 MB |
| 13 | ☑ | SecurityIQ Activity Analytics | siq-sustain01.office.whitebox.forest | Infrastructure | Pending | 18/04/2019 13:29:15 |  | 6.1.0.1000 | WBXActivityAnalytics.zip | 0.6242 MB |
| 14 | ☑ | SecurityIQ WatchDog - siq-sustain01 | siq-sustain01.office.whitebox.forest | Infrastructure | Pending | 18/04/2019 13:29:15 |  | 6.1.0.1000 | WBXWatchDog.zip | 5.9028 MB |
| 15 | ☑ | Database |  | SecurityIQ DB | Pending | 18/04/2019 13:29:15 |  | 6.1.0.1000 | dba_index_defrag | 0.0559 MB |
| 16 | ☑ | Database |  | SecurityIQ DB | Pending | 18/04/2019 13:29:15 |  | 6.1.0.1000 | get_dfs_first_dc_targets | 0.0005 MB |
| 17 | ☑ | Database |  | SecurityIQ DB | Pending | 18/04/2019 13:29:15 |  | 6.1.0.1000 | kpi_calc_overexposed_folders | 0.0097 MB |

**Figure 4: Review Service Pack package - Details**

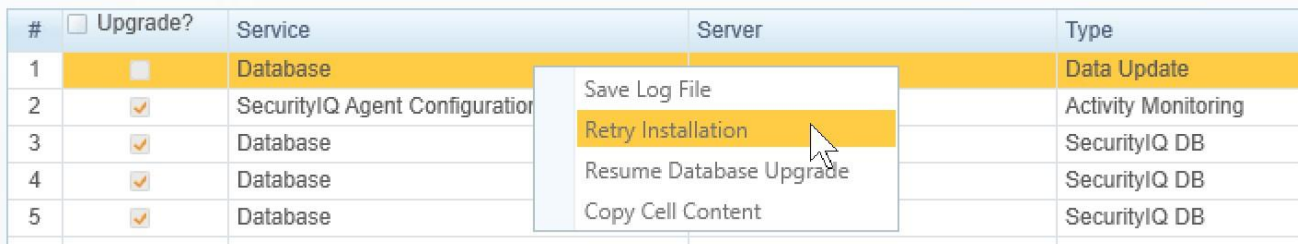
- Click **Start Installation** and **Confirm** to start the installation process.

The Service Pack deployment process runs a series of prerequisites checks before the Database update begins. Then proceeds to perform the Database updates.
Following the Database updates, the first component to be updated will be the Watchdog Service, installed on the server hosting the User Interface core service.
Following that, all other components will be updated.

**What if an update line fails?**

If a script or a component update fails, right-click the failed line in the **System/Upgrade and Patches** screen and click **Save** to save the log file. The system will download the log file where you can see error messages describing the issues.

After you fix the issue, right-click the failed line and click **Retry** to rerun the script and continue the upgrade process.



| # | □ Upgrade? | Service | Server | Type |
|---|---|---|---|---|
| 1 | □ | Database | | Data Update |
| 2 | ☑ | SecurityIQ Agent Configuration | | Activity Monitoring |
| 3 | ☑ | Database | | SecurityIQ DB |
| 4 | ☑ | Database | | SecurityIQ DB |
| 5 | ☑ | Database | | SecurityIQ DB |

**Figure 5: Retry installation line**

- Wait until all services have **Completed** or are in a **"Pending Restart"** status.
- If one of the services is in a **"Pending Restart"** status, restart the server on which this service is installed.

  The Service Pack update will continue automatically after restarting.
- Wait until all services are in **"Completed"** status after restarting.

**Note: See** *Chapter 5: Troubleshooting* **for further suggestions and information.**

# Post Upgrade Actions

## File Access Manager UI Upgrade (IISReset needed)

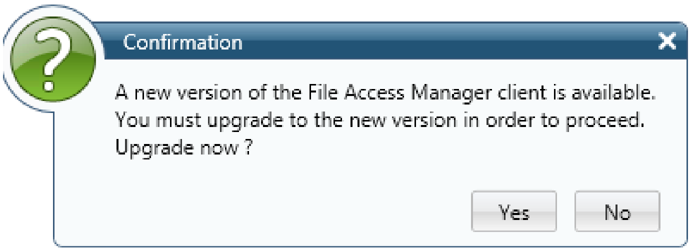
**Due to recent UI changes and to avoid any cache conflicts, please run as an Administrator an *iisreset* command using either PowerShell or Command Prompt window (this can also be made using the IIS administration window):**

```
iisreset /restart
```

## IdentityIQ File Access Manager Client Upgrade

**Please close and re-open all File Access Manager Administrative Client applications.**

On the first run of the IdentityIQ File Access Manager administrative client after an update, a popup message displays, requesting that you update the client. During the update, you will be required to reenter the server on which the User Interface Service is installed.



Confirmation

A new version of the File Access Manager client is available.
You must upgrade to the new version in order to proceed.
Upgrade now ?

**Figure 4: Message - Update File Access Manager Client**

## Validate the Service Pack update

To validate the installation, and verify that the correct version was installed, check in the Windows Add/Remove programs in the control panel.

The versions of the IdentityIQ File Access Manager components should be set to 8.4.0.3000
The IdentityIQ File Access Manager Database version should be set to 8.4.0.3000

Note: See "Versions included in this release:" for a full list of components updated.

## Optional: Uninstall .Net Core 3.1

After you have completed the installation, you optionally can uninstall .NET Core 3.1

Navigate to the Control Panel > Programs > Uninstall a program

Locate corresponding .NET Core 3.1.x program, right-click > Uninstall

# Chapter 4: Important Information and Updates

## SIQSUS-879 - Data Classification OOTB Policy Optimization

Updated RegEx expressions for IBAN and ICD rules to reduce false positives and address common use cases - by tuning current OOTB rules and expanding inter-rule relations to achieve more complex, and accurate data detection.

1. ICD - Codes A00-Z99 policy regex updated to include optional decimal point and one or two digits.
2. EU IBAN policy regex updated to get the most accurate results.

## SIQSUS-1034 - Groups query for IIQ Correlation

The FAM Classifications Aggregation task now has a new "Query Type" argument that provides a choice between the FAM SCIM service that is used to aggregate classifications:
1. The legacy API that aggregates classifications via FAM Permissions
2. A new, more efficient API that aggregates classifications via FAM Groups

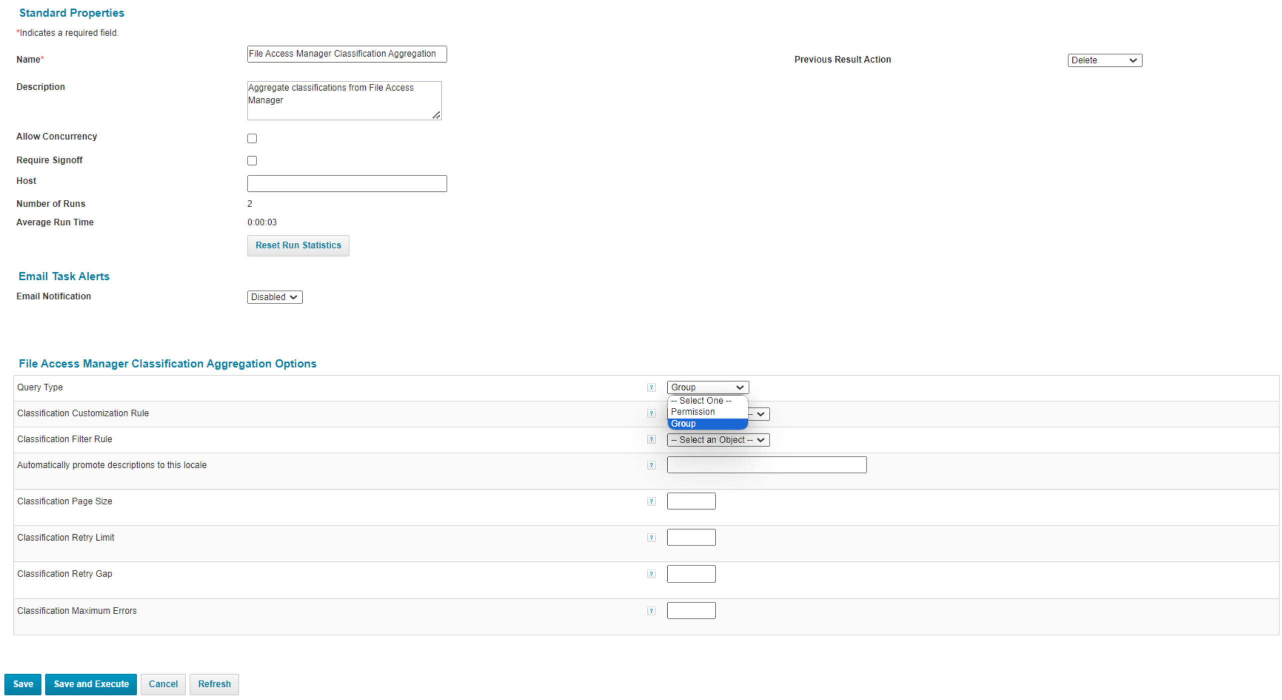
NOTE: This option is enabled in the following IIQ versions: *8.2p6, 8.3p4, *8.4p1, 8.5 (those w/ an asterisk have been already released).

There is a new feature in the IIQ FAM Classification task that is now exposed. The Classification Filter Rule is used to narrow the scope of Classifications for the task. Like most rules, it accepts a SailPointContext and a Logger. The return value is a QueryOptions that contains a Filter that is used to generate the SCIM query. The Filter is not as feature-rich as a traditional Hibernate Filter. It supports "and" operations but not "or". If expression values include reserved URL characters, they need to be encoded.

The Page Size is now configurable on the task. This argument specifies the number of records that we fetch with each SCIM call to FAM.

Several arguments have been added to the FAM Classification task to allow users to adjust its tolerance. They are as follows:

- Retry Limit: The number of times that we retry a failed query before giving up and moving on.
- Retry Gap: The number of milliseconds that we wait before retrying a failed query.
- Max Errors: The number of times that we give up on retrying individual queries before giving up on the task entirely.



Standard Properties

*Indicates a required field.

Name*: File Access Manager Classification Aggregation

Previous Result Action: Delete

Description: Aggregate classifications from File Access Manager

Allow Concurrency: □

Require Signoff: □

Host:

Number of Runs: 2

Average Run Time: 0:00:03

Email Task Alerts

Email Notification: Disabled

File Access Manager Classification Aggregation Options

| | |
|---|---|
| Query Type | Group |
| Classification Customization Rule | |
| Classification Filter Rule | -- Select an Object -- |
| Automatically promote descriptions to this locale | |
| Classification Page Size | |
| Classification Retry Limit | |
| Classification Retry Gap | |
| Classification Maximum Errors | |

NOTE: These enhancements require the import of the following file to expose the new configuration options for the task:
- New installations: WEB-INF/config/init-fam.xml
- Existing installations: WEB-INF/config/patch/identityiq-fam-8.4p1.xml

For more detailed information please reach out to IIQ Support Teams.

## SIQETN-3284 – DB Cleanup Task performance optimization.

FAM’s Database Cleanup Task is a crucial maintenance job that users can trigger or schedule as needed. The primary goal of this task is to ensure that FAM’s DB remains in optimal conditions. It encompasses various processes such as tables maintenance (including temporal ones), rebuilding DB indexes, cleaning up some other stuff not used anymore like old reports and Application Wizard Records, removing obsolete information related to deleted resources (e. g. DSAR information) from Elasticsearch, and more. Key optimizations include:

Rebuild DB indexes: Potentially long running process that may time out after the configured *rebuildIndexTimeLimitMinutes* setting.

- Some DB Store Procedures were optimized to be executed and the progress of it can be tracked.
- Now the process reports how many indexes were rebuilt.
- If the process did not complete in the elapsed time, mark the task log entry as a warning.

Remove deleted resources privacy records from ElasticSearch repository and Database: Potentially long running process that was not cancelable, even if the task is cancelled the process kept running in the background.

- The process is now cancelled as expected.
- Added a new config setting (*removeDsarRecordsTimeLimitMinutes*) that allows the configuration of a timeout for this step of the process and honor it in execution. To adjust setting, complete the following steps:
  1) Stop the FAM Scheduled Task Handler Windows Service.
  2) Navigate to FAM’s installation path and locate the *ScheduledTaskHandlerServiceHost.dll.config* within the *\SailPoint\FileAccessManager\ScheduledTaskHandler* path.
  3) Update the *removeDsarRecordsTimeLimitMinutes value* accordingly.
  4) Start the FAM Scheduled Task Handler Windows Service.

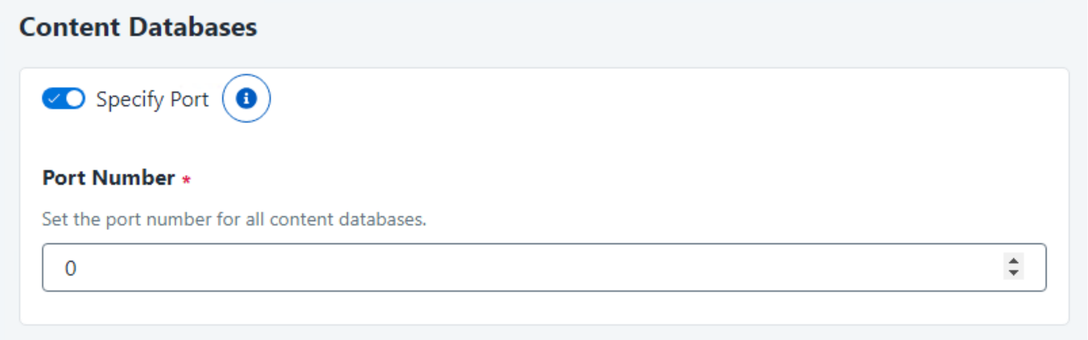
## SIQSUS-1036 – Incorporate Custom DB Ports for SharePoint Content DBs into SP Configuration.

Support was added to allow for a custom port definition of the SharePoint content databases during its configuration.

In a future Service Pack we are looking to include the ability to auto-detect the SharePoint Content Databases. Currently they need to be manually entered.

In the SharePoint application configuration screen the User will now have the following options:

Toggle option to specify All Content Database ports. Utilize this option if all Content Databases share same port number.



Content Databases

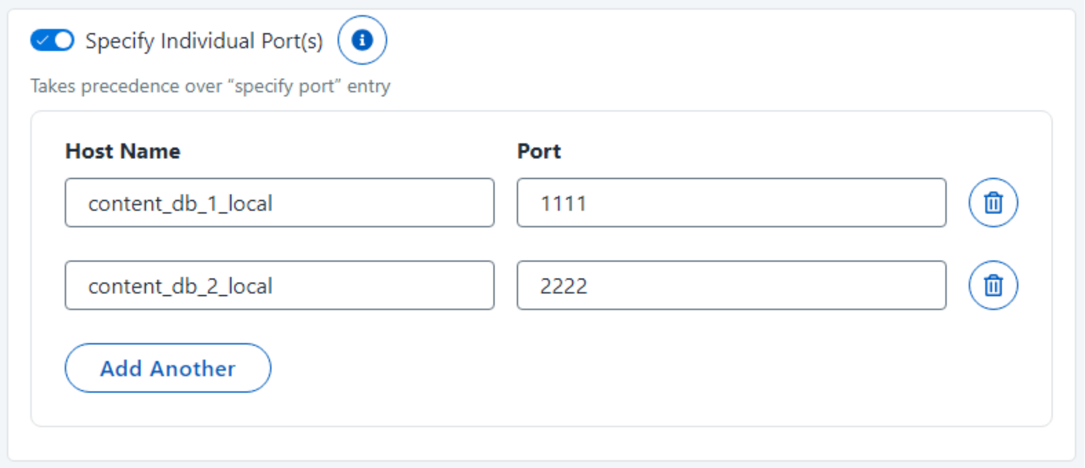
Specify Port

Port Number *

Set the port number for all content databases.

0

Individual Ports numbers per DB/Host. Utilize this option if Content Databases use different ports.
Note: If Content Database does not have the port specifically defined it will default to port entered in “Specify Port” section.



Specify Individual Port(s)

Takes precedence over “specify port” entry

| Host Name | Port |
|---|---|
| content_db_1_local | 1111 |
| content_db_2_local | 2222 |

## SIQETN-3118 – Enhance Data Classification Skipped Document Log Messages.

Updated the error description to include both the actual file size and the metadata file size:

*Skipping content of file {filePath} because it is too large.*
*The extracted content size { computedFileSize } MB. exceeds the max file size.*
*Metadata reported size = { fileSize } MB.*

## SIQETN-3119 – Summarize Failed Documents During Data Classification in Task Details.

The purpose of this report is to improve the visibility and clarity of failed documents during the data classification process. The summary is divided in 2 general sections:

**Settings section:**

| Setting | Description |
|---|---|
| BAM | Business unit name |
| Task | Name of the task |
| Agent | Name of the agent |
| Start time | Starting date time of the task |
| End time | Ending date time of the task |
| Elapsed time | Time it took for task time to complete |
| Excluded formats | DC_Parameters.FormatsToExcludeFromIndex |
| Formats to Index | DC_Parameters.FormatsToIndexAsDocuments |
| Archive formats | DC_Parameters.ArchiveFormats |
| Max file size | DC_Parameters.MaxFileSizeMB |

*Note: Parameters that do not have a value or are null in DC_Parameters will not be included.*

**Errors sections**

Errors are grouped in categories, with the title being the type of error and the error count of that category:

*- { CATEGORY_NAME } ({ ERROR_COUNT } items)*

All errors include the timestamp when they occurred, a brief description of the error and the file name it applies to

*- IvalidOperation (1 item)*
*2023-07-27T17:23:20 | Invalid operation for file [_corrupt_doc_file_.docx]*

**Applicable categories**

| Category | Description |
|---|---|
| FileIsEncrypted | *(Hyland)*. File is encrypted |
| FileIsLocked | *(Hyland)*. File is locked or in use |
| FileNotFound | *(Hyland)*. File was not found |
| FileNotReadable | *(Hyland)*. File is not readable |
| General | *(Hyland)*. General error |
| InvalidOperation | *(Hyland)*. The operation is invalid for this type of object |
| MaximumFileSize | File size exceeds the maximum configured size |
| OutOfMemory | *(Hyland)*. Out of memory |
| OpenError | *(Hyland)*. Error opening the file |
| OutOfMemory | *(Hyland)*. Corrupt file |
| WrongType | *(Hyland)*. Attempt to open file with wrong type |

**NLog configuration**

A new log file definition for the report is needed for the summary report.

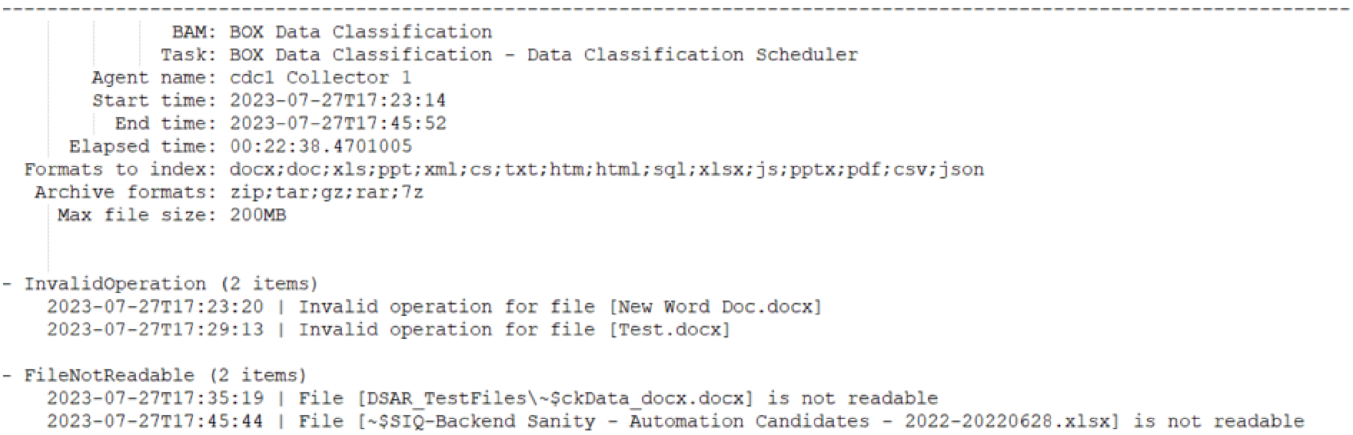
*Target definition:*

```
<target
        name="failedDocumentsDetailsLogFile" xsi:type="File"
        keepFileOpen="true" concurrentWrites="false"
        fileName="${environment:SAILPOINT_HOME_LOGS}\DataClassification_[AGENT_NAME].Failed Documents Details.log"
        archiveNumbering="DateAndSequence" archiveDateFormat="yyyy-MM-dd" maxArchiveFiles="10" archiveEvery="Day"
        archiveAboveSize="31457280"
        layout="${message}"
        />
```

*Rule definition*

*<logger name="FailedDocumentsDetails"*
*minlevel="Error"*
*writeTo="failedDocumentsDetailsLogFile" final="true" />*

**Sample report:**



```
-----------------------------------------------------------------------------------------------------------------------
               BAM: BOX Data Classification
              Task: BOX Data Classification - Data Classification Scheduler
        Agent name: cdc1 Collector 1
        Start time: 2023-07-27T17:23:14
          End time: 2023-07-27T17:45:52
      Elapsed time: 00:22:38.4701005
  Formats to index: docx;doc;xls;ppt;xml;cs;txt;htm;html;sql;xlsx;js;pptx;pdf;csv;json
   Archive formats: zip;tar;gz;rar;7z
     Max file size: 200MB


- InvalidOperation (2 items)
    2023-07-27T17:23:20 | Invalid operation for file [New Word Doc.docx]
    2023-07-27T17:29:13 | Invalid operation for file [Test.docx]

- FileNotReadable (2 items)
    2023-07-27T17:35:19 | File [DSAR_TestFiles\~$ckData_docx.docx] is not readable
    2023-07-27T17:45:44 | File [~$SIQ-Backend Sanity - Automation Candidates - 2022-20220628.xlsx] is not readable
```

## SIQETN-3250 - Box and OneDrive permission collection invokes stored procedure to create user_role tables excessively.

Performance improvements have been made to Box and OneDrive Permission Collection tasks to decrease runtime. NOTE: These improvements can be found in other Permission Collection tasks, not just Box or OneDrive.

## SIQSUS-881 – Modernize EXO Connectivity v3.0

Microsoft will soon be deprecating legacy remote PowerShell sessions for exchange online.

**For new tenants, basic authentication will be disabled by default on June 1, 2023, and will be forcefully disabled for all tenants by October 2023.**

Microsoft is recommending all tenants to move all scripts, unattended or otherwise, to migrate to using the new Exchange Online PowerShell V3 module.  The module name is ExchangeOnlineManagement, and it is also sometimes referred to as shorthand of EXO module, or EXO V3 module.

Microsoft advertises this new module as being more secure (built-in support for modern authentication), more reliable (handles transient failures with built-in retry), and more performant.

For more details consult Microsoft documentation here:
https://techcommunity.microsoft.com/t5/exchange-team-blog/announcing-deprecation-of-remote-powershell-rps-protocol-in/ba-p/3695597
https://techcommunity.microsoft.com/t5/exchange-team-blog/exchange-online-powershell-v3-module-general-availability/ba-p/3632543

8.4 SP1 Exchange Online Connector now utilizes the new V3 Module.

### New Module Installation Prerequisite:

The new module will need to be manually installed by the customer on any machines running Exchange Online tasks: Activity Monitoring and the Permission Collection engine. The command to installs the latest version of the module and should be run from an elevated administrator PowerShell prompt:

```
Install-Module -Name ExchangeOnlineManagement -MinimumVersion 3.1.0 -Scope AllUsers -Force -
AllowClobber
```

The above command will install the latest stable version and will be included in the FAM documentation for this connector. Note that any upgrades of the EXO module will require a restart of the relevant activity monitoring and permission collection services, since it will have loaded different versions of internal module libraries.

To check which version of EXO module is installed, run:

```
Get-InstalledModule
```

### Optimized Get-EXO* Cmdlets

We are now using the new Get-EXO* cmdlets where possible:

- Get-EXOMailbox (to replace Get-Mailbox)
- Get-EXOMailboxFolderPermission
- Get-EXOMailboxFolderStatistics
- Get-EXOMailboxPermission
- Get-EXOMailboxStatistics
- Get-EXORecipient
- Get-EXORecipientPermission

### Mailbox Folder Statistics Collection Now Opt-In To Address Performance

As an optimization, we will make collecting the following statistics optional:

- LastLogonTime - Updates business_service_last_used table.
- ItemCount - Updates files_count in business_service table.
- TotalItemSize - Updates size in business_service table.

While this data may be useful to some customers, the performance penalty of collecting it causes crawls to run an order of magnitude slower, as a separate REST call must be made for each mailbox after getting the initial root collection. This will now be disabled by default but can be re-enabled by setting crawlCalculateSize from Never to Always row in bam_configuration_value table for matching bam and can create row if it doesn't exist. (There is precedent for this change as Exchange On-Prem already has this backend hidden switch but is always on.)

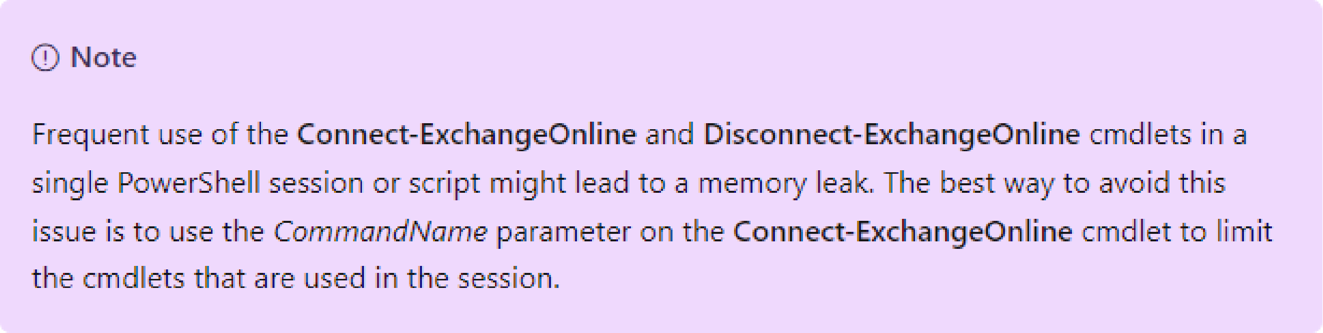
### Exclude Internal Folders “SubstrateHolds” and “DiscoveryHolds”

Hidden folders created internally by Microsoft named SubstrateHolds and DiscoveryHolds are excluded from crawl results.

## Memory Usage

Microsoft has noted usage of the new EXO V3 module does create a memory leak. Over time, across many re-runs of an Exchange Online crawl or permission collection task, you may experience a gradual increase in memory usage of the Permission Collection engine service.

There is a note about it on the Microsoft EXO module about page:



ⓘ Note

Frequent use of the **Connect-ExchangeOnline** and **Disconnect-ExchangeOnline** cmdlets in a single PowerShell session or script might lead to a memory leak. The best way to avoid this issue is to use the *CommandName* parameter on the **Connect-ExchangeOnline** cmdlet to limit the cmdlets that are used in the session.

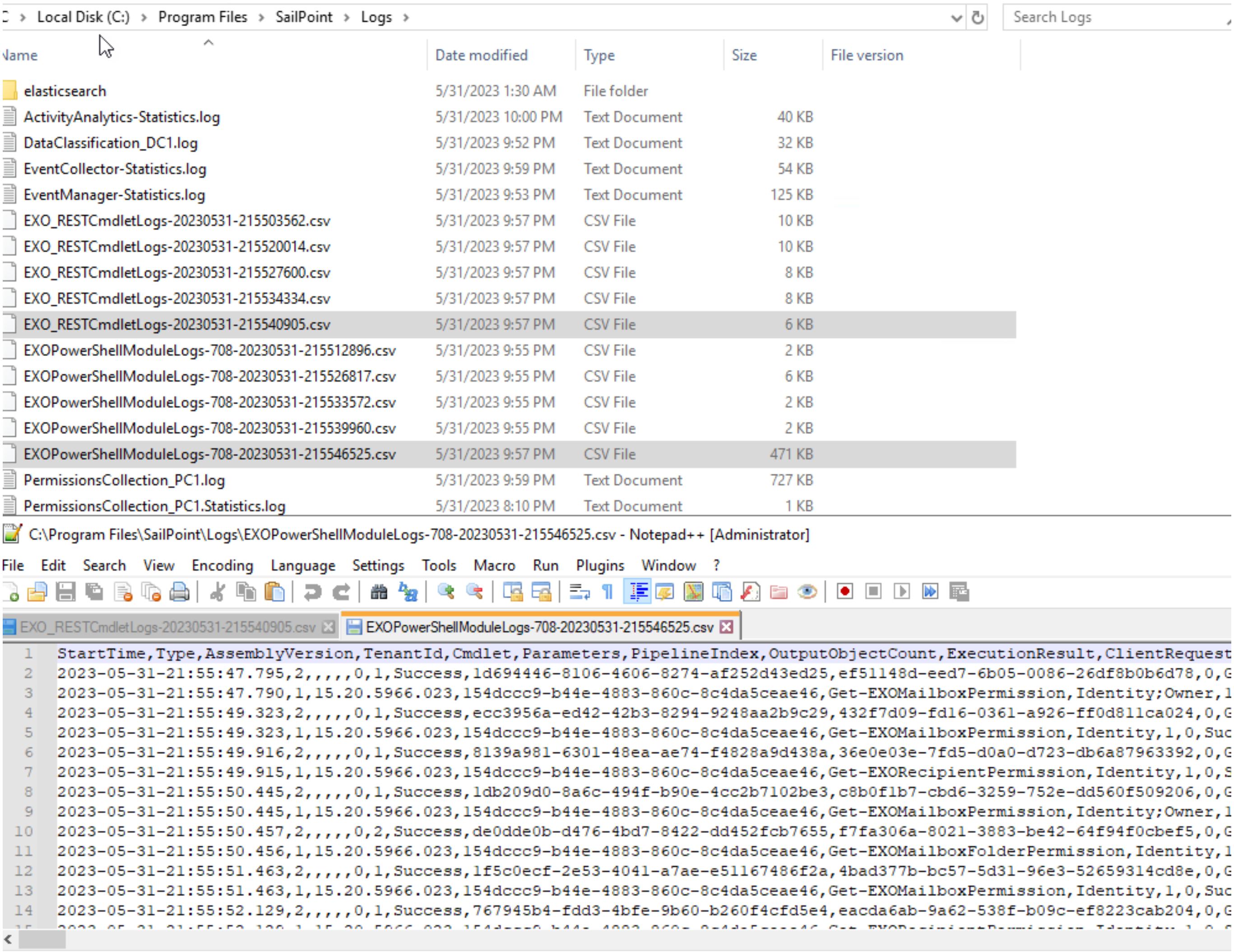
We are using the CommandName parameter to import any needed REST cmdlets to reduce memory usage.  When this is corrected by Microsoft, we will include Microsoft updates/recommendations into the upcoming Service Pack.

### Overall Performance

With focused efforts on improving the speed of the crawl, we have made adjustments to no longer fetch statistic by default.  Internal testing efforts see a decreased in the crawls time to completion.

### Logging and Configuration

There is a way to enable Microsoft internal EXO V3 module logging by editing the NLog configuration file.
Setting **writeTo=”logFile”** will enable this logger and new logs will be created beginning with EXO.



Local Disk (C:) › Program Files › SailPoint › Logs ›

Search Logs

| Name | Date modified | Type | Size | File version |
|---|---|---|---|---|
| elasticsearch | 5/31/2023 1:30 AM | File folder | | |
| ActivityAnalytics-Statistics.log | 5/31/2023 10:00 PM | Text Document | 40 KB | |
| DataClassification_DC1.log | 5/31/2023 9:52 PM | Text Document | 32 KB | |
| EventCollector-Statistics.log | 5/31/2023 9:59 PM | Text Document | 54 KB | |
| EventManager-Statistics.log | 5/31/2023 9:53 PM | Text Document | 125 KB | |
| EXO_RESTCmdletLogs-20230531-215503562.csv | 5/31/2023 9:57 PM | CSV File | 10 KB | |
| EXO_RESTCmdletLogs-20230531-215520014.csv | 5/31/2023 9:57 PM | CSV File | 10 KB | |
| EXO_RESTCmdletLogs-20230531-215527600.csv | 5/31/2023 9:57 PM | CSV File | 8 KB | |
| EXO_RESTCmdletLogs-20230531-215534334.csv | 5/31/2023 9:57 PM | CSV File | 8 KB | |
| EXO_RESTCmdletLogs-20230531-215540905.csv | 5/31/2023 9:57 PM | CSV File | 6 KB | |
| EXOPowerShellModuleLogs-708-20230531-215512896.csv | 5/31/2023 9:55 PM | CSV File | 2 KB | |
| EXOPowerShellModuleLogs-708-20230531-215526817.csv | 5/31/2023 9:55 PM | CSV File | 6 KB | |
| EXOPowerShellModuleLogs-708-20230531-215533572.csv | 5/31/2023 9:55 PM | CSV File | 2 KB | |
| EXOPowerShellModuleLogs-708-20230531-215539960.csv | 5/31/2023 9:55 PM | CSV File | 2 KB | |
| EXOPowerShellModuleLogs-708-20230531-215546525.csv | 5/31/2023 9:57 PM | CSV File | 471 KB | |
| PermissionsCollection_PC1.log | 5/31/2023 9:59 PM | Text Document | 727 KB | |
| PermissionsCollection_PC1.Statistics.log | 5/31/2023 8:10 PM | Text Document | 1 KB | |

C:\Program Files\SailPoint\Logs\EXOPowerShellModuleLogs-708-20230531-215546525.csv - Notepad++ [Administrator]

File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
EXO_RESTCmdletLogs-20230531-215540905.csv
EXOPowerShellModuleLogs-708-20230531-215546525.csv

```
StartTime,Type,AssemblyVersion,TenantId,Cmdlet,Parameters,PipelineIndex,OutputObjectCount,ExecutionResult,ClientRequest
2023-05-31-21:55:47.795,2,,,,,0,1,Success,1d694446-8106-4606-8274-af252d43ed25,ef51148d-eed7-6b05-0086-26df8b0b6d78,0,G
2023-05-31-21:55:47.790,1,15.20.5966.023,154dccc9-b44e-4883-860c-8c4da5ceae46,Get-EXOMailboxPermission,Identity;Owner,1
2023-05-31-21:55:49.323,2,,,,,0,1,Success,ecc3956a-ed42-42b3-8294-9248aa2b9c29,432f7d09-fd16-0361-a926-ff0d811ca024,0,G
2023-05-31-21:55:49.323,1,15.20.5966.023,154dccc9-b44e-4883-860c-8c4da5ceae46,Get-EXOMailboxPermission,Identity,1,0,Suc
2023-05-31-21:55:49.916,2,,,,,0,1,Success,8139a981-6301-48ea-ae74-f4828a9d438a,36e0e03e-7fd5-d0a0-d723-db6a87963392,0,G
2023-05-31-21:55:49.915,1,15.20.5966.023,154dccc9-b44e-4883-860c-8c4da5ceae46,Get-EXORecipientPermission,Identity,1,0,S
2023-05-31-21:55:50.445,2,,,,,0,1,Success,1db209d0-8a6c-494f-b90e-4cc2b7102be3,c8b0f1b7-cbd6-3259-752e-dd560f509206,0,G
2023-05-31-21:55:50.445,1,15.20.5966.023,154dccc9-b44e-4883-860c-8c4da5ceae46,Get-EXOMailboxPermission,Identity;Owner,1
2023-05-31-21:55:50.457,2,,,,,0,2,Success,de0dde0b-d476-4bd7-8422-dd452fcb7655,f7fa306a-8021-3883-be42-64f94f0cbef5,0,G
2023-05-31-21:55:50.456,1,15.20.5966.023,154dccc9-b44e-4883-860c-8c4da5ceae46,Get-EXOMailboxFolderPermission,Identity,1
2023-05-31-21:55:51.463,2,,,,,0,1,Success,1f5c0ecf-2e53-4041-a7ae-e51167486f2a,4bad377b-bc57-5d31-96e3-52659314cd8e,0,G
2023-05-31-21:55:51.463,1,15.20.5966.023,154dccc9-b44e-4883-860c-8c4da5ceae46,Get-EXOMailboxPermission,Identity,1,0,Suc
2023-05-31-21:55:52.129,2,,,,,0,1,Success,767945b4-fdd3-4bfe-9b60-b260f4cfd5e4,eacda6ab-9a62-538f-b09c-ef8223cab204,0,G
```

This may be useful to quickly capture and report Microsoft bugs, as EXO V3 is still undergoing development and stability fixes and should not yet be considered mature.

## References:

Connect to Exchange Online PowerShell
Deprecation of Remote PowerShell (RPS) for New Exchange Online Tenants
Welcome to the Microsoft Tech Community
App-only authentication in Exchange Online PowerShell and Security & Compliance PowerShell
Use C# to connect to Exchange Online PowerShell

## SIQETN-3194 – IIQ SCIM API - Allow for more than 100K results to be returned in Permission Forensics Call

This feature is applicable to customers that utilize integration with IIQ and FAM.

Prior to this change, IIQ API queries would return a maximum number of one hundred thousand results.

This change increases the query's index limit to ten million. Restructuring was completed to improve performance and two additional indexes have been introduced to improve query plans.

Please note these queries still may require a significant time to return results. Additional work is planned for upcoming

Service Packs (for both IIQ and FAM) to improve the performance of the results.

## SIQETN-3204 – Support custom port configuration for SharePoint On Prem Content Databases

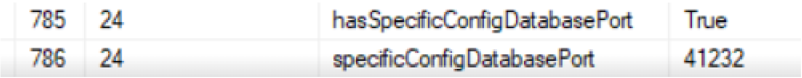
These changes will allow for custom port use for the SharePoint Content databases.

In order to enable this piece of functionality in your environment the following script should be applied to your specific FAMDB with the help of your DBA and SailPoint’s Support team.

**Please make sure to create a Backup of the DB prior to any changes.**

```
DECLARE @bam_id int = -1,
    @port nvarchar(max) = '1433'
IF EXISTS (
        SELECT 1
        FROM whiteops.bam_configuration_value
        WHERE bam_configuration_id = @bam_id
          AND name = 'hasSpecificContentDatabasePort')
BEGIN
        UPDATE whiteops.bam_configuration_value
        SET [value] = 'True'
        WHERE bam_configuration_id = @bam_id
          AND [name] = 'hasSpecificContentDatabasePort'
END
ELSE BEGIN
        INSERT INTO whiteops.bam_configuration_value
        VALUES (@bam_id,  'hasSpecificContentDatabasePort', 'True')
END
IF EXISTS (
        SELECT 1
        FROM whiteops.bam_configuration_value
        WHERE bam_configuration_id = @bam_id
          AND name = 'specificContentDatabasePort')
BEGIN
        UPDATE whiteops.bam_configuration_value
        SET value = @port
        WHERE bam_configuration_id = @bam_id
          AND [name] = 'specificContentDatabasePort'
END
ELSE BEGIN
        INSERT INTO whiteops.bam_configuration_value
        VALUES (@bam_id,  'specificContentDatabasePort', @port)
END
```

After the script has been applied, the output should be this at the whiteops.bam_configuration_value table:



| | | | |
|---|---|---|---|
| 785 | 24 | hasSpecificConfigDatabasePort | True |
| 786 | 24 | specificConfigDatabasePort | 41232 |

Note - FAM only supports a single custom port for the Content Databases.  If multiple content databases are used, they all should be utilizing the same custom port.

## SIQSUS-850 – Migration to Microsoft Graph API

Microsoft made an announcement of their intentions to deprecate Azure AD Graph API starting June 2023:
https://learn.microsoft.com/en-us/graph/migrate-azure-ad-graph-overview

With this announcement, the service pack now supports Microsoft Graph API.

Necessary steps:

After the upgrade has complete, please reissue new Authorization codes for:

- Azure Active Directory Identity Collector
- SharePoint Online application
- OneDrive application

If you need help performing this, please submit a support ticket.  Or reference the ***8.4*** documentation to view details around Microsoft Cloud endpoints for further details.

If you are not utilizing any of the above, there are no needed changes which need to be performed.

**Considerations:**

A list of resources that are accessed by File Access Manager using the REST graph API include:

```
https://graph.windows.net/{tenant_domain_name}/tenantDetails
https://graph.windows.net/{tenant_domain_name}/users
https://graph.windows.net/{tenant_domain_name}/users/{user_id}
https://graph.windows.net/{tenant_domain_name}/groups/{group_id}
https://graph.windows.net/{tenant_domain_name}/directoryRoles
https://graph.windows.net/{tenant_domain_name}/directoryRoles/{role_id}
```

Please be aware of these changes and adjust access accordingly.  Please reference ***8.4*** documentation to view details around Microsoft Cloud endpoints for further details.

# Chapter 5: Troubleshooting

## Upgrade Package Loading Fails

**Problem: During the package upload step, you receive a warning with the message "*Loading the package failed due to the following error: Signature is not valid*":**

The problem is likely that the machine hosting the User Interface service does not have the necessary Root Certificate (or is missing part of the Certification Chains leading up to the root) to validate the signature of the upgrade package.

**Suggested solution:**

1. To resolve the issue you should check that the machine hosting the User Interface service contains the root certificate named "DigiCert Assured ID Root CA", which has a serial# 0C:E7:E0:E5:17:D8:46:FE:8F:E5:60:FC:1B:F0:30:39.
   If this root certificate is missing, it can be downloaded from https://www.digicert.com/digicert-root-certificates.htm and installed as a trusted root certificate manually.

2. Another reason for this error would be that the machine hosting the User Interface service has been configured so that updating root certificates is disabled. To fix this, set the registry value HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Microsoft\SystemCertificates\AuthRoot\DisableRootAutoUpdate to 0, and retry uploading the upgrade package.
   This will allow Microsoft to restore the missing root certificate during validation.

## NHibernate configuration

**Problem: During the upgrade, the NHibernate configuration file or registry key do not display on one of the machines:**

**Suggested solution:**

1. Copy the “hibernate.cfg” from another server to \SailPoint\Nhibernate.

2. Copy the “[HKEY_LOCAL_MACHINE\SOFTWARE\whiteboxSecurity]” key from another machine to this machine.

3. Run the ResetDBPassword utility, to reencrypt the database password with the current server’s certification

   a. Make sure the SecurityIQ Home environment variable is set to the correct location
   b. Ensure that the folder named “External Tools”, containing the “makecert.exe” executable, or copy that folder from the Core Services server (the server hosting the User Interface service), and place it in the SecurityIQ Home directory
   c. Ensure that the folder named “ServerInstaller” exists in the “%SECURITYIQ_HOME%\File Access Manager” path, and within that folder you can locate the “Tools” directory or copy it from the Core Services server.
   d. Navigate to the “DBResetPassword” folder
   e. In a Command Line window (cmd) from the “DBResetPassword” directory path, run the following command:

```
C:\Program Files\SailPoint\File Access Manager\Server
Installer\Tools\DBResetPassword>
DBResetPassword.exe {YourPasswordGoesHere}
```

f. After the NHibernate file is re-encrypted, resume the manual uninstallation and installation of the remaining service on that server.

## Business Website

**Problem: You encounter an "Access Denied" error message while logging in to the Business Website after the upgrade**

**Suggested solution:**

1. Navigate to the wwwroot folder on the server hosting the Website at C:\inetpub\wwwroot).

2. Verify that the IdentityIQFAM and SiqApi folders are in the wwwroot folder.

3. If these folders are in the wwwroot folder, but there are still problems with the Business Website, contact support.

4. If these folders are **not** in the wwwroot folder, perform the following steps:

5. Open the Internet Information Service (IIS) manager (Server Manager ❼ Tools ❼ Internet Information Service (IIS) manager).

6. Select the Application Pools node.

7. Verify that the IdentityIqFamV1_ApplicationPool, IdentityIqFamV2_ApplicationPool and SiqApi_ApplicationPool are missing from the Application Pools node.

8. Create the new application pools, (naming them IdentityIqFamV1_ApplicationPool, IdentityIqFamV2_ApplicationPool and SiqApi_ApplicationPool), with the following parameters: .Net CLR Version: .Net CLR Version v4.0.30319 Managed pipeline mode: Integrated

9. Check the "**Start application pool immediately**" checkbox.

10. For each application pool, navigate to Advance Settings (Right-click ❼ **Advanced Settings**)

11. Under Process Model, set the "**Identity**" parameter to **LocalSystem**.

12. Under Recycling set the "**Regular Time Interval (minutes)**" to **720**.

13. From the Site panel (on the left), navigate to **IdentityIQFAM**, and click on it.

14. Click "**Basic Settings**" on the right. If this option is not available, right click **IdentityIQFAM** (on the left) and select "Convert to Application".

15. On the newly opened screen, click **Select**, select the IdentityIqFamV1_ApplicationPool you created earlier, and click **OK** twice.

16. Double click "**Authentication**".

17. Enable "Windows Authentication" and disable all other authentication methods.

18. Repeat Steps 11-15 for the SiqApi site and SiqApi_ApplicationPool.

19. Reset the IIS using the iisreset command.

## Business Website

**Problem: You encounter the following error, in the File Access Manager Server Installer log, when trying to uninstall the Business Website:**

```
Unable to uninstall service: WBXBusinessWebsite System.InvalidOperationException:
Sequence contains more than one matching element
```

**Suggested solution:**

1. Open the **Internet Information Services (IIS) Manager**
2. Expand the **Server Name**
3. Expand **"Sites"**
4. Expand **"Default Web Site"**
5. Select **"SecurityIQBiz"** and click **"Basic Settings"** on the right side
6. Click **"Select…"** then select **"SecurityIQ_ApplicationPool"** then click **OK**, then click **OK** again
7. Go to **"Application Pools"**
8. Select **"SecurityIQ_ApplicationPool"** and click **"View Applications"** on the right side
9. Right click **"/SecurityIQBiz/Whitebox_Rest"**, then click **"Change Application Pool"**, select **"DefaultAppPool"** and click **OK**
10. Right click **"/SecurityIQBiz/WhiteopsRest"**, then click **"Change Application Pool"**, select **"DefaultAppPool"** and click OK
11. Go to **"Application Pools"** and Confirm that the **"SecurityIQ_ApplicationPool"** application pool has only one application (in the **"Applications"** column)
12. Try to uninstall again.

## Improper upgrade path

**Problem: The improper upgrade path was taken. 8.3 SP4 was uploaded and upgraded was started but prerequisite of being on 8.3 failed.**

Steps to "rollback" the failed installation.

PLEASE NOTE: whenever performing changes to the database we always recommend performing a backup prior to the changes and working with your DBA. We also recommend working with Professional or Expert Services to help perform these changes.

1. Find and note the *id* associated to the failed SP4 installation in the *whiteops.upgrade* table.
   - select * from whiteops.upgrade;
2. Run the following delete queries in order, updating the [[UPGRADE_ID_VALUE]] with the *id* value noted above.
   - delete from whiteops.upgrade_state where upgrade_component_id in (select id from whiteops.upgrade_component where upgrade_id = '[[UPGRADE_ID_VALUE]]');
   - delete from whiteops.upgrade_component_dependency where dependency_version = '8.3.0.4000';
   - delete From whiteops.upgrade_component where upgrade_id = '[[UPGRADE_ID_VALUE]]';
   - delete from whiteops.upgrade where id = '[[UPGRADE_ID_VALUE]]';
   - delete from whiteops.wbx_file where id not in (select file_id from whiteops.upgrade_component UNION select certificate_wbx_file_id from whiteops.installed_service );

3. Delete contents of the *%SAILPOINT_HOME%\Packages* folder

After the DB has been cleaned up and reloading the Client the 8.3 SP4 wbxpkg will no longer be listed in the 'Upgrades & Patches' screen. This allows for following a valid upgrade path to 8.3.0.000 and then retry SP4, Once FAM has been upgraded to at least 8.3.0.0000 there should be no issue reloading the SP4 wbxpkg and successfully completing the installation.

# Chapter 6: List of Released E-Fixes

The following E-Fixes are included in this Service Pack and will be automatically deployed by the Service Pack:

## Service Pack 3

### SIQDEV-20293 – Data Classification Policies Update - 8.4 V2

Reduce False Positives and address common use cases - by tuning current OOTB rules (updated RegEx expressions for IBAN and ICD rules) and expanding inter-rule relations to achieve more complex, and accurate data detection.
Includes **SIQSUS-879** (Data Classification OOTB Policy Optimization), **SIQDEV-17448** (ICD - Codes A00-Z99) and **SIQDEV-17507** (Policy object IBAN updates).

### SIQSUS-1034 – Groups query for IIQ Correlation

Before this Service Pack update, it takes too long to query permissions type with SCIM with million Business Services (Resources). As IIQ only needs Group unique identifier and data classification categories related to that group, new API was created to support IIQ Correlation.

### SIQETN-2634 – Orphan permissions report template does not work

Updated fields in database from Orphan to Orphan Account to avoid this issue from happening.

### SIQETN-2980 – Certain Variables Missing from Alert Messages

Code added resolve IP address from the Server’s name event attribute

Missing variables added:

- Excuting *PolicyRule*
- *Path* (only in move actions)
- *FieldOrFolderName* (only in rename actions)

### SIQETN-3148 – File Server SMTP Response Variables Not Returning Values

Added DB script to remove unmapped response variables from WFS.

### SIQETN-3178 – CDC throwing duplicate key errors

Fixed issued on Data Classification process when duplicates appear from RabbitMQ due to network issues.

The issue appears when connection problems between Engine/Collector to Rabbit appear, mostly the process losing connection after getting a message is not able to acknowledge the message to Rabbit, so when connection is reestablished same message from Rabbit is processed again.
Duplicates now will be ignored (once the first occurrence has been processed correctly) and the process will continue.

## SIQETN-3253 – Issues trying to filter Permissions by Classification Categories that come from a Global Rule

Global rule is now included in filter as expected.

## SIQETN-3260 – SP update_ra_roles_br_permissions Transactional error

SP whiteops.update_ra_roles_br_permissions updated to avoid a transactional error if the inital insert into a temporal table fails, this can happen if the table whiteops.ra_role_br_permission contains duplicates.

## SIQETN-3261 – Fix PolicyImport tool to correctly handle policy categories

Fixed an issue with the PolicyImport tool that was causing the tool to skip certain categories.

## SIQETN-3262 – FAMCertificateManager Tool, update to help message to clarify correct field values to use

Help text on FAM Certificate Manager tool updated for clarity.

## SIQETN-3263 – Deprecated dependency to RabbitMQ Message Serialization.

A new Message Serializer was added (JsonMessageSerializer) to avoid the error, it works as an alternative to BinarySerializer.

## SIQETN-3268 – Campaign Summary report generation failure for status 'All'

Fixed issue on Campaign Summary Report not handling correctly some records that have a null value.

## SIQETN-3269 – Meta data is not classified correctly on Office files with suffix .docx, .pptx. .xlsx

Property validation implemented for file Metadata for OfficeOpenXML format (.xlsx, .docx, .pptx), in case not present clone value from “Description” property (if available).

## SIQETN-3270 – Adding DEC to activity monitoring causes forensics issues as DEC is not added to activity details retroactively

Fixed ElasticSearch query for empty DEC fields.

## SIQETN-3271 – Deleted users are still showing up in the recipient search on Reports Template

Component fixed to show only active users.

### SIQETN-3272 – Research how CLR strict security impacts FAM upgrades and improve it

Fixed a problem with a database object that was not properly signed. Some prerequisites are required for this to be fixed.

### SIQETN-3273 – Active Directory BAM Showing Wrong ObjectClass for the Target Objects

Fixed issue on Activity Monitor for Active Directory BAM, now correctly saves the Object Class field from events.

### SIQETN-3278 – Associated bam records are not cleaned when a BAM is deleted

Fixed issue on database store procedure that were not deleting records in the correct order.

### SIQETN-3280 – Campaign creation error when displaying deleted resource filter

Filter is now properly displaying the BRs even after the deletion of them.

### SIQETN-3283 – Box Crawl Issues

With this Service Pack now Box rate limit exceptions are honored by waiting at least the specified time by Box before making another API request to it. Also, now the expired tokens are refreshed and used in every Box data request (token validation must be done before each of those retries).

### SIQETN-3284 – Db Cleanup task enhancements

DB cleanup task process was prone to errors when the cleanup tasks was not executed for several weeks or months; those errors have been resolved. For more information on it please refer to page 13.

### SIQETN-3285 – Permission Collection: RA_USER shows records with entity type = Local Group

Fixed issue on Permission collection saving local groups as users on database.

### SIQETN-3286 – Stale Data Report error when BR has a size of 10 TB or more.

Fixed issue on Stale Data Report not handling correctly directories having a size bigger than 10 TB.

### SIQETN-3287 – Fix boolean operator to consider values above 1 as true

Minor change on the database to correctly reflect true/false values on the forensics screen.

## Service Pack 2

### SIQSUS-1023 – OneDrive Resource > Alerts are not triggering alerts/sending emails

Now Alert options checked trigger alerts/send emails to data owners.

## SIQSUS-1024 – OneDrive Alerts, Default Email Templates Not Displaying Variable Values.

OneDrive Email alerts were not replacing variables with the appropriate values. This affected both the default emails sent from Resource Alerts and those from Alert Rules using the default OneDrive template.

## SIQSUS-1036 – Incorporate Custom DB Ports for SharePoint Content DBs into SP Configuration.

Some customers have multiple sharepoint on-prem databases with different ports, currently FAM use default port to access them, but that is not working for those customers. Now UI to allows users to enter:

1) OverrideAllPort (a textbox for all content db hostnames)
2) Key value for individual ports

## SIQSUS-1156 – Incorrect Tooltip for "Specific Port" and "Specific Individual Port(s)" in "Connection Details - SharePoint" app configuration page.

Tooltips for “Specific Port” and “Specify Individual Port(s)” in the “Connection Details - SharePoint” application configuration page were flipped; this has been fixed.

## SIQETN-2850 - In Forensics Data Classification resource filtering, "Including subfolders" doesn't stay unchecked.

Not all changes in the filter were checked after editing, this is fixed.

## SIQETN-3045 - Import DC Results allows import of delete business resource.

An update to the DC import process was made to ensure deleted BRs are no longer imported.

## SIQETN-3107 - "Not" Type Filters are Not Properly Filtering Results In Activity Forensics When Used with DEC Fields.

Fixed issue with ElasticSearch Query Filters on Forensics – Activities

## SIQETN-3118 – Enhance Data Classification Skipped Document Log Messages.

Updated the error description to include both the actual file size and the metadata file size.

## SIQETN-3119 – Summarize Failed Documents During Data Classification in Task Details.

Generated a new reports summary document, please refer Chapter 4 for specifics.

## SIQETN-3170 - Failed Cloud Data Classification Task Leaves Sensitive Temp Data.

This enhancement is included to ensure upon any failure of the data classification task, the temporary folder is also deleted.

## SIQETN-3171 - Improve Readability of Box Errors/Add Information to Task Details.

Improved log messages by including Parent Path.
Box Crawler is reporting a warning message to Task Details when Crawler is not unable to access resources.

## SIQETN-3173 - Remove obsolete config keys from RoleAnalyticsServiceHost.dll.config.

Removed unused keys *queueBusySleepTime* and *queueBusySleepTime* from RoleAnalyticsServiceHost.dll.config

## SIQETN-3177 - Remove deprecated dependencies from whiteops.dependency table.

Some obsolete dependencies were still being registered during the FAM installation process, so another initial installation script was added to remove them.

## SIQETN-3198 - Reports cannot tolerate FAM application names with leading zero character.

Updated the Reports logic to properly handle all application names.

## SIQETN-3210 - Backslashes can't be allowed in application names if customer wants activity monitoring.

Update to the UI to validate application names to not allow backslashes.

## SIQETN-3215 - Detailed Error/Debug Messages.

Removed unnecessary/detailed SQL error messages containing raw queries from API responses.

## SIQETN-3232 - Reports for User Scope should use custom properties from auth store IDC.

Fixed report generation, it failed when there were multiple sample properties.

## SIQETN-3234 - SCIM app memory leak when IIQ queries permissions.

Fixed SCIM app memory leak for every database query.

## SIQETN-3238 - User Scope Report shows deleted resources.

Deleted resources were being included because they were not excluded in the database query, query was modified to exclude these resources.

## SIQETN-3239 - High Memory Usage Between Permission Collection Task Runs With Rabbit (On-Prem Connectors).

RabbitMQ now explicitly unsubscribe, if subscribed, and remove action callback handler in RabbitMessageBroker.

## SIQETN-3241 - Linux Permission Collector throws index out of range exception when passwd contains # sign.

Fixed Linux crawler error on parsing /etc/passwd when it contains # sign.

## SIQETN-3242 - Support custom port configuration for SharePoint On Prem Content Databases (extended).

Added support for different SharePoint on-prem content database (as sometimes it is FQDN, sometimes it is short name).

## SIQETN-3243 - Changes to ports utilized by services via server installer not taking effect.

Now the Server Installer properly updates the ports utilized by the services.

## SIQETN-3244 - to_lower_invariant fails for some unicode characters.

A new mechanism was created to handle the exceptional cases (use of emojis) that fail due to this error in the SqlServerToLowerInvariant assembly.

## SIQETN-3245 - GPOCache - refreshPolicyDisplayNames() method may be called too frequently on "problematic" GPO's of AD.

Stretched out the interval between refresh calls.

## SIQETN-3246 - Forensics >Permissions > saved queries should save selected columns and columns chooser selection.

The column selector component was not updated after loading saved queries. Not this behavior has been fixed.

## SIQETN-3247 - Excel format with wrong options.

Now code uses the correct option for xlsx creation.

## SIQETN-3248 - EncryptStringForService fails to find WBX-Nhibernate certificate.

The EncryptStringForService was updated to use up-to-date encryption mechanisms.

## SIQETN-3250 - Box and OneDrive permission collection invokes stored procedure to create user_role tables excesively.

Performance improvements have been made to Box and OneDrive Permission Collection tasks to decrease runtime.

## SIQETN-3254 - Improve query time for DFS owners on login.

Improve performance of Database function that retrieves owner’s information from Business Resources.

### SIQETN-3259 - Composite Analyze task doesn't match files matching the necessary criteria.

FAM having issues when executing the Composite Analyze task, certain files are not picked up for PHI even if the file happens to meet the criteria. For the fix to work, the PII Global rule must be enabled within the PII policies.

## Service Pack 1

### SIQSUS-706 – Clarify Design & Implement/Make changes around Group Permission Staleness

This issue will update permission forensics to use business resource’s last used if available otherwise current behavior will remain unchanged.

### SIQSUS-881 – Modernize EXO Connectivity v3.0

Use latest EXO V3 module and Get-EXO* optimized cmdlets where possible so that RPS (remote power shell) can be disabled for tenants.

### SIQSUS-850 – Adjustment from MS Announcement to Deprecate Graph Azure AD API

Corrected reauthenticate Azure AD token process so Azure Synchronize IC Task won’t fail.

### SIQETN-3038 – Add In 'Empty' & 'Not Empty' operators for Category Filter in Forensics searches

'Empty' & 'Not Empty' operators for Category Filter in Forensics searches added.

### SIQETN-3040 – Default SMTP SharePoint Online - Single Activity template does not pick up all template variables

Changed several potential versions of Share Point Online to SharePointOnline in the SMTP response body via database script, user story.

### SIQETN-3185 – Null Reference Exception in Activity Reporting Due to duplicate event IDs

Allow Null values, and add logging to understand further why Event has Null data.

### SIQETN-3194 – IIQ SCIM API - Allow for more than 100K results to be returned in Permission Forensics Call

Increase SCIM API's permission query's index limit to ten million. Additional restructuring was done to improve performance. Two additional indexes have been introduced to improve query plans.

## SIQETN-3197 – website dashboard - threshold alert widget - ElasticSearch query timing out.

Improves performance of "threshold alerts" website dashboard.

## SIQETN-3201 – SharePoint on-premise data classification failure to connect to HTTPS URL

Added support for SharePoint on-premise HTTPS endpoints during data classification.

## SIQETN-3204 – Support custom port configuration for SharePoint On Prem Content Databases

Added enhancement to allow for custom port use as well for the content databases.

## SIQETN-3205 – lock update_ra_users_br_permissions while inserting

Improved duplicate user handling during permission collection.

## SIQETN-3206 – Composite Rule Policies Overrides one another so only one is tagged on qualifying resource

Added extra validations so now Composite Rules Policies are all now tagged accordingly within Forensics > Data Classifications menu.

## SIQETN-3207 – Duplicates Not handled properly in gDrive crawl

Perform cleaned up for all duplicates vs in batches.

## SIQETN-3208 – Dashboard Widget Calculation performance improvement

Performance improvement of 2 stored procedures that handle DFS within Dashboard calculation task.

## SIQETN-3211 – Alerts to data owners not triggered off events on SPO when set through Resources->Alerts screen

Updated relevant tables with correct SPO events.

## SIQETN-3212 – Some alerts to data owners not triggered off events on NetApp when set through Resources->Alerts screen

Updated relevant table with correct NetApp events and operators..

## SIQETN-3213 – Token Refresh Server Resiliency Enhancement

Tokens refresh every 10 minutes before they are set to expire. If within this 10 minute window will keep trying to refresh every 1 minute until the token has completely expired.

## SIQETN-3214 – Query Injection Provides Ability To Manipulate Database Queries

The vulnerable query was updated and validated along with the HTTP error message details.

## SIQETN-3216 – Responses with Incorrect or Missing Content-type

Correct content-type on all response specified.

## SIQETN-3217 – Impersonation of users on the FAM WEBUI does not change user accounts during impersonation

Addressed failure of impersonation.

## SIQETN-3218 – FAM.SCIM self referencing loop

Resolved "self referencing loop detected" exception in FAM SCIM API.

## SIQETN-3221 – AWS S3 Connector Incorrectly Pages Results Causing Crawl Failure

Implemented proper paging for all AWS queries that return List responses with Marker or NextToken property.

## SIQETN-3222 – Rename Resource Alerts 'File or Folder is modified' to ''File is modified'

Updated to ‘File is modified’ and remove ‘Folder’.

## SIQETN-3223 – Correct continuous append

string builder is cleared and re-initialized with a new insert statement before appending next batch of row data.

## SIQETN-3224 – Identity collector failure during delete

Allow identity collectors with mapped data sources to be deleted.

## SIQETN-3225 – Some alerts to data owners not triggered off events in several endpoints when set through Resources->Alerts screen

Updated policy_business_rule_type_wpc_field table with correct operators.

## SIQETN-3226 – Typo in User Group Memberships report

Both reports updated with the correct wording.

## SIQETN-3227 – SPO ans OneDrive not showing all resource info in alert email

Added missing fields + hyperlink to resource.

## SIQETN-3228 – OneDrive Drive Verification Fails Crawl During Root Collection When Using skipOneDriveExistenceVerification

Code updated to avoid issues when using skipOneDriveExistenceVerification flag.

## SIQETN-3230 – Content Type displaying Incorrectly for SharePoint On Prem

Fix code that the engine will distribute the content type map to crawler.
Fix UI to show each content type total size when mouse hover on them.

## SIQETN-3233 – wbxadmin login failed with impersonation bug fix

Addressed failure of impersonation.