SureSync

**with the ArchiveSync Add-On
Evaluator's Guide**

Software Pursuits

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Introduction

SureSync is a powerful file replication & synchronization utility that can be used to ensure users on your network are always working off of the most recent version of critical files, for disaster recovery purposes, for software distribution, and much more. When the ArchiveSync Add-On is licensed, you can also generate versioned backups to devices such as a removable USB hard drive, a NAS, or a SAN. This allows you to protect your critical files automatically, restore to various points in time, and restore files much quicker than possible with traditional methods of backup.

This evaluator's guide is designed to walk you through the initial setup of SureSync with the ArchiveSync Add-On. ArchiveSync jobs can be run in both scheduled and real-time modes of operation. This guide will focus on real-time data protection.

System Requirements

SureSync's basic operating system and hardware requirements are:

- **Supported Operating Systems:** Windows Server 2008 R2; Windows Server 2008; Windows Server 2003; Windows Server 2003 R2; Windows Vista; Windows XP; Windows 7
- **Processor:** 400Mhz Pentium Processor or equivalent (Minimum); 1Ghz Pentium Processor or equivalent (Recommended)
- **RAM (total for system):** 256MB (Minimum); 1GB (Recommended)
- **Hard Disk:** 30MB for application files; 20MB+ for database
- **Display:** 800x600, 256 colors (Minimum); 1024x768 high color, 32-bit (Recommended)

SureSync can synchronize data to machines running operating systems such as Windows 95, Windows 98, Windows NT 4.0, Windows 2000, and non-Windows machines such as Macintosh and Linux via UNC path but the software itself must be installed on one of the supported operating systems listed above.

SureSync requires a database which is used to store configuration information. The following formats are supported:

- Microsoft Access (default)
- MSDE 2000 / SQL Express 2005 / SQL Express 2008
- SQL Server 2000 / SQL Server 2005 / SQL Server 2008

To achieve optimal performance, a SQL database is strongly recommended for setups using multi-directional Rule types, environments with more than 50 Relations defined, or environments where hundreds of thousands of files will be processed.

SureSync requires a number of Microsoft components to be installed on the system. The SureSync installer will detect the versions your system is running and upgrade them as needed.

- Microsoft .NET Framework 3.5 with Service Pack 1
- Microsoft MDAC 2.8 Refresh with Service Pack 1
- Microsoft Visual C++ Runtime 9.0 with Service Pack 1
- Microsoft Windows Installer 3.1
- Microsoft XML Parser 6.0
- Microsoft Jet 4.0 with Service Pack 8

Contact Information

If you need further information about SureSync or need clarification on anything within this guide, please contact our support group and they will be happy to assist you with your evaluation.

Software Pursuits, Inc.
1900 South Norfolk Street, Suite 330
San Mateo, CA 94403

Phone: +1-650-372-0900
Fax: +1-650-372-2912

Sales e-mail: sales@softwarepursuits.com
Support e-mail: support@softwarepursuits.com

Required Add-Ons for ArchiveSync in Real-Time

SPIAgent Add-On

The SPIAgent is a powerful Add-On license for SureSync, which contains a number of performance enhancing features. This license is required to perform File Locking.

- **Real-Time Monitors**
  Real-time replication increases data availability by continuously monitoring data for updates. By copying files immediately after they change, SureSync can avoid folder scans that are necessary for scheduled jobs.
- **Adaptive Delta Technology**
  SureSync copies only the changes made to a file, reducing synchronization time and decreasing the consumption of network resources.
  - **Delta Processing to Non-Windows Machines**
    If you map a non-Windows drive to a drive letter on a Windows machine you can process delta copies to that non-Windows machine. This in turn provides bandwidth savings between any machines, regardless of the OS.
- **File Compression**
  Transmit files in a smaller package across your network by compressing them. File compression is particularly useful on slow network connections. SureSync also allows you to specify the level of compression to control the impact on your system.
- **TCP/IP Transmissions**
  Transmissions across the Internet give you more options on how you connect to remote machines. Now it is even easier to keep office branches connected to the information they need.
- **Encryption**
  Ensure your files are being transmitted securely by utilizing the option to encrypt each file transmission. This is an especially useful and necessary tool when transmitting sensitive data across the Internet.
- **Change Journal Support for Schedules**
  When a Schedule is configured to run a Relation using the SPIAgent Add-On, SureSync utilizes the NTFS Change Journal, which minimizes the amount of scanning a synchronization job must perform. Eliminating much of the scanning creates a significant performance improvement for Schedules.

ArchiveSync Add-On

SureSync's ArchiveSync Add-On allows users to create versioned backup copies of files, providing an efficient disk-to-disk backup solution. Versioned file copies allow users to quickly restore files to a specified point-in-time, without sifting through tape backups. Additionally, when archiving or restoring, the ArchiveSync Add-On will allow you to backup and restore security privileges as well.

Archiving can be done in real-time to continuously protect data, effectively eliminating tight backup windows during the evening. ArchiveSync will also automatically thin out your archive to clean storage up.

Other SureSync Add-Ons

Software Pursuits also offers additional Add-On products for SureSync which provide additional functionality. The available Add-On products include:

SPIAgent File Locking Add-On

The SPIAgent File Locking Add-On requires the SPIAgent to be licensed and in turn gives you an additional benefit in file sharing environments. The SPIAgent File Locking Add-On eliminates the possibility that a file could be changed on multiple sides of a synchronization, resulting in a more efficient synchronization with zero risk of lost changes. A user who attempts to open a file that is already in use will receive an indication from the application that the file is locked.

Please consult the *SureSync with SPIAgent File Locking Add-On Evaluator's Guide* for further details.

Commonly Asked Questions

What is an Interval?

Understanding the concept of an Interval is essential to configuring ArchiveSync properly. An Interval is simply a period of time. You will configure a set of Intervals to tell ArchiveSync how many versions of a file you wish to keep in those different periods of time.
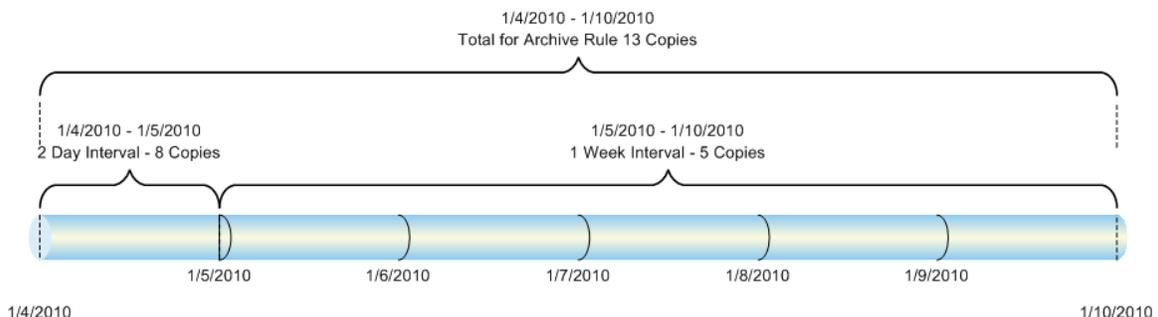
The most important thing to understand about Intervals is that they all start at the same point in time. Consider the example timeline above which shows a week (7 days) of time. In this example, two Intervals have been defined. The first Interval is defined as 2 days with 8 copies stored in the archive. The second Interval is defined as 1 week with 5 copies. Note that the 1 week Interval covers the period after the 2 day interval. These two Intervals result in 13 copies in the week.

From what starting time is an Interval calculated?

An ArchiveSync Interval is calculated differently depending on the way that the Relation is being run. If you are running a Relation on a scheduled basis, the Interval is calculated from the time that the Schedule starts to run. If you are running the Relation on a real-time basis, then the Interval is calculated from the time a file changes.

How does ArchiveSync determine which copies to keep in an Archive?

ArchiveSync will spread the number of versions out as evenly as possible throughout an Interval. For example, if you have an Interval defined to keep 7 versions in a week then ArchiveSync will try and space out the versions in the Archive so that they are as close to a copy a day as possible. Older versions fall into the next Interval. If you had a second Interval asking for 3 versions in a month then ArchiveSync would try and keep a version a week for the remaining three weeks of the month.

Example Archive Rules

Understanding how to construct Archive Rules is an essential part of using ArchiveSync to protect your files. The Archive Rules are extremely flexible and allow you to protect data in a variety of different ways.

This section of the guide will present some example Archive Rules to assist you in determining the type of Rule construction you will want to use to protect your data. You have a lot of flexibility when defining Archive Rules which allows ArchiveSync to protect a particular data set in just about any way you desire.

Normal Documents

A balanced Archive Rule that will maintain versions for 3 years before thinning versions out of the Archive. This Rule keeps more copies when the file is newer and then just a few over the time past a week.
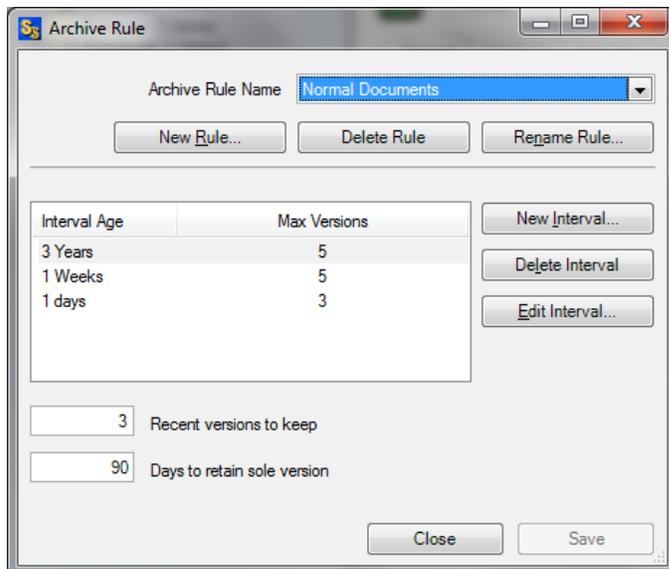
3 Year Documents

This Archive Rule also stores files for 3 years, but you will notice how the copies are more spread out by having the 6 copies in 3 months Interval added.
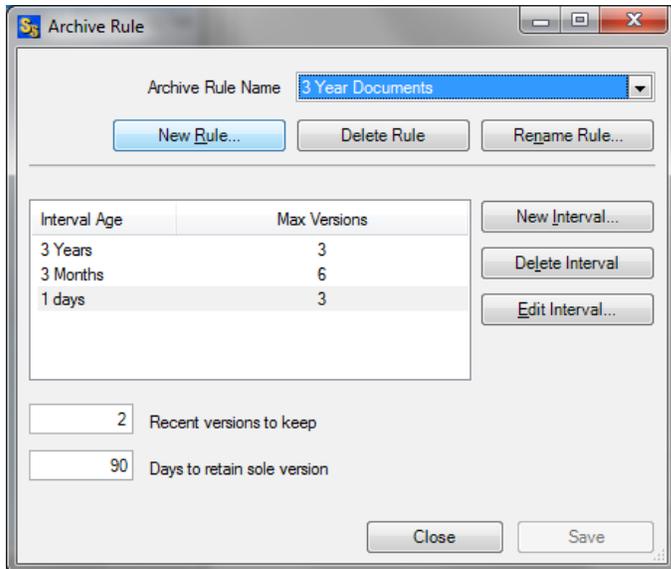
7 Year Documents

The 7 Year Documents Archive Rule is a recommended example for longer term storage of critical files. This is a variation of the 3 Year Documents Rule that expands the time stored in the Archive to 7 years. This Rule maintains fewer copies early in the file lifespan.
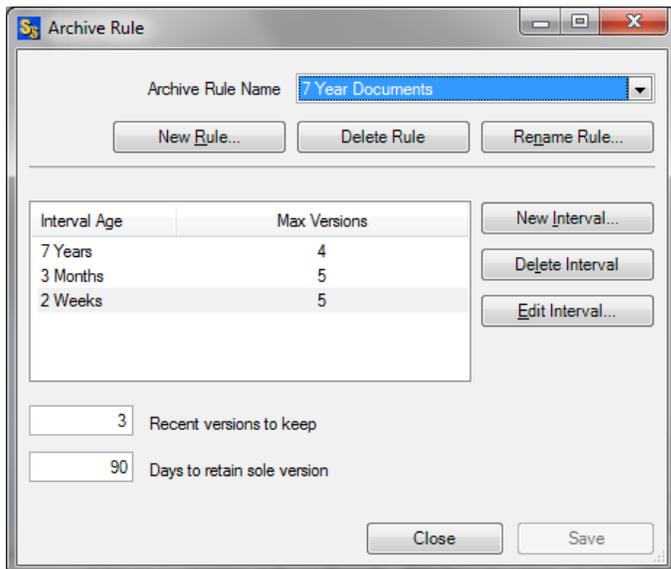
Temporary Files

This Archive Rule is useful in protecting files that are not needed long-term. For example, employees may work on files in one location and transfer final documents to another location for

long-term storage. In these cases, you want to protect the temporary work files but not have them maintained for long periods in the Archive. This Rule works perfectly for those types of scenarios.
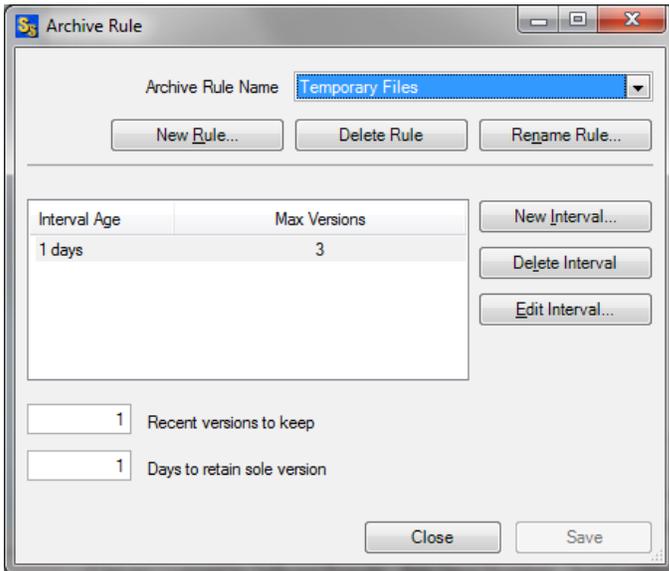
Our Scenario

This guide will walk you through the configuration of SureSync using the ArchiveSync Add-On to protect your files in real-time as changes occur. To use a Real-Time Monitor to archive files, all machines involved must be running supported Windows operating systems. ArchiveSync can generate versioned backups to multiple destinations from a single job. In this scenario, we will be protecting a folder on a machine named *JEFFK-HP* and creating an archive that is maintained in real-time on a machine named *JEFFTEST*. The folder for this example scenario is C:\SalesData on the JEFFK-HP machine.

> While this guide will show you how to run an archive job in a Real-Time Monitor, you can use the exact same steps to configure the archive job in a Schedule. The only difference is you would create a Schedule instead of a Real-Time Monitor. The rest of the configuration is identical.
>
> Schedules can also be used to archive data via UNC path from machines which do not support the installation of the SPIAgent Add-on. This is useful for archiving from old Windows machines and non-Windows machines such as Linux based NAS devices.
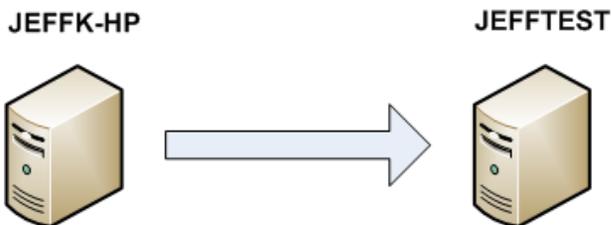
Installation

To begin your SureSync trial, you must install the correct SureSync components on the right machines. SureSync is installed using a Windows Installer (MSI) driven installation application. SureSync and all Add-On products are installed using the same installer.

For this scenario, the full SureSync application will be installed on one machine (*JEFFK-HP*) and the SPIAgent will be installed on the other machines (*JEFFTEST*) as illustrated below.
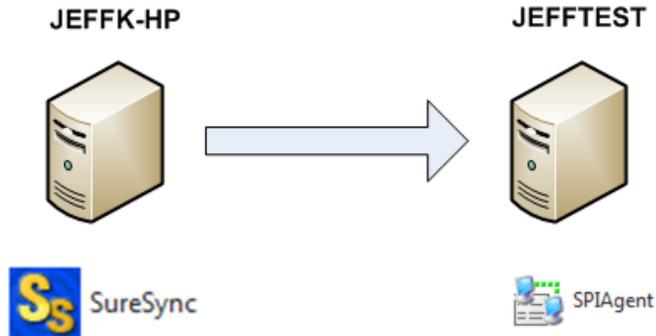
On the *JEFFK-HP* machine, we will run SureSyncSetup.exe and select SureSync as the installation type in the installer. This will install the complete SureSync application and make *JEFFK-HP* the machine where we configure and run our archive job.
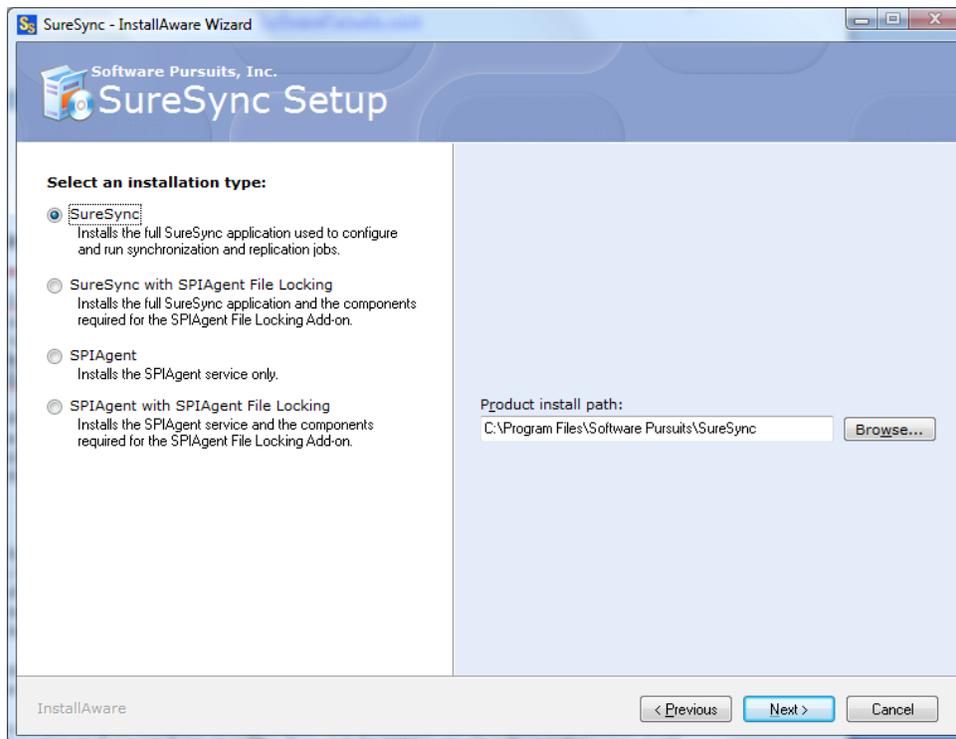
On the *JEFFTEST* machine, the SPIAgent only installation should be performed. This is accomplished by launching SureSyncSetup.exe on that machine and selecting "SPIAgent" as the installation type.

Launch SureSync for the First Time

Now that all of the required components have been installed on the machines that will be involved in the archive job, we can continue with the configuration. To launch SureSync for the first time, go to the Start menu, select the SureSync folder and click on the SureSync icon. This will launch the SureSync desktop application, where you will perform all of your archive job configuration. On the first launch of the application, SureSync will create an Access database to store your configuration information.

> The default database format for SureSync is Microsoft Access. SureSync also supports Microsoft SQL and this database format is recommended for environments running many multi-way Rules or a large number of jobs to achieve optimal performance. Please refer to the *Upgrading from an Access to SQL Database* knowledge base topic for more information.

Once the database has been created and the SureSync desktop has loaded, you may proceed with your configuration.

Installing the SureSync Scheduler

The SureSync Scheduler is a Windows service that runs on the main SureSync machine. This service is responsible for launching Schedules at the correct times and for running Real-Time Monitors. You must have a Scheduler running in order for your Real-Time Monitor to start.

To install the SureSync Scheduler service, go to the Tools menu within SureSync and select "Schedulers…," which will launch a window like the one below.
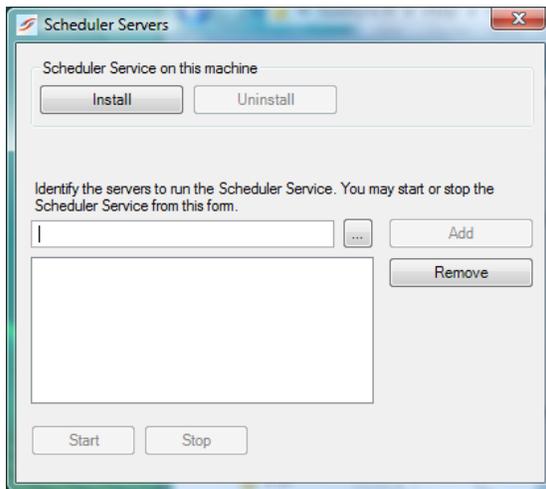
To install the Scheduler, click the "Install" button, which will launch a window like the one below.

Enter the username formatted as *machinename\username* or *domainname\username*. This account must be an administrator on the machine. Click "OK" to install the service.
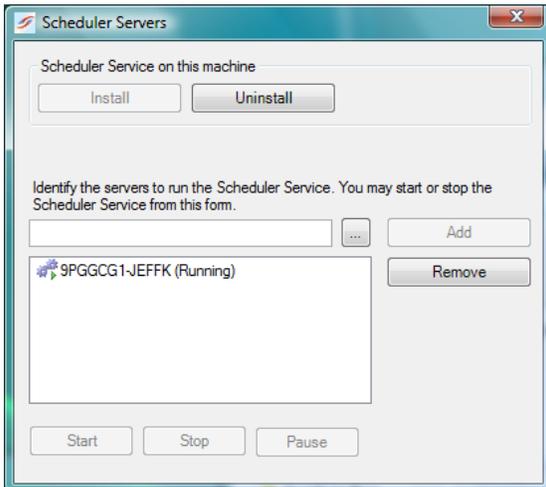
Once the service has been installed, click on the machine name and click "Start." The Scheduler will now be listed as Machine Name (Running).

Configuring the SPIAgent Machines

The next step in the configuration is to define the remote SPIAgent machines in SureSync. To do this, launch SureSync, click on the "Tools" menu, and then select "SPIAgent Setup."
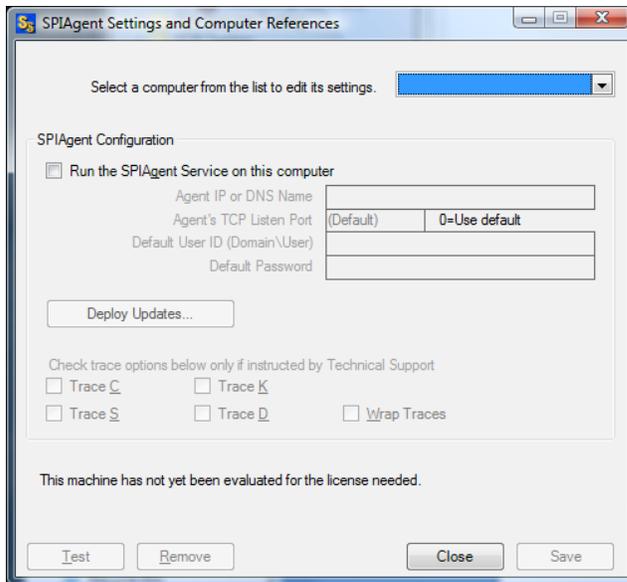
Select the SPIAgent from the drop down menu to begin configuring it. If the agent you want to configure does not appear in the list, you may enter a name for it by selecting "Add New Machine" from the drop down menu.

> The machine name listed in the "Select a computer from this list to edit its settings" drop down menu must be the actual machine name for the machine you're trying to connect to. Using an IP address or a random name in the drop down menu will result in the test failing.

You will then want to:

1. Check the box that says "Run the SPIAgent Service on this computer."
2. Enter the IP address or DNS name for the machine running this SPIAgent into the "Agent IP or DNS Name" field.
3. Enter a username with adequate permissions to that machine in the "Default User ID" field. We recommend a domain administrator account. Be sure to configure the account as domain\user. If you wish to use a local account on that computer, it can be formatted as machinename\user.
4. Enter the password for the account in the "Default Password" field.
5. Make sure the user account specified here has "log on as batch job" rights on the machine in question.
6. Click save and then test to verify the configuration.

> The "log on as batch job" right can be assigned by going to the Start Menu, selecting Administrative Tools, and then Local Security Policy. Under User Rights Assignment you will find the "log on as batch job" right. On domain controllers, you must use the Domain Controller Security Policy applet because they do not have Local Security Policy available.

These steps should be done for each remote SPIAgent in question. In the example scenario, JEFFTEST would be defined. An example of a completed SPIAgent configuration is shown in the screenshot below.
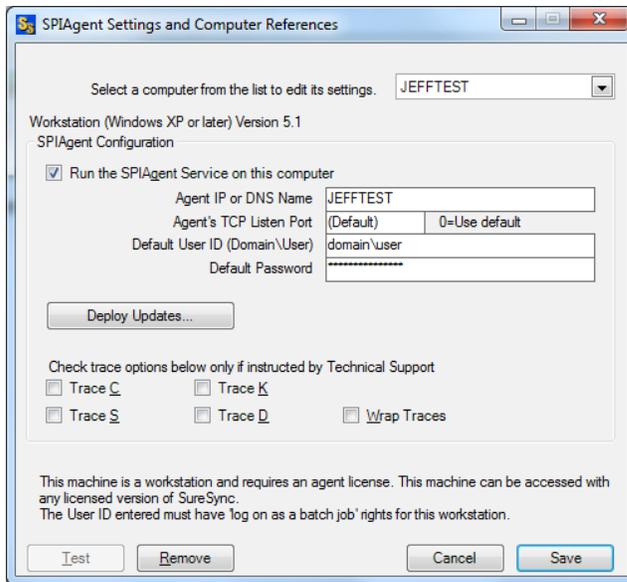
Creating the Relation

Relations are the basic building blocks of the SureSync application. Each Relation contains the root paths (source and destination paths) that apply to that Relation and options for the Relation. Each Relation also contains one or more Rules, which tell SureSync how to archive the data in question. The Relation and the Rule are created together in one wizard.

> The wizards are designed to quickly and easily configure the basic options needed to get a Relation up and running. SureSync is an extremely flexible product with many advanced options. Additional options can be specified on the properties panels for the Relation after it has been created.

To create your Relation, launch SureSync and then go to the "File" menu and select "New" and "Relation".

Name Your Relation
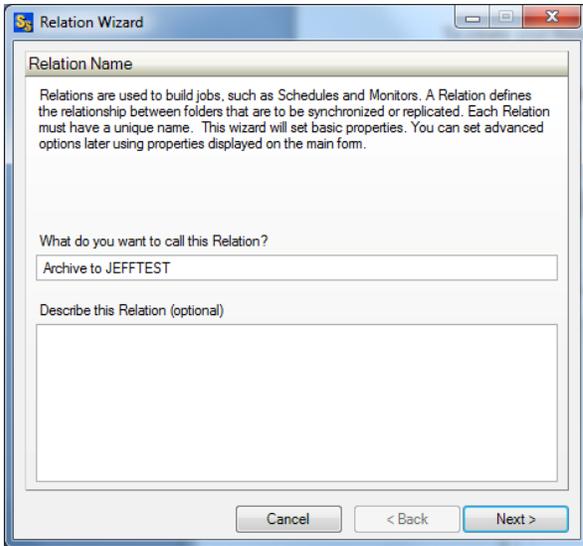
The first panel in the wizard allows you to name your Relation. Enter the name of the Relation and an optional description and click "Next" to continue. The Relation name used for this example will be "Archive to JEFFTEST".

Specifying Root Paths

The next panel is used to specify the source path and the archive path(s) for the archive job. Later in the wizard, you will specify which path is source and which is destination. In this dialog box you are simply listing the paths, both source and destination, that will be part of this archive job.

> There must be at least two root paths specified (a source and a destination) to have all Rule types available. Later on in the wizard you will get to specify which path is source and which is destination. If you specify only one path, then the only Rule methods available later in the wizard will be "delete" and "skip".
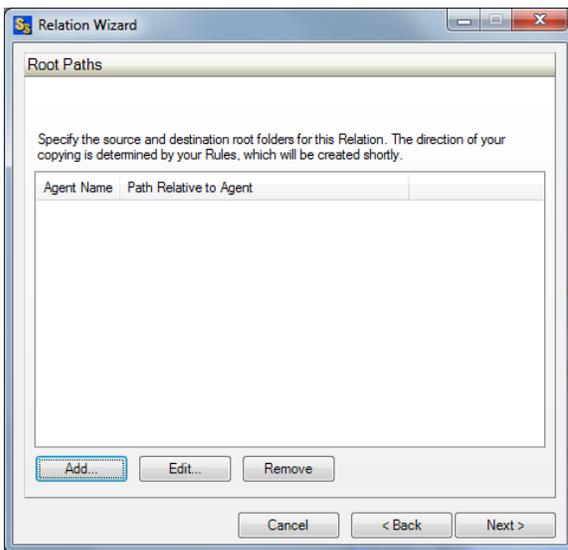
Root paths are added by clicking the "Add" button at the bottom of the panel to display the "Select a new root path" panel shown below.

For this example, our root paths are:

- C:\SalesData on JEFFK-HP
- C:\SalesDataArchive on JEFFTEST (the location of the archive)

First, we will select the local path on JEFFK-HP by browsing to that path through "My Computer", highlighting the directory and clicking "OK.
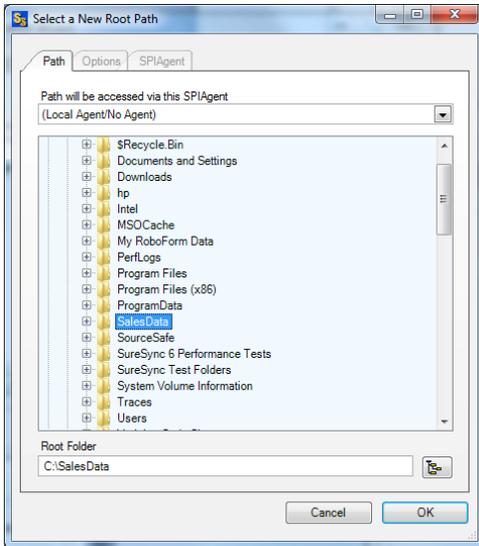
The Root Paths panel will now look like the screenshot below. Click "Add" to add the path for the remote machine.
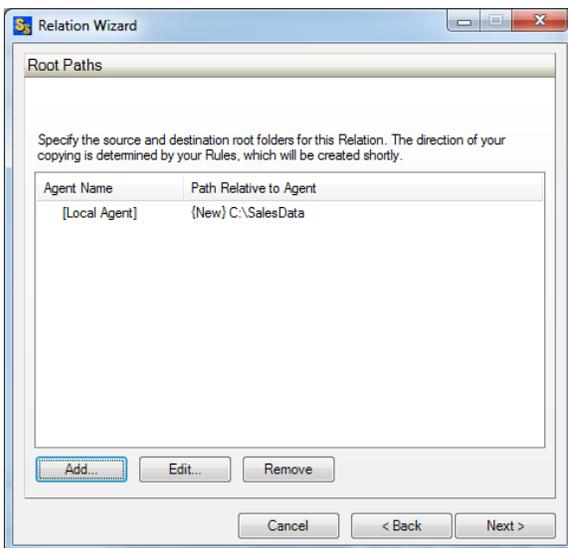
On the "Select a New Root Path" panel, you will select the machine name from the "Path will be accessed via this SPIAgent" drop-down menu, browse to the path, and then click "OK".

When selecting a remote SPIAgent from the drop-down, the browse panel will display the drives and folders from that remote machine as if you were sitting down in front of the computer.
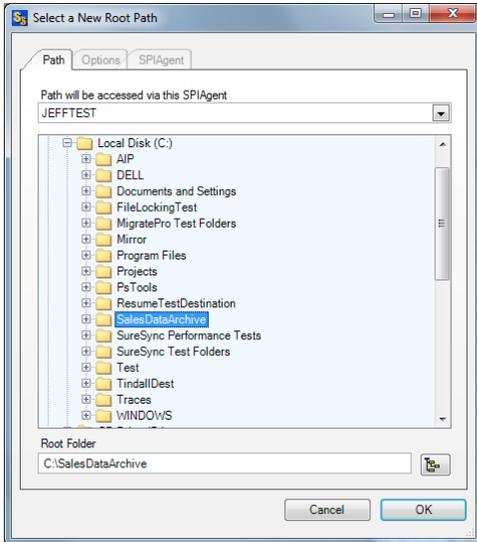
After selecting the path, click on the "Options" tab and check the "This is an Archive Root Path" option to tell SureSync that this path is the path where the Archive should be stored.
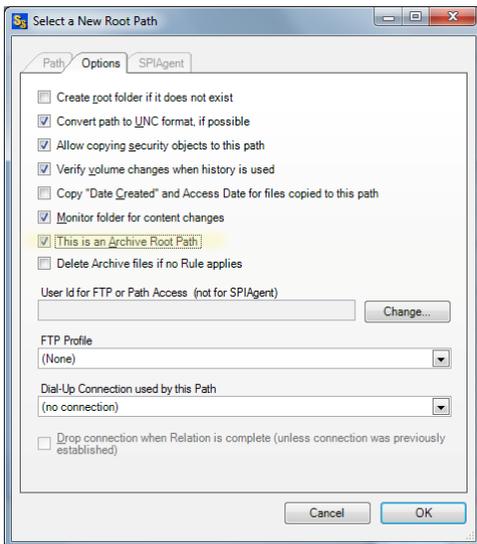
Click "OK" to add the path. On the Root Paths panel, note that the Archive path is now represented with a special icon.
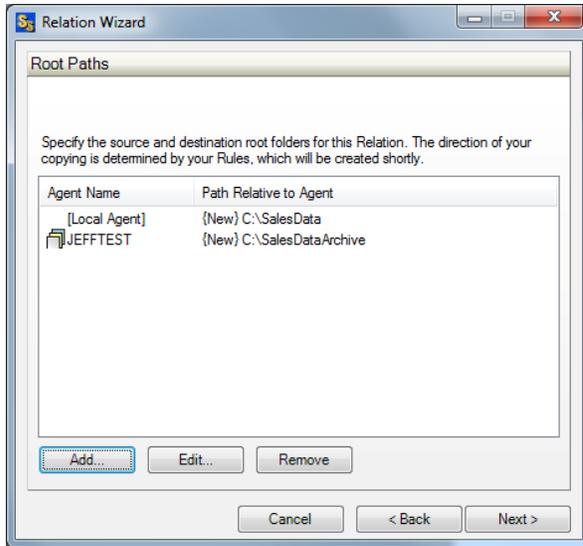
Once all of the paths have been entered, press the "Next" button to continue.

Selecting Your Rule

On this next panel we will specify the Rule to use for this job.

> If the panel indicates that only "Delete" and "Skip" Rules are available, you have selected only one root path. You should use the "Back" button to return to the root path entry panel and add your other root path(s).

The type of Rule we will be using in this example is "Archive".
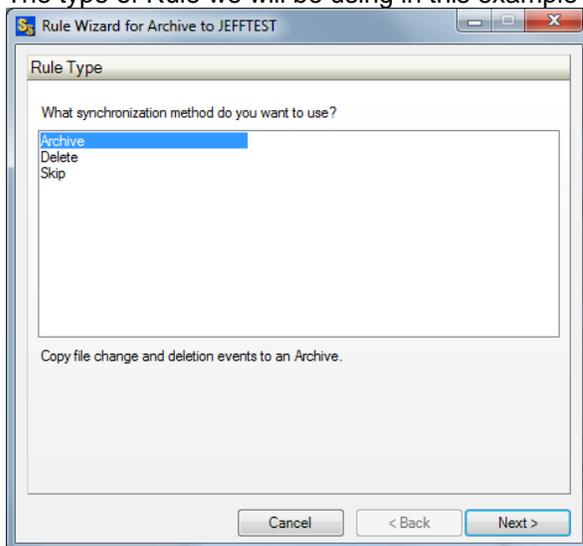
Click the "Next" button to continue.

Selecting Source and Destination

The next panel is where you indicate which root path is to be used as a source and which is to be used as the archive destination. Only one path can be the source and the path(s) defined as an

Archive path will only be listed as destinations. To complete this panel, simply check the source path.

Your wizard panel should look like the one below:
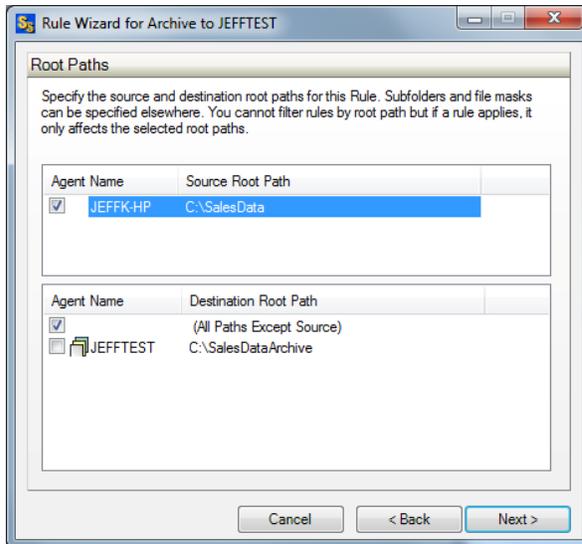
Filtering Subfolders

The next panel in the wizard allows you to include or exclude specific subfolders. The default "\" means to include all subfolders. You can enter subfolders into the text field or select them using the checkboxes in the browse dialog on the lower portion of the wizard panel. Folders are excluded by placing a minus character (-) in front of the folder name. Multiple folder entries are separated by the vertical bar character (|).
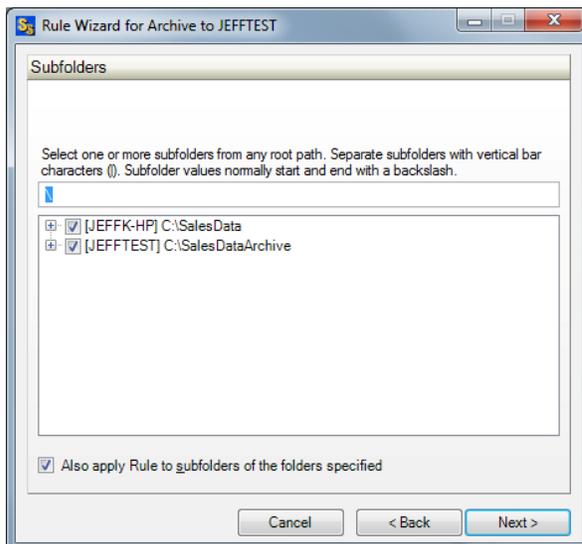
Examples

To archive only two subfolders named FolderA and FolderB, you would enter the following:

\FolderA\ | \FolderB\

To archive all subdirectories except for subfolders FolderA and FolderB, you would enter the following:

\ | -\FolderA\ | -\FolderB\

The archive job in our example will be using the default "\" setting to include all subfolders.

To learn more about how to include and exclude subfolders press the F1 key on this panel.

Filtering Based on File Masks

The next panel displayed will let you indicate the files to be included or excluded from the job. Each entry in this panel should be separated by a vertical bar (|) character. To exclude a file name or file type place a minus sign (-) in front of the mask.
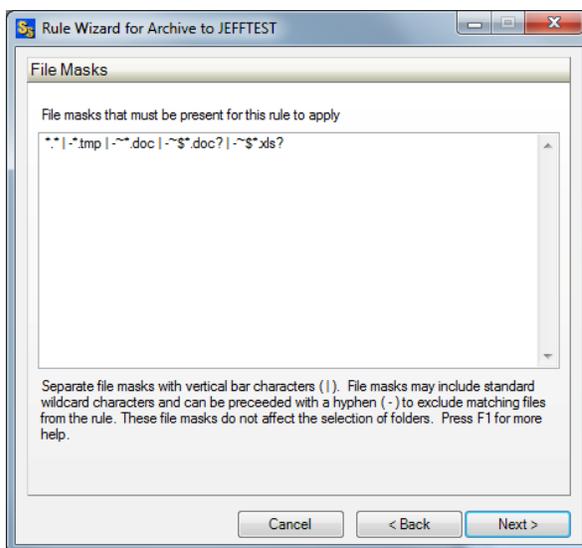
Examples

To archive only *.doc files and a file named Test.txt, you would enter the following:

*.doc | Test.txt

To exclude *.tmp files, *.doc files, and a file named Test.txt, you would enter the following:

-*.tmp | -*.doc | -Test.txt

The default setting for this panel is *.* | -*.tmp | -~*.doc | -~$.doc? | -~$.xls?. This tells SureSync to archive all files except *.tmp files and some commonly used Microsoft Office programs temporary files. This is the setting we will use for this example.

To learn more about how to include and exclude files based on file masks press the F1 key on this panel.

Clicking the "Finish" button will create your Relation. The Relation Wizard only displays a subset of essential options for a Relation. There are many other options which can be configured by modifying the properties of the Relation using the SureSync Desktop. Pressing the F1 key on any tab in the application will display context sensitive help detailing the options on that tab.

Previewing Your Relation

Once the Relation has been created, SureSync will prompt you to preview the newly created Relation. The preview displays the actions that SureSync would perform without actually doing them. This is a great way to determine if your Relation will perform as expected. You should *always* preview a Relation after making changes.

When prompted to preview, click on the "Yes" button.

There are different displays available for the preview by selecting options under the "View" menu. Please consult the SureSync Help File for more information about the preview window.

You may browse through the folders in this window to see how your files will be affected. A legend can be accessed from the "Help" menu by selecting "Legend". This will detail what the various preview icons mean.

When you are done with the preview, close the preview window. This will take no action. You can also click the Run button to run the current job from the Preview.

SPIAgent Compression & Encryption

The SPIAgent Add-On also provides the ability to compress and encrypt data during the transmission. This functionality is very useful when dealing with slow lines or public lines like the open Internet. For example, if you are synchronizing over the Internet, turning compression and encryption on is recommended. This minimizes bandwidth consumption and secures the data stream that is being transmitted.

If you want to enable compression and/or encryption, simply click on the Performance tab of the Relation and check the "Use Compression" and "Encrypt Data" checkboxes.
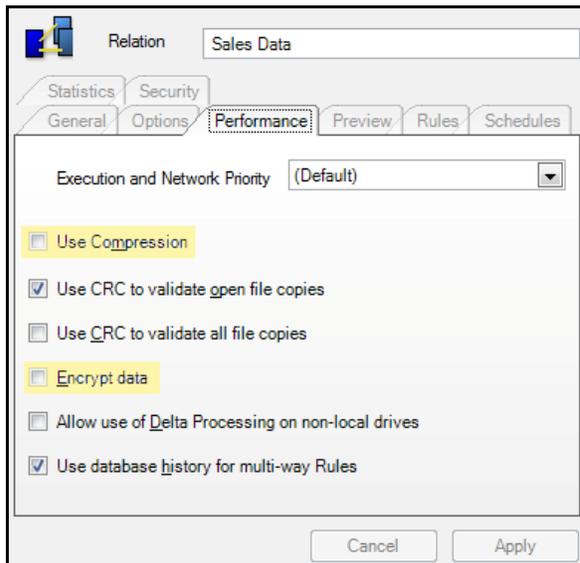
Creating a Real-Time Monitor

A Real-Time Monitor is used in place of a Schedule to constantly monitor changes in files. When a change is detected, the associated Relation/Rule is applied, and archiving is immediately performed.

The real-time feature requires the use of the optional SPIAgent component on each machine involved in the real-time monitor. A SPIAgent license is also required for the local machine that will be running the job (if that machine is involved in the job).

In this example, we will create a Real-Time Monitor to process changes to our Relation as they occur.

> A Relation can only be running in one instance at a given time. If you are planning to run a Relation with a Real-Time Monitor then you should not attempt to run a Schedule of that same Relation at the same time. You will get errors about the Relation already being busy. If a Schedule exists to run a Relation you are going to run with a Real-Time Monitor, it should be placed on hold or deleted.

To begin configuring your Real-Time Monitor, go to the File menu, select New, and then Monitor.

> The wizards are designed to quickly and easily configure the basic options needed to get a Real-Time Monitor up and running. SureSync is an extremely flexible product with many advanced options. Additional options can be specified on the properties panels for the Real-Time Monitor after it has been created.

Name Your Monitor
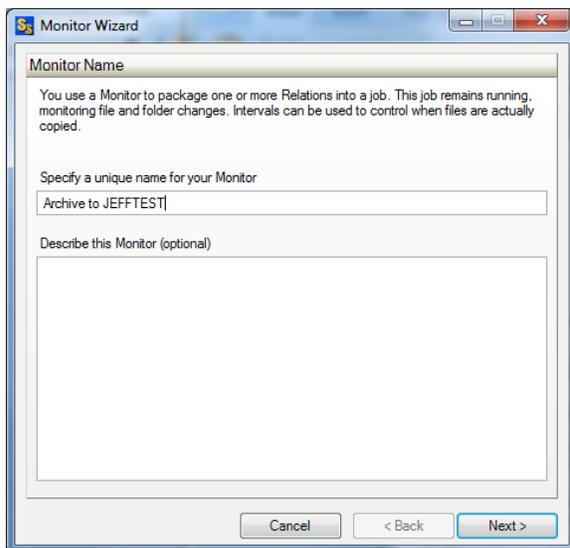
The first panel allows you to name your Real-Time Monitor. Enter the name of the Real-Time Monitor and an optional description, then click "Next" to continue.

Selecting What Relation(s) to Run

The next panel is where you specify which Relation you would like this Real-Time Monitor to run. Specify these Relations by checking the box next to their name. You can run multiple Relations under one Real-Time Monitor.
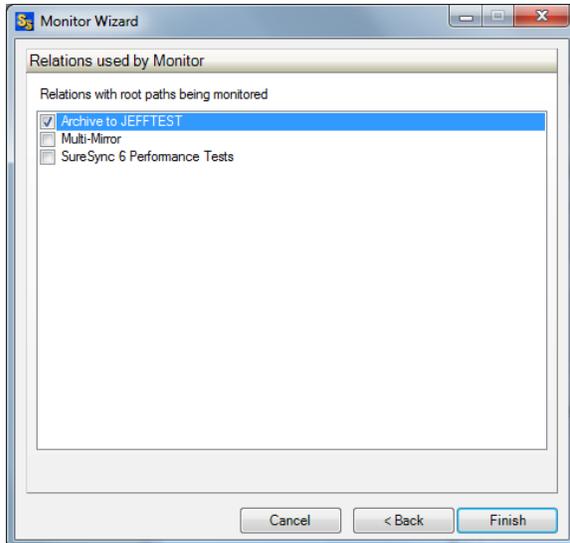
Click the "Finish" button to create the Real-Time Monitor.

Modifying and Running Your Real-Time Monitor

When the wizard is complete, you will be returned to the SureSync desktop and the Real-Time Monitor you created will be displayed.

You can make changes to the options for your Real-Time Monitor in the main SureSync window by first clicking on the Real-Time monitor you wish to modify. You can then look through the tabs on the right side for options to change. Pressing "F1" while on any tab will bring up context sensitive help describing the options in detail.

Now that the Real-Time Monitor is created, it may be started by right-clicking on the Real-Time Monitor name and clicking "Start Monitor." You may also uncheck the box that says "Stop Monitor and place it on hold" on the General tab of the Real-Time Monitor. Then click apply to start the Real-Time Monitor. Next to the Real-Time Monitor name will be the message "Waiting to start," which will change to "Active" automatically after a few moments.

Configuring E-mail Alerts

E-mail alerts can be a useful way of notifying the SureSync administrator of a problem which should be investigated.

Configuring a SMTP Profile

To start the configuration of alerts, you must launch the SPIAgent Configuration utility and create a SMTP profile. The SMTP profile provides SureSync with the necessary details about your SMTP e-mail server so the program can send messages to you.

To launch the SPIAgent Configuration utility, open SureSync, go to the "Tools" menu and select "Alert user list…"
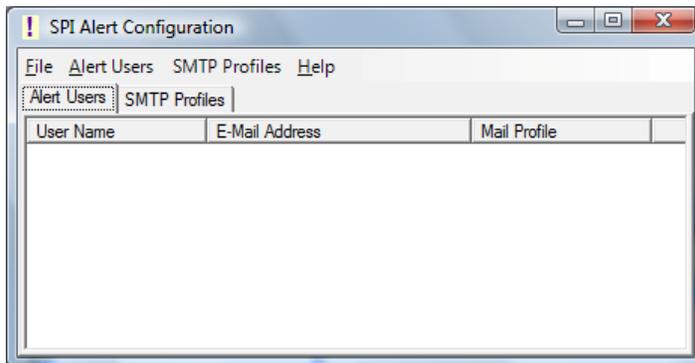
To create a SMTP Profile, go to the SMTP Profiles menu and select "Add New SMTP Profile…"
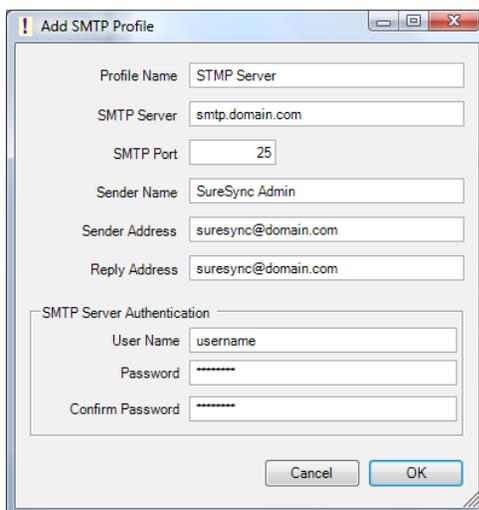
The "Add SMTP Profile" panel allows you to define the SMTP settings for your mail server. The following fields must be configured:

- **Profile Name:** The name of the profile that you are configuring. For example, you might use the name of the SMTP server.
- **SMTP Server:** The server address of the SMTP server. For example, smtp.mail.com.
- **SMTP Port:** The SMTP port for the SMTP server. The default SMTP port is 25.
- **Sender Name:** The name that will appear in the From: field of messages sent by SureSync.
- **Sender Address:** The e-mail address that will appear on messages sent by SureSync.
- **Reply Address:** The reply address that will appear on messages sent by SureSync.

You can also define SMTP Server Authentication settings if your SMTP server requires a valid logon to send messages. (most do) The following fields can optionally be configured:

- **User Name:** The username that SureSync will log into this SMTP server with when sending an e-mail alert.
- **Password:** The password for the username defined in "User Name" should be entered here.

- **Confirm Password:** The password for the username defined in "User Name" should be confirmed here.

Click "OK" to create the SMTP Profile. Clicking on the SMTP Profile tab of the SPIAlert Configuration Utility will show the new profile.
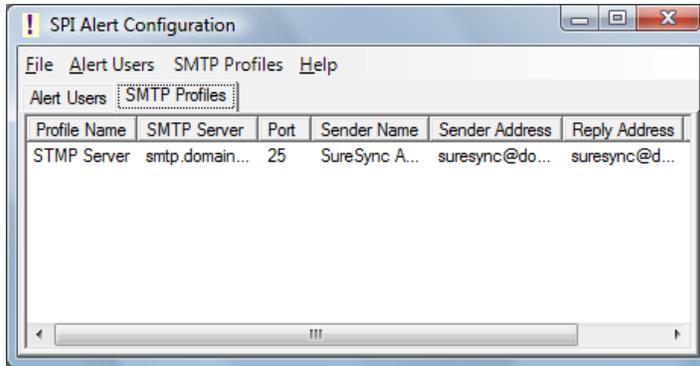
Configuring an Alert User

The second part of configuring E-mail Alerts is to define an Alert User. The Alert User defines the e-mail address(es) that will be sent messages when errors occur. To configure an Alert User, click on the "Alert Users" menu and select "Add User…"
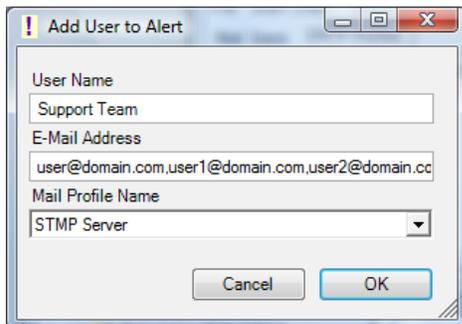
The "Add User to Alert" field has the following fields to be configured:

- **User Name:** The username that will be used in SureSync to represent this e-mail address.
- **E-mail Address:** The e-mail address that SureSync will send the alert messages to.
- **Mail Profile Name:** The SMTP profile that will be used to send the message.

> Multiple e-mail addresses can be added by separating the addresses with commas (,) or semi-colons (;). This allows you to easily send messages to a group of SureSync administrators.

Configuring the Real-Time Monitor to Send Alerts

The final step of the alerts configuration is to tell the Real-Time Monitor to use the Alert User and at what level of errors to send alerts. This is accomplished by clicking on the Real-Time Monitor in

the SureSync desktop, clicking on the Alerts tab, selecting the Alert User from the drop-down menu, and then clicking "Apply".
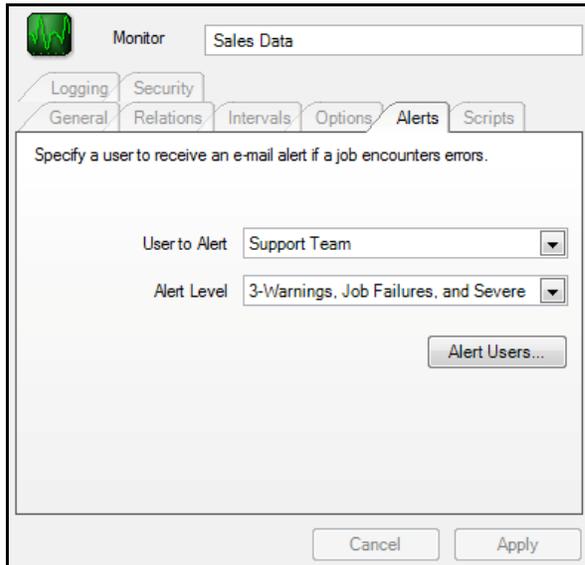
Additional details about the E-mail Alert levels available can be found by pressing "F1" while on the Alerts tab.

Monitoring the Archive Job

Monitoring your archive job is important, and SureSync makes this process easy through the use of two different status panels.

Detailed Status

The detailed status panel will show you file level activity for a current job as well as common counters such as files added and files deleted. If you want to take an in-depth look at a particular job, you will want to use Detailed Status.

To launch Detailed Status, right click on the job and select "Job Status." You can also select the job and then go to the "View" menu and select "View Job Status."
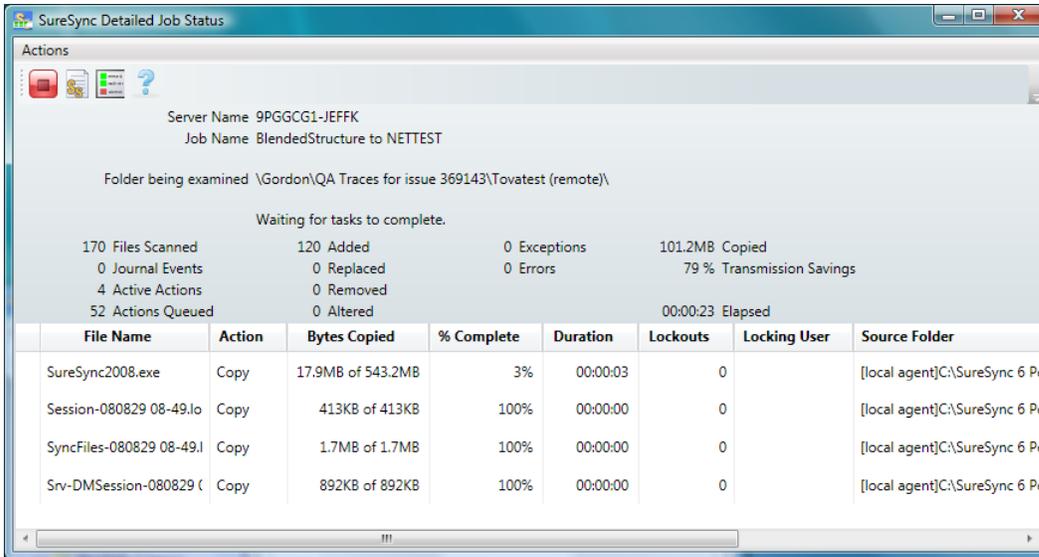
Enterprise Status

The Enterprise Status panel can be used to view the current status of jobs from SureSync installations anywhere on your network. To see detailed status, you can launch the Detailed Status panel for a particular job right from the Enterprise Status application. The Enterprise Status panel provides an easy way to stay current on the status of your jobs, no matter where they are running.

Enterprise Status can be launched by going to the Start menu, selecting SureSync and then "SureSync Enterprise Status". You can also click on the "View" menu and select "Enterprise Status" or click on the "Enterprise Status" button in the menu bar.