

# System Requirements

## SAS Activity-Based Management Software Release 6.4 for Windows

This document provides the requirements for installing and running SAS Activity-Based Management Server. You must update your computer to meet the minimum requirements before running SAS Activity-Based Management Server. The major requirements listed in the document are:

- Software Requirements
- Hardware Requirements

For additional information, contact SAS Institute Technical Support. Sites in the U.S. and Canada may call (919) 677-8008. Other sites should contact their SAS Installation Representative or SAS Support Consultant for the nearest SAS Institute office.

## SAS Activity-Based Management 6.4 Client/Server Installation

### Server

#### Software Requirements

	Minimum	Preferred
Operating System	Windows 2000 Server SP3, Windows 2003 Server SP1 * Windows 2003 Server Enterprise Edition is required for use with more than 4 processors	Windows 2003 Server SP2 or newer * Windows 2003 Server Enterprise Edition is required for use with more than 4 processors
SAS Components	SAS 9.1.3 SP4: Base SAS, Core SAS, SAS/ACCESS for OLE DB, SAS/GRAPH, SAS/SHARE	SAS 9.1.3 SP4: Base SAS, Core SAS, SAS/ACCESS for OLE DB, SAS/GRAPH, SAS/SHARE
Citrix <sup>1</sup> (Optional)	Citrix Presentation Server 4	Citrix Presentation Server 4
Web Services	Microsoft Internet Information Services 5.x	Microsoft Internet Information Services 6.x or newer

Database	Microsoft	SQL Server 2000 Standard Edition SP3a for LAN access to OLAP SQL Server 2000 Enterprise Edition SP3a for HTTP access to OLAP SQL Server 2005 Standard Edition SP1 SQL Server 2005 Enterprise Edition SP1 <i>Note: MSAS 2005 is not supported.</i> <sup>4</sup>	SQL Server 2000 Standard Edition SP4 or newer for LAN access to OLAP SQL Server 2000 Enterprise Edition SP4 or newer for HTTP access to OLAP SQL Server 2005 Standard Edition SP2 or newer SQL Server 2005 Enterprise Edition SP2 or newer <i>Note: MSAS 2005 is not supported.</i> <sup>4</sup>
	Oracle	Oracle 10g - 10.2.0.1.0 or higher on Windows Oracle 10g - 10.2.0.1.0 or higher on Sun Solaris or IBM AIX	Oracle 10g - 10.2.0.3.0 or higher on Windows Oracle 10g - 10.2.0.3.0 or higher on Sun Solaris or IBM AIX
Message Queuing		Microsoft Message Queuing (MSMQ)	Microsoft Message Queuing (MSMQ)
Other Operating System Components		.NET 1.1, MDAC 2.8	.NET 1.1, MDAC 2.8 SP1
OLAP Analysis <sup>2</sup>	SAS	SAS OLAP Server 9.1.3 SP4 w/ OLE DB data provider 9.1.35.3 or newer on the Metadata server	SAS OLAP Server 9.1.3 SP4 w/ OLE DB data provider 9.1.35.3 or newer on the Metadata Server
	Microsoft	Microsoft Analysis Services 2000 (MSAS 8.0) SP3a <i>Note: Microsoft Analysis Services 2005 is not supported.</i> <sup>4</sup>	Microsoft Analysis Services 2000 (MSAS 8.0) SP4 or newer <i>Note: Microsoft Analysis Services 2005 is not supported.</i> <sup>4</sup>
Contribution Analysis <sup>3</sup>	Java	Java 2 SDK, SE 1.4.2_05	Java 2 SDK, SE 1.4.2_05
	Web Server	Apache/Tomcat 4.1.18	Apache/Tomcat 5.5 or newer
	SAS Hotfix	9.1.3 SP4 hot fix E9BB48 for TKJNI	9.1.3 SP4 hot fix E9BB48 for TKJNI
Web Browser		Microsoft Internet Explorer 6.0 SP2	Microsoft Internet Explorer 7.0
Installation		Windows Installer 3.1	Windows Installer 3.1 or newer
Adobe Acrobat		Adobe Reader 7	Adobe Reader 8 or newer

<sup>1</sup> If desired, Citrix Presentation Server may be used to allow zero-footprint client computer access to the SAS Activity-Based Management functionality. Use of Citrix software is not required.

<sup>2</sup> OLAP Analysis is an optional component. If integrated OLAP analysis is not required, SAS Activity-Based Management 6.4 can be configured without SAS OLAP Server or MSAS, however OLAP analysis within SAS Activity-Based Management will not function. OLAP analysis can be configured externally using SAS OLAP Server, MSAS, or a 3<sup>rd</sup> party OLAP server as required. The resulting cubes can be viewed with an external OLAP viewer such as SAS Enterprise Guide.

<sup>3</sup> Contribution Analysis is an optional component. If Contribution Analysis is not required, these prerequisite components may be omitted.

<sup>4</sup> MSAS 2005 is not supported. If integrated OLAP analysis is desired, SQL Server 2005 must be used with SAS OLAP Server 9.1.3. Supported alternatives include: SQL Server 2000 with MSAS 2000 or SQL Server 2000 with SAS OLAP 9.1.3.

## Calculation Server

This server hosts the calculation engine for SAS Activity-Based Management. It does not need to be a separate computer from the server listed above.

### Software Requirements

	Minimum	Preferred
Operating System	Windows 2000 Server SP3, Windows 2003 Server SP1  * Windows 2003 Server Enterprise Edition is required for use with more than 4 processors	Windows 2003 Server SP2  * Windows 2003 Server Enterprise Edition is required for use with more than 4 processors
SAS Components	SAS 9.1.3 SP4: Base SAS, Core SAS, SAS/ACCESS for ODBC (if using Microsoft SQL Server) or SAS/Access for Oracle (if using Oracle)	SAS 9.1.3 SP4: Base SAS, Core SAS, SAS/ACCESS for ODBC (if using Microsoft SQL Server) or SAS/Access for Oracle (if using Oracle)
Other Operating System Components	MDAC 2.8 or Microsoft SQL Server Client Tools for the SQL Server ODBC driver Tools (if using Microsoft SQL Server)	MDAC 2.8 SP1 or Microsoft SQL Server Client Tools for the SQL Server ODBC driver Tools (if using Microsoft SQL Server)

### Hardware Requirements

The number and size of models and their associated analysis cubes affects all factors of hardware related performance. The applicability of a specific server platform is primarily dependant on data volumes. The minimum and preferred hardware platforms are estimations only. The minimum server configuration is required to operate the software. As data volumes increase, the processing times will increase as well. There may come a point where the server hardware must be upgraded to allow for faster processing.

	Minimum	Preferred
Processor	Single Processor, 1 GHz	Dual Processor, 3.0 GHz
Memory	2 GB - swap file size equal to twice physical memory	4 GB - swap file size equal to twice physical memory
Hard Disk	5 GB for installation and temporary file space.  Additional disk space for model storage depends on the number, size and complexity of models.  <i>Note: Calculating OLAP fact tables and cubes may require hundreds of gigabytes of additional disk space in some cases. Please consult your sales exec or technical support for more information.</i>	5 GB for installation and temporary file space.  Additional disk space for model storage depends on the number, size and complexity of models.  <i>Note: Calculating OLAP fact tables and cubes may require hundreds of gigabytes of additional disk space in some cases. Please consult your sales exec or technical support for more information.</i>
Network Bandwidth	56k available bandwidth per expected concurrent user	128k available bandwidth per expected concurrent user

## Client

### Software Requirements

	Minimum	Preferred
Operating System	Windows 2000 Professional SP3, Windows XP Professional SP2	Windows XP Professional SP2
Web Browser	Microsoft Internet Explorer 6.0 SP2	Microsoft Internet Explorer 7.0
Adobe Acrobat	Adobe Reader 7	Adobe Reader 8

### Hardware Requirements

	Minimum	Preferred
Processor	1.0 GHz	3.0 GHz
Memory	512 MB	1 GB
Hard Disk	2 GB available disk space / with 1 GB available on System drive.	2 GB available disk space / with 1 GB available on System drive.
Screen Resolution	1024 x 768 pixels screen area and High Color (16-bit) display.	1280 x 1024 pixels screen area and True-Color 32-bit) display.

## SAS Activity-Based Management 6.4 Standalone Installation

### Software Requirements

	Minimum	Preferred
Operating System	Windows 2000 Professional SP3 Windows XP Professional SP2 Windows 2000 Server SP3 Windows 2003 Server SP1	Windows XP Professional SP2 or newer Windows 2003 Server SP2 or newer
SAS Components	SAS 9.1.3 SP4: Base SAS, Core SAS, SAS/ACCESS for OLE DB, SAS/GRAPH, SAS/SHARE, SAS/ACCESS for ODBC (if using Microsoft SQL Server) or SAS/Access for Oracle (if using Oracle)	SAS 9.1.3 SP4: Base SAS, Core SAS, SAS/ACCESS for OLE DB, SAS/GRAPH, SAS/SHARE, SAS/ACCESS for ODBC (if using Microsoft SQL Server) or SAS/Access for Oracle (if using Oracle)
Web Services	Microsoft Internet Information Services 5.x	Microsoft Internet Information Services 6.x or newer

Database		SQL Server 2000 Standard Edition SP3a <sup>1</sup> SQL Server 2000 Developer Edition SP3a SQL Server 2005 Express Edition with Advanced Services SP1 <sup>2</sup> SQL Server 2005 Standard Edition SP1 SQL Server 2005 Developer Edition SP1 <i>Note: MSAS 2005 is not supported.</i> <sup>5</sup>	SQL Server 2000 Standard Edition SP4 or newer <sup>1</sup> SQL Server 2000 Developer Edition SP4 or newer SQL Server 2005 Express Edition with Advanced Services SP2 or newer <sup>2</sup> SQL Server 2005 Standard Edition SP2 or newer SQL Server 2005 Developer Edition SP2 or newer <i>Note: MSAS 2005 is not supported.</i> <sup>5</sup>
Message Queuing		Microsoft Message Queuing (MSMQ)	Microsoft Message Queuing (MSMQ)
OLAP Analysis <sup>3</sup>	SAS	SAS OLAP Server 9.1.3 SP4	SAS OLAP Server 9.1.3 SP4
	Microsoft	Microsoft Analysis Services 2000 (MSAS 8.0) SP3a <i>Note: Microsoft Analysis Services 2005 is not supported.</i> <sup>5</sup>	Microsoft Analysis Services 2000 (MSAS 8.0) SP4 or newer <i>Note: Microsoft Analysis Services 2005 is not supported.</i> <sup>5</sup>
Contribution Analysis <sup>4</sup>	Java	JDK 1.4.2_05	JDK 1.4.2_05
	Web Server	Apache/Tomcat 4.1.18	Apache/Tomcat 5.5 or newer
	SAS Hotfix	9.1.3 SP4 hot fix E9BB48 for TKJNI	9.1.3 SP4 hot fix E9BB48 for TKJNI
Web Browser		Microsoft Internet Explorer 6.0 SP2	Microsoft Internet Explorer 7.0
Installation		Windows Installer 3.1	Windows Installer 3.1 or newer
Adobe Acrobat		Adobe Reader 7	Adobe Reader 8 or newer

<sup>1</sup> SQL Server Standard Edition requires a server operating system.

<sup>2</sup> The SQL Server 2005 Express Editions are free, reduced-capability versions of Microsoft SQL Server. They do not support OLAP analysis. Hence, integrated OLAP analysis using MSAS is not possible. However, integrated OLAP analysis can be configured using SAS OLAP Server.

<sup>3</sup> OLAP Analysis is an optional capability. If integrated OLAP analysis is not required, SAS Activity-Based Management 6.4 can be configured without SAS OLAP Server or MSAS, however OLAP analysis within SAS Activity-Based Management will not function. OLAP analysis can be configured externally using SAS OLAP Server, MSAS, or a 3<sup>rd</sup> party OLAP server as required. The resulting cubes can be viewed with an external OLAP viewer such as SAS Enterprise Guide.

<sup>4</sup> Contribution Analysis is an optional capability. If Contribution Analysis is not required, these prerequisite components may be omitted.

<sup>5</sup> MSAS 2005 is not supported. If integrated OLAP analysis is desired, SQL Server 2005 must be used with SAS OLAP Server 9.1.3. Supported alternatives include: SQL Server 2000 with MSAS 2000 or SQL Server 2000 with SAS OLAP 9.1.3.

## Hardware Requirements

The number and size of models and their associated analysis cubes affects all factors of hardware related performance. The applicability of a specific server platform is primarily dependant on data volumes. The minimum and preferred hardware platforms are estimations only. The minimum server configuration is required to operate the software. As data volumes increase, the processing times will increase as well. There may come a point where the hardware must be upgraded to allow for faster processing. *Due to the relative power of desktop PCs and server PCs, and the fact that a desktop installation must service both client software and the server software, in most cases a desktop installation will not perform as well as a client server installation.*

	Minimum	Preferred
Processor	2.0 GHz	3.0 GHz
Memory	1 GB - swap file size equal to twice physical memory	2 GB - swap file size equal to twice physical memory
Hard Disk	<p>5 GB for installation and temporary file space.</p> <p>Additional disk space for model storage depends on the number, size and complexity of models.</p> <p><i>Note: Calculating OLAP fact tables and cubes may require hundreds of gigabytes of additional disk space in some cases. Please consult your sales exec or technical support for more information.</i></p>	<p>5 GB for installation and temporary file space.</p> <p>Additional disk space for model storage depends on the number, size and complexity of models.</p> <p><i>Note: Calculating OLAP fact tables and cubes may require hundreds of gigabytes of additional disk space in some cases. Please consult your sales exec or technical support for more information.</i></p>

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