

Paper 278-27

Enterprise-Wide Deployment of Windows SAS® Using SAS® Installation Technologies

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ABSTRACT

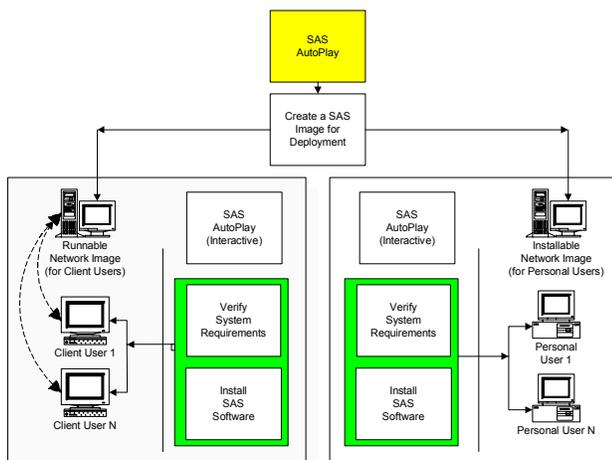
This paper is intended for administrators who are responsible for deploying SAS® software throughout a large enterprise on the Windows platform. The discussion addresses Version 9 Windows SAS installation tools and their use in distributed deployment to a large number of machines within the enterprise.

INTRODUCTION

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.

Here we will discuss the use of the Version 9 Windows SAS installation tools to solve these problems within your enterprise. The Version 9 SAS installation toolset includes the SAS AutoPlay, the SAS Administrator Wizard, the System Requirements Wizard, 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).

For your reference, the flow of how these installation tools are used is included in the diagram below:



As we discuss each step in the deployment process, we will highlight the appropriate section of the process diagram, as we have done with the SAS AutoPlay above..

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, installation verification tests, the Install Center, and SAS Technical Support. Moving your mouse over each AutoPlay option brings up a description of the tool that will be launched by that option.



ACCESSING THE ONLINE DOCUMENTATION

In Version 9, the installation documentation is provided on the Setup Disk in printable Adobe PDF format, and is divided into three documents focused at different audiences.

As an administrator, you will be most interested in the *Administrator Guide*, which is accessible from the AutoPlay by selecting the *View Administrator Guide* option.

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 this document.

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 notebook (as well as other useful installation-related information), you can visit the SAS Install Center by choosing the *Visit SAS* option.

PLANNING: CLASSIFYING YOUR END USERS

Before deploying SAS software, you should identify the various classes of end users that you will support.

End users can be divided into three classes:

- Client Users

Client users install a minimal set of components on their local PCs, but run the majority of their SAS Software from a network image that you create.

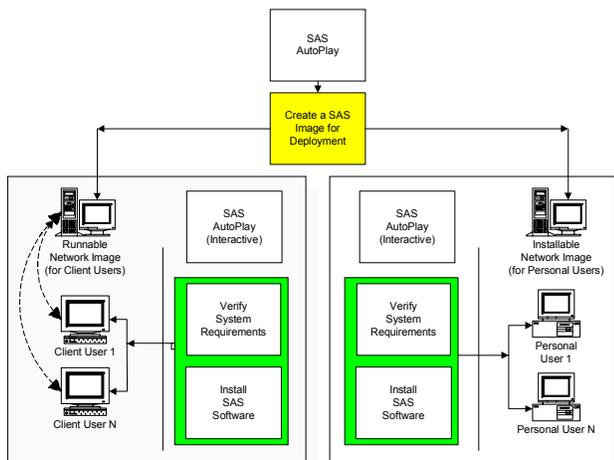
- Personal Users with Network Access

Personal Users with network access are users who install all SAS software that they will use on their local PCs from a network image that you create.

- Personal Users without Network Access

Personal Users who do not have access to the network must install all SAS software that they will use on their local PCs using their own set of CDs.

THE SAS ADMINISTRATOR WIZARD™



The SAS Administrator Wizard is accessible from the AutoPlay by selecting the *Create a SAS Image for Deployment* option. You can also access this wizard by running

```
<CD Drive>:\SAS\SETUP.EXE
```

With the SAS Administrator Wizard, you will be able to perform the following tasks:

- Retrieve Site Installation Data

Use your Internet connection to connect to SAS.COM and retrieve your Site Installation Data. Site Installation Data includes your SETINIT and parameters that customize the installation process to reflect the software you have licensed.

- Support Client SAS Users

Create a network image, which will act as a fileserver, from which your end users will **run** SAS. You can use the SAS Administrator Wizard to customize this image so that end users have access to only the software that you select. You can use this image later to quietly prepare end user PCs to run SAS from this image.

- Support Personal SAS Users

Create a network image, which will act as an installation point, from which your end users will **install** SAS on their local PCs. You can use the SAS Administrator Wizard to customize this image so that end users will be able to install only the software that you select. You can also use this image later to quietly install SAS locally on end user PCs.

This image will also contain virtual CD images. You can use your favorite CD burning software to burn these CD images. This allows you to create installation CDs for end users who do not have network access.

You will always use the SAS Administrator Wizard interactively to perform one or more of the above tasks. These tasks produce the foundational images used to support deployment of the software in your enterprise.

The following sections cover use of the wizard to carry out these tasks.

SAS ADMINISTRATOR WIZARD: RETRIEVING AND USING SITE INSTALLATION DATA

Site Installation Data includes your company's SETINIT and installation process customization parameters. Site Installation Data is required to install SAS Software. You can retrieve your Site Installation Data via the Internet or from a Folder (if, for example, you previously saved Site Installation Data that you received via email).

While running the SAS Administrator Wizard, you will be asked to retrieve your Site Installation Data using one of the above methods. You will be presented with a dialog as follows:



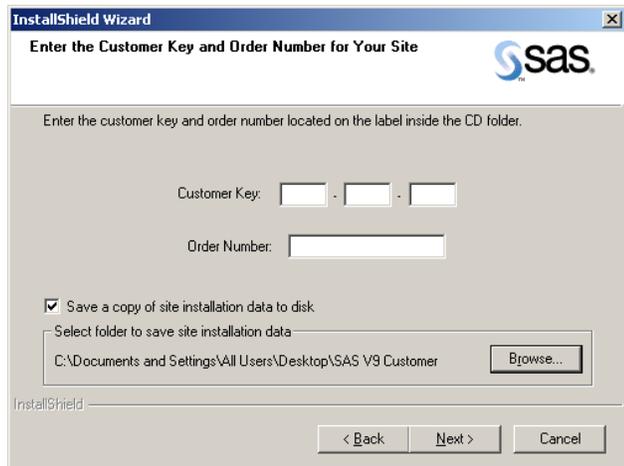
It is generally recommended that you retrieve Site Installation Data using your Internet connection.

As an alternative to the Internet option, the *Folder* option allows you to retrieve Site Installation Data from a disk location.

At the time of your SAS software order, your designated installation representative is sent an email from SAS including a single text file attachment. This attachment contains your Site Installation Data, along with instructions about saving the data to disk. After saving the data to disk, the Folder option can be used to provide the disk location for obtaining Site Installation Data.

For the purposes of this discussion, we will use the Internet option. If you choose this method, then the SAS Administrator Wizard will prompt you for your Customer Key and Order Number. The wizard will use Secure Sockets Layer (SSL) to securely connect to SAS.COM and retrieve the text-only data. This is a

direct connection from the wizard to SAS.COM, and does not require a browser.

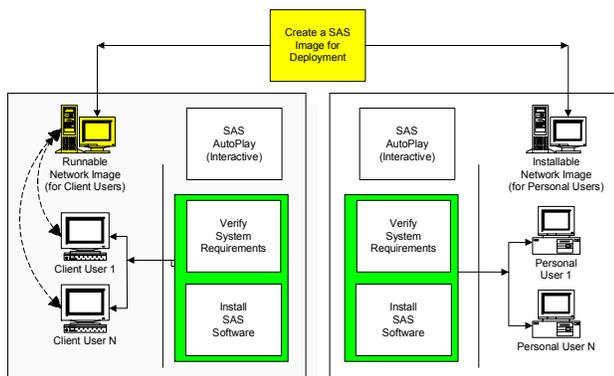


The Customer Key and Order Number are required to connect to SAS.COM. You have the option of selecting the checkbox to save a copy of your Site Installation Data to disk. This method is useful if you would like to use this Site Installation Data at a later date, but you will not be able to connect to the Internet to retrieve it again.

As you proceed through the SAS Administrator Wizard, the wizard will integrate the Site Installation Data you have just downloaded into the network images you create. This allows your end user installations to also be customized with the same Site Installation Data.

Now that you have Site Installation Data in hand, you can begin to create the appropriate network image(s) to support your end users.

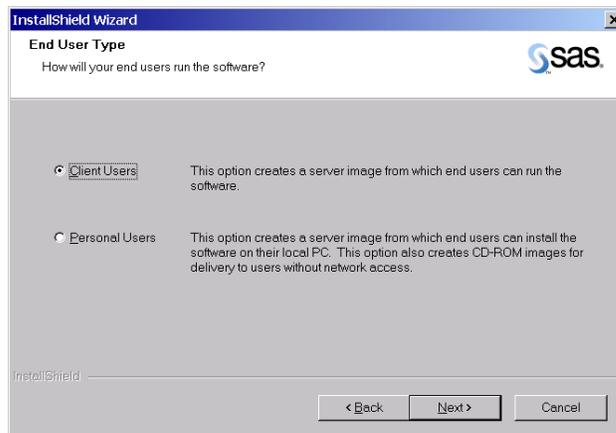
SAS ADMINISTRATOR WIZARD: CREATING AN IMAGE FOR CLIENT USERS



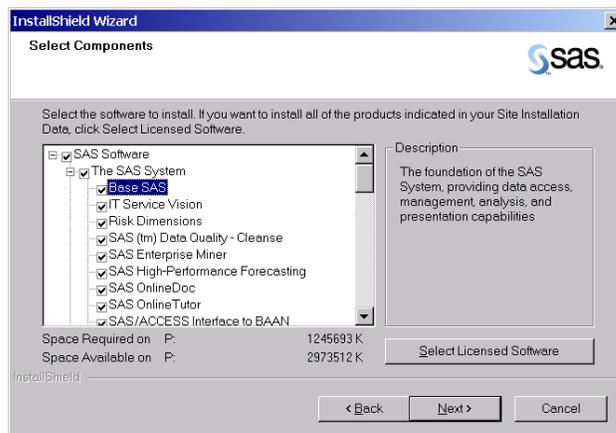
This section assumes that you have retrieved Site Installation Data. The material here describes the creation of a network image to support Client Users.

Client Users are users of SAS Software who will run the majority of SAS from a network image that you create. These users require a minimal installation using *SAS Setup*, and only a small number of components are copied to their local PCs. (If your end users will install the software to their local PCs, see the sections later in this document on Creating an Image for Personal Users).

The SAS Administrator Wizard includes a prompt for specifying your *End User Type*.



You should select *Client Users* on this dialog, and continue to the Select Components dialog.



From the Select Components dialog, you are able to specify the software that your client users will run from the network image. In this way, you can limit the software that your client users are able to run.

The *Select Licensed Software* button uses your Site Installation Data to determine the software that you are licensed for, and will select those components for your convenience.

It is possible to install software for which you are not currently licensed. You may choose to do this if you anticipate licensing additional software in the future.

Once you have selected the desired software, follow the screen dialogs to the end of the SAS Administrator Wizard. The wizard will apply the SETINIT contained in your Site Installation Data to prepare the network image for running the SAS Software.

At this point, you have created a network image that is capable of supporting your Client Users with the software mix that you have placed into the image.

From this image, the System Requirements Wizard will be used to prepare your end user machines for SAS Software. *SAS Setup* will also be used from this image to perform the minimal installation on the client user's PC.

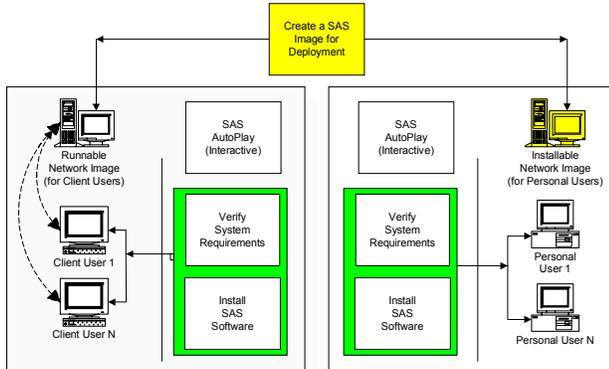
Users who will use this image to install *interactively* should be instructed to run the AutoPlay from the image you have just created by running:

```
<Source Path>\Setup.exe
```

Where *Source Path* is the destination you provided when you created the image.

For more information about the process of installing interactively, refer your users to the *View User Installation Guide* option from the AutoPlay.

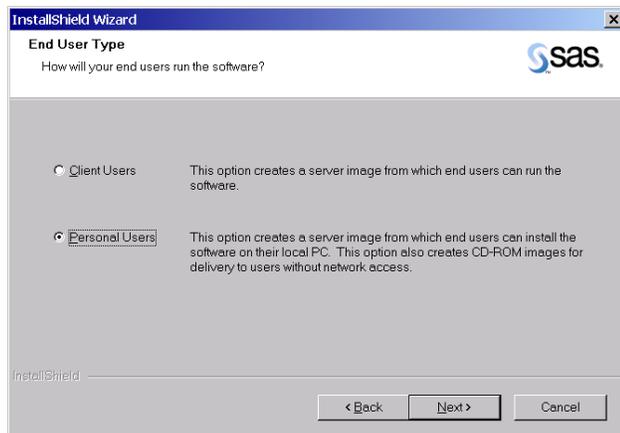
SAS ADMINISTRATOR WIZARD: CREATING AN IMAGE FOR PERSONAL USERS



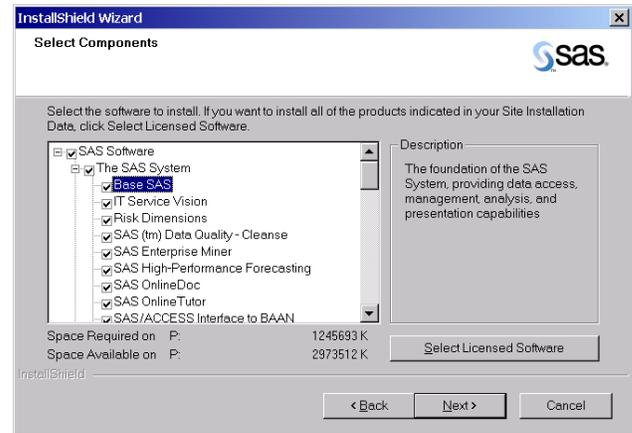
This section assumes that you have retrieved Site Installation Data. The material here describes the creating of a network image to support Personal Users.

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 the earlier section in this document on Creating an Image for Client Users).

The SAS Administrator Wizard includes a prompt for specifying your *End User Type*.



You should select *Personal Users* on this dialog, and continue to the Select Components dialog.



From the Select Components dialog, you are able to specify the software that your Personal Users will be able to install from the network image you are creating. This allows you to limit the software you want users to have access to.

The *Select Licensed Software* button uses your Site Installation Data to determine the software that you are licensed for, and will select those components for your convenience.

It is possible to install software for which you are not currently licensed. You may choose to do this if you anticipate licensing additional software in the future.

Once you have selected the desired software, follow the screen dialogs to the end of the SAS Administrator Wizard.

At this point, you have created a network image from which the components you have selected can be installed on your end users local PCs.

From this image, the System Requirements Wizard will be used to prepare your end user machines for SAS Software. SAS Setup will then be used from this image to install the software locally on the end user's PC.

Users who will use this image to install *interactively* should be instructed to run the AutoPlay from the image you have just created by running:

```
<Source Path>\Disk1\Setup.exe
```

Where *Source Path* is the destination you provided when you created the image. Note that *Disk1* in the path above is only present when your end users are installing SAS locally.

For more information on the process of installing interactively, refer your users to the *View User Installation Guide* option from the AutoPlay.

SAS ADMINISTRATOR WIZARD: CREATING CDS FOR PERSONAL USERS WITHOUT NETWORK ACCESS

For users that are not connected to the network, you may want to create installation CDs. These CDs will allow you to limit the software that the user is able to install and include the Site Installation Data that you have downloaded from SAS.

The SAS Administrator Wizard automatically creates CD images on the network when the End User Type that you select is *Personal User*. (See the prior section, *SAS ADMINISTRATOR WIZARD: CREATING AN IMAGE FOR PERSONAL USERS* for information on how to create this image on the network.)

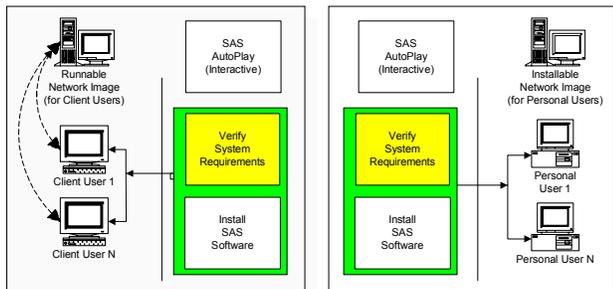
From the image you have created for Personal Users, you will find a folder structure as follows:



The Disk* folders contain the contents of each disk that you will need to create using your favorite CD burning software. The contents of each Disk folder should be burned to CD, but not the actual Disk folder itself. Depending upon the software you selected when creating your network image, some of the Disk folders may not be present in your image.

The **CDLabel.txt** file contains descriptions of the CDs represented by each Disk, so that you can label them appropriately as you burn them. It is recommended that you print a copy of this file for your reference.

THE SYSTEM REQUIREMENTS WIZARD™



The System Requirements Wizard must be run on every machine prior to the installation of SAS Software. This wizard ensures that the machine meets the minimum system requirements for the software by performing the following tasks:

- Analyzes the PC to determine deficiencies in system software
- Reports on system software deficiencies
- Updates system software to the minimum required level
- Reboots the system between updates as necessary
- Optionally supports Autologon, eliminating the need for users to manually logon between each reboot (for more information on AutoLogon, refer to Microsoft Knowledge Base Articles #Q310584, #Q97597, and #Q234572.)

The System Requirements Wizard may be run in one of two modes:

- **Interactive Mode**
Requires a user to be present to respond to prompts.
- **Quiet Mode**

Does not require a user to be present at the machine. This mode can be useful when used in a login script, in conjunction with management packages such as Microsoft SMS, Tivoli, or with any other in-house

solution used for managing software on your enterprise PCs.

The next section covers interactive use of the System Requirements Wizard and will familiarize you with the prompts a user would normally encounter. Following this, automation of the responses to these prompts is covered. This automation allows the wizard to be used quietly. For large-scale enterprise deployment, quiet mode is highly recommended.

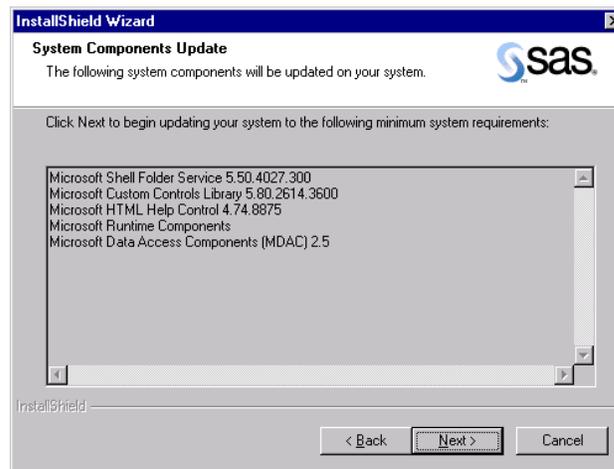
SYSTEM REQUIREMENTS WIZARD: INTERACTIVE USE

The System Requirements Wizard is accessible for interactive use from the AutoPlay by selecting the *Verify System Requirements* option. This wizard can also be run by one of the following commands, depending upon your end user:

Client Users: <Source Path>\SRW\SETUP.EXE
 Personal Users: <Source Path>\Disk1\SRW\SETUP.EXE
 CD-ROM Users: <CD Drive>\SRW\SETUP.EXE

Where *Source Path* is the network location you specified when using the SAS Administrator Wizard to create the network image.

Once the wizard has examined the system, it will display a list of system components that require updating as follows:



If the system meets the minimum system requirements, the wizard will display a message to that effect, and will not perform any updates.

If updates are required, it is likely that one or more reboots may be required to update components that are in use by the operating system. Rebooting the system is the only way to reliably release the in-use files to update them, and is agreeably an inconvenience. To minimize user interaction during reboots, the System Requirements Wizard supports Auto Logon.

Auto Logon temporarily stores a valid User ID and Password in the Windows Registry during reboots. This User ID and Password combination is used to automatically log on to the system between any required reboots, and is cleared from the registry after each logon. As the wizard requires additional reboots, the combination is used again. After the final reboot, the User ID and Password is no longer present in the Windows Registry (for more information on Auto Logon, refer to Microsoft Knowledge Base Articles #Q310584, #Q97597, and #Q234572.)

The System Requirements Wizard will prompt as follows for your Auto Logon credentials:



If you want to use Auto Logon, you must specify a password here. If you do not wish to use the Auto Logon feature, you may simply click Next on this dialog, leaving the User ID and Password fields blank. A blank password disables the Auto Logon feature.

The wizard will perform the appropriate system updates, and reboot the machine as necessary. If you did not use the Auto Logon feature, a manual logon will be necessary between reboots.

Once the system meets the minimum system requirements, the wizard will display a Finish dialog with a message to this effect.

SYSTEM REQUIREMENTS WIZARD: QUIET MODE

For large-scale enterprise deployment, it is necessary to update system components without the presence of an administrator or user at each machine. To meet this need, the System Requirements Wizard supports *Quiet Mode*.

Quiet mode enables you to provide all of the responses that would normally be supplied to the wizard when running interactively, but without the presence of a user. To familiarize yourself with the prompts the wizard would normally present to the user, review the section above, SYSTEM REQUIREMENTS WIZARD: INTERACTIVE USE.

To run the System Requirements Wizard in quiet mode, a single command-line must be run *on the machine for which you want to update the system requirements*.

The source path of the command to be run will vary, depending upon your end user:

```
Client Users:    <Source Path>\SRW\SETUP.EXE
Personal Users: <Source Path>\Disk1\SRW\SETUP.EXE
```

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

```
Usage:  ....\SRW\SETUP.EXE -s
        -f2"<LogFile>" "QuietLog:<LogFile>"
        "LogFile:<Full Path To Detailed LogFile>"
        ["AutoID:MyUserID" "AutoPwd:MyPassword"
        "AutoDomain:MyDomain"]
```

For example:

```
M:\MyNetDrive\SRW\Setup.exe -s
-f2"C:\Temp\Log.txt" "QuietLog:C:\Temp\Log.txt"
"LogFile:C:\Temp\DetailedLog.txt"
"AutoID:JohnDoe" "AutoPwd:Jane"
"AutoDomain:DoeCompany"
```

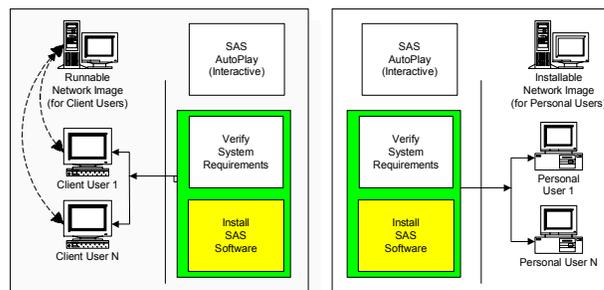
Note that, while the Auto* arguments are optional, omitting them will result in the wizard not continuing to completion until someone manually logs onto the machine.

Note also that the *-f2* and *QuietLog* options must be a complete path, and must be specified twice. This log file contains a log of dialog flow responses, and although it must be specified, in general can be ignored.

The *LogFile* option, on the other hand, is very important and is used to specify where the detailed log of the quiet installation should be placed.

This command can be used in the login script for your target users, in a Microsoft SMS package, or in any other way that results in it being run on the end users machine without requiring their presence.

SAS SETUP™



SAS Setup performs the actual installation of the software, and must be run on every machine where the SAS Software will run, even if the machine will be running the majority of the software from a network image (as is the case for your client users).

SAS Setup may be run in one of three modes:

- **Interactive Mode**
Requires a user to be present to respond to prompts.
- **Record Mode**
Prepares a response file for use with quiet mode. This mode is run by the administrator, and interactively records the component selections into the quiet mode response file. Record mode defaults all other responses, and allows the administrator to edit these directly in the response file.
- **Quiet Mode**
Uses a quiet mode response file (created with 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 such as Microsoft SMS, Tivoli, or with any other in-house solution used for managing software on your enterprise PCs.

First, we will cover interactive use of SAS Setup, to familiarize you with the prompts a user would normally encounter. Then, we will discuss 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.

SAS SETUP: INTERACTIVE USE

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 upon your end user:

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

Where *Source Path* is the network location you specified when using the SAS Administrator Wizard to create the network image.

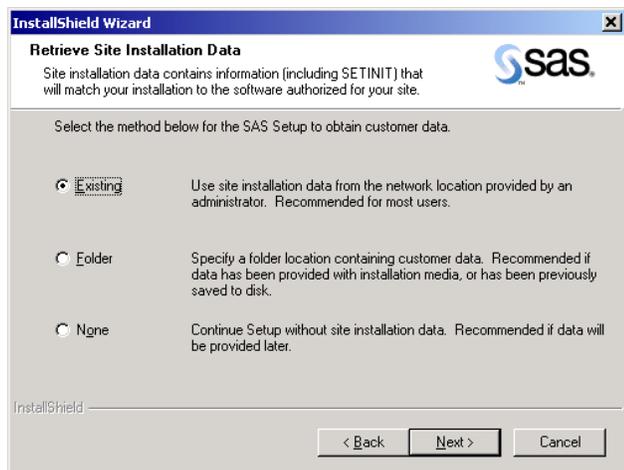
Here we will not cover every dialog a user will encounter, but will focus on some of the more important ones.

SAS SETUP: PROVIDING SITE INSTALLATION DATA

This section applies only to users installing the software locally (either from a network image you have created or from CD-ROM). Client users will not see the prompts in this section.

Site 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 Site Installation Data needed to complete the installation.

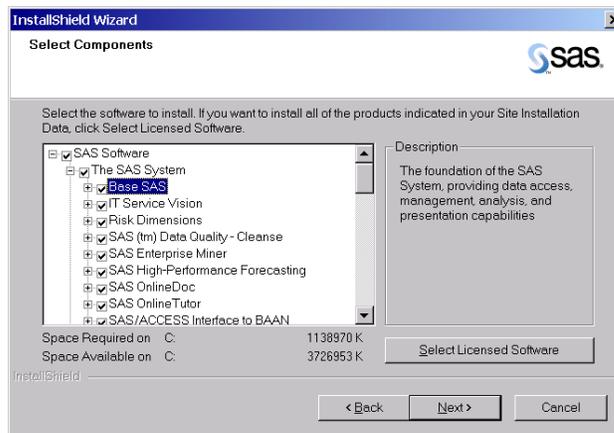
When you created the network image using the SAS Administrator Wizard, the Site Installation Data you provided (either via the Internet, or via the saved email attachment) was integrated into the installation image. In the case of your CD-ROM users, the data was integrated into the CD-ROMs you created. As a result, when your end users run SAS Setup interactively, they will be prompted with the following options for retrieving Site Installation Data for their installation:



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

SAS SETUP: SELECTING SOFTWARE TO INSTALL

Users will be prompted for the software to install only if they are installing the software locally. In this case, they will have an opportunity to select from the software that you placed in the network image.



From the Select Components dialog, the interactive user is able to specify the software that he would like to install to his local machine.

The *Select Licensed Software* button uses the Site Installation Data that you provided to determine the software that is licensed, and pre-selects those components for the convenience of the user. 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.

If your end users are running SAS Setup from an image created for Client Users, they will not be prompted to select software to install, but will have access to the software that you placed in the network image when you created it. Only a minimal set of required components will be installed locally on their machine.

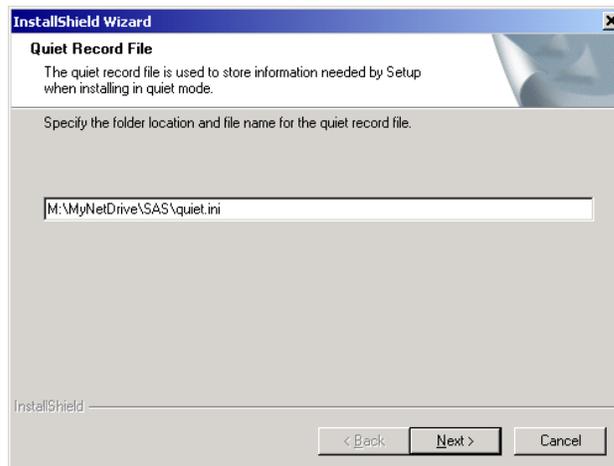
SAS SETUP: RECORD MODE

Unlike the System Requirements Wizard, 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 one of the following commands (without the parenthetical comment), depending upon your end user:

Client Users: <Source Path>\SAS\SETUP.EXE record
 Personal Users: <Source Path>\Disk1\SAS\SETUP.EXE record

SAS Setup will prompt you for the location to place your quiet mode response file:

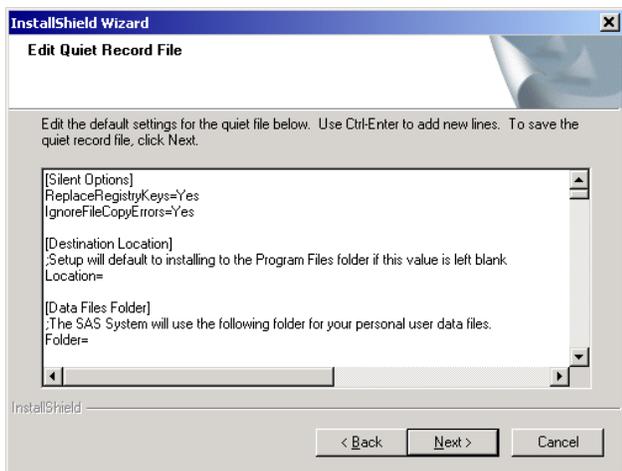


It is recommended that you choose the default, which places the file in the main directory of the network image you will be installing from. Remember this response file location, as it will be needed for running SAS Setup in quiet mode.

You will then be prompted to select the software components that you would like for this response file to select during quiet mode. Refer to the earlier section in this document, *SAS SETUP: SELECTING SOFTWARE TO INSTALL*.

SAS SETUP: RECORD MODE: EDITING THE RESPONSE FILE

After selecting the software to install, SAS Setup will present you with the quiet mode response file it has created for you:



The response file presented here contains the software you have selected, and every other possible response the final install may need to provide. It is important that you review this file completely. For example, you may want to change the default destination path where the software will be installed.

After you have finished editing the response file and click Next, record mode will finish. (If you prefer, you can complete record mode, and edit the file in your favorite editor later.)

You now have a quiet mode response file for use with quiet mode, which we will discuss next.

SAS SETUP: QUIET MODE

For large-scale enterprise deployment, it is necessary that software be installed without the presence of an administrator or user at each machine. 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 above, *SAS SETUP: INTERACTIVE USE*.

To run SAS Setup in quiet mode, a quiet mode response 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 vary, depending upon your end user:

Client Users: <Source Path>\SAS\SETUP.EXE
Personal Users: <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
       quietfile="<full path to quiet file>"
       -f2"<full path to log file>"
```

For example:

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

Note that the `-f2` option in this case is required. The log file will allow you to later determine the success or failure of the quiet installation.

This command can be used in the login script for your target users, in a Microsoft SMS package, or in any other way that results in it being run on the end users machine without requiring their presence.

QUIET MODE: CHECKING STATUS

Just as important as installing quietly is being able to determine the success or failure of the quiet mode installation.

The System Requirements Wizard and SAS Setup both provide the results of their quiet mode execution in two ways:

- MIF File
 - Provides quiet mode status for use with SMS and other management packages. Includes information on the success or failure of the tool being used.
- Log File
 - Provides a detailed account of the actions that were performed by the tool. This file is primarily intended for assisting you with troubleshooting a quiet mode session.

QUIET MODE: THE MIF FILE

The Management Information File (MIF file) is created as a result of quiet mode usage to allow you to determine the success or failure of either the System Requirements Wizard or SAS Setup. This file contains information typically used by Microsoft SMS, but can be used by any process that needs to determine the success or failure of an installation.

The MIF file is always written to the Temp directory, and is named **STATUS.MIF** by default. You may override this name by adding the `-m<FileName>` option to the quiet mode command line. Note that the *FileName* parameter does not include a path or extension.

The MIF file contains a series of START and END sections, which define certain attributes related to the tool's execution. Of specific interest to determine the success or failure of the tool is the section called 'InstallStatus', similar to the following:

```
START GROUP
NAME = "InstallStatus"
ID = 2
CLASS = "MICROSOFT|JOBSTATUS|1.0"
START ATTRIBUTE
NAME = "Status"
ID = 1
ACCESS = READ-ONLY
STORAGE = SPECIFIC
TYPE = STRING(32)
VALUE = "Success"
```

```

END ATTRIBUTE
START ATTRIBUTE
  NAME = "Description"
  ID = 2
  ACCESS = READ-ONLY
  STORAGE = SPECIFIC
  TYPE = STRING(255)
  VALUE = "Installation Successful."
END ATTRIBUTE
END GROUP

```

Note that the *Status* and *Description* fields, along with their corresponding values, provide information on the results of the installation. In this example, the installation was successful, as indicated by the bold items above.

For a failure, the fields above might be set as follows:

```

NAME = "Status"
VALUE = "Failed"
NAME = "Description"
VALUE = "Installation aborted by the user."

```

If the MIF file indicates success, then there is no need to be concerned with the log file.

If the MIF file indicates that the installation failed, and you feel more troubleshooting is necessary, you will need to review the log file.

QUIET MODE: THE LOG FILE

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.

The System Requirements Wizard log file is written to the location specified by the *LogFile* option given on the quiet mode command line.

A sample log file follows:

```

1-8-2002 11:00:01: Operating System: Windows NT
1-8-2002 11:00:01: Windows NT Service Pack: Service Pack 5
1-8-2002 11:00:01:
1-8-2002 11:00:01: Validating Microsoft Shell Folder Service
5.50.4027.300...
1-8-2002 11:00:01: File Comparison of:
D:\WINNT\System32\shfolder.dll
1-8-2002 11:00:01: System Value: 5.0.2314.1000
1-8-2002 11:00:01: Comparison: #LESSTHAN#
1-8-2002 11:00:01: Required Value: 5.50.4027.300
1-8-2002 11:00:01: Comparison FAILED
1-8-2002 11:00:01:
1-8-2002 11:00:01: Validating Microsoft Internet Explorer 5.0...
1-8-2002 11:00:01: Registry Comparison of:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Internet
Explorer\Version
1-8-2002 11:00:01: System Value: 5.00.2314.1003
1-8-2002 11:00:01: Comparison: #LESSTHAN#
1-8-2002 11:00:01: Required Value: 5.00.2314.1003
1-8-2002 11:00:01: Comparison PASSED
1-8-2002 11:00:01:
1-8-2002 11:00:01: Validating Microsoft Custom Controls Library
5.80.2614.3600...
1-8-2002 11:00:01: File Comparison of:
D:\WINNT\System32\comctl32.dll
1-8-2002 11:00:01: System Value: 5.80.2314.1000
1-8-2002 11:00:01: Comparison: #LESSTHAN#
1-8-2002 11:00:01: Required Value: 5.80.2614.3600
1-8-2002 11:00:01: Comparison FAILED
1-8-2002 11:00:02:
1-8-2002 11:00:02: Validating Microsoft HTML Help Control
4.74.8875...

```

```

1-8-2002 11:00:02: File Comparison of:
D:\WINNT\System32\hhctrl.ocx
1-8-2002 11:00:02: System Value: 4.73.8412.0
1-8-2002 11:00:02: Comparison: #LESSTHAN#
1-8-2002 11:00:02: Required Value: 4.74.8875.0
1-8-2002 11:00:02: Comparison FAILED
1-8-2002 11:00:02:
1-8-2002 11:00:02: Validating Microsoft Runtime Components...
1-8-2002 11:00:02: File Comparison of:
D:\WINNT\System32\mfcd42.dll
1-8-2002 11:00:02: System Value: 4.2.0.6068
1-8-2002 11:00:02: Comparison: #LESSTHAN#
1-8-2002 11:00:02: Required Value: 6.0.8447.0
1-8-2002 11:00:02: Comparison FAILED
1-8-2002 11:00:02:
1-8-2002 11:00:02: Validating Microsoft Runtime Components...
1-8-2002 11:00:02:
1-8-2002 11:00:02: Validating Microsoft Data Access
Components (MDAC) 2.5...
1-8-2002 11:00:02: Registry Comparison of:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\DataAccess\Fu
llInstallVer
1-8-2002 11:00:02: System Value:
1-8-2002 11:00:02: Comparison: #LESSTHAN#
1-8-2002 11:00:02: Required Value: 2.50.4403.12
1-8-2002 11:00:02: Comparison FAILED
1-8-2002 11:00:02:
1-8-2002 11:00:02: Validating Microsoft Jet 4.0 Components...
1-8-2002 11:00:02:
1-8-2002 11:00:02: Installing Microsoft Shell Folder Service
5.50.4027.300...
1-8-2002 11:00:02:
1-8-2002 11:00:02: Installing Microsoft Custom Controls Library
5.80.2614.3600...
1-8-2002 11:00:03: This update has required a reboot.
Rebooting...
1-8-2002 11:05:13:
1-8-2002 11:05:13: Installing Microsoft HTML Help Control
4.74.8875...
1-8-2002 11:05:16:
1-8-2002 11:05:16: Installing Microsoft Runtime Components...
1-8-2002 11:05:24: This update has required a reboot.
Rebooting...
1-8-2002 11:09:53:
1-8-2002 11:09:53: Installing Microsoft Data Access Components
(MDAC) 2.5...
1-8-2002 11:10:15: This update has required a reboot.
Rebooting...

```

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.

CONCLUSION

As an administrator, performing large enterprise-wide deployment of system updates and SAS software involves a number of challenges to meet the needs of your end users. Using the Version 9 Windows SAS installation tools allows you to successfully meet and overcome these challenges. These tools include the SAS AutoPlay, the SAS Administrator Wizard, the System Requirements Wizard, and SAS Setup.

Using these tools, you can:

- Download customized Site Installation Data (including your SETINIT) for your organization.
- 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.
- Support client users who will run a customized subset of SAS software from a network image.
- Provide custom installation CDs to users who do not have network access.

The SAS AutoPlay provides direct access to the interactive functionality available in the installation tools.

The SAS Administrator Wizard allows administrators to download and integrate Site Installation Data, and prepare network images for use by their client and personal SAS users. The wizard can also prepare CD-ROM images for use by users without network access.

The System Requirements Wizard ensures that a machine on which SAS software will run meets the minimum system requirements for the software.

SAS Setup installs the software for both client and personal SAS software users.

Quiet mode may be used with both the System Requirements Wizard and 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 enterprise.

CONTACT INFORMATION

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