

# Installing BizTalk Server 2000

Welcome to the Microsoft® BizTalk™ Server 2000 installation guide. It provides guidelines for hardware and software requirements, and complete instructions for the following installation options:

- **Complete Installation.** Enables you to perform a complete installation of BizTalk Server 2000 that includes all BizTalk services and tools.
- **Tools Installation.** Enables you to perform a complete installation of the BizTalk Server 2000 tools, including BizTalk Orchestration Designer, BizTalk Document Tracking, BizTalk Editor, and BizTalk Mapper. The BizTalk Server 2000 parser, serializer, correlation, and run-time binaries are not installed.
- **Custom Installation.** Enables you to perform a custom installation that includes any combination of BizTalk Server 2000 tools and services.

**Important** A comprehensive set of BizTalk Server 2000 documentation is provided with this product. To use the documentation after you install BizTalk Server, click **Start**, point to **Programs**, point to **Microsoft BizTalk Server 2000**, and then click **BizTalk Server Documentation**.

This guide includes the following topics:

- Hardware and Software Requirements
- Installation Instructions

**Important** Before installing the software, it is strongly recommended that you review the Microsoft BizTalk Server 2000 Readme file, which contains important, late-breaking information about BizTalk Server 2000. The Readme also contains important information about the French, German, and Japanese versions of the product.

## Hardware and Software Requirements

This section includes information about minimum hardware requirements and configuration options to install Microsoft BizTalk Server 2000. It also includes installation instructions for the prerequisite software needed for BizTalk Server 2000.

The following topics are covered in this section:

- [Minimum Hardware Requirements](#)
- [Recommended Configuration to Optimize Performance for Document Messaging](#)
- [Software Requirements](#)
- [Windows 2000 Prerequisites](#)
- [Installing SQL Server 7.0 or SQL Server 2000](#)
- [Installing Visio 2000 SR-1A](#)

### Minimum Hardware Requirements

The minimum hardware requirements for a basic installation of Microsoft BizTalk Server 2000 include:

- An Intel® Pentium 300 processor.
- 128 megabytes (MB) of RAM.
- A 6-gigabyte (GB) hard disk.

- A CD-ROM drive.
- A network adapter card.
- A VGA or Super VGA monitor.
- A Microsoft Mouse or compatible pointing device.

## Recommended Configuration to Optimize Performance for Document Messaging

The following are guidelines to help you achieve optimal performance with BizTalk Server 2000:

- Build a three-computer configuration. In a three-computer configuration, install BizTalk Server 2000 on one computer, install the Tracking database on a second computer, and install the BizTalk Messaging Management and Shared Queue databases on a third computer.
- For a configuration in which a single server is performing all processing and receiving functions, configure two BizTalk Server 2000 servers, one dedicated to processing and the other dedicated to receiving.
- Install the Tracking database on a computer with multiple physical hard disks. The optimal configuration includes four SCSI II hard disks and a SCSI II controller. The first hard disk is dedicated to document-tracking storage. The second hard disk is dedicated to the Microsoft Windows® 2000 system page file. The third hard disk is dedicated to the Tracking transaction log. The fourth hard disk is dedicated to the Distributed Transaction Coordinator (DTC) log.
- Create multiple instances of receive functions to monitor multiple receive locations for documents that are to be processed. To balance the load of documents across several computers, locate the receive functions on separate computers. Each monitoring location must be unique and must have a separate receive function. To avoid overloading any individual receive function, the business application that sends documents must evenly distribute the documents to all the monitoring locations.

**Important** For more information about performance enhancements to BizTalk Server, see *Enhancing Performance and Scalability in BizTalk Server 2000 Help*.

## Software Requirements

The following table lists the software that must be installed to run Microsoft BizTalk Server 2000.

Complete installation	Tools installation	Custom installation
Microsoft Windows 2000 Server, Microsoft Windows 2000 Advanced Server, or Microsoft Windows 2000 Professional with the NTFS file system and Service Pack 1	Microsoft Windows 2000 Server, Microsoft Windows 2000 Advanced Server, or Microsoft Windows 2000 Professional with the NTFS file system and Service Pack 1	Microsoft Windows 2000 Server, Microsoft Windows 2000 Advanced Server, or Microsoft Windows 2000 Professional with the NTFS file system and Service Pack 1
Microsoft Internet Explorer 5 or later	Microsoft Internet Explorer 5 or later	Microsoft Internet Explorer 5 or later
Microsoft Visio® 2000 SR-1A or	Microsoft Visio 2000 SR-1A or	Microsoft Visio 2000 SR-1A or

later (required to use BizTalk Orchestration Designer)	later (required to use BizTalk Orchestration Designer)	later (required to use BizTalk Orchestration Designer)
Microsoft SQL Server™ 7.0 and SQL Server Service Pack 2 (SP2) or SQL Server 2000		Microsoft SQL Server 7.0 and SQL Server Service Pack 2 (SP2)* or SQL Server 2000
<b>Note</b> BizTalk Messaging Manager will not run unless the World Wide Web Publishing Service is running.	<b>Note</b> BizTalk Messaging Manager will not run unless the World Wide Web Publishing Service is running.	<b>Note</b> BizTalk Messaging Manager will not run unless the World Wide Web Publishing Service is running.

\*Microsoft SQL Server is required for a custom installation only if you install the core BizTalk Services. It is not required for a tools installation.

## Windows 2000 Prerequisites

Microsoft Windows 2000 Server, Microsoft Windows 2000 Advanced Server, and Microsoft Windows 2000 Professional with Service Pack 1 are the recommended platforms for all Microsoft BizTalk Server 2000 installations. Because BizTalk Server 2000 has been thoroughly tested on Windows 2000 with Service Pack 1, this installation guide includes detailed information regarding the necessary configuration of Windows 2000 Server, Windows 2000 Advanced Server, and Windows 2000 Professional in combination with BizTalk Server. After installing Windows 2000 Server, Advanced Server, or Professional with Service Pack 1, you must add a Windows 2000 user account to the Administrators group before you install any software. For more information, see "[Add a User Account to the Administrators Group](#)". You must also install Message Queuing. For more information, see "[Install Message Queuing](#)". If your installation does not include Service Pack 1, you must install it. For more information, see "Install Windows 2000 Service Pack 1".

The following topics are covered in this section:

- [Install Windows 2000 Server, Advanced Server, or Professional with Service Pack 1](#)
- [Install Windows 2000 Service Pack 1](#)
- [Install Message Queuing](#)
- [Install Internet Information Services \(IIS\)](#)
- [Configure IIS Settings for BizTalk Server 2000](#)
- [Setting Up User Accounts](#)

### Install Windows 2000 Server, Advanced Server, or Professional with Service Pack 1

If Windows 2000 Server, Advanced Server, or Professional is installed on your computer, be sure that you meet the requirements listed in step 2 below.

1. Insert the Windows 2000 Server, Advanced Server, or Professional with Service Pack 1 compact disc into the appropriate drive.

If you do not have a version of Windows 2000 that includes Service Pack 1, first install Windows 2000 and then install Service Pack 1 separately.

2. Run the Windows 2000 Server, Advanced Server, or Professional with Service Pack 1 Setup program and follow the online instructions.

Observe the following requirements:

- Use only alphanumeric characters in the computer name because Microsoft SQL Server supports a limited character set in server computer names.
- Format the partition with the Windows NT File System (NTFS).
- On the **Windows 2000 Components** page, in the **Components** list, click **Message Queuing Services**. If you are installing Windows 2000 Professional, click **Internet Information Services (IIS)** and click **Next**. On the **Message Queuing Type** page, click **Next**.
- On the **Network Settings** page, click **Typical settings**.

## Notes

- After installing Windows 2000 Server, Advanced Server, or Professional with Service Pack 1, you must add a Windows 2000 user account to the Administrators group before you install any software. For more information, see "[Add a User Account to the Administrators Group](#)".
- If you did not select **Message Queuing Services** on the **Windows 2000 Components** page during setup, you must install it. For more information, see "[Install Message Queuing](#)".
- If you did not select **Internet Information Services (IIS)** on the **Windows 2000 Components** page during setup of Windows 2000 Professional, you must install it. For more information, see "[Install Internet Information Services \(IIS\)](#)".
- If your installation did not include Service Pack 1, you must install it. For more information, see "[Install Windows 2000 Service Pack 1](#)".
- The Windows 2000 Server, Advanced Server, or Professional partition must be converted to the most recent version of NTFS. Setup automatically performs this update if the existing file system is the old version of NTFS. If the existing partition is FAT or FAT32, you are given the option to convert to NTFS. When prompted, choose NTFS.

### **Install Windows 2000 Service Pack 1**

1. Insert the Windows 2000 Service Pack 1 compact disc into the appropriate drive.

You can also go to the downloads area of the Microsoft Windows 2000 Web site ([www.microsoft.com/windows2000/](http://www.microsoft.com/windows2000/)) to download Windows 2000 Service Pack 1 or to order the compact disc.

2. Run the Windows 2000 Service Pack 1 Setup program and follow the online instructions.

### **Install Message Queuing**

1. On the **Start** menu, point to **Settings** and click **Control Panel**.
2. Double-click **Add/Remove Programs**.

The **Add/Remove Programs** dialog box appears.

3. Click **Add/Remove Windows Components**.

The Windows Components Wizard opens.

4. In the **Components** list, select the **Message Queuing Services** check box and click **Next**.
5. On the **Message Queuing Type** page, click **Next**.
6. Click **Finish** to close the wizard.

**Note** Accept the default settings when installing the Message Queuing Services component.

### **Install Internet Information Services (IIS)**

1. On the **Start** menu, point to **Settings** and click **Control Panel**.
2. Double-click **Add/Remove Programs**.

The **Add/Remove Programs** dialog box appears.

3. Click **Add/Remove Windows Components**.

The Windows Components Wizard opens.

4. In the **Components** list, select the **Internet Information Services (IIS)** check box and click **Next**.
5. Click **Finish** to close the wizard.

## Configure IIS Settings for BizTalk Server 2000

To avoid problems accessing and saving specifications to the BizTalk Server 2000 repository, you must turn off the **Enable authoring** option in Internet Information Services (IIS).

1. On the **Start** menu, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and then double-click **Internet Services Manager**.
2. Click the expand indicator (+) for the local IIS server.
3. Right-click **Default Web Site** and click **Properties**.

The **Default Web Site Properties** dialog box appears.

4. Click the **Server Extensions** tab and clear the **Enable authoring** check box.

## Setting Up User Accounts

If you are installing BizTalk Server 2000 for development purposes only, you can create a standard user account. For more information, see "[Add a User Account to the Administrators Group](#)". If you are installing BizTalk Server 2000 for production purposes, you should create a service account. For more information, see "[Create a Service Account](#)". If you do not create a service account, which is a regular user account with specific properties, BizTalk Server 2000 is automatically configured for the interactive user (the user who is currently logged on during the setup process). If BizTalk Server 2000 is set up with an interactive user, it fails if the specified user logs off from the server.

The following topics are covered in this section:

- [Add a User Account to the Administrators Group](#)
- [Create a Service Account](#)

### Add a User Account to the Administrators Group

1. Log on as Administrator.
2. On the **Start** menu, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and then double-click **Computer Management**.
3. In the console tree, click the expand indicator (+) for **Local Users and Groups**.
4. Click **Groups** and, in the details pane, double-click **Administrators**.

The **Administrators Properties** dialog box appears.

5. Click **Add**.
6. In the **Look in** box, click your computer name.
7. In the text box that contains the text *<<Type names separated by semicolons or choose from list>>*, delete the text and type your domain and user name in the following format:

**Domain\user name**

8. Click **OK**.
9. If necessary, on the **Enter Network Password** page, complete the following:
  - In the **Connect as** box, type your domain and user name in the following format:

**Domain\user name**

- In the **Password** box, type the password associated with your user name and click **OK**.
  - Click **OK** to close the **Administrators Properties** dialog box.
10. If necessary, restart the computer and log on using your domain user account.

### Create a Service Account

1. Log on as Administrator.
2. On the **Start** menu, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and then double-click **Computer Management**.

The **Computer Management** dialog box appears.

3. In the console tree, click the expand indicator (+) for **System Tools** and click **Local Users and Groups**.
4. Click **Users**, right-click anywhere in the details pane, and then click **New User**.

The **New User** dialog box appears.

5. In the **User name** box, type a name for the service account; in the **Password** box, type a password; and then type the same password in the **Confirm password** box.
6. Clear the **User must change password at next logon** check box, click **Create**, and then click **Close**.
7. Close the **Computer Management** window.
8. On the **Start** menu, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and then double-click **Local Security Policy**.

The **Local Security Settings** dialog box appears.

9. In the console tree, click the expand indicator (+) for **Local Policies** and click **User Rights Assignment**.
10. In the details pane, double-click **Act as part of the operating system**, click **Add**, click the account name you just created from the list box, click **Add**, and then click **OK** twice.
11. Repeat steps 8-10 for the **Log on as a service** policy.

If BizTalk Server 2000 is already installed and using the interactive user account, complete the following steps after you have created a service account.

1. On the **Start** menu, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and then double-click **Services**.
2. In the details pane, double-click **BizTalk Messaging Service**.

The **BizTalk Messaging Service Properties (Local Computer)** dialog box appears.

3. Click the **Log On** tab and click **This account**.
4. Click **Browse**, locate the user account name you created, and double-click it.
5. In the **Password** box, type the same password you previously associated with the user account name; in the **Confirm Password** box, type the password again and then click **OK**.
6. A message box appears; click **OK**.
7. Restart the computer.

## Installing SQL Server 7.0 or SQL Server 2000

Prior to installing Microsoft BizTalk Server 2000, you must install Microsoft SQL Server 7.0 and SQL Server Service Pack 2 (SP2) or Microsoft SQL Server 2000. When you install BizTalk Server 2000, the installation procedure creates four BizTalk Server 2000 databases (the BizTalk Messaging Management database, the Shared Queue database, the Tracking database, and the Orchestration Persistence database) within SQL Server.

**Important** If you plan to install BizTalk Server 2000 on a computer that has Microsoft Windows 2000 Professional with Service Pack 1, you must install SQL Server 7.0 and SQL Server Service Pack 2 (SP2) or SQL Server 2000 on another computer. Windows 2000 Professional does not support SQL Server 7.0 or SQL Server 2000 installations. When you install the databases for BizTalk Server 2000, you need to specify the name of the computer where you installed SQL Server 7.0 or SQL Server 2000.

Before you install SQL Server, verify that your logon account is a member of the Windows 2000 Administrators group on the computer on which you want to install SQL Server. For more information about adding your logon account, see "[Add a User Account to the Administrators Group](#)".

If you install SQL Server 2000, you must specify mixed authentication. By default, when you install SQL Server 2000, the authentication mode is set to Windows 2000 only. BizTalk Server 2000 uses SQL Authentication to access the BizTalk Messaging Management, Shared Queue, and Tracking databases and does not work with this setting. Verify that you have the authentication mode set to mixed before installing BizTalk Server 2000. For more information, see "[Set Authentication Mode for SQL Server 2000](#)".

If you install SQL Server on a cluster and you plan to install BizTalk Server 2000 on another computer, you must install SQL Server client tools on the computer where BizTalk Server 2000 is installed. A cluster is a collection of servers that act as a single server. For more information, see "[Install SQL Server Client Tools](#)". When complete, you must use the Client Network Utility to change the default network library from named pipes to TCP/IP. For more information, see "[Change the Default Network Library to TCP/IP](#)".

When you install SQL Server 7.0 or SQL Server 2000, it is important to use the correct collation settings. Collation refers to a set of rules that determines how data is sorted and compared. Character data is sorted using rules that define the correct character sequence, with options for specifying case sensitivity, accent marks, kana character types, and character width. For instance, to store Japanese characters, select case-sensitive sort order to distinguish Japanese-Hiragana from Japanese-Katakana when setting up SQL Server. For more information about collation settings, on the **Start** menu, point to **Programs**, point to **Microsoft SQL Server**, and then click **Books Online**. The topics, Using SQL Collation and Windows Collation Sorting Styles, provide additional information.

The following topics are covered in this section:

- [Install SQL Server 7.0 or 2000](#)
- [Check for SQL Server 7.0 Service Pack 2](#)
- [Install SQL Service Pack 2 for SQL Server 7.0](#)
- [Install SQL Server Client Tools](#)
- [Change the Default Network Library to TCP/IP](#)
- [Set Authentication Mode for SQL Server 2000](#)
- [Verify That SQL Server Is Running](#)
- [Avoid Unnecessary Disk Space Allocation](#)
- [SQL Server and BizTalk Server 2000 Database Interactions](#)

### Install SQL Server 7.0 or 2000

1. Insert the Microsoft SQL Server compact disc into the appropriate drive.
2. Run the SQL Server Setup program and follow the online instructions.



The Setup Wizard walks you through the steps necessary to install SQL Server, but you must observe the following requirements:

- On the **Setup Type** page, click **Typical**.
- On the **Services Accounts** page, use a domain user account (if connected to a network).
- When installing SQL Server 2000, specify mixed authentication.

**Important** If you install SQL Server 7.0, you must install SQL Server 7.0 Service Pack 2 (SP2). You can check to see whether you have SP2 installed by using Query Analyzer. For more information, see "[Check for SQL Server 7.0 Service Pack 2](#)". For more information about installing SQL Server 7.0 SP2, see "[Install SQL Service Pack 2 for SQL Server 7.0](#)".

### Check for SQL Server 7.0 Service Pack 2

1. On the **Start** menu, point to **Programs**, point to **Microsoft SQL Server 7.0**, and then click **Query Analyzer**.

The **Connect to SQL Server** dialog box appears.

2. Click **OK**.

If your server name does not appear in the **SQL Server** list, select it from the list or type it in, and then click **OK**.

3. In the **Query** box, type **SELECT @@VERSION**.
4. On the **Query** menu, click **Execute**.

The first line of the query return indicates the version of SQL Server that is running. If you have SP2 installed, you should see 7.00.842.

### **Install SQL Service Pack 2 for SQL Server 7.0**

1. Insert the SQL Service Pack 2 compact disc into the appropriate drive.
2. Run the SQL Service Pack 2 Setup program and follow the online instructions.

### **Install SQL Server Client Tools**

1. Insert the Microsoft SQL Server compact disc into the appropriate drive.
2. Run the SQL Server Setup program and follow the online instructions.

The Setup Wizard walks you through the steps necessary to install SQL Server, but you must observe the following requirements:

- On the **Installation Selection** page, click **Create a new instance of SQL Server, or install Client Tools**.
- On the **Installation Definition** page, click **Client Tools Only**.

### **Change the Default Network Library to TCP/IP**

1. On the **Start** menu, point to **Programs**, point to **Microsoft SQL Server 7.0** or **Microsoft SQL Server**, and then click **Client Network Utility**.

The **SQL Server Client Network Utility** dialog box appears.

2. If you have installed Microsoft SQL Server 7.0, on the **General** tab, in the **Default network library** list, click **TCP/IP**.

-or-

If you have installed Microsoft SQL Server 2000, on the **Network Libraries** tab, in the **Network Library** list, click **TCP/IP**.

3. Click **OK**.

### **Set Authentication Mode for SQL Server 2000**

1. Click **Start**, point to **Programs**, point to **Microsoft SQL Server**, and then click **Enterprise Manager**.
2. Click the expand indicator (+) for **Microsoft SQL Servers** and for **SQL Server Group**.
3. Right-click the name of your server and click **Properties**.

The **SQL Server Properties** dialog box appears.

4. Click the **Security** tab, click **SQL Server and Windows**, and then click **OK**.

### **Verify That SQL Server Is Running**

Before installing BizTalk Server 2000, verify that SQL Server is running on your server. This is necessary because BizTalk Server 2000 must create four SQL databases during installation.

1. On the **Start** menu, point to **Programs**, point to **Microsoft SQL Server** (if you installed SQL Server 2000) or **Microsoft SQL Server 7.0** (if you installed SQL Server 7.0), and then click **Service Manager**.

The **SQL Server Service Manager** dialog box appears.

2. In the **Server** list, verify that the name of the server is the name of your computer.

If it is not, click the drop-down arrow to view a list of available servers and scroll to locate your server.

3. In the **Services** list, click **MSSQLServer** (for SQL Server 7.0) or **SQL Server** (for SQL Server 2000).
4. Verify that the MSSQLServer or SQL Server service is running.

The service is running if the **Start/Continue** button in the dialog box is unavailable. Also, at the bottom of the dialog box is a message that states that the service is running. For example, \\<servername>—MSSQLServer—Running.

5. If the service is not running, the **Start/Continue** button is available; click it to start the service.

#### **Avoid Unnecessary Disk Space Allocation**

1. Click **Start**, point to **Programs**, point to **Microsoft SQL Server 7.0** or **Microsoft SQL Server**, and then click **Enterprise Manager**.
2. Click the expand indicator (+) for **Microsoft SQL Servers, SQL Server Group, <server name>**, and **Databases**.
3. Right-click the BizTalk Messaging Management database and click **Properties**.

The BizTalk Messaging Management database properties dialog box appears.

4. Click the **Options** tab.
5. In the **Settings** area, select the **Truncate log on checkpoint** and the **Auto shrink** check boxes and click **OK**.

**Note** If you have Microsoft SQL Server 2000 installed, you can only select the **Auto shrink** check box.

6. Repeat steps 3 through 5 for the Tracking and Shared Queue databases.

**Important** You can complete this procedure only if you have BizTalk Server 2000 installed. For more information about installing BizTalk Server 2000, see "[Installation Instructions](#)".

**Note** During setup, the BizTalk Messaging Management database object name defaults to **InterchangeBTM**; the Tracking database object name defaults to **InterchangeDTA**; and the Shared Queue database object name defaults to **InterchangeSQ**. You may have renamed these default database object names during setup.

#### **SQL Server and BizTalk Server 2000 Database Interactions**

To avoid unnecessary disk space allocation, use the **Truncate log on checkpoint** and **Auto shrink** features of Microsoft SQL Server. Otherwise, the SQL Server logs can consume large amounts of disk space.

## Related Topic

[Avoid Unnecessary Disk Space Allocation](#)

## Installing Visio 2000 SR-1A

Because BizTalk Orchestration Designer is a Microsoft Visio 2000-based user interface, you must have Visio 2000 Service Release 1A installed on your computer prior to using BizTalk Orchestration Designer. BizTalk Orchestration Designer has been tested with Visio 2000 Standard Edition SR-1A, and might work with later versions of Visio.

### Install Visio 2000 Standard Edition SR-1A

1. Insert the Visio 2000 Standard Edition SR-1A compact disc (or a later version of Visio 2000 Standard Edition) into the appropriate drive.
2. Run the Visio 2000 Standard Edition SR-1A Setup program and follow the online instructions.

**Note** For more information, see the Microsoft Visio 2000 Standard Edition SR-1A documentation.

## Installation Instructions

You can install Microsoft BizTalk Server 2000 using the Installation Wizard (Microsoft BizTalk Server.msi) or using Microsoft Windows Installer (Msiexec.exe). The Installation Wizard is a step-by-step process in which you select options that correspond to specific property values. The Microsoft Windows Installer allows you to specify property values from the command line. You can use this method to install BizTalk Server 2000 silently (without constant interaction or prompts). A silent installation of BizTalk Server 2000 is ideal for test scenarios or as part of a large-scale enterprise deployment. Regardless of which installation you perform, it is recommended that you maintain a record of the following information for later use:

- BizTalk Server group names
- SQL Server names
- User names
- Passwords
- The BizTalk Messaging Management database name
- The Tracking database name
- The Shared Queue database name
- The WebDAV repository URL

**Important** BizTalk Server 2000 requires Microsoft XML Parser version 3.0. This release of BizTalk Server 2000 automatically installs Microsoft XML (MSXML) Parser version 3.0. If you install other versions of the MSXML parser, it might cause unexpected results with BizTalk Server 2000.

**Note** During BizTalk Server 2000 installation, the installation program determines the hard-disk space availability of your computer. A complete installation will require approximately 52 megabytes (MB), not including the requirements of the BizTalk Messaging Management database, the Tracking database, the Shared Queue database, and the Orchestration Persistence database. A tools installation will require approximately 30 MB of hard disk space. A custom installation will require approximately 2 to 52 MB of hard disk space, not including database requirements, depending on the services and tools that you install.

Before you run Setup, verify that your logon account is a member of the Windows 2000 Administrators group for the computer on which you are installing BizTalk Server 2000. For more information about joining the Administrators group, see "[Add a User Account to the Administrators Group](#)".

**Note** If BizTalk Server was installed using an interactive user, it will not start if a user is not logged on to BizTalk Server 2000. All COM+ packages run under an interactive user account, not the local system account. This means that the service starts only if a user is logged on to BizTalk Server 2000. For example, if a user is not logged on to BizTalk Server 2000 when a client application submits documents to BizTalk Server 2000 remotely, the service does not start. To avoid this situation, create a service account or have the user who starts the service lock the computer and keep the services running in the background. For more information about creating a service account, see "[Create a Service Account](#)".

The following topics are covered in this section:

- [Complete Installation](#)
- [Tools Installation](#)
- [Custom Installation](#)
- [Silent Installation](#)
- [Removing BizTalk Server 2000](#)

## Complete Installation

You can use the following section to perform a complete installation of BizTalk Server 2000 that includes all BizTalk services, tools, and samples.

The following topics are covered in this section:

- [Perform a Complete Installation of BizTalk Server 2000](#)
- [Start the World Wide Web Publishing Service](#)
- [Install BizTalk Document Tracking Remotely](#)

## Perform a Complete Installation of BizTalk Server 2000

1. Insert the Microsoft BizTalk Server 2000 Setup compact disc into the appropriate drive.
2. Run the Microsoft BizTalk Server 2000 Setup program and follow the online instructions.

### Important

- The Setup Wizard guides you through the steps necessary to install BizTalk Server 2000. You must observe the requirements listed in the following steps.
  - BizTalk Server 2000 requires Microsoft XML Parser version 3.0. This release of BizTalk Server 2000 automatically installs Microsoft XML (MSXML) Parser version 3.0. If you install other versions of the MSXML parser, it might cause unexpected results with BizTalk Server 2000.
3. On the **License Agreement** page, read the license agreement, click **I accept this license agreement**, and then click **Next**.

**Note** If you do not accept the license agreement, you cannot continue with the installation.

4. On the **Customer Information** page, type your name in the **User name** box, type the name of your company in the **Organization** box, click either **Anyone who uses this computer (all users)** or **Only for me** if you want to limit access to BizTalk Server 2000, and then click **Next**.
5. On the **Destination Folder** page, click **Next** to install BizTalk Server 2000 to the folder shown on the page, or click **Change** to select another location.
6. On the **Setup Type** page, click **Complete** and click **Next**.

7. On the **Configure BizTalk Server Administrative Access** page, in the **Group name** box, type the group name that you want to use (or accept the default, **BizTalk Server Administrators**).

#### Notes

- To create a group name, adhere to the following group naming restrictions:
  - The group name must be different from any other group or user name on this computer.
  - The group name cannot contain the following characters: ` ! @ # \$ % ^ & \* ( ) + = [ ] { } | \ ; " ' < > , . ?
  - The group name cannot consist solely of periods (.) or spaces.
  - Do not rename this group without also modifying the value of "AdminGroupName" in the Windows registry under HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\BizTalk Server\1.0\NTGroups. BizTalk Server 2000 relies on this registry key to find the group.
8. In the **Group description** box, type a new description for the group name or accept the default and click **Next**.
  9. On the **Microsoft BizTalk Server Service Log On Properties** page, click the default setting, **Local system account**, or click **This account** to limit BizTalk Server 2000 access to a specific user.

If you select **This account**, type a new user name or accept the default name in the **User name** box, type a valid password in the **Password** box.

If you do not want BizTalk Services to automatically start when setup completes, clear the **Start service after setup completes** checkbox. BizTalk Services will not automatically start, but Orchestration Services will.

#### Notes

- BizTalk Server setup will grant **Log on as a service** and **Act as part of the operating system** rights to the account specified on the **Microsoft BizTalk Server Service Log On Properties** page.
  - If you select **This account**, specify an account that is in the Windows 2000 Administrators group. To configure certificates for the S/MIME components by using BizTalk Messaging Manager, you must belong to a user account in the Windows 2000 Administrators group, and BizTalk Messaging Services must be running as a local system account or as a user account in the Windows 2000 Administrators group.
10. Click **Next**.
  11. On the **Ready to Install the Program** page click **Install**.

The BizTalk Server 2000 installation procedure might take several minutes.

12. When the **Welcome to the Microsoft BizTalk Server 2000 Messaging Database Setup Wizard** page appears, click **Next**.

During BizTalk Server 2000 database setup, you are prompted for logon information (server, database, user name, and password) to configure the BizTalk Messaging Management, Tracking, and Shared Queue databases.

**Caution** Do not change the code, such as stored procedures or triggers, in the BizTalk Messaging Management, Tracking, and Shared Queue databases. Do not access the database directly. Do not directly call the stored procedures. Make all changes to the database by using the methods and properties of the BizTalk Messaging Configuration object model. Making changes to the database directly bypasses many constraints enforced by the BizTalk

Messaging Configuration object model and either causes the server to function incorrectly or corrupts the database.

13. On the **Configure a BizTalk Messaging Management Database** page, click either **Create a new BizTalk Messaging Management database** or **Select an existing database** and type a server name and user information in the following text boxes:

- **Server name**
- **User name**
- **Password**
- **Database**

You can choose unique server and database names and type new information or accept the defaults.

#### **Important**

- If you are installing BizTalk Server 2000 on a computer that has Microsoft Windows 2000 Professional with Service Pack 1, the **Server name** you must specify is the name of the computer where you installed Microsoft SQL Server 7.0 or Microsoft SQL Server 2000.
  - If you select **Create a new BizTalk Messaging Management database** and choose an existing database, you should manually delete the contents of the database. For more information about deleting database content, on the **Start** menu, point to **Programs**, point to **Microsoft SQL Server**, and then click **Books Online**. To create a new database with the same name as an existing database on the same server, it is recommended that you manually delete the database content. BizTalk Server setup only verifies if a stored procedure required by the database exists, rather than verifying if all the variables required by the database exist. If a stored procedure exists, BizTalk Server setup does not modify the database. If the stored procedure does not exist, BizTalk Server setup deletes the database. Then it reinitializes the BizTalk Messaging Management database tables. The above-mentioned information is true for the Shared Queue and Tracking databases.
  - If you are set up more than one BizTalk Server installation and want to centrally manage the BizTalk Messaging Management database, it is highly recommended that you review information about BizTalk Server database interactions. For more information about configuring the database, see Changing the BizTalk Messaging Management database in BizTalk Server 2000 Help.
14. Click **Next**.
  15. On the **Configure a BizTalk Server Group** page, type the name that you want to use as your BizTalk Server group in the **Group name** box or accept the default (**BizTalk Server Group**), and then click **Next**.

You can also click **Select an existing BizTalk Server group** and select a name from the **Group Name** list.

**Note** The group name cannot contain the following characters: ` ! @ # \$ % ^ & \* ( ) + = [ ] { } | \ ; " ' < > , . ?

16. On the **Configure a Tracking Database** page, repeat the procedure in step 13 and click **Next**.

**Important** If you change the default **User name** on the **Configure a Tracking Database** page, the account that you specify must have SA-level permissions. This account is used to create a SQL Server user login. After installing BizTalk Server, change the account user name and password to remove SA-level access to the Tracking database by the BizTalk Server service. For more information, see "Configure connection properties for a server group" in Microsoft BizTalk Server 2000 Help. Or you can change the SA-level permission for the account used during setup. For more information about changing SQL Server account

permissions, on the **Start** menu, point to **Programs**, point to **Microsoft SQL Server**, and then click **Books Online**.

17. On the **Configure a Shared Queue Database** page, repeat the procedure in step 13 and click **Next**.
18. On the **Verify BizTalk Server Group** page, verify that the information in the **BizTalk Server group properties** box is correct and click **Next**.
19. On the final page of the **Microsoft BizTalk Server 2000 Messaging Database Setup Wizard**, click **Finish** to complete the configuration of the BizTalk Messaging Management, Tracking, and Shared Queue databases.
20. On the **Welcome to the Microsoft BizTalk Server 2000 Orchestration Persistence Database Setup Wizard** page, click **Next** to install the Orchestration Persistence database.

**Note** If you click **Cancel**, BizTalk Server 2000 is installed, but the Orchestration Persistence database and the Data Source Name (DSN) are not installed. You can install the database and the DSN later. For more information, see "Create a new persistence database," "Configure the default XLANG Scheduler application," and "Configure a COM+ application to host XLANG schedules" in BizTalk Server 2000 Help.

21. On the **Configure a default Orchestration Persistence Database** page, click either **Create a new default Orchestration Persistence database** or **Select an existing database** and then choose a server name and type database information in the appropriate text boxes or, accept the defaults.

### **Important**

- If you select **Create a new default Orchestration Persistence database** and choose a database with the same name, on the same server, as an existing database, BizTalk Server setup deletes everything in the database. BizTalk Server setup then reinitializes the Orchestration Persistence database tables.
- If you are installing BizTalk Server 2000 on a computer that has Windows 2000 Professional with Service Pack 1, the **Server name** you specify is the name of the computer where you installed SQL Server 7.0 or SQL Server 2000.

### **Notes**

- The Orchestration Persistence database is created based on the current user log-on identity.
  - To use SQL Server remotely, you must have the appropriate permissions set for the Orchestration Persistence database. If you have not reconfigured the identity for the XLANG Scheduler Engine, permissions will be granted to the interactive user (the user who was logged on during installation of BizTalk Server 2000). If you have reconfigured the identity for the XLANG Scheduler Engine to match a service account you created or another unique user account, you must set permissions to match the reconfigured identity.
22. Click **Finish**.
  23. On the final page of the Microsoft BizTalk Server 2000 Setup Wizard, click **View Readme** to read important, late-breaking information about BizTalk Server 2000, and then click **Finish**.

**Caution** Do not change the impersonation level for any COM+ application. By default, it is set to Impersonate. Changing this security property to Anonymous, Identify, or Delegate may cause problems during installation.

**Important** To dramatically increase the performance of BizTalk Orchestration Services, in Windows Explorer, browse to Program Files\Common Files\System\ado, and then double-click **adofre15.reg**. In the confirmation dialog box, click **Yes**, and then click **OK**. This procedure changes the ADO



threading model from "Apartment threaded" to "Both" and may affect other applications that use ADO. Any provider that is not thread safe cannot be used.

**Note** BizTalk Messaging Manager will not run unless the World Wide Web Publishing Service is running. For more information about the World Wide Web Publishing Service, see the next section, "[Start the World Wide Web Publishing Service](#)".

### **Start the World Wide Web Publishing Service**

1. On the **Start** menu, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and then double-click **Component Services**.
2. In the console tree, click **Services (Local)**.
3. In the details pane, right-click **World Wide Web Publishing Service** and click **Start**.

### **Install BizTalk Document Tracking Remotely**

When BizTalk Document Tracking is installed from the BizTalk Server 2000 compact disc, a shortcut is created in the program group for BizTalk Server 2000 to access the BizTalk Document Tracking Web application. However, when BizTalk Document Tracking is installed over the Internet, you must manually create a shortcut or a favorite for later access to the Web application. Additionally, to prevent the display of security warning dialog boxes, you must manually configure your browser's settings to trust the Web application.

### **Configure Internet Explorer Security Settings**

1. Click **Start**, point to **Programs**, and then click **Internet Explorer**.
2. On the **Tools** menu, click **Internet Options**.

The **Internet Options** dialog box appears.

3. On the **Security** tab, click **Trusted Sites** and click the **Sites** button.

The **Trusted Sites** dialog box appears.

4. In the **Add this Web site to the zone** box, type the location of the BizTalk Document Tracking server.

To find the location of the BizTalk Document Tracking server, on the **Start** menu, point to **Programs**, point to **Microsoft BizTalk Server 2000**, and then click **BizTalk Document Tracking**. The location of the BizTalk Document Tracking server appears in the **Address** list.

5. Clear the **Require server verification (https:) for all sites in this zone** check box.
6. Click **Add** and click **OK** twice to close the dialog boxes.

### **Tools Installation**

A Microsoft BizTalk Server 2000 tools installation enables you to install only BizTalk Orchestration Designer, BizTalk Document Tracking, BizTalk Editor, BizTalk Mapper, and the BizTalk Server 2000 Help.

### **Perform a Tools Installation of BizTalk Server 2000**

1. Insert the Microsoft BizTalk Server 2000 Setup compact disc into the appropriate drive and follow the on-screen instructions.

**Important** The setup wizard guides you through the steps necessary to install BizTalk Server 2000. Observe the requirements listed in the following steps.

2. On the **License Agreement** page, read the license agreement, click **I accept this license agreement**, and then click **Next**.

**Note** If you do not accept the license agreement, you cannot continue with the installation.

3. On the **Customer Information** page, type your name in the **User name** box, type the name of your company in the **Organization** box, click **Anyone who uses this computer (all users)** or **Only for me** if you want to limit access to BizTalk Server 2000, and then click **Next**.
4. On the **Destination Folder** page, click **Next**.
5. On the **Setup Type** page, click **Tools** and click **Next**.
6. On the **Ready to Install the Program** page of the Microsoft BizTalk Server 2000 Setup Wizard, click **Install**.
7. On the final page of the Microsoft BizTalk Server 2000 Setup Wizard, click **View Readme** to read important, late-breaking information about this release of BizTalk Server 2000.
8. Click **Finish** to complete the installation process.

**Important** To dramatically increase the performance of BizTalk Orchestration Services, in Windows Explorer, browse to Program Files\Common Files\System\ado, and then double-click **adofre15.reg**. In the confirmation dialog box, click **Yes**, and then click **OK**. This procedure changes the ADO threading model from "Apartment threaded" to "Both" and may affect other applications that use ADO.

**Note** To install the BizTalk Server 2000 interchange component on a remote computer, use the Windows 2000 COM Application Export Wizard.

1. On the **Start** menu, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and then double-click **Component Services**.
2. In the console tree, expand Component Services, Computers, My Computer, and COM+ Applications.
3. Right-click **BizTalk Server Interchange Application** and click **Export**.

Follow the on-screen instructions to create an .msi file that you can run on a client computer.

## Custom Installation

A custom Microsoft BizTalk Server 2000 installation enables you to install all the features of BizTalk Server 2000 or only those features that you want.

**Note** If you want to install the server components of BizTalk Server 2000, you must first install Microsoft SQL Server. For more information, see "[Install SQL Server 7.0 or 2000](#)".

### Perform a Custom Installation of BizTalk Server 2000

1. Insert the Microsoft BizTalk Server 2000 Setup compact disc into the appropriate drive and follow the on-screen instructions.

**Important** The Setup Wizard guides you through the steps necessary to install BizTalk Server 2000. You must observe the requirements listed in the following steps.

2. On the **License Agreement** page, read the license agreement, click **I accept this license agreement**, and then click **Next**.

**Note** If you do not accept the license agreement, you cannot continue with the installation.

3. On the **Customer Information** page, type your name in the **User name** box, type the name of your company in the **Organization** box, click **Anyone who uses this computer (all users)** or **Only for me** if you want to limit access to BizTalk Server 2000, and then click **Next**.
4. On the **Destination Folder** page, click **Next**.
5. On the **Setup Type** page, click **Custom** and click **Next**.
6. On the **Custom Setup** page, follow the on-screen instructions to select the BizTalk Server 2000 components that you want to install.

To perform a different type of installation, click **Back**. Otherwise, click **Next**. Additional pages appear on which you provide additional information, depending on the installation components that you have selected.

7. On the **Ready to Install the Program** page, click **Install**.

The BizTalk Server 2000 custom installation procedure might take a few minutes.

8. On the final page of the Microsoft BizTalk Server 2000 Setup Wizard, click **View Readme** to read important, late-breaking information about this release of Microsoft BizTalk Server 2000.
9. Click **Finish** to complete the installation process.

### Important

- BizTalk Messaging Manager will not run unless the World Wide Web Publishing Service is running. To start the World Wide Web Publishing Service:
  1. On the **Start** menu, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and then double-click **Component Services**.
  2. In the console tree, click **Services (Local)**.
  3. In the details pane, right-click **World Wide Web Publishing Service** and click **Start**.
- To dramatically increase the performance of BizTalk Orchestration Services, in Windows Explorer, browse to Program Files\Common Files\System\ado, and then double-click **adofre15.reg**. In the confirmation dialog box, click **Yes**, and then click **OK**. This procedure changes the ADO threading model from "Apartment threaded" to "Both" and may affect other applications that use ADO.

### Silent Installation

The Microsoft Windows Installer allows you to specify property values from the command line. This method gives you the ability to install Microsoft BizTalk Server 2000 silently (without constant interaction or prompts). A silent installation of BizTalk Server 2000 is ideal for test scenarios or as part of a large-scale enterprise deployment.

#### Perform a Silent Installation of BizTalk Server 2000

1. Click **Start** and then click **Run**.
2. In the **Open** box, type **cmd** and click **OK**.
3. Type the following to install BizTalk Server 2000 silently:

```
msiexec /I "\\server\folder\Microsoft BizTalk Server.msi"
```

```
/qb /Lv*"C:\Temp\install.log" INSTALLLEVEL=200
```

```
ALLUSERS=1
```

```
PIDKEY="your 25-character product key (without dashes)"
```

```
DSNCONFIG="C:\Temp\BizTalkInstall.ini"
```

**Important** You must add the ALLUSERS=1 parameter to complete the installation for all users. This parameter also ensures that the services are able to see the registry settings.

**Note** In the preceding code:

- /I is the command line to install or configure a product.
- /qb is the command line to present a basic user interface (progress bar only).
- /Lv\* produces a log file.
- INSTALLLEVEL=200 installs the server. If you do not specify the INSTALLLEVEL, the value defaults to 100, which is the Tools installation of BizTalk Server 2000.
- PIDKEY="your 25-character product key (without dashes)" is the product key. For example, PIDKEY=AB6CDEFGH7IJK8LMN45LLTT34.
- DSNCONFIG="C:\Temp\BizTalkInstall.ini" provides installation information to the setup wizard.

You can specify various options at the command line to set properties for a BizTalk Server 2000 installation. Unspecified properties take on the default values. The properties unique to BizTalk Server 2000 are listed in the following table.

Public property	Value	Description
USERNAME (built-in installer property)	<name> Default: {LogonUser}	The name of the user performing the installation. <b>Customer Information</b> dialog box; <b>User name</b> edit box.
COMPANYNAME (built-in installer property)	<organization> Default: {LogonCompany}	The organization name for the user performing the installation. <b>Customer Information</b> dialog box; <b>Organization</b> edit box.
PIDKEY	<product-id> Default: ""	The CD-key of the form ###-##### for the product. <b>Customer Information</b> dialog box; <b>Serial number</b> masked edit box.
INSTALLLEVEL	<install level>	The feature installation level. For

(built-in installer property)	Default: 100	BizTalk Server 2000 setup, 100=Client and 200=Server setup type.
INSTALLDIR (built-in installer property)	<install path> Default: "{ProgramFiles} \ Microsoft BizTalk Server"	The destination folder for the installation.
BTS_GROUP_NAME (Complete installation only)	<Group Name> Default: "BTSAdmin"	The name of the BizTalk Server 2000 Windows NT group. <b>ConfigAdminGroup</b> dialog box; <b>Group name</b> edit box.
BTS_GROUP_DESCRIPTION (Complete installation only)	<Group Description> Default: "Members can fully administer Microsoft BizTalk Server"	The description of the BizTalk Server 2000 NT group. <b>ConfigAdminGroup</b> dialog box; <b>Group description</b> edit box.
BTS_USERNAME (Complete installation only)	<username> Default: ""	The logon DOMAIN\name for the BizTalk Server 2000 service. <b>ConfigServiceLogon</b> dialog box; <b>User name</b> edit box.
BTS_PASSWORD (Complete installation only)	<password> Default: ""	The logon password for the BizTalk Server 2000 service. <b>ConfigServiceLogon</b> dialog box; <b>Password</b> edit box.
BTS_SERVER (Complete and Tools installation)	<servername> Default: "localhost"	The name of the BizTalk server to remotely administer. <b>ConfigMgmtDesk</b> dialog box; <b>Server name</b> edit box.
BTS_SDK_SERVER (Complete and Tools installation)	<servername> Default: ""localhost""	The name of the BizTalk server to use for DCOM. <b>ConfigSDK</b> dialog box; <b>Server name</b> edit box.
DSNCONFIG (initialization file)	<pathname> Default: ""	The path of the initialization file for the BTSsetupDB.exe and XLANGsetupDB.exe database setup wizard to use.

## Notes

- The DSNCONFIG property is required to complete a silent installation of BizTalk Server 2000. The initialization path file listed on the command line is passed to the BTSsetupDB.exe and XLANGsetupDB.exe database setup wizards. Use one of the following command-line values:
  - DSNCONFIG="Full path to .ini file for BTSsetupDB.exe and XLANGsetupDB.exe"
  - or-
  - BTSSETUPDB.INI="Full path to .ini file for BTSsetupDB.exe" and XLANGSETUPDB.INI="Full path to .ini file for XLANGsetupDB.exe"
- The database setup wizard processes the contents of the initialization file using these rules:
  - All [sections] and keys= are optional; if a key is absent, the default value as shown in the sample initialization file is used.
  - If the GroupName exists in the specified BizTalk Messaging Management database, the [InterchangeDTA] and the [InterchangeSQ] sections are ignored since the group defines the values.
  - Specified databases are created if they do not already exist on the specified server.
- The BizTalk Messaging Management database setup and the Orchestration Persistence database setup are mutually independent.
- Depending on the features you install, setup configures either, neither, or both of the following:
  - BizTalk Messaging Management database - only configured if BizTalk Messaging Services and its associated components are installed.
  - Orchestration Persistence database - only configured if Orchestration Service is installed.
- The following properties are used on the command line:
  - DSNCONFIG - specifies location of .ini file to be used by BTSsetupDB.exe and XLANGsetupDB.exe
  - or-
  - BTSSETUPDB.INI - specifies location of .ini file to be used by BTSsetupDB.exe
  - XLANGSETUPDB.INI - specifies location of .ini file to be used by XLANGsetupDB.exe

**Sample Initialization File with All [Sections], Keys=, and Default Values Shown**

The following is an example of the format of an .ini file needed to silently install BizTalk Server 2000. These command-line properties are required to perform a first-time installation of BizTalk Server 2000 using the Windows Installer.

**Example SetupDB.ini**

```

;-----
; SQL Server connection parameters for BizTalk Messaging Management
database

```

; Required section used by BTSsetupDB.exe only.

; Specify new or existing database.

;

[InterchangeBTM]

Server=localhost

Username=sa

Password=

Database=InterchangeBTM

-----

; Name for BizTalk Server Group

; Required section used by BTSsetupDB.exe only.

; Specify new or existing server group.

;

[Group]

GroupName=BizTalkGroup

-----

; SQL Server connection parameters for BizTalk Tracking database

; Required section used by BTSsetupDB.exe only.

; Optional if existing server group specified.

;

[InterchangeDTA]

Server=localhost

Username=sa

Password=

Database=InterchangeDTA

;------

;

[InterchangeSQ]

Server=localhost

Username=sa

Password=

Database=InterchangeSQ

;------

; SQL Server connection parameters for Orchestration database

; Required section used by XLANGsetupDB.exe only.

; Specify new or existing Orchestration database.

;

[Orchestration]

Server=localhost



Database=XLANG

The following table describes the properties and values of the sample BizTalkDB.ini initialization file.

Property	Value	Description
[InterchangeBTM]	Server=BIZTALK	Log on to this first SQL Server with default user name and password.  Database=BizTalkBTM  Create this BizTalk Messaging Management database if it does not already exist on the server.
[Group]	GroupName=BizTalkServerGroup	The rest of the values are ignored if this group already exists.
[InterchangeDTA]	Server=DTA-SERVER	Log on to this second SQL Server with default user name and password.  Database=BizTalkDTA  Create this Tracking database if it does not already exist on the server.
[InterchangeSQ]	Server=SQ-SERVER	Log on to this third SQL Server with default user name and password.  Database=BizTalkSQ  Create this Shared Queue database if it does not already exist on the server.
[Orchestration]	Server=localhost	Log on to this fourth SQL Server with default user name and password.  Database=Orchestration  Create this XLANG database if it does not already exist on the server.

**Command-Line Options of Microsoft Windows Installer**

Microsoft Windows Installer (Msiexec.exe) is the program that interprets packages and installs products. It also sets an error level on return that corresponds to the Microsoft Win32® error codes. The following table describes command-line options for this program that you can use in addition to the properties and values listed previously.

Option	Parameters	Meaning
/I	Package ProductCode	Installs or configures a product.
/f	[p o e d c a u m s v] Package ProductCode	<p>Repairs a product. This option ignores any property values entered on the command line. The default argument list for this option is pecms. This option shares the same argument list as the REINSTALLMODE property.</p> <p>p - Reinstall only if file is missing.</p> <p>o - Reinstall if file is missing or if an older version is installed.</p> <p>e - Reinstall if file is missing or an equal or older version is installed.</p> <p>d - Reinstall if file is missing or a different version is installed.</p> <p>c - Reinstall if file is missing or the stored checksum does not match the calculated value. Repairs only files that have msidbFileAttributesChecksum in the Attributes column of the File table.</p> <p>a - Force all files to be reinstalled.</p> <p>u - Rewrite all required user-specific registry entries.</p> <p>m - Rewrite all required computer-specific registry entries.</p> <p>s - Overwrite all existing shortcuts.</p> <p>v - Run from source and recache the local package.</p>
/a	Package	Administrative installation option. Installs a product on the network.
/x	Package ProductCode	Uninstalls a product.

/j	[u m]Package or [u m]Package /t Transform List or [u m]Package /g LanguageID	Advertises a product. This option ignores any property values entered on the command line.  u - Advertise to the current user. m - Advertise to all users of the computer. t - Apply transform to advertised package. g - Language ID.
/L	[i w e a r u c m o p v + !]Logfile	Specifies the path to a log file; the flags indicate which information to log.  i - Status messages w - Nonfatal warnings e - All error messages a - Startup of actions r - Action-specific records u - User requests c - Initial UI parameters m - Out-of-memory or fatal exit information o - Out-of-disk-space messages p - Terminal properties v - Verbose output + - Append to existing file ! - Flush each line to the log  "*" - Wildcard; log all information except the v option. To include the v option, specify "/!*v".
/m	filename	Generates a Systems Management Server (SMS) status .mif file. Must be used with the install (-i), remove (-x), administrative installation (-a), or reinstall (-f) option. The Ismif32.dll is installed as part of SMS and must be on the path.  The fields of the status .mif file are filled with the following information:

		<p>Manufacturer - Author</p> <p>Product - Revision number</p> <p>Version - Subject</p> <p>Locale - Template</p> <p>Serial Number - Not set</p> <p>Installation - Set by Ismif32.dll to "DateTime"</p> <p>InstallStatus - "Success" or "Failed"</p> <p>Description - Error messages in the following order:  1) Error messages generated by installer; 2) Resource from Msi.dll if installation could not commence or user exits; 3) System error message file; 4) Formatted message: "Installer error %i", where %i is the error returned from Msi.dll</p>
/p	PatchPackage	<p>Applies a patch. To apply a patch to an installed administrative image, you must combine options as follows:</p> <p>/p &lt;PatchPackage&gt; /a &lt;Package&gt;</p>
/q	n b r f	<p>Sets the user interface level.</p> <p>q , qn - No UI.</p> <p>qb - Basic UI.</p> <p>qr - Reduced UI with a modal dialog box displayed at the end of the installation.</p> <p>qf - Full UI with a modal dialog box displayed at the end.</p> <p>qn+ - No UI except for a modal dialog box displayed at the end.</p> <p>qb+ - Basic UI with a modal dialog box displayed at the end. The modal dialog box is not displayed if the user cancels the installation.</p> <p>qb- - Basic UI with no modal dialog boxes. /qb+- is not a supported UI level.</p>
/?		<p>Displays copyright information for the Windows Installer.</p>

or /h		
/y	module	<p>Calls the system API DllRegisterServer to self-register modules passed in on the command line. For example, <code>msiexec /y my_file.dll</code>.</p> <p>This option is used only for registry information that cannot be added using the registry tables of the .msi file.</p>
/z	module	<p>Calls the system API DllUnRegisterServer to unregister modules passed in on the command line. For example, <code>msiexec /z my_file.dll</code>.</p> <p>This option is used only for registry information that cannot be removed using the registry tables of the .msi file.</p>

**Note** In the preceding table:

- The options /i, /x, /f[p|o|e|d|c|a|u|m|s|v], /j[u|m], /a, /p, /y, and /z should not be used together. The one exception to this rule is that patching an administrative installation requires using both /p and /a.
- The options /t and /g should be used only with /j.
- The options /l and /q can be used with /i, /x, /f[p|o|e|d|c|a|u|m|s|v], /j[u|m], /a, and /p.

#### Syntax Rules for Properties and Values

Only public properties can be modified using the command line. All property names on the command line are interpreted as uppercase, but the value retains case sensitivity. If you type `MyProperty` at a command line, the installer overrides the value of `MYPROPERTY` and not the value of `MyProperty` in the Property table. To install a product with `PROPERTY` set to `VALUE`, use the following syntax on the command line. You can put the property anywhere except between an option and its argument.

Correct syntax:

```
msiexec /i A:\Example.msi PROPERTY=VALUE
```

Incorrect syntax:

```
msiexec /i PROPERTY=VALUE A:\Example.msi
```

Property values that are literal strings must be enclosed in quotation marks. Include any white spaces in the string between these marks.

```
msiexec /i A:\Example.msi PROPERTY="Embedded White Space"
```

To clear a public property using the command line, set its value to an empty string.

```
msiexec /i A:\Example.msi PROPERTY=""
```

For sections of text set apart by literal quotation marks, enclose the section with a second pair of quotation marks.

```
msiexec /i A:\Example.msi PROPERTY="Embedded ""Quotes"" White Space"
```

The following is an example of a complicated command line.

```
msiexec /i testdb.msi INSTALLLEVEL=3 /l* msi.log COMPANYNAME="Acme  
""Widgets"" and ""Gizmos.""
```

The following example illustrates advertisement options. Switches are not case sensitive.

```
msiexec /JM msisample.msi /T transform.mst /G langid /LIME logfile.txt
```

For more information about Microsoft Windows Installer, go to the MSDN™ Downloads Web site ([msdn.microsoft.com/downloads/](http://msdn.microsoft.com/downloads/)).

## Removing BizTalk Server 2000

Use the Microsoft Windows 2000 Add/Remove Programs utility to remove Microsoft BizTalk Server 2000.

### Remove BizTalk Server 2000

1. On the **Start** menu, point to **Settings** and click **Control Panel**.
2. Click **Add/Remove Programs**.
3. Click **Microsoft BizTalk Server 2000** and click **Remove**.

The **Add/Remove Programs** dialog box appears.

4. Follow the on-screen instructions and click **Yes** when prompted to remove BizTalk Server 2000.

---

Information in this document, including URL and other Internet Web site references, is subject to change without notice. Unless otherwise noted, the example companies, organizations, products, people and events depicted herein are fictitious and no association with any real company, organization, product, person, or event is intended or should be inferred. Complying with all applicable copyright laws is the responsibility of the user. Without limiting the rights under copyright, no part of this document may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), or for any purpose, without the express written permission of Microsoft Corporation.

Microsoft may have patents, patent applications, trademarks, copyrights, or other intellectual property rights covering subject matter in this document. Except as expressly provided in any written license agreement from Microsoft, the furnishing of this document does not give you any license to these patents, trademarks, copyrights, or other intellectual property.

Copyright © 1999–2000 Microsoft Corporation. All rights reserved.

Microsoft, BizTalk, MSDN, MS-DOS, Visio, Win32, Windows, and Windows NT, are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Intel is a registered trademark of Intel Corporation.

The names of actual companies and products mentioned herein may be the trademarks of their respective owners.