



Microsoft Dynamics AX 2009 System Requirements

Microsoft Corporation
Published: October 2011

Microsoft Dynamics AX

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Microsoft Dynamics AX 2009 system requirements

Before you install a Microsoft Dynamics AX system, make sure that the system that you are working with meets or exceeds the minimum network, hardware, and software requirements.

Network requirements

The following table lists the minimum network requirements for the connection between the client and Application Object Server (AOS) and between the AOS and the database in a Microsoft Dynamics AX system.

Value	Client to AOS	AOS to database
Bandwidth (b)	100 megabits per second (Mbps)	100 Mbps
Latency (l)	Less than 5 milliseconds	Less than 5 milliseconds

The total response time for running a task in Microsoft Dynamics AX is expressed by the following formula:

$$\text{Response time} = (\text{Number of calls to and from the server} * l) + \text{Number of bytes sent/b}$$

We recommend that you consider the following types of connections when you plan a system:

- For a system that uses a local area network (LAN), connect directly through a Microsoft Dynamics AX client.
- For a system that uses a wide area network (WAN), connect by using Windows Server Terminal Services or another remote connection product. Windows Server 2008 R2 Remote Desktop Services (Terminal Services) includes TS RemoteApp, TS Easy Print, and TS Web Access. For more information about how to use Terminal Services, see the [Terminal Services site](#) on Microsoft TechNet.

Domain requirements

Consider the following domain requirements when you install Microsoft Dynamics AX:

- Computers that run Microsoft Dynamics AX components must have access to other computers in the same Active Directory domain, and Active Directory must be configured in native mode.
- In the recommended production configuration, Microsoft Dynamics AX components are installed on multiple servers, such as the AOS server, the database server, and the Enterprise Portal server. In a configuration that has multiple Microsoft Dynamics AX servers, the domain must use Kerberos authentication. For more information about how to set up this configuration, see the white paper [Configuring Kerberos Authentication with Role Centers](#).
- To support e-mail alerts in Microsoft Dynamics AX, an SMTP (Simple Mail Transfer Protocol) server must be present in the environment.

Hardware requirements (minimum)

The following minimum hardware is required to install and run Microsoft Dynamics AX:

- An Intel Pentium/Celeron family processor, or a compatible Pentium III Xeon or higher processor, is the minimum requirement. We recommend a processor speed of 1.1 GHz or more.
- We recommend 512 MB or more of RAM.
- 1 GB or more of hard disk space is required.
- Super VGA (1024x768) resolution or higher is required for the monitor.
- A DVD drive is required for installation from a DVD.

Actual requirements vary, based on the system configuration and the applications and features that you install. The following factors are some of the many factors that you must consider when you select appropriate hardware for a Microsoft Dynamics AX installation:

- The number of transactions per hour
- The number of concurrent users
- The number of concurrent Enterprise Portal users
- The number of remote connections
- The number of locations

Software requirements for all computers

The following software must be present on a computer before any Microsoft Dynamics AX components can be installed:

- Microsoft [Windows Installer 3.1](#)
- Microsoft [.NET Framework 3.5](#)

Notes:

- To use Microsoft Dynamics AX with Service Pack 1 for Microsoft .NET Framework 3.5, you may have to download and install the hotfix package that is available with Microsoft Knowledge Base article [957312](#). CustomerSource logon is required.
- Microsoft .NET Framework 4.0 is supported when it is installed side-by-side with Microsoft .NET Framework 3.5.

Software requirements for server computers

The following basic and optional Microsoft Dynamics AX components must be installed on a server:

- Database
- Application Object Server (AOS)
- Role Centers and the Enterprise Portal Framework (Web server)
- Enterprise Portal developer tools (Web server)
- Workflow (Web server)
- Reporting extensions (Web server)

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- Analysis extensions
- Application Integration Framework (AIF) Web services (Web server)
- BizTalk adapter
- Synchronization service for Microsoft Project
- Synchronization proxy for Microsoft Project

All Microsoft Dynamics AX server computers must meet the software requirements that are listed in the following table.

Item	Requirements	Notes
Operating system	Windows Server 2008 R2 Standard Edition, Enterprise Edition, Web Edition, or Datacenter Edition. Service Pack 1 for Windows Server 2008 R2 is supported, but not required. –or– Windows Server 2008 Standard Edition, Enterprise Edition, Web Edition, or Datacenter Edition. Service Pack 2 for Windows Server 2008 is supported but not required. –or– Windows Server 2003 with Service Pack 2, Standard Edition, Web Edition, Enterprise Edition, or Datacenter Edition	<ul style="list-style-type: none"> • For operating systems that are available in both 32-bit and 64-bit versions, both versions are supported. • Important: Microsoft Dynamics AX is not supported on Windows Server for Itanium 64-bit processors. • If you have already installed Office SharePoint Server 2007, and you want to upgrade from Windows Server 2008 to Windows Server 2008 R2, see Microsoft Knowledge Base article 962935.
Authentication	Microsoft Dynamics AX requires that all servers use Windows Authentication to authenticate users.	If you are using an Oracle database, make sure that you have installed and configured the Windows Native Authentication adapter. For more information, see the Oracle documentation.
Internet Information Services (IIS)	IIS 6.0 or later versions	This software is required if you are setting up a Web server.
ASP.NET	ASP.NET 2.0	This software is required if you are setting up a Web server.

Some Microsoft Dynamics AX server components have additional requirements. For more information, see the following table.

Component	Additional requirements	Notes
Database ¹	<ul style="list-style-type: none"> • Microsoft SQL Server 2008 R2 Standard Edition or Enterprise Edition –or– Microsoft SQL Server 2008 Standard Edition or Enterprise Edition. Service Pack 1 and Service Pack 2 are supported but not required. –or– Microsoft SQL Server 2005 Standard Edition or Enterprise Edition, Service Pack 2 or Service Pack 3. –or– Oracle Database 10g R2, Enterprise or Standard • MDAC 2.80.1022.3 is required if you are using a SQL Server database. 	<ul style="list-style-type: none"> • View the minimum hardware requirements for SQL Server at http://www.microsoft.com/sql/default.mspx. • Both 32-bit and 64-bit versions are supported.
Application Object Server (AOS)	<p>If you are using a Microsoft SQL Server database: Microsoft SQL Server 2005 Native Client</p> <p>If you are using an Oracle Database server: Oracle data provider 10.2.0.1</p>	<p>Install this component on the AOS server if the AOS server is separate from the database server.</p>

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Component	Additional requirements	Notes
Role Centers and the Enterprise Portal Framework	<ul style="list-style-type: none"> • Microsoft SharePoint Server 2010 –or– Microsoft SharePoint Foundation 2010 –or– Microsoft Office SharePoint Server 2007 Enterprise Edition with Service Pack 1 –or– Windows SharePoint Services 3.0, Service Pack 1 or Service Pack 2 • SQL Server Analysis Management Objects: If you are using Analysis Services 2008 in your implementation, download the Microsoft SQL Server 2005 Management Objects Collection package, which is included in the SQL Server 2008 Feature Pack – October 2008. If you are using Analysis Services 2005 in your implementation, download the Microsoft SQL Server 2005 Management Objects Collection package, which is included in the SQL Server 2005 Feature Pack – February 2007. 	<ul style="list-style-type: none"> • If you plan to use Microsoft Office SharePoint Server 2007, you must install the Enterprise Edition. For more information, see Office SharePoint Server (Enterprise Client Access License). • Microsoft SharePoint 2010 is supported with Microsoft Dynamics AX 2009 Service Pack 1. If you plan to use SharePoint 2010, you must download and install the hotfix package that is available with Microsoft Knowledge Base article 2278963. CustomerSource logon is required. For more information about how to install and deploy Enterprise Portal on SharePoint 2010, see the related post on the Microsoft Dynamics AX Sustained Engineering blog. • According to the SharePoint hardware and software requirements, a minimum of 1 GB of RAM is required. However, Enterprise Portal requires a minimum of 2 GB of RAM. • To use Enterprise Portal together with Microsoft .NET Framework 3.5, Service Pack 1, you must download and install the hotfix package that is available with Microsoft Knowledge Base article 957312. CustomerSource logon is required.
Enterprise Portal developer tools	Visual Studio 2008	<p>Role Centers and the Enterprise Portal framework must be installed on the computer where you install the developer tools.</p> <p>To use Enterprise Portal together with Microsoft .NET Framework 3.5, Service Pack 1, you must download and install the hotfix package that is available with Microsoft Knowledge Base article 957312. CustomerSource logon is required.</p>
Workflow	No additional software is required.	

Component	Additional requirements	Notes
Reporting extensions	<ul style="list-style-type: none"> • Microsoft SQL Server 2008 R2 Reporting Services –or– • Microsoft SQL Server 2008 Reporting Services. Service Pack 1 and Service Pack 2 are supported but not required. –or– • Microsoft SQL Server 2005 Reporting Services with Service Pack 2 or Service Pack 3 • Download the Windows SDK For Windows Server 2008 and the .NET Framework 3.5. When you install the SDK, select the .NET Development Tools component. No other SDK components are required. • Download and install the Microsoft Visual Studio 2008 Shell (isolated mode) Redistributable Package. 	<ul style="list-style-type: none"> • To use reporting extensions together with SQL Server 2008 Reporting Services, you must download and install the hotfix package that is available with Microsoft Knowledge Base article 957312. • If you are using SQL Server 2008 Reporting Services, some charts in Role Centers have incorrect scale values on the y-axis. To work around this issue, see this post on the Microsoft Dynamics AX Sustained Engineering blog. • If the primary database in your Microsoft Dynamics AX system is an Oracle Database Server, a SQL Server database server must also be running in the environment. Otherwise, you cannot use the reporting extensions. • The reporting extensions are not supported on a report server that is configured to run in SharePoint integrated mode. • You may encounter issues when you install and configure SQL Server 2005 Reporting Services on Windows Server 2008. For more information, see the Microsoft Dynamics AX Installation Guide. • For more information about how to install prerequisites for the reporting extensions, see the Microsoft Dynamics AX Installation Guide.

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Component	Additional requirements	Notes
Analysis extensions ¹	<ul style="list-style-type: none"> • Microsoft SQL Server 2008 R2 Analysis Services –or– Microsoft SQL Server 2008 Analysis Services. SQL Server Service Pack 1 and Service Pack 2 are supported but not required. –or– Microsoft SQL Server 2005 Analysis Services with SQL Server Service Pack 2 or Service Pack 3. • SQL Server Management Studio • SQL Server Business Intelligence Development Studio • Cumulative Update 8 for Microsoft SQL Server 2005, Service Pack 2 	<ul style="list-style-type: none"> • If the primary database in your Microsoft Dynamics AX system is an Oracle Database Server, a SQL Server database server must also be running in the environment. Otherwise, you cannot use the analysis extensions. • If you are using a 64-bit version of Oracle Database Server and a 64-bit version of SQL Server Analysis Services, you must install the 32-bit Oracle client on the analysis server. • You can install Management Studio and Business Intelligence Development Studio by using the SQL Server 2005 or SQL Server 2008 installation wizard. For detailed installation instructions, see the SQL Server documentation.
Application Integration Framework (AIF) Web services	<p>If you use AIF Web services to exchange documents with external partners, we recommend that you install the Windows SDK.</p>	<p>The SDK contains tools that make it easier to configure Web services. In particular, the Windows Communication Foundation (WCF) Configuration Editor Tool, SvcConfigEditor.exe, provides a graphical user interface that you can use to create and modify configuration settings. Otherwise, you must directly modify XML configuration files.</p>
BizTalk adapter	<p>Microsoft BizTalk Server 2010 (supported with Microsoft Dynamics AX 2009 Service Pack 1 or later)</p> <p>–or–</p> <p>BizTalk Server 2009</p> <p>–or–</p> <p>BizTalk Server 2006</p> <p>–or–</p> <p>BizTalk Server 2006 R2 Standard Edition or Enterprise Edition</p>	
Microsoft Project synchronization service	<p>Message Queuing with Directory Integration Services. Message Queuing is also known as MSMQ.</p>	<p>This software must be installed on the computer where you are installing the synchronization service.</p>

Component	Additional requirements	Notes
Microsoft Project synchronization proxy	The environment must include a computer that is running the synchronization service and a computer that is running Microsoft Office Project Server 2007, Service Pack 1.	To use integration with Project Server, the synchronization proxy must be installed on the same computer as the Project Server Interface (PSI) Web service.

¹In addition, note the following requirements when you install a Microsoft Dynamics AX database:

- Microsoft Dynamics AX 2009 customers who use an Oracle database must run their database server on a Windows operating system.
- Microsoft Dynamics AX supports Unicode collations that are case-insensitive, accent-sensitive, kana-sensitive, and width-insensitive. The collation must match the Microsoft Windows locale of the computers that are running instances of Application Object Server (AOS). If you are setting up a new Microsoft Dynamics AX installation, we recommend that you select a Windows collation instead of a SQL collation. For more information about how to select a collation for a SQL Server database, see the [SQL Server documentation](#).

Software requirements for client computers

The following Microsoft Dynamics AX components can be installed on client computers:

- Application files
- Windows client
- Debugger
- Reporting tools
- .NET Business Connector

 **Note:**

These components can also be installed on any of the supported server operating systems.

Microsoft Dynamics AX client computers must meet the software requirements that are listed in the following table.

Item	Requirements	Notes
Operating system	Windows 7 Professional Edition or Ultimate Edition. Service Pack 1 is supported, but not required. –or– Windows Vista Business Edition, Ultimate Edition, or Enterprise Edition, Service Pack 1 –or– Windows XP Professional Edition, Service Pack 2	For operating systems that are available in both 32-bit and 64-bit versions, both versions are supported.

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Item	Requirements	Notes
Web browser	Internet Explorer 8.0 –or– Internet Explorer 7.0 –or– Internet Explorer 6, Service Pack 2 –or– Mozilla Firefox 2.0	This software is required for client computers that access Role Centers or Enterprise Portal.
Microsoft Office System	2010 Office release –or– 2007 Office release, Service Pack 1 or Service Pack 2 –or– 2003 Office release, Service Pack 3	To use MAPI email together with Microsoft Dynamics AX, the 32-bit version of Microsoft Outlook is required.
SQL Server Analysis Management Objects (AMO)	<ul style="list-style-type: none"> If you are using SQL Server Analysis Services 2005, download the Microsoft SQL Server 2005 Management Objects Collection package, which is included in the SQL Server 2005 Feature Pack – February 2007. If you are using SQL Server Analysis Services 2008, download the Microsoft Analysis Management Objects package, which is included in the SQL Server 2008 Feature Pack – October 2008. 	This software is required on client computers that are used to administer the OLAP database.

Some Microsoft Dynamics AX client components have additional requirements. For more information, see the following table.

Component	Additional requirement	Notes
Application files	The shared location where the application files are installed cannot be configured as a Distributed File System (DFS).	You can install the Microsoft Dynamics AX application files on any computer that is running Windows.
Windows client	No additional software is required.	
Debugger	No additional software is required.	

Component	Additional requirement	Notes
Reporting tools	<ul style="list-style-type: none"> Visual Studio 2008 Another computer in the same domain must be running SQL Server Reporting Services. 	We recommend that you download the Visual Studio hotfix that is available in Microsoft Knowledge Base article 947173 . In Visual Studio 2005, when you opened an RDLC file for SQL Server 2005 Reporting Services, a DataSets panel was available. You could use this panel to drag fields onto the design surface for a report. By default, the DataSets panel is not available in Visual Studio 2008. However, the hotfix makes the DataSets panel available.
.NET Business Connector	No additional software is required.	

64-bit operating system support

The following table summarizes how Microsoft Dynamics AX components run on 64-bit operating systems.

32-bit versions of server components cannot be installed on 64-bit operating systems. Setup automatically detects the operating system that you are installing on, and the appropriate versions of the Microsoft Dynamics AX server components are installed.

Some client components can run in 32-bit mode on 64-bit operating systems. The "Windows on Windows" subsystem enables 32-bit programs to run without modification on 64-bit versions of Windows.

Component	Runs on a 64-bit operating system	Runs in 32-bit mode on a 64-bit operating system	Notes
Application files	Yes	N/A	
Application Object Server (AOS)	Yes	No	
Windows client	No	Yes	
Role Centers and the Enterprise Portal framework	Yes	No	
Workflow	Yes	No	
Analysis extensions	Yes	No	

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Component	Runs on a 64-bit operating system	Runs in 32-bit mode on a 64-bit operating system	Notes
Reporting extensions	Yes	No	The 32-bit version of SQL Server Reporting Services can be installed on a 64-bit operating system. However, the Microsoft Dynamics AX reporting extensions are not supported in this scenario.
Reporting tools	No	Yes	
Synchronization service	Yes	No	
Synchronization proxy	Yes	No	
Application Integration Framework (AIF) Web services	Yes	No	
BizTalk adapter	Yes	No	
.NET Business Connector	Yes	Yes	Both the 32-bit and 64-bit versions of .NET Business Connector are installed when you are using a 64-bit operating system.

Virtual server support

Microsoft Dynamics AX 2009 is certified on Windows Server 2008 with Hyper-V Virtualization. Microsoft Dynamics AX 2009 also supports other virtualization solutions that participate in the Server Virtualization Validation Program, based on the guidelines that are listed for all Microsoft software as part of Knowledge Base article [897615](#).

To use Hyper-V in a production environment, you must download the update for Windows Server 2008 that is described in Knowledge Base article [950050](#). The Beta version of Hyper-V, which is included with Windows Server 2008 by default, is not supported.

Virtual client support

The Microsoft Dynamics AX 2009 client is supported on Microsoft Application Virtualization (App-V) 4.6. App-V enables virtualization of the client on 32-bit and 64-bit Microsoft operating systems. App-V provides deployment and maintenance capabilities through Microsoft System Center Configuration Manager 2007.

For software requirements, white papers, and other information, see the [Application Virtualization TechCenter](#).

Development suite support

Visual Studio 2008 is the development suite that is supported for Microsoft Dynamics AX 2009. Visual Studio 2010 is supported when it is installed side-by-side with Visual Studio 2008.