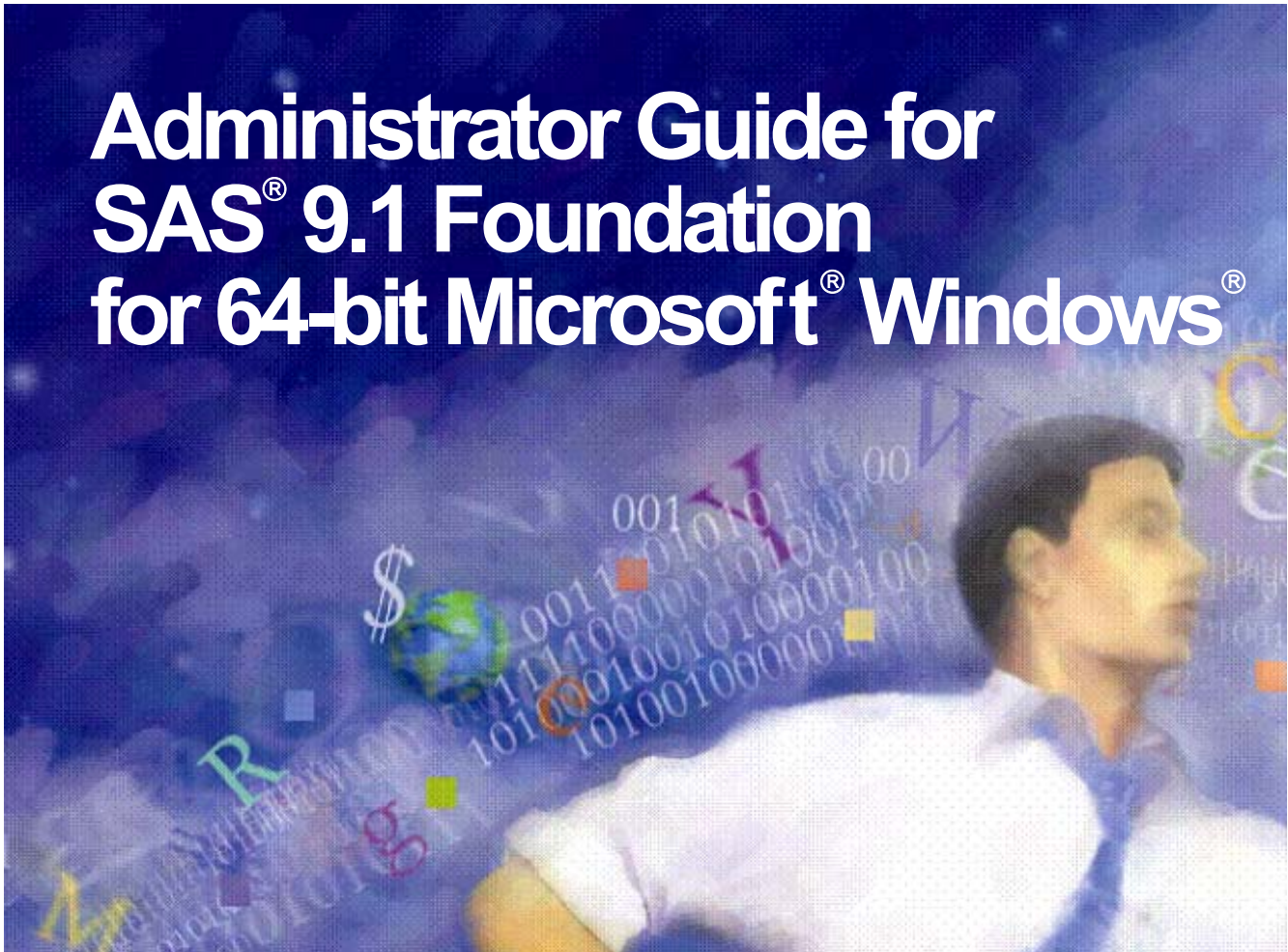




Administrator Guide for SAS[®] 9.1 Foundation for 64-bit Microsoft[®] Windows[®]



Installation Instructions

- Understanding SAS 9.1 Foundation
- The SAS[®] Setup Wizard
- Installation and Deployment Instructions
- Software Renewal Instructions

Using the Administrator Guide

This guide is divided into two parts with different objectives –

- “Part I: Understanding SAS 9.1 Foundation” explains what administrators need to know about SAS 9.1 Foundation’s components.
- “Part II: Installation and Deployment Instructions” provides step-by-step details about SAS 9.1 Foundation’s wizards and tools.

Your comments about the guide’s structure and contents are welcome.

Copyright Notice

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Administrator Guide for SAS® 9.1 Foundation, Pre-Production, for 64-bit Microsoft® Windows®

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Administrator Guide for SAS® 9.1 Foundation for 64-bit Microsoft Windows

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Other Sources of Installation Information

This document provides installation instructions for SAS 9.1 Foundation, which is made up of server-side Base SAS and a variety of server-side SAS products (the exact products vary by customer). Information about the installation of mid-tier and client-side products is available in your SAS Installation Kit

The server-side configuration instructions contained in this document are for the configuration of a generic SAS server. If you want to configure your server for more specific functions, such as a Workspace Server, OLAP Server, or Stored Process Server, please refer to the *SAS 9.1 Intelligence Architecture: Planning and Administration Guide* located at <http://support.sas.com/91administration>.

Part I: Understanding SAS 9.1 Foundation

Enterprise-Wide Deployment of Windows SAS

For an administrator in a large enterprise, managing software deployment to hundreds, or even thousands of computers is an increasingly challenging task. End users often have varying needs. While some users may be capable of installing the software interactively, others may not.

As the number of machines increases, so does the desire to keep software installations consistent and manageable. Often, you may not have easy access to end user computers, or it may be too inefficient to install the software independently on each machine. Additionally, these computers may require operating system updates, which in turn may require several reboots before the installation process for SAS software even begins. To avoid interrupting users, you may need to install the software when the user is not using the machine.

This chapter discusses the use of the SAS 9.1 Foundation 64-bit Windows installation tools to solve these problems within your enterprise. The SAS 9.1 Foundation installation toolset includes the SAS AutoPlay and SAS Setup. For each tool, we will discuss the interactive use of the tool, and follow with a discussion of how the tool can be used in unattended or Quiet Mode (where applicable).

The SAS AutoPlay

The SAS AutoPlay™ (“AutoPlay”) launches when you first insert the SAS Setup Disk. The AutoPlay serves as a launch pad for interactive use of all of the installation tools mentioned above. In addition to supporting the installation tools, the AutoPlay provides access to online installation and configuration documentation, the Install Center, and SAS Technical Support.

Accessing the Online Documentation

In SAS 9.1 Foundation, the installation documentation is provided on the Setup Disk in printable Adobe PDF format, and is divided into three documents focused at different audiences.

1. As an administrator, you will be most interested in this Administrator Guide, which is accessible from the AutoPlay by selecting the View Administrator Guide option.
2. Your end users who will install SAS interactively will be interested in the User Installation Guide, which is accessible from the AutoPlay by selecting the View User Installation Guide option. In order to better assist these

users, you should also familiarize yourself with the information in that document.

3. The Post-Installation Guide is intended for anyone who needs to tune the behavior of specific SAS products or solutions after installation. This document is accessible from the AutoPlay by selecting the View Post-Installation Guide option.

For updates to other printed documentation included in your Installation Kit (as well as other useful installation-related information), you can review the material available at the SAS Install Center by choosing the Visit SAS option.

Retrieving and Using SAS Installation Data

At the time of your SAS software order, your designated installation representative receives an e-mail from SAS including a single text file attachment. This attachment contains your SAS Installation Data, along with instructions about saving the data to disk. After saving the data to disk, the File option can be used to provide the location where SAS Installation Data can be obtained.

Creating an Image for Client Users

To provide a SAS installation that can be run by client users, SAS for 64-bit Windows can be installed to a 64-bit Windows system with Terminal Services. Use an administrator log-on when installing to a Windows system with Terminal Services

Creating an Image for Personal Users

This section assumes that you have retrieved SAS Installation Data. The material here describes the creation of a network image to support Personal Users.

Personal Users are users of SAS Software who will install all components that they will use on their local PCs. (If your end users will run the software from the network, see [Creating an Image for Client Users](#) above.)

To create a network image that Personal users can install from, copy the contents of each CD to the same directory on the network. For example, if you want to create an installable SAS image on C:\SAS9.1\install and your CD drive is D:, execute the following command for each SAS System CD:

```
xcopy /s D:\*.* C:\SAS9.1\install
```

Note: When you copy from the **SAS/SECURE** CD to your network image, copy **only** the file `sas/securwin1.cab`. If other files are copied from this CD, the AutoPlay will not function properly.

SAS Setup

SAS Setup™ performs the actual installation of the software, and must be run on every machine where the SAS Software will run.

SAS Setup may be run in one of three modes:

1. **Interactive Mode**
Requires that a user be present to respond to prompts.
2. **Record Mode**
Prepares a quiet record file for use with Quiet Mode. This mode is run by the administrator, and interactively records the component selections in the quiet record file. Record Mode defaults all other responses, and allows the administrator to edit these directly in the quiet record file.
3. **Quiet Mode**
Uses a quiet record file (created in Record Mode) to run SAS Setup in an unattended fashion. Quiet Mode is intended for use in any context that does not require a user to be present at the machine. This can be useful when used in a login script, in conjunction with management packages or with any other in-house solution used for managing software on your PCs.

The next section covers interactive use of SAS Setup, to familiarize you with the prompts a user would normally encounter. The following section discusses automation of the responses to these prompts using Record Mode and Quiet Mode. For large-scale enterprise deployment, Record Mode and Quiet Mode are highly recommended.

Interactive Use of SAS Setup

SAS Setup is accessible for interactive use from the AutoPlay by selecting the Install SAS Software option. This wizard can also be run by one of the following commands, depending on the type of end user:

- **Personal Users:** `<Source Path>\Disk1\SAS\SETUP.EXE`
- **CD-ROM Users:** `<CD Drive>:\SAS\SETUP.EXE`

In these examples, *Source Path* is the network location you specified where you copied the CD images.

The text below does not cover every dialog a user will encounter, but focuses on some of the more important ones.

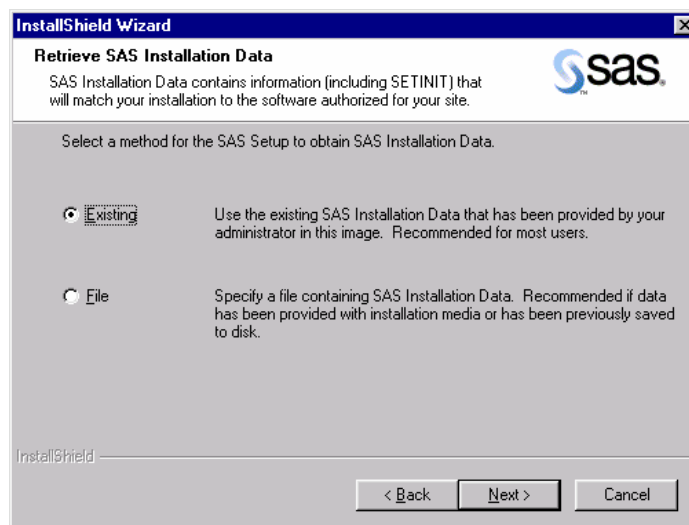
Providing the SAS Installation Data

This section applies only to users installing the software locally (either from a network image you have created or from CD-ROM).

SAS Installation Data is required for your Personal Users to complete the final installation of SAS software. Personal Users installing interactively depend upon you to provide them with the SAS Installation Data needed to complete the installation.

If you have created a network image of the CDs to be installed by users, you can provide the SAS Installation Data by copying the file to the `core\sasinst` directory in the network image. Rename the copy of the file `sid.txt`.

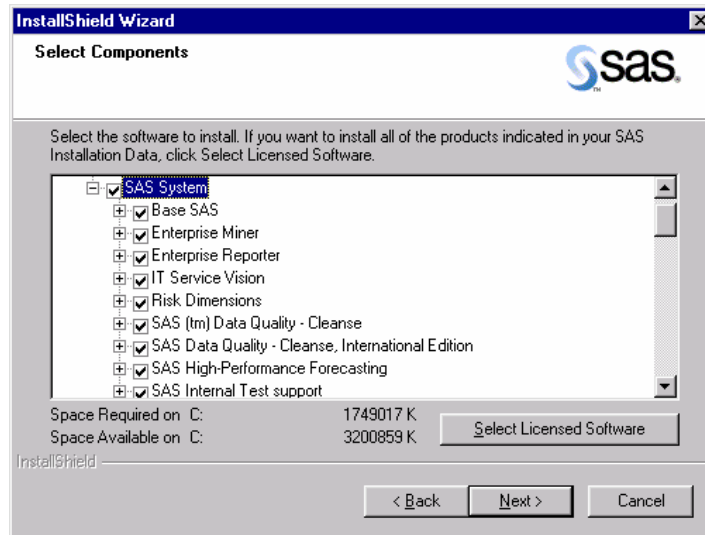
As a result, when your end users run SAS Setup interactively, they will be prompted with the options “Existing” and “File” for retrieving SAS Installation Data for their installation.



SAS Setup will default to the Existing option, since your end users will most often use the existing SAS Installation Data that you placed in the network or CD image. The File option is provided in the event that you have saved your SAS Installation Data to a separate disk location, and would like to instruct your users to access the data from that location.

Selecting the Software to Install

Users will be prompted for the software to install. They will have an opportunity to select from the software that you placed in the network image.



From the Select Components dialog, interactive users are able to specify the software that they would like to install to their local machines.

The Select Licensed Software button uses the SAS Installation Data that you provided to determine which software is licensed, and pre-selects just those components. Any non-licensed components that you placed into the network image when you created it will also be available for installation to the user here.

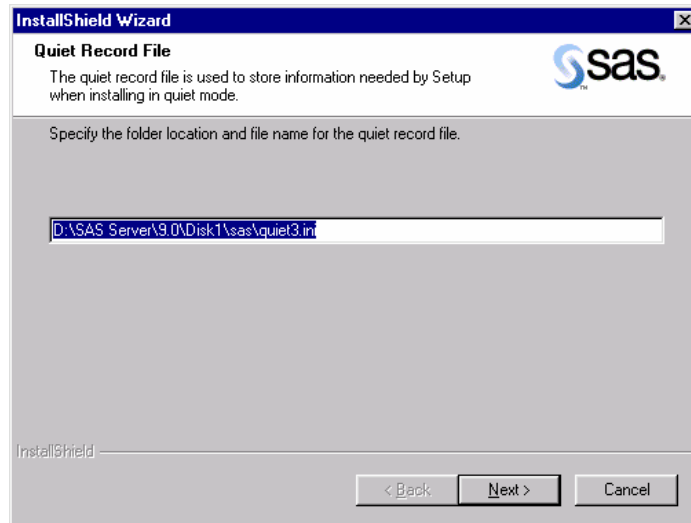
Using Record Mode with SAS Setup

SAS Setup prompts for many user responses during interactive use. When using SAS Setup in Quiet Mode, these responses are too numerous to be specified on a single Quiet Mode command line. Instead, they are specified in a file, which is created using Record Mode.

To launch SAS Setup in Record Mode, issue the following command (without the parenthetical comment):

```
<Source Path>\Disk1\SAS\SETUP.EXE -zrecord
```

SAS Setup will prompt you for the location where your quiet record file will be placed.

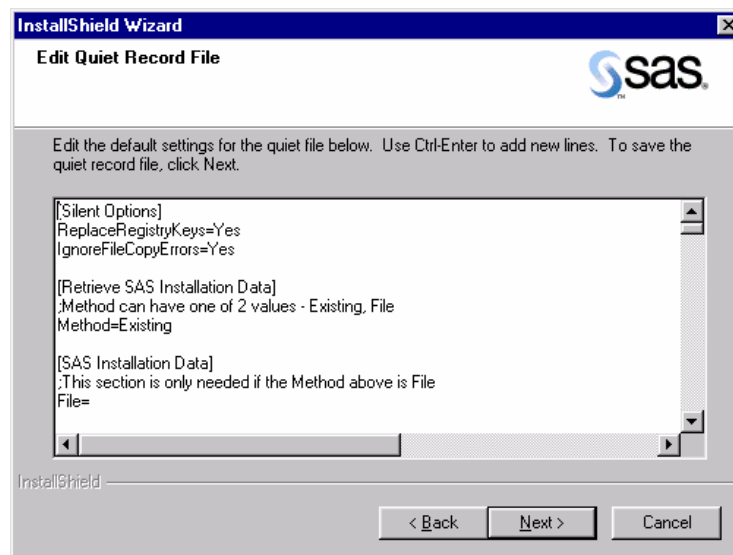


It is recommended that you choose the default, which places the file in the main directory of the network image you will be installing from. Remember this quiet record file location, as it will be needed for running SAS Setup in Quiet Mode.

You will then be prompted to select the software components that you want this quiet record file to select during Quiet Mode. Refer to the earlier section, [Selecting the Software to Install](#) on page 4.

Editing the Quiet Record File in Record Mode

After selecting the software to install, SAS Setup will present you with the Quiet Mode quiet record file it has created for you.



The quiet record file presented here contains the software you have selected, along with the default settings for other values needed for the final installation.

It is important that you review this file completely. For example, you may want to change the destination path where the software will be installed.

Do not edit any settings below the warning line. If you want to change the selected components while in Record Mode, click the Back button to return to the *Select Components* dialog and make new selections. Otherwise, you must record a new quiet record file to change these settings. Changes made to this information by any other means could invalidate the quiet record file.

After you finish editing the quiet record file and click Next, Record Mode will finish. (If you prefer, you can complete Record Mode, and edit the file later in your favorite text editor.)

You now have a quiet record file for use with Quiet Mode, which is addressed in the next section.

Using Quiet Mode with SAS Setup

For large-scale enterprise deployment, it would be impractical to require an administrator or user at each machine during installation. To meet this need, SAS Setup supports Quiet Mode.

Quiet Mode works in conjunction with Record Mode (see above) to provide a way to install without requiring the presence of a user. To familiarize yourself with the prompts the wizard would normally present to the user, review the section [Interactive Use of SAS Setup](#) on page 3.

To run SAS Setup in Quiet Mode, a quiet record file must have been created using Record Mode (see above), and a single command line run on each machine on which you will run the SAS software.

The source path of the command to be run will be the location where you copied the CDs. For example, if you copied all of the CDs to a directory named `Disk1`, the command would be `<Source Path>\Disk1\SAS\SETUP.EXE`

The command-line arguments to SAS Setup are the same, independent of the source path used above. Usage is shown below:

```
Usage: "... \SAS\SETUP.EXE" -s -f2"<full path to log file>"  
      -zquietfile?"<full path to quiet file>"
```

For example:

```
M:\MyNetDrive\SAS\Setup.exe -s -f2"C:\TEMP\QUIET.LOG"  
-zquietfile?"M:\MyNetDrive\SAS\quiet.ini"
```

Note: The `-f2` option specifies where the log file should be created. Use this switch to specify a valid location where you have write permission.

Without a valid location and write permission, Setup may terminate with no indication of failure.

This command can be used in the login script for your target users, in a Microsoft SMS package, or in any other method that allows it to be run on the end user's machine without requiring their presence.

Checking Status in Quiet Mode

Just as important as installing quietly is determining the success or failure of the Quiet Mode installation. While Quiet Mode is working, you can open your Windows Task Manager and view the Processes tab. If a Setup is running, you will see `IDriver.exe` and `setup.exe` among the processes.

After Quiet Mode finishes, SAS Setup provides the results of the Quiet Mode execution in two ways:

1. Log File specified with the `-f2` argument

Provides Quiet Mode success or failure code. Refer to [“Troubleshooting”](#) on page 17 for more information.

2. SAS Setup Log File

Provides a detailed account of the actions that were performed by the tool. This file is designed to assist with troubleshooting a Quiet Mode session.

The SAS Setup Log File in Quiet Mode

The log file provides you with much more detail about the actions that took place during the execution of the tool. This file is helpful when troubleshooting Quiet Mode.

A sample log file follows:

```
BEGIN: C:\DOCUME~1\sasxyx\LOCALS~1\Temp\{68624FB8-2512-46B5-9664-64366DCCB3EB}\SASSETUP.LOG
10-15-2003 19:08:00: SETUP: Running in quiet mode.
10-15-2003 19:08:00: -----
10-15-2003 19:08:00: VERSION: The SAS System 9.1 Setup v9.1.001
10-15-2003 19:08:07: DETECT: Start examining system
10-15-2003 19:08:07: VERSION: 10-15-2003 19:08:07
10-15-2003 19:08:07: SYSINFO: Pentium
10-15-2003 19:08:07: SYSINFO: FPU Detected
10-15-2003 19:08:07: VERSION: 5.1
10-15-2003 19:08:07: SYSINFO: Windows XP
10-15-2003 19:08:07: SYSINFO: NT WorkStation
10-15-2003 19:08:07: SYSINFO: XVGA - 1024x768
10-15-2003 19:08:07: SYSINFO: 65536 colors
10-15-2003 19:08:07: DETECT: Finished examining system
10-15-2003 19:08:13: ACTION: Setup Type PERSONAL
```

```
10-15-2003 19:08:13: CUSTDATA_PKG:ProcCustomerData: Begin processing
  SAS Installation Data: P:\9.1\Disk1\sas\core\sasinst\sid.txt
10-15-2003 19:08:13: CUSTDATA_PKG:ProcCustomerData: Processing
  indexfile.txt
10-15-2003 19:08:13: CUSTDATA_PKG:ProcCustomerData: Begin streaming
  file
10-15-2003 19:08:13: CUSTDATA_PKG:ProcCustomerData: End streaming file
10-15-2003 19:08:13: CUSTDATA_PKG:ProcCustomerData: Data streamed to
  file C:\DOCUME~1\sasxyx\LOCALS~1\Temp\{68624FB8-2512-46B5-9664-
  64366DCCB3EB}\.\indexfile.txt
10-15-2003 19:08:13: CUSTDATA_PKG:ProcCustomerData: Processing
  tletter.txt
10-15-2003 19:08:13: CUSTDATA_PKG:ProcCustomerData: Begin streaming
  file
10-15-2003 19:08:13: CUSTDATA_PKG:ProcCustomerData: End streaming file
10-15-2003 19:08:13: CUSTDATA_PKG:ProcCustomerData: Data streamed to
  file C:\DOCUME~1\sasxyx\LOCALS~1\Temp\{68624FB8-2512-46B5-9664-
  64366DCCB3EB}\.\tletter.txt
```

The SAS Setup log file is created after any SAS installation is performed, and is always named SASSETUP.LOG.

The SAS Setup log file can be found in the destination directory for the SAS software installation, if the installation succeeded. If the installation failed, SASSETUP.LOG will be found under the TEMP directory.

Part II: Installation and Deployment Instructions

Using the SAS 9.1 Foundation Installation Tools

For an administrator, there are many challenges in performing a large enterprise-wide deployment of system updates and SAS software. With SAS 9.1 Foundation Windows installation tools, you can overcome these challenges and meet the needs of end users. These tools include the SAS AutoPlay and SAS Setup.

Using the tools, you can perform all these installation roles:

- Deploy operating system updates and SAS software to thousands of machines quietly, using the software management system of your choice (SMS, Tivoli, network login script, etc).
- Support interactive Personal Users who will install a local image of SAS to their PC.
- The SAS AutoPlay provides direct access to the interactive functionality available in the installation tools.

Quiet Mode may be used with SAS Setup to install system components and SAS software without requiring a user to be present at the machine.

Using these tools together, you can meet the challenges of SAS deployment within your organization.

Using the SAS Setup Wizard

SAS Setup is a tool designed for the installation of SAS software on an end user's system.

Setup can be run from a "Client User" image to create SAS clients, or from the CD or "network location" to create a Personal copy of SAS.

Starting the SAS Setup Wizard

There are two ways to start the SAS Setup Wizard:

1. From the AutoPlay, choose Install SAS Software.
2. Launch the command `<drive>:SAS\setup.exe`

Three Ways to run SAS Setup

SAS Setup can be run in three ways to deploy SAS:

Interactive

This type of installation allows a user to follow a step-by-step approach with the help of the SAS Setup Wizard. The user reads questions on each Wizard window and the answers dictate how SAS will appear on their system. This type of installation results in a working SAS System on the system where it was run.

Record Mode

This type of Setup is designed for Administrators who want to deploy SAS using Quiet Mode. This Setup type gives an administrator the ability to generate and customize a Quiet Mode INI file that Setup can use to install SAS in an unattended fashion. No SAS files are copied during this type of installation. Only a single text file (Quiet Mode INI file) is generated.

Quiet Mode

This Setup type is driven by a Quiet Mode INI file, which contains information on how SAS should be installed on a system. An administrator can use Quiet Mode as a deployment tool to install SAS on any number of machines in an organization simultaneously without having to visit each one. The result of running SAS Setup in Quiet Mode is a fully functional SAS System.

More information is available in the chapters [Using SAS Setup in Quiet Mode](#) on page 15.

SAS Setup Wizard Dialogs

This section describes the steps required to install and run SAS. Administrators respond to the dialogs as each window is presented.

Most of the dialogs described below offer directions printed here in bold text. These represent the quickest method for deployment. Indented dialog descriptions represent windows that may not be a part of your installation.

All Setup windows are listed below according to the order in which SAS Setup presents them, with the exception of the dialogs that can appear more than once. These are grouped on page 14.

Read *Welcome to the SAS Setup Wizard*

Click Next.

Or, click Cancel to exit the SAS Setup Wizard.

Read *Retrieve SAS Installation Data*

Select Existing, unless you plan to specify a different file, or expect to provide the SAS Installation Data later.

Most users can use the network location provided by an administrator. However, if your SAS Installation Data is in a different location, select File to enter that location on the *SAS Installation Data* window. More information on that window can be found below.

Click Next.

Or, click Back to view the previous window, or click Cancel to exit Setup.

Read *SAS Installation Data*

Type the location of the file where your SAS Installation Data can be found, or click Browse to locate the file.

If the SAS Installation Data cannot be found in the location specified, you will receive an error message.

Click Next

Or, click Back to view the *Retrieve SAS Installation Data* window, or click Cancel to exit Setup.

Read *SAS Installation Data Not Found*, if Setup displays this window.

Click Okay

Read *Language Selections*, if Setup displays this window.

Click Select All to choose all the languages that are available to you, or select Clear All to deselect the chosen listings.

Click Next.

Or, click Back to view the previous window, or click Cancel to exit Setup.

Read *Default Language*, if Setup displays this window.

Click the box next to the language that you want to select for your default language. The window displays all the languages chosen on the *Language Selections* window.

Click Next.

Or, click Back to view the *Language Selections* window, or click Cancel to exit Setup.

Read *SAS Shared Files*, if Setup displays this window.

Some files that are installed by Setup are shared between multiple SAS products. Most users can use the location listed in the dialog. If your shared files are located in another folder, click Browse to specify the location of the shared files.

Click Next.

Or, click Back to view the previous window, or click Cancel to exit Setup.

Read *Choose Destination Location*

Click Next to install SAS in the destination folder listed in the dialog.
Or, click Browse to choose a different folder. Click Back to view the previous window, or click Cancel to exit Setup.

Read *Specify Data Files Folder*

By default, the Windows user profile directory is created in the location shown in this dialog. If you select this default choice for the Windows directory, multiple users can use SAS on the same computer.

Personal data folders are created automatically.

Click Next to accept the default directory, or click Browse to specify a different directory. Click Back to view the *Choose Destination Location* window, or click Cancel to exit Setup.

Read *Specify Temporary Files Folder*

As SAS processes your data, temporary files are created.

Click Next to select the folder listed in the dialog as the location for these temporary files.

Or, click Browse to specify a different folder. Click Back to view the *Specify Data Files Folder* window, or click Cancel to exit Setup.

Read *Select Components*

This window displays all the components that can be installed, so you can select the software for this installation.

Click Select Licensed Software to install all of the products indicated in your SAS Installation Data.

To make changes to the list, you can select components that you want to install, and deselect the components that you do not want to install.

Click Next.

Or, click Back to view the previous window, or click Cancel to exit Setup.

Read *Start Copying Files*

At this point in the installation, Setup has enough information to start copying the program files.

Click Next if you are satisfied with the settings.

Or, if you want to review or change any settings, click Back to return to the *Select Components* window.

Click Cancel to exit Setup.

There are two alternatives for the final dialog in the sequence:

Read *SAS Setup Complete* if Setup displays this window.

At this point, Setup has installed the SAS software. If you want to launch the SAS System now, click that checkbox. If you want to view the Post-Installation Guide now, click that checkbox.

Click Finish.

Read *SAS Setup Complete* if Setup displays this window.

At this point, Setup has copied all the required files to your computer. However, some files could not be updated because they are in use. These will be updated automatically when you reboot your computer.

Click on one of the two radio buttons:

- Yes, I want to restart my computer now.
- No, I will restart my computer later.

If you choose to reboot, close all open applications and remove any floppy disks from the disk drives.

Verify that all virus-scanning software has been disabled after the computer restarts.

Click Finish.

Dialogs Used More than Once in Setup

The following three dialogs appear as needed during SAS Setup Wizard procedures:

Read *Setup Status*

This dialog is displayed while Setup performs the requested operations. No action is required.

If you click Cancel, you will exit Setup, and the program will not be installed.

Read *Exit Setup*

Setup can be completed later, but if you quit Setup now, the program will not be installed.

Click No to resume Setup, or click Yes to quit.

Read *Choose Folder*

This window is used to browse for an available folder. Navigate through the nested folders until you find the correct one for your installation.

Click OK to select the folder.

Or, click Cancel to return to the previous window.

Using SAS Setup in Quiet Mode

Quiet Setup allows the selections for an installation to be made ahead of time and then used later when the SAS System is installed on other machines.

Using Quiet Setup can save system administrators a lot of time when they are installing software on multiple machines. Please follow the steps below and read the help dialogs before attempting to record an installation.

Considerations

The most common problem encountered during Quiet Setup is an out-of-space situation. Before beginning the setup, make sure there is enough free disk space on the machine where the SAS System is being installed.

Due to the nature of Quiet Setup, mistakes cannot be rectified immediately. Correcting errors involves updating the quiet data file and re-installing, which can be time-consuming.

Quiet Setup cannot recover from a reboot, so make sure each machine meets the minimum system requirements before attempting to run a Quiet Setup.

A Quiet record file can be generated by running the SAS System setup in Quiet Record mode. This will create a data file that can be used for any setup running in quiet mode.

Recording a Quiet Record File

Quiet Record mode creates a data file in a directory you specify that contains responses to any dialogs that may be presented during an interactive setup.

Submit the following command to begin recording a quiet record file:

```
<drive letter and full path to SAS setup.exe file>setup.exe -zrecord
```

For example: o:\SAS Server\9.1\sas\setup.exe -zrecord

Editing the Quiet Record File

This section explains each of the editable values in the quiet record file. Many of the values have standard defaults if they are left blank and each default is described below.

Do not edit any settings below the warning line. If you want to change the selected components while in Record Mode, click the Back button to return to the *Select Components* dialog and make new selections. Otherwise, you must record a new quiet record file to change these settings. Changes made to this information by any other means could invalidate the quiet record file.

Silent Options

ReplaceRegistryKeys=Yes/No

This value is used to indicate if file extensions should be registered for the current version of SAS that is being installed. This would only apply if an earlier version of SAS was installed on the computer.

Retrieve SAS Installation Data

Method=Existing/File

This value indicates where the setup should retrieve SAS Installation Data. The more common setting is Existing, since this data is retrieved when the SAS Server image is created.

SAS Installation Data

File=

This value refers to the location where the SAS Installation Data file was saved. It should be set only if the Retrieve SAS Installation Data Method was set to "File."

Language Values

The following language codes are used to select which languages to install and to indicate the default language:

- 1d=English with DBCS support
- cs=Czech
- de=German
- en=English
- es=Spanish (Castilian)
- fr=French
- hu=Hungarian
- it=Italian
- ja=Japanese
- ko=Korean
- pl=Polish
- ru=Russian
- sv=Swedish
- zh=Chinese (Simplified)

Language Selections

Language1=??

Language2=??

...

Each selected language must be listed on a separate line using the format: *LanguageX=??*. *X* is a sequential number starting at 1, and *??* is the two-character language code for the selected language.

Default Language

Default=??

The two-character language code is used to specify a single default language.

Destination Location

Location=

This is the location where SAS will be installed. If this value is left blank, Setup will use the default location under Program Files. If this value is set to a drive letter that does not exist on the target computer, Setup will abort.

Data Files Folder

Folder=

This is the location where personal user data files will be stored. If this value is left blank, Setup will use a default location in the user's Local Settings area.

Temporary Files Folder

Folder=

This is the location where temporary files will be stored. If this value is left blank, Setup will use a default location in the user's temporary location.

Using a Quiet Record File

To use a previously generated quiet record file to run a Quiet Setup, run the following command from the SAS directory:

```
<drive letter and full path to SAS setup.exe  
file>setup.exe -s  
-f2<drive letter and full path to the log file>  
-zquietfile?<drive letter and full path to the quiet file>
```

Example:

```
"o:\SAS Server\9.1\Disk1\sas\setup.exe" -s  
-f2c:\temp\quiet.log  
-zquietfile?"o:\SAS Server\9.1\Disk1\sas\quiet.ini"
```

When using a quiet record file, it is important to force the creation of a log file. Without a log file, the quiet installation may fail. Create the log file by using the `-f2` option as follows:

```
setup -s -f2<path and filename of the log file>
```

The `f2` option specifies where the log file should be created. Use this switch to specify a valid location where you have write permission. Without a valid location and write permission, the Quiet Record process may terminate with no indication of failure.

Troubleshooting

Check to make sure that there is no space between `-f2` and the next argument.

The log will help in the troubleshooting of failed installations as it will display a ResponseResult code. Common ResponseResult codes are as follows:

0	Success
-1	General error
-2	Invalid mode
-4	Not enough memory available
-5	File does not exist
-7	Unable to write to the log file
-51	Cannot create the specified folder
-52	Cannot access the specified file or folder

Renewing Your SAS Software

SAS software is licensed on a calendar basis. In order to run each software product, you must supply SAS Installation Data, which includes information about the software in your license (SETINIT) and other installation process customization parameters. You must update your SAS Installation Data if the license period has expired or you have changed the SAS software included in the license.

SAS Installation Data

When your organization orders SAS software or renews the SAS software license, your designated installation representative receives an e-mail from SAS that includes a single text file attachment. This attachment contains your SAS Installation Data, along with instructions about saving the data to disk. It is recommended that you save this e-mail and attachment on your hard drive, or to another location that is backed up regularly.

Some organizations use the Internet to retrieve SAS Installation Data. In either case, you will not be able to perform a SAS 9.1 Foundation installation without this data.

The SAS Installation Data File is commonly saved as `sas91_XXXXXX.txt` in `My Documents`. After you save the data to disk, the `File` option can be used during installation to provide the data's disk location. Alternatively, the `Renew SAS Software` tool can be used if your organization already has SAS software installed.

The Renew SAS Software Tool

Note: The `Renew SAS Software` tool can be used to update Personal images only.

Running the Tool

The `Renew SAS Software` tool validates the SAS Installation Data file to ensure that it contains valid information about the software in your license (SETINIT) and other installation process customization parameters. To begin, click `Start > Programs (or All Programs on WinXP) > SAS > SAS 9.1 Utilities > Renew SAS Software`.

If the `Renew SAS Software` tool cannot be reached from the Start menu, there are two other ways to reach it:

1. Open Windows Explorer (Click on the `Start` button, select `run` from the menu and type `Explorer`). Go to the following directory:
`!sasroot\core\sasinst\sasrenew`. Double-click on `sasrenew.exe` to start the `Renew SAS Software` tool.

2. Insert the **Software Disk 1** CD and go to the following directory:
`<CD Drive>:\sas\core\sasinst\sasrenew`. Double-click on `sasrenew.exe` to start the Renew SAS Software tool.

In either case, the default location for the `!sasroot` directory is
`C:\Program Files\SAS\SAS 9.1.`

Renew SAS Software Windows

Type the pathname in the SAS Installation Data File field.

Or, click **Browse** to select the file.

Click **Next** to move to Step 2.

Or, click **Cancel** to exit Renew SAS Software.

The Step 2 window lists all the available SETINITs in the SAS Installation Data File. In most cases, there will only be one available.

Confirm that the SETINIT is correct for the system you are updating.

Click **Next** to move to Step 3.

Or, click **Back** to view Step 1, or click **Cancel** to exit Renew SAS Software.

There are two fields to complete in Step 3: The first field shows where SAS 9.1 Foundation was installed, and the second field shows the location of the SAS config file. The default location for SAS 9.1 Foundation is

`C:\Program Files\SAS\SAS System\9.1.`

The default location for the SAS config file is the same as your SAS installation folder, so the second field in this window is grayed out. If your SAS installation and your SAS config file are stored in separate locations, uncheck the “Same as above” checkbox and enter the appropriate config file location in the second field.

Click **Renew** when you are satisfied with locations listed in the two fields.

Or, click **Browse** to select other locations, or click **Back** to view Step 2, or click **Cancel** to exit Renew SAS Software.

In the next window, the Renew SAS Software tool displays either a message that indicates success, or one that refers you to a log file so you can diagnose any problems.

Troubleshooting

If you receive the error message

`The SAS config folder is not valid. Please verify the folder.`

Click **OK**, and then recheck the “Same as above” checkbox on the Step 3 window. Click **Renew** again.

Installing the SAS System on a Windows Terminal Server

Introduction

Since the introduction of Terminal Services in Windows NT Server 4.0 Terminal Server Edition, it has become more important for a single enterprise server to have the ability to support separate instances of an application by multiple remote users. When a user is running an application in a Terminal Server Client session, the application executes on the server running Terminal Services. Terminal Services allow connections via a thin client to a server desktop. The user interface, such as keyboard input and the application window, is managed on the client and communicated to the Terminal Server.

SAS System Licensing for Terminal Services

You must have the appropriate server class authorization code to install the SAS System on a server with Terminal Services. This is required because all processing of SAS and all data access originates on the server.

SAS System Support for Terminal Services

The SAS System provides support for Terminal Services by using a unique data files folder and temporary files folder for each SAS user. The SAS System references these locations in the configuration file, `sasv9.cfg`, with the identifiers `SASUSER` and `WORK` respectively. The identifiers contain a variable path for the `SASUSER` and `WORK` file locations. During the invocation of the SAS System, these variables are determined by the operating system and will be unique for each SAS user. In previous releases of the SAS System, the `SASUSER` location has been set to a variable path like the example below:

```
/* Setup the default SAS System user profile folder          */
-SASUSER "!USERPROFILE\Personal\My SAS Files\V9"
```

`!USERPROFILE` points to the environment variable `USERPROFILE`. You can view the value of `USERPROFILE` by typing `set USERPROFILE` at a Windows NT command shell (`cmd.exe`).

In order to adequately support new versions of Windows Terminal Server such as Windows 2000, `?CSIDL_PERSONAL` has replaced `!USERPROFILE`. Although `!USERPROFILE` is still recognized by SAS, it is not recommended for Windows 2000 Server Family Terminal Services. The variable path `?CSIDL_PERSONAL` points to the value stored in the following registry key:

```
HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion
\Explorer\Shell Folders\Personal
```

In this release, `SASUSER` will be configured similar to the example below:

```
/* Setup the default SAS System user profile folder          */
-SASUSER "?CSIDL_PERSONAL\Personal\My SAS Files\V9"
```

The SAS user's work location, `WORK`, is defined in the configuration file by using the variable path `!TEMP`. This variable points to the environment variable path `TEMP` determined by the Terminal Server operating system and will be unique for each concurrent Terminal Server session.

SAS System Setup will make the necessary changes to `sasv9.cfg` to support Terminal Services based on the detection of Terminal Services and the user's selections for unique data files and temporary files folders.

SAS System Requirements for Microsoft Windows Terminal Services

Be sure to follow the hardware and software requirements for each Terminal Services platform before installing the SAS System. Microsoft Windows Terminal services require Microsoft Windows NT Server 4.0 Terminal Server edition with Service Pack 4.

Preparing for SAS System Setup in a Terminal Server Environment

To properly install the SAS System on a server with Terminal Services, the following steps must be performed:

1. Log on as an administrator to the Terminal Server to which the SAS System will be installed.
2. Install mode is required for installing applications on Windows Terminal Servers. There are two ways to place the system in install mode:
 - The first method is to use the Add/Remove Programs Control Panel icon and select `Install`. You will be asked to change the user option. Be sure to select the option that allows all users to begin with common application settings.
 - The second method is to type `change user /install` at a Windows NT command prompt (`cmd.exe`). A message will inform you if the install mode is set correctly.
3. Installation of the SAS System on Terminal Servers may require system reboots. In order to minimize user interruption, ***have all users log off of the terminal server before installation***. A remote terminal session can be used to install SAS software to a Terminal Server, but it is not a recommended practice due to the potential for reboots.

SAS Technical Support strongly recommends that you shut down all programs, including virus-scanning programs, before proceeding with this

installation. Keeping a virus-scanning program running increases the possibility that one or more reinstallations of SAS software will be necessary.

If a reboot is required, you will have to reestablish the connection to the Terminal Server after the reboot is complete. After logging on to the Terminal Server session, the SAS System Setup should restart and continue the installation. If the setup does not restart, start the SAS System Setup and it will resume where it left off before the reboot.

Installing the SAS System

Installing the SAS System on a server with Terminal Services is very similar to installing SAS on any server. The key differences are managed by the install, including configuring the SAS System for a Terminal Services environment. There are several important steps to follow during the install:

1. When the Setup prompts for the Data Files Folder, be sure to accept the default value provided by Setup. By accepting the default value for this dialog, Setup will be instructed to use a variable path for the `SASUSER` location in the configuration file, ensuring a separate `SASUSER` folder for each user of SAS.
2. When the Setup prompts for the Temporary Files Folder, be sure to accept the default value provided by Setup. By accepting the default value for this dialog, Setup will be instructed to use a variable path for the `WORK` location in the configuration file, ensuring a separate `WORK` folder for each user of SAS.

Note if the SAS System will be installed on a server that has had SAS 9.1 Foundation installed before, the `SASUSER` and `WORK` locations will default to the previously selected values stored in the registry. These may not be the correct locations to ensure a separate `SASUSER` and `WORK` folder. The `sasv9.cfg` file can be modified after the install to correct for this. Refer to the section [SAS System Support for Terminal Services](#) on page 20 to correct `sasv9.cfg`.

Configuration and Performance Considerations

The following are additional steps to perform after installing the SAS System on a server with Terminal Services.

1. For optimal SAS System performance, it is recommended that the server have at least 32Mb of memory available per concurrent user.
2. You can increase this amount based on the number of Terminal Server Client sessions running the SAS System and the amount of available memory on the server with Terminal Services.

The WORK Directory

The WORK directory can be set to a common location because a work subdirectory is created for each SAS session that is a unique name. The WORK directory can also have the specifications `?CSIDL_PERSONAL` or `!USERPROFILE`. This is an option if you wish to keep track of which work directories belong to specific users.

This configuration is also useful if your users are spread across multiple drives and you have a significant amount of hard drive space on each drive. The amount of drive spin is reduced, which is a key factor in performance. If drive space is at a premium or if you have very fast hard drives, then a common work directory may be to your advantage.

Your choice of strategy will depend on your computer hardware and your RAID settings. For example, a RAID 0 drive is much faster than a comparable RAID 5 drive, but may not be as fast as spreading the work directories across multiple drives. You should not place any permanent data sets on a RAID 0 drive because these drives have no redundancy.

Memory

Since memory is important in performance, the system should have as much as possible. Memory is much faster than your hard drive in manipulating temporary files and other system operations. When computer memory is exhausted, the operating system is forced to use a swap file on your hard drive to store information read into memory. Therefore, increasing memory can increase performance a great deal.

As your user community increases on the server, more memory will be consumed. Prepare for this by making sure the machine has plenty of upgrade capability.

How to Remove or Uninstall SAS Software

For an end user, the process of removing or uninstalling SAS software works just as it does for any other Windows software. The user clicks on My Computer, then Control Panel, and then Add/Remove Programs. Select "SAS 9.1" from the list to remove SAS from your computer.

For a server installation, there is no similar automated way to remove SAS software. The directory containing the server installation must be deleted. Since no registry keys are created, the files are the only items that have to be removed.



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