SAP Mobile Infrastructure 2.5 Upgrade

Release MI 2.5
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Icons in Body Text

<table>
<thead>
<tr>
<th>Icon</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Caution Icon" /></td>
<td>Caution</td>
</tr>
<tr>
<td><img src="image" alt="Example Icon" /></td>
<td>Example</td>
</tr>
<tr>
<td><img src="image" alt="Note Icon" /></td>
<td>Note</td>
</tr>
<tr>
<td><img src="image" alt="Recommendation Icon" /></td>
<td>Recommendation</td>
</tr>
<tr>
<td><img src="image" alt="Syntax Icon" /></td>
<td>Syntax</td>
</tr>
</tbody>
</table>

Additional icons are used in SAP Library documentation to help you identify different types of information at a glance. For more information, see Help on Help → General Information Classes and Information Classes for Business Information Warehouse on the first page of any version of SAP Library.

Typographic Conventions

<table>
<thead>
<tr>
<th>Type Style</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example text</td>
<td>Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Cross-references to other documentation.</td>
</tr>
<tr>
<td>Example text</td>
<td>Emphasized words or phrases in body text, graphic titles, and table titles.</td>
</tr>
<tr>
<td>EXAMPLE TEXT</td>
<td>Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.</td>
</tr>
<tr>
<td>Example text</td>
<td>Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.</td>
</tr>
<tr>
<td>Example text</td>
<td>Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.</td>
</tr>
<tr>
<td>&lt;Example text&gt;</td>
<td>Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.</td>
</tr>
<tr>
<td>EXAMPLE TEXT</td>
<td>Keys on the keyboard, for example, F2 or ENTER.</td>
</tr>
</tbody>
</table>
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SAP Mobile Infrastructure 2.5 Upgrade

Purpose
If you are using an older release of SAP Mobile Infrastructure (SAP MI), you can use this guide to upgrade to a more recent release of SAP MI. The following cases are possible:

- Upgrade from Release ME 1.0 to MI 2.5 [Page 11]
- Upgrade from Release ME 2.1 SP<xx> to MI 2.5 [Page 21]

SP<xx>: greater than or equal to SP01

Upgrade Notes

Read the SAP Notes about upgrading before you start to upgrade your software. These SAP Notes contain the latest information about the upgrade as well as corrections to the upgrade documentation.

Make sure that you have the latest version of each SAP Note. You can find the SAP Notes on the SAP Service Marketplace at service.sap.com/notes or in SAPNet - R/3 Frontend.

SAP Notes Required:

<table>
<thead>
<tr>
<th>SAP Note Number</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>670644</td>
<td>UPGRADE: SAP Mobile Infrastructure 2.5 – Composite Note</td>
</tr>
<tr>
<td>792223</td>
<td>Released MI client/server landscape for SAP ME 2.1/MI 2.5</td>
</tr>
</tbody>
</table>

We recommend that you perform the upgrade centrally by having system administration collect all the mobile devices and perform the upgrade for example on a weekend. An old SAP MI Client Component should not exchange data or be synchronized with a new SAP MI Server Component.

In the future we will offer further upgrade paths that minimize the downtime.

For more information about API changes see the JavaDoc for SAP MI (see the Help of the SAP NetWeaver Developer Studio → Mobile Development Kit).

History of Changes

Make sure you use the current version of the Upgrade Guide.

You can find the current version of the Upgrade Guide on the SAP Service Marketplace at service.sap.com/instguides.
The following table provides an overview of the most important changes in prior versions.

<table>
<thead>
<tr>
<th>Version</th>
<th>Important Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.07.2005</td>
<td>First version of the SAP Mobile Infrastructure 2.5 Upgrade Guide</td>
</tr>
<tr>
<td></td>
<td>Updated version for 2.5 SPS13</td>
</tr>
</tbody>
</table>

**Constraints**

You can only use this upgrade guide if the SAP Web AS on which the SAP MI Server Component is running is isolated. In the future, other upgrade scenarios will also be covered.

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**SAP Mobile Infrastructure**

**Purpose**

The SAP Mobile Infrastructure (SAP MI) is a technology solution of SAP NetWeaver on which SAP Solutions for Mobile Business is based. With the SAP MI, however, you can also make applications that are not SAP-based mobile.

The SAP MI is installed locally on a mobile device and is equipped with a Web server, a database layer and its own business logic. Staff working remotely can therefore work offline and do not have to wait for a network connection to complete time-critical business applications. The SAP MI offers tools for synchronization and data replication that make the data of the mobile device consistent with that of the backend.

SAP MI is based on the following open industry standards:

- Java
- eXtensible Markup Language (XML)

SAP MI is also equipped with a Java virtual machine and offers an open programming model with which mobile applications can be developed.

This open system architecture makes the platform independent of both the mobile devices and the network and supports mobile devices such as Personal Digital Assistants (PDAs), laptops and Smart Phones.

SAP MI can run on both a standard browser and on a user interface that is not based on a browser.

**Integration**

*Components of the SAP MI within SAP NetWeaver*
Features

SAP MI includes the following areas:

<table>
<thead>
<tr>
<th>Area</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP MI Web Console [External]</td>
<td>The SAP MI Web Console, which is the central tool for deploying mobile applications, offers a number of different functions for administration and monitoring:</td>
</tr>
<tr>
<td>Synchronization [External]</td>
<td>Synchronization ensures a safe and compressed transfer of data between the mobile device and the backend. When you create a mobile application, application development can decide how it would like to create the data packages for synchronization.</td>
</tr>
<tr>
<td>Multiple Usage of a Mobile Device [External]</td>
<td>SAP MI allows multiple users to share one mobile device or one user to work with multiple mobile devices.</td>
</tr>
<tr>
<td>Configuration of Mobile Devices using Device Configurations [External]</td>
<td>Administrators can configure mobile devices with device configurations without having direct access to the device.</td>
</tr>
<tr>
<td>SAP MI in Computing Center Management System [External]</td>
<td>With the Computing Center Management System (CCMS), the administrator can monitor the systems of the SAP MI.</td>
</tr>
</tbody>
</table>
**Mobile Component Descriptor [External]** Application developers can create a Mobile Component Descriptor that describes the properties of a mobile component and that is shipped together with the installation file.

**User-Specific Data Filtering** The application developer can define which data of an application the user should access (read, write or change) in every mobile application developed based on the SAP MI. This data is filtered and provided to the user in the SAP MI Client Component.

**Localization** Depending on the user settings and logon data, the currency, date, time and number formats are displayed for each specific country in the selected language.

The end user can make the following settings:
- Language
- Country
- Time zone
- Daylight saving time

For more information see [Editing User Settings [External]].

**Mobile Development Kit** The SAP MI offers an open programming model with a copious JavaServer Pages (JSP) library for developing mobile applications. Examples of mySAP Mobile Business applications based on the SAP MI are:
- SAP Mobile Sales
- SAP Mobile Asset Management
- SAP Mobile Time and Travel

A complete list of the mySAP Mobile Business applications can be found in the SAP Service Marketplace at service.sap.com/mobile.

SAP MI also supports the Abstract Window Toolkit (AWT) platform. AWT is part of the Java Foundation Classes (JFC) and provides Java developers with a framework and routines for graphic user interfaces.

For more information see [SAP Mobile Development Kit (MDK) [External]].

**Security** To ensure confidential and sensitive data is protected as securely on the mobile devices as on the network devices in your company, SAP MI supports a number of security standards.

You can find more information on the SAP Service Marketplace at service.sap.com/securityguide.

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For reasons of simplicity, the following abbreviations are used in this documentation:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP MI</td>
<td>SAP Mobile Infrastructure</td>
</tr>
<tr>
<td>SAP MI Client Component</td>
<td>SAP Mobile Infrastructure Client Component</td>
</tr>
<tr>
<td>SAP MI Server Component</td>
<td>SAP Mobile Infrastructure Server Component</td>
</tr>
<tr>
<td>SAP MI ABAP Server Component</td>
<td>SAP Mobile Infrastructure ABAP Server Component</td>
</tr>
<tr>
<td>SAP MI J2EE Server Component</td>
<td>SAP Mobile Infrastructure J2EE Server Component</td>
</tr>
</tbody>
</table>
System Architecture

The following graphic shows the system architecture of **SAP MI**: 

![](image)

**SAP MI contains the following technical components:**

**SAP MI Client Component**

The SAP MI Client Component provides a mobile application with the following services:

- **UI programming models**
  
  The standard programming model for mobile applications is *Java Server Pages (JSP)*. Alternatively, you can also use the Abstract Window Toolkit (AWT) as a pure Java programming model. The SAP ME 1.0 programming model *microITS* is still supported.

- **Framework services**
  
  The framework services are provided to the mobile applications as Java APIs. The most important APIs are used for:
  
  - Data synchronization
  - Data persistence
  - Reading and writing replicated data
  - Logging and tracing
  - Configuration of applications and framework
SAP MI Server Component
The SAP MI Server Component contains the following components:

- **SAP MI J2EE Server Component**
  The SAP MI J2EE Server Component is an integral component of the Java stack of the SAP Web AS.
  - It passes the data containers from the SAP MI Client Component to the SAP MI ABAP Server Component
  - With the SAP MI Web Console, it provides an administration interface to manage the mobile devices and components.

- **SAP MI ABAP Server Component**
  The SAP MI ABAP Server Component is an integral component of the ABAP stack of the SAP Web AS.
  The SAP MI ABAP Server Component is responsible for:
  - Queuing and acknowledgement of synchronized data containers
  - Calling the application logic
    The application logic can be called synchronously or asynchronously, depending on the application.
  - Data replication
    Data replication defines data packages for individual mobile devices (data allocation), computes the data to be newly replicated on the device (delta comparison), finds and solves conflicts between the mobile device and the server application (conflict management) and provides a number of monitoring tools.
  - Deploying the mobile applications to the mobile devices
    Mobile applications are automatically deployed to a mobile device when the mobile device is synchronized. This process is controlled centrally by the SAP MI Web Console. It permits the system administrator to assign application versions based on users or roles and thus gives an overview of the mobile devices, error logs and so on, in the field.

- **SAP Mobile Development Kit (SAP MDK)**
  The SAP Mobile Development Kit (MDK) offers the developer useful documentation and tools for developing mobile applications based on SAP MI. The MDK is part of the SAP NetWeaver Developer Studio.

Backend
The backend of a mobile application comprises Customizing and repository objects. Both kinds of objects are transported using the standard mechanisms of the SAP Change & Transport System.

Checking Versions of the SAP MI Components
Use
With the current versions of the SAP MI components, you can check if the latest support package was already applied or an upgrade already carried out.
Procedure

Checking the Versions of the Applications on the SAP MI Client Component

1. Start the SAP MI Web Console (see Starting the SAP MI Web Console [External]).
2. On the tab page choose Administration → Mobile Device Administration.
3. Set a filter to display the desired entries, such as Application: MEPATCH. The current version of an application is displayed under Version.

Alternatively, end users can check the versions on their mobile device:

1. Start the SAP MI (see Starting the SAP MI [External]).
2. Choose Info.
   The current versions of the installed applications are displayed.

Upgrade from Release ME 1.0 to MI 2.5

Purpose

If you are using Release ME 1.0, you can upgrade to Release MI 2.5 in order to use the functions contained there.

Upgrade from ME 1.0 to MI 2.5

![Diagram showing Upgrade from ME 1.0 to MI 2.5]

Process Flow

<table>
<thead>
<tr>
<th>Technical Component</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP MI Client Component</td>
<td>1. Performing Synchronization [Page 24].</td>
</tr>
</tbody>
</table>
### Performing Synchronization

#### Use

You must synchronize the mobile device in order to make the mobile applications assigned to you available on your mobile device. In daily operations you will also perform synchronization in order to transfer new and changed data from the SAP MI Client Component to the backend and vice versa.

If you cannot use online synchronization, you can use various data carriers such as memory sticks, diskettes and DVDs. In this case the system only synchronizes application data. The system can **not** install any new applications with data carrier synchronization.

#### Prerequisites

You started the SAP MI Client Component on the mobile device and logged on.

If you want to synchronize using the data carrier, you must satisfy the following requirements:

- The administrator activated data carrier synchronization, see Setting Up Data Carrier Synchronization [External].
- At least one mobile application is installed on the mobile device.

#### Procedure

**Synchronization with Online Connection**
1. On the SAP MI start page, choose Synchronize.
2. If necessary, enter the synchronization password.
   The system displays a Synchronization log.
3. Choose Continue.
   The system offers the mobile applications on your device and generates one link for each application.
4. Restart the device to activate the new mobile applications. You only have to restart the SAP MI on Windows32 operating systems.
   A link is now displayed on the start page of the SAP MI for each application. You can call the mobile application using this link.

**Data Carrier Synchronization**

1. If you want to use data carrier synchronization, connect the data carrier with the mobile device or place it in the drive.
2. On the SAP MI start page, choose Data Carrier Synchronization.
3. Enter the synchronization files (file extension *.mis) you want to read and choose Continue.
   If you have not received the appropriate files from your administrator, you can skip this point.
4. If you received the data on more than one data carrier, change the data carrier if necessary in order to read in further files.
5. Select a data carrier and start synchronization.
   The system creates one or more synchronization files with the file extension *.mis in a suitable size for the data carrier.
6. Carrier.
7. Copy the data to the data carrier. If you want to use a CD or DVD, copy the files to a temporary directory and then burn them on the appropriate data carrier.
8. Give the administrator the data carrier. The administrator can then synchronize it with the backend.

**Creating Property Files**

**Use**

With this procedure you can provide the MI Sync Servlet with the necessary connection data for the SAP MI ABAP Server Component.

**Prerequisites**

As administrator, you must perform these steps on the computer on which the J2EE Engine is installed. You also need a user and password with authorization for the administration of the J2EE Engine.

**Procedure**

**Creating Property Files**
1. Start the J2EE Engine.
2. Start the J2EE Visual Administrator and connect to the J2EE Engine. To do this you need the administrator password.
3. Choose the service Configuration Adapter from the Server → Services menu. Choose the Runtime tab page and then the Display Configuration tab page.
4. Navigate in the tree to Configurations → apps → sap.com → com.sapmarkets.mesyncjco → appcfg
5. Change into editing mode by confirming the popup with Yes.
6. Use the secondary mouse button to choose appcfg and choose Create Subnode

You must provide a property file for each SAP Web AS (SAP MI ABAP server component) you want to connect to. This file must contain the application server and system number of the corresponding SAP Web AS.

7. Make the following entries:

**Entries in the Create window**

<table>
<thead>
<tr>
<th>Field</th>
<th>Entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dropdown Box</td>
<td>Select File Entry.</td>
</tr>
<tr>
<td>Name</td>
<td>&lt;sysid&gt;.props, for example, abc.props</td>
</tr>
<tr>
<td></td>
<td>The name of the property file must be identical to the system ID of the SAP Web AS to which you want to connect. For example, if the system ID of the SAP Web AS is m25, the name of the file must be m25.props. Enter the name of the file in lowercase letters.</td>
</tr>
<tr>
<td>Display</td>
<td>Select Text in the dropdown box and specify the content of the file, for example: ashost=myserver sysnr=06</td>
</tr>
</tbody>
</table>

Alternatively you can upload a file that already exists. Choose Upload to do this. The name and the contents of the file you uploaded appear in the window.

8. Choose Create to generate the properties file.
9. Change into the display mode and leave the J2EE Visual Administrator.

**Testing Synchronization**

To test if synchronization is principally working without having to install the SAP MI Client Component, call the following URL in your browser:


http://p59298:50000/meSync/servlet/meSync?~sysid=u6b&~login=tester&~password=test&~client=800&~language=de&~acknowledge=X&~test=true&
If the test was successful, the browser displays a message containing a time that, for example, looks like:

```
&WAF_SYNC&STATUS=&Execution Time =103129& HeaderType = MEREPLICATION
&MORE_PACKAGES_WAITING = &
```

If the test fails, the system generates an error message.

Alternatively, you can test synchronization using a configured client.

---

**Uninstalling the SAP MI Client Component**

**Use**

With this procedure you can uninstall the *SAP MI Client Component* on your mobile device.

**Procedure**

**Uninstalling on Windows 32 Platforms**

1. End *SAP MI* on your mobile device by clicking the *SAP MI* icon in the Windows menu bar with the secondary mouse button and choosing *Exit*.
2. Choose *Windows Start* → *Programs* → *SAP Mobile Infrastructure* → *Uninstall*.
3. Follow the instructions given on the screen.

   The *SAP MI Client Component* is now uninstalled.

   Under *Windows Task Manager* → *Processes*, monitor the *java.exe*. If it takes too long until the *java.exe* finishes or if the deinstallation program informs you that files to be updated are still being used, end the *java.exe* in the Windows Task Manager.

**Uninstalling on Pocket PC 2002 /Windows Mobile 2003**

1. Delete the shortcut *MobileEngine.lnk/MobileInfrastructure.lnk* under *Start* → *Programs* → *File Explorer* → *My Device* → *Windows* → *AutoStart*.
2. Restart the mobile device.
3. Choose *Start* → *Settings* → *System* → *Remove Programs*.
4. Select and delete the following entries:
   a. *SAP AG ME/MI<Release>*
   b. *SAP AG, NSIcom CrEme...*
5. Manually delete files and folders that could not be deleted automatically in the *File Explorer*.
6. Restart the mobile device.
Uploading Framework Files

Use

This procedure enables you to upload the SAP MI framework files to the SAP MI Web Console. The framework files contain the runtime environment for mobile applications.

Prerequisites

- You have saved the framework files you want in a folder of your choice.
- The Mobile Component Descriptor (MCD) is available in the system. If the MCD is not yet available and you have a suitable transport file, you can transport it to your system using transaction STMS. You can find information about transports in the documentation for the Transport Management System.
  
  For more information about MCDs see Mobile Component Descriptor [External].
- You started the SAP MI Web Console (see Starting the SAP MI Web Console [External]).

Procedure

1. Choose for the framework file you want to upload.

Upload the required files:

- MOBILEENGINE_AWT (only if you are using applications with runtime environment AWT), application type Framework
- MOBILEENGINE_JSP (only if you are using applications with runtime environment JSP), application type Framework
- JAVAVM (only if you are using a PDA), application type JVM

The files for the various processors adhere to this naming convention:

CrEme<Version>_<Processor>_<Version of operating system>_<Name of operating system>_minimal.CAB

- Version of CrEme: e.g. 324 for Version 3.24 or 325b13 for Version 3.25b13
- Processor: Prior to Version 3.25: XSC for XScale, PXA and others or ARM for Strong ARM; as of Version 3.25 AX for all processors
- Version of operating system: CE 30 for Pocket PC 2002 and Windows CE 3.x or CE4x for Windows Mobile 2003 or Windows CE.Net 4.x
- Name of operating system: PPC for Pocket PC or HPC for Windows CE

When using JVM files, note the comments under Prerequisites [External].

- SSL (only if you are using the SAP MI security components), application type SSL

  If you upload additional framework files for different platforms and languages, they are also called either MOBILEENGINE_AWT or MOBILEENGINE_JSP.

2. Enter the following data only:

<table>
<thead>
<tr>
<th>Field</th>
<th>Purpose</th>
</tr>
</thead>
</table>
### Version for Role-Based Assignment

If there are different versions of an application, you can select one here. The system then automatically uses this version when processing roles (see Assigning Applications to the Users of a Role [External]). There is no input field for the version in the role editor.

### Build Number

You can specify the build number of the application to establish at a later date which build of a mobile application you uploaded.

### Use IP Instead of Host Name

Access to the host using the IP.

If the mobile devices cannot access the host on which the installation files are stored using the host name, select this field. In this case the IP address is used for the download link instead of the host name.

### Domain in URL

If the mobile devices can only reach the host on which the installation files are stored using their fully qualified name in the network, enter the network domain in this field.

### Protocol

Enter the protocol to be used when the files are downloaded to the mobile device, e.g., `http` or `https`.

### Application File

Depending on the language required, your operating system, and the runtime environment previously chosen, you choose the appropriate framework files.

⚠️

If the SAP MI Web Console is run in a J2EE cluster, the mobile components are stored on only a single node of the cluster. In this case you must manually copy the mobile components to all the other nodes of the cluster, see Copying Mobile Components to All Nodes of the J2EE Cluster [External].

For more information about the other fields, see Mobile Component Descriptor [External] You should only change it using the procedure described there.

💡

You can add multiple installation files (such as Setup.exe for Win32, CAB files for WinCE) to the entry created here. The installation routine for the SAP MI Client Component installation selects the installation file that is appropriate for the operating system.

Choose 🗖 in the line with the created entry. Define the corresponding runtime environment, operating system and language again and select the file. Choose Change.

3. Choose Change.

### Result

The framework files have been uploaded. If the end user has worked through the Installing SAP MI Client Component [Page 28] procedure, the framework files are visible in the SAP MI Web Console at Administration → Manage Mobile Devices.
Installing the SAP MI Client Component from the Internet

Use

With this procedure you install the SAP MI Client Component on your mobile device. If your SAP MI administrator gave you a CD or DVD for the installation, you can use it to perform the installation; see Installing the SAP MI Client Component from CD or DVD [External].

You can find more information about installing Linux operating systems in SAP Note 754221.

Procedure

1. If you are using a proxy server, check your browser settings and configure them again if needed. The settings depend on the network infrastructure you are using.
   - To change the settings on Windows 32 operating systems (Internet Explorer):
     Choose Tools → Internet Options → Connections → LAN settings.
   - To change the settings on Pocket PC 2002:
     Choose Start → Settings → Connections → Connections → Work → Change → Proxy settings.
   - To change the settings on Windows Mobile 2003:
     Choose Start → Settings → Connections → Connections → Proxy settings.

2. Enter the following URL in Internet Explorer on your mobile device:
   <Server>: SAP Web AS name
   <Port>: SAP Web AS standard port

   For more information about determining the server and port, see Determining the Server and Port [External].

   ! If an error message occurs, read SAP Note 434918.

   The Installation Wizard home page appears.

3. If you want to use automatic device recognition, choose Continue. If your mobile device runs on another operating system, choose Select Others.

   Depending on your operating system, you may need to specify the runtime environment.

4. Enter data as required on the Installation Wizard screens.

   WinCE installation: You can select the SSL option irrespective of whether you want to install a Java Virtual Machine.
Win32 installation: See Configuration of Security [External] and SAP Note 580497.

5. On the Download screen, choose the links displayed one after another to download the installation files to your mobile device. Under certain circumstances, you only have to download one file.

A File Download dialog box appears.

6. Choose Save this program to disk and then OK.

7. Choose any directory for the installation files and store the installation files there.

8. Run the installation files that you have just saved.

**When Installing On PDAs:**
The SAP MI Client Component is installed on your mobile device.

**When Installing On Windows32 Operating Systems:**

1. Another Installation Wizard opens.

2. Follow the instructions given on the screen.

Once you have entered all the data in the Installation Wizard, the system installs the SAP MI Client Component on your mobile device.

**Result**
The installation program has created an entry for starting SAP MI on your mobile device.

If you are using a PDA, restart your mobile device. For all other mobile devices, restart the SAP MI. For more information, see Starting the SAP MI [External].

---

### Comparison of the Fields of BWAFVER with the SAP MI Web Console

In the procedure Uploading Mobile Applications [Page 20] you upload all the applications entered in Table BWAFVER to the SAP MI Web Console.

**Field Comparison**

<table>
<thead>
<tr>
<th>Fields of Table BWAFVER</th>
<th>Fields in the SAP MI Web Console</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPLNAME</td>
<td>Application</td>
</tr>
<tr>
<td>VERSION</td>
<td>Version</td>
</tr>
<tr>
<td>DEFAULT</td>
<td>Use this version for assignment with roles</td>
</tr>
<tr>
<td>LINK</td>
<td>Link in the SAP MI home page</td>
</tr>
<tr>
<td>APPLTYPE</td>
<td>Application type</td>
</tr>
<tr>
<td>WEB_SERVER</td>
<td>---</td>
</tr>
<tr>
<td>WEB_PATH</td>
<td>Application file</td>
</tr>
</tbody>
</table>
Uploading Mobile Applications

Use

This procedure enables you to upload the installation files for mobile applications that are not yet available in the SAP MI Web Console. The uploaded files are available there for further editing.

Prerequisites

- You have obtained the installation files required for the mobile application and saved these to a folder of your choice in Windows Explorer. For more information about the storage location of the installation files, see the respective mobile application documentation on the SAP Service Marketplace at service.sap.com/instguides.
- The Mobile Component Descriptor (MCD) is available in your system. If the MCD is not yet available and you have a suitable transport file, you can transport it to your system with Transaction STMS. You can find information about transports in the documentation for the Transport Management System.
  
  If there is no transport file for the MCD, you might have to create an MCD yourself; see Mobile Component Descriptor [External].
- You started the SAP MI Web Console (see Starting the SAP MI Web Console [External]).

Procedure

1. Choose Change for the mobile component you want to upload.

   ![Image]

   If the list does not contain an entry for the mobile component, first create an MCD for the component; see Mobile Component Descriptor [External].

2. Enter the following data:

<table>
<thead>
<tr>
<th>Field</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version for Role-Based Assignment</td>
<td>If there are different versions of an application, you can select a version here. The system then automatically uses this version when processing roles (see Assigning Applications to a Role [External]). There is no input field for the version when editing roles.</td>
</tr>
<tr>
<td>Build Number</td>
<td>You can specify the build number of the application to establish at a later date which build of a mobile application you uploaded.</td>
</tr>
<tr>
<td>Use IP instead of host name</td>
<td>Access to the host using the IP.</td>
</tr>
<tr>
<td></td>
<td>If the mobile devices cannot access the host on which the installation files are stored using the host name, select this field. In this case the IP address is used for the download link instead of the host name.</td>
</tr>
<tr>
<td>Domain in URL</td>
<td>If the mobile devices can only reach the host on which the installation files are stored using their fully qualified name in the network, enter the network domain in this field.</td>
</tr>
<tr>
<td>Protocol</td>
<td>Enter the protocol to be used when the files are downloaded to the mobile device, e.g. http or https.</td>
</tr>
</tbody>
</table>
Application File

Use the Explorer to navigate to the storage location of the required file and select it.

The selected operating system and language are of no importance since there is a file for each operating system and each language.

⚠️ If the SAP MI Web Console is run in a J2EE cluster, the mobile components are stored on only a single node of the cluster. In this case you must manually copy the mobile components to all the other nodes of the cluster, see Copying Mobile Components to All Nodes of the J2EE Cluster [External].

For more information about the other fields, see Mobile Component Descriptor [External]. You should only change it using the procedure described there.

3. Choose Change.

💡 If you want to upload a new version of the application, you do not need to create a new entry. You can simply change the existing entry.

Choose 🔄 in the line with the entry to be changed. Change the version, enter the corresponding runtime environment and select the installation file. Choose Change.

Result

The application files have been uploaded. Then you need to deploy the uploaded files on the mobile device (see Assigning Applications To Users [External]).

 décidé

Upgrade from Release ME 2.1 SP<xx> to MI 2.5

Purpose

If you are using Release ME 2.1 SP<xx>, you can upgrade to Release MI 2.5 in order to use the functions contained there.

Upgrade from Release ME 2.1 to MI 2.5

<table>
<thead>
<tr>
<th>Technical Component</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backend</td>
<td></td>
</tr>
<tr>
<td>Web AS 6.20</td>
<td></td>
</tr>
<tr>
<td>ME Client 2.1</td>
<td></td>
</tr>
<tr>
<td>New Installation</td>
<td></td>
</tr>
<tr>
<td>Migration</td>
<td></td>
</tr>
<tr>
<td>MI Client 2.5</td>
<td></td>
</tr>
<tr>
<td>Web AS 6.20</td>
<td></td>
</tr>
<tr>
<td>Backend</td>
<td></td>
</tr>
</tbody>
</table>

Process Flow
Saving Application Files

Prerequisites
You started the SAP MI Web Console (see Starting the SAP MI Web Console).

Procedure
1. Choose tab **Upload Application** → **Save/Restore Application Files**.
2. Choose **Add New Backup**.

Result
The system creates a new backup and inserts an entry with a new backup number.

Creating Property Files

Use
With this procedure you can provide the MI Sync Servlet with the necessary connection data for the SAP MI ABAP Server Component.
**Prerequisites**

As administrator, you must perform these steps on the computer on which the *J2EE Engine* is installed. You also need a user and password with authorization for the administration of the J2EE Engine.

**Procedure**

**Creating Property Files**

1. Start the J2EE Engine.
2. Start the J2EE Visual Administrator and connect to the J2EE Engine. To do this you need the administrator password.
3. Choose the service *Configuration Adapter* from the *Server* → *Services* menu. Choose the *Runtime* tab page and then the *Display Configuration* tab page.
4. Navigate in the tree to *Configurations* → *apps* → *sap.com* → *com.sapmarkets.mesyncjco* → *appcfg*
5. Change into editing mode by confirming the popup with Yes.
6. Use the secondary mouse button to choose *appcfg* and choose *Create Subnode*.

   You must provide a property file for each *SAP Web AS* (SAP MI ABAP server component) you want to connect to. This file must contain the application server and system number of the corresponding *SAP Web AS*.

7. Make the following entries:

   **Entries in the *Create* window**

<table>
<thead>
<tr>
<th>Field</th>
<th>Entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dropdown Box</td>
<td>Select <em>File Entry</em>.</td>
</tr>
<tr>
<td>Name</td>
<td><code>&lt;sysid&gt;.props</code>, for example, <code>abc.props</code></td>
</tr>
<tr>
<td></td>
<td>The name of the property file must be identical to the system ID of the <em>SAP Web AS</em> to which you want to connect. For example, if the system ID of the <em>SAP Web AS</em> is <code>m25</code>, the name of the file must be <code>m25.props</code>. Enter the name of the file in lowercase letters.</td>
</tr>
<tr>
<td>Display</td>
<td>Select Text in the dropdown box and specify the content of the file, for example: <code>ashost=myserver sysnr=06</code></td>
</tr>
</tbody>
</table>

   Alternatively you can upload a file that already exists. Choose *Upload* to do this. The name and the contents of the file you uploaded appear in the window.

8. Choose *Create* to generate the properties file.
9. Change into the display mode and leave the J2EE Visual Administrator.

**Testing Synchronization**

To test if synchronization is principally working without having to install the SAP MI Client Component, call the following URL in your browser:
http://<Server>:<Port>/meSync/servlet/meSync?~sysid=<System ID>&~login=<User name>&~password=<Password>&~client=<Client>&~language=<Language>&~acknowledge=X&~test=true

http://p59298:50000/meSync/servlet/meSync?~sysid=u6b&~login= tester&~password=test&~client=800&~language=de&~acknowledg e=X&~test=true

If the test was successful, the browser displays a message containing a time that, for example, looks like:
&WAF_SYNC&STATUS=&Execution Time =103129& HeaderType = MEREPLICATION &MORE_PACKAGES_WAITING = &

If the test fails, the system generates an error message.
Alternatively, you can test synchronization using a configured client.

Restoring Application Files

Use

This procedure restores the saved application files in the SAP MI Web Console.

Prerequisites

You started the SAP MI Web Console (see Starting the SAP MI Web Console).

Procedure

10. Choose tab Upload Application → Save/Restore Application Files.
    A list of all backups is displayed.
11. To restore the application files, select the latest backup and choose Restore.

Performing Synchronization

Use

You must synchronize the mobile device in order to make the mobile applications assigned to you available on your mobile device. In daily operations you will also perform synchronization in order to transfer new and changed data from the SAP MI Client Component to the backend and vice versa.

If you cannot use online synchronization, you can use various data carriers such as memory sticks, diskettes and DVDs. In this case the system only synchronizes application data. The system can not install any new applications with data carrier synchronization.

Prerequisites

You started the SAP MI Client Component on the mobile device and logged on.

If you want to synchronize using the data carrier, you must satisfy the following requirements:

- The administrator activated data carrier synchronization, see Setting Up Data Carrier Synchronization [External].
- At least one mobile application is installed on the mobile device.

**Procedure**

**Synchronization with Online Connection**

1. On the SAP MI start page, choose *Synchronize*.
2. If necessary, enter the synchronization password.
   The system displays a Synchronization log.
3. Choose *Continue*.
   The system offers the mobile applications on your device and generates one link for each application.
4. Restart the device to activate the new mobile applications. You only have to restart the SAP MI on Windows32 operating systems.
   A link is now displayed on the start page of the SAP MI for each application. You can call the mobile application using this link.

**Data Carrier Synchronization**

1. If you want to use data carrier synchronization, connect the data carrier with the mobile device or place it in the drive.
2. On the SAP MI start page, choose *Data Carrier Synchronization*.
3. Enter the synchronization files (file extension *.mis) you want to read and choose *Continue*.
   
   If you have not received the appropriate files from your administrator, you can skip this point.
4. If you received the data on more than one data carrier, change the data carrier if necessary in order to read in further files.
5. Select a data carrier and start synchronization.
   The system creates one or more synchronization files with the file extension *.mis in a suitable size for the data carrier.
6. Restart the device.
7. Copy the data to the data carrier. If you want to use a CD or DVD, copy the files to a temporary directory and then burn them on the appropriate data carrier.
8. Give the administrator the data carrier. The administrator can then synchronize it with the backend.

**Uninstalling the SAP MI Client Component**

**Use**

With this procedure you can uninstall the SAP MI Client Component on your mobile device.

**Procedure**

**Uninstalling on Windows 32 Platforms**
1. End **SAP MI** on your mobile device by clicking the **SAP MI** icon in the Windows menu bar with the secondary mouse button and choosing *Exit*.

2. Choose *Windows Start* → *Programs* → *SAP Mobile Infrastructure* → *Uninstall*.

3. Follow the instructions given on the screen.

   The **SAP MI Client Component** is now uninstalled.

   ![Tip]

   Under *Windows Task Manager* → *Processes*, monitor the *java.exe*. If it takes too long until the *java.exe* finishes or if the deinstallation program informs you that files to be updated are still being used, end the *java.exe* in the Windows Task Manager.

**Uninstalling on Pocket PC 2002 /Windows Mobile 2003**

1. Delete the shortcut *MobileEngine.lnk/MobileInfrastructure.lnk* under *Start* → *Programs* → *File Explorer* → *My Device* → *Windows* → *AutoStart*.

2. Restart the mobile device.

3. Choose *Start* → *Settings* → *System* → *Remove Programs*.

4. Select and delete the following entries:
   
   a. **SAP AG ME/MI<Release>**
   
   b. **SAP AG, NSlcom CrEme...**

5. Manually delete files and folders that could not be deleted automatically in the *File Explorer*.

6. Restart the mobile device.

---

**Uploading Framework Files**

**Use**

This procedure enables you to upload the **SAP MI** framework files to the SAP MI Web Console. The framework files contain the runtime environment for mobile applications.

**Prerequisites**

- You have saved the framework files you want in a folder of your choice.

- The Mobile Component Descriptor (MCD) is available in the system. If the MCD is not yet available and you have a suitable transport file, you can transport it to your system using transaction *STMS*. You can find information about transports in the documentation for the Transport Management System.

  For more information about MCDs see [Mobile Component Descriptor](#).

- You started the SAP MI Web Console (see [Starting the SAP MI Web Console](#)).

**Procedure**

1. Choose ![Tip] for the framework file you want to upload.

   Upload the required files:

   - **MOBILEENGINE_AWT** (only if you are using applications with runtime environment *AWT*), application type **Framework**
o MOBILEENGINE_JSP (only if you are using applications with runtime environment JSP), application type Framework

o JAVAVM (only if you are using a PDA), application type JVM

The files for the various processors adhere to this naming convention:

CrEme<Version>_<Processor>_<Version of operating system>_<Name of operating system>_minimal.CAB

- Version of CrEme: e.g. 324 for Version 3.24 or 325b13 for Version 3.25b13
- Processor: Prior to Version 3.25: xsc for XScale, PXA and others or ARM for Strong ARM; as of Version 3.25 AX for all processors
- Version of operating system: CE 30 for Pocket PC 2002 and Windows CE 3.x or CE4x for Windows Mobile 2003 or Windows CE.Net 4.x
- Name of operating system: PPC for Pocket PC or HPC for Windows CE

⚠️ When using JVM files, note the comments under Prerequisites [External].

- SSL (only if you are using the SAP MI security components), application type SSL

If you upload additional framework files for different platforms and languages, they are also called either MOBILEENGINE_AWT or MOBILEENGINE_JSP.

2. Enter the following data only:

<table>
<thead>
<tr>
<th>Field</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version for Role-Based Assignment</td>
<td>If there are different versions of an application, you can select one here. The system then automatically uses this version when processing roles (see Assigning Applications to the Users of a Role [External]). There is no input field for the version in the role editor.</td>
</tr>
<tr>
<td>Build Number</td>
<td>You can specify the build number of the application to establish at a later date which build of a mobile application you uploaded.</td>
</tr>
<tr>
<td>Use IP Instead of Host Name</td>
<td>Access to the host using the IP. If the mobile devices cannot access the host on which the installation files are stored using the host name, select this field. In this case the IP address is used for the download link instead of the host name.</td>
</tr>
<tr>
<td>Domain in URL</td>
<td>If the mobile devices can only reach the host on which the installation files are stored using their fully qualified name in the network, enter the network domain in this field.</td>
</tr>
<tr>
<td>Protocol</td>
<td>Enter the protocol to be used when the files are downloaded to the mobile device, e.g. http or https.</td>
</tr>
<tr>
<td>Application File</td>
<td>Depending on the language required, your operating system, and the runtime environment previously chosen, you choose the appropriate framework files. If the SAP MI Web Console is run in a J2EE cluster, the mobile components are stored on only a single node of the cluster. In this case you must manually copy the mobile components to all the nodes.</td>
</tr>
</tbody>
</table>
other nodes of the cluster, see Copying Mobile Components to All Nodes of the J2EE Cluster [External].

For more information about the other fields, see Mobile Component Descriptor [External]. You should only change it using the procedure described there.

You can add multiple installation files (such as Setup.exe for Win32, CAB files for WinCE) to the entry created here. The installation routine for the SAP MI Client Component installation selects the installation file that is appropriate for the operating system.

Choose in the line with the created entry. Define the corresponding runtime environment, operating system and language again and select the file. Choose Change.

3. Choose Change.

**Result**

The framework files have been uploaded. If the end user has worked through the Installing SAP MI Client Component [Page 28] procedure, the framework files are visible in the SAP MI Web Console at Administration → Manage Mobile Devices.

### Installing the SAP MI Client Component from the Internet

#### Use

With this procedure you install the SAP MI Client Component on your mobile device. If your SAP MI administrator gave you a CD or DVD for the installation, you can use it to perform the installation; see Installing the SAP MI Client Component from CD or DVD [External].

You can find more information about installing Linux operating systems in SAP Note 754221.

#### Procedure

1. If you are using a proxy server, check your browser settings and configure them again if needed. The settings depend on the network infrastructure you are using.
   - To change the settings on Windows32 operating systems (Internet Explorer):
     Choose Tools → Internet Options → Connections → LAN settings.
   - To change the settings on Pocket PC 2002:
     Choose Start → Settings → Connections → Connections → Work → Change → Proxy settings.
   - To change the settings on Windows Mobile 2003:
     Choose Start → Settings → Connections → Connections → Proxy settings.

2. Enter the following URL in Internet Explorer on your mobile device: http://<Server>:<Port>/sap/bc/bsp/sap/me_fw_install/install.htm
   <Server>: SAP Web AS name
   <Port>: SAP Web AS standard port
For more information about determining the server and port, see Determining the Server and Port [External].

If an error message occurs, read SAP Note 434918.

The Installation Wizard home page appears.

3. If you want to use automatic device recognition, choose Continue. If your mobile device runs on another operating system, choose Select Others.

Depending on your operating system, you may need to specify the runtime environment.

4. Enter data as required on the Installation Wizard screens.

WinCE installation: You can select the SSL option irrespective of whether you want to install a Java Virtual Machine.

Win32 installation: See Configuration of Security [External] and SAP Note 580497.

5. On the Download screen, choose the links displayed one after another to download the installation files to your mobile device. Under certain circumstances, you only have to download one file.

A File Download dialog box appears.

6. Choose Save this program to disk and then OK.

7. Choose any directory for the installation files and store the installation files there.

8. Run the installation files that you have just saved.

**When Installing On PDAs:**

The SAP MI Client Component is installed on your mobile device.

**When Installing On Windows32 Operating Systems:**

1. Another Installation Wizard opens.

2. Follow the instructions given on the screen.

Once you have entered all the data in the Installation Wizard, the system installs the SAP MI Client Component on your mobile device.

**Result**

The installation program has created an entry for starting SAP MI on your mobile device.

If you are using a PDA, restart your mobile device. For all other mobile devices, restart the SAP MI. For more information, see Starting the SAP MI [External].