

Quadrotech Archive Shuttle 11.2  
**FSA Migrator User Guide**



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### Legend



**CAUTION:** A caution icon indicates potential damage to hardware or loss of data if instructions are not followed.



**IMPORTANT, NOTE, TIP, MOBILE OR VIDEO:** An information icon indicates supporting information.

Quadrotech Archive Shuttle

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# Contents

<b>Requirements .....</b>	<b>4</b>
Preparing for installation .....	4
Application server requirements .....	4
Symantec Enterprise Vault requirements .....	5
Microsoft SQL server requirements .....	6
<b>Installation .....</b>	<b>7</b>
Starting the installation .....	7
<b>Administration and configuration .....</b>	<b>9</b>
Launching FSA Migrator .....	9
Adding a source and target .....	10
Monitoring the migration .....	11
Folder scanning .....	11
Statistics .....	12
Error statistics .....	12
Overall progress .....	13
Overall statistics .....	14
Current throughput .....	15
Configuring a schedule .....	15
Modifying the throughput .....	15
Factors affecting choice of thread counts .....	16
Archiving files after migration .....	17
Configuring the archive files schedule/threads .....	17
Configuring the target API server .....	17
Configuring retention category mapping .....	18
Configuring general settings .....	18
Stopping and starting the FSA Migrator service .....	19
Changing the UI refresh frequency .....	19

# Requirements

This section describes the minimum requirements for Quadrotech's FSA Migrator on an existing Symantec Enterprise Vault environment. It describes:

- Preparing for installation
- FSA Migrator Application Server Requirements
- Symantec Enterprise Vault Requirements
- Microsoft SQL Server Requirements

## Preparing for installation

In order to successfully deploy FSA Migrator, there are a number of components of the product; Enterprise Vault, and SQL server, that should be understood. Ensure you have information related to these items:

- Configuration details of the FSA Migrator Application Server. If this is on an Enterprise Vault server, record on the Enterprise Vault server.
- Connection detail for the FSA Migrator Application Server. If this is on an Enterprise Vault server, record the name and connection details.
- List of Enterprise Vault Servers and connection details.
- SQL Server connection details for the location of the FSA Migrator database.
- Enterprise Vault service account details.
- Location of FSA Migrator binaries and license file.
- Location on disk where FSA Migrator will be installed.

## Application server requirements

**i** | **NOTE:** In smaller environments, FSA Migrator can be installed on an Enterprise Vault server, provided it meets the specification below.

For enterprise installations, FSA Migrator should be installed on a separate server in order to fit the infrastructure and the performance needs.

The following is the recommended specification:

### Hardware

- Dual-Core Server, 4 GB RAM minimum (can also be a virtual machine)

### Software

- Windows Server 2019 R2 x64
- Microsoft .NET Framework 4.5 or later
- Enterprise Vault API Runtime (matching or higher than the Enterprise Vault version)

### Permission requirements

Enterprise Vault service account needs to be local administrator on the FSA Migrator Application Server.

## Symantec Enterprise Vault requirements

If FSA Migrator is going to be used to archive on the destination site, Enterprise Vault 10.0.2 is a requirement. This version of Enterprise Vault introduced the FSA API, which FSA Migrator uses to push data into a new environment.

### Versions

The following versions of Symantec Enterprise Vault are supported:

Version	Export?	Import to EV?
Enterprise Vault 6.0	Not supported	Not supported
Enterprise Vault 7.0	Supported	Not supported
Enterprise Vault 2007	Supported	Not supported
Enterprise Vault 8.0	Supported	Not supported
Enterprise Vault 9.0	Supported	Not supported
Enterprise Vault 9.0.1 – 9.0.4	Supported	Not supported
Enterprise Vault 10.0	Supported	Not supported
Enterprise Vault 10.0.1	Supported	Not supported
Enterprise Vault 10.0.2	Supported	Supported
Enterprise Vault 10.0.3	Supported	Supported

Version	Export?	Import to EV?
Enterprise Vault 10.0.4	Supported	Supported
Enterprise Vault 14.x	Supported	Supported

## Microsoft SQL server requirements

FSA Migrator stores configuration and replication information in a SQL database. For small environments this can be on the same SQL Server as the Enterprise Vault Directory Database (or Vault Store databases).

**i** **NOTE:** In larger deployments, it is preferred to have this database on a dedicated SQL Server instance.

### Disk space

It is recommended to allow the following amount of space for the FSA Migrator database:

- Database: 5 GB
- Log: 500 MB

**i** **NOTE:** It is recommended to configure best practice SQL Server maintenance plans and regularly backup the FSA Migrator database.

### Versions

Version	Supported?
Microsoft SQL Server 2000	Not supported
Microsoft SQL Server 2005	Supported
Microsoft SQL Server 2008	Supported
Microsoft SQL Server 2012	Supported

Where appropriate, both 32-bit and 64-bit versions of SQL are supported.

# Installation

This section explains how to install FSA Migrator on to a target server. This can be an application server solely for running FSA Migrator, or if the environment where FSA Migrator is being deployed is small, it can be an existing Enterprise Vault server.

## Pre-requisites

It is essential to have a working knowledge of:

- Microsoft Windows Operating Systems used in the deployment.
- Enterprise Vault
- How Enterprise Vault is deployed in the environment.
- An overview of where to restore data to.
- The networking infrastructure between the systems in the environment.

Installation of FSA Migrator is driven by a wizard. More information about the minimum and recommended requirements for FSA Migrator is located [here](#).

## Starting the installation

Start the installation of FSA Migrator by running the MSI. In the first part of the wizard, the list of components which will be installed will be shown, along with the installation path. These can be changed if required.

## Providing Enterprise Vault service account credentials

The wizard requires the Enterprise Vault Service Account credentials.

## SQL database for FSA Migrator data

FSA Migrator requires a SQL Server database to be created in order to store configuration information. The installation will ask for the instance name to be supplied.

**i** | **NOTE:** The installation wizard will not proceed until access to the specified instance has been successfully verified.

## License file

The installation wizard requires a .lic license file which will be provided with the FSA Migrator product.

## Software installation

After entering all the required information in to the wizard, it will begin the software installation, including the creation of the required SQL database.

After a few minutes the installation should be completed. The software will be installed and a SQL database to hold metadata will have been created.



# Administration and configuration

This section explains how to configure, administer, and monitor Quadrotech's FSA Migrator on an existing Enterprise Vault environment.

It describes:

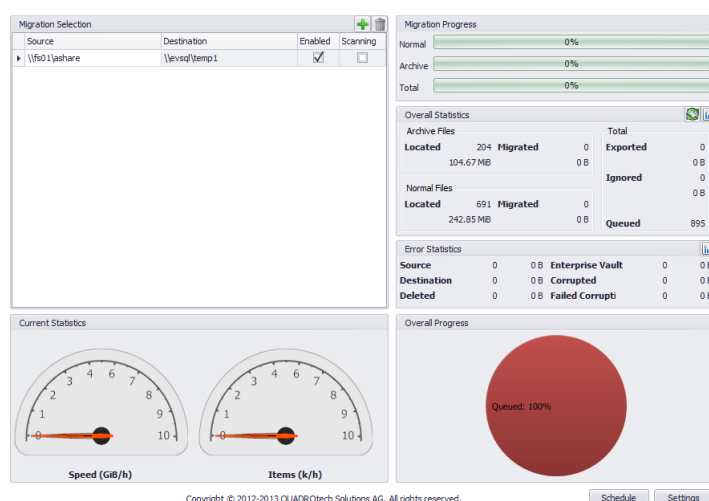
- Configuration of FSA Migrator
- Monitoring FSA Migrator

It is essential to have a working knowledge of:

- Microsoft Windows Operating Systems used in the deployment.
- Enterprise Vault.
- How Enterprise Vault is deployed in the environment.
- An overview of to where you'll restore data.
- The networking infrastructure between the systems in the environment.
- Information on how FSA Migrator is installed in the environment.

## Launching FSA Migrator

FSA Migrator can be launched from the Windows start menu.



The opening screen is used for monitoring the progress of the data migration. This will be covered later in this section.

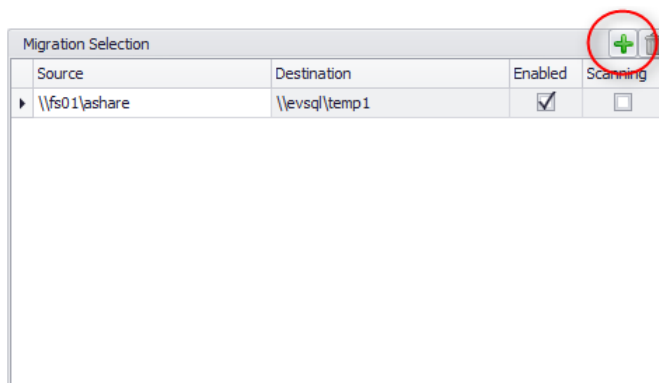
**i** | **NOTE:** When you launch the application, ensure that **Run as administrator** is selected.

## Adding a source and target

**!** | **CAUTION:** Selecting the same source and target is **NOT** recommended as it can result in deletion of non-migrated placeholders.

**i** | **NOTE:** Before performing a migration, FSA Migrator recommends to backup any file shares.

FSA Migrator needs to be given source and target mappings. This can be one source to one target, many sources to one target, or even many sources to many targets. To configure this mapping of source to target click on the green '+' sign, as shown below:



When the '+' sign is selected, enter (or browse) to source and destinations, as shown in the following dialog:

Use ☒ Folder Path ☐ Enterprise Vault Database

Source

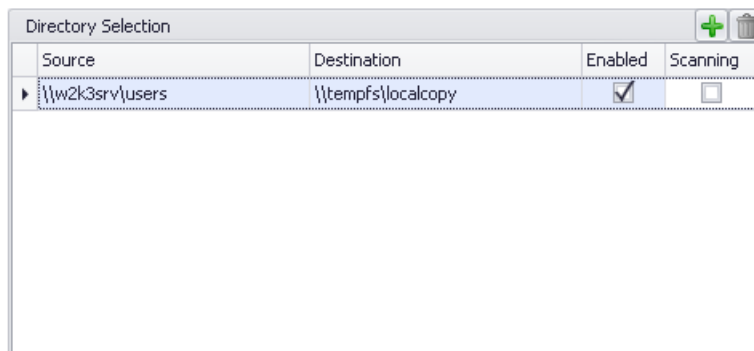
Destination

Enabled ☒ Archive Destination Files

Only Archived Files ☐

**i** | **NOTE:** Normally, FSA Migrator uses the file server and chosen share as the source of data migration. However, it is possible to choose an Enterprise Vault Directory Database as the source.

Once a source and target have been entered, along with any of the other additional configuration options which can be specified the main FSA Migrator screen will look like this:

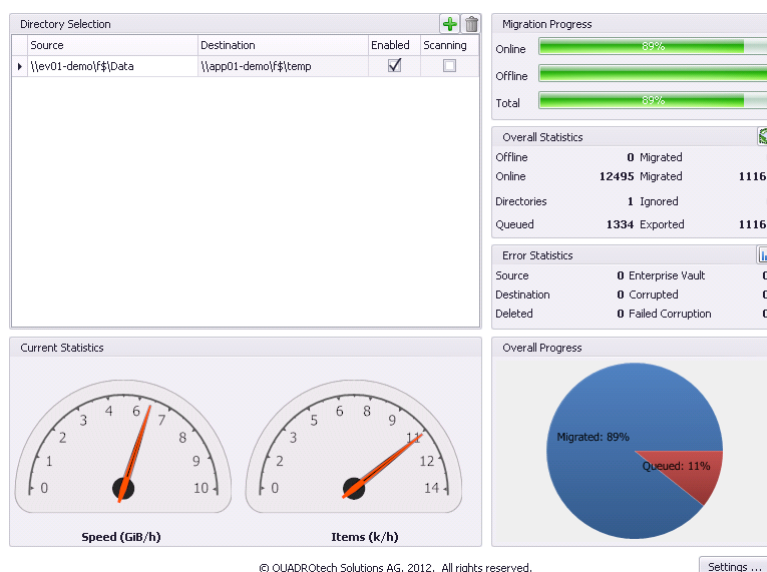


Depending on the configuration of the schedules for FSA Migrator, the location that has been added will be scanned shortly after it has been added.

**NOTE:** If scanning of the folder doesn't take place shortly after it has been added, restart the FSA Migrator Service using the Windows Service Control Manager.

## Monitoring the migration

Monitoring the progress of FSA Migrator is key to recording the progress of the file server migration. Progress can be seen from the main FSA Migrator screen, as shown below:



When FSA Migrator begins running progress can be seen in a number of panels, as outlined below.

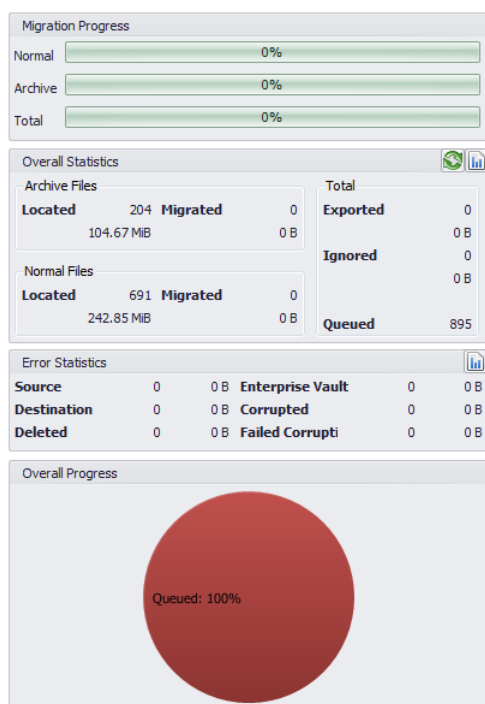
## Folder scanning

When FSA Migrator is scanning a particular source for work items, the Scanning checkbox is enabled. This gives a visual indication that FSA Migrator is working on this entry in the work-queue:

Directory Selection			
Source	Destination	Enabled	Scanning
\\w2k3srv\users	\\tempfs\localcopy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## Statistics

The statistics panel shows key information regarding the number of files and folders which have been identified for processing:



## Error statistics

Careful monitoring should be performed on the Error Statistics panel:

Error Statistics					
Source	0	0 B	Enterprise Vault	0	0 B
Destination	0	0 B	Corrupted	0	0 B
Deleted	0	0 B	Failed Corrupti	0	0 B

Clicking on the upper right hand corner of the panel will show a list of files that errored along with relevant information relating to the failure:

Error Statistics					
Source	0	0 B	Enterprise Vault	0	0 B
Destination	0	0 B	Corrupted	0	0 B
Deleted	0	0 B	Failed Corrupti	0	0 B

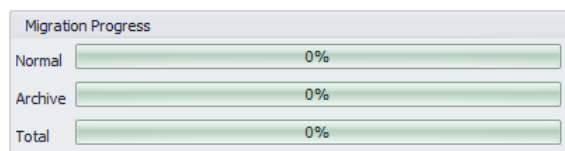
The following table describes each of the statistics shown in the user interface:

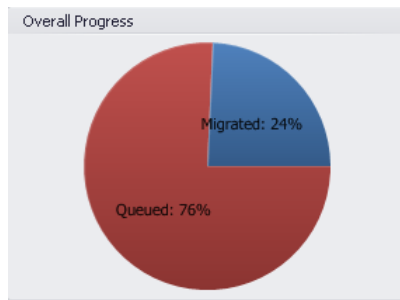
Error Statistic	Description
Source	A source error means that the source file is not accessible, perhaps due to special permissions on the file.
Enterprise Vault	An Enterprise Vault error means that there was an issue obtaining the file from Enterprise Vault.
Destination	A destination error typically means that the destination file exists, and the FSA Migrator overwrite settings were configured such that overwriting the destination file was not performed. In other words this type of error may be normal depending on the configuration.
Corrupted	A file was detected as corrupt following retrieval from Enterprise Vault. The number of characters which are checked is configured in the FSA Migrator Settings, and it is also possible to turn this off for all files, or to exclude particular extensions from the corruption check. When the check is performed, the raw bytes from the file are checked for null.
Deleted	A deleted error indicates that after the folder/file scan took place using FSA Migrator that the source file has been removed.
Failed Corruption Check	A count of the number of items where it was not possible to check for file level corruption.

The list of failed items can be exported to .pdf, .xls, or .csv format.

## Overall progress

The overall progress of the migration can be observed in the panel at the top right hand side of the FSA Migrator window, and in the pie graph at the lower right hand corner:





## Overall statistics

The overall statistics for the migration are also visible as numerical values on the right hand side of the FSA Migrator window:

Overall Statistics			
Archive Files			
Located	204	Migrated	0
	104.67 MiB		0 B
Normal Files			
Located	691	Migrated	0
	242.85 MiB		0 B
Total		Exported	0
			0 B
		Ignored	0
			0 B
		Queued	895

Count/Size in actual hour for online/offline files				
Date	Items	Size	Type	Retry
21/03/2014 15:00:00	691	242.85 MiB	Normal	0
21/03/2014 15:00:00	204	104.67 MiB	Archived	0

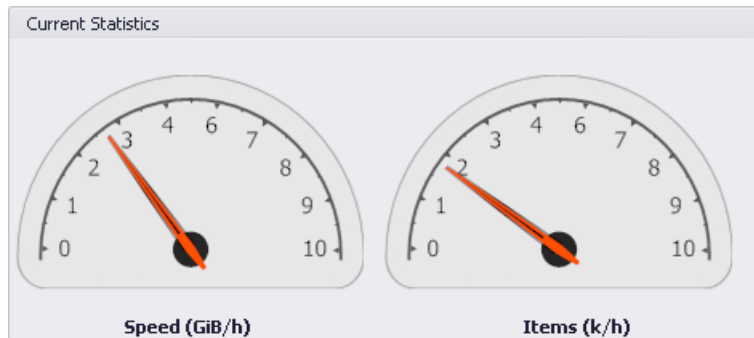
Record 1 of 2

[Csv](#)
[Xls](#)
[Pdf](#)
[Close](#)

The information on the details page can be exported to .pdf, .xls or .csv format.

## Current throughput

The throughput currently being observed by FSA Migrator can be seen in the following panel:



## Configuring a schedule

FSA Migrator performs a number of tasks on a schedule. The defaults for these schedules are shown below:

Schedule	Default
Normal Files Migration	Always
Archive Files Migration	Always
Folder Scanning	Always – 720 minutes between scans
Archiving (after migration)	Never
Folder Creation	Never
Database Scan	Never

These schedules can be changed, as required.

## Modifying the throughput

FSA Migrator generates a performance load on the source file servers, source Enterprise Vault system, target file servers, target Enterprise Vault system (if archiving is configured to take place following migration) and SQL Servers in each of the environments. The defaults for the number of threads, and therefore the amount of work generated by each part of FSA Migrator is shown below.

Area	Default Number of Threads
Folder Scanning	NA
Archive Files	25
Normal Files	25
Folder Creation	NA
Database Scan	NA
Archiving Files after Migration	5

It should be remembered that during the migration of the data files the load is generated primarily on the Enterprise Vault server. The load on the source file server is minimal – FSA Migrator only needs to check the placeholder exists on the source.

## Factors affecting choice of thread counts

The number of threads to use for each aspect of the migration is dependent on many environmental factors such as speed of systems involved, network connectivity between environments, existing user load and so on. It is not possible to recommend a particular value or set of values, however, the following will help in determining an optimal number for the environment being worked on.

When making changes to the number of threads away from the defaults that are supplied with FSA Migrator it is important to carefully monitor all of the source and target systems to ensure that they are performing well, and that end-user operations are not being impacted by any change which has been made.

If desired, use the table below to determine the affects the changes have had on the environments.



Area	Threads 25/25/5	Threads X/Y/Z	Threads X/Y/Z	Threads X/Y/Z
Source File Server CPU				
Source File Server Disk IO				
Source EV Server CPU				
Source EV Server disk IO				
Source SQL Server CPU				
Source SQL Server Disk IO				
Target File Server CPU				
Target File Server Disk IO				
Target EV Server CPU				
Target EV Server Disk IO				
Target SQL Server CPU				
Target SQL Server Disk IO				

The table should be modified to include each of the source and destination components. For example if there are three source file servers, and one target, then modify the table to show the data for three source file servers, rather than one in the example.

In order to judge the value to be recorded in the table, so that it can be compared when changes have been made, it is suggested that the average for 1 minute is used over the course of an hour. The values can be obtained by configuring Performance Monitor to capture the disk IO and CPU load at 1 minute intervals for a period of 1 hour.

For further assistance and guidance on the values to be used in a specific environment, or how to configure Performance Monitor to capture the required data, contact Quadrotech Support.

## Archiving files after migration

FSA Migrator can ingest items in to a new, target Enterprise Vault environment during the migration. There are three aspects of this feature which need to be configured.

## Configuring the archive files schedule/threads

The number of worker threads, and the schedule for when FSA Migrator will ingest items in to a new Enterprise Vault environment have been described in the previous section.

## Configuring the target API server

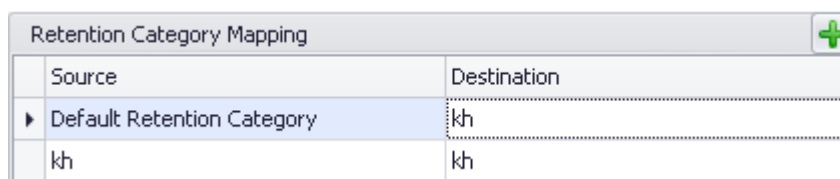
FSA Migrator makes use of the Enterprise Vault 10.0.2 FSA API to ingest items. This means that the target environment must be running Enterprise Vault 10.0.2 or later, or this functionality will not be available. To configure the FSA API Server navigate to **Settings > Archiving**.

In this dialog the FSA API Server must be specified using an FQDN. In addition the port number can be given, along with whether FSA Migrator needs to communicate to the FSA API Server using SSL or not.

## Configuring retention category mapping

The source and destination Enterprise Vault environments may have different retention categories and in order for FSA Migrator to ingest the items into a target environment a mapping of retention categories need to take place. In order to configure the mapping navigate to **Settings > Archiving**.

This dialog will show a list of the mappings if any have already been configured. The retention categories from each environment can be loaded by clicking on the green '+' button:



Retention Category Mapping	
Source	Destination
► Default Retention Category	kh
kh	kh

Once the retention categories have been loaded, the source categories can be mapped to destination categories.

## Configuring general settings

FSA Migrator has a number of additional general options governing its operations. These are accessible by navigating to **Settings > General**.




The values which can be configured are:

Area	Default	Description
Retry Count	3	The number of attempts which will be made to migrate the file
Overwrite Handling	Never	What should happen if a file is encountered on the target with the same name
Copy Permissions	True	If this is selected the permissions will be copied from the source to the target.
Offline Corruption Check	Selected	By default FSA Migrator will check for corruption on any

Area	Default	Description
		file which is retrieved from Enterprise Vault
Number of characters in each file to check	100	When checking for corruption, the first 100 characters are checked by default
Corruption Check Excluded File Extension	Blank	If particular file extensions are being reported as corrupt, they can be excluded from the corruption checking mechanisms by entering a list of file extensions here

## Stopping and starting the FSA Migrator service

FSA Migrator has a service which runs the migration. This is shown below:

	Extensible Authent...	The Extens...		Manual	Local System
	FSAMigrator	FSAMigrat...	Started	Automatic	ev\vaultadmin
	Function Discovery ...	The FDPH...	Started	Manual	Local Service

The service can be restarted from Server Manager or the Windows Service Control Manager.

## Changing the UI refresh frequency

By default the FSA Migrator User Interface will refresh the data it is showing every 2 minutes. This can be changed if required, by following these steps:

1. Open Windows Explorer and navigate to the folder where FSA Migrator is installed, for example: C:\Program Files (x86)\QUADROtech\FSA Migrator.
2. Locate the file called FSAMigratorUI.exe.config.
3. Edit the file with notepad.
4. Change the value for FetchInterval to the required number of seconds.
5. Save and close the file.

After making the change to the configuration file, close the FSA Migrator Console and re-open it.