SureSync MFT™

How to Convert from SureSync

SoftwarePursuits

Table of Contents

Introduction

This document outlines the process of converting from SureSync to SureSync Managed File Transfer (MFT). Please carefully follow the steps outlined in this document to ensure a successful conversion.

If you are looking for instructions for upgrading from an old SureSync MFT version to the current release, please consult the [Updating SureSync MFT](#) knowledgebase article.

System Requirements

SureSync MFT's basic operating system and hardware requirements are:

- **Supported Operating Systems:** Windows Server 2022; Windows Server 2019; Windows Server 2016; Windows Server 2012 R2; Windows 11; Windows 10 Version 1607 or newer; Windows 8.1; Windows 7 with SP1
- **Processor:** Minimum: Dual-core CPU of at least 2.5Ghz (minimum); Quad-core CPU or greater of at least 2.5Ghz (recommended)
- **RAM (total for system):** 4GB of free memory (recommended minimum)
- **Hard Disk:** 100MB for application files; 20MB+ for database

SureSync MFT can synchronize data to older Windows platforms and non-Windows machines such as Mac or Linux via UNC path on a scheduled basis. The software itself must be installed on one of the supported operating systems above.

Virtualization

SureSync MFT can be run on Windows operating systems hosted in virtualization software such as VMWare or Hyper-V. Each virtual machine involved in processing requires appropriate licensing.

SureSync MFT Database Requirements

SureSync MFT requires a database to store configuration information. The following formats are supported:

- SQL Server Express 2012, 2014, 2016, 2017 and 2019
- SQL Server 2012, 2014, 2016, 2017 and 2019

Database Size

SureSync MFT uses the SQL database extensively. This database includes records for each file processed, logs / audit information and more. When planning a SureSync MFT deployment, consider the number of files in the environment and the impact that will have on the resulting SQL database size.

Assume approximately 1GB of database storage will be consumed per 500,000 files in the data set.

This guidance assumes that you are using the defaults for history retention. The longer you store history, the larger the resulting database. This guidance is to provide you with an idea of

SQL storage requirements. The amount of storage consumed in your specific environment may be different depending on configuration.

Current versions of SQL Express have a 10GB file size limit. If you intend to use SQL Express in an environment with more than 5 million files, you will want to use multiple SureSync MFT Hubs using different SQL Express instances. These instances can be on one server or on multiple servers.

SQL Authentication

SureSync MFT requires an SQL server configured for Mixed Mode authentication. The account that accesses the SureSync MFT database must be a SQL account. You can check the configuration of your SQL Server instance with the SQL Management Studio application.

In SQL Management Studio, right click on the SQL Instance name as shown below.
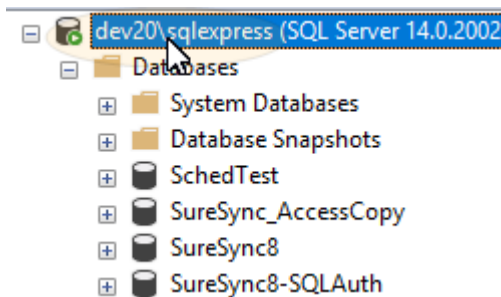
Select Properties, click Security and make sure "SQL Server and Windows Authentication mode" is selected.
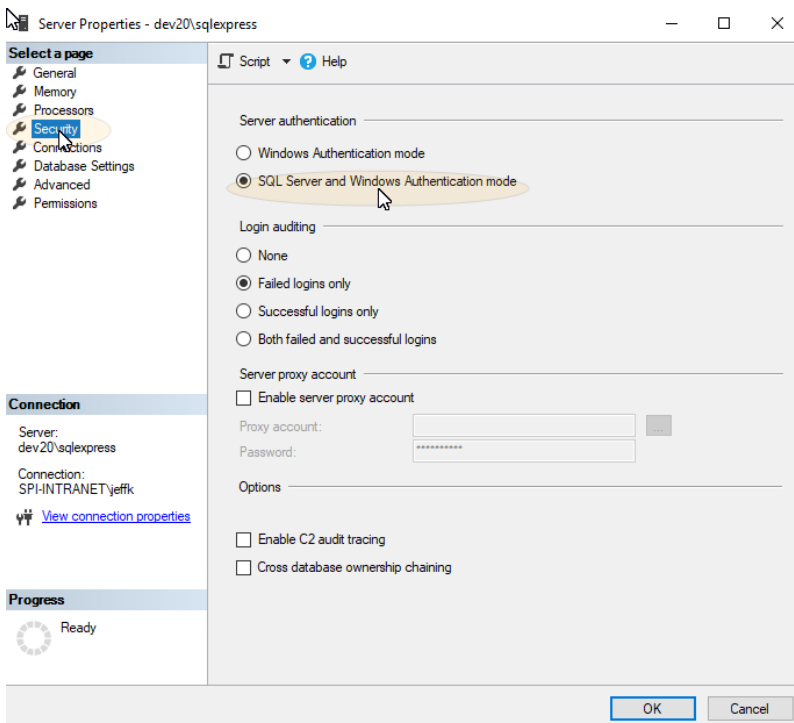
The SureSync MFT account can be created by expanding Security in the SQL Management Studio menu, right clicking on Logins and selecting "New Login…"

For account permissions, you have two choices:

1. Use a SQL account with sysadmin permissions. This will allow the account to create the SQL database in the SureSync MFT wizard.
2. Create a blank database with SQL Management Studio and assign the SQL account "DBOwner" permissions. You would then open a database in the SureSync MFT wizard instead of creating one.

Required Microsoft Components

SureSync MFT requires several Microsoft components to be installed on the system. The installer will inspect your system for these components and offer to upgrade or install them as needed.

- Microsoft .NET Framework 4.8
- Microsoft Visual C++ Runtime 14.0 Update 3

Using the installer to install these prerequisites could result in a reboot being necessary before the setup can continue. If a reboot is necessary, the installer will prompt you. In environments where a reboot is disruptive, we recommend installing the required components manually during your normal maintenance schedules before installing SureSync MFT.

Considerations before Converting

This section includes important information to consider while planning your conversion from SureSync to SureSync MFT.

Communications Agent Port Changes

To allow co-existence, SureSync MFT uses a different port than SureSync. The default port for SureSync MFT is TCP 7033. Firewall rules will need to be added to allow this port through to the correct machines. The easiest way to accomplish this is to duplicate your SureSync firewall rules and change the port.

> The SureSync MFT port can be changed to match the old SureSync port. This eases firewall configuration but will result in the products being unable to co-exist. This method is not recommended.

SureSync Version	Default Port
9	9031
8	9032
7	9033
6	9002-9033
5	9002-9033
4	8002-8033

Communications Agent is not available for Windows 2003

The Communications Agent for SureSync MFT is not supported on Windows 2003. This operating system is no longer supported by Microsoft.

Coexistence with SureSync

SureSync MFT will coexist with SureSync. This can make large conversions easier, allowing SureSync to continue processing data while SureSync MFT components are installed.

Remote Differential Compression (RDC)

SureSync MFT uses Microsoft's Remote Differential Compression (RDC) to efficiently copy the changed portions of a file (deltas) during transfer. This technology must be enabled on all machines involved to have delta copies used. If RDC is not installed on a machine, SureSync MFT will automatically revert to copying full files to all paths in the Job.

For server operating systems, you can confirm RDC is enabled by launching Server Manager, clicking on Features, and then checking under Features Summary for Remote Differential Compression. If RDC is not installed, click "Add Features," check "Remote Differential Compression," and follow the rest of the "Add Feature Wizard" prompts to install the necessary components.

For workstation operating systems, you can confirm RDC is enabled by launching Control Panel, then going to Programs and Features, clicking on "Turn Windows features on or off" and then checking for "Remote Differential Compression." If not installed, simply check the box, and click the "OK" button to install the necessary components.

Elimination of [Local Agent] Definition (SureSync v6 and older)

In SureSync MFT, you can no longer reference paths by the [Local Agent] definition. When the database is upgraded to SureSync MFT, the [Local Agent] definition will be replaced with a Communications Agent reference for the machine defined as the Hub. If no Scheduler was defined in the SureSync v6 or older database, the machine name the SureSync MFT upgrade utility is being executed on will be used.

Terminology Changes (SureSync v6 and older)

If you are upgrading from SureSync v6 or older to SureSync MFT, some terminology has changed.

SPIAgent Renamed to Communications Agent

The SPIAgent service has been renamed to the Software Pursuits SureSync MFT Communications Agent service.

Relation Renamed to Job

The term Relation is no longer used. Relations are now called Jobs.

Converting to SureSync MFT

This section will outline the process of converting your environment to SureSync MFT. Please follow these instructions carefully to ensure a smooth conversion.

## Step 1: Prerequisite Checklist

Before proceeding, make sure you have performed the following steps:

❑ Obtain a valid SureSync MFT license. SureSync licenses will not be recognized by SureSync MFT. Please call +1-650-372-0900 or send an e-mail to Sales@SoftwarePursuits.com to obtain a license.
❑ Download the current version of SureSync MFT from the SureSync MFT Download page.
❑ Ensure that all necessary Microsoft prerequisite components are installed. This can be done before installing SureSync MFT or the SureSync MFT installer can install them for you. Please consult the "System Requirements" section of this document for more details.
❑ If you are planning to use Remote Differential Compression (RDC) for delta support, ensure that all machines involved have the RDC components installed and enabled using the instructions in the Remote Differential Compression (RDC) subsection of "Considerations before Converting."
❑ Run Windows Update on all machines involved to ensure your systems have all the latest .NET patches from Microsoft.
❑ Note the location of your previous SureSync version's database. To do this, launch the SureSync Desktop. In the lower left-hand corner of the user interface, next to the Scheduler clock Icon will be your database name. Hovering your mouse over that name will present a tooltip that shows either the Access/Jet or SQL details for your database.

Example Access Database Details
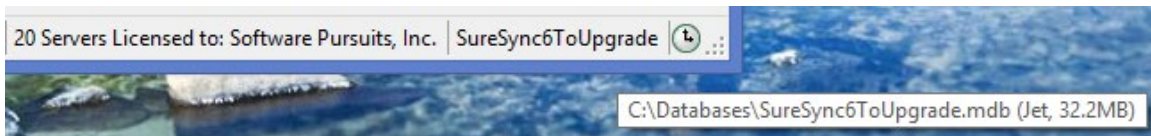
Example SQL Database Details
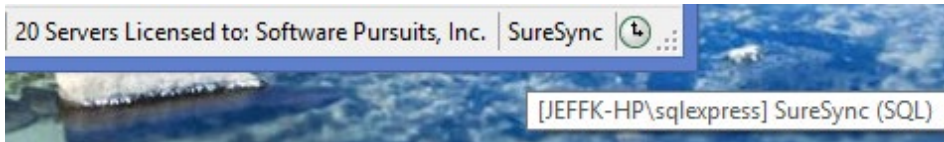
The format of the SQL details is [Server\Instance] Database Name.

Step 2: Key Differences between SureSync MFT and SureSync

While SureSync and SureSync MFT accomplish similar file replication and synchronization tasks, there are significant differences in architecture that you should familiarize yourself with before completing a conversion.

SQL Only

SureSync MFT supports only Microsoft SQL databases. The database conversion utility can read a SureSync Access database and create a SureSync MFT SQL database for you. If you do not have SQL, a free copy of SQL Express can be installed on the machine.

Dynamic Transmission Route Calculation / Store and Forward Technology

SureSync MFT has an advanced copy logic that intelligently computes short transmission routes and selects source files from the nearest source. Consider a file in a large environment that needs to be copied from San Francisco to New York and London. SureSync MFT would copy the file from San Francisco to New York and then select New York as the source for the copy to London. This technology minimizes the impact of network latency on data processing.

If a machine goes offline, the engine will select the next best source file to perform the copy.

Flexible Path Definitions

In SureSync MFT, a path can be a source, a destination, an archive destination or a source and destination. Paths defined as source and destination are multi-way processing paths. A single Job can contain both multi-way, one-way and archive destination paths providing an exceptional level of flexibility. Depending on your needs, this might allow you to change some of the ways your current SureSync Jobs process data.

Detailed Priority Adjustments

In SureSync MFT, you can adjust the priority on Jobs, Servers, Root Paths, and Rules. This gives you a fine level of control over what items take priority for processing in your environment.

Enhanced File Status

SureSync MFT provides a greatly enhanced level of file status and auditing information. You can browse the status of your environment by Job, Volume, Root Path, Folder or Server and view statistics at every level. With these tools, you can monitor the amount of data remaining to be processed.

All performed actions are logged in the Log Viewer and whenever possible, the user account information of the person responsible for the last change is recorded. The history of file changes is also available.

Scheduling

SureSync MFT handles scheduling in a different manner than SureSync.

SureSync MFT includes Interval Sets and Schedule Definitions. Interval Sets define real-time processing and can include gaps when files are not copied. An Interval Set is like an Interval defined on a Real-Time Monitor in SureSync. Schedule Definitions allow you to execute processing on a clock basis like a Schedule in SureSync.

In SureSync MFT, Interval Sets or Schedule Definitions can be assigned to a Group Folder, a Job or a specific Root Path. By default, an Interval Set called Always On is used. With this Interval Set files are processed in real-time as they change.

The Scheduling is configured on the Group Folder and is inherited by the Jobs and Root Paths within the Group Folder, much like how NTFS security works in Windows. On a specific item, you can turn off the inheritance and select a different type of Scheduling. A single Job can contain Root Paths processed in real-time and other paths via a schedule.

Within a Group Folder, you can set a sequence number on a Job's Scheduling tab. This allows you to create a "Schedule" where multiple Jobs run one after another like a SureSync Schedule did.

The changes in Scheduling will make a converted SureSync database look different in SureSync MFT from what you might be expecting.

The converted database will have a Group Folder named Job Definitions: Jobs that includes any standalone Jobs from the SureSync Database.

A Group Folder named Job Definitions: Monitors will include each Job that was run under a Real-Time Monitor in SureSync in its own Group Folder. If a Monitor in SureSync contained multiple Jobs, those Jobs will now be under the same Group Folder in SureSync MFT. Each Job will have an Interval Set assigned to it that matches the Intervals defined on the SureSync Real-Time Monitor.

Finally, any SureSync Schedules will be found converted into the Job Definitions: Schedules Group Folder. Each SureSync Schedule becomes a Group Folder in SureSync MFT with the Jobs underneath it. The proper converted Schedule Definition is applied. Multi-step Schedules will have multiple Jobs in the Group Folder and each Job will have a Sequence number defined on its Scheduling tab so the Jobs execute in the same order they did in SureSync.

An example converted database is shown below in SureSync MFT.
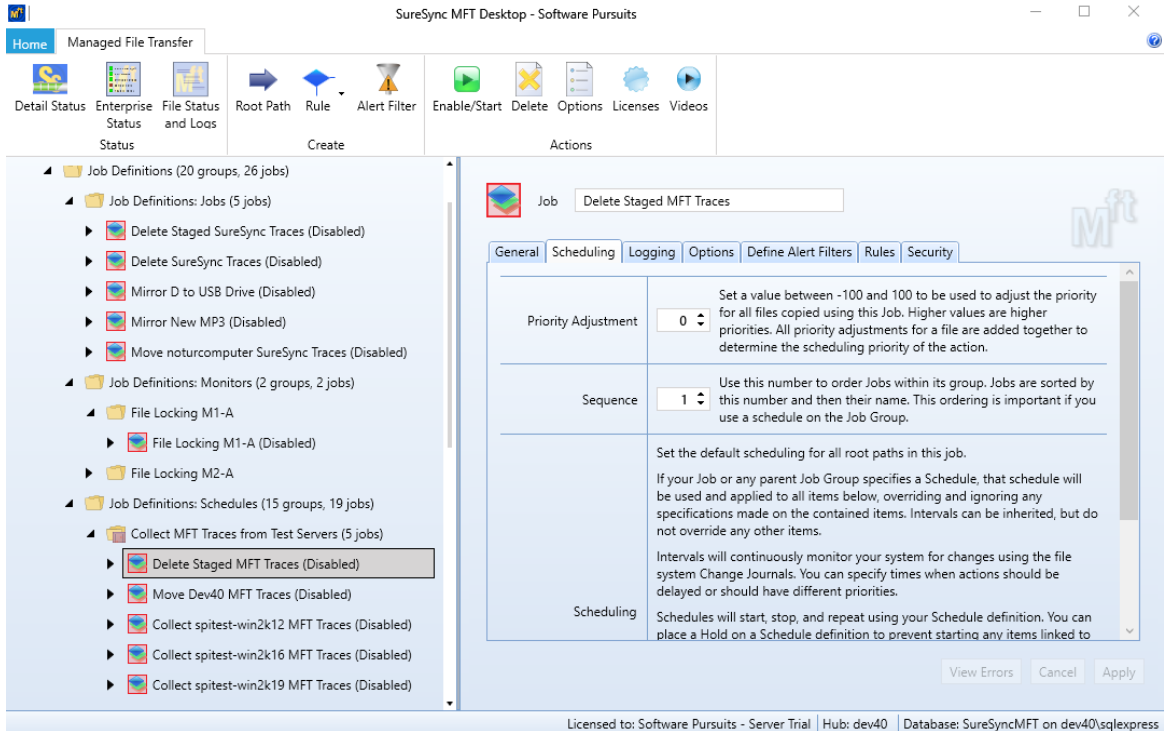
Step 3: Deploy the SureSync MFT Software

To ensure the smoothest upgrade, the SureSync MFT components should be installed on all machines intended to be involved in SureSync MFT processing.

SureSync MFT will coexist with SureSync on the same machines to make this process easy. The existing SureSync environment can keep the data synchronized while you work on getting the SureSync MFT components deployed.

To complete this step, do the following:

- ❑ Locate all machines running the full SureSync application. These are the machines where you have databases configured that are running your synchronization / replication tasks. Most environments contain one SureSync machine.
- ❑ Install SureSync MFT on each of the machines running a full SureSync MFT installation. Select the "Full/Hub" installation type and complete the installation.
- ❑ Locate all machines running the Communications Agent (v8/v7) or SPIAgent (v6).
  - o For v8, expand the Computers node in the SureSync Desktop. Check each machine in the list. Machines running a Communications Agent will have "Run a Communications Agent on this machine" checked on the General tab.
  - o For v7, click on Home | Communications Agents | Configure Communications Agents. Click on the Computers tab then look through the drop-down list for machines that have "Run a Communications Agent on this machine" checked.
  - o For v6, a list of SPIAgent machines can be obtained from the Tools menu by selecting SPIAgent Setup and looking through the drop-down list for machines that have "Run the SPIAgent Service on this computer" checked.
- ❑ On the machines running the SPIAgent or Communications Agent, run the SureSync MFT installer. Select the "MFT Communications Agent" install type and complete the installation.

Step 4: Convert the SureSync Database

The database conversion utility is used to create a SureSync MFT database from an existing SureSync database. The utility can be launched from Start | All Programs | SureSync MFT.
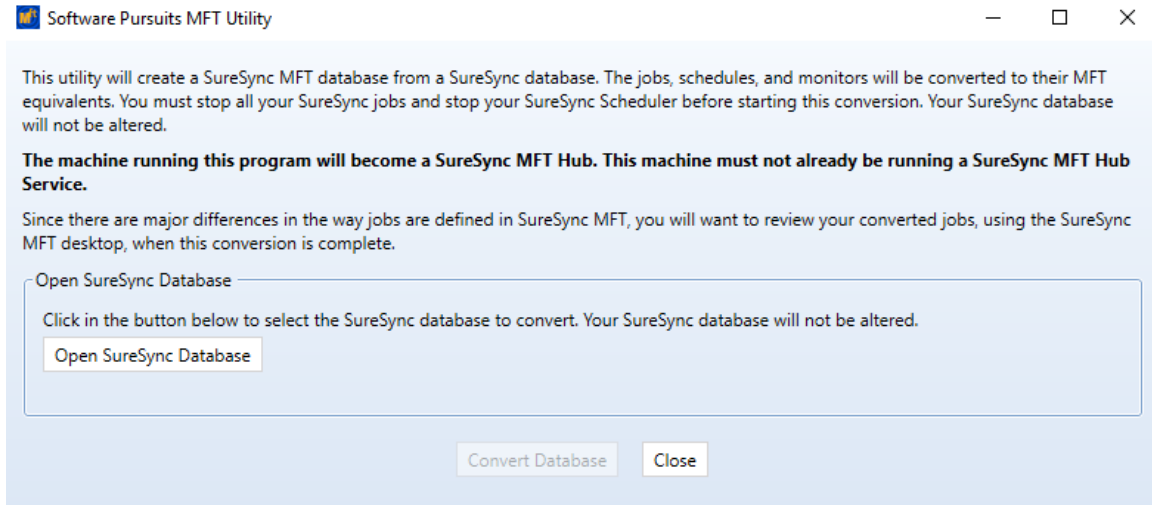

Any Access or SQL SureSync database can be converted. The resulting SureSync MFT database will always be a SQL database.

If you do not have SQL on the machine, you can install a free copy of SQL Express. You may also use a production SQL server if you have one in your environment.

The SureSync database is not altered during this process, allowing SureSync to continue to operate.

Click on the 'Open SureSync Database' button to begin the process.
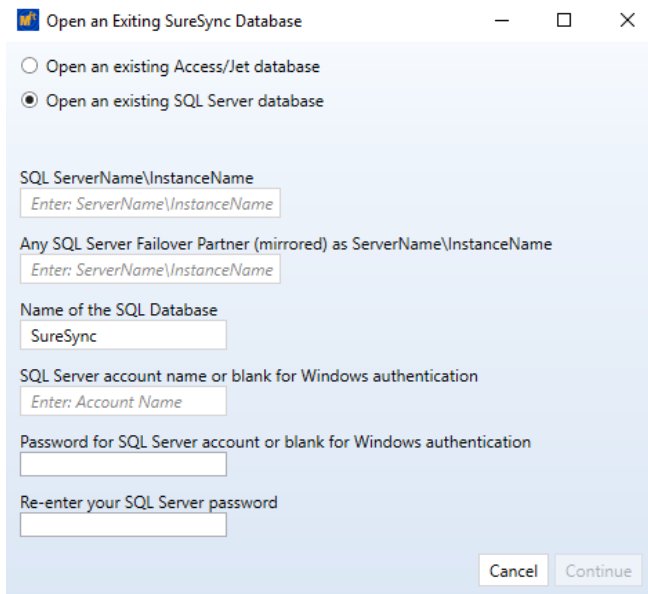
If using an Access database, provide the path to the file.

If using a SQL database, provide the following:

1. **SQL ServerName\InstanceName**: Enter the name of the SQL server and any required instance name. If you are connecting to a SQL instance such as the default SQL Express instance it should be listed as machine\instance. For example, dev20\sqlexpress.
2. **Any SQL Server Failover Partner**: This is an optional field which allows you to use a SQL Failover Partner. This functionality has been deprecated from SQL but is currently still available. It should be defined as machinename\instancename
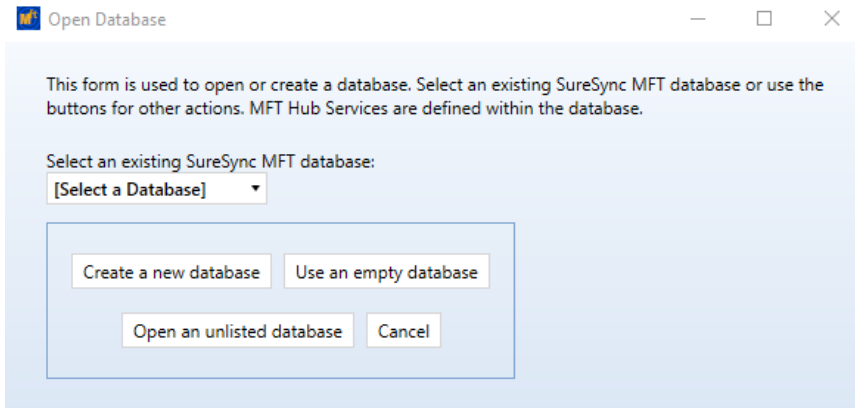3. **Name of the SQL Database**: Enter the name of the SQL database.

The following fields are optional and provided only when using SQL authentication (these fields are left blank for Windows authentication):

- **SQL Server account name:** Enter the account name for the SQL authentication account you would like to use. For example, sa.
- **Password for SQL Server account:** Enter the password for the SQL account.
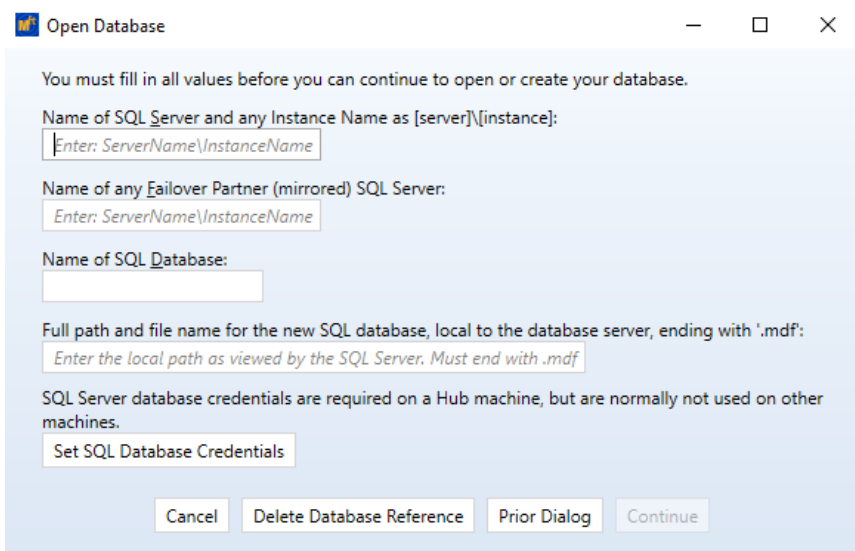- **Re-enter your SQL Server password:** Enter the password for the SQL account a second time.

Click "Continue."
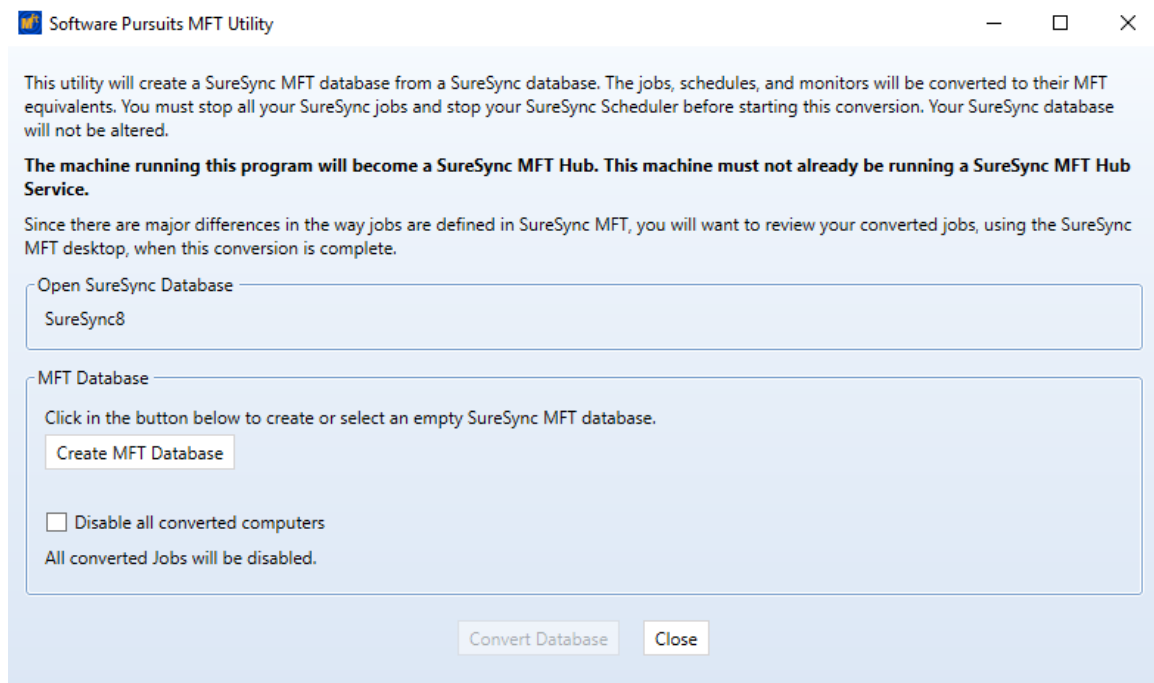
Click on 'Create MFT Database.' The following prompt will display:

Click the 'Create a new database' button.

Enter the following information to create the SureSync MFT database:

- **Name of the SQL Server and any Instance Name**: Enter the name of the SQL server and an instance name if used. For example, dev20\sqlexpress.
- **Name of any Failover Partner (mirrored) SQL Server**: This is an optional field that allows you to use a SQL Failover Partner. This functionality has been deprecated from SQL but is currently still available. It should be defined as machinename\instancename.
- **Name of SQL Database**: Enter the name of the SQL database that should be created.
- **Full path and file name of the new SQL database**: Enter the path on the SQL server where the database files should be created. This folder must already exist. For example, C:\Databases\SureSyncMFT.mdf.

Once the form is filled in, click on the 'Set database credentials for Hub Service' button to provide the SQL user account to be used to create and access the database.
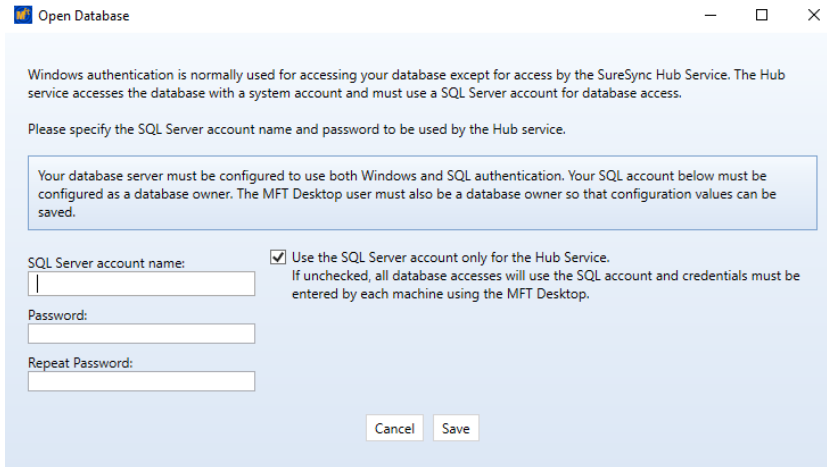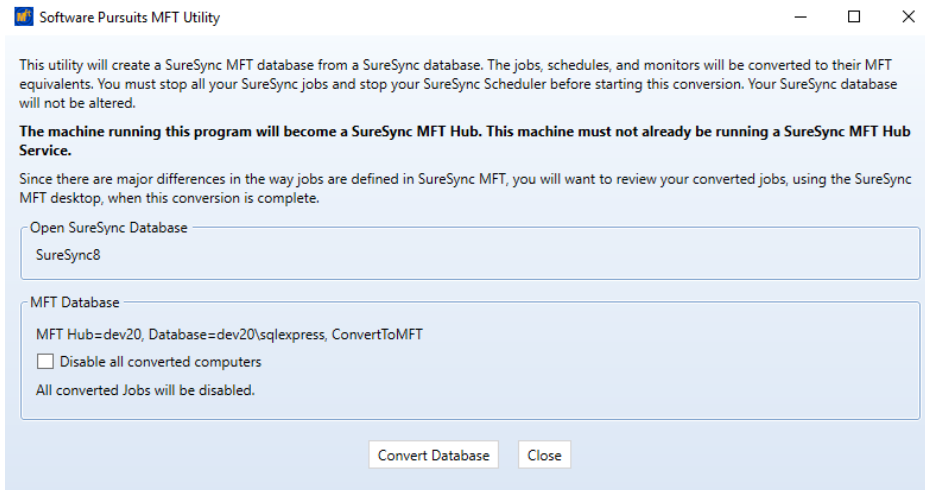
Click 'Save' and 'Continue' on the main panel.

The next dialog defines the Windows user account to be used for I/O operations by the Communications Agent on the hub machine. This account should be entered in machine\user or domain\user format. Enter the password for the account twice.
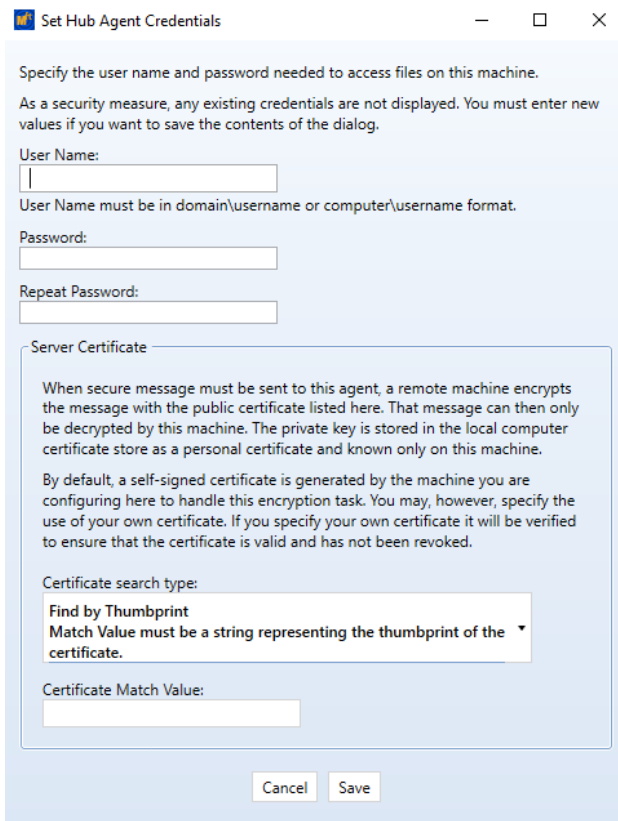
Click the 'Save' button to continue.

If you have machines in your SureSync database that have not had the MFT Communications Agent installed yet, check 'Disable all converted computers." This will keep SureSync MFT from attempting connections to evaluate those machines. With the Communications Agent missing, these timeouts can take a long time.

Click the 'Convert Database' button to complete the database conversion.

You will receive a prompt that the database conversion is complete.

Step 5: Completing the Conversion

Your conversion to SureSync MFT is almost complete. Please follow the steps below to complete the conversion.

You will want to use the "In Place" instructions if you are planning on stopping all SureSync Jobs and starting them in SureSync MFT at the same time. The "Staged" instructions should be used if you are planning to transition the environment over time where some Jobs will run in SureSync and some in SureSync MFT.

"In Place" Conversion: Complete the Conversion

❑ Ensure all Jobs, Schedules and Real-Time Monitors in your old SureSync version are placed on hold using the SureSync Desktop for that version.
❑ Launch the SureSync MFT Desktop. You will receive error messages about machines not being licensed. Click on the Licenses button in the Ribbon Bar. Click on the 'Import License…" button. Browse to your SureSync MFT license file and click on the 'Import License' button to complete the license installation.
❑ Start the Software Pursuits SureSync MFT Communications Agent service on the Hub computer.
❑ Start the Software Pursuits SureSync MFT Communications Agent service on additional machines as needed. This service is started automatically by default on Communications Agent only machines.
❑ It is strongly recommended that you look through all your Jobs and ensure that the paths defined are accurate. This is especially important if you previously had [Local Agent] references (SureSync v6 and older). You want to ensure that the conversion process converted all [Local Agent] paths to reference the correct Communications Agent.
❑ Enable Jobs to resume processing in MFT. This is done by clicking on the Job and then the "Enable/Start' button in the Ribbon Bar.

❑ Remove old versions of SureSync using "Add/Remove Programs" on each machine involved when it is no longer needed.

Your conversion to SureSync MFT is now complete.

"Staged" Conversion: Complete the Conversion

❑ Launch the SureSync MFT Desktop. You will receive error messages about machines not being licensed. Click on the Licenses button in the Ribbon Bar. Click on the 'Import License…" button. Browse to your SureSync MFT license file and click on the 'Import License' button to complete the license installation.
❑ Start the Software Pursuits SureSync MFT Communications Agent service on the Hub computer.
❑ Start the Software Pursuits SureSync MFT Communications Agent service on additional machines as needed. This service is started automatically by default on Communications Agent only machines.
❑ It is strongly recommended that you look through all your Jobs and ensure that the paths defined are accurate. This is especially important if you previously had [Local Agent] references (SureSync v6 and older). You want to ensure that the conversion process converted all [Local Agent] paths to reference the correct Communications Agent.
❑ Your Jobs, Schedules and Real-Time Monitors can be left running in SureSync except for those that are going to go live in MFT. When you want to convert a Job, Schedule or Monitor to MFT you will stop it in the SureSync version and enable it in MFT. This is done by clicking on the Job and then the "Enable/Start' button in the Ribbon Bar. Do not attempt to run the same Job in SureSync and SureSync MFT, this could result in unpredictable behavior.
❑ Remove old versions of SureSync using "Add/Remove Programs" on each machine involved when it is no longer needed.

Your conversion to SureSync MFT is now complete.