



# Integrating EMC Unity CIFS with File Access Manager

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## Capabilities

This connector enables you to use File Access Manager to access and analyze data stored in EMC Isilon and do the following:

- Analyze the structure of your stored data.
- Monitor user activity in the resources.
- Classify the data being stored.
- Verify user permissions on the resources, and compare them against requirements.
- Manage access fulfillment - automated granting and revoking of access - according to rules set in File Access Manager.

See the File Access Manager documentation for a full description.

## Connector Overview

For more information on the EMC architecture and CEE, refer to the EMC CEE using the Common Event Enabler for Windows, see [docu48055\\_using-the-common-event-enabler-on-windows-platforms.pdf](#)

### CEE

CEE is a software package that allows File Access Manager to receive event notifications from Unity. It consists of two agents: Common Antivirus Agent (CAVA) and Common Event Publishing Agent (CEPA).

All NAS servers send notifications on events to the CEPA agent and CEPA sends the events to File Access Manager.

### CEPA and NAS servers

- For CEPA to work, you need to have a SMB server configured on the NAS Server.
- A CEPA service can communicate with multiple NAS servers, and a NAS server can communicate with multiple CEPA services.
- CEPA servers work in pools, Dell Recommends a minimum of two CEPA servers per pool.
- Each NAS server needs to enable publishing events and configure at least one CEPA pool.

### CEE & Activity Monitor

Every Activity Monitor can communicate with one or more CEE servers.

Every CEE service can be configured to work with a multiple Activity Monitor services.

### Activity Monitor

File Access Manager Connector for EMC uses EMC CEPA over the Common Event Enabler Framework (or CEE, formerly known as CAVA) infrastructure for getting audit events from the Unity for CIFS access.

The Activity Monitor supports different architectures and can work with either a single or multiple, remote, or local CEE services.

### Permissions Collection

File Access Manager connects using EMC administrative shares and analyzes folder permissions.

Local groups and users are collected from the CIFS server during the Permission Collection process.

## Supported Versions

EMC Dell EMC Unity OE version 4.1

## Prerequisites

Make sure your system fits the descriptions below before starting the installation.

### Software Requirements

File Access Manager requires the latest ASP.NET Core 6.0.x Hosting Bundle. This bundle consists of .NET Runtime and ASP .NET Core Runtime. You can download the latest 6.0.x Hosting Bundle version from [here](#) .

### Configure the CEE Service

Make sure that CEE is installed on a Windows machine in the domain, and that the log on user for the CEE services is an administrative user in the domain.

### Supported Versions

Use the latest version of CEE.

### Remote CEE

For enterprises with an existing central CEE infrastructure, where the Activity Monitor will be installed on a different server than the CEE service:

1. On every CEE server, make the following changes in the registry:

```
[HKLM\Software\EMC\CEE\CEPP\Audit\Configuration]
```

```
Endpoint=whitebox@<File Access Manager Activity Monitor server ip address>
```

```
Enabled=1
```

If multiple monitor servers exist, the list should look like: whitebox@ip, whitebox@ip, ...

2. Restart the EMC CEE service.

### Local CEE (no central infrastructure)

When installing the CEE service and the Activity Monitor service on the same server:

1. Install CEE Pack on the monitor server.

The CEE service must be installed on a server in the same domain as the NAS server CEE server, otherwise the communication between the NAS server and the CEE service will fail.



2. Make the following changes in the registry:

```
[HKLM\Software\EMC\CEE\CEPP\Audit\Configuration]
```

```
Endpoint=whitebox
```

```
Enabled=1
```

3. Set the logon user for the services to a user according to the “Permissions” section.
4. Restart EMC CEE service.

## Configuring Event Publishing in Unity

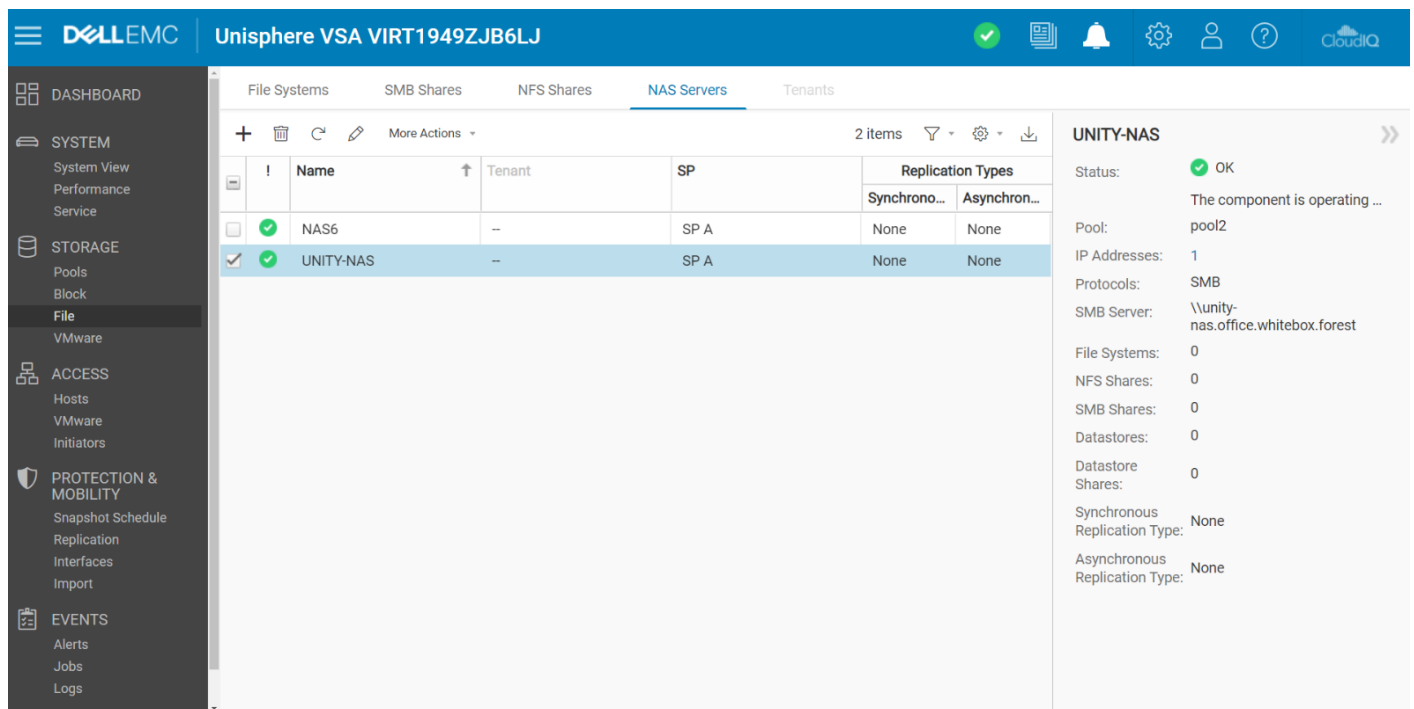
To enable event publishing on a share, Events publishing must be enabled on its NAS server and its File System as described in the following sections.

For more information on how to configure the CEPA and CEE refer to the EMC CEE version 7.0 using the Common Event Enabler for Windows

[docu48055\\_using-the-common-event-enabler-on-windows-platforms.pdf](#)

## Enabling Event Publishing in the NAS Server

Open Unisphere and Navigate the File tab in the right pane under Storage.



	Name	Tenant	SP	Replication Types	
				Synchrono...	Asynchron...
<input type="checkbox"/>	NAS6	--	SP A	None	None
<input checked="" type="checkbox"/>	UNITY-NAS	--	SP A	None	None

**UNITY-NAS**

- Status: ✔ OK
- The component is operating ...
- Pool: pool2
- IP Addresses: 1
- Protocols: SMB
- SMB Server: \\unity-nas.office.whitebox.forest
- File Systems: 0
- NFS Shares: 0
- SMB Shares: 0
- Datastores: 0
- Datastore Shares: 0
- Synchronous Replication Type: None
- Asynchronous Replication Type: None

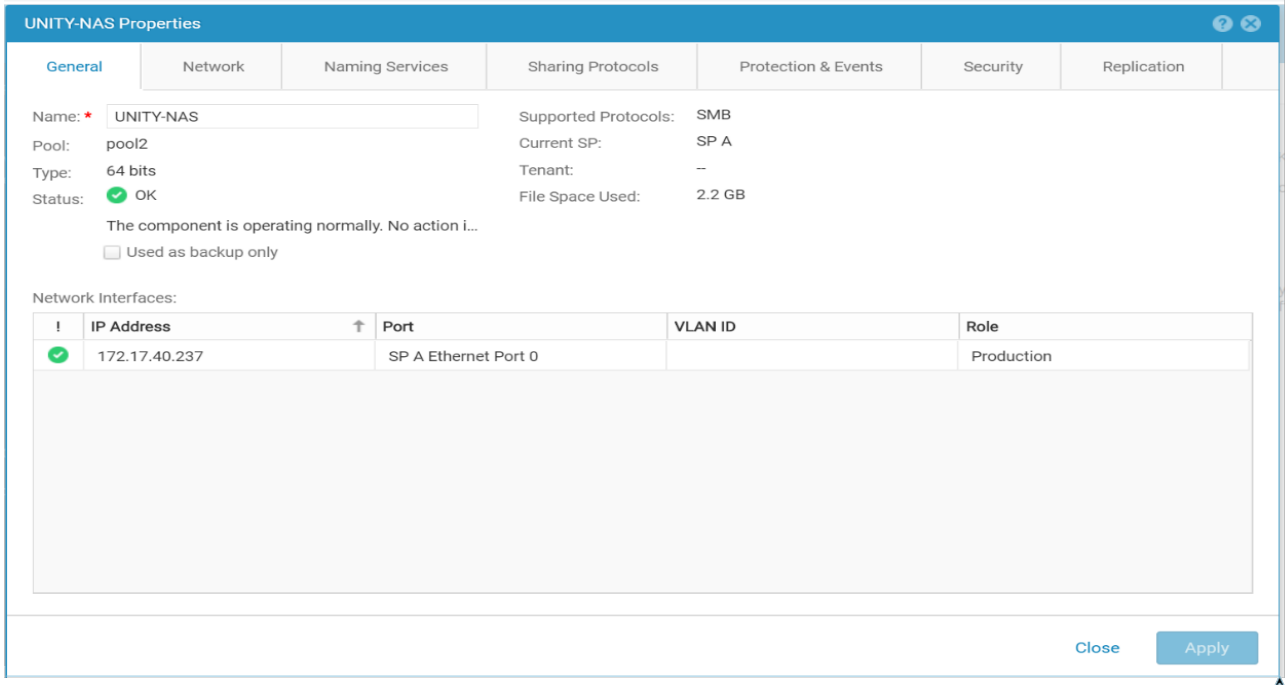
Click the “NAS Servers” tab.

## Prerequisites

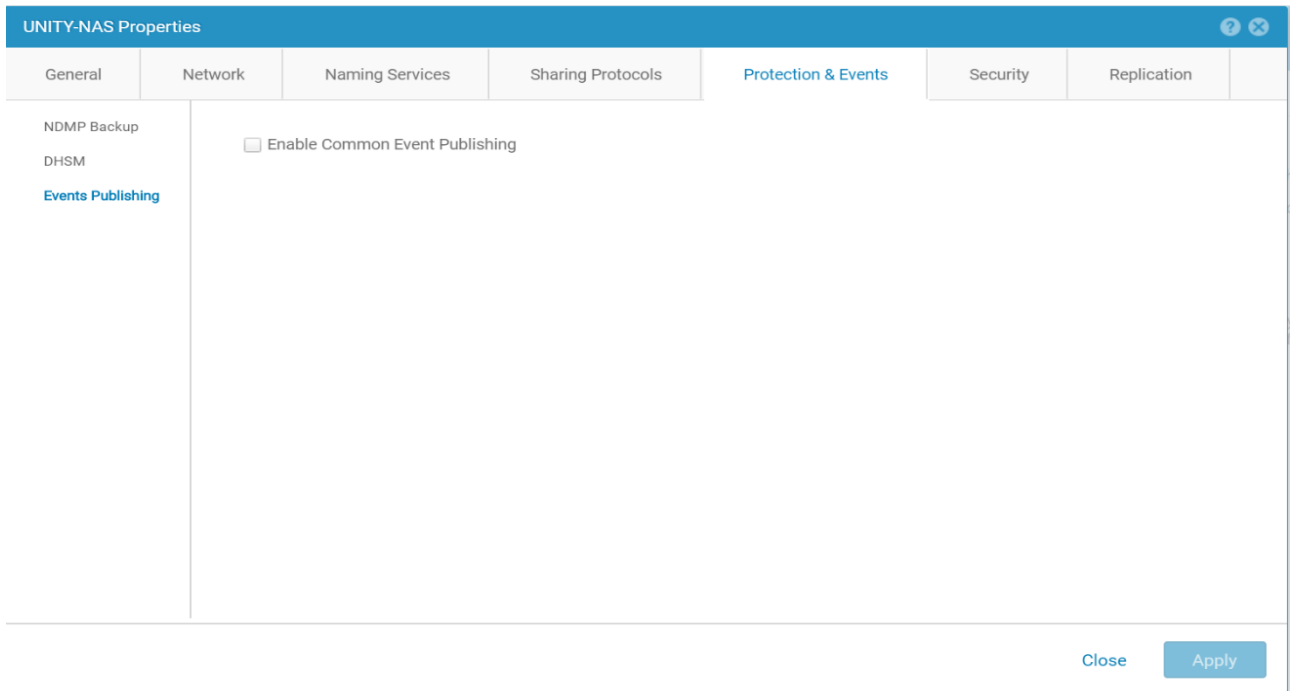
---

For each NAS Server that you wish to enable activities, run the following:

1. Double click the NAS Server.



The Server's properties appear.



2. Open the “**Protection & Events**” Tab, and choose “**Events Publishing**” in the right pane

The Events Publishing details appears.

3. Check “Enable Common Event Publishing:

The “New Event Pool” window will appear to create the first Event Pool

**New Event Pool**

Name: \* UNITY-NAS\_CEPA\_1

CEPA Servers: \*

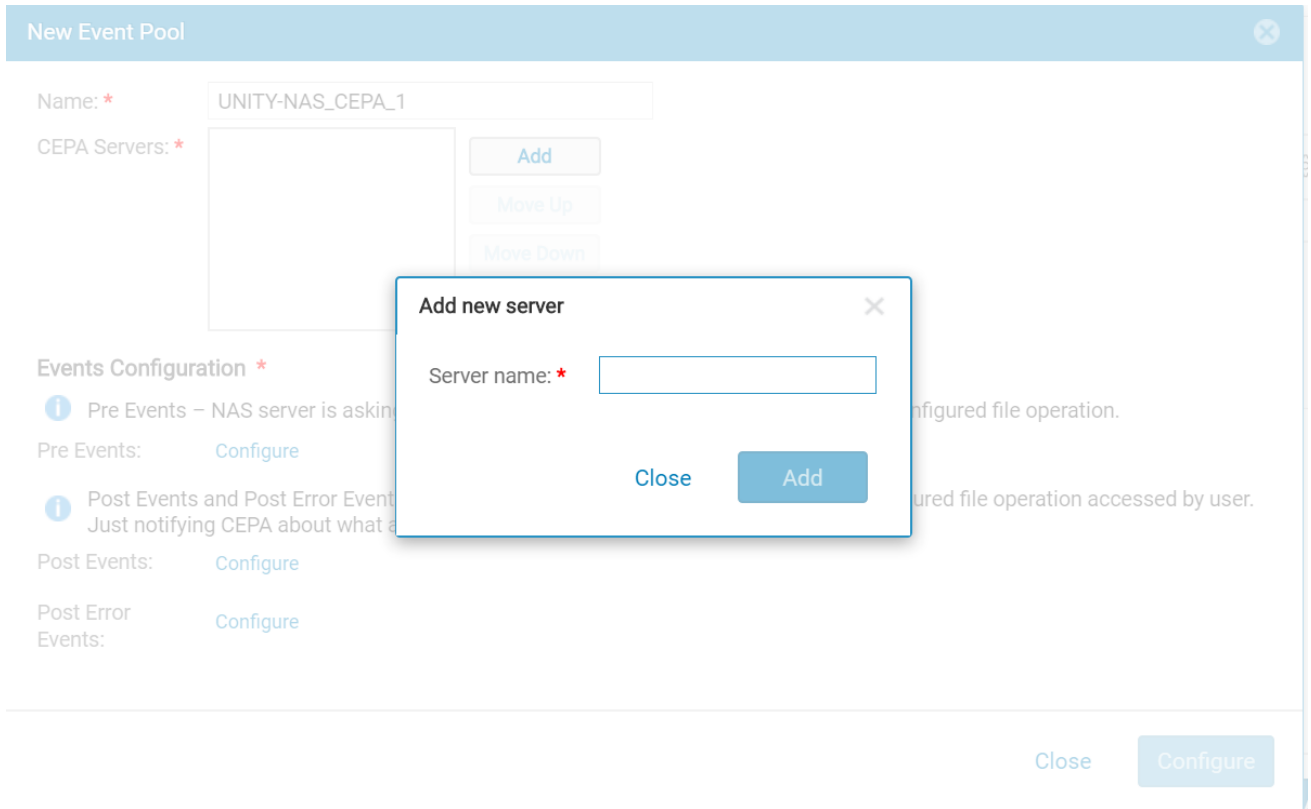
**Events Configuration \***

- Pre Events** – NAS server is asking for permissions from CEPA server to perform each configured file operation.  
Pre Events: [Configure](#)
- Post Events and Post Error Events** – NAS server is notifying CEPA servers about a configured file operation accessed by user. Just notifying CEPA about what already happened.  
Post Events: [Configure](#)
- Post Error Events: [Configure](#)

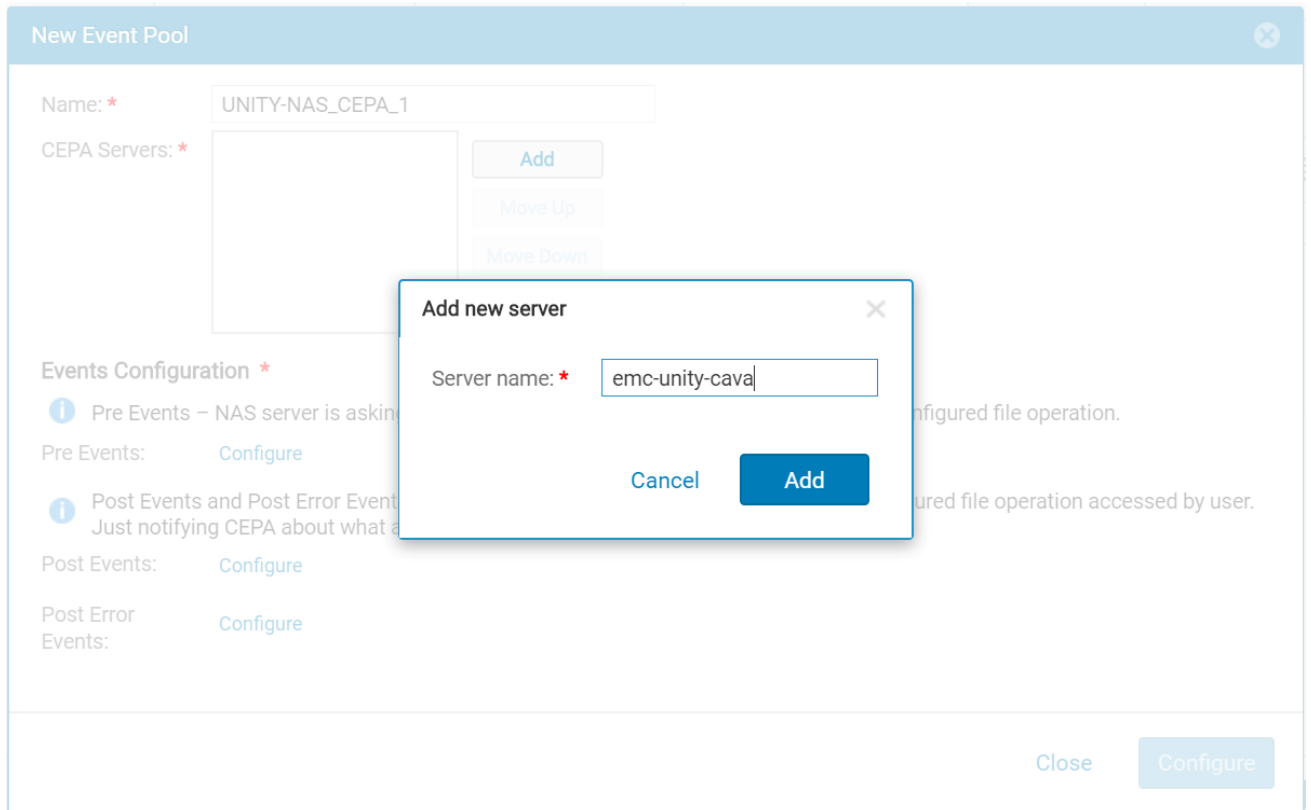
Close [Configure](#)

4. Click **Add**

The “Add new server” window appears.



5. Fill the Server name of the CEE service and click **Add**



The “New Event Pool” window will reappear, with the list of servers listed.

Press Add to add additional servers with CEE service.

**New Event Pool**

Name: \* UNITY-NAS\_CEPA\_1

CEPA Servers: \* emc-unity-cava

Add

Move Up

Move Down

Remove

**Events Configuration \***

**i** Pre Events – NAS server is asking for permissions from CEPA server to perform each configured file operation.  
Pre Events: [Configure](#)

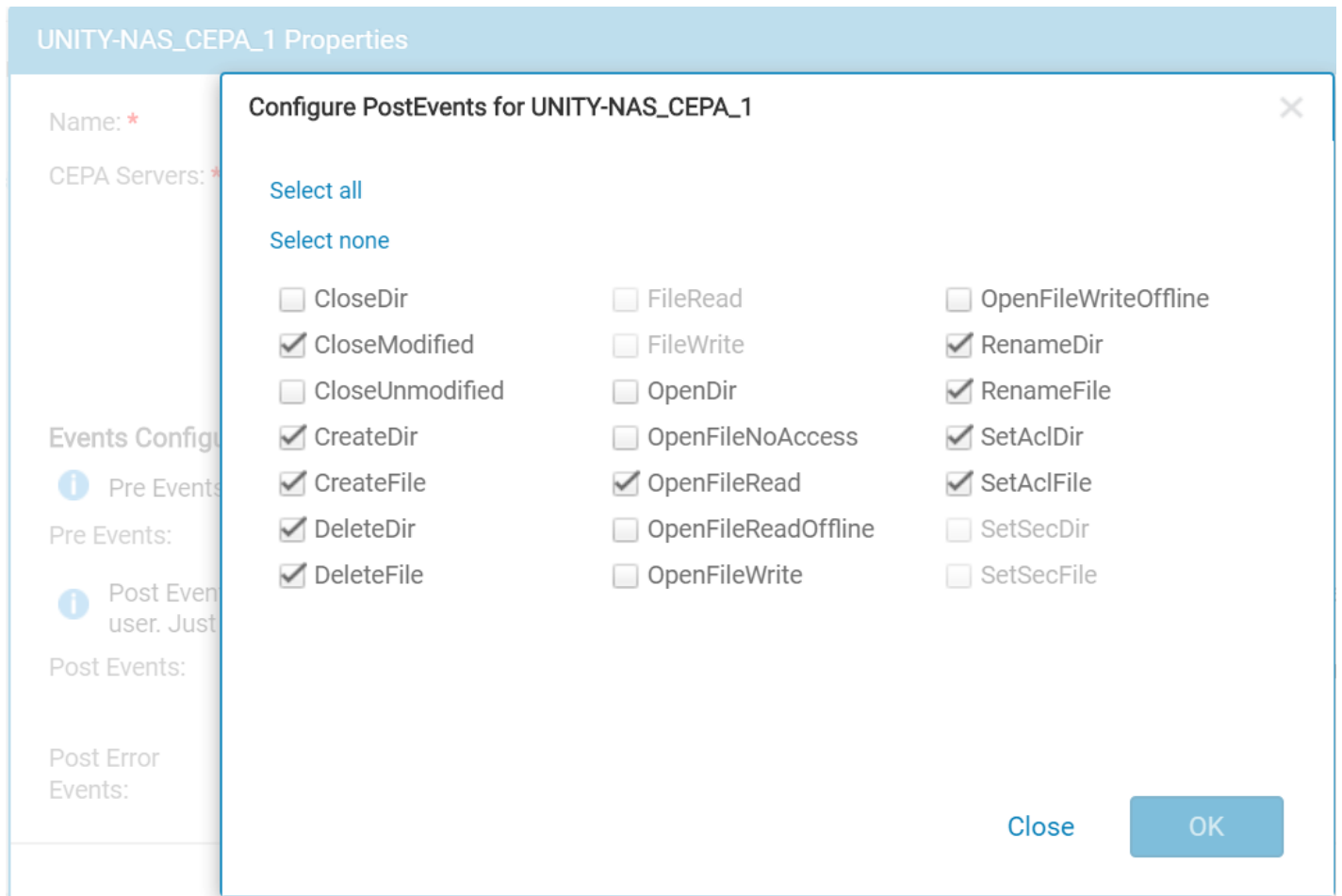
**i** Post Events and Post Error Events – NAS server is notifying CEPA servers about a configured file operation accessed by user. Just notifying CEPA about what already happened.  
Post Events: [Configure](#)

Post Error Events: [Configure](#)

Cancel [Configure](#)

6. To configure the post events - Click **Configure** Next to **Post Events**:

This will open the “Configure PostEvents...” window.

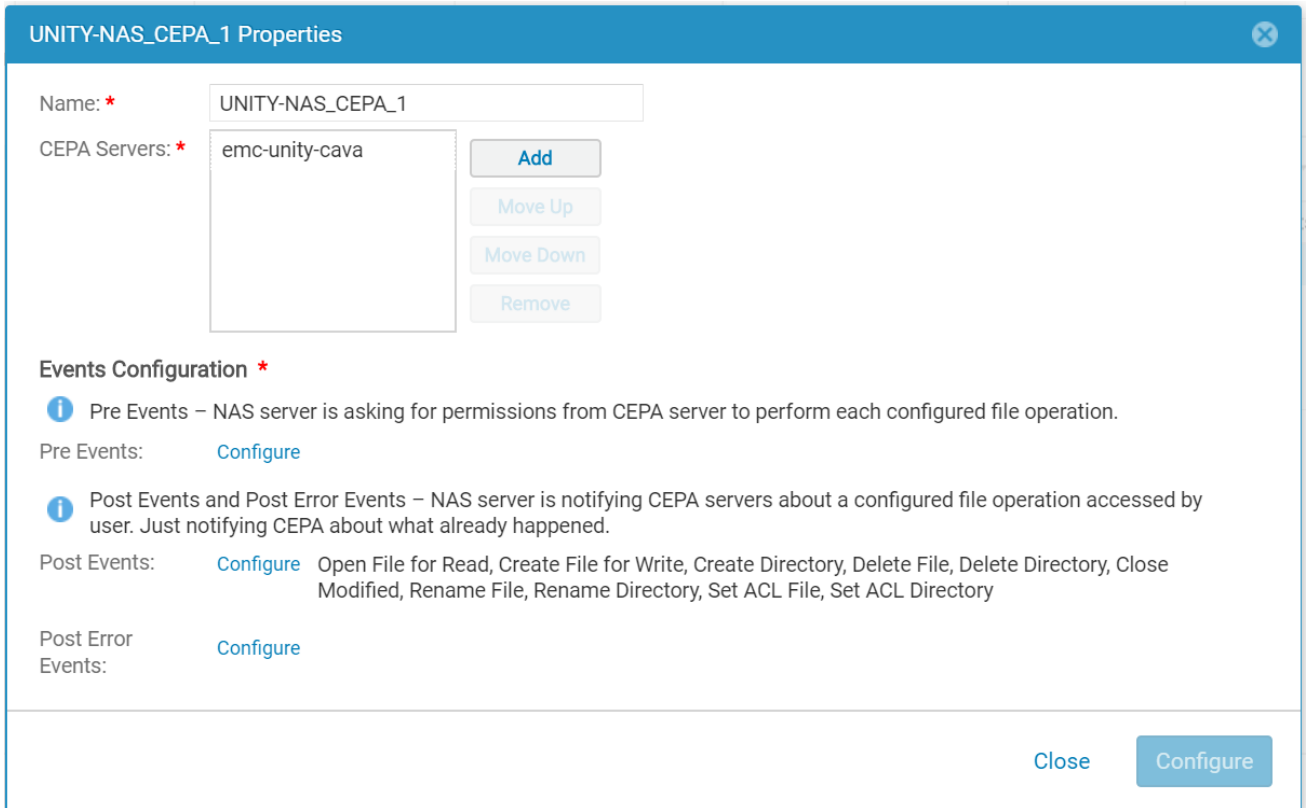


7. Check the following Event Types:

- OpenFileRead
- CreateFile
- CreateDir
- DeleteFile
- DeleteDir
- CloseModified
- RenameFile
- RenameDir

- SetAcIFile
- SetAcIDir

8. Click **OK** to return to the CEPA Properties window.



9. Optionally, rename the Event Pool in the **Name** field.

10. Click **Configure** to return to the NAS Properties window

11. Click **Close**

## Enabling Event Publishing in the File System

Open Unisphere and Navigate the File tab in the right pane under Storage.

Click the **File Systems** tab.

To enable activities for a file system:



## Prerequisites

1. Double click the File System to open the File System Properties window.

**FileSystem6 Properties**

General | Snapshots | FAST VP | Replication | Quota | Advanced

Status: ✔ OK  
The component is operating normally. No action is required.

Name: FileSystem6

Description:

Size:

Thin: Yes

Used (GB): 1.5 GB (50%)

Capacity 3.0 GB

Allocated: 0.2 GB

**Capacity Alarm Setting**

NAS Server: NAS6

Pool: pool2 (79.0 GB Free)

Total Pool Space Used: 3.7 GB

Preallocated: 2.2 GB

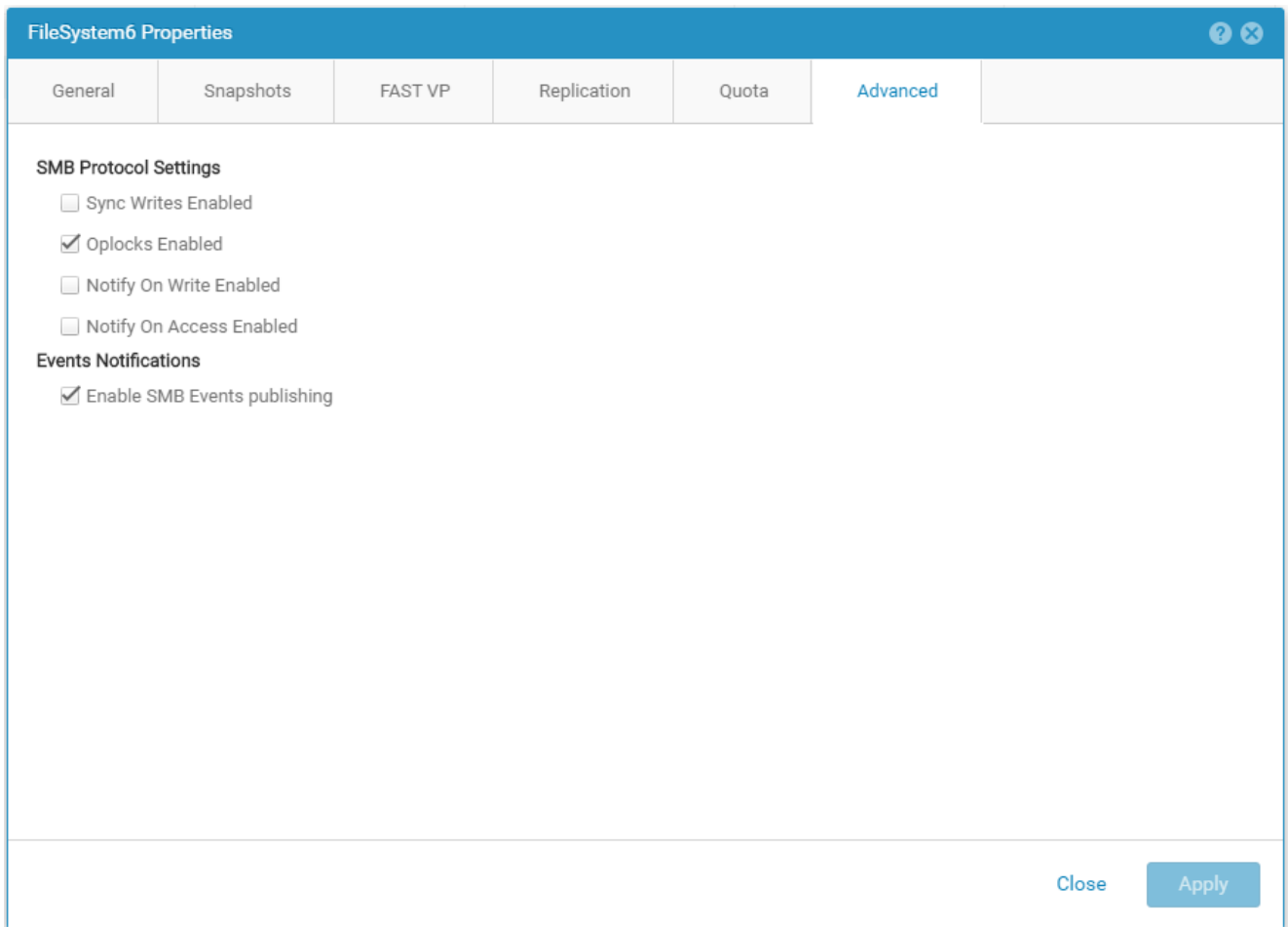
Format: UFS64

Snapshot Space Used: 0.0 GB

Protocol: Windows Shares (SMB)

Close

2. Click the “Advanced” Tab to open the advanced configuration tab.



3. Check **Enable SMB Events publishing** and click **Apply**.

## Permissions

File Access Manager requires different permissions, based on the tasks that require those permissions. The user configured in the Application configuration wizard must have the following permissions on the file server:

- Share Read permissions to all shares on the file server
- Full Control permission for each normalized folder
- Member of the local Backup Operators group on the file server
- Member of the local Administrators group on the file server

### Why do we need this access?

The following detailed explanation describes required permissions by each File Access Manager task:

### **Activity Monitoring**

No special permission is required, since the Activity Monitor service runs locally on the monitored service with Local System privileges.

### **Crawling**

The user must have Share Read permissions to all the shares on the file server.

The user must be a member of the local Backup Operators group on the file server.

### **Permission Collection**

The user must have Share Read permissions to all the shares on the server.

The user must be member of the local Backup Operators group on the server.

The user must be a member of the local Administrators group to read the Share Permissions, and the local Users and Groups of the server.

### **Access Fulfillment**

The user must have Full Control permission on the normalized folders to be able to set the permissions.

### **Data Classification**

The user must have Share Read permissions for all the shares on the server.

The user must be member of the local Backup Operators group on the server.

## **Communications Requirements**

Requirement	Source	Destination	Port
File Access Manager Message Broker	Permissions Collector/Data Classification Collector	RabbitMQ	5671
File Access Manager Access	Activity Monitor	File Access Manager Servers	8000-8008
EMC CEE	EMC NAS server	CEE Server	RPC (135 + Dynamic)
CEPA Events Push	CEE Server	File Access Manager Application	RPC (135 + Dynamic)
Permissions Col-	Permissions Col-	Monitored server	CIFS/SMB (139,

## Prerequisites

---

Requirement	Source	Destination	Port
lector & Data Classification Analysis	lector/Data Classification Server		445)

## EMC Isilon Installation Flow Overview

To install the EMC Isilon connector:

1. Configure all the prerequisites.
2. Add a new EMC Isilon application in the Business Website.
3. Install the relevant services:
  - Activity Monitor - This is the activity collection engine, used by all connectors that support activity monitoring.
  - Permissions Collector
  - Data Classification Collector

Installing the permissions collector and data classification services is optional and should only be installed by someone with a full understanding of File Access Manager deployment architecture. The File Access Manager Administrator Guide has additional information on the architecture.

## Collecting Data Stored in an External Application

### Terminology:

#### **Connector**

The collection of features, components and capabilities that comprise File Access Manager support for an endpoint.

#### **Collector**

The “Agent” component or service in a Data Classification and or Permission Collection architecture.

#### **Engine**

The core service counterpart of this architecture.

#### **Identity Collector**

A logical component used to fetch identities from an identity store and holds the configuration, settings for that identity store, and the relations between these identities.

The identity collector has no “physical” manifest.

- The actual work is done by the Collector Synchronizer.

The list below describes the high level installation process required to collect and analyze data from an external application. Most of these should already be set up in your File Access Manager installation. See the server Installation guide for further details.

#### **Install a Data Classification central engine**

One or more central engines, installed using the server installer

#### **Install a Permission Collection central engine**

One or more central engines, installed using the server installer

#### **Create an Application in File Access Manager**

From the Business Website. The application is linked to central engines listed above.

### ***Add an Activity Monitor***

To collect activities for this application - run the Collector Installation Manager and add an application under Activity Monitoring.

### ***Install Permission Collectors and / or Data Classification Collector (optional)***

Optionally, you can install collectors that will run on a separate server and take some of the work from the central PC and DC engines (Where supported). When installing a collector, you attach it to an engine. If no collectors are installed, the central services act as both the engine and the collector.

To install a collector, you must have the **RabbitMQ** service installed for communication between the central engines and the collectors. RabbitMQ is installed

For further details, see section **Application > Central Service > Collector Relations** in the File Access Manager Administrator Guide

## Adding an EMC Unity CIFS Application

In order to integrate with EMC Isilon, we must first create an application entry in File Access Manager. This entry includes the identification, connection details, and other parameters necessary to create the link.

To add an application, use the **New Application Wizard**.

1. Navigate to *Admin > Applications*
2. Click **Add New** to open the wizard.

### Select Wizard Type

1. Click **Standard Application**
2. Click **Next** to open the **General Details** page.

### General Details

#### *Application Type*

EMC Celerra-CIFS

#### *Application Name*

Logical name of the application

#### *Description*

Description of the application

#### *Tags*

Select tags for the application from the dropdown menu, and / or type a new name, and press **Enter** to create a new tag. The dropdown list of tags filters out matching tags as you type and displays up to 50 tags.

The **tags** replace the **Logical container** field that was used when creating applications in releases before 8.2

#### *Event Manager Server*

This option is available if there are more than one event manager servers configured in the system.

Select an event manager from the drop down menu.



### **Identity Collector**

Select from the Identity Collector dropdown menu.

- You can create identity collectors in the administrative client. **Applications > Configuration > Permissions Management > Identity Collectors.**

See section "OOTB Identity Collection" in the Collector Installation Manager File Access Manager Administrator Guide for further details.

- If adding a new identity collector, press the **Refresh** button to update the Identity Collector dropdown list.

Click **Next**. to open the Connection Details page.

## **Connection Details**

Complete the Connection Details fields:

### **Host Name**

The host name of SMB Server name of the NAS server. not FQDN, and without trailing slashes

### **Domain Name**

The user defined in the prerequisites

### **Username / Password**

Credentials of the user defined in the prerequisites

### **Aliases**

The alias field should remain empty for the EMC Unity configuration

Click the delete icon on any item to remove it from the list.

## **Configuring and Scheduling the Permissions Collection**


Permissions can be analyzed to determine the application permissions of an out-of-the-box application, provided you have defined an identity store for File Access Manager to use in its analysis, and you have run a crawl for the application.

The permission collector is a software component responsible for analyzing the permissions in an application.

The Central Permission Collector Service is responsible for running the Permission Collector and Crawler tasks.

If the “File Access Manager Central Permission Collector” wasn’t installed during the installation of the server, this configuration setting will be disabled.

## To configure the Permission Collection

- Open the edit screen of the required application.
  - a. Navigate to **Admin > Applications**.
  - b. Scroll through the list, or use the filter to find the application.
  - c. Click the edit icon  on the line of the application.
- Press **Next** till you reach the **Crawler & Permissions Collection** settings page.

The actual entry fields vary according to the application type.

When entering this page in edit mode, you can navigate between the various configuration windows using the **Next** and **Back** buttons.

## Central Permissions Collection Service

Select a central permission collection service from the dropdown list. You can create permissions collection services as part of the service installation process. See section "Services Configuration" in the File Access Manager Administrator Guide for further details.

## Skip Identities Sync during Permission Collection

Skip identity synchronization before running permission collection tasks when the identity collector is common to different connector.

This option is checked by default.

## Scheduling a Task

### Create a Schedule

Click on this option to view the schedule setting parameters.

### Schedule Task Name

A name for this scheduling task

When creating a new schedule, the system generates a default name in the following format:

{appName} - {type} Scheduler

You can override or keep this name suggestion.

### **Schedule**

Select a scheduling frequency from the dropdown menu.

- **Schedule Types and Intervals**

#### **Once**

Single execution task runs.

#### **Run After**

Create dependency of tasks. The task starts running only upon successful completion of the first task.

#### **Hourly**

Set the start time.

#### **Daily**

Set the start date and time.

#### **Weekly**

Set the day(s) of the week on which to run.

#### **Monthly**

The start date defines the day of the month on which to run a task.

#### **Quarterly**

A monthly schedule with an interval of 3 months.

#### **Half Yearly**

A monthly schedule with an interval of 6 months.

#### **Yearly**

A monthly schedule with an interval of 12 months.

### **Date and time fields**

Fill in the scheduling times. These fields differ, depending upon the scheduling frequency selected.


### **Active check box**

Check this to activate the schedule.

Click **Next**.

## **Configuring and Scheduling the Crawler**

### **To set or edit the Crawler configuration and scheduling**

- Open the edit screen of the required application.
  - a. Navigate to **Admin > Applications**.
  - b. Scroll through the list, or use the filter to find the application.
  - c. Click the edit icon  on the line of the application.
- Press **Next** till you reach the **Crawler & Permissions Collection** settings page.

The actual entry fields vary according to the application type.

### **Calculate Resource Size**

Determine when, or at what frequency, File Access Manager calculates the resources' size.

Select one of the following:

- Never
- Always
- Second crawl and on (This is the default)

### **Create a Schedule**

Click to open the schedule panel. See [Scheduling a Task](#)


## **Setting the Crawl Scope**

There are several options to set the crawl scope:

- Setting explicit list of resources to include and / or exclude from the scan.
- Creating a regex to define resources to exclude.

## Including and Excluding Paths by List

### *To set the paths to include or exclude in the crawl process for an application*

- Open the edit screen of the required application.
  - a. Navigate to **Admin > Applications**.
  - b. Scroll through the list, or use the filter to find the application.
  - c. Click the edit icon  on the line of the application.
- Press **Next** till you reach the **Crawler & Permissions Collection** settings page.

The actual entry fields vary according to the application type.

  1. Scroll down to the Crawl configuration settings.
  2. Click **Advanced Crawl Scope Configuration** to open the scope configuration panel.
  3. Click Include / Exclude Resources to open the input fields.
  4. To add a resource to a list, type in the full path to include / exclude in the top field and click **+** to add it to the list.
  5. To remove a resource from a list, find the resource from the list, and click the x icon on the resource row.

When creating exclusion lists, excludes take precedence over includes.

## Excluding Paths by Regex

### *To set filters of paths to exclude in the crawl process for an application using regex.*

- Open the edit screen of the required application.
  - a. Navigate to **Admin > Applications**.
  - b. Scroll through the list, or use the filter to find the application.

c. Click the edit icon  on the line of the application.

- Press **Next** till you reach the **Crawler & Permissions Collection** settings page.

The actual entry fields vary according to the application type.

1. Click **Exclude Paths by Regex** to open the configuration panel.
2. Type in the paths to exclude by Regex, See regex examples in the section below. Since the system does not collect BRs that match this Regex, it also does not analyze them for permissions.

### Crawler Regex Exclusion Example

The following are examples of crawler Regex exclusions:

#### **Exclude all shares which start with one or more shares names:**

Starting with `\\server_name\shareName`

Regex: `\\\\server_name\\shareName$`

Starting with `\\server_name\shareName` or `\\server_name\OtherShareName`

Regex: `\\\\server_name\\(shareName|OtherShareName)$`

#### **Include ONLY shares which start with one or more shares names:**

Starting with `\\server_name\shareName`

Regex: `^(?!\\\\server_name\\shareName($|\\.*)) .*`

Starting with `\\server_name\shareName` or `\\server_name\OtherShareName`

Regex: `^(?!\\\\server_name\\(shareName|OtherShareName)($|\\.*)) .*`

#### **Narrow down the selection:**

**Include ONLY** the C\$ drive shares: `\\server_name\C$`

Regex: `^(?!\\\\server_name\\C$( $|\\.*)) .*`

**Include ONLY** one folder under a share: `\\server\share\folderA`

Regex: `^(?!\\\\server_name\\share\\$( $|\\folderA$|\\folderA\\.*)) .*`

Include ONLY all administrative shares
Regex: <code>^(?!\\server\[a-zA-Z]\\$(\$ )).*</code>

To write a backslash or a Dollar sign, add a backslash before it as an escape character.

To add a condition in a single command, use a pipe character “|” .

## Excluding Top Level Resources

Use the top level exclusion screen to select top level roots to exclude from the crawl. This setting is done per application.

### *To exclude top level resources from the crawl process*

1. Open the application screen

*Admin > Applications*

2. Find the application to configure and click the drop down menu on the application line. Select **Exclude Top Level Resources** to open the configuration panel.

3. **Run Task**

The Run Task button triggers a task that runs a short detection scan to detect the current top level resources.

Before running the task for the first time, the message above this button is:

**"Note: Run task to detect the top-level resources"**

If the top level resource list has changed in the application while you are on this screen, press this button to retrieve the updated structure.

Once triggered, you can see the task status in

*Settings > Task Management > Tasks*

This will only work if the user has access to the task page

When the task has completed, press **Refresh** to update the page with the list of top level resources.

4. Click the top level resource list, and select top level resources to exclude.
5. Click **Save** to save the change.

- To refresh the list of top level resources, run the task again. Running the task will not clear the list of top level resources to exclude.

## Top Level Resources Exclusion

WFS-DC testing

Last Successful Run 06-22-2021 4:57:27 PM

[Run Task](#) [View Task Status](#)

**Note:** Refresh the list to view recently discovered resources [Refresh](#)

Top Level Resources Exclusion List 0 Selected | Clear Selection

Top Level Resources Exclusion List

- \\si-...-5\C\$
- \\si-...-5\MSSQLSERVER
- \\si-...-5\print\$

## Special Consideration for Long File Paths in Crawl

If you need to support long file paths above 4,000 characters for the crawl, set the flag

**`excludeVeryLongResourcePaths`**

in the Permission Collection Engine App.config file to true.

By default this value will be commented out and set to false.

This key ensures, when enabled, that paths longer than 4000 characters are excluded from the applications' resource discovery (Crawl), to avoid issues while storing them in the SQLServer database.

When enabled, business resources with full paths longer than 4000 characters, and everything included in the hierarchical structure below them, will be excluded from the crawl, and will not be collected by File Access Manager. This scenario is extremely rare.

You should not enable exclusion of long paths, unless you experience an issue.



## **Background**

File Access Manager uses a hashing mechanism to create a unique identifier for each business resource stored in the File Access Manager database. The hashing mechanism in SQL Server versions 2014 and earlier, is unable to process (hash) values with 4,000 or more characters.

Though resources with paths of 4000 characters or longer are extremely rare, File Access Manager is designed to handle that limitation.

## **Identifying the Problem**

When using an SQL Server database version 2014 and earlier

The following error message in the Permission Collection Engine log file:

```
System.Data.SqlClient.SqlException (0x80131904): String or binary data would be truncated.
```

In all other cases, this feature should not be enabled.

## **Setting the Long Resource Path Key**


The Permission Collection Engine App.config file is `RoleAnalyticsServiceHost.exe.config`, and can be found in the folder

`%SailPoint_Home%\FileAccessManager\[Permission Collection instance]\`

Search for the key **excludeVeryLongResourcePaths** and correct it as described above.

# **Selecting and Scheduling the Data Classification Settings**

***To associate an application with a data classification service, and set the schedule:***

- Open the edit screen of the required application
  - a. Navigate to **Admin > Applications**
  - b. Scroll through the list, or use the filter to find the application
  - c. Click the edit icon  on the line of the application
- Press **Next** till you reach the **Data Classification** settings page.

The actual entry fields vary according to the application type

### **Central Data Classification Service**

Associate the application with a Central Data Classification Service. This service is responsible for running the Data Classification tasks.

If the “Central Data Classification” wasn’t installed during the installation of the server, this field is disabled.

### **Disabling Data Classification**

To disable data classification, delete the entry from the central data classification field.

Disabling data classification can also be achieved by setting the scheduler to be inactive (which is the default setting for data classification).

### **Create a Schedule**

This option is enabled only if a central data classification service is selected.

See [Scheduling a Task](#)

See the chapter “Data Classification” in the File Access Manager Administrator Guide for more information

Click **Next** or **Finish**.

## **Data Privacy**

A user can associate the application with a Central Data Classification Engine Service. This engine will be responsible for executed Data Privacy tasks.


Though using different processes for each, the Data Classification engine service is in charge for both Data Privacy and Data Classification discovery tasks.

You may choose the same service for both, or use a different one for each, to run them in parallel.

The fields on the Data Privacy step are the same as the Data Classification step.

## Configuring Activity Monitoring

### *To configure the activity monitoring polling parameters*

- Open the edit screen of the required application
  - a. Navigate to **Admin > Applications**
  - b. Scroll through the list, or use the filter to find the application
  - c. Click the edit icon  on the line of the application
- Press **Next** till you reach the **Activity Configurations & Decs** settings page.

### ***Polling Interval (sec)***

Activity fetching interval [in seconds]. Default is set to 60 seconds,

### ***Report Interval (sec)***

Activity Monitor Health reporting interval [in seconds]. Default is set to 60 seconds.

### ***Local Buffer Size (MB)***

Local buffer size for activities [in MB]. Default is set to 200MB.

This cyclic buffer is used to store activities on the Application Monitor's machine in case of network errors that prevent the activities from being sent.

### ***Activity Data Retention Period***

By default, this feature is disabled.

When selecting the Clear Activity Data option, a user is able to provide a time frame (1 to 100) in either months or years for all activity to be retained. Once that time period is met, all data will be removed.

A user can also select to backup the data before it is deleted by selecting the Backup Events Before Clearing option.

The Backup Before Clearing Option will only be enabled if the backup option is set during the system installation. If a user has not selected the backup option during the installation nor provided a backup path, this option will not be enabled.

**Activity Data Retention Period**

Activity data will be retained for the specified period. Following that time period, activities will be cleared.

Clear Activity Data

**How long do you want to keep activity data? \***

12    
Month(s)

Check this option to backup activity data before it is cleared.

Backup Events Before Clearing

## Configuring Data Enrichment Connectors

The Data Enrichment Connectors (DEC) configuration enables us to select data enrichment sources. These can be used to add information from other sources about identities.

An enrichment source could be a local HR database that is used to combine users' job descriptions or departments to the information stored in the identity store.

Select the data enrichment connectors to enrich monitored activities from the Available DEC's text box.

Use the > or >> arrows to move the selected DEC's to the Current DEC's text box.

The user can select multiple DEC's. Simply select each desired DEC.

You can create a new DEC in the Administrative Client (Applications>Configuration>ActivityMonitoring>DataEnrichmentConnectors).

After creating a new DEC, click **Refresh** to refresh the dropdown list.

The chapter Connectors of the File Access Manager Administrator Guide provides more information on Data Enrichment Connectors, including what they are, how to configure them, and how they fit in the Activity Flow.

## Monitoring Exclusions

- To add an exclusion

Click the dropdown list

Type in an exclusion (file extension, user, folder, etc. as relevant)

Click the + icon to add this item to the list

After completing the list, click **Next** or **Cancel** to close the panel

- To edit or remove an exclusion from the list
  - Click the dropdown list
  - On the extension to edit or remove click the delete or edit icon
  - click **Nextor Cancel** to close the panel
- Click **Clear Selection** to clear the entire list

### ***Excluded File Extensions***

List of file extensions that are not monitored, e.g., txt, exe.

Enter one value at a time as described above.

### ***Exclude Folders***

List of folders that are not monitored, e.g., \\servername\share1\folder1.

Enter one value at a time as described above.

### ***Exclude Users***

List of users whose activities are not monitored, e.g., user1, domain\user2, user3@domain.com.

Enter one value at a time as described above.

The user format to be used depends on how the activity is logged by the endpoint. If you are not sure which of the user formats above to use, either specify all of them, or leave the list empty for now, navigate to the Forensics > Activities screen in the File Access Manager Website after some activities flow in to see how the user is depicted in them and use that depiction in the exclusion list.

### **When an activity from a new resource is detected:(Modes of Storing Activities)**

Full Auto-Learning Mode – Will audit everything (every action) on every resource.

Semi Auto-Learning Mode – Will monitor activities on resources nested under the top-level resources that are marked for Monitoring. This operation mode will also allow the user to select what type of activities are being monitored.

**When an Activity From a New Resource is Detected**

Store the activity (Full Auto-Learning Mode)

Store the activity only if the top-level resources were manually created in advance (Semi Auto-Learning Mode)

## Monitored Actions

The user has the ability set monitored actions within Manage Resources.

1. Navigate to **Admin > Applications**.
2. Under the Actions column, click the ellipsis on the desired application.
3. Click **Manage Resources**.  
The Manage Resources will display with all resources listed.
4. Click **Manage Monitored Actions**.
5. Toggle the **Enable Activity Monitoring for this Resource Hierarchy**.

The user can now select the type of actions they want monitored.


All actions are automatically selected initially.

Click **Next**.

## Enabling Access Fulfillment for an Application

Access fulfillment is enabled per application in the application setting screen, for applications that support fulfillment (See the compatibility table in Compass for the full list)

**To enable Access Fulfillment for an application:**

1. Open the configuration screen of the required application.
  - a. Navigate to **Admin > Applications**.
  - b. Scroll through the list, or use the filter to find the application.
  - c. Click the edit icon  on the line of the application.
2. Press **Next** till you reach the **Access Fulfillment** settings page.

The setting pages and entry fields vary according to the application type.

3. For non-normalized resources, you can click **Enable Access Fulfillment for Revoking Explicit Permissions**. See [Access Fulfillment for Removal of Explicit Permissions](#).
4. Click **Enable Access Fulfillment for Normalized Groups**.

**Identity Collector**

Fulfillment requires an identity collector in order to run. If you did not select an identity collector in the General Details configuration page, you can select one from the drop down list now.

If there is no identity collector defined for this application, or if you want to use a different identity collector than the ones in the dropdown list, you can create a new identity collector in the Administrative Client (*Applications > Configuration > Permissions Management > Identity Collectors*).

See [Create/Edit an Active Directory Identity Collector](#) for more details on creating an identity collector.

**Managed Group OU (DN)**

The organizational unit in which the managed permission groups will be created. Make sure that the chosen identity collector's user has permissions to create groups under this location (e.g. OU=FileAccessManagerManaged, DC=SailPoint, DC=COM)

OU refers to an Organizational Unit, and DN refers to a Distinguished Name.

**How to Handle 'List Folder Contents' Permissions**

Not relevant for SharePoint

- Create and manage a dedicated permissions group for it - this is the default value
- Revoke these permissions

### ***How to Handle Inexact Permissions Matches***

During the normalization process, the application has to decide what to do with permissions that do not match the normalized permissions.

- Fail the normalization process
- Elevate to the nearest permission match
- Revoke the permission

5. Open the Advanced Settings panel for additional settings:

### ***Group Cache Sync Interval(sec)***

This setting will add a pause to the process of setting normalize permissions on the resource. This will allow the endpoint's local AD groups cache to sync the newly created managed groups.

The default is 0 - signifying the process will not pause by default.

### ***Use Template Permission Group***

Template groups are created per application and added as a template to every managed resource. These groups are not managed by File Access Manager, and are usually used to ensure that users who need application-wide access such as backup or archiving users have access.

Select for each permission group whether File Access Manager should create a group or whether to use an existing group, for the following groups:

- List Folder Contents
- Read & Execute
- Modify
- Full Control

If you select **Use an Existing Group**, select the required group to use from the dropdown list.

Once an application is enabled for access fulfillment, you can set specific resources to be normalized using the [Manage Normalized Resources](#) page.



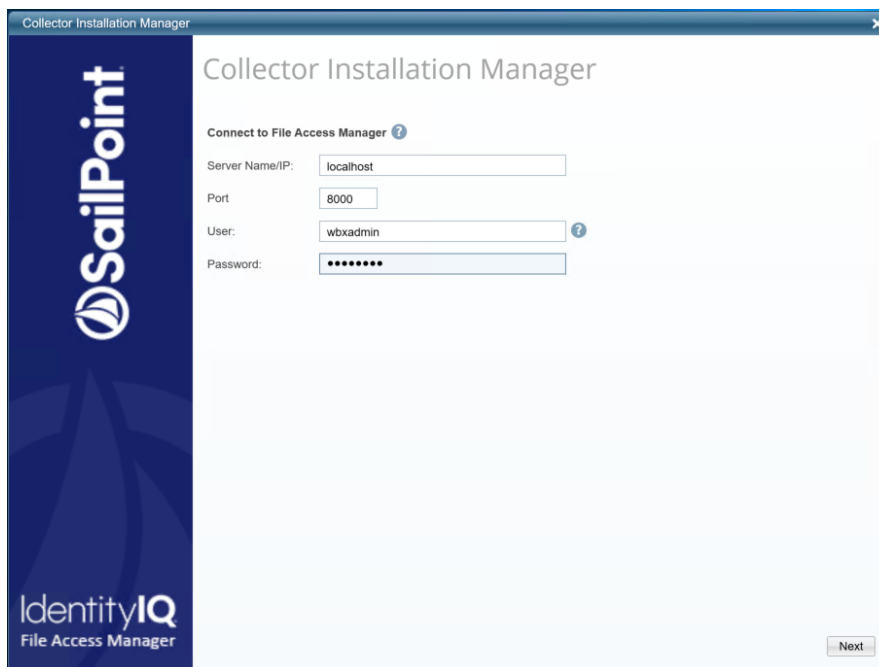
## Installing Services: Activity Monitor and Collectors

The Collector Installation Manager is part of the File Access Manager installation package. This tool is used to install the activity monitor, permission collector, and data classification collector.

1. Run the **Collector Installation Manager** as an Administrator.

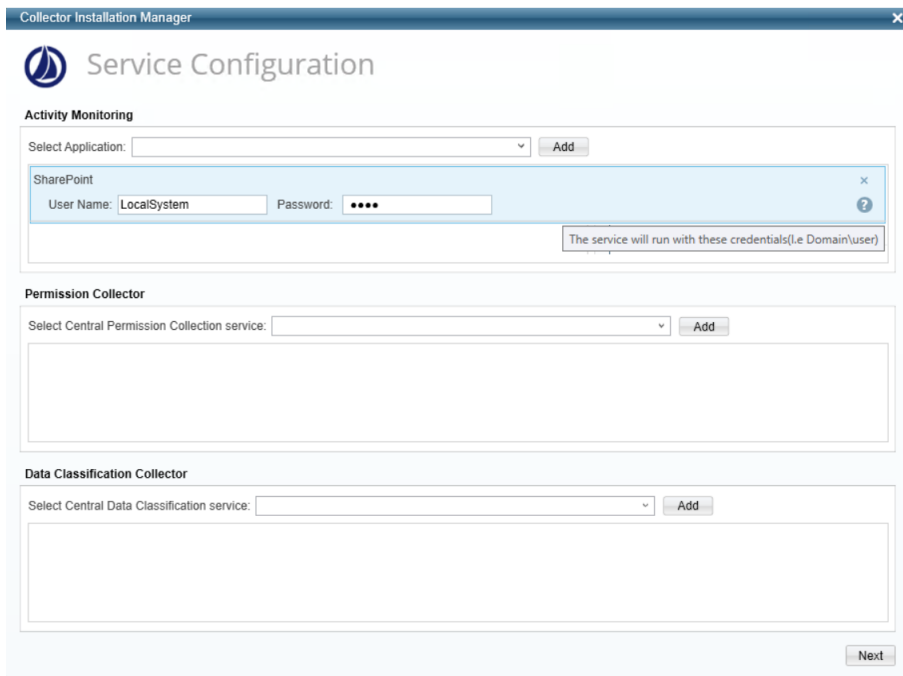
The installation files are in the installation package under the folder Collectors.

The Collector Installation Manager window displays.



2. Enter the credentials to connect to File Access Manager.
  - a. ServerName/IP should be pointed to the Agent Configuration Manager service server.
  - b. An File Access Manager user with Collector Manager permission (permission to install collectors). For Active Directory authentication, use the format domain\username.
3. Click **Next**.

The Service Configuration window displays.



4. If you are installing the Activity Monitor, select the application, and click **Add**.
5. When installing a SharePoint Activity Monitor, you will be prompted for service account credentials. This service account will be used by the Activity Monitor service to run the service and authenticate against the SharePoint IIS servers to fetch the logs (“Log on as”). Make sure the service account provided has local administrator privileges on the local server (hosting the Activity Monitor service) and can access the activity logs on the IIS servers.
6. If you are installing the Permission Collector, select the Central Permission Collector to which to connect this service, and click **Add**.
7. If you are installing the Data Classification, select the Central Classification Collector to which to connect this service, and click **Add**.
8. Click **Next**.

The Installation Folder window displays.

If this is the first time you are installing collectors on this machine, you will be prompted to select an installation folder, in which all future collectors will also be installed.

9. Browse and select the location of the target folder for installation.

10. Browse and select the location of the folder for system logs.
11. Click **Next**.
12. The system begins installing the selected components.
13. Click **Finish**.

The Finish button is displayed after all the selected components have been installed.

The File Access Manager Administrator Guide provides more information on the collector services.

## Verifying EMC Unity CIFS Connector Installation

### Installed Services

Verify that the services installed for the connector are available and active. Using windows Service manager, or other tool, look for the File Access Manager services, and see that they are running.

for example:

- File Access Manager Central Activity Monitor- <Application\_Name> service is running.
- File Access Manager Central Data Classification - <Application\_Name> service is running.
- File Access Manager Central Permissions Collection - <Application\_Name> service is running.

### Log Files

Check the log files listed below for errors

- "%SAILPOINT\_HOME\_LOGS%\PermissionCollection\_<Service\_Name>.log"
- "%SAILPOINT\_HOME\_LOGS%\DataClassification\_<Service\_Name>.log"
- %SAILPOINT\_HOME\_LOGS%\EMCCelerra\_<Application\_Name>.log

### Monitored Activities

1. Simulate activities on the CIFS server.
2. Wait a minute (approximately).
3. Verify that the activities display in the File Access Manager website under *Forensics > Activities*

### Permissions Collection

1. Run the Crawler and Permissions Collector tasks (*Settings > Task Management > Scheduled Tasks*)

2. Verify that:

- The tasks completed successfully
- Business resources were created in the resource explorer (*Admin > Applications > [application column] > Manage Resources*)
- Permissions display in the Permission Forensics page (*Forensics > Permissions*)

## Troubleshooting

Check the issues below for common problems and suggested ways of handling them.

### What if Activities are not Collected by the Activity Monitor

If activities are not collected by the Activity Monitor, we need to track the status of the components, starting with the Data Mover, and checking to the Activity Monitor service.

1. Login to unisphere
2. In the right pane, click **File** under Storage, and choose the NAS Servers tab.  
Check for errors in the status of the NAS servers.
3. In right pane, click **Logs** under Events.  
Check for any relevant error.
4. Verify that all the prerequisites were set: (See [Prerequisites](#) )
  - The post events were configured correctly in the NAS server configuration.
  - The CEE service is running with a domain user who is an administrator on the CEE service server.
  - The CEE service and the NAS server CIFS server are joined to the same active directory domain.
  - The CEPA IP address listed in the output of the command above matches the address of the server running the CEE service
  - There is no firewall between the NAS server and the server running the CEE service
  - The windows firewall is off on the server running the CEE service
5. Stop the Activity Monitor service, wait for 60 seconds
6. **Stop the event publishing in each NAS server.**

- Click **File** under Storage in the right pane
  - Choose the NAS Servers tab.
  - Double click each NAS server
  - Choose the **Protection & Events** tab.
  - Click **Events Publishing** in the right pane
  - Uncheck **Enable Common Event Publishing**
7. Stop the EMC CEE service on the CEE server
  8. Stop the Activity Monitor service.
  9. **Start the event publishing in each NAS server**
    - Click **File** under Storage in the right pane
    - Choose the NAS Servers tab.
    - Double click each NAS server
    - Choose the **Protection & Events** tab.
    - Click **Events Publishing** in the right pane
    - Check **Enable Common Event Publishing**
  10. Start the Activity Monitor service, and wait for 60 seconds
  11. Start the EMC CEE service, wait for 60 seconds

## What if the Counters Increase But No Events Are Collected

If the counters increase, but no events are collected:

1. Check the statistics log file of the Activity Monitor to see if events are received by the Activity Monitor.

2. If no events are received by the Activity Monitor validate the Application configuration:

- Make sure the CIFS server name is properly configured in the Application filer name field.

This value must be the actual name of the CIFS server name, and not the FQDN or one of the aliases and without trailing slashes.

- If the CIFS server has aliases defined to it (validate that in the EMC management), make sure these aliases are defined under the aliases in the Application configuration.