

# Microsoft Dynamics AX 2009

## System Requirements

### Network requirements

The following table lists the minimum network requirements for the connection between the client and the Application Object Server (AOS) and the connection 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 can be 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 planning your 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 using Windows Server Terminal Services or another remote connection product. For more information about using Terminal Services, see the [Terminal Services site](#) on Microsoft TechNet.

### Domain requirements

Consider the following domain requirements when installing Microsoft Dynamics AX:

- Computers running Microsoft Dynamics AX components must have access to other computers in the same Active Directory directory service domain, with Active Directory 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 with multiple Microsoft Dynamics AX servers, the domain must use Kerberos authentication.
- To support e-mail alerts in Microsoft Dynamics AX, an SMTP (Simple Mail Transfer Protocol) server must be present in the environment.

## Minimum hardware

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

Item	Requirement
Processor	Intel Pentium/Celeron family or compatible Pentium III Xeon or higher processor minimum; 1.1 GHz or higher recommended
RAM	512 MB RAM or more recommended
Monitor	Super VGA (1024x768) or higher resolution monitor
Other	DVD drive (required for installation from DVD)

Actual requirements will vary based on your system configuration and the applications and features you choose to install. Choosing appropriate hardware for a Microsoft Dynamics AX installation depends on many factors, including the following:

- Number of transactions per hour
- Number of concurrent users
- Number of concurrent Enterprise Portal users
- Number of remote connections
- 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 .NET Framework 3.5
- Microsoft Windows Installer 3.0

## Software requirements for server computers

The following basic and optional Microsoft Dynamics AX components require a server installation:

- Database
- Application Object Server (AOS)
- Role Centers and Enterprise Portal framework (Web server)
- Workflow (Web server)
- Reporting extensions (Web server)
- Analysis extensions
- Enterprise Portal developer tools (Web server)
- Application Integration Framework (AIF) Web services (Web server)
- BizTalk Adapter (**Important:** The BizTalk adapter cannot be installed on Windows Server 2008.)
- Synchronization proxy for Microsoft Project
- Synchronization service for Microsoft Project

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

Item	Requirements	Notes
Operating system	Microsoft Windows Server 2003 with Service Pack 2, Standard Edition, Web Edition, Enterprise Edition, or Datacenter Edition - or - Windows Server 2008 Standard Edition, Enterprise Edition, Web Edition, or Datacenter Edition	For operating systems that are available in both 32-bit and 64-bit versions, both versions are supported. <b>Important:</b> Microsoft Dynamics AX is not supported on Windows Server for Itanium 64-bit processors.
Authentication	Microsoft Dynamics AX requires that all servers use Windows Authentication to authenticate users.	If you are using an Oracle database, ensure that you have installed and configured the Windows Native Authentication adapter. See the Oracle documentation for details.
Internet Information Services (IIS)	IIS 6.0 or later	Required if setting up a Web server.
ASP.NET	ASP.NET 2.0	Required if setting up a Web server.

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

Component	Additional requirement	Notes
Database <sup>1</sup>	Microsoft SQL Server 2005, Standard or Enterprise editions, with Service Pack 2 or later - or - Oracle Database 10g R2, Enterprise or Standard	View the <a href="#">minimum hardware requirements for SQL Server</a> . Both 32-bit and 64-bit versions are supported.
	MDAC 2.80.1022.3	Required if using a SQL Server database.
AOS	If using a Microsoft SQL Server database: Microsoft SQL Server 2005 Native Client If using an Oracle Database server: Oracle data provider 10.2.0.1	Install on the AOS server if the AOS server is separate from the database server.
Role Centers and	Microsoft Windows SharePoint Services	The SharePoint hardware and software

Component	Additional requirement	Notes
the Enterprise Portal framework	3.0, Service Pack 1 - or - Microsoft Office SharePoint Server 2007, Service Pack 1	requirements state that a minimum of 1 GB of RAM is required. However, Enterprise Portal requires a minimum of 2 GB of RAM.
Workflow	No additional software requirements.	
Reporting extensions	<ul style="list-style-type: none"> <li>• Microsoft SQL Server 2005 Reporting Services with SQL Server Service Pack 2 or later</li> <li>• Download the <a href="#">Windows SDK for Windows Server 2008 and .NET Framework 3.5</a>. When you install the SDK, select the .NET Development Tools component. No other SDK components are required.</li> <li>• Download and install the <a href="#">Microsoft Visual Studio 2008 Shell</a> (isolated mode) Redistributable Package.</li> </ul>	<ul style="list-style-type: none"> <li>• If the primary database in your Microsoft Dynamics AX system is an Oracle Database Server, there must also be a SQL Server database server in the environment in order to use the reporting extensions.</li> <li>• The reporting extensions are not supported on a report server that is configured to run in SharePoint integrated mode.</li> <li>• You may encounter issues when installing and configuring SQL Server 2005 Reporting Services on Windows Server 2008. For more information, see the <a href="#">Microsoft Dynamics AX Installation Guide</a>.</li> <li>• For more information about installing prerequisites for the reporting extensions, see the <a href="#">Installation Guide</a>.</li> </ul>
Analysis extensions	<ul style="list-style-type: none"> <li>• Microsoft SQL Server 2005 Analysis Services with SQL Server Service Pack 2 or later</li> <li>• You must install SQL Server Management Studio, which is included with the Microsoft SQL Server client tools. Management Studio is used to administer and process OLAP cubes.</li> </ul>	<ul style="list-style-type: none"> <li>• If the primary database in your Microsoft Dynamics AX system is Oracle Database Server, you must also have access to a SQL Server database server in order to use the analysis extensions.</li> <li>• If you are using a 64-bit version of Oracle Database Server and a 64-bit version of SQL Server Analysis Services, you must</li> </ul>

Component	Additional requirement	Notes
	<ul style="list-style-type: none"> <li><a href="#">Cumulative Update 7</a> for Microsoft SQL Server 2005 Service Pack 2 must be installed.</li> </ul>	install the 32-bit Oracle client on the analysis server.
Enterprise Portal developer tools	Visual Studio 2008	Role Centers and the Enterprise Portal framework must be installed on the computer where you install the developer tools.
AIF Web services	If you use AIF Web services to exchange documents with external partners, we recommend installing the <a href="#">Windows SDK</a> .	The SDK contains tools that make it easier to configure Web services. In particular, the Windows Communication Foundation (WCF) Configuration Editor Tool (SvcConfigEditor.exe) allows you to create and modify configuration settings using a graphical user interface instead of directly editing XML files.
BizTalk adapter	The BizTalk adapter runs on Microsoft BizTalk Server 2006 or BizTalk Server 2006 R2, Standard or Enterprise edition.	<b>Important:</b> The BizTalk adapter cannot be installed on Windows Server 2008.
Microsoft Project synchronization proxy	The environment must include a computer running the synchronization service and a computer running Microsoft Office Project Server 2007, Service Pack 1.	To use the integration with Project Server, the synchronization proxy must be installed on the same computer as the Project Server Interface (PSI) Web service.
Microsoft Project synchronization service	Microsoft Message Queuing (MSMQ) with Directory Integration Services	Must be installed on the computer where you are installing the synchronization service.

<sup>1</sup>In addition, note the following when installing a Microsoft Dynamics AX database:

- Customers using 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 Windows locale of the computers running instances of the AOS. If you are setting up a new installation, we recommend that you choose a Windows collation rather than a SQL collation. For more information about choosing 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 listed in the following table.

Item	Requirements	Notes
Operating system	Windows Vista Business Edition, Ultimate Edition, or Enterprise Edition, Service Pack 1 - or - Windows XP Professional Edition, Service Pack 2 or Service Pack 3	For operating systems that are available in both 32-bit and 64-bit versions, both versions are supported.
Web browser	Internet Explorer 6.0, Service Pack 2 - or - Internet Explorer 7.0 - or - Mozilla Firefox 2.0	Required for client computers that access Role Centers or Enterprise Portal.
Microsoft Office system	2003 Office release, Service Pack 3 - or - 2007 Office release, Service Pack 1	
SQL Server Analysis Management Objects (AMO)	Microsoft SQL Server 2005 Management Objects Collection is included in several SQL Server feature packs.	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 requirements.	

Component	Additional requirement	Notes
Debugger	No additional software requirements.	
Reporting tools	Must have access to a computer in the same domain that is running SQL Server Reporting Services.	
	Visual Studio 2008	We recommend downloading the Visual Studio hotfix available in Microsoft Knowledge Base article number <a href="#">947173</a> . In Visual Studio 2005, when you opened a SQL Server Reporting Services 2005 RDLC file, a DataSets panel was available to drag and drop fields onto the report design surface. In Visual Studio 2008, the DataSets panel is not available by default. This hotfix makes the DataSets panel available.
.NET Business Connector	No additional software requirements.	

### 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 you are installing on, and the appropriate versions of 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 allows 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 Enterprise Portal	Yes	No	

Component	Runs on a 64-bit operating system	Runs in 32-bit mode on a 64-bit operating system	Notes
framework			
Workflow	Yes	No	
Analysis extensions	Yes	No	
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 the .NET Business Connector are installed when you are using a 64-bit operating system.

### Development suite support

Visual Studio 2008 is the supported development suite for Microsoft Dynamics AX 2009.