

System Requirements

The SAS® System Version 9 for 64-bit Microsoft® Windows®

This document provides requirements for installing and running the SAS System for Windows. You must update your system to meet the minimum requirements before running the SAS System.

These are major requirements listed in the document:

- Software Requirements
- Hardware Requirements
- Additional Features
- Space Requirements
- Specific Product Requirements
- Graphics Hardware and Software Compatibility

For additional information and to view the latest system requirements for your system, access the following Web site:

www.sas.com/installcenter

For information about SAS Technical Support, please refer to the Service and Support section of the Installation Kit.

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Most people who install the SAS System can be considered either Administrators or end users. This *User Installation Guide* is intended for end users. The instructions on the following pages will help you install Version 9 (TS E0) of the SAS System. ¶
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If you need to perform a deployment or other system administration tasks, please refer to the *Administrator's Deployment Guide*. ¶
¶
For information about customizing the installation of specific SAS components and products, please refer to *Post Installation Configuration Guide*.

System Requirements for the SAS® System Version 9 for 64-bit Microsoft® Windows®

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Software Requirements

Operating System

Administrator privilege:

An installer must have administrator privilege to install various updates. This requirement ensures that the SAS System can be completely and safely installed.

Windows Environments

Version 9 of the SAS System is supported in the following environments:

- Microsoft Windows XP 64-bit Edition
- Microsoft Windows Advanced Server, Limited Edition 1.1
- Microsoft Windows Advanced Server, Limited Edition 1.2

File System Recommendations:

- The use of file systems supporting long filenames is required.
- NTFS is recommended.

Hardware Requirements

Machines Supported

Intel Itanium processor family

Memory Requirements

Windows XP Professional

- 1GB minimum or more for improved performance
- 1GB minimum of swapfile space

Monitors Supported

SVGA (resolution of 800x600 or higher)

Additional Features

Web Browser

A Web browser is required to use two features of the SAS System, [Internet Explorer Version 6](#) that you received with Windows XP meets SAS System Version 9 requirements.

1. Output is rendered as HTML pages using the Version 9 Output Delivery System (ODS). Any Web browser can be used for basic viewing, but if Internet Explorer, Version 5 (or higher) is used, ODS output can be viewed in an integrated browser

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Version 9 (TS0M0) of the SAS System is supported on Windows 2000 Professional and all Windows 2000 Server Editions. ¶
Windows NT and Windows NT Server: ¶
Running Version 9 (TS0M0) of the SAS System under Windows NT... [2]

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Intel or Intel-compatible Pentium... [5]

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Windows, Windows NT, and ... [7]

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64 MB minimum or more for ... [8]

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window that functions as part of the SAS System. Other browsers can be used to view ODS output in a separate application window.

2. To conform to the native Windows environment, SAS Help and Documentation is provided in the compiled HTML format supported by the Microsoft HTML Help Viewer, which presents help information in the same layout used in newer Windows applications. This format is very compact and provides extensive searching capabilities. The highest level of functionality is available when Internet Explorer, Version 5 (or higher) is installed.

SAS System Viewer

The SAS System Viewer is an application intended for the Windows environment as a *lightweight viewer* for SAS data files and other simple text-based files. The application lets you view the contents of SAS data files without using the SAS System and without requiring the SAS System to be installed on your machine. You may distribute this application royalty-free in order to give other people the ability to view your SAS data.

The SAS System Viewer lets you view the following types of SAS data sets and SAS catalogs, which can reside on a local or network disk:

- SAS data sets generated by Version 9 of the SAS System for Windows.
- SAS Data sets generated by Version 8 of the SAS System for Windows, Windows NT, and Windows 2000.
- SAS data sets generated by any Version 6 release of the SAS System for Windows, OS/2, or DOS. These data sets can be compressed and/or encrypted. If you attempt to access an encrypted data set, the SAS System Viewer prompts you for the read password.
- SAS catalogs created by the SAS System for Windows or OS/2 generated by Release 6.04 through Release 6.12.
- SAS programs (.sas files), output listings (.lst files), logs (.log files), configuration files (.cfg files).
- Files created by SAS Institute's JMP product (.jmp files) that reside on a local or network disk.
- Other simple (ASCII) text-based files.
- HTML pages, such as output rendered by Version 9 of the SAS System.

You can also view cross-platform Version 6 data sets and catalogs (VMS, Macintosh, UNIX, OS/2, Windows, and DOS) that you can access from a disk, file server, or using the HTTP and FTP network protocols.

About 4.8 MB of disk space is required to install the SAS System Viewer.

The SAS System Viewer is included on the installation media. You can run the SAS Setup program from the SAS System installation CD (\SASVIEW\SV.EXE) or you can install the SAS System Viewer from the install menu of the SAS System core installation.

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Deleted: The online help system is HTML-based. The highest level of functionality is available when using Internet Explorer, Version 5 (or higher), which presents help information in the same layout used in Windows 98 and other newer Windows applications. This format is very compact and provides extensive searching capabilities. When using other Web browsers, online help can be viewed as basic HTML documents in a separate Web browser window. To support both types of operation, the SAS System is shipped with two sets of online help files.

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Deleted: Although any Web browser can be used for these two features, the use of Internet Explorer, Version 5 (or higher) enables the most completely functional user interface. For that reason, the use of Version 9 of the SAS System with Internet Explorer, Version 5 (or higher) is *strongly recommended*.

For your convenience, an installable version of Internet Explorer, Version 5 is included with Version 9 of the SAS System for Windows. If SAS Setup detects that Internet Explorer, Version 5 is not already installed, it will prompt the user to accept its installation. The installation of this Web browser will update certain Microsoft system files that will reduce the number of reboots required during the remainder of the installation of the SAS System. For this reason, we recommend that the installation of Internet Explorer, Version 5 be accepted. Installation of this Web browser will not cha... [14]

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Windows XP Performance Monitor and Event Log Support

Support for Windows XP Performance Monitor will allow advanced users and administrators to observe some internal characteristics of the SAS System. This facilitates performance analysis and tuning of the SAS System. Also, support for the Event Log on these operating systems allows the tracking of critical errors in the SAS System and SAS Setup. The user account installing the SAS System must have administrator privileges to install these features, so non-administrators will not get these features by default. They can be added later by invoking `setup.exe` (found under the `sas` folder on the Setup Disk) with the following command lines:

Dynamic Data Exchange

Dynamic Data Exchange (DDE) allows for the exchange of data between the SAS System and any other application supporting DDE. The SAS System will act as a client only.

Electronic Mail

`Send...` is provided as a menu item in the `File` pull-down menu. `Send...` allows electronic mail messages to be initiated from the SAS System. It is also possible to send mail using a data step file access method or SCL via SAS/AF software. The following mail APIs are supported - MAPI and VIM. This requires installation of third party products such as [Microsoft Outlook](#), [Microsoft Outlook Express](#), or Lotus Notes 4.0 (32-bit version only) and above. SMTP email server access via MAPI requires an Internet connection.

Lotus Notes

The Lotus Notes access method, NOTESDB, allows populating new documents directly to Lotus Notes from the SAS System. The NotesSQL ODBC driver allows Lotus Notes documents to be accessed from within the SAS System. An installed license of Lotus Notes Desktop is required. The SAS System supports the 32-bit version of Lotus Notes 4.0 or later.

SAS Service Configuration Utility

The SAS Service Configuration Utility allows administrators to customize the operation of the SAS System running as a service on a particular computer. It requires only 0.5 MB of space on the computer using the SAS Service Configuration Utility.

For additional information, refer to [the SAS Service Configuration Utility chapter in *Post-Installation Configuration Guide for the SAS System Version 9 for 64-bit Microsoft Windows*](#).

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setup perfmon¶

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To uninstall the Windows NT and Windows 2000 Performance Monitor and Event Log:¶

¶
setup uperfmon¶

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Object Linking and Embedding (OLE 2.0) container support is available in SAS/AF software and SAS/EIS software. Container support includes the ability to create embedded/linked objects, script OLE Automation servers, and embed OLE controls. Visual editing and drag-and-d... [16]

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Space Requirements

The media you received contains all SAS software products. **This media is customized by the SAS Installation Data for easy identification of the products** for which you are licensed. The following list contains space requirements in MB for all of the products available with this release of the SAS System for Windows. Use this information to help you determine how much free disk space you must have available before you can install the SAS System. **Disk space requirements will vary depending upon the blocking factor and compression algorithms that are in use on the installation disk drive.** Product disk space values were determined with the HTMLHelp System in use.

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Software Product	Disk Space (in MB)	
Base SAS Software	580.0	Deleted: 0.
SAS/ACCESS Interface to DB2 Software	1.5	Deleted: 0.4
SAS/ACCESS Interface to ORACLE Software	1.8	Deleted: 0.5
SAS/ACCESS Interface to PC Files Software	5.5	
SAS/AF Software	5.7	Deleted: 4...0 [21]
SAS/ASSIST Software	23.9	Deleted: 17.0
SAS/CONNECT Software	7.6	Deleted: 2.1
SAS Data Quality – Cleanse	17.0	Deleted: 5.6
SAS Data Quality – Cleanse International Edition	8.5	
SAS/EIS Software	26.5	Deleted: 0
Enterprise Miner Server Software	171.0	Deleted: 00.0
SAS/ETS Software	84.9	Deleted: 20.0
SAS/FSP Software	2.5	Deleted: 0.5
SAS/Genetics Software	3.3	
SAS/GIS Software	70.2	Deleted: 52.0
SAS/GRAPH Software	84.8	Deleted: 29...0 [22]
SAS/GRAPH Map Data Sets	108.0	Deleted: 103
SAS High-Performance Forecasting Software	2.5	Deleted: 0
SAS/IML Software	29.2	Deleted: 5.0
SAS/INSIGHT Software	30.8	Deleted: 10...0 [23]
SAS Integration Technologies Software	10.8	Deleted: 8.5
SAS/IntrNet Software	4.8	Deleted: 3.5
IT Service Vision Server Software	133.0	Deleted: 155.0
SAS/LAB Software	16.8	Deleted: 0
SAS/MDDB Server Software	29.8	Deleted: 12.0
SAS OnlineDoc Software	3.6	
SAS/OR Software	65.7	Deleted: 28...0 [24]
SAS/QC Software	64.3	Deleted: 22...0 [25]
SAS/SECURE 168-bit Software	0.9	Deleted: 5
SAS/SHARE Software	18.4	Deleted: 35...0 [26]
SAS/SPECTRAVIEW Software	21.9	Deleted: 13.0
SAS/STAT Software	137.0	Deleted: 29
SAS/TOOLKIT Software	0.7	Deleted: 8...0 [27]

Software Product	Disk Space (in MB)
SAS/Warehouse Administrator Software	23.1

DBCS Support

The following list contains space requirements in MB for SAS System components that offer DBCS support.

Software Product	Disk Space (in MB)
DBCS Support	
Core of the SAS System DBCS Support Files	89.1
SAS Integration Technologies DBCS Support Files	0.1
SAS/ACCESS Interface to DB2 DBCS Support Files	1.2
SAS/ACCESS Interface to ORACLE DBCS Support Files	0.4
SAS/ACCESS Interface to PC Files DBCS Support Files	2.6
SAS/AF DBCS Support Files	1.0
SAS/CONNECT DBCS Support Files	2.0
SAS/EIS DBCS Support Files	0.5
SAS/FSP DBCS Support Files	0.9
SAS/GRAPH DBCS Support Files	10.3
SAS/INSIGHT DBCS Support Files	16.4
SAS/Lab	3.7
SAS/QC DBCS Support Files	1.8
SAS/SHARE DBCS Support Files	0.1
SAS/STAT DBCS Support Files	3.0
Total	133.10

Note about the DBCS Table

* The actual disk space size has been rounded to the nearest tenth. Thus, the values will differ slightly from the ones shown by the installer.

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Notes about the Space Requirements Table¶
¶
Base SAS Shared Components and SAS/GRAPH Shared Components are specific components shipped with the SAS System for Windows. The components are intended to be shared with an installation of Enterprise Guide software on the same machine. The Shared Components installation location is selectable the first time shared components are installed and is fixed for all subsequent installations of shared components. It is typically under C:\Program Files.¶
¶
SAS/GIS Census Tract Maps are installed from a separate CD-ROM.¶
¶
SAS/IntrNet Software Components¶
¶
Software Component [... [28]

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Asian Language Support¶
¶
The following list contains space requirements in MB for SAS System components that support various Asian Languages.¶
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Japanese Support [... [30]

Specific Product Requirements

SAS/ACCESS Interface to DB2 Software

Products Required:

- Base SAS software
- SAS/ACCESS Interface to DB2 software

DBMS Products Required:

One of the following releases of DB2 Client software is required:

- DB2 Run-Time client for Windows 64-bit
- IBM DB2 Connect for Windows 64-bit, for connections via DRDA

Before using SAS/ACCESS Interface to DB2 software, you must install the appropriate IBM DB2 Client software to allow your PC to connect to a DB2 server. Contact your database administrator for assistance with the Client Setup utility.

For more information about SAS/ACCESS Interface to DB2 software, please see the DB2 chapter in *SAS/ACCESS Software for Relational Databases: Reference*.

SAS/ACCESS Interface to ORACLE Software

Products Required:

- Base SAS software
- SAS/ACCESS Interface to ORACLE software
- Oracle Server, Release 8.1.7 or later
- Oracle Client, Release 8.1.7 or later

DBMS Products Required:

SAS/ACCESS Interface to ORACLE software can be installed on either a full Oracle RDBMS server node or on an Oracle client node. The minimum required Oracle release is Oracle, Release 8.1.7.

Note: In order to use the Bulk Load feature of this SAS product, you must have Oracle's SQL*Loader data-loading utility installed on your PC. This utility can be obtained by running the Oracle Installer and selecting the Oracle Utilities product. Please refer to your Oracle documentation for information on SQL*Loader.

SAS/ACCESS Interface to PC Files Software

Products Required:

- Base SAS software
- SAS/ACCESS Interface to PC Files software

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Specific Product Requirements

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Products Required:

<#>Base SAS software
<#>SAS/ACCESS Interface to Baan software

Additional functionality is obtained if the following product is installed:

SAS/Warehouse Administrator software

DBMS Products Required:

One of the following Baan releases is required:

Baan IV
BaanERP

SAS/ACCESS Interface to Baan software requires the Exchange Module from Baan Utilities.

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Deleted: One of the following releases of IBM's Client Application Enabler software

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DBMS Products Required:

- Microsoft Jet 4.0 Components
- Microsoft Data Access Components (MDAC), Version 2.7 or higher

Note: The SAS System will automatically install Microsoft Data Access Components (MDAC) and Microsoft Jet 4.0 components when you install SAS/ACCESS Interface to PC Files software.

SAS/AF Software

Products Required for Build Mode:

- Base SAS software
- SAS/AF software
- SAS/GRAPH software (to create and display some graphics objects)

Other products may be required depending on the application.

Products Required for Run Mode:

- Base SAS software
- SAS/GRAPH software (to display some graphics objects)

Other products may be required depending on the application.

Printers:

- A color or gray scale printer is required for printing graphics-based objects.
- Certain non-graphic objects may require SAS/GRAPH software to print depending on the object.

Video Player Object in SAS/AF Software

Hardware:

- SoundBlaster-compatible audio board
- External speakers
- MCI Microsoft Video for Windows driver
- MCI-compliant MPEG boards are supported
- Minimum of 256 colors
- Video board supporting true color mode (65K or 16.7 MB colors) recommended

Video Player in Base SAS Software

A Video Player utility is included with Base SAS software. This allows users to play video clips on their workstations. The Video Player Object (Class) is actually part of SAS/AF software.

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Microsoft Data Access Components (MDAC), Version 2.5 GA or higher¶

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SAS/ACCESS Interface to PeopleSoft Software¶

Products Required:¶
<#>Base SAS software¶
<#>SAS/ACCESS Interface to PeopleSoft software¶
<#>PeopleSoft Software, Version 7.5 or higher¶

DBMS Products Required:¶
SAS/ACCESS Interface to PeopleSoft software requires another SAS/ACCESS product to access the underlying PeopleSoft database. The following products are currently supported:¶
<#>SAS/ACCESS Interface to ORACLE software¶
<#>SAS/ACCESS Interface to ODBC software¶
<#>SAS/ACCESS Interface to OLE DB software¶
Please see the specific product requirements for each of these products.¶

SAS/ACCESS Interface to R/3 Software¶

Products Required:¶ ... [38]

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Base SAS Software¶

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Hardware:

- SoundBlaster-compatible audio board
- External speakers
- MCI Microsoft Video for Windows driver
- MCI-compliant MPEG boards are supported
- Minimum of 256 colors
- Video board supporting true color mode (65K or 16.7 MB colors) recommended

SAS/CONNECT Software

TCP/IP Access Method:

For the TCP/IP access method, SAS/CONNECT software supports Microsoft's TCP/IP System Driver, which is provided with Windows.

Note: APPC is not supported on any Windows 64-bit editions.

SAS Data Quality – Cleanse

Product Required: Base SAS software

Memory: 128 MB

SAS Data Quality - Cleanse International Edition

Products Required:

- Base SAS software
- SAS Data Quality – Cleanse

Memory: 128 MB per Data Quality Locale (i.e., English USA & German would require 256 MB)

SAS/EIS Software

Products Required for Build Mode:

- Base SAS software
- SAS/AF software
- SAS/EIS software
- SAS/FSP software
- SAS/GRAPH software

Other products may be required depending on the application.

Products Required for Run Mode:

- Base SAS software
- SAS/GRAPH software
- SAS/EIS software

Other products may be required depending on the application.

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APPC Access Method:¶

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With the APPC access method, a Windows user is provided access to an SNA network. SAS/CONNECT software uses the Microsoft Windows Open Services Architecture (WOSA) standard (WinAPPC). Therefore, you should be able to use software from any vendor that supports this standard. One of the following software packages is required:¶

¶

Microsoft's SNA Server, Version 2.11 SP1 (Service Pack 1) or subsequent versions¶

IBM's Personal Communications, Version 4.11 or subsequent versions¶

Any program that supports WOSA (Windows Open Services Architecture) APPC (WinAPPC) standard¶

¶

DECnet Access Method:¶

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The DECnet access method requires the following software:¶

¶

Compaq's Pathworks, Version 32 with Microsoft's Winsock, Version 2.0¶

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EHLAPI Access Method:¶

¶

The EHLAPI access method requires one of the following emulation packages:¶

¶

Wall Data's Rumba 2000, Version 6 or subsequent versions¶

Attachmate's EXTRA Personal Client, Version 6.1 or subsequent versions¶

Exceed, Version 6.1 or subsequent versions¶

IBM's PCOMM (Personal Communications), Version 4.1 [... [40]

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Memory:

- 64 MB required
- 96 MB recommended

Enterprise Miner Solution (Release 4.2)

Products Required for Enterprise Miner Server:

- Base SAS software
- SAS/STAT software
- Enterprise Miner Server Solution, which contains Enterprise Miner Server software and necessary elements of the following:
 - SAS/CONNECT software
 - SAS/EIS software
 - SAS/ETS software
 - SAS/FSP software
 - SAS/GRAPH software
 - SAS/INSIGHT software
 - SAS/MDDB Server software
 - SAS/OR software

Memory Required for Enterprise Miner Server:

512 MB required

Disk Space Required for Enterprise Miner Server:

The disk space required for the Enterprise Miner Server Solution is the combined total space requirements for the SAS software products listed above. See the [Space Requirements](#) table on page 8 for more information.

Note: If you have Version 9 of the SAS System already installed, then the amount of disk space required to install the Enterprise Miner Server Solution should be decreased by the disk space of any of the above products that have been previously installed.

SAS/GIS Software

Products Required for Build Mode:

- Base SAS software
- SAS/AF software
- SAS/GIS software
- SAS/GRAPH software

Other products may be required depending on the application.

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 Base SAS software¶
 SAS/STAT software¶
 Enterprise Miner Server Solution, which contains:¶
 Enterprise Miner Server software¶ and necessary elements of the following:¶
 SAS/CONNECT software¶
 SAS/EIS software¶
 SAS/ETS software¶
 SAS/FSP software¶
 SAS/GRAPH software¶
 SAS/INSIGHT software¶
 SAS/MDDB Server software¶
 SAS/OR software¶

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Note: Enterprise Miner Server media contains the experimental product Enterprise Miner for Text Mining. Enterprise Miner for Text Mining provides a set of tools to examine documents and text for patterns, to perform semantic analysis, and to mine text for information. Enterprise Miner for Text Mining constitutes pre-production code and may be changed substantially before the first production release. Please see your SAS Support Consultant for more information on Enterprise Miner for Text Mining. ¶

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 <#>512 MB required¶

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Products Required for Enterprise Miner Client:¶
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 Enterprise Miner Client Solution, which contains:¶
 Enterprise Miner Client software¶
 <#>and necessary elements o... [41]

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 <#>Base SAS software¶
 <#>SAS/AF software¶ ... [42]

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Products Required for Run Mode:

- Base SAS software
- SAS/FSP software
- SAS/GIS software
- SAS/GRAPH software

Other products may be required depending on the application.

Printers:

A color or gray scale printer is required. The list of possible printers can be found in the Graphics Hardware and Software Compatibility section on page 20.

Display: 256 color display adapter strongly recommended

SAS/GRAPH Software

The 32-bit version of Internet Explorer, Version 6.0 or greater is required to run the SAS/GRAPH ActiveX Graph Control from a Web browser. The ActiveX Graph control is not supported on the 64-bit version of Internet Explorer.

The 32-bit version Internet Explorer, Version 6.0 or greater is also required to run the SAS/GRAPH Java Applets from a Web browser.

SAS/IntrNet Software

SAS/IntrNet software consists of several components that may be installed independently. SAS/IntrNet Server software is installed on an existing SAS System and is included on the SAS System media. Other SAS/IntrNet software components may be installed from the SAS Client-Side Components CD.

CGI Tools and Applications

Application Dispatcher:

Requires Base SAS software and SAS/IntrNet Server software. The Application Broker component of the Application Dispatcher must be installed on a Web server.

htmSQL:

Requires Base SAS software, SAS/SHARE software, and a SAS/IntrNet software license (SETINIT). The htmSQL component must be installed on a Web server.

MDDB Report Viewer Application:

Requires Base SAS software; SAS/GRAPH software; SAS/IntrNet software; and SAS/EIS software or SAS OLAP Server software. The Application Dispatcher component must be installed and configured.

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Deleted: SAS Information Delivery Portal (Release 1.1)¶

¶

Products Required for SAS Information Delivery Portal Server:¶

¶

<#>Base SAS software¶

<#>SAS Information Delivery Portal Server Components, which contains necessary elements of the following:¶

SAS Integration Technologies Software¶

¶

Disk Space Required for SAS Information Delivery Portal Server:¶

¶

The disk space required for the SAS Information Delivery Portal Server Components is the combined total space requirements for the SAS software products listed above. See the **Space Requirements** table for more information.¶

¶

Note: If you have Version 9 [43]

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Xplore Sample Web Application:

Requires Base SAS software and SAS/IntrNet Server software. The Application Dispatcher component must be installed and configured.

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Design-Time Controls:

Requires Base SAS software and SAS/IntrNet Server software. The Application Broker component of the Application Dispatcher must be installed on a Web server.

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Java Tools and Applications

SAS/CONNECT Driver for Java:

Requires Base SAS software, SAS/CONNECT software, and SAS/IntrNet Server software. SAS/SHARE software must also be installed if data services are used. The Java Tools package must be installed on a Web server or a client system.

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Tunnel Feature:

Must be installed on a Web server running on a UNIX or Windows system.

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IT Service Vision Solution (Release 2.5.1)

Products Required for IT Service Vision Server:

- Base SAS software
- IT Service Vision Server Solution, which contains IT Service Vision Server software and necessary elements of the following:
 - SAS/AF software
 - SAS/CONNECT software
 - SAS/EIS software
 - SAS/ETS software
 - SAS/FSP software
 - SAS/GRAPH software
 - SAS/INSIGHT software
 - SAS/MDDB Server software
 - SAS/STAT software

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¶
Requires Base SAS software, SAS/CONNECT software, and SAS/IntrNet Server software.¶
¶
¶
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IT Service Vision Server software¶
and necessary elements of the following:¶
SAS/AF software¶
SAS/CONNECT software¶
SAS/EIS software¶
SAS/FSP software¶
SAS/GRAPH software¶
SAS/INSIGHT software¶
SAS/MDDB Server software¶

Disk Space Required for IT Service Vision Server:

The disk space required for the IT Service Vision Server Solution is the combined total space requirements for the SAS software products listed above. See the Space Requirements table on page 8 for more information.

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Note: If you have Version 9 of the SAS System already installed, then the amount of disk space required to install the IT Service Vision Server Solution should be decreased by the disk space of any of the above products that have been previously installed.

Other Requirements for IT Service Vision Server:

Demand Technologies NTSMF

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Note: Installation of NTSMF is only required if you want to gather Windows NT service resource utilization metrics using NTSMF.

Products Required for IT Service Vision Client:

- Base SAS software
- IT Service Vision Client Solution, which contains IT Service Vision Client software and necessary elements of the following:
 - SAS/AF software
 - SAS/CONNECT software
 - SAS/EIS software
 - SAS/ETS software
 - SAS/FSP software
 - SAS/GRAPH software
 - SAS/INSIGHT software
 - SAS/STAT software

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Disk Space Required for IT Service Vision Client:

The disk space required for the IT Service Vision Client Solution is the combined total space requirements for the SAS software products listed above. See the Space Requirements table on page 8 for more information.

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Note: If you have Version 9 of the SAS System already installed, then the amount of disk space required to install the IT Service Vision Client Solution should be decreased by the disk space of any of the above products that have been previously installed.

Other Requirements for IT Service Vision Client:
Enterprise Guide

Note: For information about using Enterprise Guide with IT Service Vision, please refer to the document located at <http://www.sas.com/products/itsv/index.html>.

Field Code Changed

Other Requirements for IT Service Vision Server and Client:

- IT Service Vision requires a screen resolution of at least 800x600. If your display is set to a lower screen resolution, some windows may be truncated to fit the screen. If you experience font display problems, you may want to use the default SAS font. To set the default font type, issue the SAS command `dlgfont` at the command prompt. In the Font window, select the font `Sasfont`, a style of regular, and font size 10.
- Adobe Acrobat Reader 3.x is required for some online documents supplied in printable form. This software can be downloaded from www.adobe.com.

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SAS/LAB Software

Products Required:

- Base SAS software
- SAS/FSP software (required for interactive data entry)
- SAS/GRAPH software
- SAS/LAB software

SAS/MDDB Server Software

Memory:

The memory requirements for SAS/MDDB Server software are dependent upon the complexity of the hierarchies generated.

- 48 MB required
- 64 MB recommended

Large applications will see performance improvements with more available memory.

SAS OLAP Server Package

Products Required:

- Base SAS software
- SAS OLAP Server Package, which contains necessary elements of the following:
 - SAS/MDDB Server software
 - SAS/AF software
 - SAS/GRAPH software

Disk Space Required:

The disk space required for the SAS OLAP Server Package is the combined total space requirements for the SAS software products listed above. [See the Space Requirements table on page 8 for more information.](#)

Note: If you have Version 9 of the SAS System already installed, then the amount of disk space required to install the SAS OLAP Server Package should be decreased by the disk space of any of the above products that have been previously installed.

SAS/SECURE 168-bit Software

CryptoAPI from Microsoft is an application programming interface that provides access to the cryptographic services that are provided by Windows NT 4.0+ (as part of the Operating system) with Service Pack 3 or a subsequent release installed.

You must have either of the following packages installed on your Windows host to use CryptoAPI:

- Microsoft Base Cryptographic Service Provider (supports weak encryption)
- Microsoft Enhanced Cryptographic Service Provider (supports strong encryption)

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SAS OnlineTutor Software¶

¶

Netscape Navigator, Version 4.7 or higher is required if running SAS OnlineTutor software from a Web browser.¶

¶

Risk Dimensions (Release 3.2)¶

¶

Online Help Browser Required:¶

¶

To view the online help, Internet Explorer, Version 5 is required.¶

¶

Software:¶

¶

Risk Dimensions will not run on Windows 95 or Windows 98.¶

¶

Hardware Required:¶

¶

<#>Single Pentium II processor, 400 MHz or faster minimum¶

<#>Dual Pentium III processor, 400 MHz or faster recommended¶

<#>VGA monitor minimum (SVGA recommended)¶

¶

Memory:¶

¶

<#>512 MB RAM minimum per processor¶

<#>1 GB RAM recommended per processor¶

[... [45]

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¶

Windows 95 (as part of Intern... [46]

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SAS/SHARE Software

Product Required: Base SAS software

TCP/IP Access Method:

For the TCP/IP access method, SAS/SHARE software supports Microsoft's TCP/IP System Driver, which is provided with Windows.

Note: APPC is not supported on any of the Windows 64-bit editions.

SAS/SPECTRAVIEW Software

SAS/SPECTRAVIEW software, an interactive data visualization and modeling tool, allows a user to create, analyze, and modify geometric images representing multidimensional data. It is possible to visually explore both surface and interior views of the data to identify and analyze trends and relationships represented by the data.

Hardware:

Minimum screen resolution - 800x600
Minimum of 256 colors

SAS/TOOLKIT Software

The only language with a Production status for SAS/TOOLKIT software is C. Other languages have a Beta status.

SAS/Warehouse Administrator Software

Products Required for Build Mode:

- Base SAS software
- SAS/AF software (required only for API usage)

Products Required for Run Mode:

- Base SAS software
- Other products depending on application, (for example, SAS/ACCESS software for access to DBMS tables, SAS/CONNECT software for access to remote data, or SAS/AF software to access warehouse via method calls)

Memory:

64 MB recommended

CPU:

200 MHz Pentium Processor or higher recommended

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¶ APPC Access Method:¶

¶ With the APPC access method, a Windows user is provided access to an SNA network. SAS/SHARE software uses the Microsoft Windows Open Services Architecture (WOSA) standard (WinAPPC). Therefore, you should be able to use software from any vendor that supports this standard. One of the following software packages is required:¶

¶ Microsoft's SNA Server, Version 2.11 SP1 (Service Pack 1) or subsequent versions¶
¶ IBM's Personal Communications, Version 4.11 or subsequent versions¶
¶ Any program that supports WOSA (Windows Open Services Architecture) APPC (WinAPPC) standard¶

¶ DECnet Access Method:¶

¶ The DECnet access method requires the following software:¶

¶ Compaq's Pathworks, Version 3.2 with Microsoft's Winsock, Version 2.0¶

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Monitors Supported:

- VGA
- SVGA
- XGA

Printers

For printing graphics-based objects, a color or gray scale printer is required. Certain non-graphic objects may require SAS/GRAPH software to print depending on the object.

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WebHound Solution (Release 3.1)¶

¶

Products Required for WebHound Solution:¶

¶

<#>Base SAS software¶

WebHound Solution, which contains:¶

WebHound software¶

<#>and necessary elements of the

following:¶

SAS/AF software¶

SAS/EIS software¶

SAS/FSP software¶

SAS/GRAPH software¶

SAS/MDDB Server software¶

SAS/IntrNet software¶

SAS/Warehouse Administrator

software¶

¶

Disk Space Required for

WebHound Solution:¶

¶

The disk space required for the

WebHound Solution is the combined

total space requirements for the SAS

software products listed above. See

the **Space Requirements** table for

more information.¶

¶

Note: If you have Version 9 of the

SAS System already installed, then

the amount of disk space required to

install the WebHound Solution

should be decreased by the disk space

of any of the above products that have

been previously installed.¶

¶

Other Requirements for

WebHound Solution:¶

¶

<#>Web logs in CLF, ELF, IIS, or

custom format. The Web logs must

contain a datetime stamp.¶

<#>Web server to view WebHound

reports.¶

<#>In addition to the space needed

for installation of the software listed

above, space will be needed for

storing your Web log data and

WebHound processed data. The

amount of space required for your

WebHound processed data depends

on the size of your Web site and the

length of time you keep your data.¶

<#>A TCP/IP port number for the

SAS/IntrNet application service used

by the WebHound Solution.¶

<#>For customizing reports,

SAS/IntrNet Design Time Controls

located on the *SAS Client-Side*

Components CD is recommended.¶

-----Page Break-----

Graphics Hardware and Softw... [49]

Graphics Hardware and Software Compatibility

Printers

SAS/GRAPH software supports any graphics printer that has a Microsoft Windows device driver available. This support is provided via the WINPRTM (for monochrome printers), WINPRTG (for printers that support gray-scale shading), and WINPRTC (for color printers) device drivers.

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As an alternative to the WINPRTx series of drivers, SAS/GRAPH native device drivers are available for all Hewlett-Packard printers (and compatibles), and printers that support PostScript, HP-GL, HP PCL, and other printer languages.

Here is a partial list of printers that SAS/GRAPH software supports with native device drivers:

- CalComp ColorMaster, ColorMaster Plus, PlotMaster
- Canon Bubble Jet, Laser Shot
- Digital printers which support either SIXEL, HP PCL, Tektronix, or PostScript emulation modes
- Epson FX and LQ series printers (and all printers running in Epson emulation mode)
- Hewlett-Packard LaserJet, DeskJet, PaintJet, and DesignJet printers (and compatibles)
- IBM Graphics, Proprinter, and ColorJet printers
- PostScript printers (including color and gray-scale PostScript printers)
- QMS Colorgrafix with CGM interpreter
- QMS 800, 1200, 1500, 2200, and 2400 using QUIC or Tektronix emulation modes
- Talaris 800, 802, 1200, 1500, and 2400 using QUIC or Tektronix emulation modes
- Talaris printers using the EXCL language
- Tektronix Phaser printers (all models)
- Tektronix 4693 printers with Tektronix 4510 rasterizer
- Xerox 2700 and 4045 printers with a GRAPHX cartridge
- Xerox 3700 (with imaging board and at least 1M of memory)
- Xerox 4030 (contact Technical Support), 4213, 4235, and 4700
- Xerox 4700 printer
- Xerox 5775 color copier with an EFI Fiery attachment

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Native drivers may also be available for additional printers not listed above and that do not support PostScript, HP-GL, or HP PCL. Contact SAS Institute Technical Support for additional information on these drivers.

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Plotters

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SAS/GRAPH software supports any plotter that has a Microsoft Windows plotter driver available. This support is provided via the WINPLOT device driver.

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As an alternative to the WINPLOT device driver, SAS/GRAPH software also provides native device drivers for all HP plotters supporting HP-GL or HP-GL/2, and plotters from other manufacturers that support the HP-GL or HP-GL/2 language. SAS/GRAPH software also supports Houston Instruments plotters using the DMPL language and ZETA plotters that support the GML language.

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Film Recorders

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SAS/GRAPH supports any film recorder that has a Microsoft Windows driver available. This support is provided via the WINPRTC device driver. As an alternative to the WINPRTC device driver, SAS/GRAPH software also provides native device drivers that support the following film recorders:

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- Genigraphics Masterpiece Camera System with SCODL interface
- Lasergraphics MPS 2000 film recorder with a Lasergraphics UI-100 or RASCOL rasterizer
- Matrix QCR and PCR cameras with Matrix QVP, MVP, or Lasergraphics rasterizers
- Polaroid Palette CI-3000 and CI-5000
- Presentation Technologies Montage film recorder

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Support may be available for other film recorders not listed here. Contact SAS Institute Technical Support for details.

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Interfaces to Other Graphics Software

Included with SAS/GRAPH software is a series of drivers that can produce Computer Graphics Metafiles (CGM) in binary, character, and clear-text formats. These drivers can be used to transfer SAS/GRAPH output to other products that support CGM input, such as Word for Windows, WordPerfect for Windows, Harvard Graphics, and Lotus Freelance, or to devices that can process CGM input.

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SAS/GRAPH software can also generate encapsulated PostScript vector files, which can be exported to word processing packages such as Microsoft Word, WordPerfect, and several others.

SAS/GRAPH software can also generate Windows metafiles that can be exported to numerous packages including Microsoft Office, Lotus Smart Suite, and Perfect Office. Contact SAS Institute Technical Support for details.

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Many other graphics and word processing applications can process files in Hewlett-Packard (HP-GL) format. The HPGL driver can be used to produce files that can be transferred to most applications that can process HP-GL files. In addition, there are

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drivers for PDF, PBM, PPM, GIF, JPEG, EMF, WMF, PNG, TIFF, EPSI, and PaintBrush image formats. To view a complete list of all SAS/GRAPH device drivers, submit the following SAS program:

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```
proc gdevice c=sashelp.devices nofs;
  list _all_;
run; quit;
```

SAS/GRAPH software can also export graphics in the following formats:

- BMP - Microsoft Windows Bitmap
- DIB - Device Independent Bitmap
- EMF - Microsoft NT Enhanced Metafile
- EPSI - Encapsulated PostScript Interchange
- GIF - Graphics Interchange Format
- JPG – JPEG Files
- PBM - Portable Bitmap
- PNG - Portable Network Graphics
- PS - PostScript Bitmap
- TIF - Tagged Image File Format
- WMF - Microsoft Windows Metafile Format

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In addition, SAS/GRAPH software can import graphics in the following formats:

- BMP - Microsoft Windows Bitmap
- DIB - Device Independent Bitmap
- EMF - Microsoft NT Enhanced Metafile
- EPSI - Encapsulated PostScript Interchange
- GIF - Graphics Interchange Format
- JPG – JPEG Files
- PBM - Portable Bitmap
- PCD - PHOTO CD
- PCX - PC PaintBrush
- PNG - Portable Network Graphics
- TGA - TARGA Format
- TIF - Tagged Image File Format
- WMF - Microsoft Windows Metafile Format
- XBM - X Window Bitmaps
- XWD - X Window Dump

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Viewing HTML Pages Created with the ActiveX and Java Device Drivers

The ActiveX and Java device drivers allow you to create HTML pages from within the SAS System.

The HTML pages created with the ActiveX device driver can only be viewed *with* the following Web browsers *on* the following operating systems:

<u>ActiveX Control Web Browser</u>	<u>Operating System</u>
<u>Internet Explorer, Version 5.5 or higher</u>	<u>Windows NT, Windows 2000, Windows XP</u>
<u>Internet Explorer 32-bit Version 6.0</u>	<u>Windows 64-bit Editions</u>

The HTML pages created with the Java device driver can only be viewed *with* the following Java-enabled Web browsers *on* the following operating systems:

<u>Java-enabled Web Browser</u>	<u>Operating System</u>
<u>None</u>	<u>OS/390, OpenVMS Alpha</u>
<u>Netscape 6.2.1</u>	<u>HP-UX</u>
<u>Netscape 6.2.3</u>	<u>Linux for Intel Architecture</u>
<u>Netscape 4.78 - Obtain from http://www.sun.com/software/solaris/netscape</u>	<u>Solaris</u>
<u>Netscape 4.79</u>	<u>HP UX for the Itanium Processor Family Architecture</u>
<u>Netscape Communicator 4.78i</u>	<u>AIX</u>
<u>Netscape 4.76</u>	<u>Compaq Tru64 UNIX</u>
<u>Internet Explorer, Version 5.5 or higher, or Netscape, Version 6.2 or higher</u>	<u>Windows NT, Windows 2000, Windows XP</u>
<u>Internet Explorer 32-bit Version 6.0</u>	<u>Windows 64-bit Editions</u>

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-----Section Break (Odd Page)-----

In addition, SAS/GRAPH software can import graphics in the following formats:¶

¶

BMP - Microsoft Windows Bitmap¶

DIB - Device Independent Bitmap¶

EMF - Microsoft NT Enhanced Metafile¶

EPSI - Encapsulated PostScript

Interchange¶

GIF - Graphics Interchange Format¶

JPG - JPEG Files¶

PBM - Portable Bitmap¶

PCD - PHOTO CD¶

PCX - PC PaintBrush¶

PNG - Portable Network Graphics¶

TGA - TARGA Format¶

TIF - Tagged Image File Format ¶

WMF - Microsoft Windows Metafile

Format¶

XBM - X Window Bitmaps¶

XWD - X Window Dump¶

¶

¶

Viewing HTML Pages Created with the ActiveX and Java Device Drivers¶

¶

The ActiveX and Java device drivers allow you to create HTML pages from within the SAS System.¶

¶

The HTML pages created with the ActiveX device driver can only be viewed on Windows operating systems with Internet Explorer, Version 5.¶

¶

The HTML pages created with the Java device driver can only be viewed *with* the following Java-enabled Web browsers on the following operating systems:¶

¶

Java-enabled Web Browser ... [50]



User Installation Guide for Version 9 (TS E0) of the SAS[®] System for Microsoft[®] Windows[®]

Users have two ways to install SAS, *Client* and *Personal* installations.

If the System Requirements have not been updated by a System Administrator, users can update their System Requirements, as described in that section below.

Client Installation

A Client installation uses the SAS Installation Wizard, SAS Setup, to install the software you need to run SAS in association with shared files on a network server.

This method allows a majority of the files used by SAS to be stored in a central location and shared by multiple clients.

Personal Installation

A personal installation uses the SAS Installation Wizard, SAS Setup, to install all the software you need to run SAS on your PC. In general, users who complete a Personal Installation of the SAS System are planning to

run SAS without a server installation of SAS software in the network.

If you are installing from CDs, you are installing a Personal Installation. A Personal Installation can also be performed by using the SAS Setup Wizard and a network location created by your System Administrator.

Section Break (Next Page)

The SAS Setup Wizard for End Users

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

Most of the screens described below offer directions printed here in bold text. These represent the quickest method for deployment.

All Setup screens are listed below according to the order in which SAS Setup presents them, with the exception of the screens that can appear more than once. These are grouped on page 10.

SAS Setup Wizard Screens

Read *Welcome to the SAS Setup Wizard*
Click **Next**.

Or, click Cancel to exit the SAS Setup Wizard.

Read *System Requirements Check*, if Setup displays this screen.

Click the checkbox next to **Run System Requirements Wizard**.

Click **Finish** to run the **System Requirements Wizard**. For information on the **System Requirements Wizard** please see page **11**. After the **System Requirements Wizard** updates your system, you can restart the **SAS** installation.

Or, click **Back** to view the *Welcome to the SAS Setup Wizard* screen again, or click **Cancel** to exit Setup

Read *Retrieve Site Installation Data*

Select **Existing**, unless you plan to specify a different folder, or expect to provide the site installation data later.

Most users can use the network location provided by an administrator. However, if your site installation data is in a different location, select Folder to enter that location on the *Site Installation Data Folder* screen. More information on that screen can be found below.

Some users are required to run Setup without installation data, and to provide the data later. Select **None to run Setup this way.**

Click **Next**.

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

Read *Site Installation Data Folder*

Type the location of the folder where your site installation data can be found, or click **Browse** to locate the directory.

If the site installation data cannot be found in the location specified, you will receive an error message.

*Click **Next***

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

*Read **Site Installation Data Not Found**, if Setup displays this screen.*

*Click **Okay***

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

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 screen, or click **Cancel** to exit Setup.

Read *Select Components*

This screen displays the components that have been selected for your installation. To make changes to this

list, select the components that you want to install, and deselect the components that you do not want to install.

Click Select Licensed Software if you want to display your original selection of components.

Click Next.

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

Read ***Choose Directory***

Setup needs the location of the SASROOT directory. Specify a folder location that contains this directory.

Click Next to choose the listed directory.

Click Browse to choose a different location for the SASROOT directory. Click

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

Read ***Question*** if Setup displays this screen.

Setup could not find the Core SAS file in the indicated directory.

Click No to discontinue the installation, or click yes to proceed.

Read *SAS Shared Files*

Some files that are installed by Setup are shared between multiple SAS products. Most users can use the location listed on the screen. 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 screen, or click **Cancel** to exit Setup.**

Read *Choose Destination Location*

Click **Next to install SAS in the destination folder listed on the screen.**

Or, click **Browse to choose a different folder. Click **Back** to view the *SAS Shared Files* screen, or click **Cancel** to exit Setup.**

Read *Specify Data Files Folder*

By default, the Windows user profile directory is created in the location shown on this screen. 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* screen, 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 on the screen as the location for these temporary files.

Or, click Browse to specify a different folder. Click Back to view the *Specify Data Files Folder* screen, 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 previous screen.

Click Cancel to exit Setup.

Read *Confirm Update*

This screen appears when Setup finds an existing association with the .LOG file type. Setup can associate

.LOG files for use by SAS, but this change may affect other applications. You can change your current preference so .LOG files will be associated with SAS, or you can leave the previous choice in place.

You can make any of the following choices:

If you would like Setup to change this association and enable SAS functionality, click Yes to make SAS Version 9.0 the default application for .LOG files.

Click Yes to All to change the association for all .LOG files and skip any other Confirm Update screens.

Click No to leave the previous choice for .LOG files in place.

Click No to All to leave the previous choice for all .LOG files in place.

Click Cancel to exit Setup without completing the procedure.

Read ***SAS System Setup Complete***

At this point, Setup has installed the SAS software. If you want to launch the SAS System now, click the checkbox.

Click **Finish**.

Screens Used More than Once in Setup

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

Read ***Setup Status***

This screen is displayed while Setup performs the requested operations.

No action is required, but you can click Cancel to exit Setup without completing the procedure. Click Cancel only if you need to exit Setup without completing the requested operation

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 screen 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 screen.

The System Requirements Wizard for Users

The System Requirements Wizard makes sure that the minimum system requirements are installed on your computer before the SAS System is installed.

The System Requirements Wizard may update system components that are part of the operating system. Updating these components to appropriate levels is an important part of a successful SAS System installation.

It is possible that some of the system components, including virus programs, that need to be updated by the System Requirements Wizard will be in use by the operating system. Unfortunately, this situation will require a reboot of the computer to properly update the system components in use.

Closing down all other running applications, including virus programs, before starting the System Requirements Wizard can keep the number of required reboots to a minimum. The number of reboots that will be required can vary from computer to computer, since it is determined by the level of the system components installed on the computer when the System Requirements Wizard is run.

Starting the System Requirements Wizard

To start the System Requirements Wizard, complete the following steps:

Insert the CD-ROM labeled “Setup Disk” into the source drive. The SAS System AutoPlay should appear if AutoPlay is enabled on your computer.

If this does not happen, select the Run menu option from the Windows Start menu and type:

```
<source_drive>:\SETUP
```

where <source_drive> is the drive containing the SAS System installation media.

Select the System Requirements Wizard from the list of options.

Updating to Minimum System Requirements

After starting the System Requirements Wizard, follow these steps:

Carefully read the Welcome screen and then select Next.

A complete list of all system components that need to be updated by the System Requirements Wizard will be displayed. Review the list and click Next.

If the computer already satisfies the minimum system requirements, a dialog will appear indicating that no updates are required for this computer.

The update process will begin for any system components listed in step 2. Some system components may require a reboot of the computer. Carefully read the instructions on the reboot dialog.

If you elect to reboot, the System Requirements Wizard should restart automatically following the logon process.

If you elect not to reboot, the System Requirements Wizard will exit. Run the System Requirements Wizard when you are ready to continue updating the system components.

When all system components have been updated, a final dialog will appear stating that the computer has been updated to the minimum system requirements for the SAS System.

System Requirements Wizard Screens

This section describes the steps required to update your system to the minimum system requirements for the software.

Users run the **System Requirements Wizard** and respond to the dialogs as each screen is presented. Most of the screens described below offer directions printed here in bold text. These represent the quickest method for updating your system.

Read ***Welcome to the System Requirements Wizard***
Click **Next**.

Or, click **Cancel** to exit the SAS Requirements Wizard.

Read ***Software Selection***

Click on one of the three radio buttons to pick the software to update the system requirements

SAS System, Version 9.0

SAS Viewer 9.0

All Products

Click **Next**.

Or, click **Back** to view the *Welcome* screen, or click **Cancel** to exit the System Requirements Wizard.

Read ***Automatic Log On***

The **System Requirements Wizard** may require several restarts. If you want to log on automatically after any restarts, enter your password in the **Password** field. This is optional, and you can click **Next** to skip automatic log on. If you enter a password, you will need to enter it again in the **Confirm password** field.

Click **Next**.

Or, click **Back** to view the *Software Selection* screen, or click **Cancel** to exit the **System Requirements Wizard**.

Read *System Components Update*

This screen displays the names of the system components that will be updated on your system.

Click **Next**.

Or, click **Back** to view the *Automatic Log On* screen, or click **Cancel** to exit the **System Requirements Wizard**.

Read *Restarting Windows*

This screen displays the names of the system components that have been updated on your system, and indicates that your computer must be restarted. **SAS** recommends that you restart your computer now.

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 restart, close all open applications and remove any floppy disks from the disk drives.

When the computer restarts, Setup will resume.

Click Next.

Or, click Back to view the *System Components Update* screen, or click Cancel to exit the System Requirements Wizard.

Read ***System Update Finished***

This screen indicates that the System Requirements Wizard has updated your system.

Click Finish.

System Requirements for Version 9

This document provides requirements for installing and running the SAS System for Windows. You must update your system to meet the minimum requirements before running the SAS System. The major requirements listed in the document are:

Software Requirements

Hardware Requirements

Additional Features

Space Requirements

Specific Product Requirements

Graphics Hardware and Software Compatibility

For additional information and to view the latest system requirements for your system, access the following Web site:

`http://www.sas.com/newversion`

or contact SAS Institute Technical Support (refer to Chapter 4, "Technical Support Services" in the Installation Instructions included in your package).

Windows 2000:

Version 9 (TS0M0) of the SAS System is supported on Windows 2000 Professional and all Windows 2000 Server Editions.

Windows NT and Windows NT Server:

Running Version 9 (TS0M0) of the SAS System under Windows NT requires Windows NT, Version 4.0 updated with Service Pack 4 or higher (excluding Service Pack 6, but including Service Pack 6a or higher), plus additional Year 2000 software updates as provided by Microsoft. Administrator privilege is required to install various system updates. To insure that the SAS System can be completely and safely installed, it is strongly recommended that the installer have administrator privilege.

Windows:

Version 9 (TS0M0) of the SAS System is supported on Microsoft Windows 95, Microsoft Windows 98, and Microsoft Windows Me operating systems. Windows 95 must be updated with additional Year 2000 software updates as provided by Microsoft. Windows 98 must be updated *with* Service Pack 1 or *to* Windows 98, Second Edition.

Network Installations:

Long filename support is required on any Windows NT Server, Windows 2000 Server, or Novell Server where a server installation is performed.

Online Help Browser

To view the online help within the SAS System, either Internet Explorer, Version 4.01 or Netscape Navigator, Version 4.73 is required. Later versions of either of these Web browsers should also be usable. However, Netscape Navigator, Version 6 has not been tested with the online help within the SAS System. SAS Setup will prompt the user to install Internet Explorer, Version 5 if it is not already installed. It is recommended that Internet Explorer, Version 5 be installed because this will update certain Microsoft system files and greatly reduce the number of reboots required during the installation of the SAS System.

Intel or Intel-compatible Pentium class processor (minimum required)

Floating Point Unit or Math Coprocessor:

A floating point unit or math coprocessor is assumed to be present in the PC. The SAS System is optimized for its presence. Microsoft Windows provides floating point emulation software with decreased performance in the absence of a floating point unit or math coprocessor.

Windows, Windows NT, and Windows 2000 Professional

64 MB minimum or more for improved performance
64 MB minimum of swapfile space

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Windows NT Server and Windows 2000 Server Editions:

256 MB minimum
256 MB minimum of swapfile space

XGA
SVGA

Note: It is recommended that screen resolution be at least 800x600.

This Web browser must be Internet Explorer, Version 5 or Netscape Navigator, Version 4.73 or later. However, Netscape Navigator, Version 6 has not been tested with the SAS System. The use of Internet Explorer is strongly recommended.

Although any Web browser can be used for these two features, the use of Internet Explorer, Version 5 (or higher) enables the most completely functional user

interface. For that reason, the use of Version 9 of the SAS System with Internet Explorer, Version 5 (or higher) is *strongly recommended*.

For your convenience, an installable version of Internet Explorer, Version 5 is included with Version 9 of the SAS System for Windows. If SAS Setup detects that Internet Explorer, Version 5 is not already installed, it will prompt the user to accept its installation. The installation of this Web browser will update certain Microsoft system files that will reduce the number of reboots required during the remainder of the installation of the SAS System. For this reason, we recommend that the installation of Internet Explorer, Version 5 be accepted. Installation of this Web browser will not change the default Web browser settings. It can co-exist with Netscape and other Web browsers that may be on your system.

If you are using an older version of Internet Explorer as your default browser, you will notice a change to your system. In this case, Internet Explorer is upgraded to Version 5.

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Object Linking and Embedding

Object Linking and Embedding (OLE 2.0) container support is available in SAS/AF software and SAS/EIS software. Container support includes the ability to create embedded/linked objects, script OLE Automation servers, and embed OLE controls. Visual editing and drag-and-drop support are also included.

The SAS System also provides OLE Automation server support. This support is provided in Base SAS software to push commands to the command line of the SAS System and submit procedural code. The OLE Automation server can be driven from other OLE Automation controllers such as Microsoft Visual Basic.

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System Requirements Wizard

The System Requirements Wizard is used to ensure that a computer onto which you would like to install the SAS System meets the minimum system requirements. Space requirements will vary depending upon the third-party components and the individual files on your computer that need to be updated. The System Requirements Wizard will inform you of the components that do not meet the minimum system requirements before updating them.

The following table shows which updates the System Requirements Wizard performs on the versions of Windows that are supported.

Update	Windows NT	Windows 2000	Windows Me
Microsoft Internet Explorer 5.0	Yes	Yes	No
Microsoft Data Access Components (MDAC) 2.5	Yes	No	No
Visual C++ Redistributables Bundle	Yes	Yes	Yes

The Installation Instructions contains an appendix describing the use and operation of the System Requirements Wizard. For additional information, refer to that appendix.

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SAS Administrator Wizard

The SAS Administrator Wizard is intended for use by the administrators who desire to prepare an installation point on the network from which end users may subsequently install the SAS System. In addition to the space required by the SAS System products, the SAS Administrator Wizard places up to an additional 123 MB of installation-related files at the installation point:

Autorun	2 MB
SAS Setup Files	35 MB
SAS Viewer Setup	5 MB
SAS ODBC Driver Setup	11 MB
SAS Service Configuration Utility Setup	1 MB
System Requirements Wizard	62.4 MB
SAS Administrator Wizard	1.2 MB
Installation Instructions Documentation	5.4 MB

The Installation Instructions contains an appendix describing the use and operation of the SAS Administrator Wizard. For additional information, refer to that appendix.

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The Installation Instructions contains an appendix describing the use and operation of the SAS Service Configuration Utility.

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Notes about the Space Requirements Table

Base SAS Shared Components and SAS/GRAPH Shared Components are specific components shipped with the SAS System for Windows. The components are intended to be shared with an installation of Enterprise Guide software on the same machine. The Shared Components installation location is selectable the first time shared components are installed and is fixed for all subsequent installations of shared components. It is typically under C:\Program Files.

SAS/GIS Census Tract Maps are installed from a separate CD-ROM.

SAS/IntrNet Software Components

Software Component	Required Disk Space in MB
CGI Tools for Web Server	4.3
Design-Time Controls	2.5
Java Tools	1.8
Total	26.9

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SAS/AF DBCS Support Files			0.2
SAS/CONNECT DBCS Support Files			0.3
SAS/ACCESS Interface to DB2 DBCS Support Files			0.1
SAS/EIS DBCS Support Files			0.1
SAS/FSP DBCS Support Files			0.9
SAS/GRAPH DBCS Support Files			1.9
Help Files for Systems without Internet Explorer			1.6
SAS/INSIGHT DBCS Support Files			2.5
SAS/IntrNet DBCS Support Files			1.6
SAS Integration Technologies DBCS Support Files			0.1
SAS/ACCESS Interface to ODBC DBCS Support Files			0.8
SAS/ACCESS Interface to ORACLE DBCS Support Files			0.2
SAS/ACCESS Interface to PC File Formats DBCS Support Files			0.1
SAS/QC DBCS Support Files			0.3
SAS/SHARE DBCS Support Files			0.1
SAS/STAT DBCS Support Files			0.5
SAS/ACCESS Interface to SYBASE DBCS Support Files			0.2

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Asian Language Support

The following list contains space requirements in MB for SAS System components that support various Asian Languages.

Japanese Support	Disk Space (in MB) ¹
Core of the SAS System Japanese Support Files	47.9
SAS/AF Japanese Support Files	0.1
SAS/ASSIST Japanese Support Files	12.5
SAS/EIS Japanese Support Files	12.1
SAS/GRAPH Japanese Support Files	10.6
Maps of Japan	0.7
SAS/INSIGHT Japanese Support Files	0.2
SAS/IntrNet Japanese Support Files	0.2
SAS/ACCESS Interface to PC Files Formats Japanese Support Files	0.1

Japanese Support	Disk Space (in MB)¹
SAS/MDDB Server Japanese Support Files	0.1
SAS/Warehouse Administrator Japanese Support Files	8.8
WebHound Japanese Support Files	6.3
Sample Files Japanese Support	0.2
Total	100.80

Korean Support	Disk Space (in MB)¹
Core of the SAS System Korean Support Files	12.2
SAS/AF Korean Support Files	0.1
SAS/ASSIST Korean Support Files	0.6
Enterprise Miner Korean Support Files	1.6
SAS/EIS Korean Support Files	0.2
SAS/ETS Korean Support Files	0.3
SAS/GRAPH Korean Support Files	0.7
SAS/INSIGHT Korean Support Files	0.2
SAS/LAB Korean Support Files	0.1
SAS/MDDB Server Korean Support Files ²	0.1
SAS/OR Korean Support Files	0.1
SAS/QC Korean Support Files	0.3
SAS/STAT Korean Support Files	0.2
SAS/Warehouse Administrator Korean Support Files	0.7
Total	18.40

Simplified Chinese Support	Disk Space (in MB)¹
Core of the SAS System Simplified Chinese Support Files	12.5
SAS/AF Simplified Chinese Support Files	0.1
SAS/ASSIST Simplified Chinese Support Files	0.5
Enterprise Miner Simplified Chinese Support Files	1.3
SAS/EIS Simplified Chinese Support Files	0.2
SAS/ETS Simplified Chinese Support Files	0.3
SAS/GRAPH Simplified Chinese Support Files	6.5
SAS/INSIGHT Simplified Chinese Support Files	0.2
SAS/IntrNet Simplified Chinese Support Files	0.2
SAS/LAB Simplified Chinese Support Files	0.1
SAS/MDDB Server Simplified Chinese Support Files ²	0.1
SAS/OR Simplified Chinese Support Files	0.1
SAS/QC Simplified Chinese Support Files	0.2
SAS/STAT Simplified Chinese Support Files	0.2
SAS/Warehouse Administrator Simplified Chinese Support Files	0.2
Total	23.70

Traditional Chinese Support	Disk Space (in MB)¹
Core of the SAS System Traditional Chinese Support Files	1.8
SAS/GRAPH Traditional Chinese Support Files	67.2
Total	70.00

Notes about the DBCS Support and Asian Language Support Tables

The actual disk space size has been rounded to the nearest tenth. Thus, the values will differ slightly from the ones shown by the installer.

Under Korean and Simplified Chinese Support, the installer incorrectly displays SAS/MDDDB Server as sample. Even though the sub-component is incorrectly identified, if selected, the SAS/MDDDB Server Korean and Simplified Chinese Support Files install correctly.

Using Asian Languages in a non-Asian Language Environment

Depending on the version of Microsoft Windows you are using (Windows 98, Windows NT, Windows 2000, etc), you may experience problems displaying Asian languages on an English operating system.

Windows 2000/Windows 2000 Server

Windows 2000 offers the most flexibility in supporting multiple languages. During the installation of Windows 2000, you will be asked what languages you want to support. Select the appropriate ones and continue your installation. The necessary components, packages, and Input Method Editors (IMEs) will be installed for you. At the time when you need another language, Windows 2000 should recognize that fact and proceed correctly. If you need to install software that utilizes an installation program not written in English, it may be necessary to change the default code page to that language. This can be done from the **Control Panel** under **Locale Settings**.

Windows NT/Windows NT Server

Windows NT offers many of the features in Windows 2000, although they are not as robust. To effectively display an Asian language (for example, Japanese) from Internet Explorer, Version 5.01 or higher, select **Windows Update** from the **Tools** menu. After that page has successfully loaded, choose the various items that you want for your chosen language. Japanese, for example, will need the Japanese Input Method Editor, as well as the Japanese Language Pack. Both of these items will aid you in displaying Japanese on your English operating system and will install the proper fonts that you may need.

Windows 95/Windows 98/Windows Me

The same procedure for Windows NT is recommended for Windows 95, Windows 98, and Windows Me. However, due to the fact that Windows 2000 and Windows NT fully utilize Unicode, and Windows 95, Windows 98, and Windows Me do not, other languages do not display properly on an English operating system.

European Languages Support

The following list contains space requirements in MB for SAS System components that support various European Languages.

European Languages Support	Disk Space (in MB) ¹
Czech	28.0

European Languages Support	Disk Space (in MB) ¹
French	65.0
German	265.0
Italian	265.0
Polish	62.0
Spanish	30.0

SAS/ACCESS Interface to Baan Software

Products Required:

Base SAS software
SAS/ACCESS Interface to Baan software

Additional functionality is obtained if the following product is installed:

SAS/Warehouse Administrator software

DBMS Products Required:

One of the following Baan releases is required:

Baan IV
BaanERP

SAS/ACCESS Interface to Baan software requires the Exchange Module from Baan Utilities.

One of the following releases of IBM's Client Application Enabler software is required:

IBM DB2 Universal Database Client Application Enabler, Version 5 or later
IBM DB2 Connect Enterprise Edition, Version 5 or later for connections via DRDA

Note: If you are running SAS/ACCESS Interface to DB2 software under Windows 98, please use the IBM DB2 Universal Database Client Application Enabler, Version 5.2 or later.

Before using SAS/ACCESS Interface to DB2 software, you must install the appropriate IBM DB2 Client Application Enabler to allow your PC to connect to a DB2 server. Contact your database administrator for assistance with the Client Application Enabler's Client Setup utility.

SAS/ACCESS Interface to ODBC Software

Products Required:

Base SAS software
SAS/ACCESS Interface to ODBC software

DBMS Products Required:

A 32-bit ODBC driver for the data source from which you want to access data
Microsoft Data Access Components (MDAC), Version 2.5 GA or higher

Before you can use SAS/ACCESS Interface to ODBC software, a 32-bit ODBC driver for the data source from which you want to access data is required. ODBC drivers are often available from DBMS vendors and other third party ODBC driver developers. The ODBC driver you choose may require additional DBMS software for network access. All required network software supplied by your database system vendor must be 32-bit-compliant.

In order to read SAS System Version 6 views that were created with the discontinued SAS/ACCESS Interface to AS/400 software on OS/2, an ODBC Conversion Utility is provided to help users migrate to SAS/ACCESS Interface to ODBC software on Windows. Before you can use the ODBC Conversion Utilities, you need to install the Client Access ODBC Driver (32-bit), Version 3.00.0004 or above from IBM. If your AS/400 Client Access installation loaded a Client Access ODBC Driver prior to this version, you can download Program Temporary Fix (PTF) SF59504 or later from <ftp.software.ibm.com> for an update. The service packs for the Client Access product can be found in the `/as400/products/clientaccess/win32/v3r1m3/servicepack` directory. When this update is installed, Version 3.00.0004 or later of the Client Access ODBC Driver should be installed. For Version 4.00, service packs for the Client Access product can be found in the `/as400/products/clientaccess/win32/v4r4mo1/servicepack` directory.

In order to read SAS System Version 6 views to access data in Microsoft SQL Server that were created with SAS/ACCESS Interface to SYBASE and SQL Server software on Windows, an ODBC Conversion Utility is provided to help users migrate to SAS/ACCESS Interface to ODBC software on Windows. (Note: The Conversion Utility only applies to views that access data in Microsoft SQL Server and does not apply to SYBASE SQL Server.) The ODBC Conversion Utilities require the Microsoft SQL Server ODBC driver (32-bit) from Microsoft. This driver is installed as part of Microsoft Data Access Components (MDAC).

Note: The SAS System will automatically install Microsoft Data Access Components (MDAC) when you install SAS/ACCESS Interface to ODBC software.

Please see the *Installation Instructions for Version 9 (TSOM0) of the SAS System for Microsoft Windows* for the details of installation.

Note: SAS/ACCESS Interface to ODBC software has been tested using the MERANT DataDirect Connect ODBC driver and the DataDirect SequeLink ODBC driver.

Note: In order to use SAS/ACCESS Interface to ODBC software to access data on a Sybase Adaptive Server IQ (ASIQ), Release 12.x database, certain restrictions and setup information is required. ASIQ, Release 12.x supports ODBC, Release 3.x, so a certified ODBC driver manager is required. You must also do a full install of ASIQ, Release 12.x on the client machine (Sybase does not have a client install yet). Limitations with using SAS/ACCESS Interface to ODBC software and ASIQ, Release 12.x are that with ASIQ, Release 12.1, you cannot update data at all (for example, a `DATA step modify`, `PROC SQL LIBNAME update`, `SCL` code doing updates, or even a simple Pass-Through Update statement will not work). With ASIQ, Release 12.4.1, GA, the `PROC SQL Pass-Through Facility` will work using the `EXECUTE (UPDATE ...)` statement. However, updating using a cursor, which is what is used with `DATA step modify` and `PROC SQL LIBNAME update`, is not scheduled to be supported by the Sybase ODBC driver. Also, ASIQ does not support bulk loading, so we recommend using the `DBISQL load` statement to load data from an external sequential file.

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The following modification to the Windows registry file is also required:

Modify each of the ASIQ 32 bit ODBC DSN connection definitions, adding `'AutoPreCommit=Y'`.

Make the modifications within the registry for 32 bit definitions as follows:

Manually add the `'AutoPreCommit=Y'` parameter to your ODBC definitions as follows:

32 bit definitions:

Modify the User DSN connection definition directly within the Windows Registry.

Load the Registry (regedit), and select the following folders:

HKEY_CURRENT_USER => SOFTWARE => ODBC => ODBC.INI => <dsn name>

From the menu bar, select `Edit => New => String Value`. Define the "Value Name" as `AutoPreCommit` and select "OK". Double-click on `AutoPreCommit` and enter `Y` for the Value Data within the String Editor box and select "OK".

If your data source is a System DSN, modify the connection definition directly within the Windows Registry by doing the following.

Load the Registry (regedit), and select the following folders:

HKEY_LOCAL_MACHINE => SOFTWARE => ODBC => ODBC.INI => <dsn name>

From the menu bar, select `Edit => New => String Value`. Define the "Value Name" as `AutoPreCommit` and select "OK". Double-click on `AutoPreCommit` and enter `Y` for the Value Data within the String Editor box and select "OK".

SAS/ACCESS Interface to OLE DB Software

Products Required:

- Base SAS software
- SAS/ACCESS Interface to OLE DB software

DBMS Products Required:

- An OLE DB data source provider
- Microsoft Data Access Components (MDAC), Version 2.5 GA or higher

Before you can use SAS/ACCESS Interface to OLE DB software, an OLE DB provider for the data source from which you want to access data is required. OLE DB providers are often available from DBMS vendors and other third party software vendors. The OLE DB provider you choose may require additional DBMS software for network access. All required network software supplied by your database system vendor must be 32-bit-compliant.

Note: The SAS System will automatically install Microsoft Data Access Components (MDAC) when you install SAS/ACCESS Interface to OLE DB software.

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Note: Currently, SAS/ACCESS Interface to ORACLE software is not supported on Windows Me. As of this release - SAS System, Version 9 (TS0M0) - no Oracle clients were available for Windows Me.

DBMS Products Required:

- Oracle Client, either:
 - Oracle8i Client, Version 8.1.5.0 or later
 - Oracle8 Client, Version 8.0.5.0.0 or later
 - Oracle7 Client, Version 7.3.4.0 or later

If you are using Oracle Client, Version 7.3.4, you need to install:

- Oracle SQL*Net Client, Version 2.3 for Windows NT and Windows 95

Oracle Protocol Adapter, Version 2.3 for Windows NT and Windows 95

If you are using Oracle Client, Version 8.x, you need to install:

Oracle Net8 Client for Windows NT and Windows 95\98

Oracle Protocol Adapter, Version 8.x for Windows NT and Windows 95\98

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You need to install SAS/ACCESS Interface to ORACLE software and Oracle SQL*Net Client, Version 2.3 or Oracle Net8 Client on the same client workstation. SAS/ACCESS Interface to ORACLE software only supports Oracle Client, Version 7.3.4 or above. However, it can connect to any version of an Oracle database with the SQL*Net, Version 2 listener running on the server.

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SAS/ACCESS Interface to PeopleSoft Software

Products Required:

Base SAS software
SAS/ACCESS Interface to PeopleSoft software
PeopleSoft Software, Version 7.5 or higher

DBMS Products Required:

SAS/ACCESS Interface to PeopleSoft software requires another SAS/ACCESS product to access the underlying PeopleSoft database. The following products are currently supported:

SAS/ACCESS Interface to ORACLE software
SAS/ACCESS Interface to ODBC software
SAS/ACCESS Interface to OLE DB software

Please see the specific product requirements for each of these products.

SAS/ACCESS Interface to R/3 Software

Products Required:

Base SAS software
SAS/ACCESS Interface to R/3 software

Additional functionality is obtained if the following products are installed:

- SAS/Warehouse Administrator software
- SAS/CONNECT software
- SAS/SHARE software

SAS/ACCESS Interface to R/3 software requires the use of communication protocols such as TCP/IP to function properly.

SAP R/3 Products Required:

- SAP R/3, Release 2.2 or higher
- SAP R/3 Remote Function Call Software Development Kit (RFCSDK)

SAS/ACCESS Interface to SYBASE Software

Products Required:

- Base SAS software
- SAS/ACCESS Interface to SYBASE software

DBMS Products Required:

One of the following releases of SYBASE Open Client software is required:

- SYBASE, Open Client, Release 11.1 or later
- SYBASE, Open Client, Release 12.0
- Adaptive Server Enterprise, Release 11.x or higher is recommended.

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Note: SYBASE, Open Client, Release 11.1 requires patch ebf8550 or higher.

Note: Sybase ASIQ, Release 12.x is not supported; SAS/ACCESS Interface to ODBC software must be used instead.

For more information about SAS/ACCESS Interface to SYBASE software, refer to *SAS/ACCESS Software for Relational Databases: Reference*.

Note: If you want to access Microsoft SQL Server data, you will need to use SAS/ACCESS Interface to ODBC software. Refer to the following appendix, "Installing SAS/ACCESS Interface to ODBC Software" in the *Installation Instructions for Version 9 (TSOM0) of the SAS System for Microsoft Windows* for more information.

SAS/ACCESS Interface to Teradata Software

Products Required:

Base SAS software
SAS/ACCESS Interface to Teradata software

DBMS Products Required:

Teradata, Version 2, Release 2 (V2R2) or higher of the Teradata DBS Server
Teradata Utilities Foundation (TUF) Windows software

Important Note: Teradata efix DR47606 **must** be applied for TUF releases prior to Version 6.0.

Before using SAS/ACCESS Interface to Teradata software, you should verify connectivity by logging into your Teradata account with the Teradata BTEQ utility. SAS/ACCESS Interface to Teradata software requires that the DR47606 efix be installed on your machine if the TUF release is prior to Version 6.0. For more information about SAS/ACCESS Interface to Teradata software, please see the Teradata chapter in *SAS/ACCESS Software for Relational Databases: Reference*.

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Windows 95 and Windows 98:

APPC Access Method:

With the APPC access method, a Windows user is provided access to an SNA network. SAS/CONNECT software uses the Microsoft Windows Open Services Architecture (WOSA) standard (WinAPPC). Therefore, you should be able to use software from any vendor that supports this standard. One of the following software packages is required:

Microsoft's SNA Server, Version 2.11 SP1 (Service Pack 1) or subsequent versions
IBM's Personal Communications, Version 4.11 or subsequent versions
Any program that supports WOSA (Windows Open Services Architecture) APPC (WinAPPC) standard

DECnet Access Method:

The DECnet access method requires the following software:

Compaq's Pathworks, Version 32 with Microsoft's Winsock, Version 2.0

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EHLAPI Access Method:

The EHLAPI access method requires one of the following emulation packages:

Wall Data's Rumba 2000, Version 6 or subsequent versions
Attachmate's EXTRA Personal Client, Version 6.1 or subsequent versions
Exceed, Version 6.1 or subsequent versions
IBM's PCOMM (Personal Communications), Version 4.1 or subsequent versions
Any Windows 95 32-bit emulation program that supports the EHLLAPI or WinHLLAPI standards

NetBIOS Access Method:

For the NetBIOS access method, SAS/CONNECT software supports the NetBIOS protocol that is included with Windows 95 and Windows 98.

TCP/IP Access Method:

For the TCP/IP access method, SAS/CONNECT software supports Microsoft's TCP/IP System Driver, which is provided with Windows 95 and Windows 98.

Windows NT:

APPC Access Method:

With the APPC access method, a Windows user is provided access to an SNA network. SAS/CONNECT software uses the Microsoft Windows Open Services Architecture (WOSA) standard (WinAPPC). Therefore, you should be able to use software from any vendor that supports this standard. One of the following software packages is required:

- Microsoft's SNA Server, Version 2.11 SP1 (Service Pack 1) or subsequent versions
- IBM's Personal Communications, Version 4.11 or subsequent versions
- IBM's Communication Server/NT, Version 5.0 or subsequent versions
- Any program that supports WOSA (Windows Open Services Architecture) APPC (WinAPPC) standard

DECnet Access Method:

If you have Windows, Version 4.0 installed, the DECnet access method requires:

Compaq's Pathworks 32, Version 4.1B or subsequent version

EHLLAPI Access Method:

The EHLLAPI access method requires one of the following emulation packages:

- Wall Data's Rumba 2000, Version 6 or subsequent versions
- Attachmate's EXTRA Personal Client, Version 6.1 or subsequent versions
- Exceed, Version 6.1 or subsequent versions

IBM's PCOMM (Personal Communications), Version 4.1 or subsequent versions
Any Windows NT 32-bit emulation program that supports the EHLLAPI or
WinHLLAPI standards

NetBIOS Access Method:

For the NetBIOS access method, SAS/CONNECT software supports the NetBIOS protocol that is included with Windows NT.

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Products Required for Enterprise Miner Client:

Base SAS software
Enterprise Miner Client Solution, which contains:
Enterprise Miner Client software
and necessary elements of the following:
SAS/CONNECT software
SAS/EIS software
SAS/ETS software
SAS/FSP software
SAS/GRAPH software
SAS/INSIGHT software
SAS/MDDDB Server software
SAS/OR software
SAS/STAT software

Note: Enterprise Miner Client media contains the experimental product Enterprise Miner for Text Mining. Enterprise Miner for Text Mining provides a set of tools to examine documents and text for patterns, to perform semantic analysis, and to mine text for information. Enterprise Miner for Text Mining constitutes pre-production code and may be changed substantially before the first production release. Please see your SAS Support Consultant for more information on Enterprise Miner for Text Mining.

Note: Enterprise Miner Client media contains the experimental product Enterprise Miner J*Score. Enterprise Miner J*Score translates the SAS data step score code generated by Enterprise Miner software to a "score" function in the Java programming language. Enterprise Miner J*Score constitutes pre-production code and may be changed substantially before the first production release. Please see your SAS Support Consultant for more information on Enterprise Miner J*Score.

Memory Required for Enterprise Miner Client:

48 MB required

Disk Space Required for Enterprise Miner Client:

The disk space required for the Enterprise Miner Client Solution is the combined total space requirements for the SAS software products listed above. See the **Space Requirements** table for more information.

Note: If you have Version 9 of the SAS System already installed, then the amount of disk space required to install the Enterprise Miner Client Solution should be decreased by the disk space of any of the above products that have been previously installed.

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Base SAS software
SAS/AF software
SAS/GIS software
SAS/GRAPH software
Other products may be required depending on the application

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SAS Information Delivery Portal (Release 1.1)

Products Required for SAS Information Delivery Portal Server:

Base SAS software
SAS Information Delivery Portal Server Components, which contains necessary elements of the following:
SAS Integration Technologies Software

Disk Space Required for SAS Information Delivery Portal Server:

The disk space required for the SAS Information Delivery Portal Server Components is the combined total space requirements for the SAS software products listed above. See the **Space Requirements** table for more information.

Note: If you have Version 9 of the SAS System already installed, then the amount of disk space required to install the SAS Information Delivery Portal Server Components should be decreased by the disk space of any of the above products that have been previously installed.

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See the **Space Requirements** section for the disk space requirements for these components.

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SAS OnlineTutor Software

Netscape Navigator, Version 4.7 or higher is required if running SAS OnlineTutor software from a Web browser.

Risk Dimensions (Release 3.2)

Online Help Browser Required:

To view the online help, Internet Explorer, Version 5 is required.

Software:

Risk Dimensions will not run on Windows 95 or Windows 98.

Hardware Required:

Single Pentium II processor, 400 MHz or faster minimum
Dual Pentium III processor, 400 MHz or faster recommended
VGA monitor minimum (SVGA recommended)

Memory:

512 MB RAM minimum per processor
1 GB RAM recommended per processor

Other Requirements for Risk Dimensions:

Web server to view RiskWeb reports

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Windows 95 (as part of Internet Explorer 3.0+)

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Windows 95 and 98:

APPC Access Method:

With the APPC access method, a Windows user is provided access to an SNA network. SAS/SHARE software uses the Microsoft Windows Open Services Architecture (WOSA) standard (WinAPPC). Therefore, you should be able to use software from any vendor that supports this standard. One of the following software packages is required:

Microsoft's SNA Server, Version 2.11 SP1 (Service Pack 1) or subsequent versions

IBM's Personal Communications, Version 4.11 or subsequent versions

Any program that supports WOSA (Windows Open Services Architecture) APPC (WinAPPC) standard

DECnet Access Method:

The DECnet access method requires the following software:

Compaq's Pathworks, Version 3.2 with Microsoft's Winsock, Version 2.0

NetBIOS Access Method:

For the NetBIOS access method, SAS/SHARE software supports the IBM-compatible or NetWare-compatible NetBIOS that is included with Windows 95.

TCP/IP Access Method:

For the TCP/IP access method, SAS/SHARE software supports Microsoft's TCP/IP System Driver, which is provided with Windows 95.

Windows NT:

APPC Access Method:

With the APPC access method, a Windows user is provided access to an SNA network. SAS/SHARE software uses the Microsoft Windows Open Services Architecture (WOSA) standard (WinAPPC). Therefore, you should be able to use software from any vendor that supports this standard. One of the following software packages is required:

Microsoft's SNA Server, Version 2.11 SP1 (Service Pack 1) or subsequent versions

IBM's Personal Communications, Version 4.11 or subsequent versions

Any program that supports WOSA (Windows Open Services Architecture) APPC (WinAPPC) standard

DECnet Access Method:

One of the following software packages is required to use the DECnet access method:

If you have Windows, Version 4.0 installed, you must use:

Compaq's Pathworks 32

NetBIOS Access Method:

For the NetBIOS access method, SAS/SHARE software supports the IBM-compatible or NetWare-compatible NetBIOS that is included with Windows NT.

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SAS/SPECTRAVIEW software, one of the SAS System's newest data visualization and modeling tools, allows you to create, analyze, and modify geometric images representing multidimensional data. This software is useful for a variety of applications, including medical imaging, oil exploration, environmental sciences, chemical analysis, pharmaceutical studies, and financial analysis.

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WebHound Solution (Release 3.1)

Products Required for WebHound Solution:

Base SAS software

WebHound Solution, which contains:

WebHound software

and necessary elements of the following:

SAS/AF software

SAS/EIS software

SAS/FSP software

SAS/GRAPH software

SAS/MDDDB Server software

SAS/IntrNet software

SAS/Warehouse Administrator software

Disk Space Required for WebHound Solution:

The disk space required for the WebHound Solution is the combined total space requirements for the SAS software products listed above. See the **Space Requirements** table for more information.

Note: If you have Version 9 of the SAS System already installed, then the amount of disk space required to install the WebHound Solution should be decreased by the disk space of any of the above products that have been previously installed.

Other Requirements for WebHound Solution:

Web logs in CLF, ELF, IIS, or custom format. The Web logs must contain a datetime stamp.

Web server to view WebHound reports.

In addition to the space needed for installation of the software listed above, space will be needed for storing your Web log data and WebHound processed data.

The amount of space required for your WebHound processed data depends on the size of your Web site and the length of time you keep your data.

A TCP/IP port number for the SAS/IntrNet application service used by the WebHound Solution.

For customizing reports, SAS/IntrNet Design Time Controls located on the *SAS Client-Side Components* CD is recommended.

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Graphics Hardware and Software Compatibility

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In addition, SAS/GRAPH software can import graphics in the following formats:

BMP - Microsoft Windows Bitmap
DIB - Device Independent Bitmap
EMF - Microsoft NT Enhanced Metafile
EPSI - Encapsulated PostScript Interchange
GIF - Graphics Interchange Format
JPG – JPEG Files
PBM - Portable Bitmap
PCD - PHOTO CD
PCX - PC PaintBrush
PNG - Portable Network Graphics
TGA - TARGA Format
TIF - Tagged Image File Format
WMF - Microsoft Windows Metafile Format
XBM - X Window Bitmaps
XWD - X Window Dump

Viewing HTML Pages Created with the ActiveX and Java Device Drivers

The ActiveX and Java device drivers allow you to create HTML pages from within the SAS System.

The HTML pages created with the ActiveX device driver can only be viewed on Windows operating systems with Internet Explorer, Version 5.

The HTML pages created with the Java device driver can only be viewed *with* the following Java-enabled Web browsers *on* the following operating systems:

Java-enabled Web Browser	Operating System
Netscape Navigator, Version 4.08 or higher	AIX, HP-UX, Solaris, ABI for Intel Architecture, IRIX, Compaq Tru64 UNIX
Netscape Communicator, Version 4.04 for Warp 4	OS/2
Internet Explorer, Version 5 (with Java VM 5.0.0.3167 or higher) or Netscape Navigator, Version 4.07	Windows, Windows NT, Windows 2000

Removing 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.

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Glossary

Administrator Wizard

Image

InstallShield

System Requirements Wizard