

PUBLIC

Administrator's Guide



Solutions from SAP

SAP Business One 2007 A on MS SQL Server

Target Audience

- SAP Business One Partners
- Technology Consultants
- System Administrators
- SAP Business One Administrators

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Document History



Caution

Before you start the implementation, make sure you have the latest version of this document. You can find the latest version at the following location: <http://channel.sap.com/sbo/documentation>.

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1 About This Guide

The Administrator's Guide for SAP Business One provides a central point for the technical implementation of SAP Business One.

Use this guide for reference and instructions before and during the implementation project. The Administrator's Guide consists of the following main sections:

- *SAP Business One Installation*

This section provides the process flow, and instructions for installing and setting up SAP Business One.

- *SAP Business One Upgrade*

This section provides instruction for upgrading a previous installation of SAP Business One.

- *Solution Operations*

This section assists you with the routine operations of SAP Business One and its database.

- *Security*

Within this section, you can find recommendations to meet the security demands of SAP Business One and information about implementing a security policy.

1.1 What's New in SAP Business One Installation?

Automatic Registration for SAP Add-Ons

SAP add-ons are now automatically registered on the server during the installation of the SAP Business One Server application. After installing a client application, add-ons are available for installation on workstations.

See *Installing SAP Add-Ons* [page [31](#)].

SAP Business One Integration Platform (B1IP)

The B1IP component is now seamlessly installed with SAP Business One Server application. This component installs infrastructure for the Payment Engine and Legal List features.

B1IP installs two new services in the Service Manager: *SAP Business One Integration* service and *Event Sender* service.

See *Configuring SAP Business One Integration Services* [page [28](#)].

Microsoft Fax Services

SAP Business One *Mailer* service includes built-in support for Microsoft Fax Services.

SAP continues supporting Symantec WinFax only for customers who **have already purchased** this software.

See *Configuring Fax Services* [page [26](#)].

Outlook Integration Server Installer

This is a prerequisite component for the Outlook Integration add-on. It is installed as part of the SAP Business One Server components.

See *Installing SAP Business One Server Components* [page [10](#)].

XL Reporter

The XL Reporter is now completely integrated with the SAP Business One application and is available for every SAP Business One workstation by default from the *Tools* menu.

You do not need to register, install, or otherwise use Add-On Administration to use the XL Reporter.

DI API

DI API folders and .dll files are installed on the SAP Business One Server machine to support the SAP Business One Integration Platform.

2 SAP Business One Setup

This section explains how to install and set up an SAP Business One solution in non-hosted and hosted environments.

2.1 Constraints

You can run the SAP Business One Product Version for 30 days without a license. To continue working with the application after 30 days, you must install a valid license key assigned by SAP.

- The Demo databases provided with this version are not for productive use. For productive use, create new companies.

2.2 User Privileges

The following table summarizes the requirements and recommendations for group setup according to operating systems:

Operating System Process	Windows XP	
	Recommended	Minimum
Client install	Administrators	Power users
Client upgrade	Administrators	Power users
Runtime	Users	Users

2.3 Installation Checklist

To verify a correct and complete installation, print the following checklist and record your progress.

Checklist

- 1. Install SAP Business One Server components with Microsoft SQL 2005.
- 2. Install SAP Business One Client components.
- 3. Install optional workstation components.

2.4 Installing SAP Business One Server Components

This section describes the installation procedure for the SAP Business One Server components.



Note

The Server components installation, automatically registers all SAP add-ons on the server machine. There is no need for additional registering.

For more information, see *SAP Add-Ons Registration* [page 14].

Using the *Typical* option, the installation program automatically installs all the required components in one batch and performs a silent installation of SQL Server 2005 on the same machine (provided that you have an SQL Server 2005 DVD available for installation).



Note

The following procedure applies for all supported SQL Server 2005 editions and for a computer without a previous SQL release already installed.

Server components include:

- SAP Business One Server application
- SAP Business One Server Tools
- Outlook Integration Add-on Server Installer
- In addition, SAP Business One Integration Platform and Data Interface API (DI API) are installed silently without user intervention.

Prerequisites

- The installation machine complies with the hardware and software requirements, as detailed in the *SAP Business One Sizing Guide* available at <http://channel.sap.com/sbo/documentation>.
- You have administrator rights on the machine on which you perform the installation.
- You have a Microsoft SQL Server 2005 DVD available for installation.

Procedure

1. Put the SAP Business One Product DVD into the DVD drive.
The installation program appears automatically. If the DVD does not launch the installation program, navigate to the DVD root folder and double-click **Autorun.exe**.
2. **Install Microsoft SQL Server 2005:**
 - a) From the installation program Welcome page, choose ► *Install* ► *Server* ◀.
 - If SQL Server 2005 is not installed on your computer, the SQL Server 2005 installation page appears.
Choose *Install* to begin installing SQL Server 2005. **This process does not require input from you and may take some time.**

Or,
 Choose *Skip* to perform the installation yourself.



Note

If you install SQL Server 2005 yourself, make sure you select *Latin1_General* and *AS* in the *Collation Settings* window.

- If you already have SQL Server 2005 installed, the installation proceeds to the Server Installation page. **Continue with Step 4.**
- b) Put the SQL Server 2005 DVD and specify the installation directory.
 To change the default installation directory, choose *Browse*.
 Choose *Install*.
 The setup begins a silent installation of SQL Server 2005 components. The silent installation uses the following default values:

Default Values for SQL Server 2005 Silent Installation

Parameter	Value
<i>Registration Information</i>	<ul style="list-style-type: none"> ■ Name – copied from local system ■ Company – copied from local system ■ CDKey – copied from the installation DVD
<i>Components to Install</i>	<ul style="list-style-type: none"> ■ SQL Server Database Service ■ Workstation Components, Books Online, and development tools
<i>Instance Name</i>	MSSQLSERVER
<i>Service Account</i>	<ul style="list-style-type: none"> ■ Use the built-in system account – Local System ■ Start Services at the end of setup – SQL Server
<i>Authentication Mode</i>	<ul style="list-style-type: none"> ■ Mixed Mode (Windows Authentication and SQL Server Authentication) ■ Password – B1Admin (case sensitive)
<i>Collation Settings</i>	SQL collations – Dictionary order case-insensitive, for use with 1252 Character set, Accent Sensitive (SQL_Latin1_General_CP1_CI_AS).
<i>Error and Usage Report Settings</i>	None marked

- c) Wait until the installation program confirms that you can remove SQL Server 2005 DVD.
3. **Install Server application:**
- a) Reinsert the SAP Business One Full Product DVD and choose *Next*.
 - b) On the *Server Installation* page, choose:
 - *Typical*, to install all Server components on the same machine in one batch.
 - *Customize*, to install Server components individually.
 This allows you to install components on different computers.

- c) Choose *Install*.
The Server application setup wizard begins running. It may take some time for the setup wizard to appear. While you are waiting, do not press any other window on your Windows desktop.
- d) In the *Welcome window*, choose *Next* to proceed.
- e) In the *Customer Information window*, enter your user name and company information and choose *Next*.
- f) In the *Setup Type window*, select *Custom*, and then choose *Next*.
Selecting *Typical* installs SAP Business One with its defaults and most common options.
- g) In the *Choose Destination Location window*, do one of the following:
- To accept the default installation location for SAP Business One Server components, choose *Next* (`../SAP/SAP Business One Server`).
 - To select a different location, choose *Browse*, select a directory, and choose *Next*.
- h) In the *Edit Data window*, select *MS SQL 2005* and choose *Next*.
- i) In the subsequent *Edit Data window*, enter the database server connection settings, and choose *Next*:
- *Server name* – Type in **(local)**.



Recommendation

Avoid entering a database alias name, as this causes the setup program to display an additional window prompting you to enter the server name.

- *User ID* – **sa** by default
 - *Password* – **B1Admin** (case sensitive) by default
- If you did not installed SQL Server 2005 via SAP Business One Product DVD, make sure to enter the connection settings as defined during the existing installation.



Recommendation

We strongly recommend that you change this password after the installation of SAP Business One. See *Changing SA Password* [page 14].

If an error message appears, either you did not provide the correct connection settings, or a database server is not installed.

Check your password and user name and that you have installed a database server.

- j) In the *Select Features window*, select the features you want to install.
- *System Databases* installs the application Common database
 - *Demo Databases* installs demonstration databases in the selected localizations
 - *Help* installs help database and help files in the selected languages
 - *Server Components* installs shared network objects
 - *SAP Add-ons* registers the SAP add-ons on the server machine
 - *B1IP* installs SAP Business One Integration Platform

- *DI API* installs Data Interface API (DI API) .dll file for current and previous releases, and DI Java Connector

To continue, choose *Next*.

- k) In the *Start Copying Files* window, choose *Next*.

The setup wizard begins copying files.

Copying files may take several minutes, depending on the number of demo databases you selected for installation.

- l) In the *Setup Complete* window, choose *Finish*.

In a *Typical* installation, **wait until the Server Tools setup appears** and continue with the next step.

In a *Customize* installation, choose ► *Server Tools* ◀ on the Server Installation page and then continue with the next step.

4. Install Server Tools:

SAP Business One Server Tools is a package of services used by the SAP Business One Server application.

For more information and additional configuration, see *Post-Installation Setup* [page 21].

- a) In the *Server Tools Welcome* window, choose *Next*.

- b) In the *Customer Information* window, enter your name and company details, and select whether you want Server Tools to be available only to the current user or to any user who logs on to this computer.

Choose *Next*.

- c) In the *Setup Type* window, select *Typical*, and then choose *Next*.

Or, select *Custom* to select specific services you want to install.

- d) When the *Complete Installation* window appears, choose *Finish*.

The installation program completes the Server Tools installation and displays the Outlook Integration Server Installer.

5. Install Outlook Integration Server Installer:

This setup installs office templates required for the Outlook Integration add-on.

- a) In the *Welcome* window, choose *Next*.

- b) Choose *Next* to confirm the default installation location.

- c) In the *Start Copying Files* window, choose *Next*.

- d) When the *Complete Installation* window appears, choose *Finish*.

A confirmation message appears.

6. Server components installation is complete. In the installation program, choose *Exit* and continue with Client components installation.



Note

Make sure that in *TCP/IP* protocol properties of your SQL Server instance, *TCP Port* property is set to **1433**.

2.5 Changing the sa Login Password

To set the password for the `sa` login, use *SQL Server Management Studio*:

Procedure

1. Choose **Start** ▶ *Programs* ▶ *Microsoft SQL Server 2005* ▶ *SQL Server Management Studio* .
2. Upon first log on, in the *Connect to Server* window, enter the server name (if required) and under *Authentication*, select *SQL Authentication*.
3. In *Login*, enter `sa`, enter the default password `B1Admin` and choose *Connect*.
4. In *Object Explorer*, under the SQL Server instance, expand **Security** ▶ *Logins* .
5. Right-click `sa` and choose *Properties*.
6. Under the *General* page, enter and confirm the new password for the `sa` login.
7. Choose *OK* and close *SQL Server Management Studio*.

2.6 SAP Add-Ons Registration

The Server application automatically registers SAP add-ons on the server. Add-ons are automatically registered to all companies and appear in the *Available Add-ons* list in the *Add-On Administration* window. For installation instructions, see *Installing SAP Add-Ons* [page 31].

Integration

SAP add-ons are additional components or extensions for SAP Business One. They are tightly integrated with the SAP Business One user interface and can be accessed via the SAP Business One menu.

The following add-ons are included in the automatic registration:

- Cash and Bank
- Copy Express
- DATEV-FI Interface
- ELSTER Integration
- Fixed Assets
- Format Definition
- Intrastat
- Microsoft Outlook Integration
- Payment Engine
- Screen Painter

Constraints

When you run SAP Business One 2007 A, you can use only SAP Business One Add-ons from Release 2007 A. These add-ons can run only on SAP Business One 2007 A.

The add-ons run under *SAP Add-Ons* license, which is included in the *Professional User* license. Not all add-ons are released in all countries where SAP Business One is available. To check if the add-ons you want to install are released for your country, see *SAP Business One 2005 Add-on-specific country matrix* at <http://channel.sap.com> > *SAP Business One* > *Product Availability*.

2.7 Installing SAP Business One Client Application and Components

You install the Client application on every workstation that needs to run SAP Business One. Depending on the required configuration, you can decide which optional components are installed on each workstation.

The Client components include:

- SAP Business One Client application and DI API
- **Mail and Fax Services**, installs messaging services that enable sending fax and mail messages from SAP Business One. For more information, see *Configuring Mail Services* [page 25] and *Configuring Fax Services* [page 26].
- **Software Development Kit**, installs documentation and samples for the SAP Business One SDK
- **Data Transfer Workbench**, installs a tool for easy migration of legacy data into SAP Business One
- **Add-on Outlook Integration Standalone version**, installs a version of Outlook Integration that allows you to use this add-on without the SAP Business One Client application. For more information, see *Installing Outlook Integration Standalone Version* [page 33].

Prerequisites

- The installation machine complies with the hardware and software requirements, as detailed in the *SAP Business One Sizing Guide* available at <http://channel.sap.com/sbo/documentation>.
- You have installed *SQL Server 2005 Native Client* component on the workstation. You can install this component from your SQL Server DVD by choosing *Run the SQL Native Client Installation Wizard* on the startup page.

Procedure

1. Put the DVD in the DVD drive of the workstation and wait for the installation program to appear. Alternatively, you can install the Client application from `../SAP/SAP Business One Server/B1_SHR/Clients/setup.exe`.
2. Choose ► *Install* ► *Client* ◀.
The *Client* page appears.
3. Select *Business One Client Application* and choose *Install*.
The Client application setup wizard appears.
4. In the *Welcome* window, choose *Next*.

5. In the *Choose Destination Location* window, choose *Next* to accept the default location. Alternatively, choose *Browse* to select a different location.
6. In the *Select Program Folder* window, make sure *SAP Business One* is displayed and choose *Next*. The setup wizard starts copying files.



Note

If Microsoft Excel is not installed on the machine, the following message appears: "Microsoft Excel is required but not installed, the Excel reporting feature will not work."

7. In the *Installation Complete* window, choose *Finish*.
8. From the installation program home page, choose **► Install ► Client ► Optional Components ◄**.
9. Select the components you want to install, and choose *Install*.
The installation program begins to consecutively run setup wizards of the selected components. It may take a few moments until the first setup wizard appears.
10. Follow the instructions of the setup wizard for each component.
Once you complete the setup wizard for a component, wait until the installation program launches the setup wizard of the next component.
11. After installing optional components, you can close the installation program by choosing *Exit* on the home page.

2.8 Removing SAP Business One Product Version

To remove SAP Business One and all its components, use the *Add/Remove Programs* option in Microsoft Windows *Control Panel*.

Procedure

1. Remove SAP add-ons by choosing **► Administration ► Add-Ons ► Add-On Administration ◄**:
 - a) In the *Company Preferences* tab, under *Company Assigned Add-Ons*, select the add-on you want to remove.
 - b) Choose **◄**. The add-on is removed from the list.
 - c) In the *Available Add-Ons* list, select the add-on you want to remove.
 - d) Choose *Remove Add-On* and *Update*.
The system automatically uninstalls the add-on the next time you start the SAP Business One application from any workstation that is connected to the server.
2. Select *SAP Business One Server Tools* and choose *Change/Remove*.
3. Select *SAP Business One Client* and choose *Change/Remove*.
4. Select *SAP Business One Server* and choose *Change/Remove*.
This also removes the SAP Business One Platform Integration component.
5. Select *SAP Business One SDK* and choose *Change/Remove*.

6. To remove the DI API:
 - If you install the DI API as part of the SAP Business One Client installation, the system removes the DI API when you uninstall the SAP Business One Client.
 - If you install the DI API using the manual setup program in the B1_SHR/B1DIAPI folder, you must remove it by selecting *SAP Business One DI API* in the *Add/Remove Programs* window.
7. To remove Data Transfer Workbench, use the Windows *Add/Remove Programs* option.

Result

The system removes SAP Business One entries from the *Programs* menu and any shortcut that you may have on the Microsoft Windows desktop.

To remove SAP Business One folders, delete them manually in Microsoft Windows Explorer. To remove SAP Business One databases, use your database management application.

2.9 Hosted Environment Setup

2.9.1 Windows Server 2003 Terminal Services

2.9.1.1 Installing Windows Server Terminal Services

Prerequisites

The installation machine complies with the hardware and software requirements, as detailed in the *SAP Business One Sizing Guide* available at <http://channel.sap.com/sbo/documentation>.

Procedure

1. On the server machine, open the *Control Panel* and double-click *Add/Remove Programs*.
2. In the *Add/Remove Programs* window, choose *Add/Remove Windows Components*.
The *Windows Components Wizard* opens. (You may have to close the *Add/Remove Programs* window.)
3. In the list of optional components, select both *Terminal Services* and *Terminal Services Licensing*.
4. To install terminal service components, choose *Next*.
The wizard verifies whether you want to install the terminal services in *Remote Administration* mode or in *Application Server* mode.



Recommendation

We recommend selecting *Application Server* mode as it supports an unlimited number of connections. In addition, we recommend that you do not change the default installation values.

5. In Application Server mode, install the software from Windows *Control Panel* by choosing ► *Add/Remove Programs* ► *Add New Programs* ⚡.
6. The setup wizard prompts you to insert Windows Server 2003 installation media. After copying files, the wizard informs you that the terminal services have been installed. You then need to reboot the server machine.

2.9.1.2 Installing Terminal Services Client

You can create the client setup disks from the *Terminal Server Client* menu on the terminal server.

Procedure

1. Run the Setup program on your workstation.
2. On the Microsoft Windows task bar, choose ► *Start* ► *Programs* ► *Terminal Server Client* ⚡, and select *Client Connection Wizard*.
3. When the wizard appears, you are required to enter a description for the connection and the name of the terminal server.



Recommendation

We recommend entering the server name in the description field. If you manage multiple servers on one workstation, this description makes it easy to connect to any of them.



Note

If you experience problems entering an actual server name in the *Server Name* field, enter the server IP address.

2.9.2 Citrix Presentation Server

2.9.2.1 Recommended Configuration

We recommend the following configuration for connecting to SAP Business One via a Citrix server: Install the SAP Business One server and the Citrix server on different machines. Include an SAP Business One client on the Citrix server machine. You can open sessions to the SAP Business One application from any machine installed with a Citrix client.

In addition, to install SAP Business One properly on the Citrix server, you must have Administrator permissions.

- To take full advantage of the SAP Business One application, copy the entire **SAP Business One** folder from the SAP Business One server machine to the **My Documents** folder on the Citrix client.
- To run add-ons using the Citrix server, register, install or remove add-ons on the Citrix server only. Once an add-on is installed and registered on the Citrix server, you can run it from the Citrix client. The Citrix client is not authorized to install or register add-ons.

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3 Post-Installation Setup

This section describes the activities you are required to perform immediately after installing SAP Business One.

3.1 Services Configuration

You must configure the services you have installed if they are to operate properly. SAP Business One services include:

License Manager

Mandatory, manages the application license mechanism.

See *Configuring License Service* [page [22](#)].

SBO Backup

Optional, performs database backups and allows scheduling automatic backups.

See *Configuring Automatic Backups* [page [24](#)].

SBO Mailer

Optional, enables users to send E-mail and fax messages from SAP Business One.

- For E-mail messages **only**, you can install this service on the SAP Business One server or on one of the workstations. See *Configuring Mail Services* [page [25](#)].
- For E-mail and Fax messages, install this service on every workstation that intends to send messages. See *Configuring Fax Services* [page [26](#)].

SBO DI Server

Optional, enables multi-session access to, and manipulation of, the SAP Business One Company database. Requires a special license.

For more information, see the *SDK Help Center*.

Early Watch Alert

Optional, enables getting alerts regarding potential system problems before they occur. **Requires a service contract with SAP.**

See *Configuring Early Watch Alert Services* [page [29](#)].

SAP Business One Integration Platform

Mandatory for using Payment Engine and Legal List.
See *SAP Business One Integration Platform* [page 28].

EventSender

Mandatory for using Payment Engine and Legal List.
See *SAP Business One Integration Technology* [page 28].

3.1.1 Configuring License Service

Configuring this service is essential for the successful operation of SAP Business One. It manages license requests and allows you to install a license key, which is required to run SAP Business One, according to your contract.



Note

For new installations, you can use the application for a period of 30 days without a license key. After that period, the SAP Business One application will not run.
We strongly recommend that you request a license key immediately after installing the system.

Procedure

1. To open SAP Business One Service Manager, double-click  in the Microsoft Windows task bar.
If you do not see this icon in the task bar, choose ► *Start* ► *Programs* ► *SAP Business One* ► *Server Tools* ► *Service Manager* ◀.
2. From the *Service* list, select *License Manager 2007*.
3. Choose  and select *Start when operating system starts*.
4. Choose *Settings*. The *General Settings* window appears.
If you installed the license service on the SAP Business One server, the system sets **localhost** by default.
If not, enter a machine name, or its IP address.
We recommend that you do not change the default value for *Port Number*.



Caution

If you installed a firewall on the license service machine, make sure to open both license service ports: 30000 and 30001 in the firewall.
If you are using Port X, make sure to open Port X and Port X+1 in the firewall.

5. Choose *Connect*.
The details of the License Service machine appear under *Settings*.

6. To save your settings and close the *General Settings* window, choose *OK*.
If you already have a license key file, you can continue to *Installing a License Key File* [page 23].

3.1.2 Installing License Key

To use your SAP Business One application according to your contract, you are required to install a license key assigned by SAP.

You must install a new license key whenever:

- You request additional users or components
- Hardware key has changed
This can occur when changing the computer domain (including removing from the domain and adding it back), or when changing the host name.
- License key has expired
- New installation of SAP Business One

To avoid changing the hardware key accidentally, do not perform the following actions on the License Service machine:

- Formatting the machine and reinstalling Microsoft Windows
- Changing the computer name
- Changing the domain (hardware key does not change back when you return to the previous domain)
- On Linux machines, changing the network card

The following actions are safe and do not change the hardware key:

- Adding a new user logon
- Adding memory or a new hard disk
- Changing the computer date or time
- Changing the machine IP

Procedure

1. To open the Service Manager, double-click  in the Windows Notification area.
If you do not see this icon in the Notification area, choose ► *Start* ► *Programs* ► *SAP Business One* ► *Server Tools* ► *Service Manager* ◀.
2. In the *Service* list, select *License Manager 2007* and choose *Settings*.
The *General Settings* window appears.
3. To install the license key file, choose  and select the file you received from SAP.
4. Choose *Import License File*.
An “Install Succeeded” message indicates a successful import.

If this message appears: “Server is in startup mode, try again in two minutes”, wait one minute and then try to import the file again.

5. To save your settings and close the *General Settings* window, choose *OK*.

If you do not need to configure other services, close the SAP Business One Server Suite Manager window.

3.1.3 Configuring Automatic Backup Services

The SAP Business One Backup service provides automatic backups of company databases to specified directories.

This service also backs up the following application folders (as defined in ► *SAP Business One* ► *Administration* ► *General Settings* ► *Paths* ◀):

- Attachments
- Bitmaps
- ExcelDocs
- WordDocs

Procedure

1. Setting backup folders:

- a) To open SAP Business One Services Manager, double-click  in the Windows Notification area.

Alternatively, choose ► *Start* ► *Programs* ► *SAP Business One* ► *Server Tools* ► *Service Manager* ◀.

- b) In the *Service* list, select *SBO Backup*.

- c) Choose *Settings*.

The *General Settings* panel appears.

- d) In *Back Up Directory*, choose  to select the destination of the backup files.

Define an actual path.



Recommendation

We recommend that you create a **Backup** folder in the path: C:\Program Files\SAP\SAP Business One Server\B1_SHR.

- e) In *Back Up Temp*, choose  to select a temporary backup folder.

This folder contains the backup file in case the backup process fails to copy the file into the specified backup folder.

- f) Choose  and select *Start when operating system starts*.

2. Connecting to the database:

- a) In the *Services Manager* window, choose *Connection*.
The *Connection Settings* panel appears.
 - b) Select the database type and the database machine.
 - c) Enter a valid user name and password.
Alternatively, you can select *Use Trusted Connection* to connect to the database server with Windows authentication. When using trusted connection, you do not need to enter database user and password.
 - d) To save your settings and close this panel, choose *OK*.
3. **Selecting databases:**
- a) In the *Services Manager* window, choose *Database*.
The *Databases* panel opens.
 - b) Select the databases you want to back up and choose *OK*.
4. **Scheduling backups:**
- a) In the *Services Manager* window, choose *Schedule*.
The *Scheduler – SBOBackUp* panel appears.
 - b) Select one of the following backup schedule options:
 - *On specific date* defines a backup at a specific date and time.
 - *Daily* sets a daily backup at a fixed hour.
 - *Weekly* sets a weekly backup at a fixed day and hour.
 - *Monthly* sets a monthly backup at a fixed day of the month and hour.
 - c) Choose *OK*.
If you do not need to configure other services, close *Services Manager*.

3.1.4 Configuring Mail Services

Prerequisites

You have installed the *SBO Mailer* service.

See *Installing SAP Business One Server Components* [page 10].

Procedure

1. Defining Mail Settings

- a) Open *Service Manager* by double-clicking  in the Windows Notification area.
If you do not see this icon in the Notification area, choose ► *Start* ► *Programs* ► *SAP Business One* ► *Server Tools* ► *Service Manager* ⏪.
- b) In the *Service* list, select *SBO Mailer*.
- c) Choose *Settings*.
The *General Settings* window appears.
- d) Under *Mail settings*, enter the following:
 - In *SMTP server*, enter the IP address or the Bios name of your outgoing Mail server.

To make changes in this field later, you must stop the Mailer service.

- In *Encoding*, select the language for E-mail text.

To define the direction of the E-mail text, select *HTML Direction Right to Left*.

To include the subject line in the body of the message, select *Include Subject in Message Body*.

- e) Under *Fax settings*, select the required fax service.

For more information, see *Configuring Fax Services* [page 26].

- f) To change the E-mail signature settings, choose *Change Email Signature*.

The *E-mail Signature* window appears.

- *Use system signature*. Outgoing mails display a signature from the default mailing system.
- *Use user defined signature*. Outgoing mails display the defined signature.
- Choose *OK* to close the *E-mail Signature* window.

- g) To save your settings and close this panel, choose *OK*.

- h) Choose  and select *Start when operation system starts*.

2. Connecting to the database:

- a) Choose *Connection*.

The *Connection* panel appears.

- b) Select the database type and the database machine.

- c) Enter a valid user name and password and choose *OK*.

Alternatively, you can select *Use Trusted Connection* to connect to the database server with Windows authentication. When using trusted connection, you do not need to enter database user and password.

3. Selecting databases:

- a) In the *Service Manager* window, choose *Database*.

The *Databases* panel appears.

- b) Select one or more databases for which you want to enable mailing services and choose *OK*.

4. Setting mail processing schedules:

- a) In the *Service Manager* window, choose *Schedule*.

The *Schedule* panel opens.

- b) Select one of the following available options, and choose *OK*:

On Specific Date, Daily, Weekly, or Monthly

- c) Close the *SAP Business One Service Manager* window.

3.1.5 Configuring Fax Services

SAP Business One offers fax services via Microsoft Fax service. Microsoft Fax service replaces the previously used Symantec WinFax.



Note

The WinFax software is no longer available from Symantec. Support for this service is only offered to customers who have already purchased WinFax.

Prerequisites

- You have installed Mail and Fax Services on every workstation that intends to send fax messages. See *Installing SAP Business One Server Components* [page 10].
- You have defined required users in the organization fax server.
- You have purchased and installed Symantec WinFax Pro 10.0.

Microsoft Fax Service

This service sends several attachments added to a fax message as separated fax messages.

1. **Install Microsoft Fax Services on every workstation that intends to send fax messages:**
 - a) From Windows *Add/Remove Programs*, select *Add/Remove Windows Components*.
 - b) Select *Fax Services* and choose *Next*.
 - c) Choose *Finish*.
2. In Windows *Run* dialog, locate the organization Fax server, right-click it and choose *Connect*.
3. **Define the log on account for each workstation:**
 - a) In Windows *Services*, right-click *SAP Business One Messaging Service* and select *Properties*.
 - b) In the *Log On* tab, select *This account* and enter the workstation user name:
`<domain name>\<user name>`
Make sure each user is defined in the organization fax server.
 - c) Enter password and choose *OK*.
4. **Configure SBOMailer service:**
 - a) Open the Service Manager, select the *SBOMailer* service and choose *Settings*.
 - b) Under *Fax Settings*, set:
 - *Fax Server Type*, select *Microsoft Fax*.
 - *Microsoft Fax Server*, enter name or IP address of your organization fax server.
 - *Send Error Notification to User*, the system sends a notification when a fax transmission fails.
 - *Send Success Notification to User*, the system sends a notification when a fax transmission ends successfully.
 - *Send notification by Internal Mail System*, the system sends notifications using the internal E-mail system.
 - c) Choose *OK* to close the *Setting* panel.
 - d) Configure *Schedule*, *Connection*, and *Database* settings as described in *Configuring Mail Services* [page 25].
 - e) Choose  and select *Start when operating system starts*.

Symantec WinFax

Repeat Step 4 above and in *Fax Server Type*, select *Symantec WinFax*.

3.1.6 Configuring Integration Services

The integration services are automatically installed and enabled with default settings required for proper operation.

If you want to modify the default settings, an additional configuration is available. This configuration is recommended **only** for advanced users familiar with the SAP Business One Integration Platform. For advanced configuration, see *Solution Operations Guide SAP Business One Integration* in the *Documentation* folder of the Product DVD.



Note

SAP Business One Integration Platform creates the following folders under the `./SAP Business One Server/B1_SHR/B1is/apps/PaymentEngine` folder: *BankFiles*, *BankStatements*, and *FormatProjects*. Due to security considerations, only the **SYSTEM** and **Administrator** accounts have full control over these folders by default.

To enable the Payment Engine for **additional user accounts**, you must manually grant them permissions to these folders.

Setting Integration Services with Maximum Memory

This procedure is only required if you are using the bank format “**Netherlands — MT940**” and have to import bank statement files with more than 1200 transactions.

To set maximum memory:

1. Run `tomcat5w.exe` located in: `./SAP/SAP Business One Server/B1iServer/tomcat/bin`.
2. Select the *Java* tab and set the maximum memory pool to 600 MB.
3. Choose *OK* and in SAP Business One Service Manager and, restart *Integration Service*.

Disabling Integration Services

To disable integration services:

1. Open SAP Business One Services Manager, by double-clicking  in the Windows Notification area.
Alternatively, choose `Start ▶ Programs ▶ SAP Business One ▶ Server Tools ▶ Service Manager`.
2. Select *SAP Business Integration Service*, or *SAP Business One EventSender Service*, and deselect *Enable Business One Integration Services*.
3. Choose *OK* to save and close *Service Manager*.

3.1.7 Configuring Early Watch Alert Services

The Early Watch Alert service enables the collection and analysis of your system's hardware, database, and configuration data. The data is collected and exported to SAP system for automated analysis and evaluation.

You receive the results of the analysis by E-mail, and you can configure the system to send all reports to your partner as well. You can either collect and send data manually, or set up an automatic process for sending data at specified periods.



Note

The collected data is system data only and does not include any application data.

The service performs the following checks:

Information Checks:

- Number of users
- Software configuration (release, patch level, version used)
- Hardware configuration (type, operation system version, number of CPUs, memory)
- Database (release, size, growth)
- Document volume

Alert Checks

- Use of the latest SAP Business One release
- Performed backup (database backup, frequency)
- Consistency checks: operation system consistency, if the installed operation system is supported; database consistency, if the database or database release is supported; company database consistency, if the company database version is consistent with the SBO-Common database version.

Prerequisites

- You have a valid service contract with SAP.
- At least one SAP Business One client must be connected at the time of data collection for the service to collect and send data. Otherwise the data will not be sent.

1. Open the SAP Business One Service Manager by double-clicking  in the Windows Notification area.
If you do not see this icon, choose ► *Start* ► *Programs* ► *SAP Business One* ► *Server Tools* ► *Service Manager* ◄.
2. In the *Service* list, select *Early Watch Alert* and choose *Settings*.
The *Customize Support Settings* window appears.
3. Enter your E-mail address.
All report data will be sent to this address.

If you want your SAP Business One partner to receive the report data, enter the partner's name and E-mail address.

You must enter at least one E-mail address.

Server Address and *SAP Support Address* are filled automatically.

4. Enter your **S-User** and **S-Password** to connect with the SAP Service Marketplace.
5. In *Type of File to Send*, select *Detailed* or *Summary* report.
6. To display the data in Windows Event Viewer, select *Write to Log*.
All SAP Early Watch Alert events are logged in Windows Event Viewer.
We recommend checking this option if you had problems sending data or want to know what data is the service collects.
7. Choose *OK* to save your settings.
8. In the Service Manager window, choose  and select *Start when operating system starts*.

Displaying Collected Data

To display data, open the Early Watch Alert *Customize Support Settings* window and choose *Display File*. If you are collecting data for a second time on the same day, a message informs you that data has already been collected:

- Choose *OK* to collect the data.
- Choose *Cancel* to close the message without collecting data.

Sending Collected Data

You can manually send collected data to the internal SAP system for analysis.

To send data, open the Early Watch Alert *Customize Support Settings* window and choose *Send File*.

The service sends collected data to an SAP Web server and replicates it to the service system where the analysis is carried out.

Once the data has been analyzed, the SAP System sends a report to the specified customer and partner E-mail addresses.

3.1.8 Scheduling Automatic Data Collection

You can set the Early Watch Alert service to send data automatically. This will ensure that data is collected regularly without you having to start the service manually.



Caution

At least one SAP Business One client must be connected at the time of data collection for the service to collect and send data. Otherwise the data will not be sent, until the next time the schedule is reached.

Procedure

1. In the *Service Manager* window, select the *Early Watch Alert* service and choose *Schedule*.
The *Scheduler – Early Watch Alert* window appears.
2. Select one of the schedule options for data collection:
 - On Specific Date* – at a specific date and time
 - Daily* – at a fixed daily hour
 - Weekly* – at a weekly fixed day and hour
 - Monthly* – at a monthly fixed day and hour
3. Choose *OK* to save your settings.
The service sends the collected data to an SAP web server at the scheduled time and replicates it to the service system where the analysis is carried out.
Once the data has been analyzed, the SAP System sends a report to the specified customer and partner E-mail addresses.

3.2 Installing SAP Add-Ons

Installing both the Server and Client applications also registers the SAP add-ons and makes them available for installation from the SAP Business One application.

Prerequisites

General Prerequisites

- You have a Professional license from SAP.
- You have installed Microsoft® XML 3.0 Service Pack 4 on your workstation.
To ensure that this software is installed on the hard drive of the workstation(s), check that *msxml3.dll* is saved in the *system32* directory in the main Windows directory.
- You have installed the most recent Emergency Fix (EF) available for your release on SAP Service Marketplace at <http://service.sap.com/sbo-swcenter>.
After installing the EF, delete the *SM_OBS_DLL* folder from your temp directory. For more information, see SAP Notes [722338](#) and [722951](#).

Specific Prerequisites

Add-On	Prerequisites
Payment Engine	You have not enabled <i>Bank Statement Processing</i> in SAP Business One ► <i>Administration</i> ► <i>System Initialization</i> ► <i>Company Details</i> ► <i>Basic Initialization</i> ◀ tab.
Screen Painter	You have installed Microsoft .NET Framework 2.0 on the SAP Business One workstation intended to run the Screen Painter.



Add-On	Prerequisites
Copy Express	To be able to install the Copy Express Add-On successfully, you must grant write permission for all users in the SAP Business One server folder B1_SHR.
Fixed Assets	<ul style="list-style-type: none"> ■ For customers using Fixed Assets version 2005 SP0 or earlier, the fiscal year definition must consist of 12 active periods. Fixed Assets accepts a non-calendar fiscal year only if the customer has defined 12 periods, with each period starting on the first day of the period. For customers using Fixed Assets version 2005 SP1 and later, the system now supports the use of non-monthly accounting calendar fiscal year definitions such as a 4-4-5 accounting calendar and does not require the fiscal year definition to consist of 12 active periods, as required in 2005 SP0 or earlier versions. ■ During its initial start-up, Fixed Assets tries to add records into the item master data table. To add an item, you must provide an item group and two valid VAT groups. Fixed Assets uses country-specific VAT codes for all localizations it supports; see SAP note 770851. If those tax groups are deleted from the company database, the initialization of Fixed Assets fails. Since it is the only one that exists in SAP Business One by default, "100" is used as the item group. If you delete item group "100" from your company database, you cannot initialize Fixed Assets.
Microsoft Outlook Integration	<ul style="list-style-type: none"> ■ You have installed the following on your workstation: <ul style="list-style-type: none"> ● Microsoft® Outlook (supported versions: 2000 SR1 (and higher), 2002, 2003) ● Microsoft® Word (supported versions: 2000 SR1 (and higher), 2002, 2003) ● Microsoft® Excel (supported versions: 2000 SR1 (and higher), 2002, 2003) ■ After installing Microsoft Outlook, you created an E-mail account so that you can send and receive E-mails. ■ Microsoft Outlook is set as your default mail client. To check your default mail client, choose Start ▶ Settings ▶ Control Panel ▶ Internet Options . On the <i>Programs</i> tab, <i>Microsoft Outlook</i> should be selected in the <i>E-mail</i> field. ■ You have closed Microsoft Outlook, Word, and Excel on the workstation.
DATEV	You have created a new company to work with DATEV add-on and cleared the options <i>Copy User-Defined Fields and Tables</i> and <i>Copy User-Defined Objects</i> . DATEV add-on may not work with demo databases.

Procedure

1. In SAP Business One, choose **Administration ▶ Add-Ons ▶ Add-On Administration** .
2. Under *Available Add-Ons*, select the add-ons you want to install for your company and choose .
The system moves the selected add-ons under *Company Assigned Add-Ons*.
3. To notify SAP Business One users about new add-ons, choose *Send Notification to Users*.
In the window that opens, enter the message text, and choose *Send Notification*.
4. Set company- and user-specific preferences for each add-on. These preferences determine how the add-on is deployed to end-user workstations on the next logon to the company.
For more information, see the application online help.
5. Choose *Update* and *OK* to save your settings.

SAP Business One automatically runs each add-on setup program upon next logon to the company.

3.3 Installing Outlook Integration Standalone Version

Optional components for SAP Business One include a standalone version of Outlook Integration add-on. This version lets you run the add-on without a SAP Business One application installed on your workstation.

Prerequisites

- You have installed Outlook Integration Server Installer on the server.
- You have registered the Outlook Integration add-on on the server.
- You have installed the Outlook Integration add-on on at least one **other** workstation in your landscape.

This means that a new company database has been initialized in SAP Business One.

Procedure

1. Install Microsoft Outlook on your workstation.
2. Install the SAP Business One 2007 A DI API on your workstation.
3. From the installation program home page, choose ► *Install* ► *Client* ► *Optional Components* ⏏.
4. Select *Add-on Outlook Integration Standalone Version*, and choose *Install*.
5. Follow the instructions of the setup wizard.
6. After installing the add-on, choose *Exit* in the installation program.

3.4 Setting Up Dot Matrix Printer

SAP Business One supports two models of dot matrix printers: Citizen PROdot 300 and Epson FX-880.

Procedure

1. In the SAP Business One menu bar, choose ► *File* ► *Page Setup* ⏏.
The *Print Setup* window appears.
2. Under *Paper*, change *Size* to **Letter**.
3. In the Windows task bar, choose ► *Start* ► *Settings* ► *Printers* ⏏.
4. Right-click the selected dot matrix printer and select *Properties*.
5. Choose *Printing Preferences*, and then choose the *Paper/Quality* tab.
6. Choose *Advanced* and modify the following properties:
 - Set *Paper Size* to **Letter**
 - Set *Print Quality* to **120x144 dots per inch** or to the closest available value

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4 SAP Business One Upgrade

This section explains how to upgrade any previous major or SP release of SAP Business One to Release 2007 A.

SAP recommends that you always update your installation to the highest available patch level of the release on which your installation is currently running, to benefit from the latest program corrections.

In addition, you can find the recommended process for upgrading Microsoft SQL Server 2000 to SQL Server 2005.

4.1 Upgrade Paths

The upgrade paths to Release 2007 A are:

- ▶ *SAP Business One 2005 A SP01 (any given patch level)* ▶ *SAP Business One 2007 A* ◀.
- ▶ *SAP Business One 2005 A (any given patch level)* ▶ *SAP Business One 2007 A* ◀.
- ▶ *SAP Business One 2004 A (any given patch level)* ▶ *SAP Business One 2007 A* ◀.
- ▶ *SAP Business One 2004 C (any given patch level)* ▶ *SAP Business One 2007 A* ◀.
- ▶ *SAP Business One 6.5 SP01 (any given patch level)* ▶ *SAP Business One 2007 A* ◀.
- ▶ *SAP Business One 7.6 SP01 (any given patch level)* ▶ *SAP Business One 2007 A* ◀.



Recommendation

Following this upgrade, SAP recommends that you update your installation to the highest available patch level for this release to benefit from the latest program updates.

4.2 Constraints

- You must upgrade your database software to match the database software versions listed in the *Sizing Guide*. It is not possible to upgrade to a different database software.
- You must confirm that third-party add-ons are validated and approved for this upgrade. Validation and approval is performed by the third-party software vendor who provided the add-on solution.
- Before upgrading to Release 2007 A, we recommend running both **Exchange Rate Differences Report** and **Conversion Differences Report**. For more information, see SAP Note [941059](#).

- Before upgrading from Release 2004 C to Release 2007 a Russian localization that is using Amount Differences functionality, we recommend posting all Amount Differences resulting from existing invoices and payments using **Amount Difference Report**. Otherwise, you will need to manually calculate and post all amount differences entered prior to the upgrade.

4.3 User Privileges

The following table summarizes the requirements and recommendations for group setup according to operating systems:

User Privileges

Process	Microsoft Window XP Professional SP2
Client Install	Administrators
Client Upgrade	Administrators
Runtime	Users

4.4 Upgrading to SQL Server 2005

SQL Server 2005 is supported for SAP Business One as of Release 2005 SP01. This section describes the recommended procedure for upgrading SQL Server to version 2005 for SAP Business One 2007 A. The following procedure relates to SQL Server 2005 Enterprise Edition.



Caution

SAP will continue supporting SQL Server 2000 for SAP Business one 2007 A only until end of maintenance program, currently April 2008.

Prerequisites

- You have administrator rights in the machine on which you perform the upgrade.
- You have performed a backup of the SAP Business One Company database to a folder other than the SQL Server default backup folder.
- You have closed SAP Business One.

1. Put the Microsoft SQL Server DVD into the DVD drive.
The *Start* page appears automatically. If the *Start* page does not appear, double-click the **default.hta** file from the root directory.
2. Under *Install*, choose *Server components, tools, Books Online, and samples*.

Microsoft SQL Server 2005 Setup appears.

3. Accept the End User License Agreement and choose *Next*.
4. SQL Server Setup may install prerequisite components prior to the SQL Server installation. Choose *Install* to continue.
Once the required components are installed successfully, choose *Next*
5. In the *Welcome* window, choose *Next*.
The SQL Server 2005 Setup performs a system configuration check and informs you about potential installation problems:
 - If all actions are successful, choose *Next* to continue.
 - If an error appears, choose *Messages* for information on how to resolve the issue.
6. In the *Registration Information* window, enter your name and your company name and choose *Next*.
7. In the *Components to Install* window, select *SQL Server Database Services and Workstation Components, Books online and development tools* and choose *Next*.
8. In the *Instance Name* window, select the instance that is currently used, and choose *Next*.
 - If a named instance was used before the upgrade, you must select this named instance.
 - If the default instance was used before the upgrade, you must select *Default instance*.
9. In the *Existing Components* window, select *SQL Server Database Services*, and choose *Next*.
10. In the *Upgrade Logon Information* window, select *SQL Server Authentication Mode* and specify the logon information:
Username — enter the user name that is currently used (**sa**, by default)
Password — enter the password that is currently used
To continue, choose *Next*.
11. In the *Service Account* window, select *Use the built-in system account with Local system*, and choose *Next*.
12. In the *Error and Usage Report Settings* window, select whether or not you want to automatically send error reports and feature usage to Microsoft.
To continue, choose *Next*.
13. When the *Ready to Install* window appears, choose *Install*.
The SQL Server 2005 Setup begins installing and displays the *Setup Progress* window.
Choose *Next* when all components display the status: *Setup finished*.
14. To complete the installation, choose *Finish*.

Changing Compatibility Level to 90

Perform the following procedure after completing the upgrade to SQL Server 2005.

To change compatibility level:

1. Log on to the database server using an account with local administrative credentials.
2. Open SQL Server Management Studio (| Programs | SQL Server 2005 |).
3. On the *Object Browser*, choose *Connect* and choose *Database Server*.
4. On the *Server Connection Properties* window, select the database server name and choose *Connect*.
5. Under the server name, in *Object Explorer*, expand the local server.
6. Expand *Databases*.

7. Right-click *Common* database.
8. Select the *Options* tab and in *Compatibility Level*, select **90**.
9. Repeat steps 7-8 for each of your Company databases, and for the *model* database.

4.5 SAP Business One Server Upgrade

Before you begin, back up the Common database and all your Company databases. This backup is essential in case you would like to revert to a previous version. For more information on backing up and restoring databases, see *Backup* [page 55] and *Restore* [page 58].

You can download the upgrade package from SAP Service Marketplace at <http://service.sap.com/sbo-swcenter>.

4.5.1 Upgrade Checklist

Print the following checklists and record your progress to verify a correct and complete upgrade.

Checklist

Server Components Upgrade

- 1. Back up Company databases
- 2. Upgrade Server Tools
- 3. Upgrade Common database
- 4. Upgrade application software (administrator client)
- 5. Upgrade Company databases
- 6. Validate Company database upgrade
- 7. Upgrade online help
- 8. If the default instance was used before the upgrade, you must select *Default instance*. Configure SAP Business One Backup service

4.5.2 Upgrading Server Tools (2004 A, 2004 C, 2005 A, 2005 A SP01)

When you upgrade to a major release, you are required to upgrade Server Tools. For specific patch level upgrades, you may skip the Server Tools upgrade, as detailed in the patch *Readme* file.

Procedure

1. From the root directory of the upgrade package, double-click `Upgrade.exe` and choose ► *Upgrade* ► *Server* ► *Server Tools* ► *Upgrade* ⏪.

It may take some time until the Server Tools setup wizard appears.

2. In the *Setup Type* window, select the appropriate option and choose *Next*:
 - *Typical* — select this option to upgrade the License, Backup, DI Server, and Early Watch Alert services, where the License service is installed on the SAP Business One Server machine.
 - *Mailer* — select this option to only install the Mailer service on a workstation to enable E-mail and fax services.
 - *Custom* — select this option to manually choose the components you want to upgrade, for example, to upgrade the License service on a machine other than the SAP Business One Server. If you choose this option, make sure you select the *SBO Backup* service in the *Select Features* window.
3. Complete the Server Tools installation as instructed by the setup program and choose *Finish*.
4. Open the Service Manager from *Programs* ® *SAP Business One* ® *Server Tools* and set the *Start when operating system starts* option for all services.

5. Select *License Manager 2007* and choose .

The License service remembers your previous settings. Should you need to change them, choose *Settings*, enter license server name, set port, and choose *Connect*.

We recommend that you do not change the default port **30000**.

4.5.3 Upgrading Server Tools (6.5 SP01 and 7.6 SP01)

You must upgrade Server Tools when upgrading from Release 6.5 SP01 or 7.6 SP01.

Procedure

1. Remove the SAP Business One 6.5 SP01/7.6 SP01 Server Tools.
 - a) Open *Service Manager* and stop all running services by selecting a service and choosing *Stop*.
 - b) In Microsoft Windows Task Manager, right-click the *Service Manager* icon and choose *Exit*.
 - c) From Windows *Add/Remove Programs*, select *SAP Business One*, choose *Modify* and deselect *Server Tools* and *License Server*.

2. From the upgrade package root directory, double-click `Upgrade.exe` and choose ► *Upgrade* ► *Server* ► *Server Tools* ► *Upgrade* ⏪.

It may take some time until the Server Tools setup wizard appears.

3. In the *Setup Type* window, select the appropriate option:
 - *Typical* — select this option to upgrade the License, Backup, DI Server, and Early Watch Alert services, where the License service is installed on the SAP Business One Server machine.
 - *Mailer* — select this option to install only the Mailer service on a workstation, to enable E-mail and fax services.

- *Custom* — select this option to manually choose the components you want to upgrade, for example, to upgrade the License service on a machine other than the SAP Business One Server. If you choose this option, make sure you select the *SBO Backup* service in the *Select Features* window.
4. Complete the Server Tools installation as instructed by the setup program.
 5. Open Service Manager (▮ *Programs* ▸ *SAP Business One* ▸ *Server Tools* ⚡) and set the option *Start when operating system starts* for all the services you have installed.
 6. Select the *License Manager 2007* option and choose *Settings*.
 - *Server*. Enter **localhost** if you installed the license service on the SAP Business One server. Otherwise, enter machine name or IP address.
 - *Port Number*. We recommend that you do not change the default port **30000**.
 7. Choose *Connect*.
 8. Install your License Key file as described in the *SAP Business One Solution Guide*.

**Caution**

You cannot complete the upgrade process without a valid License Key file installed.

4.5.4 Upgrading Common Database

You must initiate the Common database upgrade directly from the Server machine. Remote upgrade of the Common database is not possible.

**Caution**

If you copy upgrade packages from the CD or network, make sure you **copy the entire upgrade package** and not only the Common Upgrade package.

This is mandatory for a successful upgrade process.

Prerequisites

- No SAP Business One application is running.
- You have at least twice the current database size in free disk space on the server and on workstations.
- You have a valid License Key file installed. See, *Installing License Key* [page 23].
- You have initiated the License Manager service. See, *Upgrading Server Tools* [page 38].
- You have a current backup of the database. For more information, see *Backup* [page 55].
- You must start the upgrade within 30 minutes of the last backup; otherwise, the system prompts you to back up the database.
- You have closed MS SQL Enterprise Manager.

Procedure

1. From the root folder of upgrade package, double-click **Upgrade.exe** and choose ► *Upgrade* ► *Server* ► *Common Upgrade* ► *Upgrade* ⏪.

The Common Upgrade upgrades SAP Business One Common database.

It may take some time until the Common setup wizard appears.

2. In the *Welcome* window, choose *Next*.
3. Select your database server type and choose *Next*.
4. Enter the database connection settings.

In *Server Name*, enter the server name or (**Local1**), and the appropriate user name and password. Enter the same user name and password as you defined during the upgrade to SQL Server 2005 (by default, **sa**).

5. Enter the License Server connection settings.

In *License Server*, enter the name of the machine on which you have installed the License Service.



Recommendation

We recommend not changing the default port 30000, unless you already have a specific use for it.



Caution

If you installed a firewall on the license service machine, make sure to open both license service ports, 30000 and 30001, in the firewall.

If you are using Port X as the license service port, make sure to open Port X and Port X+1 in the firewall.

6. Choose *Next*, when the system preparation checkup is complete.
7. The setup program **may** prompt you to locate the B1_SHR folder (typically installed under..\SAP Business One).
This is required to update the SAP Business One Client installation files in the B1_SHR folder. You can select *Do not upgrade the client installation files* to skip this step without updating the installation files in the B1_SHR folder.
8. In the *Install or Upgrade Integration Component* window, choose *Next*.
The setup program removes any previous installation of DI API and installs a new one and then begins installing or upgrading SAP Business One Integration Platform.
 - If you are upgrading from Release 2005 A or earlier, the setup prompts you to select a destination folder for the SAP Business One Integration Platform (..\SAP\SAP Business One Server).
Choose *Next* to continue.
 - If the following error message appears:
"The SAP Business One Integration upgrader was not found, the B1i will not be upgraded."
Choose *OK*. The upgrade continues without installing or upgrading SAP Business One Integration Platform.

9. Choose *Finish*.



Note

Restart the upgrade process if any of the following occurs during the upgrade:

- Crash, reboot, or shutdown of the SAP Business One Server machine
- Crash, reboot, or shutdown of the workstation running the upgrade process

4.5.5 SAP Add-Ons Upgrade

During the Common database upgrade, new releases of **all** SAP add-ons including Outlook Integration Server Installer add-on are automatically registered on the SAP Business One server and new installers are uploaded to the server.

Add-ons that were already installed and assigned to a company are re-registered with new releases and assigned to the same company.

Upon next logon to a company assigned with add-ons, installers for the new add-on releases run automatically.

4.5.6 Upgrading the Administrator Client

Prerequisites

This procedure only applies if you have an SAP Business One Client application running on the server machine (administrator client).

Procedure

1. Run SAP Business One and log on to the application; then choose your Company database. The following message appears.

```
"Your software version is not updated. SAP Business One
will be shut down in order to perform automatic upgrade.
SAP Business One will be started after the upgrade is complete."
```

2. Choose *OK*.

The upgrade of the application software begins.

Result

The application is closed and a message box appears indicating progress of the upgrade. The application restarts automatically when the upgrade is completed.

A new version of the DI API is installed automatically into the path:

SAP Business One/DI-API/<Release Number>.

Previous DI API Releases are not removed for reasons of backward compatibility, and are maintained in their pertinent folders under SAP Business One/DI-API.



Note

There is no need to run the DI API installer separately. Use the DI API installer only to install the DI API on a machine without an SAP Business One Client application.

4.5.7 Upgrading Company Databases

The Company database upgrade is initiated when you log on to the application and choose a Company database with a lower version than the Common database.

If you work with several Company databases, you need to upgrade each one of them separately. You cannot maintain several Company databases with different versions; all databases are always upgraded to the latest version.



Note

When upgrading default data, changed data does not overwrite entries you made. Only new entries are upgraded, with the following exceptions.

For Print Layout Designer (formerly known as Report Editor) templates:

- System templates are overwritten automatically
- User-defined templates are not upgraded

Prerequisites

You have upgraded the SAP Business One Client application.

Procedure

1. When the *Login* window appears, log on with a Superuser code and password and choose the Company database you want to upgrade.

The following message appears:

“Database is not updated. Upgrade required.”



Note

If the following message appears:

“In order to continue with the upgrade, the database you are upgrading requires a backup.”

You must back up the database you want to upgrade. For more information, see *Backup* [page 55].

You must begin the upgrade within 30 minutes of your last backup.

2. Choose *OK* to confirm the upgrade, or *Cancel* to select a different company.
The upgrade of the selected Company database begins. The progress of this process is displayed in the application status bar.
3. After the upgrade is complete, log on to the upgraded Company database.
 - If an error appears when you try to log on to the upgraded Company database, the upgrade failed. Read *Validating the Upgrade Process* [page 44], and then continue with the *Troubleshooting* [page 44] section, or see SAP Note [663929](#).
 - The system saves user permissions from the previous version. If you installed a new License Key file during this upgrade, you need to allocate licenses to users before they can start working.

4.5.8 Validation of the Company Database Upgrade

When the upgrade is completed, open the *Update Control Report* (▮ *Administration* ▸ *Utilities* ◀). Use this report to compare the number of records after the upgrade with the number of records before the upgrade (available only for selected tables). If you find a discrepancy in the number of records, the system failed to upgrade a certain table or tables.

The following indicate an upgrade failure:

- The database version number remains the same.
- An error message appears when you try to log on to the upgraded Company database; see the *Troubleshooting* section or SAP Note [663929](#).

4.5.9 Troubleshooting

Temporary Tables found in Database or Upgrade Fails

While trying to upgrade the SAP Business One database, you receive the following error message: "Temporary tables found in database."

Typically, this problem is caused by changes made by the user to the original table structure (Field Size, Field Type, and so on).

For example, the size of the field *Bank Name* in the table *ODSC* (Banks Codes) is 32 characters long. The user changes the size to 40 characters and enters values that are longer than 32 characters. After an upgrade, the table is recreated and the *Bank Name* field is changed back to its original size (32 characters).

As a result, SAP Business One fails to copy values that are longer than 32 characters from the temporary table into the new table and the upgrade is blocked.

To resolve:

1. For the most updated information, see SAP Note [663929](#).
2. Locate the *UpgradeLog* file and make a copy of it.

This log file is stored in the SAP Business One folder, where the database upgrade process takes place.

3. Contact your support center to resolve the problem and attach the copy of the UpgradeLog file to your message.

SAP Business One also documents the failure details into the CULG table in the Company database.

Change in Field Type of SBO_SP_TransactionNotification Stored Procedure

When upgrading from release earlier than 2004 A, the following message may appear: Please change SBO_SP_TransactionNotification stored procedure parameter.

To resolve, see SAP Business One and SDK 2007 A Compatibility with Add-Ons on the PartnerEdge portal at <http://cannel.sap.com/sbo/documentation>.

For the most updated information, see SAP Note [967470](#).

4.5.10 Upgrading Online Help

Prerequisites

- You have a valid License Key file installed. See, *Installing License Key* [page 23].
- You have initiated the License Manager service. See, *Upgrading Server Tools* [page 38].

Procedure

1. From the root folder of the upgrade package, double-click **Upgrade.exe** and choose ► *Upgrade* ► *Server* ► *Help Upgrade* ► *Upgrade* ◀.
2. In the *Welcome* window, choose *Next*.
3. Select your database type and choose *Next*.
4. Enter the database connection setting.

In *Server Name*, enter the server name or **(Local)**, if the upgrading machine is also the SQL Server host, and the appropriate user name and password.

Enter the same user name and password you defined during the upgrade to SQL Server 2005 (by default, **sa** and blank password).

5. Enter the License Server connection settings.

In *License Server*, enter the name of the machine on which you have installed the License Manager.



Recommendation

We recommend not to change the default port 30000, unless you already have a specific use for it.

6. When the system preparation checkup is complete, choose *Next*.

7. Choose *Finish*.



Note

Restart the upgrade process if any of the following occurs during the upgrade:

- Crash, reboot, or shutdown of the SAP Business One Server machine
- Crash, reboot, or shutdown of the workstation running the upgrade process

4.5.11 Configuring Backup Services

The SAP Business One Backup service provides automatic backups of Company databases to specified directories. This type of backup is easy to set up and recover.

This service also backs up the following application folders, as defined in SAP Business One under **Administration** ▶ **System Initialization** ▶ **General Settings** ▶ **Path** ⚙:

- Attachments
- Bitmaps
- ExcelDocs
- WordDocs

For detailed instructions, see *Configuring Automatic Backup Services* [page 24].

4.6 SAP Business One Workstations Upgrade

To upgrade the organization workstations, log on to an upgraded Company database from each workstation. Upon logon, the system automatically upgrades the required components on the workstation.

On workstations installed with the SBO Mailer service, first upgrade the service, and then the application software.

4.6.1 Upgrade Checklist

Print the following checklist and record your progress to verify a correct and complete upgrade.

Checklist

Client Components Upgrade

- 1. Upgrade workstation components.
- 2. Upgrade Client software on all workstations.
- 3. Upgrade online help on workstations.

4.6.2 Upgrading Workstation Components

You can upgrade the following components on each workstation from the Upgrade package:

- *Mail and Fax Services* – upgrades the Mailer service. Upgrade this component **only** on workstations that already have the Mailer service installed.
For more information, see *Configuring Mail Services* [page 25] and *Configuring Fax Services* [page 26].
- *Software Developments Kit* – upgrades the SDK's online help, samples, and tools
- *Data Transfer Workbench* – upgrades Data Transfer Workbench



Caution

If you have any previous version of Data Transfer Workbench already installed, you must uninstall it using Windows *Add/Remove Programs* before performing an upgrade.

- *Add-on Outlook Integration Standalone Version* - installs the standalone version of Outlook Integration add-on. This version lets you use Outlook Integration without the SAP Business One Client application.
For more information, see *Installing Outlook Integration Standalone Version* [page 33].

Prerequisites

You have logged on with an Administrator account to the machine you are about to upgrade.

Procedure

1. From the root folder of the upgrade package, double-click **Upgrade.exe** and choose ► *Upgrade* ► *Client* ◀.
2. Select the components you want to upgrade and then choose *Upgrade*.
The setup program begins consecutively running the setup wizards of the selected components. It may take a few moments until the first setup wizard appears.
3. Follow the instructions of the setup wizard for each component.
Once you complete the setup wizard for the first component by choosing *Finish*, wait until the next component setup wizard appears.
4. After all optional components are installed, choose ► *Home* ► *Exit* ◀.



Note

If you upgrade the *Mailer* service, you must re-configure the service after the upgrade, as detailed in *Configuring Mail Services* [page 25] and *Configuring Fax Services* [page 26].

4.6.3 Upgrading the Client Application

Prerequisites

You have upgraded the SBO Mailer service on all the workstations on which it is installed.

Procedure

1. Inform the organization users to log on to the upgraded Company database.



Note

If you upgraded from Release 6.5, you need to allocate licenses to users before they can log on to the application. Refer to the online help, *License Administration*.

2. Once users have logged on and confirmed the upgrade message, the system initiates the client application upgrade.
During this process, the application shuts down and restarts automatically when the upgrade is complete.

4.6.4 Upgrading Online Help on Workstations

End-users can run the upgraded online help from the SAP Business One server or download it to their local computers. Available languages depend on the languages already installed on the SAP Business One server.

Prerequisites

You have upgraded online help on the SAP Business One server.

Procedure

1. From the application, choose ► *Help* ► *Documentation* ► *Help Settings* ⏏.
2. Select the language you want to download and select *Local Installation*.
3. Choose *Download*.
Online help in the selected language is downloaded to the workstation.

5 Solution Operations

This section provides information for checking and maintaining your database system. Database activities depend on the nature of your organization's day-to-day work. There are many factors influencing system performance, such as disk space availability, the number of transactions occurring each day, and so on. It is essential to perform daily checks to ensure the efficient operation of SAP Business One. System performance depends on the correct administration of the database.

5.1 Database Server Administration

This section provides basic information about the SQL Server 2005 environment, the way a database management system stores and accesses the data, and the database administration tool.

The information comprises:

- Database and Database Management System
- Transactions
- Transaction Log
- MS SQL Server Management Studio

5.1.1 Creating a New Data Source

If you experience a slow connection with the SQL Server database, try creating a new data source. If the problem persists, contact the SAP Business One Support Center.

Procedure

1. In the Microsoft Windows taskbar, choose ► *Start* ► *Settings* ► *Control Panel* ► *Administrative Tools* ◄; then, double-click *Data Sources (ODBC)*.
The *ODBC Data Source Administrator* window appears.
 - For a local machine, choose the *User DSN* tab.
 - For a network configuration, choose the *System DSN* tab.
2. Choose *Add*.
3. In the *Create New Data Source* window, select *SQL Server*, and choose *Finish*.
4. In the subsequent window, enter the name of the data source and a description. In *Server*, enter the name of your SQL Server. Then, choose *Next*.

5. In the *Create a New Data Source to SQL Server* window, select the options: *With SQL Server authentication* and *Connect to SQL Server*.
In *Login ID*, enter **sa** and the appropriate password.
6. Choose *Client Configuration*.
The *Add Network Library Configuration* window appears.
7. Under *Network Libraries*, select *TCP/IP* and choose *OK*.
8. In the subsequent window, choose *Next*.
9. To complete the process, choose *Finish*.
A summary window appears.
10. To confirm the ODBC configuration, choose *OK*.
The ODBC setup is now complete. To close the *ODBC Data Source Administrator*, choose *OK*.

5.1.2 Starting and Stopping Database Services

Occasionally, it is necessary to stop and start database services manually, for example, when you perform a complete backup of the database.

Procedure

To stop database services:

1. Verify that no clients are logged on to SAP Business One.
2. Run the SQL Server Management Studio.
3. In *Object Explorer*, right-click the database server machine on which your SAP Business One database is installed, and choose *Stop*.

To start the database services:

1. Run the SQL Server Management Studio.
2. In *Object Explorer*, right-click the database server machine on which your SAP Business One database is installed, and choose *Start*.



Note

If you are not able to log on to SAP Business One, and the dialog box for choosing a company appears with an empty list, check whether the SQL Server is running.

If you log off the SQL Server services, all user processes are terminated, but the database services keep running.

5.1.3 Daily Tasks

Performing scheduled daily tasks is essential to ensuring database availability and minimizing the risk of data loss. Daily tasks include the following:

- Verifying that the database server is running
- Verifying that the backups ran successfully
- Checking the database
- Shrinking the transaction log
- Monitoring disk space

5.1.3.1 Verifying that the Database Server is Running

It is critical to complete this task every morning. SAP Business One clients cannot work if the database server is not running.

Procedure

Run SAP Business One client and log on to your database server. If you can log on, the database server is running.

5.1.3.2 Verifying that Backups Run Successfully

Verify that previous backups ran successfully. Backups of your database are essential for recovering the SAP Business One System in case of failure.

Procedure

1. Open SQL Server Management Studio, select the *Management* folder and check the *SQL Server Logs*.
2. Search for the last backup message, and verify that the backup ran successfully and that the date fits the scheduled settings.

The following is an example of a successful backup message:

```
" Database backed up. Database: myDB, creation date(time): 2005/12/21(10:57:16),
pages dumped: 502701, first LSN: 37211:18:108, last LSN: 37211:91:1, number of
dump devices: 1, device information: (FILE=1, TYPE=DISK: {'E:\temp\bck\myDB'}).
This is an informational message only. No user action is required."
```

5.1.3.3 Checking the Database

The SQL Server database uses disk space to store the database Data files and the daily Transaction Log files. If you do not set up a schedule for the backup of the Transaction Log, the log file can grow too big, causing a decline in system performance. Ultimately, this can stop the database system.

The transaction log should not fill more than 60-70% of the total available size. If it regularly exceeds this level between two backups, you must save the transaction log more frequently. You can determine in SQL Server Management Studio that the data file and transactional log file are set to grow automatically.

In addition, check the utilization of table space and the content of error logs on a regular basis.

Procedure

To check data file and transaction log file sizes:

1. Open the MS SQL Server Management Studio and select the database for which you want to check the size of the transaction log.
2. From the menu, select ► *View* ► *Summary* ◄.
3. In the right pane, from *Reports* select *Disk Usage*.
4. Verify that there is enough free space, based on your organization's needs, for both the data file and the transaction log.

To set database files grow options:

1. Open the SQL Server Management Studio and select a database.
2. Right-click the database and choose *Properties*.
The *Properties* window appears.
3. From the menu on the left, choose *Files*.
The database files appear in the right pane.
4. On the *Transaction Log* tab, select *Automatically grow file*, and set the *File growth* according to your organization's needs.
5. On the *Data Files* tab, select *Automatically grow file*, and set the *File growth* according to your organization's needs.

To check error logs:

1. Launch SQL Server Management Studio, select the *Management* folder and check the *SQL Server Logs*.
2. Check error messages and verify that no problems occurred.

5.1.3.4 Shrinking the Transaction Log

Shrinking the transaction log file manually frees disk space and minimizes the risk of data loss. This procedure consists of two main stages: first, you shrink the file virtually, and then you shrink it physically.

Log truncation does not reduce the size of a physical log file. It removes enough inactive virtual logs to reduce the log file to the requested size.

Procedure

1. Open the SQL Server Management Studio and choose the required database.
2. In the menu, select *New Query*.
The right pane displays the *Query* window.
3. In the *Query* window, enter the following command and choose *Execute*:

```
BACKUP LOG <sid> WITH NO_LOG
```

Where:

<sid> = name of the database. For example, `sbodemo_us`

This statement reduces the size of the logical log. It removes the inactive part of the log without making a backup copy and truncates the log. Specifying a backup device is unnecessary because the log backup is not saved.

After you back up the log using **NO_LOG**, the changes recorded in the log are not recoverable. For recovery purposes, execute a manual backup of your database, see SAP Note [557412](#).

4. To reduce the size of the physical log file, enter the following command and choose *Execute*:
DBCC SHRINKFILE (<name_logfile>, <size>)

Where:

<name_logfile> = the logical name of the shrunk file. For example, `sbodemo_us_log`

<size> = the desired size for the file in megabytes, expressed as an integer. If not specified, **DBCC SHRINKFILE** reduces the size to the default file size, for example, 10 MB.



Note

In SQL Server 2005, a **DBCC SHRINKDATABASE** or **DBCCSHRINKFILE** operation attempts to shrink the physical log file to the requested size (subject to rounding).

5.1.3.5 Monitoring Disk Space

We recommend regularly checking the amount of free space available on the disk.

5.1.4 Weekly Tasks

5.1.4.1 Checking Database Consistency

A database consistency check performs a thorough check of the entire database. It examines all tables in the database to ensure that index and data pages are linked correctly, and indexes are in the correctly sorted order. It also checks that all pointers are consistent, and that the data information on each page and page offsets is reasonable. The database consistency check enables early recognition of problems and prevents escalations and possible loss of data.

Schedule the consistency checks with the *Planning Calendar*. Run the consistency checks on the weekends. Do not schedule any other task at the time of the consistency check run.



Note

On the SQL Server level, the SAP Business One database consistency check executes the DBCC CHECKDB command. It locks user tables, indexes, and system tables while running.

In addition, it is I/O intensive and, therefore, should not run during normal operation, but at times when the system load is low.

5.1.4.2 Checking Consistency of Individual Tables

If you suspect that a table is not physically consistent, due to entries in the error log, you can check the table without examining the consistency of the entire database.

5.1.4.3 Running the Update Statistic Command

The UPDATE STATISTICS statement defines the storage requirements of tables and indexes as well as the value distribution of columns, and stores this information in the database catalog.

The *Optimizer* uses these values to determine the best strategy for executing SQL statements. Use the [sp_updatestats](#) procedure on all user-defined tables in the required database.

When the update statistics statement is executed, the following information on the table is stored in the database catalog:

- Number of rows
- Number of pages used

- Size of indexes
- Value distribution within columns or indexes

5.1.5 Backup

This section provides an introduction to backups and information about the necessity of a backup strategy. Your database is always at risk of damage and it is vital to implement a security strategy. To keep the risk of data loss low, ensure that you develop a backup strategy that suits your business and the requirements of your customers. An important factor is the volume of data that you process each day. In case of data loss, you are required to retrieve this data manually, back to the time of your last backup.

With SAP Business One, we recommend backing up your application database regularly.

5.1.5.1 Backup Strategies

To choose the appropriate backup and restore strategy, identify the requirements for the availability of your data. Your overall backup strategy defines the type and frequency of backups and the nature and speed of the hardware.

Consider the complexity of each strategy. Full backups are easy to implement. If you are considering backing up your transaction log as well, test all backup and restore procedures intensively.

When you develop your backup strategy, consider the different types of backup:

■ Full backup of your data

In SQL Server 2005, a full backup is a consistent copy of your database at a certain time. Only used objects are saved, so that normally the copy is smaller than the original database. Full backups should be scheduled for a time when there is a low load on the database server.

■ Backup of the Transaction Log

The Transaction Log is a serial record of all the transactions that have been performed on the database since the transaction log was last backed up. With transaction log backups you can recover the database to a specific point in time or to the point of failure.

The transaction log grows over time. If the transaction log exceeds a certain size, it can cause problems in the SQL Server. To prevent those problems, we recommend doing regular backups of the transaction log, which will truncate the transaction log.

■ Backup of SAP Business One subdirectories

To avoid data loss, you must backup regularly the following subdirectories of SAP Business One. These directories contain bitmaps, and Word and Excel documents. To store the backed up directories, you can use a file archiving application.

- ...\\Program Files\\SAP\\SAP Business One\\Attachments\\
- ...\\Program Files\\SAP\\SAP Business One\\Bitmaps\\

- ...\\Program Files\\SAP\\SAP Business One\\ExclDocs\\
- ...\\Program Files\\SAP\\SAP Business One\\WordDocs\\



Recommendation

Test your backup and recovery procedures thoroughly. Testing helps to ensure that you have the required backups to recover from various failures, and that your procedures can be executed smoothly and quickly when a failure occurs.

The frequency of the backups depends on several factors:

- Processed data volume
- Customer requirements
- Number of users

Consider how much time you would need to invest in retrieving your data manually after a data loss. After installing or upgrading SAP Business One, perform a full backup of the SBO_DB database.

5.1.5.2 Backup Types

You can back up your data with the SAP Business One Service Manager or the SQL Server Management Studio, using one of the following backup types:

Full Backup Using SAP Business One Service Manager

This type suits small and medium-sized businesses. It allows you to perform only full backups of your application database.

Advantages include: easy set up and restore, since you have to restore only the full backup.

Disadvantages include: requires large amount of space, time consuming, and suitable for backing-up only once a day. This means that you can lose a whole day's data.

For more information, see *Configuring Backup Services* [page 24].



Caution

Make sure to set *Recovery Model* to *Simple*.

Full Backup Using SQL Server Management Studio

This backup provides more functionality than the Service Manager and can save the backup directly to tape.

Do a manual backup of the files and directories of your hard disk.

Full Backup and Transaction Log Backup Using SQL Server Management Studio

The advantage of this type of backup is that the monitoring is partly automated and you can save the backups directly to a tape. You can also add alerts.

Disadvantages include a relatively complicated setup and the need to manually back up the subdirectories of SAP Business One.

Example

The following table summarizes the main options for each backup type

Backup type	Only full backup	Full backup	Full backup and Transaction log backup
Tools	Sap Service Manager	Microsoft Enterprise Manager	Microsoft Enterprise Manager
Recovery model	Simple	Simple	Full
Installation effort	Low	Medium	High
Monitoring effort	Medium	Medium	Medium
Backup destination	Disk	Disk or tape	Tape or disk
Automatic file backup	Yes	No	No
Complexity	Low	Medium	High

5.1.5.3 Troubleshooting Backups

To ensure that your database backups are successful, check your server at regular intervals. Ensure that you have enough disk space on the server where your database is stored. If you store your backup on another server, check that there is enough free space.

The basic checks are:

- Drive space
- Disk subsystem errors
- Tape drive errors
- Event Viewer
- Regular evaluation of your recovery and restore process

Procedure

To check disk space:

1. Open Microsoft *Windows Explorer*.
2. Right-click your hard disk and select *Properties*.
The *Properties* window appears.

3. Check the free space on your hard disk.

The free space you need on your hard disk depends on the volume of data you process each day.

Depending on the disk system and the tape drive, scan for disk errors at regular time intervals. For more information, see your tape drive documentation.

To check if errors occurred in the operating system or in the database server, use the Windows *Event Viewer*:

1. Select ► *Start* ► *Settings* ► *Control Panel* ► *Administrative Tools* ► *Event Viewer*. ◀

Events that occur in the system are stored in three different logs. Within these logs, events are classified as type: *Information*, *Warning*, or *Error*.

Events that occur within the database server are stored in the *Application Log*. In the *Source* column of the application log, you can see the source application for a specific event.

2. Double-click an event to display more information.

3. Look for error events that may indicate backup failures in the *Application Log*.

If you perform network backups, look for network errors in the *System* and *Application* logs.

5.1.6 Restore

If a failure damages the system, restoring the database restores the integrity of the data in most cases. Ideally, the downtime of the system will be minimal and no data should be lost. Develop a restore strategy that considers the maximum downtime allowed for your system, and estimate how much time you need to react to a system failure. Analyze the problem and take appropriate measures. You may be required to change hardware or reinstall the operating system before restoring your database.

Ensure that an employee familiar with the restore procedures is available at all times. Testing of the restore procedures improves the chances of a successful and fast recovery of your data. We recommend doing test backups and test restores at regular intervals.

Restore the database in the following situations:

- Hardware failure
- Migration to a new hardware
- Logical Errors
- Virus
- Testing

5.1.6.1 Restore Checklist

Checklist

The general procedure to restore data may include one or more of the following steps:

- 1. Analyze the problem.
- 2. If possible, save the current active transaction log.



Note

If the database failed, but the SQL Server is still available, the transaction log contains data that is not saved yet. You can save it only if the hard disk on which the transaction log is saved, and the hard disk on which the executable files are located, are not damaged.

If you cannot save the transaction log, you can only restore the changes that occurred after the backup of the last transaction log.

- 3. Provide the necessary hardware.
- 4. Configure your database server.
- 5. Restore your last full backup.
- 6. Restore the transaction log.
- 7. Test all executed measures.
- 8. Release to productive operation.

5.1.6.2 Saving the Current Active Transaction Log

1. Insert a new tape and open *SQL Server Management Studio*.
2. Select the database and from the menu choose *New Query*.
3. In the *Query* window, run the command:

```
BACKUP LOG <sid> TO <tape> WITH NO_TRUNCATE, FORMAT
```

Where:

<sid> = name of the database. For example, *sbodemo_us*

<tape> = your backup tape name (case sensitive)

4. After saving the transaction log file, you can change damaged hardware, and, if necessary, reinstall your operating system and your SQL Server database, as described in the *SAP Business One Installation Guide*.

You can now restore data.

5. Restore your last full database backup.

After you restore the last full backup, the database is in the same condition as it was when the backup was carried out. After you restore the transaction logs, finished transactions are applied to the database again.



Caution

Before you start the restore process, verify that the installed service pack has not changed since the time of the backup.

6. Perform a roll forward until the end of the transaction log.

The database is now in the same condition as it was at the time of the last transaction log backup. Because this condition is not consistent, perform a rollback for all unfinished transactions.

The database <msdb> stores the history of backups, in addition to restore operations, in the backup set and backup file of the tables. If the system database <msdb> is available, the recovery is based on the saved history in <msdb>. See *Restoring Data when <msdb> is Available* [page 60].

If the system database <msdb> is not available, you have to restore it and reconstruct the history. See *Restoring Data when <msdb> is not Available* [page 61].



Recommendation

The only way to know if a restore will succeed is to perform it. Therefore, it is necessary to test the restore process occasionally against a test database.

If you use the transaction log file, we recommend testing all procedures thoroughly.

5.1.6.3 Restoring Data When <msdb> is Available

This procedure provides instructions for restoring your database when the database <msdb> is available. By using history, the last backups are selected automatically.

Procedure

1. Close SAP Business One to enable the system to restore the database.
 2. Launch *SQL Server Management Studio*.
 3. Right-click the desired database and choose **Tasks** ► **Restore** ► **Database** ◄.
A list with backups appears. The last full backup and the subsequent transaction log backups are selected automatically.
 4. In the *Restore Database* window, choose the *Options* tab and check the following options:
 - *Overwrite over existing database*
 - *Preserve the replication settings*
 - *Prompt before restoring each backup*SQL Server asks you to put in a new tape to continue with the restore after the restore process of a backup.
Select this option to overwrite the existing database. This option is useful after a logical error.
 - *Restrict access to the restored database*
 - *Restore database files as*
- In the *Restore As* column, it might be necessary to change the path name, when you are restoring the database on a different server.
5. Click *OK* to confirm.
The system starts the database restore process.
 6. Wait until the following message is displayed:

Restore of Database <databasename> completed successfully.

The SQL Server copies the data from the backups, restoring the database and creating all dependent files.

5.1.6.4 Restoring Data when <msdb> is Unavailable

This section provides instructions for restoring your database when the history in the database <msdb> is not available, for example, after reinstalling the SQL Server. For this procedure, you need your last full backup and all subsequent backups of the transaction log.

1. Close SAP Business One to enable the system to restore the database.
2. Launch *SQL Server Management Studio*.
3. Create a new database:
 - a) Right-click *Databases* and choose *New Database*.
The *Restore Database* window appears.
 - b) Enter a name for your new database (the name of your company in SAP Business One).
4. Right-click the new database and choose ► *Tasks* ► *Restore* ► *Database* ◄.
5. Select *Restore: From Device* and choose the browse button.
The *Specify Backup* window appears.
6. Choose *Add*.
The *Locate Backup File* window appears.
Locate and select the file containing your last full backup.
7. Choose *OK*, and another *OK* in the *Specify Backup* window.
8. In the *Restore Database* window, check the desired back sets and choose *Options*.
Set the following:
 - a) Choose *Overwrite the existing database*.
 - b) Under the *Restore As* column, change the path, if necessary, for example, if you restore the database on a different server where the path name does not exist.
 - c) In the *Recovery completion state* area, select *Leave database non-operational but able to restore additional transaction logs*.
 - d) Choose *OK*. The system starts restoring the database.
9. Wait until the following message appears:
Restore of Database <sid> completed successfully.
Continue with the next procedure, restoring transaction logs.

Restoring Transaction Logs

1. Right-click the database you want to restore and choose ► *Task* ► *Restore* ► *Transaction Log* ◄.
2. Choose *Restore: From Device* and choose the browse button.
The *Specify Backup* window appears.

3. Choose *Add*.

The *Locate Backup File* window appears.

Locate and select the file containing your last full backup.

If you choose the wrong transaction log file, an error message appears.

4. Choose *OK*, and another *OK* in the *Specify Backup* window.5. In the *Restore Database* window, set the following in the *Options* tab:

a) Choose *Overwrite the existing database*.

b) In the *Recovery completion state* area, choose *Leave database not operational but able to restore additional transaction logs*.

c) Choose *OK*.

The system starts to restore the database.

6. Repeat this procedure for all transaction logs.

When you reach the last transaction log, in the *Recovery Completion State* pane, choose *Leave database operational*. *No additional transaction log can be restored*.

5.1.6.5 Troubleshooting Restore

The most common problem during the restore procedure is not being able to restore the backup file. The only way to verify this is to regularly restore backups using the same medium that you would use in disaster recovery.



Recommendation

At regular intervals, perform the procedures that would take place in case of a disaster, including the restore process of full and transaction log backups.

5.2 Data Transfer Workbench for SAP Business One

SAP Business One implementations require you to move data from the legacy system into the new SAP Business One system. Business data (such as customers, vendors, and products) must be available in the new system before it goes live.

Data Transfer Workbench offers a wizard that imports new data and updates existing data into SAP Business One. To simplify the preparation of data for the import, SAP provides predefined data file templates. Data Transfer Workbench records import activities so you can track the data migration process.

For more information, see the Data Transfer Workbench online help file.

The data migration includes different tasks:

- Extracting data files from your legacy system
- Cleaning data

- Mapping data and converting data
- Importing data into SAP Business One
- Checking the results of the import

5.3 Getting Support

You need a contact person at your site who can deal with issues concerning SAP Business One. This contact person should follow the support process described below. If a problem is not solved, contact support.



Note

Before you contact support, check the version information of SAP Business One.

To view the version number of SAP Business One: from the *Help* menu, choose *About*.

You can get support from your partner using the **Customer Portal** or the **Hotline**.

The Hotline is a number provided by your partner that you can call to get support during official support hours. The partner support staff logs the problem on the Service Marketplace. The partner support staff try to solve your problem. If they are unsuccessful, they forward the problem to the SAP Support team.



Recommendation

We recommend getting support by logging your problem message in the **Customer Portal** at <http://service.sap.com/smb/sbocustomer>.

This allows you to track the status of the message. Your SAP Business One partner provides a user name for this portal. In the Customer Portal, you can find more information on how to create a message and track its status.

5.3.1 Using Online Help and SAP Notes

If you have a question or problem concerning SAP Business One, check the online help.

If that does not provide an answer, search for corresponding SAP notes:

Procedure

1. Log on to the Customer Portal at:
<http://service.sap.com/smb/sbosupport>
2. Choose *SAP Notes*.

You can either display a note directly, by providing the number of the note, or search for a note by entering key words. Think about the keywords you use, and choose the application area where you have a question.

The application area for SAP Business One starts with “SBO”.



Example

The following example illustrates the difference between a usable and an unusable search.

Problem Message

“The performance of the SAP Business One program is not acceptable. Executing all operations takes a long time. The problem occurs only on one front-end.”

Use: Key words *Performance* and *SAP Business One*. Specify the component **SB0-BC***.

Do not use: Phrases such as *SAP Business One runs long* or *SAP Business One is too slow*.

5.3.2 Using the Support Desk

You can use the Support Desk to search for known solutions in the SAP support database on SAP Service Marketplace. The Support Desk establishes a direct link to SAP Service Marketplace, which stores all known problem solutions.

For more information, see the SAP Business One online help.

Prerequisites

You have a valid **S** user.

An **S** user authorizes you to access online support functions offered by SAP. The **S** user information is shipped with the SAP Business One product. If this information is missing or incorrect, contact your SAP Business One partner.

Procedure

To find solutions on SAP Service Marketplace:

1. From the SAP Business One menu, choose ► *Help* ► *Support Desk* ► *Find a Solution* ◄.
The *Support Desk – Find a Solution* window appears.
2. In *Search Term*, enter one or more words for which to search.
You can search for key words or phrases of up to 60 characters.
3. Choose *Find*.
The system calls up the connection to SAP Service Marketplace.
4. Enter your **S-User** and password.
The system defaults your search criteria and the application area to **SB0*** and starts the search.

6 Security

The most important factor in providing system security is your own security policy. This section is intended to assist you in implementing a security policy, but it cannot replace your own investment of time and assets, as well as strict adherence to the security guidelines of your software vendors. We recommend that you dedicate sufficient time and allocate ample resources to implement your security policy and maintain the level of security that you desire.

This section offers several recommendations to help you meet the security demands of the SAP Business One system and covers the following security aspects:

- *User Authentication.* Provide system access to legitimate users only, and prevent identity impersonation.
- *Password Policy.* Set a password policy that enforces your organization password security guidelines.
- *Network Security.* Your communication needs must be supported without allowing unauthorized access to your network.
- *Add-on Access Protection.* Add-on applications must not allow unauthorized access to the database.
- *Application Security.* Access must be restricted to users with the necessary permissions.
- *Database Protection.* It is important to upgrade the database server and follow vendor recommendations to secure the database.

6.1 Technical System Landscape

Figure 1: Desktop Application Architecture

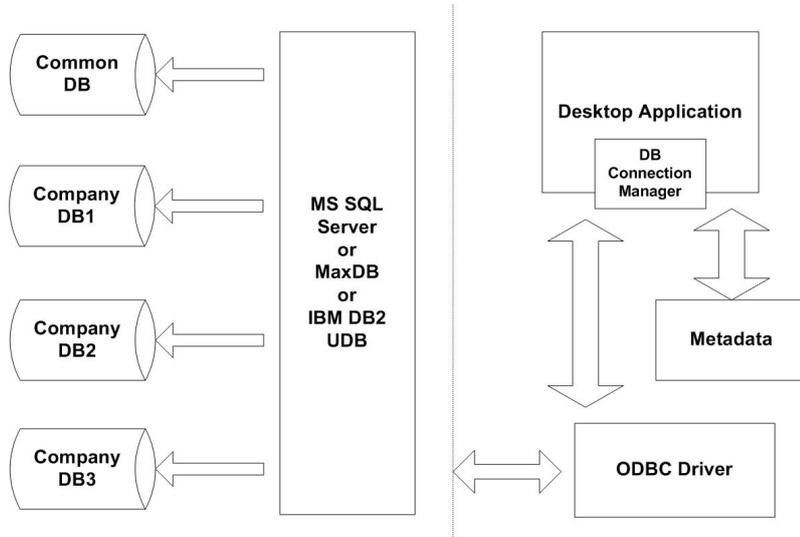
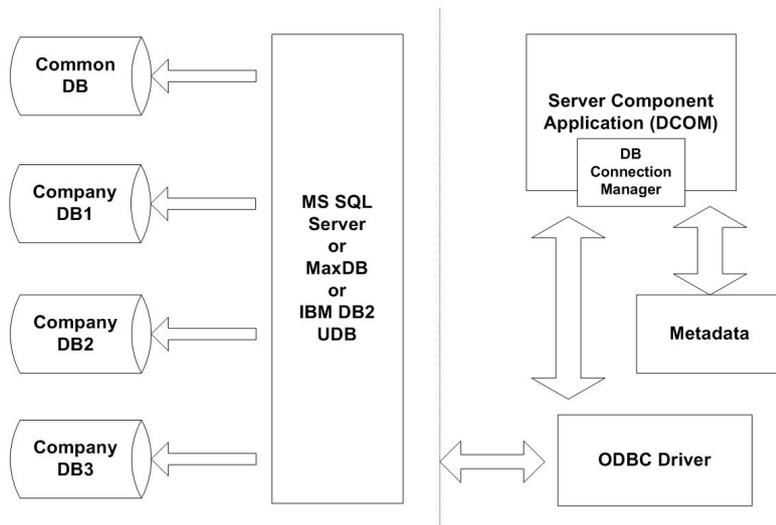


Figure 2: Server Component Architecture



6.2 User Authentication

You must ensure that users and information in a system are authentic. You need to know that the users who operate within your system and database are known users who cannot be impersonated. In addition, user privileges must be well defined by your organization’s system administrator. As a standard practice, SAP Business One and the database authenticate the users by their user accounts

and passwords. It is recommended that you use Microsoft NT authentication. When choosing a database in SAP Business One, select *Use Trusted Connection*.

6.2.1 Database Authentication

The database administrator default user name is 'sa' and it has full authorization. Therefore, you must assign a strong 'sa' password, even on servers that are configured to require Microsoft Windows Authentication. This ensures that a blank or weak 'sa' password is not exposed.



Note

Strong passwords are the first step to securing your system. If a password can be easily guessed or compromised using a simple dictionary attack, your system will be vulnerable. A strong password should contain alphabetic, numeric, and special characters; should be at least seven characters in length; should not be a common word or name; should not contain a name or username; and should be significantly different from previous passwords.

6.2.2 SAP Business One Authentications and Authorizations

For SAP Business One administrators who install and add new companies to the database, create a new user account with the following settings: Database Creators role, and db_owner access permission for the SBO-COMMON database. For SAP Business One regular user, set a user account with db_owner access permission to SBOCommon database and db_owner access permission to the required Company database only.

6.2.3 Network Security

We strongly recommend using SAP Business One in trusted environments only (corporate LAN with firewall protection). To secure the TCP/IP communication channel between the database client and the database server, you can implement SSL encryption.



Note

Using SSL encryption may degrade network performance. The SSL encryption solution for Microsoft SQL server requires a certificate, which is time limited and requires a renewal every year.

For information about Microsoft SSL Encryption guidelines, see www.msdn.microsoft.com and search for the following topics:

- Net-Library Encryption

■ Client Net-Libraries

6.2.4 Add-On Access Protection

The DI API installation creates a hard-coded user account (OBSCCommon) and password for accessing the database. This user account has extensive database access permissions. Therefore, we recommend that you remove this user account from the database server after completing the installation.



Note

Add-Ons or integrated applications that use the DI API of releases earlier than SAP Business One 6.5 may use the OBSCCommon user account to access the database. Therefore, before removing this user account from the database, consult your SAP partner.

When installing an add-on, SAP Business One creates a unique digital signature using the MD5 technique (message-digest algorithm). SAP Business One identifies the add-on by validating its digital signature.

6.2.5 Application Security

SAP Business One must be secured against unauthorized access.

Password Encryption

SAP Business One uses Microsoft Crypt API to encrypt user passwords before storing them in the database.

B1_SHR Folder Permissions

The SAP Business One Server installation process creates the folder B1_SHR, which contains the SAP Business One Client setup files.



Note

The following permissions do not apply on the SAP Business One Integration Platform folders *BankFiles*, *BankStatements*, and *FormatProjects* under `.. /SAP Business One/B1_SHR/B1is/apps/PaymentEngine` folder.

Due to security considerations, only the **System** and **Administrator** accounts have full control over these folders by default.

To enable the Payment Engine for **additional user accounts**, you must manually grant them with permissions to these folders.

Operating System	User	SBO_SHR Permissions
Windows 2003 Server	Power User	Install Modify Write
	User	Read and execute List folder contents Read
Windows 2003 Server Small Business	Power User	Install Modify Write
	User	Read and execute List folder contents Read
Windows XP	Power User	Install Modify Write
	User	Read and execute List folder contents Read

Database per Company

SAP Business One with Microsoft SQL server architecture obligates using a single database per company. Therefore, database administrators are advised to set only users with the required permissions for each company database, see *SAP Business One Authentications and Authorizations*. This prevents users without permissions from executing scripts using the query wizard on the company database.

Query Wizard

The query wizard tool is designated for the Select sentence only. It must not be used for any kind of update.

6.3 Setting a Password Policy

Password policy defines global guidelines and rules for password settings such as how often a password should change; what letters and characters should be used; minimum number of characters; number of attempts before the system locks the user account.

The password policy improves the security of SAP Business One and allows administrators apply the required security level for their organization.

1. From the *Administration* module, select ► *Setup* ► *General* ► *Password Administration* ◀.

The *Password Administration* window appears.

2. In *Security Level*, select between three predefined security levels: *Low*, *Medium*, and *High*.
Only Superuser can change security level.
Selecting a level sets predefined values in the password setting fields.
Selecting *Custom* lets you set your own values for each field and define a custom security level.
For detailed field descriptions, press **F1** while the *Password Administration* window is displayed.
3. In *Password Example*, you can choose *Generate* to create a sample password appropriate for the selected security level.
The system displays this example to users who change their passwords.
4. Choose *Update* and *OK* to save your settings and close the *Password Administration* window.

New and Expired Passwords

Users can change their passwords at any time. In addition, the system checks password validity according to the selected password policy security level in each log on attempt.

If the user requires to change password, the system displays the *Password Expiration* window. The user must change password to log in.

The new password must comply with the settings of the selected security level (contains at least x characters; x lower case; x upper case; x digits, x non-alphanumeric). An example password is offered to the user.

If the password does not comply with the selected security level, a "Password does not comply with the password policy" message appears.

The system saves passwords in the database in encrypted form. The last N number of passwords is also encrypted. When comparing two passwords, the system first encrypts the password and then compares it with the saved one.

6.4 Database Tips

6.4.1 Upgrade the SQL Server

We advise upgrading the SQL server to the latest service pack. Furthermore, administrators should regularly consult the SQL Server Security Center at www.microsoft.com.

6.4.2 10 Steps to Help Secure Microsoft SQL Server 2005

Because SAP Business One is a two-tier application, much of the application security depends on the database server security and on the authorization mechanism. Be aware that users can access the database using tools other than SAP Business One and therefore can modify the logon information.

To secure your database, we recommend adhering to Microsoft security guidelines. See the document 10 Steps to Help Secure SQL Server 2005 at www.microsoft.com.

6.5 Security Solution for Microsoft SQL Server

We recommend the following actions to ensure the security of your Microsoft SQL Server:

- Revoke access to guests on the MSDB database.
- Create the SBO_SP_Role in each new database.
- Create a regular company user account.
- Create a Super User account.

Perform the following steps using SQL Server Management Studio.

6.5.1 Revoking Guest Access to msdb Database

1. In **SQL Server Management Studio** Object Explorer, select **Databases** ▶ **System Databases** ▶ **msdb** ▶ **Security** ▶ **Users**.
2. In the right pane, right-click the *Guest* user and choose *Delete*.

6.5.2 Creating SBO_SP_Role in Each New Database

This role enables execution permissions to SAP Business One stored procedures in specific database only. Perform the following procedure on the SBO-COMMON database and the Company database.

Procedure

1. In **SQL Server Management Studio** Object Explorer, select **Databases** ▶ **SBO-COMMON** (or *company database*) ▶ **Roles** ▶ **Database Roles**.
- The list of database roles appears in the right pane.
2. Right-click anywhere in the right pane and select *New Database Role*.
3. Enter **SBO_SP_Role** in the *Name* field and choose *OK*.
4. Double-click the new role.
- The *Database Role Properties* window appears.
5. Select the field in the EXEC column only for SAP Business One stored procedures.



Note

Stored procedures might change in future releases of SAP Business One; therefore, this role should be updated accordingly. Instructions for changing the role due to changed stored procedures will be included in the documentation of future versions. See *Stored Procedures in SBO-Common* [page 73] and *Stored Procedures in Company Database* [page 73].

6.5.3 Creating a Regular Company User Account

Use the Regular Company User Account to log on to company databases and enable common tasks for a specific company.

Procedure

1. In **SQL Server Management Studio** Object Explorer, select **Security** ▶ **Logins** ◀.
2. Right-click **Logins** and select **New Login**.
The **Login — New** window appears.
3. On the **General** page, select **SQL Server authentication** and enter a strong password in the password field.
4. On the **User Mapping** page, under **Users mapped to this login**, select **SBO-COMMON**.
5. Under **Database role membership for SBO-COMMON**, select the roles: **db_datareader**, **public**, and **SBO_SP_Role**.



Note

SBO_SP_Role is the role you created previously in *Creating SBO_SP_Role in Each New Database* [page 71].

6. Repeat steps 3 and 4 for the Company database to which this user is authorized, choosing the following database roles: **db_datareader**, **db_datawriter**, **db_ddladmin**, **public**, and **SBO_SP_Role**.
7. To remove the permissions this user has in **SRGC** table in **SBO-COMMON**, in Object Explorer, select **Databases** ▶ **SBO-COMMON** ▶ **Tables** ◀.
The list of tables appears in the right pane.
8. Right-click **SRGC**, and choose **Properties** ▶ **Permissions** ◀ page.
9. Select each check box in the user's row.
An "X" sign appears in each column, indicating that access to this table has been removed.

6.5.4 Creating a Super User Account

Use the Super User account to maintain administration tasks for SBO (creation of new company, logon to all companies in SBO, and so on).

Procedure

1. In **SQL Server Management Studio** Object Explorer, select **Security** ► **Logins** ◄. Right-click *Logins* and select *New Login*.
2. On the *General* page, select *SQL Server authentication* and enter a strong password in the *Password* field.
3. On the *Server Roles* page, select *dbcreator* and *securityadmin*.
4. On the *User Mapping* page, select the **db_owner** role for all SAP Business One databases (SBO-COMMON and all companies), and select the **public** role for *msdb* database.
5. Choose *OK*.

6.6 Stored Procedures

Procedure
OBSSp_GetNextExecFromSchedule
OBSSp_GetServiceRecord
OBSSp_UpdateScheduleRecord
OBSSp_UpdateServiceExec
RGSp_UpdateInstance
RGSp_UpdateLicense
TmSp_CheckDiskSpace
TmSp_GetCompList
TmSp_GetNumUsers
TmSp_GetServerTime
TmSp_GetUsers
TmSp_Installer_CreateTmSp
TmSp_Installer_SetFieldValue
TmSp_RefreshCompList

Procedure
SBO_SP_TransactionNotification
TmSp_AddSqlUser
TmSp_AddUF_Add
TmSp_AddUF_Del
TmSp_AddUF_Upd
TmSp_AddUserFields
TmSp_ChooseCIN4Correction

Procedure
TmSp_ChooseINV4Correction
TmSp_ConvertGrpLine_OACT
TmSp_ConvertGrpLine_OACT_rekurs
TmSp_DragOn
TmSp_DragOnPk
TmSp_FifoGetINM_Records
TmSp_GetDocVarTotals
TmSp_GetMaxRange
TmSp_GetNumUsers
TmSp_GetOpenRCTs
TmSp_GetOpenRINs
TmSp_GetUsers
TmSp_GetWDD
TmSp_OpportAnalysis
TmSp_OpportAnalysis_CRD
TmSp_OpportAnalysis_ITM
TmSp_OpportAnalysis_SLP
TmSp_OutboxSync
TmSp_Purch_An_Crd_Det_Y
TmSp_Purch_An_Crd_Grp_M
TmSp_Purch_An_Crd_Grp_Y
TmSp_Purch_An_Crd_Sng_M
TmSp_Purch_An_Crd_Sng_Y
TmSp_Purch_An_Itm_Det_Y
TmSp_Purch_An_Itm_Grp_M
TmSp_Purch_An_Itm_Grp_Y
TmSp_Purch_An_Itm_Sng_M
TmSp_Purch_An_Itm_Sng_Y
TmSp_Purch_An_Slp_Sng_M
TmSp_Purch_An_Slp_Sng_Y
TmSp_RebuildAcctMatch
TmSp_RebuildMatchHistory
TmSp_Sales_An_Crd_Det_Y

Procedure
TmSp_Sales_An_Crd_Grp_M
TmSp_Sales_An_Crd_Grp_Y
TmSp_Sales_An_Crd_Sng_M
TmSp_Sales_An_Crd_Sng_Y
TmSp_Sales_An_Itm_Det_Y
TmSp_Sales_An_Itm_Grp_M
TmSp_Sales_An_Itm_Grp_Y
TmSp_Sales_An_Itm_Sng_M
TmSp_Sales_An_Itm_Sng_Y
TmSp_Sales_An_Slp_Sng_M
TmSp_Sales_An_Slp_Sng_Y
TmSp_SetBalanceByJdt
TmSp_SetBgtAccumulators_ByJdt
TmSp_SetGlStamp
TmSp_SetVendorDeductPercent
_TmSp_AliasUpdateAfter
_TmSp_AliasUpdateBefore
_TmSp_AliasUpdate_OUSR
_TmSp_ControlAccountUpgrade_OCRD
_TmSp_ConvertGrpLine_OACT
_TmSp_ExpnsUpdateOnDocs
_TmSp_FormattedSearchUpdate
_TmSp_MthDate_Update_JDT1
_TmSp_RestoreIsCommitted_OIBT
_TmSp_SetCategoryAtOFPR
_TmSp_ShekelUpdate
_TmSp_UpdateDoubleName
_TmSp_VariableUpdate_OUQR
_TmSp_VatSumCalc

Typographic Conventions

Example	Description
< >	Angle brackets indicate that you replace these words or characters with appropriate entries to make entries in the system, for example, “Enter your <User Name>”.
▶ ▶ ◀	Arrows separating the parts of a navigation path, for example, menu options
Example	Emphasized words or expressions
Example	Words or characters that you enter in the system exactly as they appear in the documentation
<u>Example</u>	Textual cross-references to an internet address, for example, http://www.sap.com
/example	Quicklinks added to the internet address of a homepage to enable quick access to specific content on the Web
<u>123456</u>	Hyperlink to an SAP Note, for example, SAP Note 123456
<i>Example</i>	<ul style="list-style-type: none"> ■ Words or characters quoted from the screen. These include field labels, screen titles, pushbutton labels, menu names, and menu options. ■ Cross-references to other documentation or published works
Example	<ul style="list-style-type: none"> ■ Output on the screen following a user action, for example, messages ■ Source code or syntax quoted directly from a program ■ File and directory names and their paths, names of variables and parameters, and names of installation, upgrade, and database tools
EXAMPLE	Technical names of system objects. These include report names, program names, transaction codes, database table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE
EXAMPLE	Keys on the keyboard

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SAP AG

Dietmar-Hopp-Allee 16
69190 Walldorf

Germany

T +49/18 05/34 34 34

F +49/18 05/34 34 20

www.sap.com