Installing SAP tier collectors

This section includes the following topics:

- Pre-installation tasks
- Installing an SAP Tier instance
- Post-installation action items

Pre-installation tasks

Most of the screens require you to input details regarding your information systems. Before performing an installation, compile a list of all required user inputs based on the screen names and tables below. Each table (in the sections below) lists the options per screen.

SAP Collectors (with typical options) can be installed for:

- Oracle PMDB
- SQL Server PMDB

Pre-installation tasks for the SAP Tier

Before you install an SAP Tier, perform the following pre-installation tasks:

Pre-Installation Task	Performed By	Mandatory / Optional	Scope
Install SAP Function Modules in the SAP system. See Installing Precise for SAP Function Modules in the SAP system on page 141. For more information on SAP Function Modules, see SAP Transports description on page 242.	SAP Basis Administrator	Mandatory	Per SAP system
Create SAP user. See Creating an SAP user account for Precise for SAP on page 142.	SAP Basis Administrator	Mandatory	Per SAP system
Enable SAP BW technical content. See Enabling SAP BW statistics technical content on page 142.	SAP BW expert	Mandatory if Precise for SAP BW is used	Per SAP BW system
Prepare browser for Precise SAP BW GUI. See Preparing the monitoring client for the Precise for SAP BW on page 143.	End-user	Mandatory if Precise for SAP BW is used	Per end-user monitoring center browser
Verify time zone synchronization. See Synchronizing time zones on page 143.	SAP Basis Administrator	Mandatory	Per SAP system
Define organization structure. See Defining the organization structure on page 143.	SAP Basis Administrator	Optional	Per SAP system
Download SAP Java Connector (JCo). See Downloading the SAP Java Connector (JCo) on page 144.	End-user	Mandatory See Downloading the SAP Java Connector (JCo) on page 144.	Once for the Precise for SAP FocalPoint
Verify Network connectivity. See Verifying network connectivity on page 144.	SAP Basis Administrator	Mandatory	Per SAP system
Add Message server port to services. See Adding the SAP Message Server port to the services file on page 144.	End-user	Mandatory if connection is through the Logon Group	Per SAP system

Installing Precise for SAP Function Modules in the SAP system

Precise for Precise for SAP uses several custom ABAP/4 Function Modules to extract user, configuration, and statistical data from SAP data stores. The Function Modules are delivered in the Precise for SAP transport.

To install Precise for SAP Function Modules in the SAP system

1. SAP Function Modules are packed in SAP transports, located in the Precise v9.6 download or on the DVD. The transports can be found in the `\Utilities\SAP\` folder. Alternatively, you can download the transport files separately from the Precise Customer Portal. For further details, contact Precise Customer Support.
2. To install the Function Modules in the SAP system, you must import the transports into the SAP system.
3. Select the appropriate transport zip file(s) below, and copy them to the target SAP application server:

SAP Basis Release	Zip Files
4.6C, 4.6D, 6.x non-Unicode	Precise_Transports_Basic.zip
	Precise_Transports_46c.zip

4.6C, 4.6D, 6.x Unicode	Precise_Transports_Basic.zip
	Precise_Transports_46c_Unicode.zip
7.x	Precise_Transports_Basic.zip
	Precise_Transports_700.zip
BW 7.x	Precise_Transports_Basic.zip
	Precise_Transports_700.zip
	Precise_for_SAP_BI_7.0_Transport.zip

4. Copy the transport ZIP files into the transport folder of the SAP system (usually `/usr/sap/trans` for Linux/UNIX systems or `\\<SAP_hostname >\sapmnt\trans` for Windows systems).
5. Use a program such as unzip or WinZIP (on Windows) to unpack the K and R files into the corresponding subfolder. The K files (e.g. `K900059. PS2`) should be extracted to the cofiles subfolder (`/usr/sap/trans/cofiles`). The R files (e.g. `R900059.PS2`) to the data subfolder (`/usr /sap/trans/data`).

> ⓘ Verify that the read-only attribute is removed from the copied transport files. Otherwise, the import to the SAP system may fail.

6. Use the SAP Transport Management System (transaction STMS) or the operating system executable program tp to import the required transport. For information about the Transport Management System and the tp program, see SAP documentation.
   Each of the zip files folders contains a readme.txt file with instruction on the order in which Transports should be imported to the SAP system. The Transports contain SAP objects as described below:

Component	Zip Files	For SAP Basis Release
The/PRECISE/namespace	Precise_Transports_Basic.zip	All
The Z_PRECISE authorization Profile	Precise_Transports_46c.zip Precise_Transports_46c_Unicode.zip	4.6C to 6.40 (SAP NetWeaver 2004)
The Z_PRECISE authorization Role	Precise_Transports_700.zip	7.x (SAP NetWeaver 2004s) BW 7.x
Precise for SAP Package and Function Modules	Precise_Transports_46c.zip Precise_Transports_46c_Unicode.zip Precise_Transports_700.zip	All
Precise for BW Function Modules	Precise_for_SAP_BI_7.0_Transport.zip	BW 7.x

> ⓘ For a more detailed description of the Transports, see SAP Transports description on page 242.

7. After the import has completed and in case a previous version of Precise Function Modules was installed in the system, you must rebuild the Function Group object list, by performing the following steps:
   a. Go to SE80 > Function Group > /PRECISE/ZLSC.
   b. Right click on the Function Group > Other Functions > Rebuild Object List.
8. When connecting to SAP, verify that all the authorizations in the Z_PRECISE Profile (for Basis 4.6C to 6.40) or in the Z_PRECISE Role (SAP Basis 7.x) have been added to the SAP user.
   For more information on the authorizations, see SAP User authorizations on page 244.

Creating an SAP user account for Precise for SAP

Precise for SAP is designed to run unattended, with little system overhead. Because Precise for SAP automatically connects to SAP, it is recommended to create an SAP account that is solely dedicated for the Precise for SAP connection.

The SAP user account for Precise for SAP requires the following:

- SAP user ID with the Authorization Role Z_PRECISE for SAP Basis 7.x, or with the Authorization Profile Z_PRECISE, for SAP Basis lower than 7. The Authorization Role and the Authorization Profile are delivered in separate transports and include the minimum authorizations needed for Precise for SAP to work correctly.

> ⓘ For a list of the required minimum authorizations, see SAP User authorizations on page 244.

Enabling SAP BW statistics technical content

If you are installing Precise for BW, verify that:

- The BW Statistics Technical Content process chains are configured and scheduled in your BW instance.

When configuring the Technical Content, the following InfoProviders should be enabled:

- **Front-End and OLAP Statistics**
  0TCT_C01
  0TCT_VC01
  0TCT_MC01
- **DTP Statistics**
  0TCT_C22
  0TCT_VC22
  0TCT_MC22
- **InfoPackage Statistics**
  0TCT_C23
  0TCT_VC23
  0TCT_MC23

> For more details on enabling the Technical Content, see SAP Note 965386.

Preparing the monitoring client for the Precise for SAP BW

If you are installing Precise for SAP BW, verify that:

- You are not using a popup blocker or use one that can enable launching to Precise products.
- FlashPlayer 10 is installed on the monitoring desktop for Precise for BW.

Synchronizing time zones

To prevent a time zone synchronization issue where the Precise for SAP collectors don't receive information from Basis 7.x SAP systems, perform the following steps:

1. Go to SAPGUI > System > Status.
2. If apart from the System time there is a User default time of which the value differs from the System time, make them both the same:
   a. Go to SAP transaction STZAC.
   b. Choose the same time zone for both.
   c. Click **Save**.
      You may be prompted to create a new change request for this.

> This change is needed to solve an SAP documented bug described in SAP note: 926290. The full correction instructions are provided in this note.

Defining the organization structure

Define the structure of your company's organizations, locales, and user areas, and update the SAP user account records so that each user is identified by an organization and a user area.

Precise for SAP automatically imports user information directly from SAP user account tables. User information is imported into Precise for SAP during the installation and is updated each night, automatically adding new users and modifying existing user information.

To configure how Precise for SAP imports the user information, see Defining mapping and locale settings on page 147.

Downloading the SAP Java Connector (JCo)

For information regarding the SAP JCo, see Installing the SAP Java Connector (JCo) on page 148.

> Precise for SAP only supports SAP JCo version 2.1.9 on Windows NT/Windows 2000/Windows 2003. Precise currently does not support SAP JCo version 3.x.

> Verify that you download the corresponding JCo bit version (32 or 64 bit) for the Windows system that the Precise for SAP FocalPoint is installed on.

To download the SAP JCo

1. Open the following URL in your internet browser. http://service.sap.com/connectors.
2. Enter your SAP Service Marketplace user name and password, and click **OK**.
3. In the tree view, go to Connectors > SAP Java Connector > Tools and Services.
4. Review the JCo Release notes for the available versions and choose one that is relevant for the operating system of the Precise for Precise for SAP FocalPoint server. Note that the JCo may require other prerequisite software as described in the release notes. Use the JCo version as described in the note above.

Verifying network connectivity

To verify the network connectivity, verify that the following steps have been performed:

- Ports 33xx (where xx represents the two-digit SAP System Number) between Precise for SAP FocalPoint and SAP Application Servers have to be opened.
- If using Interpoint for SAP in one of the Precise for Database products, ports 33xx between the Database agent (Precise for Oracle, Precise for SQL Server or Precise for DB2) and the SAP Application Servers have to be opened as well.

Adding the SAP Message Server port to the services file

If you want Precise for SAP to use a Logon Group for connection to the SAP System, you need to add the message server port to the services file on the Precise for SAP Collector Agent's machine.

Add the following entry to the file (usually located at `c:\windows\system32\drivers\etc`):

    sapms<SID> 36XX/tcp

where `XX` is the system number.

Installing an SAP Tier instance

This section describes the procedures that are needed to install an SAP Tier instance. You have the option of adding a new instance, as well as adding a new application. For information on editing or removing an existing instance, see Editing or removing Tier instances or clusters on page 200.

ⓘ Before installing an SAP Tier instance, verify that all necessary pre-installation tasks have been completed. See Pre-installation tasks on page 26.

Adding an SAP Tier instance

On the AdminPoint Instances screen, you can add a new Tier instance.

ⓘ Before adding a Tier instance, create a list of all required inputs based on the screen information below.

To add a Tier instance

1. From StartPoint, click the AdminPoint tab.
2. Click the Setup tab.
3. From the drop-down menu, select **Instances & Clusters**.
4. Click the **All instances** tree item
5. At the bottom of the Display Instances & Clusters screen, click **Add Instance**. An Add New Instance dialog box appears.
6. Select the SAP technology from the list.
7. Select the application from the list.
   If the desired application is not on the list, follow steps a-d:
   a. Click **Add**.
   b. In the Application Name field, type in the new application name.
   c. On the Application System field, select the system application from the list.
   d. Click **OK**.

   ⓘ To install an instance in an application, you must have ADMINISTRATE.INSTALL permission for the application in which you want to install the instance. If you only have permission for a specific technology, you will only be able to install in an application that is either empty, or is comprised of only the same technology.

8. Select a Tier from the list.
9. Click **OK** to view the next screen.

Defining SAP property settings

To define SAP property settings

1. Enter the unique SAP System ID (SID).

2. Enter the system name, using a free-text identifier.
   This will help you to distinguish between multiple SAP instances.
3. You can connect to SAP through one of the application servers, a logon group, or through a routing string.
   - To connect through an application server, choose "Custom Application server" for the Connection Type, then enter the host name of the application server to be used.

     ⓘ If the application server name does not exist in the drop-down menu, you do not need to add it to the server list. SAP uses SAP RFC library to communicate with the SAP application server, without installing additional components on the application server.

   - To connect through a logon group, choose "Group/Server Selection" for the Connection Type, then enter the host name of the message server to be used.

     ⓘ If the message server name does not exist in the drop-down menu, you do not need to add it to the server list. SAP uses SAP RFC library to communicate with the SAP message server, without installing additional components on the message server.

   - To connect through a routing string, enter the required routing string. The value should include the routing string concatenated with the SAP Application Server host. For example, when the router is `vm-sap-srv-15` and the SAP system Application Server is `vm-sap-srv-13`, the routing string should look like:
     `/H/vm-sap-srv-15/H/vm-sap-srv-13`
4. Enter the two-digit system number.
5. Enter the SAP user name (use upper-case characters only).
6. Enter the password.
7. Enter the three-digit SAP client.
8. Click **Next**.

About the AdminPoint Tier installation preview screen

The preview screen signifies that the AdminPoint Tier installer has gathered enough information to begin the installation phase.

The preview screen displays the following details before installation begins:

- Server name or IP address
- The name of the monitored server
- What actions will be performed in their respective order
- Installation folder (location)
- Required disk space
- Currently available disk space

At this screen, you can still change any of the settings displayed. Click **Back** to change any of the displayed settings. Click **Next** to continue installation. Click **Cancel** to stop the installation process.

About the AdminPoint Tier installation progress screen

This screen appears when the AdminPoint Tier installer is actually performing installation. Installation may take several minutes.

The progress screen visually displays the progress of actual installation on selected servers.

About the AdminPoint Tier installation complete screen

This screen appears when the AdminPoint Tier Installer has completed installation of all Tier instances.

If there are no action items, click **Finish** (it will be the only option available) to complete the instance installation. If there are action items, click **Next** (it will be the only option available).

About the AdminPoint Tier Action Items screen

After a Tier instance is installed, you can perform post-installation tasks as may be required. Only after completing any post-installation tasks required can you start using the Tier instances you have just installed.

Perform any tasks displayed on this screen. Click **Mark as done** if you have performed the action items yourself.

ⓘ Always refresh AdminPoint after adding an instance.

Post-installation action items

After successfully adding the SAP system to the SAP Tier, you need to define both the mapping for organizations and locales and the locales themselves.

Defining mapping and locale settings

As part of the pre-installation tasks, you have defined your organizations and user areas. Now that you have finished configuring the SAP system, you need to define the fields that Precise for Precise for SAP will retrieve for these groupings. By default, Precise for Precise for SAP retrieves the Department field for organization and the Building field for user area.

In addition to collecting SAP activity data from application servers, Precise for Precise for SAP can monitor locations for network availability. In Precise for Precise for SAP, a location is referred to as a locale. Each locale represents a physical location that is defined by a list of one or more devices, called Locale Devices. Precise for Precise for SAP connects to these devices to check their availability.

Mapping the organizations

The following procedure describes how to configure organization settings.

To configure organization settings

1. In Precise for Precise for SAP, from the Settings menu, select **Mapping Settings**.
2. In the Mapping Settings dialog box, select the SAP system you want to configure and click **Edit**.
3. Choose an SAP field from the Organization list to map an SAP organization to a user.
4. Determine which SAP field will be mapped to a locale. Choose a field from the User Area list, and then click **OK**.

> (i) If your system maintains user lists in locations other than SAP user tables, you can still import this information into Precise for SAP. Precise for SAP can import user definitions from ASCII text files, enabling user information to be extracted from practically any source. For more information on how to import user information from ASCII files, see the SAP section in the *Precise Administration Guide*.

Mapping the Locales

To identify the locales and Locale Devices that you want Precise for Precise for SAP to monitor, you need to select existing Windows machines or other devices, such as routers. Locale Devices do not have to be solely dedicated to availability monitoring. They can run the Echo services required by Precise for SAP in the background while serving other purposes.

The following hardware components can serve as Locale Devices:

- Windows workstations or servers
- UNIX computers
- Routers

> (i) Verify that your Locale Devices are always available during monitoring hours. Precise recommends using workstations that are always on and available, instead of computers that may be turned off, such as end-user computers.

Before updating the list of locales in Precise for Precise for SAP, verify that you have:

- Mapped all SAP user locales.
- Planned which locales should be defined in the Precise for SAP system and which server machines should be assigned to them to physically check their availability.

To configure locale settings

1. In Precise for Precise for SAP, from the Settings menu, select **Mapping Settings**.
2. In the Mapping Settings dialog box, select the SAP system you want to configure and click **Edit**.
3. Determine which SAP field will be mapped to a locale. Choose a field from the User Area list. Then click **OK**.
4. From the Settings menu, select **Locale Settings**.
5. In the Locale Settings dialog box, perform one of the following procedures:
    - **Add a locale**
        a. Click **Add**.
        b. In the Locale Settings - Edit dialog box, enter the name of the new locale in the Locale field. Enter a description (optional) of the new locale in the Description field.
        c. On the Locale Definition tab, select a user area from the User Areas not assigned to this locale list and click the right arrow to move it to the User Areas assigned to this locale list.
        d. On the Locale Availability tab, click **Add**.
        e. In the Add Device dialog box, enter the name or the IP address of the device that should be taken into consideration by Precise for SAP when monitoring locale availability.
        f. Click **OK**.
    - **Edit a locale**
        a. Select the Locale Settings you want to modify.
        b. Click **Edit**.
        c. In the Locale Settings - Edit dialog box, in the Locale text box, change the name of the existing locale.
        d. In the Description text box, enter a description (optional) or modify an existing description.
        e. On the Locale Definition tab, select a user area from the User Areas not assigned to this locale list and click the right arrow to move it to the User Areas assigned to this locale list.
        f. On the Locale Availability tab, click **Edit**.
        g. In the Edit Device dialog box, enter the name or the IP address of the device that should be taken into consideration by Precise for SAP when monitoring locale availability, and then click **OK**.

- **Delete a locale**
    a. From the Locale Settings list, select the Locale you want to delete.
    b. Click **Delete**; then click **OK** to confirm this operation.
    c. Click **OK**.

Installing the SAP Java Connector (JCo)

After installing the Precise for SAP FocalPoint, you need to install the downloaded SAP Java Connector (JCo) if you want Precise for SAP to display running batch jobs in the Batches tab or use the Precise for SAP BW. In this case, perform the following post-installation task. For information on how to download the SAP JCo, see Downloading the SAP Java Connector (JCo) on page 144.

To install the SAP JCo

1. Unzip the contents of the downloaded file to a folder of your choice on the Precise for Precise for SAP FocalPoint server.
2. Open the Agents tab in Precise AdminPoint and stop the Precise for SAP FocalPoint.
3. From the folder to which you unzipped the downloaded file:
    a. Copy the .jar file to the `<precise_root>\java\3rd_party` folder on your Precise for Precise for SAP FocalPoint server.
    b. Copy the .dll files to the `<precise_root>\products\sap\bin` folder on your Precise for Precise for SAP FocalPoint server.
4. Verify that the gateway port between the Precise for SAP FocalPoint and the SAP Application Server is open in both directions:
   The gateway port is 33xx, where xx has to be replaced by the instance number in the SAP Application Server.
5. Maintain the SAP communication ports in the services file in:
   `%windir%\system32\drivers\etc\services`
6. Replace the following <SID> and <instance-number> with the values from your application:
   `sapms<SID> 36<instance-number>/tcp sapms<SID> 33<instance-number>/tcp sapms<SID> 32<instance-number>/tcp`
   For example for an SAP system with the SID = PRD and Instance Number 01:
   `sapmsPRD 3601/tcp # SAP Message Server sapmsPRD 3301/tcp # SAP Gateway sapmsPRD 3201/tcp # SAP Dispatcher`
7. Go back to AdminPoint and restart the Precise for Precise for SAP FocalPoint.