



SAP NetWeaver '04 SR1 Installation Guide

SAP Business Warehouse 3.5

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Including:

- SAP BW Java Components
- SAP BW Precalculation Service 3500.0.0.1



SAP AG
Neurottstraße 16
69190 Walldorf
Germany
T +49/18 05/34 34 24
F +49/18 05/34 34 20
www.sap.com

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A SAP Business Warehouse 3.5 Installation Overview

1 General Information About SAP BW

SAP Business Warehouse (SAP BW) provides data warehousing functionality, a business intelligence platform, and a suite of business intelligence tools that enable businesses to attain these goals.

SAP BW allows you to analyze data from operative SAP applications as well as all other business applications and external data sources such as databases, online services, and the Internet.

SAP BW enables Online Analytical Processing (OLAP). This processes information from large amounts of operative and historical data. OLAP technology enables multi-dimensional analyses from various business perspectives. The Business Warehouse Server for core areas and processes, pre-configured with Business Content, ensures that you can look at information within the entire enterprise.

The *Administrator Workbench* is the tool for controlling, monitoring, and maintaining all of the processes connected to data staging and processing in the SAP BW system. The term *Data Staging* includes all data retrieval processes.

The *Business Explorer* is the SAP BW component that provides flexible reporting and analysis tools for strategic analysis and decision-making support within a company. These tools include query, reporting and OLAP functions. With the Business Explorer you can evaluate old and current data to varying degrees of detail and from different perspectives either on the Web or in Microsoft Excel. The Business Explorer gives a large spectrum of users access to the information in SAP BW using the Enterprise Portal, the Intranet (Web application design) or mobile technologies (mobile telephones with WAP or I-mode capabilities, and personal digital assistants). As an analysis and presentation tool, the Business Explorer is responsible for all *Reporting*. With the Business Explorer Information Broadcasting capability, insights can be shared and disseminated to support the decision-making processes.

As part of the SAP NetWeaver architecture, SAP BW draws from and utilizes the capabilities of the other components for business intelligence usage. The sum of the functionality of SAP BW and the contribution of other SAP NetWeaver components form a platform that represents the next major step in the evolution of business intelligence.

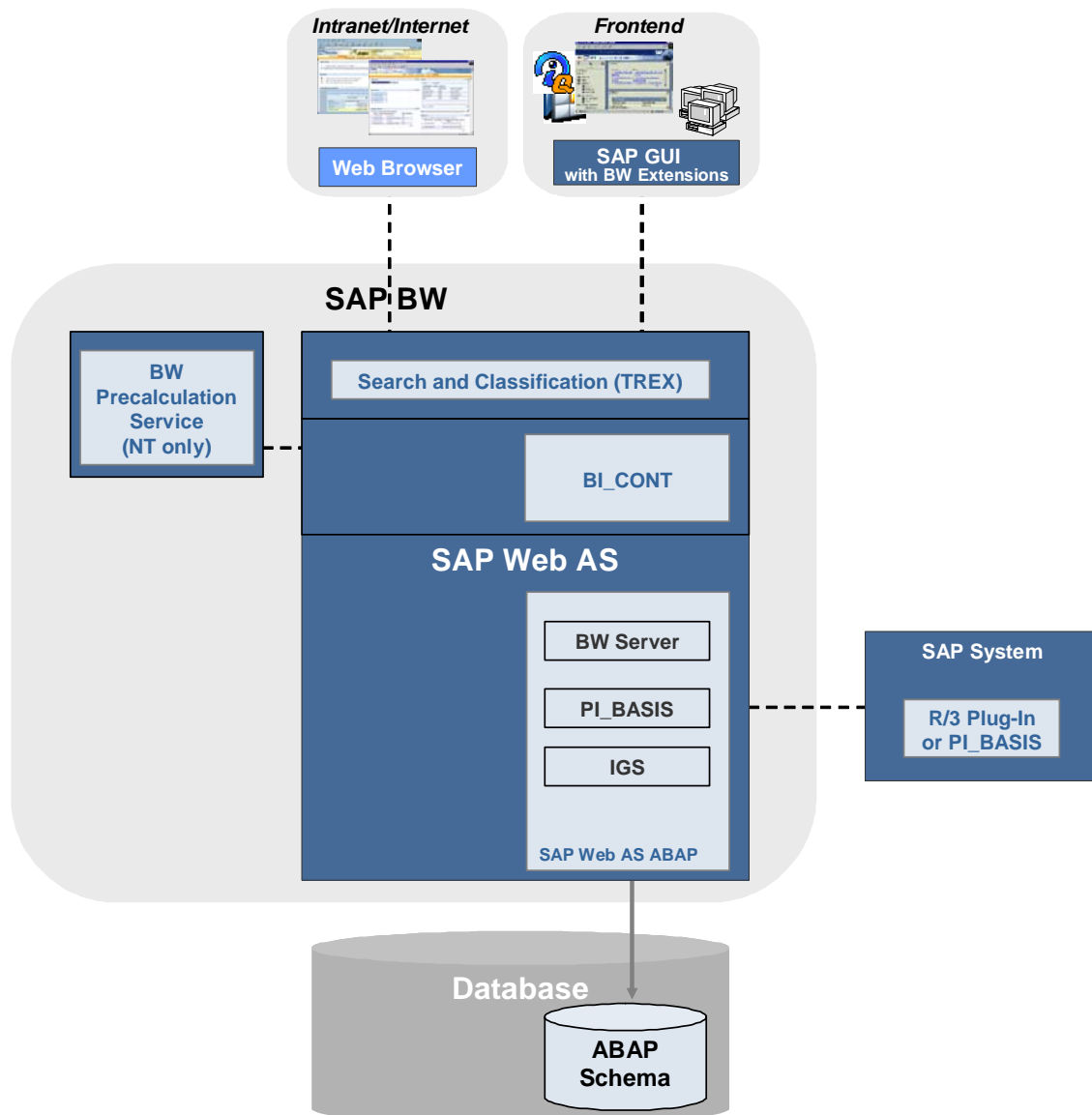
2 Installation of Components Used for SAP BW

2.1 Components Used for SAP BW

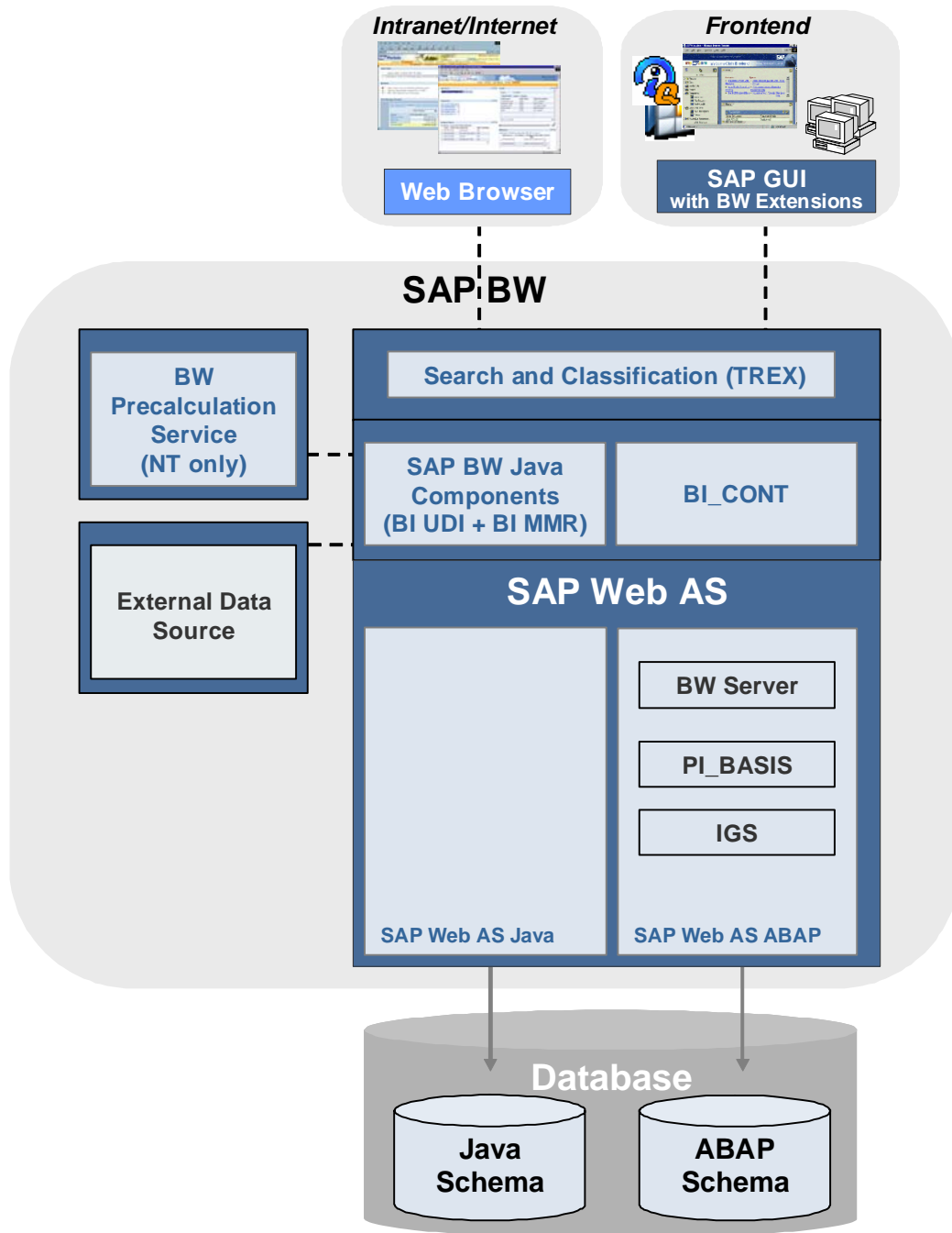
The following graphics show the main components of SAP BW and illustrate communication between the components.

To see which components are obligatory and which can be installed optionally, refer to the SAP NetWeaver '04 Master Guide section *Technical Scenarios of SAP NetWeaver* → *SAP Business Information Warehouse* → *Installation*. There you are also directed to the relevant Installation Guides.

Technical System Landscape of SAP BW Without External Data Source



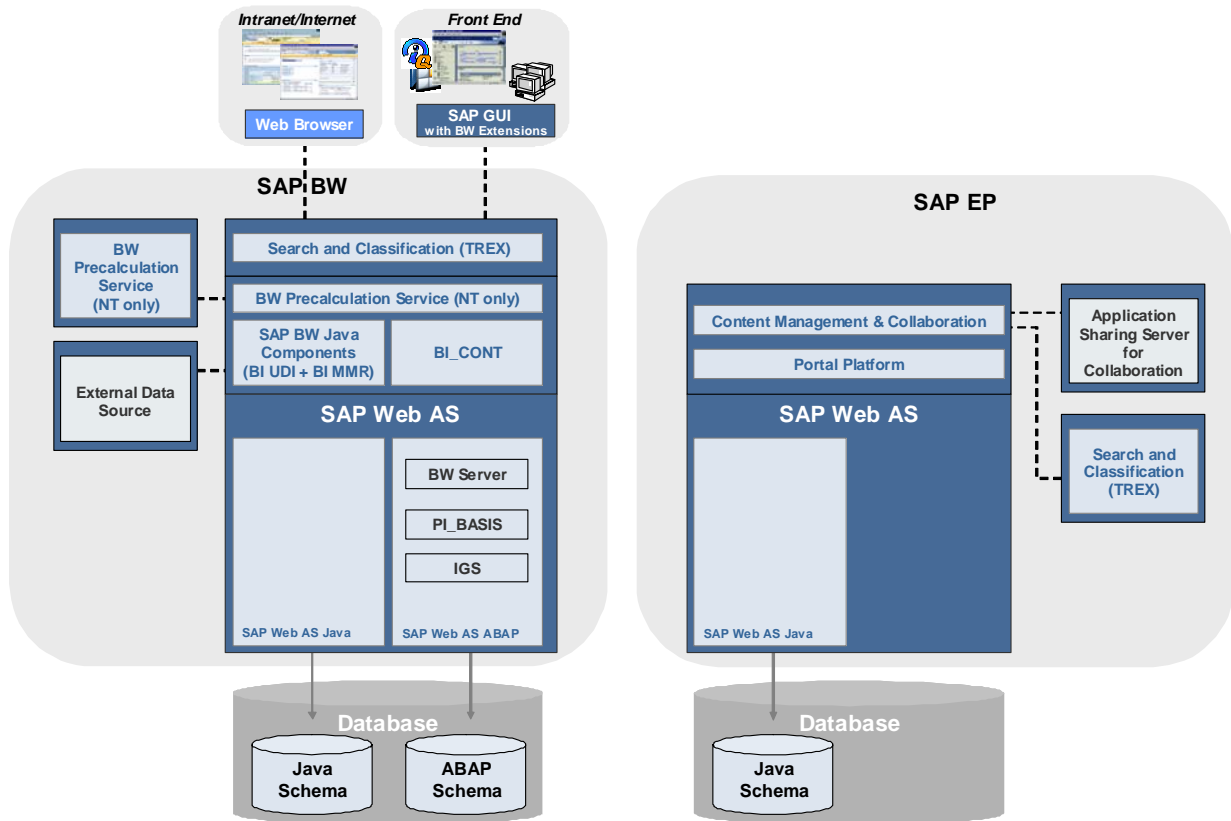
Technical System Landscape of SAP BW with External Data Source



The following graphic illustrates the components that are involved in SAP BW, how integration with SAP EP takes place, and how Business Intelligence information can be distributed by e-mail.


To see which components are obligatory and which can be installed optionally, refer to the SAP NetWeaver '04 Master Guide section *Technical Scenarios of SAP NetWeaver → BI Information Broadcasting → Installation*. There you are also directed to the relevant Installation Guides.

Technical System Landscape of BI Information Broadcasting



2.2 Installation Guides for the Components Used for SAP BW

The following table lists the components used for SAP BW as well as the documentation on the corresponding installation procedures:

Component	Documentation on Installation Procedure
SAP Web AS ABAP 6.40 which includes SAP BW 3.5, PI_BASIS 6.40 2004_1 and SAP IGS 6.40  Depending on whether you want to use the SAP BW Java Components, you can also install SAP Web AS Java.	<i>[Installation Guide – SAP Web Application Server ABAP on <Platform>: <Database>]</i>
SAP BW Java Components	This Guide
SAP BW Precalculation Service	This Guide
SAP BW Business Content Add-On BI_CONT 3.5.1 or higher	SAP Note 634214
Search and Classification (TREX)	<i>[Installation Guide – Search and Classification (TREX)]</i>
SAP GUI 6.20 with SAP BW Add-On on every host from where you want to connect to a SAP BW 3.5 server via an SAP GUI	<i>[SAP Front End Installation Guide]</i>
Internet Explorer 5.5 (or higher) or Netscape 7.01 (or higher) on every host where you want to display SAP BW Web Applications	[See your Microsoft documentation]
SAP Enterprise Portal Components	<i>[Master Guide – section Technical Scenarios of SAP NetWeaver → SAP Enterprise Portal → Installation]</i>

This guide encloses the installation guides for the SAP BW components

- [SAP BW Java Components](#) [en page 13]
- [SAP BW Precalculation Service](#) [on page 41]

You will find the other installation guides listed in the table, as well as the master guide, in the SAP Service Marketplace at service.sap.com/instguidesNW04.

B SAP BW Java Components Installation

The **SAP Business Warehouse Java Component installation** contains the following components:

- **BI Meta-Model Repository**

The BI Meta-Model Repository is a SAP-specific implementation of a MOF (Meta Object Facility)-compatible *Metadata Repository* for models and metadata in terms of the Object Management Group (OMG). The Meta-Model Repository is implemented in Java and meets the JMI standard. Models and metadata are exchanged via XML in accordance with the XMI standard.

- **Universal Data Connect (UD Connect)**

UD Connect allows the connection of diverse data source systems to SAP BW. It leverages the SAP Web AS Java connectivity for SAP BW and uses the BI Java Connectors.

- **BI Java Connectors**

The BI Java Connectors are a group of four JCA (J2EE Connector Architecture)-compliant resource adapters that allow connecting applications to heterogeneous data sources.

- **BI Java SDK**

With the BI Java SDK, you can build analytical applications that access, manipulate, and display both multidimensional (Online Analytical Processing, or OLAP) and tabular (relational) data.

The BI Java SDK consists of a Java application programming interface (API) in Java class libraries, documentation, and examples. The applications you create can access, manipulate, and display OLAP and relational data from diverse data sources.

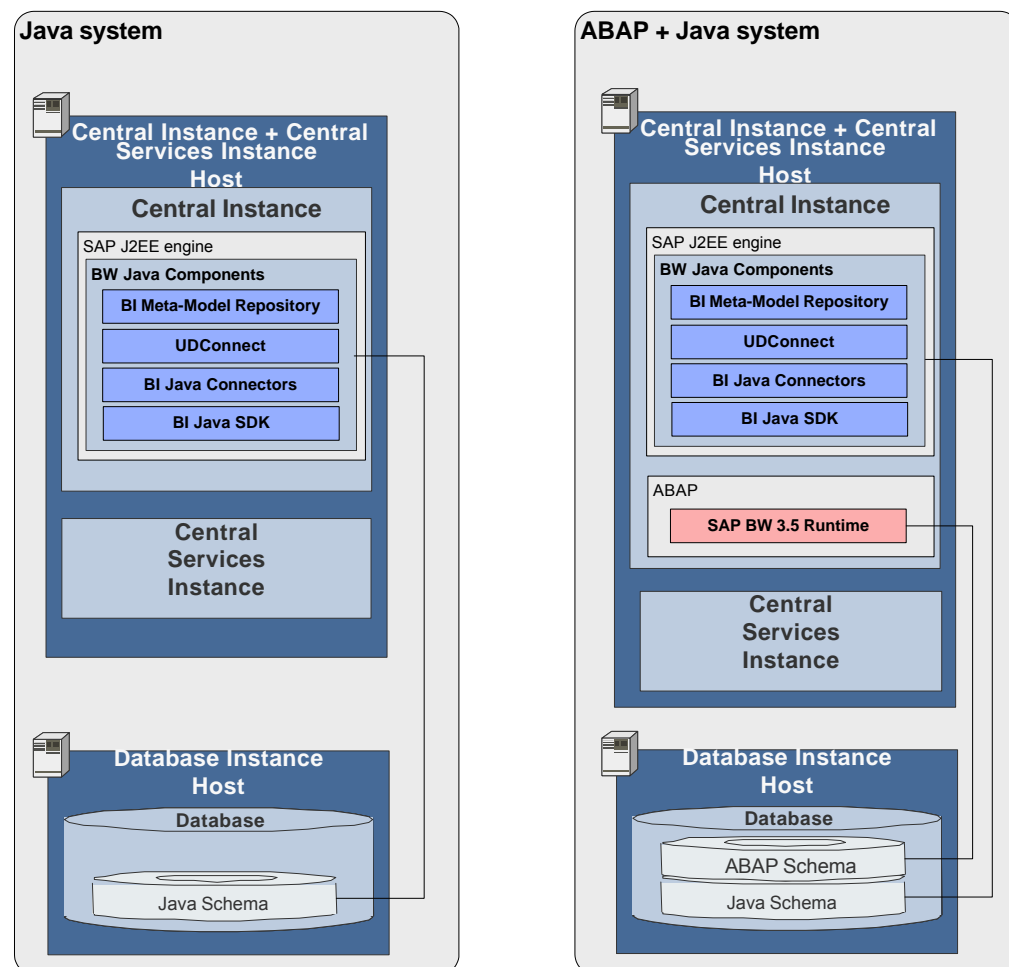
1 Implementation Considerations

The Business Warehouse **Java Components** is an additional service that runs on the SAP Web Application Server Java 6.40.

You can use it in one of the following SAP Web AS Java 6.40 variants:

- **SAP Web AS Java system**
Comprising the SAP J2EE Engine in addition to auxiliary services but **not** the ABAP Engine
- **SAP Web AS ABAP + Java system**
Comprising both the SAP J2EE Engine **and** the ABAP Engine

Overview of the SAP Web AS Java variants for SAP BW Java Components



2 SAP BW Java Components Installation – Step by Step

This section provides an overview of the complete installation procedure.

You can print out the tables below, follow the installation sequence exactly as shown in the tables and mark the step with ✓ if completed successfully.

Planning

✓	Action
	Front end Considerations You need a special SAP BW Java Components client installation. The installation of front ends for the SAP system is described separately in the <i>SAP Front End Installation Guide</i> .
	Check Documentation [on page 16]

Preparation

✓	Action
	Prepare the SAP J2EE engine for the Business Warehouse Java Components installation [on page 16]
	Preparing the System for SAPinst GUI [on page 17]
	Preparing Required DVD [on page 18]

Installation

✓	Action
	Check the input for the installation [on page 19]
	Installing SAP BW Java Components with SAPinst [on page 20]

Post-Installation

✓	Action
	Configuring and Checking the BI Java Connectors [on page 25]

3 Installation Planning

Check Documentation

- Read **SAP Note 673140** *Business Warehouse Java Components Installation* (service.sap.com/notes)
- For SAP BW Java client installation: *Front End Installation Guide* located on the SAP Presentation CD.

4 Installation Preparation

Prepare the SAP Web AS

A **J2EE Engine** is the basis for the *Business Warehouse Java Components*. Therefore, before you begin with the installation, make sure that **one** of the following prerequisites are met:

- **SAP Web AS Java 6.40 SR1 system is installed**

The following installation types are supported:

- Central System (Central Instance and Database Instance on one host)
- Distributed System (Central Instance and Database Instance on separate hosts)
- Dialog Instances

- **SAP Web AS ABAP + Java 6.40 SR1 system is installed**

The following installation types are supported:

- Central System (Central Instance and Database Instance on one host)
- Distributed System (Central Instance and Database Instance on separate hosts)
- Dialog Instances (ABAP + Java)

Preparing the System for SAPinst GUI




The installation tool SAPinst uses the Java based graphical user interface SAPinst GUI.



You can run the SAPinst GUI on the installation host or, if required, you can control an installation using a standalone SAPinst GUI on a separate Windows or UNIX host.

This standalone SAPinst GUI enables you to perform the installation on a remote host while monitoring it with the SAPinst GUI from a local host. If you want to do that, see [Controlling a SAPinst Installation from a Remote Machine](#) [on page 33].

Check the existence of a released Java Runtime Environment (JRE) on the host where SAPinst GUI should run:

Platform	Required JRE for the SAPinst GUI
<ul style="list-style-type: none"> NT IA64 Linux-IA64 Linux-s390x OS390 	<p>The required JRE release is the same as the JDK release required for the SAP Web AS 6.40 SR1 (JDK 1.4.2 or higher). See at service.sap.com/platforms → <i>Availability of SAP components in Detail</i> → <i>SAP Web AS / R/3 / Kernel</i></p>  <ul style="list-style-type: none"> JRE is not part of the SAP shipment. If necessary you need to download and install it. To check the version of an already installed JRE, enter: <code>java -version</code> If the checked version does not match the required JRE you must set the environment variable <code>SAPINST_JRE_HOME</code> to the path of the required JRE (<code>C:\jdk1.4.2</code> on Windows for example or <code>/usr/lib/java/j2sdk1.4.2</code> on UNIX for example). See your operating system documentation on how to set environment variables.
<ul style="list-style-type: none"> NT I386 HP-UX SUN Solaris 	<p>No special JRE required for SAPinst GUI, because the JRE is integrated in the SAPinst GUI executable.</p>  <p>As the JRE is temporary extracted on your host, you need at least about 40 – 80 MB free disk space for that. After the installation, SAPinst removes this JRE from your host.</p>
Other Platforms	<p>The required JRE is 1.4.0 or higher.</p>  <p>JRE is not part of the SAP shipment. If necessary you need to download and install it.</p>

Preparing Required DVD



We recommend that you make all required DVDs available **in parallel**.

These are the required DVDs:

- *SAP NetWeaver '04 Installation Master DVD*
- *SAP NetWeaver '04 COMPONENTS DVD*

Use one of the following methods to make DVDs available in parallel:

- *Before the installation:*
 - Have sufficient DVD drives
 - Copy DVDs manually to local hard disks
- *During the installation:*

Use the SAPinst [DVD/CD Browser dialog](#) [on page 38]. That is, you can check the entered location and then copy the entire DVD to the path you entered in column *Copy Package to*.

5 Installing Business Warehouse Java Components

5.1 Input Parameter

As of now there is a new F1-field-help displaying information about the input parameter fields of the SAPinst screens. This new field help replaces the former “What’s this”-help on the SAPinst screens and the former input parameter tables in the installation guides.


5.2 Installing Business Warehouse Java Components with SAPinst

This procedure tells you how to run SAPinst to install the *SAP Business Warehouse Java Components* on released platforms.

This section describes an installation where SAPinst GUI and SAPinst server are running on the same host. If you want to perform a remote installation, that is, SAPinst GUI is running on another host, see [Controlling a SAPinst Installation from a Remote Machine](#) [on page 33].

SAPinst GUI Handling

The following push buttons are available on the different SAPinst GUI dialogs (Input screens, Installation Progress screen, Message Box):

Push Button	Meaning
<i>F1</i>	Displays detailed information about each input parameter. The new field help replaces the former "What's this"-help on the SAPinst screens and the former input parameter tables in the installation guide.
<i>Back</i>	Displays the previous dialog for editing
<i>Next</i>	Displays the next dialog for editing
<i>Cancel</i>	Cancels the installation with the following options: <ul style="list-style-type: none"> – <i>Stop</i> Stops the installation and leaves the installation files in the state in which they are at the current point in time. This means that you can continue the installation later from this point. – <i>Reset</i> Resets all installation input files. All files in the installation directory are removed from the system and no log files are saved. This means that you must start the installation from scratch again.
<i>Logoff</i>	Cancels the connection to the SAPinst GUI only. The SAPinst server keeps on running. <div>  Typical use case: You need to logoff during the installation (for what reason ever) from the host where you control the installation with SAPinst GUI. Then you can connect from another host to the running installation. Be aware, that you need the <Installation Master DVD> for that. For more information on running SAPinst GUI standalone see Starting SAPinst GUI on a local Host [on page 35] </div>
<i>View Log</i>	Displays the content of the <i>sapinst.log</i> file during the installation.
<i>Retry</i>	Performs the installation step again (if an error has occurred).
<i>Stop</i>	Stops the installation and leaves the installation files in the state in which they are at the current point in time. This means that you can continue the installation later from this point.
<i>Reset</i>	Resets all installation input files. All files in the installation directory are removed from the system. No backup is available.



	This means that you must start the installation from the beginning again.
--	---------------------------------------------------------------------------

Procedure

1. Log on to your installation host as user with administrator rights.
2. Depending on your operating system do the following:

- **On Windows**

- a. Log on to your installation host as user with administrator rights.
- b. Insert the *SAP NetWeaver '04 SR1 Installation Master DVD* (from now on called <installation DVD>) in your DVD drive.
- c. Run **sapinst.exe** from the following path:
 <installation DVD>:\IMx\SAPINST\NT\<OS>



Normally, SAPinst creates the installation directory **sapinst_instdir** directly below path <drive>:\Program Files\
 Exception:
 If <drive>:\Program Files\ is not accessible or write-protected, SAPinst tries to create the directory **sapinst_instdir** directly below the temporary directory (\$TEMP). If SAPinst does not find the temporary directory, the installation terminates with the error **FCO-00057**.

- **On UNIX:**

- a. Log on to your installation host as user **root**.
- b. Mount the *SAP NetWeaver '04 SR1 Installation Master DVD* (from now on called <installation DVD>).
- c. Run the command **umask 22**
- d. Make sure that your **DISPLAY** environment variable is set to
 <Host_name>:0.0, where <Host_name> is the host on which the *SAPinst* GUI will be displayed.



Mount the DVD locally. We do **not** recommend using Network File System (NFS).

Shell Used	Command
Bourne Shell (bsh)	DISPLAY=<Host_name>:0.0 export DISPLAY
C Shell (csh)	./setenv DISPLAY <Host_name>:0.0
Korn Shell (ksh)	export DISPLAY=<Host_name>:0.0

- e. Enter the following commands to run the script **sapinst** from the mounted <installation DVD>:

```
cd <installation DVD>/IMx/SAPINST/UNIX/<OS>
./sapinst
```



- Normally, SAPinst creates the installation directory **sapinst_instdir** directly below the temporary directory (\$TEMP or \$TMP or /tmp). Therefore make sure that your operating system is configured not to delete the temporary directory and its subdirectories when the system is

rebooted.

- You need at least 40 MB free space for your temporary directory for each installation service.
- If SAPinst does not find any temporary directory, the installation terminates with the error *FCO-00058*.



If you want SAPinst to use any other installation directory than `sapinst_instdir` directly below the temporary directory, proceed as follows:

1. Create an installation directory of your choice for SAPinst with sufficient free space (at least 200 MB) and permissions `777`.
2. Change to this installation directory.
3. Enter the following command to run the script `sapinst` from the mounted *Installation DVD*:
`<Installation DVD>/IMx/SAPINST/UNIX/<OS>/sapinst`



SAPinst uses the port 21212 during the installation for communication with the SAPinst GUI. If this port is already used by another service you must start SAPinst as follows:

```
<Installation DVD>/IMx/SAPINST/UNIX/<OS>/sapinst \
SAPINST_DIALOG_PORT=<free_port_number>
```

SAPinst GUI starts automatically by displaying the *Welcome* screen.

3. In the Welcome screen, select the following installation service and choose *Next*:

Choose *SAP NetWeaver '04 Support Release 1* → *NetWeaver Components Running on Java* → *BW Java Components* → *BW UDI Java Components Installation*.



SAPinst creates the subdirectory *NW04SR1* → *WEBAS* → *JBW* below `sapinst_instdir` where the log files are stored.

Follow the instructions on the screen. The necessary input parameters are listed in the section [Input Parameter](#) [on page 19].

After you have maintained all input parameters, **SAPinst** starts the installation and displays installation progress during the processing phase. If the installation was successful, the message *The installation finished successfully* is displayed.

Troubleshooting

- If an error occurs during the **dialog phase**, SAPinst:

- Stops the installation
- Displays a dialog that informs you about the error

You can now directly view the log file by choosing *View Logs*.

Finally, you must abort the installation with *Stop* or *Reset*, and try to solve the problem.

- If an error occurs during the **processing phase**, SAPinst:

- Stops the installation

- Displays a dialog that informs you about the error

You can now:

- Directly view the log file by choosing *View Logs*.
- Try to solve the problem.
- Continue the installation by choosing *Retry*.
- *Stop* or *Reset* the installation.

For more information, see [Continuing an Interrupted Installation with SAPinst](#) [on page 36].

6 Post-Installation Activities


Configuring and Checking the BI Java Connectors

Configuring the Connectors

Configure the BI Java Connectors as follows

1. Check the prerequisites in the table below.

Depending on the connector you want to use, specific prerequisites may be necessary:

Connector	Prerequisites
BI JDBC Connector	<p>If you have not already done so, you must first deploy your data source's JDBC driver, performing the following steps:</p> <ol style="list-style-type: none"> 1. Start the Visual Administrator. If you do not know how to start, see section How to start the SAP J2EE Administration Tool [on page 39]. 2. In the Cluster tab select <i>Server <x> → Services → JDBC Connector</i> 3. In the right frame, select the node <i>Drivers</i> in the <i>Runtime</i> tab 4. From the icon bar choose <i>Create New Driver or Data source</i>. 5. In the <i>DB Driver</i> field in the Add Driver dialog box, enter a name of your choice for your JDBC driver. 6. Navigate to and select your JDBC driver's JAR file. 7. To select additional JAR files, select <i>Yes</i> when prompted; if finished, select <i>No</i>. <p> If any changes are made to the JDBC Connector, the properties all need to be added and re-saved (see <i>Services → Connector Container → JDBC Connector → Managed connections tab → Properties</i>).</p>
BI ODBO Connector	As the ODBO connector leverages Microsoft's OLE DB for OLAP, this connector can only be used on Windows 2000 / NT / XP systems only.
BI SAP Query Connector	No prerequisites.
BI XMLA Connector	No prerequisites.

2. Start the Visual Administrator.
If you do not know how to start, see section [How to start the SAP Java Administration Tool](#) [on page 39].
3. In the *Cluster* tab choose *Server <x> → Services → Connector Container*.
4. In the *Runtime* tab (right frame), choose the tabs *Managed Connection Factory → Properties*.
5. You configure the the properties for each connector as follows:
 - a. In the *Connector Container* box select the connector (*Connectors → Connector 1.0*) that you want to configure.

If you have selected a connector, you can configure it in the already opened *Properties* tab.

- b. Configure each connector according (see the tables below)
- c. If you have configured a connector, choose *Add* (*Properties* tab) to transfer the changes into the active properties and save the settings using the *Save* button in the toolbar.

Connection Properties for the BI JDBC Connector


Property	Description	Examples
<i>USERNAME</i>	Data source username User with at least reading authorisation for the datasource. (These authorisation are differing according to the used datasource)	(your username)
<i>PASSWORD</i>	Data source password	(your password)
<i>URL</i>	URL string specifying the location of a database (used by the java.sql.DriverManager to determine which driver to use)	jdbc:inetdae7:domain:port?database=mydatabase
<i>DRIVERNAME</i>	Class name of JDBC driver used for this connection	com.inet.tds.TdsDriver
<i>FIXED_CATALOG</i>	Optional Restriction of metadata access to metadata contained in specified catalog. Null means no restriction.	null (no restriction) xyz (restrict to catalog "xyz")
<i>FIXED_SCHEMA</i>	Optional Restriction of metadata access to metadata contained in specified schema. Null means no restriction.	null (no restriction) xyz (restrict to schema "xyz")
<i>LANGUAGE</i>	Optional Two-letter abbreviation of language. The language property specifies the language of exceptions evoked on the BI Java SDK layer. JDBC databases themselves do not support this property	EN = English DE = German
<i>LOGON_AS_USER_ID</i>	Optional Username of a given windows domain account. Empty string means property not set.	(your username)
<i>LOGON_AS_USER_PASSWORD</i>	Optional Password for a given windows domain account.	(your password)

	Empty string means property not set.	
<i>LOGON_AS_USER_DOMAIN</i>	Optional Windows domain account name. Empty string means property not set.	(a Windows domain name)

Connection Properties for the BI ODBO Connector



The BI ODBO Connector can only be configured against a local cube file.

Property	Description	Examples
<i>USERNAME</i>	Data source username User with at least reading authorisation for the datasource. (These authorisation are differing according to the used datasource)	(your username)
<i>PASSWORD</i>	Data source password	(your password)
<i>CONNECTION_STRING</i>	<p>Connection string information such as provider name, file name, remote provider, remote server, and URL.</p> <p> For BW OLAP providers, to completely suppress the SAP Logon screen at runtime, be sure to also provide values for the UserName, Password, and Language properties, above. If you want to evoke the logon screen, you may specify the <i>ConnString</i> property only.</p> <p>Preconfigured value: Data Source="C:\public\Sales.cub";Provider=msolap</p>	<p>Local cube: MSOLAP;Location=\\c:\public\Sales Overview.cub\"</p> <p>Microsoft Analysis Server: Provider=MSOLAP;data source=palbteam</p> <p>BW OLAP provider: Data Source=BWP;Provider=MDrmSAP;SFC_CLIENT=010;SFC_LANGUAGE=EN</p>

Connection Properties for the BI SAP Query Connector


For the set of connection properties relevant for your system, refer to the JCo documentation in your JCo download.

If you have trouble establishing a connection to a server that does not have a PUBLIC logon group, try removing the properties for R3Name and ServerGroup. See the JCo documentation on the SAP Service Marketplace (service.sap.com/connectors) for more connection troubleshooting information.

Property	Description	Examples
<i>USERNAME</i>	Data source username User with at least reading authorisation for the datasource. (These authorisation are differing according to the used datasource)	(your username)
<i>PASSWORD</i>	Data source password	(your password)
<i>LANGUAGE</i>	Two-letter abbreviation of language The language property sets the logon language for your system, and also specifies the language of exceptions evoked on the BI Java SDK layer	EN = English DE = German
<i>CLIENT</i>	Client specified as three-digit integer	000
<i>MESSAGESERVER</i>	Hostname for message server	server1.mydomain.com
<i>APPLICATIONSERVER</i>	Hostname for application server	server1.mydomain.com
<i>SYSTEMNUMBER</i>	Two-digit integer identifying the R/3 instance	00
<i>SERVERGROUP</i>	Logon group for load balancing	a string, such as PUBLIC or SPACE
<i>R3NAME</i>	R/3 name	OSS

Connection Properties for the BI XMLA Connector

Property	Description	Examples
<i>USERNAME</i>	Data source username User with at least reading authorisation for the datasource. (These authorisation are differing according to the used datasource)	(your username)
<i>PASSWORD</i>	Data source password	(your password)

<i>LANGUAGE</i>	<p>Optional Two-letter abbreviation of language.</p> <p>The language property specifies the language of exceptions evoked on the BI Java SDK layer. JDBC databases themselves do not support this property</p>	<p>EN = English DE = German</p>
<i>URL</i>	<p>Server URL</p> <p>You can find the URL of a BW XMLA provider by executing the function module RSBB_URL_PREFIX_GET under transaction SE37</p> <p>For the import parameters of the function module, use the following values:</p> <ul style="list-style-type: none"> • I_HANDLERCLASS = CL_RSR_MDX_SOAP_HANDLER • I_PROTOCOL = HTTP • I_MESSAGESEVER = X <p>The URL path is always */sap/bw/xml/soap/xmla</p>	<p>BW XMLA provider -- http://[domain:port]/sap/bw/xml/soap/xmla</p> <p>MS Analysis Server -- http://[domain:port]/isapi/msxisapi.dll</p>
<i>DATASOURCE</i>	Data source info property	Local Analysis Server
<i>STATEFULNESS</i>	<p>Optional</p> <p>Statefulness support. Default is false</p> <p> Statefulness=true works properly only in NetWeaver SP Stack 12 or greater.</p>	true or false
<i>XmlaConnectionConstants.LOGONMETHOD</i>	Specifies authentication mechanism (logon method).	<p>UIDPW – Log on to your XMLA provider using User/Password. Use this method for XMLA-based access to BW providers. This is the sole authentication method supported in the unmanaged environment.</p>

			SAPLOGONTICKET – Log on to your XMLA provider using SAP Logon Ticket (supported by SAP BW XMLA providers). Use this property if you want to use the SAP Logon Ticket (SSO) to access BW systems.
	<i>XmlaConnectionConstants.TIMEOUT</i>	Maximum time to wait for the SOAP connection (in milliseconds). Default is 30000 (thirty seconds).	60000 (to increase timeout to one minute).

6. For the BI XMLA Connector only:

If you are using the SAPLOGONTICKET authentication method, configure BW to accept user\SAPLogonTicket pairs for authentication (instead of only user\password pairs) using the procedures below:

- a) Configure SSO between the J2EE engine and the SAP BW system (so that ABAP accepts SSO from the J2EE engine) using the instructions at help.sap.com → *Documentation* → *SAP NetWeaver* under *SAP NetWeaver* → *Security* → *User Authentication and Single Sign-On* → *Authentication on the J2EE Engine* → *Configuring Authentication Mechanisms* → *Using Logon Tickets for Single Sign-On* → *Configuring the Use of Logon Tickets* → *Configuring the SAP Web AS ABAP to Accept Logon Tickets from the J2EE Engine*
- b) Configure SSO between the SAP BW system and the J2EE engine (so that the J2EE engine accepts SSO from ABAP) using the instructions at help.sap.com → *Documentation* → *SAP NetWeaver* under *SAP NetWeaver* → *Security* → *User Authentication and Single Sign-On* → *Authentication on the J2EE Engine* → *Configuring Authentication Mechanisms* → *Using Logon Tickets for Single Sign-On* → *Configuring the Use of Logon Tickets* → *Configuring the J2EE Engine to Accept Logon Tickets*

Configure BW to accept user\SAPLogonTicket pairs for authentication (instead of only user\password pairs) using the procedure below.



Special upgrade instructions for the BI XMLA Connector:

- Note when upgrading to SP12:
The first time you upgrade to SP12 or greater, you must stop all connectors before deploying UDI.
- Notes when upgrading to SP12 from SP10 or SP11:
If you are specifically upgrading from SP10 or SP11 to SP12 or greater,

you must follow these steps:

- i. Undeploy the two old XMLA connectors
- ii. Stop all connectors using the deploy service
- iii. Deploy UDI

If you had been using the Web Service version of the XMLA connector (in SP10 or SP11), you were using `SDK_XMLA_TICKET` as the JNDI name in your coding. This JNDI name is no longer valid by default in SP12, so you should change this in your coding to `SDK_XMLA`. If you don't wish to change your code, a workaround is to deploy the new version of the XMLA connector, create a clone, and use "SDK_XMLA_TICKET" as its JNDI name. Then, be sure to configure the correct value of the Logonmethod connection property.

For the BI JDBC Connector only:

Configure a reference to your JDBC driver using the steps below:

- a. In the *Connector Container* box, choose the BI JDBC Connector in the Connectors tree.
- b. Choose the *Resource Adapter* tab.
- c. In the *Loader Reference* box, choose *Add* to add a reference to your JDBC driver
- d. Enter `library:<jdbc driver name>` and choose OK.
The `<jdbc driver name>` is the name you entered for your driver in step 1 above.
- e. Save your configuration with the Save button in the toolbar.

Checking the Connectors Implementation

After the configuration of the different connectors, you can perform a rough installation check by just displaying the different connector pages.

Connector	URL	Result
BI JDBC Connector	<code>http://<host>:<port>/TJdbc/servlet/TestJdbc</code>	A list of Cubes and/or tables should appear
BI ODBO Connector	<code>http://<host>:<port>/TOdbo/servlet/TestOdbo</code>	
BI SAP Query Connector	<code>http://<host>:<port>/TSapq/servlet/TestSapq</code>	
BI XMLA Connector	<code>http://<host>:<port>/TXmla/servlet/TestXmla</code>	



Your connector is now ready for use in a managed environment.

You can also clone an existing connection by using the *Clone* button in the toolbar.

For *Universal Data Connect (UD Connect)* only:

When entering the resource adapter name during the cloning process, you must prefix the name with `SDK_` in order to properly recognize the connector.



If you encounter problems when saving your configuration data, the corresponding

connector might be not up and running. You have to stop and restart the application again in the deploy service of the Visual Administrator.

Checking the Installation Status

Check the installation status by calling transaction `RSTCO_ADMIN` or see **SAP Note 834280**.

7 Appendix: SAPinst - Installation Tool-specific Information

7.1 Controlling a SAPinst Installation from a Remote Machine

Purpose

You can run the SAPinst GUI in standalone mode to perform a remote installation.

This enables you to install an SAP system on another host (the remote host) while monitoring the installation with the SAPinst GUI on your local Windows or UNIX computer (the local host).

Prerequisites

- *Make sure that you have performed the preparation activities for your local host (SAPinst GUI host) and your remote host.*

For more information, see [Installation Preparations](#) [on page 16].

- *Both computers are on the LAN and can ping each other.*

To test this:

- Log on to your remote host and enter the command `ping <local host>`.
- Log on to the local host and enter the command `ping <remote host>`.

Process Flow

1. [Starting SAPinst on the Remote Host](#) [on page 34]
2. [Starting SAPinst GUI on the Local Host](#) [on page 35]

Starting SAPinst on the Remote Host

Use

You use this procedure to set up your **remote** host where SAPinst server should run only. The remote host is the host where you want to install the SAP system.

Procedure

1. Log on to your installation host as user with administrator rights.
2. Depending on your operating system do the following:

•On Windows

- a. Open a command prompt and run the following command:
`<installation_DVD>:\SAPINST\NT\I386\sapinst.exe SAPINST_START_GUI=false`

•On UNIX:

- a. Make sure that your DISPLAY environment variable is set to `<Host_name>:0.0`, where `<Host_name>` is the host on which the *SAPinst GUI* will be displayed.

Shell Used	Command
Bourne Shell (bsh)	DISPLAY=<Host_name>:0.0 export DISPLAY
C Shell (csh)	./setenv DISPLAY <Host_name>:0.0
Korn Shell (ksh)	export DISPLAY=<Host_name>:0.0

- b. Run the following commands:
`cd <installation_DVD>/SAPINST/UNIX/<OS>/`
`./sapinst SAPINST_START_GUI=false`

SAPinst now starts and waits for the connection to the SAPinst GUI. That is, you see the following at the command prompt:

```
guiengine: no GUI connected; waiting for a connection on host
<host_name>, port <port_number> to continue with the
installation
```

3. Start the SAPinst GUI on your local host, as described in [Starting SAPinst GUI on the Local Host](#) [on page 35]

Starting SAPinst GUI on the Local Host

Use

You use this procedure to set up your **local** host when you want to run SAPinst GUI standalone on your local host.



Typical examples for running or starting SAPinst GUI only are:

- Controlling a SAPinst installation from an other host
- Connecting a SAPinst GUI after choosing the push button *Logoff* during the installation.

Procedure

1. Log on to your installation host as user with administrator rights.
2. Depending on your operating system do the following:

•On Windows

- a. Run `startinstgui.bat` from the following path:
`<installation_DVD>:\SAPINST\NT\I386`

•On UNIX:

- a. Make sure that your `DISPLAY` environment variable is set to `<Host_name>:0.0`, where `<Host_name>` is the host on which the *SAPinst GUI* will be displayed.

Shell Used	Command
Bourne Shell (bsh)	<code>DISPLAY=<Host_name>:0.0</code> <code>export DISPLAY</code>
C Shell (csh)	<code>./setenv DISPLAY <Host_name>:0.0</code>
Korn Shell (ksh)	<code>export DISPLAY=<Host_name>:0.0</code>

- b. Run the the following commands:

```
cd <installation_DVD>/SAPINST/UNIX/<OS>
./startInstGui.sh
```

The SAP Installation GUI Connection dialog appears.

3. Enter the host name of the *Installation Host* and the same *Port* as SAPinst uses on the remote host and choose OK.

SAPinst GUI now connects to the SAPinst server and the first dialog of the installation appears.

7.2 Continuing an Interrupted Installation

Use

SAPinst does not abort the installation in error situations. Therefore, you can continue an interrupted installation when you have:

- **Not canceled the installation**


That is, the error dialog box is still displayed and SAPinst is waiting for your input. You proceed as follows:

In the error dialog box, you choose *Retry*.

SAPinst now retries the installation step.

- **Already canceled the installation**

That is, the installation was aborted. There are the following situations:

If you have canceled with...	Meaning
Stop	<p>Since SAPinst records the installation progress in the <code>keydb.xml</code> file, you can continue the installation from the failed step without repeating previous steps.</p> <p>During this procedure, you can <i>Reset</i> the installation, too, if required.</p>
Reset	<p>You must restart from the beginning, that is, with the default <code>keydb.xml</code> file as delivered.</p> <div>  In some cases, you must uninstall already installed components, before repeating the installation from the beginning. For example, this applies to an SAP system installation. For more information, see the description on how to de-install a component in the corresponding installation guide. </div>

Prerequisites

You have solved the problem that caused the error situation.

Procedure

1. Log on to your installation host as user with administrator rights.
2. Depending on your operating system do the following:

- **On Windows**

Run `sapinst.exe` from the following path:
`<installation_DVD>:\SAPINST\NT\I386`

- **On UNIX:**

- a. Make sure that your `DISPLAY` environment variable is set to `<Host_name>:0.0`, where `<Host_name>` is the host on which the *SAPinst GUI* will be displayed.

Appendix: SAPinst - Installation Tool-specific Information

Shell Used	Command
Bourne Shell (bsh)	DISPLAY=<Host_name>:0.0 export DISPLAY
C Shell (csh)	./setenv DISPLAY <Host_name>:0.0
Korn Shell (ksh)	export DISPLAY=<Host_name>:0.0

- b. Run the following commands:

```
cd <installation_DVD>/SAPINST/UNIX/<OS>
./sapinst
```

4. From the tree structure in the *Welcome* screen, select the installation service that you want to continue and choose *Next*.



If there is only one component to install, SAPinst directly displays the dialog *What do you want to do?* without presenting the *Welcome* screen.

The *What do you want to do?* screen appears.

5. In the *What do you want to do?* screen, decide between the following alternatives and choose *OK*.

Alternative	Behavior
<i>Run a new Installation</i>	The installation will not be continued . Instead, SAPinst deletes the mentioned installation directory for the chosen installation service and starts the installation from the beginning. The log files from the old installation are put into a backup directory with the following naming convention: <log_day_month_year_hours_minutes_seconds > (log_01_Oct_2003_13_47_56, for example).
<i>Continue old installation</i>	The installation of the mentioned installation service will be continued from the point of failure.

7.3 Using the DVD/CD Browser Dialog

During the installation procedure SAPinst **first checks** and **finally verifies** the availability and location of the required installation_DVD. SAPinst does this by displaying a *SAPinst DVD/CD Browser* dialog, asking for the file LABEL.ASC that contains the information of the software package to be installed.

SAPinst displays the *SAPinst DVD/CD Browser* dialog in the following situations:

- SAPinst wants to check the availability of the software package.

You can recognize this situation by the flag *Check Location* displayed in the *SAPinst DVD/CD Browser* window. Choose one of the following actions:

Action	Result
Do not enter any <i>Package Location</i> and leave the flag <i>Check Location</i> deselected.	SAPinst skips the check and you can continue the installation procedure. However, SAPinst asks later for the missing LABEL.ASC (see final bullet point below).
Enter the path of the <i>Package Location</i> and leave the flag <i>Check Location</i> deselected.	SAPinst skips checking the label location, but your entered package locations are used later for the installation. SAPinst only asks again for a missing LABEL.ASC if the package location is incorrect (see final bullet point below).
Enter the path of the <i>Package Location</i> and select the flag <i>Check Location</i>	SAPinst checks the label location and displays an error message if the location is incorrect. If all locations are correct, SAPinst does not ask again for the LABEL.ASC files.

- SAPinst cannot find the correct LABEL.ASC but needs the location of the software to process the installation now.

You can recognize this situation because *Check Location* in the *SAPinst DVD/CD Browser* window is empty. You now have to enter the path to the correct LABEL.ASC. Otherwise, the installation cannot continue.

Additionally, you can copy the installation package by entering a location in the column *Copy Package to*.

8 Appendix: J2EE Engine Specific Information

8.1 How to start the J2EE Administration Tool

1. Start the tool

- **For an ABAP + Java system:**

- On Windows:
Run `\usr\sap\<SAPSID>\DVEBMGS<xx>\j2ee\admin\go.bat`
- On UNIX:
Run `/usr/sap/<SAPSID>/DVEBMGS<xx>/j2ee/admin/go`

- **For a Java system:**

- On Windows:
Run `\usr\sap\<SAPSID>\JC<xx>\j2ee\admin\go.bat`
- On UNIX:
Run `/usr/sap/<SAPSID>/JC<xx>/j2ee/admin/go`

The *J2EE Engine – Administration* screen with the dialog box *Connect to J2EE Engine* appears.

2. To connect do the following:

SAP Web AS Java variant	How to connect
J2EE system	Choose <i>Connect</i> to use the <i>Default</i> login and enter the password for the <i>Administrator</i> user of the J2EE engine.
J2EE Add-In	<p>You cannot use the <i>Default</i> login. Instead do the following:</p> <ol style="list-style-type: none"> 1. Choose <i>New</i>. 2. Enter a display name and choose <i>Direct Connection to a dispatcher Node</i>. 3. Choose <i>Next</i>. 4. Enter at least the following: <ul style="list-style-type: none"> • <i>User Name:</i> J2EE_ADMIN • <i>Host:</i> <host_name> of the J2EE engine • <i>Port:</i> <P4_Port> The following convention applies for the port: 5<Java_instance_number>04. For example, if your Java instance number is 15, the P4port is 51504. 5. Choose <i>Save</i> and connect with your new login account by choosing <i>Connect</i>. 6. Enter Password for the <i>J2EE_ADMIN</i> user and choose <i>Connect</i>.

8.2 Starting and Stopping the J2EE Engine

http://<host>:<J2EE_port>/examples/webadmin

Starting/Stopping in an SAP Web AS ABAP + Java system

1. Call transaction **SMICM** in the SAP system.
2. Choose *Administration* → *J2EE-Server*.

The following functions are available:

- Send soft shutdown (with or without restart)
- Send hard shutdown (with / without restart)
- Set the restart flag of the J2EE Engine.

Starting/Stopping a SAP Web AS Java system

You start / stop the J2EE engine as follows:

- On Windows:
Use the SAP Management Console (*Start* → *Programs* → *SAP Management Console*)
- On UNIX:
Run *startsap* / *stopsap* from *usr/sap/<SAPSID>/JCxx/exe*



The command *stopsap* shuts down the database, the enqueue and message server, and the J2EE engine.

Before running the command *startsap*, you must make sure that the database is running. The command *startsap* does not start the database.

Check if the engine is up&running by entering the following URL in your browser
http://<hostname>:5<instance_number>00 -> The J2EE homepage should appear.

C SAP BW Precalculation Service 3500.0.0.1

One function of BEx Information Broadcasting is the ability to precalculate workbooks. The prerequisite for using this function is that you have installed the SAP BW Precalculation Service on at least one of your clients.

1 Implementation Considerations

The SAP BW Precalculation Service, an RFC Server Software, is an additional service for SAP BW that is installed on your client.

2 Installation – Step by Step

This section provides an overview of the complete installation procedure.

You can print out the tables below, follow the installation sequence exactly as shown in the tables, and mark the step with ✓ if completed successfully.

Planning

✓	Action
	Make sure that you meet the Hardware and Software Requirements .

Preparation

✓	Action
	Preparing the Installation

Installation

✓	Action
	Installing the SAP BW Precalculation Service

Post-Installation

✓	Action
	Create and Start the Precalculation Server


3 Planning the Installation



Make sure that you read [Installation – Step by Step](#) [on page 41] before you start installation planning.

3.1 Hardware and Software Requirements

The following table lists the requirements:

Requirement Type	Requirement
Hardware requirements	<ul style="list-style-type: none"> Your system should fulfill all requirements for Microsoft Excel and Windows 2000
Software requirements	<ul style="list-style-type: none"> Windows 2000 or higher Microsoft .Net Framework 1.1 Microsoft Excel 2000 or higher <div style="background-color: #f0f0f0; padding: 5px; margin-top: 10px;">  <p>Make sure that the installation source is available at the first precalculation because Excel must be configured for the system user. More information is available in Microsoft Knowledge Base Article 257757.</p> </div> <ul style="list-style-type: none"> SAP GUI 6.20

4 Preparing the Installation

You can install the precalculation software from the installation DVD *SAP NetWeaver 04 COMPONENTS DVD* (path on the DVD: `BW_INS / BW_UPG → BWAnalyzerPrecalcService → NT → I386`).

5 Installing the SAP BW Precalculation Service

This procedure tells you how to install the SAP BW Precalculation Service on your client.

1. Log on to your host as a user with administration rights.
2. Start the setup program from the DVD.

The welcome screen of the SAP BW Excel Precalculation Setup wizard appears.

3. Confirm with *Next*.

The screen *Select Installation Folder* appears.

4. Enter the folder where the component should be installed and choose *Next*.

The installation starts.

The screen *Installation Complete* appears after successful installation.

5. Choose *Close*.

More information is available in SAP Note 744127.

6 Post-Installation

Create and Start Precalculation Server


Activities in the client management console

After installation, the following Microsoft Windows service appears in the management console of the operating system (*Start → Settings → Control Panel → Administrative Tools → Computer Management*) under *Services and Applications → Services: SAP BW Precalculation Service*.

1. Double click on the service.
2. In the next window (*SAP BW Precalculation Service Properties (Local Computer)*) select *Allow service to interact with desktop* on tab page *Log On* under *Log On As: Local System Account*.

Activities in the SAP BW system

Before you are able to start the service you must first determine which precalculation server is available to the BW system. You do this in SAP BW Customizing.


1. Log on to the BW system on the PC on which the SAP BW Precalculation Service is installed and open Customizing (transaction SPRO): *SAP Reference IMG → SAP NetWeaver → SAP Business Warehouse → Reporting -Relevant Settings → General Reporting Settings in the Business Explorer → Manage Precalculation Server*.
2. Choose  *Create Precalculation Server*.
3. Enter the technical name of server (max. 10 characters) and a description.

The precalculation server appears in the list.

Activities in the client management console

1. Start the Windows Service *SAP BW Precalculation Service* in the management console of your operating system.

Activities in the SAP BW system

1. After you refresh the view  the status display for the precalculation server in administration in SAP BW displays a green traffic light.


The precalculation server is now ready for use.

By double clicking on the server you will come to the test execution screen.

More information is available in the SAP library at the Internet address help.sap.com/nw04 → *SAP NetWeaver → Information Broadcasting → System Administration Tasks → Administration of the Precalculation Server*.

7 Installation Check

Any messages on the SAP Precalculation Service are displayed in the management console of the operating system (*Start → Settings → Control Panel → Administrative Tools → Computer Management*) under *System Tools → Event Viewer*.

You can also select the server in the administration of the precalculation server (transaction SPRO: *SAP Reference IMG → SAP NetWeaver → SAP Business Warehouse → Reporting-Relevant Settings → General Reporting Settings in Business Explorer → Manage Precalculation Server*). Use  *Information on the Server* to display the current instances and the status of the server (*online, offline*). You are also able to display or delete the front-end log. The front-end log is a log file in which errors that have occurred are displayed.

8 Additional Information

8.1 Upgrading the Service

Before you install a new patch, you must first stop the SAP BW Precalculation Service and uninstall the old version of the service.

Stopping the SAP BW Precalculation Service

1. Choose *Start → Settings → Control Panel → Administrative Tools → Computer Management → Services and Applications → Services*.
2. Select the *SAP BW Precalculation Service* and choose *Stop* from the context menu. This stops the service.



If messages come up while you are stopping the service, proceed as follows:

1. Select *Terminal Service* and choose *Properties* from the context menu.
2. Change the *Startup Type* to *Manual*.
3. Choose *Apply* and then *OK*.
4. Select *SAP BW Precalculation Service* and choose *Properties* from the context menu.
5. Change the *Startup Type* to *Manual*.
6. Select *Apply* and then *OK*.
7. Restart the computer. This stops the SAP BW Precalculation Service.

The status display, which displays *Started* when the service has been started, will be empty once the service has been stopped successfully. Now you can start to deinstall the program.

Deinstalling the Old version

1. Choose *Start → Settings → Control Panel → Add or Remove Programs*.
2. Choose *SAP BW Precalculation Service*.
3. Choose *Remove*.
4. Once deinstallation is complete, restart your computer.

Downloading the New Patch from the SAP Service Marketplace

1. To download the patch from the SAP Service Marketplace, choose the path:
`http://service.sap.com/patches → SAP NetWeaver → SAP NetWeaver 04 → Binary patches → BW ANALYZER PRECALC SERVICE350 → win32 → BWAPSERV <patch number>_<patch_level>-GUID.zip`

2. Save the patch in the chosen directory (for example, C:\temp) and decompress the three files from the ZIP file.

Installing the New Patch

1. Execute the *setup.exe* file.
2. Follow the installation steps and finish the installation. The screen *Installation Complete* appears after successful installation.
3. Starten the service in the system. To do this, choose *Start* → *Control Panel* → *Administrative Tools* → *Computer Management* → *Services and Applications*.
4. Select the *SAP BW Precalculation Service* and choose *Start* in the context menu. This starts the service.

More information is available in SAP Note 745206.

8.2 Removing the Service

To remove the SAP BW Precalculation Service you have to stop the service and deinstall it (see above under *Upgrading the Service* in the sections *Stopping the SAP BW Precalculation Service* and *Deinstalling the Old Version*).