

System Requirements for SAS[®] 9.4 Foundation for Solaris for x64



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Table of Contents

Overview	1
Additional Resources	1
Configuring your IO Subsystem	1
Support for Alternative Operating Systems.....	1
Troubleshooting System Performance Problems	1
Software Requirements	2
Operating System	2
Java Requirements	2
Web Browsers	2
Hardware Requirements	4
Machines Supported	4
Distribution Media	4
System Configuration	4
Desktop Systems	4
Server Systems	4
Displays Supported	4
Space Requirements	4
Specific Product Requirements	5
Base SAS Software	5
Requirements for SPD Engine on Solaris	5
SAS Analytics Accelerator for Teradata	5
SAS In-Database Code Accelerator for Greenplum	5
SAS In-Database Code Accelerator for Hadoop	6
SAS In-Database Code Accelerator for Teradata	6
SAS Scoring Accelerator for DB2	7
SAS Scoring Accelerator for Greenplum	7
SAS Scoring Accelerator for Hadoop	8
SAS Scoring Accelerator for Oracle	8
SAS Scoring Accelerator for SAP HANA	8
SAS Scoring Accelerator for SPD Server	9
SAS Scoring Accelerator for Teradata	9
SAS/ACCESS Interface to Amazon Redshift	10
SAS/ACCESS Interface to DB2	10
SAS/ACCESS Interface to Greenplum	10
SAS/ACCESS Interface to Hadoop	11
SAS/ACCESS Interface to HAWQ	11
SAS/ACCESS Interface to Microsoft SQL Server	11
SAS/ACCESS Interface to MySQL	11
SAS/ACCESS Interface to ODBC	12

SAS/ACCESS Interface to Oracle	12
SAS/ACCESS Interface to PC Files	13
SAS/ACCESS Interface to the PI System	13
SAS/ACCESS Interface to PostgreSQL	13
SAS/ACCESS Interface to SAP ASE	14
SAS/ACCESS Interface to SAP HANA	14
SAS/ACCESS Interface to SAP IQ	14
SAS/ACCESS Interface to Teradata	15
SAS/ACCESS Interface to Vertica	15
SAS/AF	16
Products Required for Build Mode	16
Products Required for Run Mode	16
Printers.....	16
SAS/EIS	16
Products Required for Build Mode	16
Products Required for Run Mode	16
Memory	16
Printers.....	16
SAS/Genetics	17
SAS/GIS	17
Products Required for Build Mode	17
Products Required for Run Mode	17
Printers.....	17
SAS/IntrNet	17
CGI Tools and Applications	17
Application Dispatcher	17
htmSQL.....	17
MDDB Report Viewer Application	17
Xplore Sample Web Application.....	18
Java Tools and Applications	18
SAS/CONNECT Driver for Java.....	18
Tunnel Feature.....	18
SAS/OR	18

Overview

This document provides requirements for installing and running SAS 9.4 Foundation for Solaris. The requirements in this document have been updated for the fifth maintenance release for SAS 9.4 (SAS 9.4M5).

You must update your system to meet the minimum requirements before running SAS 9.4 Foundation. The major requirements listed in the document are as follows:

- Software Requirements
- Hardware Requirements
- Space Requirements
- Specific Product Requirements

Additional Resources

Configuring your IO Subsystem

SAS recommends the white paper titled *Best Practices for Configuring your IO Subsystem for SAS 9 Applications*. You can access it at the following web page:

<http://support.sas.com/resources/papers/proceedings15/SAS1501-2015.pdf>

Support for Alternative Operating Systems

This document lists the operating systems deployed by SAS in testing the software. Additional operating systems may also be supported. For information about variants of operating systems that are alternatives to the list that SAS identifies as officially supported, see

<http://support.sas.com/techsup/pcn/altopsys.html>

Troubleshooting System Performance Problems

For a list of papers that are useful for troubleshooting system performance problems, see

<http://support.sas.com/kb/42/197.html>

Software Requirements

Operating System

SAS is supported on Oracle Solaris 10 Update 9 and Oracle Solaris 11 and later. To determine which Solaris release you are running, look at the `/etc/release` file using the `% cat /etc/release` command. Your result should look something like this:

```
Solaris 10 9/10 s10x_u9wos_14a X86
Copyright (c) 2010, Oracle and/or its affiliates. All rights reserved.
Assembled 11 August 2010
```

Verify that the first line includes a value of “Solaris 10 9/10” or later.

SAS recommends that you apply the latest Oracle Solaris Update for x64 Solaris 10 to your Solaris 10 installation.

If you are installing or running SAS 9.4 on Solaris 11, SAS requires that you install the Solaris `compatibility/ucb` and `system/xopen/xcu4` packages. You can download these packages from this location: <http://pkg.oracle.com/solaris/release/en/index.shtml>

The Sun Performance Libraries, which include BLAS and LAPACK routines, require installation of the `SUNWlibmsr`, `SUNWcslr`, and `SUNWpiclu` packages on your system.

Note: The patch levels listed were correct at the time this document was published. However, patches that are required for Solaris are subject to unexpected change. To ensure you have the latest patch requirements, go to the Install Center web page (<http://support.sas.com/installcenter>) to find the most recent updates to this System Requirements document.

The file systems where SAS is installed must have the `setuid` mount option enabled because `sasauth`, `sasperm`, and `elssrv` require it at SAS run time.

In UNIX environments, the SAS BASE (V9) engine requires a POSIX-compliant file system. Consult the vendor for confirmation that the file system you are considering has been certified POSIX-compliant.

Java Requirements

For information about Java Runtime Environment (JRE) requirements, refer to the SAS 9.4 Support for Java Runtime Environments web page, located at <http://support.sas.com/resources/thirdpartysupport/v94/jres.html>.

Web Browsers

Both SAS 9.4 Foundation software and client applications support recent versions of popular web browsers to display SAS user interfaces. To run SAS clients, use a browser and platform combination that is listed on the following SAS Support page:

<http://support.sas.com/resources/thirdpartysupport/v94/browsers.html>.

For the Google Chrome and Mozilla Firefox browsers, only the minimum supported versions are listed, but SAS also supports subsequent minor versions of these browsers.

On client machines where you do not plan to deploy the Remote Browsing feature (described below), install a recent version of your preferred web browser, such as Microsoft Internet Explorer 11, Google Chrome 42, or Mozilla Firefox 31, to support the most modern SAS user interfaces.

A few SAS product user interfaces deploy HTML5 to support newer features. For example, SAS Visual Analytics provides an optional “modern” appearance mode. The individual [system requirements documents](#) for these products include a link to additional information about supported web browsers.

SAS 9.4 Foundation offers a Remote Browsing feature to display information. Instead of using a local browser, SAS 9.4 Foundation sends the information as a URL to your desktop computer for display in a web browser. This feature removes the browser overhead from the server and allows for the display of output that requires browser plug-ins that do not run on a 64-bit computer. A software agent, the Remote Browser Server, is installed on your desktop computer to enable SAS to communicate with your browser.

To enable remote browsing, your desktop computer must be running on Windows 7 and later or Linux for x64.

Hardware Requirements

Machines Supported

The following machines are supported:

- All models that support Solaris 10 for x64
- Intel processors with Intel 64 support
- AMD processors with AMD64 support

Distribution Media

The following distribution methods are supported:

- Electronic Software Delivery
- DVD

System Configuration

The following are recommended minimums* for a deployment of SAS 9.4 Foundation for Solaris for x64 systems:

Desktop Systems

- A minimum of two cores
- 2 GB RAM (available to SAS)
- Swap space: 1.5 times physical RAM or 250 GB, whichever is less

Server Systems

- A minimum of 4 cores
- 16 GB RAM (available to SAS)
- Swap space: 1.5 times physical RAM or 250 GB, whichever is less
- I/O Throughput of at least 100 MB/second/core

**Note: SAS strongly recommends consulting with a SAS Sizing Expert to obtain a hardware recommendation that is based on your estimated workload and number of users.*

Displays Supported

SAS 9.4 supports any X display server in conjunction with an ICCCM-compliant window manager.

Space Requirements

SAS 9.4 Foundation requires approximately 30 MB of disk space on the `/tmp` partition to complete the installation.

SAS recommends consulting with a SAS Sizing Expert for an official hardware recommendation that is based on your estimated SAS workload and number of users. Disk space requirements are provided for individual components in separate documents. However, the space requirements that you can obtain from the individual System Requirements documents that are provided for SAS

Solutions and other add-on products are not a substitution for expert advice. To request sizing expertise, send an email to contactcenter@sas.com.

Specific Product Requirements

Base SAS Software

Requirements for SPD Engine on Solaris

- An SMP (symmetric multiprocessing) computer with at least two CPUs; four are preferred
- At least one I/O channel per two CPUs
- Enough disk drives to have at least one mount point per CPU isolated on its own disk; two mount points per CPU are preferred

SAS Analytics Accelerator for Teradata

The SAS Analytics Accelerator for Teradata requires Base SAS, SAS/ACCESS Interface to Teradata, and at least one of the following products:

- SAS/ETS
- SAS/STAT
- SAS Enterprise Miner

DBMS Products Required:

- Teradata Database version 13.10 or later
- Teradata CLIV2 client libraries, TTU 13.10 or later for Solaris for x64 (64-bit libraries)

For SAS 9.4M3

DBMS Products Required:

- Teradata Database version 14.10 or later
- Teradata CLIV2 client libraries, TTU 14.10 or later for Solaris for x64 (64-bit libraries)

For SAS 9.4M4 and Later

DBMS Products Required:

- Teradata Database version 15.10 or later
- Teradata CLIV2 client libraries, TTU 15.10 or later (64-bit libraries)

SAS In-Database Code Accelerator for Greenplum

The SAS In-Database Code Accelerator for Greenplum requires Base SAS and SAS/ACCESS Interface to Greenplum. It also requires the SAS Embedded Process to be installed and configured on your database.

DBMS Products Required:

- Greenplum Database version 4.2.2 or later
- Greenplum Partner Connector (GPPC) version 1.2 or later

For SAS 9.4M2 and Later

DBMS Products Required:

- Greenplum Database version 4.3 or later
- Greenplum Partner Connector (GPPC) version 1.2 or later

The recommended DBMS operating system is Red Hat Enterprise Linux 64-bit, version 5.5 or later.

SAS In-Database Code Accelerator for Hadoop

The SAS In-Database Code Accelerator for Hadoop requires Base SAS and SAS/ACCESS Interface to Hadoop. It also requires the SAS Embedded Process to be installed and configured on Hadoop.

For supported Hadoop distributions and versions, refer to the following web page:
<http://support.sas.com/resources/thirdpartysupport/v94/hadoop/>

SAS In-Database Code Accelerator for Teradata

The SAS In-Database Code Accelerator for Teradata requires Base SAS and SAS/ACCESS Interface to Teradata. It also requires the SAS Embedded Process to be installed and configured on your database.

DBMS Products Required:

- Teradata Database version 13.10 or later
- Teradata CLIV2 client libraries, TTU 13.10 or later for Solaris for x64 (64-bit libraries)

For SAS 9.4M3

DBMS Products Required:

- Teradata Database version 14.10 or later
- Teradata CLIV2 client libraries, TTU 14.10 or later for Solaris for x64 (64-bit libraries)
- SAS Embedded Process support functions (sasepfunc-15.10-4 or later)

Note: Contact a Teradata representative to obtain these support functions.

For SAS 9.4M4 and Later

DBMS Products Required:

- Teradata Database version 15.10 or later
- Teradata CLIV2 client libraries, TTU 15.10 or later (64-bit libraries)
- SAS Embedded Process support functions (sasepfunc-15.10-4 or later)

Note: Contact a Teradata representative to obtain these support functions. It is important to install the latest version from Teradata at Your Service. Teradata Customer Service coordinates installation of the SAS Embedded Process packages and application of the SAS Embedded Process support functions on the DBMS machine.

SAS Scoring Accelerator for DB2

The SAS Scoring Accelerator for DB2 requires Base SAS, SAS Enterprise Miner, SAS/ACCESS Interface to DB2, and SAS/STAT.

DBMS Products Required:

- IBM DB2 version 10.1 with FixPack 1 or later
- Client utilities for IBM DB2 version 10.1 with FixPack 1 or later

A current version of the IBM XLC compiler must be installed on the DB2 server where you will be publishing scores. Contact your IBM/DB2 representative to obtain the appropriate compiler for your DB2 installation.

DBMS Operating Systems:

- AIX version 6.1 with Technology Level 6 and Service Pack 5 or later
- AIX version 7.1 with Service Pack 3 or later
- Red Hat Enterprise Linux 64-bit, version 5.5 or later

For SAS 9.4M1 and Later

DBMS Products Required:

- IBM DB2 version 10.5 or later
- Client utilities for IBM DB2 version 10.5 or later

DBMS Operating Systems:

- AIX 64-bit, version 7.1 with Service Pack 3 or later
- Red Hat Enterprise Linux 64-bit, version 5.5 or later

For best results, SAS recommends installing the latest FixPack on the client and server.

SAS Scoring Accelerator for Greenplum

The SAS Scoring Accelerator for Greenplum requires Base SAS, SAS Enterprise Miner, SAS/ACCESS Interface to Greenplum, and SAS/STAT.

DBMS Product Required:

- Greenplum Database version 4.2.2.0 or later
- Greenplum Partner Connector (GPPC) version 1.2 or later

For SAS 9.4M2 and Later

DBMS Products Required:

- Greenplum Database version 4.3 or later
- Greenplum Partner Connector version 1.2 or later

The recommended DBMS operating system is Red Hat Enterprise Linux 64-bit, version 5.5 or later.

SAS Scoring Accelerator for Hadoop

The SAS Scoring Accelerator for Hadoop requires Base SAS, SAS/ACCESS Interface to Hadoop, and SAS/STAT. It also requires SAS Enterprise Miner or SAS Model Manager.

For supported Hadoop distributions and versions, refer to the following web page:

<http://support.sas.com/resources/thirdpartysupport/v94/hadoop/>.

SAS Scoring Accelerator for Oracle

The SAS Scoring Accelerator for Oracle requires Base SAS, SAS Enterprise Miner, SAS/ACCESS Interface to Oracle, and SAS/STAT.

DBMS Products Required:

- Oracle Server version 11gR2 BP24 or later. The database encoding must be UTF8.
- Oracle Client release 11gR2 (64-bit libraries).

DBMS Operating Systems:

- Red Hat Enterprise Linux version 5.5
- Oracle Enterprise Linux version 5.5

When this document was published, patches for the following Oracle bugs were not available:

- Bug 12658656 - DUPLICATE SYMBOLS in EXTPROC/AGENT
- Bug 12904682 - CORE DUMP IN MUTEX ACQUIRE WHEN DIAG INITIALIZATION FAILS
- Bug 12904657 - ADR INITIALIZATION FAILS IN SOME EXTPROC THREADS

Until patches can be applied for *all three* of these bugs, you *must* add the following line to `$ORACLE_HOME/network/admin/sqlnet.ora`:

```
DIAG_ADR_ENABLED=OFF
```

No restart is required.

For SAS 9.4M2 or Later

DBMS Products Required:

- Oracle Server version 11gR2 or Oracle Server 12c. The database encoding must be UTF8.
- Oracle Client 11gR2 (64-bit libraries) or Oracle Client 12c (64 bit libraries)

DBMS Operating Systems:

- Red Hat Enterprise Linux 64-bit, version 5.5 or later
- Oracle Enterprise Linux version 5.5

SAS Scoring Accelerator for SAP HANA

SAS Scoring Accelerator for SAP HANA was new in SAS 9.4M2. It requires Base SAS, SAS Enterprise Miner, SAS/ACCESS Interface to SAP HANA, and SAS/STAT.

For SAS 9.4M2 – 9.4M3

DBMS Products Required:

- SAP HANA SPS 08 Server
- Client utilities for SPS 08

For SAS 9.4M4 and Later

DBMS Products Required:

- SAP HANA SPS 11 Server or later
- Client utilities for SPS 11 or later

DBMS Operating Systems:

- Red Hat Enterprise Linux 64-bit, version 5.5 or later
- SUSE Linux Enterprise Server 64-bit, version 11

For best results, match the SAP HANA client version with the version of the SAP HANA server where it will be connected.

SAS Scoring Accelerator for SPD Server

The SAS Scoring Accelerator for SPD Server requires Base SAS, SAS Enterprise Miner, SAS Scalable Performance Data Server version 5.1, and SAS/STAT.

For SAS 9.4M3

DBMS Product Required: SAS Scalable Performance Data Server version 5.2

For SAS 9.4M4

DBMS Product Required: SAS Scalable Performance Data Server version 5.3

For SAS 9.4M5

DBMS Product Required: SAS Scalable Performance Data Server version 5.4

SAS Scoring Accelerator for Teradata

The SAS Scoring Accelerator for Teradata requires Base SAS, SAS Enterprise Miner, SAS/ACCESS Interface to Teradata, and SAS/STAT. It also requires the SAS Embedded Process to be installed and configured on your database.

DBMS Products Required:

- Teradata Database version 13.10 or later
- Teradata CLIV2 client libraries, TTU 13.10 or later for Solaris for x64 (64-bit libraries)

For SAS 9.4M3

DBMS Products Required:

- Teradata Database version 14.10 or later
- Teradata CLIV2 client libraries, version TTU 14.10 or later for Solaris for x64 (64-bit libraries)
- SAS Embedded Process support functions (sasepfunc-15.10-4 or later)

Note: Contact a Teradata representative to obtain these support functions.

For SAS 9.4M4 and Later

DBMS Products Required:

- Teradata Database version 15.10 or later
- Teradata CLIV2 client libraries, TTU 15.10 or later (64-bit libraries)
- SAS Embedded Process support functions (sasepfunc-15.10-4 or later)

Note: Contact a Teradata representative to obtain these support functions. It is important to install the latest version from Teradata at Your Service. Teradata Customer Service coordinates installation of the SAS Embedded Process packages and application of the SAS Embedded Process support functions on the DBMS machine.

SAS/ACCESS Interface to Amazon Redshift

SAS/ACCESS Interface to Amazon Redshift was new with the April 2016 release of SAS/ACCESS. Base SAS is required for the installation of SAS/ACCESS Interface to Amazon Redshift.

SAS/ACCESS Interface to Amazon Redshift includes a required ODBC driver.

For instructions about how to configure SAS/ACCESS Interface to Amazon Redshift, see the *Configuration Guide for SAS 9.4 Foundation for UNIX*.

SAS/ACCESS Interface to DB2

Base SAS is required for the installation of SAS/ACCESS Interface to DB2.

SAS/ACCESS Interface to DB2 can be installed on a DB2 server or on a DB2 client node with an installation of the IBM Data Server Client. In addition, DB2 Connect must be licensed to connect to DB2 databases that reside on AS/400, VSE, VM, MVS, and z/OS systems.

DBMS Products Required:

- IBM DB2 version 10.1 or later
- Client utilities for IBM DB2 version 10.1 or later

For SAS 9.4M1 and Later

DBMS Products Required:

- IBM DB2 10.5 or later
- Client utilities for IBM DB2 10.5 or later

For best results, SAS recommends installing the latest FixPack on the client and server.

SAS/ACCESS Interface to Greenplum

Base SAS is required for the installation of SAS/ACCESS Interface to Greenplum.

SAS/ACCESS Interface to Greenplum includes the required 64-bit ODBC driver.

DBMS Product Required: Greenplum Database version 4.2.2 or later

For SAS 9.4M2 and Later

DBMS Product Required: Greenplum Database version 4.3 or later

For instructions about how to configure SAS/ACCESS Interface to Greenplum, see the *Configuration Guide for SAS 9.4 for UNIX Environments*.

SAS/ACCESS Interface to Hadoop

Base SAS is required for the installation of SAS/ACCESS Interface to Hadoop.

For supported Hadoop distributions and versions, refer to the following web page:
<http://support.sas.com/resources/thirdpartysupport/v94/hadoop/>

SAS/ACCESS Interface to HAWQ

Base SAS is required for the installation of SAS/ACCESS Interface to HAWQ.

SAS/ACCESS Interface to HAWQ includes the required 64-bit ODBC driver.

For SAS 9.4M3

DBMS Product Required: HAWQ Database version 1.2.1 or later

For SAS 9.4M4

DBMS Product Required: HAWQ Database version 2.0 or later

For SAS 9.4M5

DBMS Product Required: HAWQ Database version 2.2 or later

For instructions about how to configure SAS/ACCESS Interface to HAWQ, see the *Configuration Guide for SAS 9.4 for UNIX Environments*.

SAS/ACCESS Interface to Microsoft SQL Server

Base SAS is required for the installation of SAS/ACCESS Interface to Microsoft SQL Server.

SAS/ACCESS Interface to Microsoft SQL Server includes the required ODBC driver.

Note: With the release of SAS 9.4 M4, SAS/ACCESS Interface to Microsoft SQL Server now includes support for the Microsoft Azure SQL Database.

DBMS Product Required: Microsoft SQL Server 2008 or later.

For SAS 9.4M3 and Later

DBMS Product Required: Microsoft SQL Server 2012 or later.

For directions about how to configure SAS/ACCESS Interface to Microsoft SQL Server, see the *Configuration Guide for SAS 9.4 for UNIX Environments*.

SAS/ACCESS Interface to MySQL

Base SAS is required for the installation of SAS/ACCESS Interface to MySQL.

DBMS Products Required:

- Any MySQL Client version 5.1 or later
- MySQL Server version 5.0 or later

For SAS 9.4M4 and Later

DBMS Products Required:

- Any MySQL Client version 5.6 or later
- MySQL Server version 5.6 or later

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

SAS/ACCESS Interface to ODBC

Base SAS is required for the installation of SAS/ACCESS Interface to ODBC.

DBMS Product Required: A compliant ODBC driver manager and ODBC driver (64-bit libraries)

ODBC drivers are often available from DBMS vendors and other third-party ODBC driver developers. The ODBC driver you select may require additional DBMS software in order to access the data.

You may have to use a text editor to edit the `odbc.ini` file in your home directory to configure data sources. Some ODBC driver vendors may allow a system administrator to maintain a centralized copy by setting an environment variable.

The ODBC drivers are ODBC API-compliant dynamic link libraries, referred to in UNIX as shared objects. You must include the full path to the dynamic link libraries in the OS load library environment variable, i.e. `LD_LIBRARY_PATH`, `LIBPATH`, or `SHLIB_PATH`, so that the ODBC drivers can be loaded dynamically at run time.

For more information, consult your ODBC driver vendor.

SAS/ACCESS Interface to Oracle

Base SAS is required for the installation of SAS/ACCESS Interface to Oracle.

SAS/ACCESS Interface to Oracle software can be installed on either a full Oracle RDBMS server node or an Oracle client node.

DBMS Products Required:

- Oracle Database 11g or later
- Oracle Client 11g (64-bit libraries) or later

Note: *To use the Bulk Load feature of this SAS product, the Oracle SQL*Loader data-loading utility must be installed. This utility can be obtained by running the Oracle installer and selecting the Oracle Utilities product. Refer to your Oracle documentation for information on SQL*Loader.*

For SAS 9.4M4 and Later

DBMS Products Required:

- Oracle Database 11gR2 or Oracle Server version 12c
- Oracle Client 11gR2 (64-bit libraries) or Oracle Client version 12c

SAS/ACCESS Interface to PC Files

Base SAS is required for the installation of SAS/ACCESS Interface to PC Files.

Product Required on Windows: 32-bit or 64-bit SAS PC Files Server, running the same “bitness” of ACE (Microsoft Access Database Engine 2010 Redistributable) driver on the same Windows machine.

DBMS Product Required on Windows: Microsoft Access Database Engine 2010 Redistributable (ACE) or a later version.

SAS/ACCESS Interface to PC Files supports access to virtually any data source through ODBC support on Windows, as well as the following software formats:

- dBase files (.dbf)
- Excel files (.xls, .xlsx, .xlsb, .xlsm)
- JMP files (.jmp is in Base)
- Lotus files (.wk1, .wk3, and .wk4)
- Microsoft Access database files (.mdb or .accdb)
- Paradox (.db)
- SPSS files (.sav)
- Stata files (.dta)

SAS PC Files Server (`pcfserver.exe` or `pcfservice.exe`) running on Windows is required to use the PCFILES libname engine to access Microsoft Access database files, Microsoft Excel workbook files, or any ODBC-supported data sources.

You can run SAS PC Files Server as a Windows service or as an application listening to the PCFILES libname engine. SAS PC Files Server provides data encryption and authentication features with default port 9621, which can be configured through the SAS PC Files Server application console. Note that the “bitness” (32-bit or 64-bit) of SAS PC Files Server must match that of the Microsoft ACE driver on the same Windows machine.

SAS/ACCESS Interface to the PI System

Base SAS is required for the installation of SAS/ACCESS Interface to the PI System.

SAS/ACCESS Interface to the PI System uses the PI System Web API, which is HTTPS-based and RESTful. No PI System client software is required to be installed on the machine where SAS is running. However, the PI System Web API (PI Web API 2015-R2 or later) must be installed and activated on the host machine where the user connects.

For information about how to configure the PI System on the server, refer to the *Configuration Guide for SAS 9.4 Foundation for UNIX Environments*, available at the following location:
<http://support.sas.com/documentation/installcenter/en/ikfdtnunxcg/66380/PDF/default/config.pdf>.

SAS/ACCESS Interface to PostgreSQL

Base SAS is required for the installation of SAS/ACCESS Interface to PostgreSQL.

SAS/ACCESS Interface to PostgreSQL includes the required 64-bit ODBC driver.

DBMS Product Required: PostgreSQL Database version 9.1.9 or later

For SAS 9.4M4 and Later

DBMS Product Required: PostgreSQL Database version 9.1.23 or later

SAS/ACCESS Interface to SAP ASE

Base SAS is required for the installation of SAS/ACCESS Interface to SAP ASE (formerly SAS/ACCESS Interface to Sybase).

Note: *Connecting to SAP IQ is not supported by SAS/ACCESS Interface to SAP ASE; use SAS/ACCESS Interface to SAP IQ instead.*

DBMS Product Required: SAP (Sybase) Open Client SDK, Release 15.7 or later (64-bit libraries)

Note: *SAS/ACCESS Interface to SAP ASE no longer supports access to Microsoft SQL Server data. SAS/ACCESS Interface to SAP ASE software uses the CTLIB API calls to access the SAP ASE DBMS product. These CTLIB API calls are not supported by Microsoft SQL Server; therefore, you will have to use SAS/ACCESS Interface to Microsoft SQL Server with an appropriate ODBC driver to gain access to Microsoft SQL Server data.*

SAS/ACCESS Interface to SAP HANA

Base SAS is required for the installation of SAS/ACCESS Interface to SAP HANA.

SAS/ACCESS Interface to SAP HANA requires the ODBC driver (64-bit) for SAP HANA from SAP. The ODBC driver is part of the SAP HANA Client.

DBMS Products Required:

- SAP HANA SPS 08 Server or later
- SAP HANA ODBC Client for SPS 08 or later

For SAS 9.4M4 and Later

DBMS Products Required:

- SAP HANA SPS 11 Server or later
- SAP HANA ODBC Client for SPS 11 or later

SAS/ACCESS Interface to SAP IQ

Base SAS is required for the installation of SAS/ACCESS Interface to SAP IQ (formerly SAS/ACCESS Interface to Sybase IQ).

To obtain the SAP IQ Network Client, release 15.4 and later, contact your database administrator or SAP Technical Support.

DBMS Products Required:

- SAP IQ Network Client version 15.4
- ODBC driver (64-bit version) from SAP

For SAS 9.4M3 and Later

DBMS Products Required:

- SAP IQ Network Client version 16.0 or later
- SAP IQ Database version 16.0 or later
- ODBC driver (64-bit version) from SAP

SAS/ACCESS Interface to Teradata

Base SAS is required for the installation of SAS/ACCESS Interface to Teradata.

DBMS Products Required:

- Teradata Database version 13.10 or later
- Teradata CLIV2 client libraries, TTU 13.10 or later for Solaris for x64 (64-bit libraries)

For SAS 9.4M3

DBMS Products Required:

- Teradata Database version 14.10 or later
- Teradata CLIV2 client libraries, TTU 14.10 or later for Solaris for x64 (64-bit libraries)

For SAS 9.4M4 and Later

DBMS Products Required:

- Teradata Database version 15.10 or later
- Teradata CLIV2 client libraries, TTU 15.10 or later (64-bit libraries)

SAS/ACCESS Interface to Vertica

Base SAS is required for the installation of SAS/ACCESS Interface to Vertica.

SAS/ACCESS Interface to Vertica requires the Vertica ODBC Client Driver. To obtain the Vertica Client ODBC driver, contact your database administrator or Hewlett Packard Technical Support.

DBMS Products Required:

- Vertica Analytic Database version 6.1 or later
- Vertica ODBC client version 6.1 or later

For SAS 9.4M3 and Later

DBMS Products Required:

- Vertica Analytic Database version 7.1 or later
- Vertica ODBC client version 7.1 or later

For information about where to install the ODBC driver and how to configure your SAS software to work with Vertica software, refer to the *Configuration Guide for SAS 9.4 Foundation for UNIX Environments*.

SAS/AF

Products Required for Build Mode

- Base SAS
- SAS/AF

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
- 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.

SAS/EIS

Products Required for Build Mode

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

Other products may be required, depending on the application.

Products Required for Run Mode

- Base SAS
- SAS/EIS
- SAS/GRAPH

Other products may be required, depending on the application.

Memory

- 96 MB required per concurrent user
- 128 MB recommended per concurrent user

Printers

For printing graphics-based objects, a color or gray-scale printer is required.

SAS/Genetics

Base SAS and SAS/GRAPH are required for the installation of SAS/Genetics.

SAS/GIS

Products Required for Build Mode

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

Other products may be required, depending on the application.

Products Required for Run Mode

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

Other products may be required, depending on the application.

Printers

A color or gray-scale printer is required.

SAS/IntrNet

SAS/IntrNet consists of several components that may be installed independently. SAS/IntrNet Server software is installed on an existing SAS system and is included on SAS 9.4 media.

CGI Tools and Applications

Application Dispatcher

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

htmSQL

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

MDDB Report Viewer Application

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

Xplore Sample Web Application

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

Java Tools and Applications

SAS/CONNECT Driver for Java

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

Tunnel Feature

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

SAS/OR

The use of graphics in SAS/OR software requires a SAS/GRAPH license.



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