Oracle® Agile Engineering Data Management

Installation Manual for Enterprise Integration Platform 2.2.1

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Preface

The Oracle documentation set includes Adobe® Acrobat™ PDF files. The Oracle Technology Network (OTN) Web site (http://www.oracle.com/technology/documentation/agile.html) contains the latest versions of the Oracle Agile EDM PDF files. You can view or download these manuals from the Web site, or you can ask your Agile administrator if there is an Oracle Documentation folder available on your network from which you can access the documentation (PDF) files.

Note	To read the PDF files, you must use the free Adobe Acrobat Reader™ version 7.0 or later. This program can be downloaded from the Adobe Web site (http://www.adobe.com).

Note	Before calling Agile Support about a problem with an Oracle Agile EDM manual, please have the full part number, which is located on the title page.

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Readme

Any last-minute information about Oracle Agile EDM can be found in the Release Notes file on the Oracle Technology Network (OTN) Web site (http://www.oracle.com/technology/documentation/agile.html)

Agile Training Aids

Go to the Oracle University Web page (http://www.oracle.com/education/chooser/selectcountry_new.html) for more information on Agile Training offerings.

Accessibility of Code Examples in Documentation

Screen readers may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, some screen readers may not always read a line of text that consists solely of a bracket or brace.

Accessibility of Links to External Web Sites in Documentation

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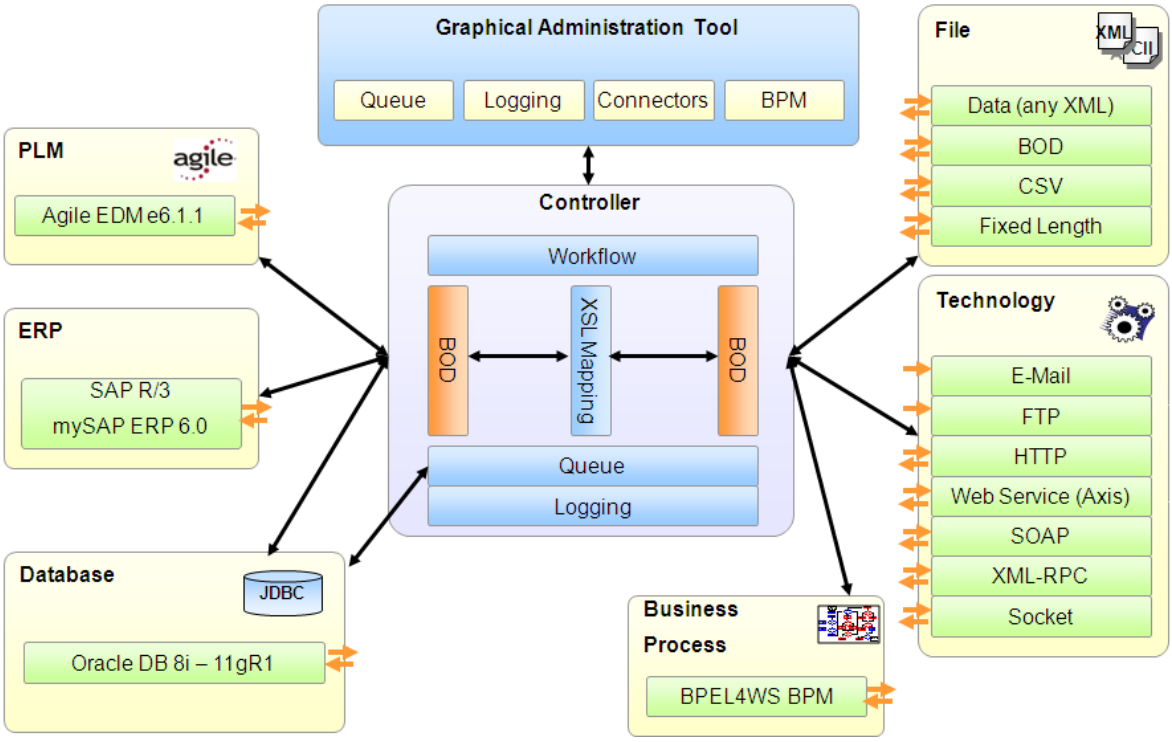
Chapter 1

Overview

The Enterprise Integration Platform is an Integration Framework for integrating Agile EDM with other applications like ERP-Systems. The Integration Platform consists of a kernel (controller, mapping, logging etc.) and connectors for the different applications.

The SAP-Link is a solution based on the Enterprise Integration Platform, where only the PLM Connector and the SAP Connector can be used. The SAP-Link is pre-configured for data transfer between Agile EDM and SAP R/3. Several chapters of this document describe how to install the necessary components of the SAP Connector as part of the SAP-Link solution.



In order to install the Integration Platform, several steps have to be performed:

1. Install the software on the server machine, where the Integration Platform should run.
2. Install the application specific software required by the Integration Platform, e.g. loader files in Agile EDM.
3. Modify the configuration file in order to define the involved connectors, mappings and operations (Business Objects).
4. Modify the mapping files based on the requirements.
5. Test the Integration Platform with the new configuration.

Note	This document describes the installation of the Enterprise Integration Platform together with Agile EDM.

Chapter 2

Prerequisites

Enterprise Integration Platform

Since the Enterprise Integration Platform is a Java application, a Java Runtime Environment is required. This is not part of the installation package and therefore needs to be installed beforehand.

Note As the Enterprise Integration Platform now includes a Web Server that is able to handle JSPs, a Java Compiler must be installed. Either you install a Java Development Environment (JDK) where this is included, or you install a Java Runtime Environment and copy the file tools.jar from the JDK's lib directory to the JRE's lib directory.

Please remember to install the Java Runtime Environment on all platforms where you want to run the Enterprise Integration Platform or parts of it. If you installed it on a UNIX system for example, and you want to use the GUI tools on a Windows system from this installation location via a shared network drive, you have to install a Java Runtime Environment on your Windows machine as well.

This version of the Integration Platform runs on the following versions of Java: 1.5.0 or 1.6.0(latest patch level recommended). You may download this from the website of the respective operating system provider:

AIX:	http://www-106.ibm.com/developerworks/java/jdk/aix/
Windows, Solaris, Linux/Intel:	http://java.sun.com/j2se/
HP-UX:	http://www.hp.com/products1/unix/java/

Note After the installation of the Java Runtime Environment, please set the environment variable JAVA_HOME to point to its installation directory, e.g. *C:\Program Files\Java\jre1.5.0_14*.

Third-Party Libraries

As certain third-party libraries are not shipped with the Enterprise Integration Platform anymore, please download them from the following locations as needed:

Library	Purpose	Download Location	Installation Instructions
js.jar	JavaScript support for XSL transformations	www.mozilla.org/rhino/	Browse to *Downloads* and then to the *Rhino downloads archive*. The preferred version to download is 1.5R3. Copy the file *js.jar* from the ZIP file to the *libs* directory.
wsdl4j.jar	WSDL generation for WebServices	sourceforge.net/projects/wsdl4j	Browse to *Downloads* and to the link to *View older releases in the WSDL4J package* . The preferred version to

			download is 1.5.1. Copy the file *lib/wsdl4j.jar* to the *libs* directory.

Agile EDM

The minimum Agile EDM version to be used together with the Integration Platform is Agile EDM e6.1.1.

SAP R/3 (SAP-Link)

Minimum version of SAP R/3 required by the Integration Platform is 4.6C. The following privileges are required for the R/3 user(s), which is used by the R/3 Connector:

Z_TRANS_RFC

S_A.SCON

All object-related privileges, e.g. for creating a material master.

Chapter 3

Basic Installation

The software is provided as a distribution package, which includes all files and directories needed for successfully running the application.

Windows and Unix Installation

Prerequisites

The distribution is provided as a gnu zipped tar file because the UNIX execution file rights are not preserved by WinZip.

Note	Do not use WinZip to extract the files to a UNIX system!

You should be able to unpack the file (in Installation Step 2) with either WinZip on Windows or with the following command on UNIX:

```
tar xzvf eip-x.x.x-bxx.tar.gz
```

If you get an error, that "z" is an unknown option to tar then try the following:

```
gunzip -dc eip-x.x.x-bxx.tar.gz | tar xvf –
```

If you do not have one of these tools, you might download it from the following locations:

WinZip: http://www.winzip.com/
gunzip: http://www.gzip.org/

Installation Steps

1. Copy the installation package onto the dedicated server, which should be used for running the Integration Platform. The used server needs to be able to connect to the Agile EDM Java Daemon via ECI and to SAP R/3 via RFC.
2. Uncompress the package into the install directory of the Integration Platform, e.g. into the directory c:\agile\eip on MS-Windows (this will be referred to as <eai.home> in the rest of the document).

Following directory structure will be created under <eai.home>:

archive	directory for archived queue entries
bin	contains the startup scripts for the applications
conf	contains the configuration and mapping files
data	contains the XDOs (data packages) when persistence is activated

docs	contains the documentation/manuals
install	contains all additional installation files, which are required for external applications, e.g. Agile EDM
libs	contains all library files (except JRE files)
log	contains all log/trace files, depending on setting in configuration file
tmp	contains all temporary files, which are neither log files nor XDO data files

Database Creation

Before using the Enterprise Integration Platform, the needed database tables must be created. Before doing this, the Configuration File must be modified (as described in **Error! Reference source not found.**). Especially, the configuration values for <queue> with its sub-values <type>, <host>, <port>, <user>, <password> and <name> must be set to the appropriate database parameters (please refer to the "Administrator Manual" for further information).

Note Although it might be possible to create the EIP's database objects with same user as other applications (e.g. Agile EDM), it strongly advised to use a separate user (a schema in Oracle). This prevents data loss in case of a command that deletes the database objects (e.g. with the dbmaint's purge command). Please read carefully the tools' chapter in the "Administraor Manual" for further information.

Note It might be recommended to create the new database user with own database files (tablespace in Oracle, database in SQL Server). The advantages of separate database files are independency on other tables and users (e.g. from Agile EDM), and easier backup and replication. Since the tables are constantly growing in size, if they are not cleaned up on a regular basis, the initial size of the database file should not be too small. The definitions for Agile EDM may be used as a guideline for specifying the initial database size and extends. Since this is only a recommendation, you may feel free to use the same database files as an existing Agile EDM installation or even the same database user, especially if you do not expect too much data load.

In order to create the database tables on MS-Windows (NT/2000/XP) please start the script *dbmaint.cmd* in the directory *bin*.

On UNIX servers, please start the script *dbmaint.sh* in the directory *bin*.

For a further description of the Database Maintainer, please refer to the chapter "Tools" in the "Administrator Manual".

SAP-Link Installation

Installing SAP JCo Libraries

The SAP R/3 connector depends on the Java Library sapjco.jar (version 2.0.10 or 2.0.12) and the following runtime libraries from SAP:

librfc*.*

sapjcorfc.

These files must be downloaded from the SAP Service Marketplace (http://service.sap.com/connectors), since we are not allowed to redistribute them due to licensing issues. The archive is in the directory SAP Java Connector | Tools & Services. The SAP documentation includes an installation guide.

Please confirm that the following files are present, or copy them into the directory <eai.home>/libs/<operating system>.

sapjco.jar

librfc*.*

sapjcorfc.

Note For more information about the installation of the application-specific software (e.g. for Agile EDM) please refer to the respective chapters later in this document.

Chapter 4

Configuration and Customization

For more information about configuring and customizing the Enterprise Integration Platform, please refer to the “Administrator Manual”.

Modifying the Configuration Files

The configuration has to be done in at least two files in the conf directory: run.conf and eai_ini.xml.

The configuration file run.conf lists the classpaths used by the Integration Platform. By default, the PlmConnector uses the classpath for Agile EDM (wrapper.java.classpath.7=%EAI_HOME%/libs/plm61sp0/*.jar). If you want to use the PlmConnector with another version, you have to comment this line, and uncomment the respective classpath line.

The configuration file eai_ini.xml consists of certain sections for the different modules of the Integration Platform, e.g. Controller, Connector and Mapping.

Note The password encryption had been changed due to be compliant with the Oracle Security Guidelines. It will now use the same method as Agile EDM 6.1 and higher uses (e.g. for the encryption of the database password). Therefore all passwords in the eai_ini.xml file needs to be re-generated.

Each one of them needs to be set up accordingly in order to have the Integration Platform start up and run properly.

Modifying the Mapping Files

As mentioned before, XSL files are used for mapping purposes. Since the connectors create and read XML data (i.e. the message XDO), converting the XDO to a specific format will be done by the XML Mapping engine.

The names of the XSL mapping files, which are used by the Integration Platform, are provided in the *eai_ini.xml* configuration file.

For more information about XSL tools, please refer to the “FAQ_EIP” document.

Chapter 5

Setting Up the Synchronous PLM Connector

Modifying the Environment

You also need to modify the <environment>.xml file or the axalant.xml file in order to load the library file above. Please insert the following lines under the XML node “custom/modules”:

```
<Eip Name="EIP Sync Connector" Library="eipsync" Entry="EipSync_Entry"
Startup=”immediately”/>
```

Note Do NOT configure both files - <environment>.xml and axalant.xml – to load the EIP sync library. This will lead to a non starting application

Note Please make sure that you set the correct access rights and owner of the library file as otherwise Agile EDM might have problems loading the library (they must at least have execute rights for the Agile EDM process; see rights on other Agile EDM libraries).

Please see also the corresponding chapter in the “Administrator Manual”.

Chapter 6

Installing SAP Transport Files (SAP-Link)

The transport files are located in the sub-directory *install/sap_r3* of the installation environment of the Integration Platform. They must be imported into the SAP R/3 system: The transport order contains the development class /EIGNER/RFC.

Following RFC-Functions will be imported into your R/3 system:

/EIGNER/MATERIAL_DETAILS	Returns material detail data
/EIGNER/REV_LEVEL_MAINTAIN	Create a new material revision
/EIGNER/REV_LEVEL_SELECT	Returns the material revision
/EIGNER/WHERE_USED_MAT	Returns the Material Where-used list
/EIGNER/BOM_MULTI_EXPL	Returns the (multi-level) Material BOM
/EIGNER/COMPLETE_BOM_CHANGE	Updates a Material BOM by providing all positions
/EIGNER/BOM_ITEM_EFFECTIVITY	Creates and Updates a Material BOM by providing all positions incl. position effectivity
/EIGNER/MAT_DOC_LINKS	Creates and Updates Material – Document Links from the Material

Please copy the transport files into the respective transport directory of your SAP Server (e.g. /usr/sap/trans on UNIX) and load the files with the transport control tool “tp” into your SAP R/3 system. More information about the program “tp” can be found on the SAP Online Help CD under “Transport Tools (BC-CTS-TLS):

CD: SAP-Library -> Basis -> Change and Transport System -> Transport Tools.

Note These RFC functions had been developed by Oracle in order to provide interface functionality in R/3, which is missing in R/3 Version 4.6C. In case SAP will provide respective functionality in future releases of R/3, above functions will not be provided and maintained any longer.

Chapter 7

Preparations for SAP File Check-in/out (SAP-Link)

The SAP Connector allows you to check in files into your SAP system. It therefore uses the program *sapftp* (*sapftp.exe* on Windows) in order to transfer the files to the SAP server. This program is normally part of a SAP-GUI installation.

If you do not have a SAPGUI installation for the required platform, you may download the latest version of *sapftp* at SAP's download page under http://service.sap.com/swdc (you will need your SAP customer or partner ID). In the navigation menu on the left please follow the link to the *sapftp* download:

1. Download → Support Packages and Patches → Search for Support Packages and Patches.
2. Now enter "sapftp" into the search field and click on "Search".
3. Download the file *SAPFTP.CAR* for your platform from the list.

   To extract the executable from this archive you also may need the program *sapcar*, which is available for download from this list, too.
4. If you want to use the check-in/check-out functionality of the SAP Connector, please copy the file *sapftp* to the directory <eai.home>/bin/<operating-system> of your installation and extend the PATH variable on the server to point to this directory.

Note	The directory, which is used for file check-in/check-out, must be known by the Enterprise Integration Platform server.
Note	If the files will be checked out via the BAPI BAPI_DOCUMENT_CHECKOUTVIEW2, the parameter ORIGINALPATH must point to an appropriate directory.

Chapter 8

Testing and Starting

For testing and starting the Enterprise Integration Platform, please refer to the chapter “Running the Enterprise Integration Platform” in the “Administrator Manual”.

Chapter 9

Starting as a Windows Service

The EIP Daemon is a Java Service Wrapper for Windows Server 2003. It may be used to start and stop the Enterprise Integration Platform from the Service Control Panel.

Prerequisites

The environment variables EAI_HOME and JAVA_HOME must be set!

Installation Steps

Run the script daemon.cmd from the bin directory with the argument “install” to install the service:

bin\daemon.cmd install

```
The service may be removed by calling the script with the argument
“remove”.
```

1. Open **Start -> Control Panel -> Administrative Tools -> Services** and make sure that the service is running as the same user as the Agile EDM server instance (default is axalantrt).
2. Use the entry “EnterpriseIntegrationPlatform Daemon” to start or stop the Enterprise Integration Platform.

Troubleshooting

If the service does not start or terminates unexpectedly, check the additional log file *daemon.log* that is located in *logs*. It contains service internal messages and should be reviewed for daemon configuration problems.

Chapter 10

Starting as a UNIX Daemon

The EIP Daemon is a Java Daemon Wrapper for UNIX. It may be used to start and stop the Enterprise Integration Platform from the Service Control Panel.

Prerequisites

The environment variables EAI_HOME and JAVA_HOME must be set!

Installation Steps

1. Run the script daemon.sh from the bin directory with the argument “start” to install the service:

   ```
   bin/daemon.sh start
   ```

   The service may be stopped by calling the script with the argument “stop”.
2. Check if the daemon is running by calling:

   ```
   bin/daemon.sh status
   ```

Troubleshooting

If the service does not start or terminates unexpectedly, you may check the additional log file *daemon.log* that is located in *logs*. It contains service internal messages and should be reviewed for daemon configuration problems.

Load the Data Model

1. Start Agile e6.
2. Login with the user **edbcusto**.

   Assure that the loader mode for this user is set to BIN.
3. In I(nsert) mode, load the following loader files:

- dtv_cdd.bin
- lgv_cdd.bin
- lgv_cdd_cust.bin

4. Log out and log in.
5. Search in the list of data classes for all classes “CDD%”.
6. Select the resulting lines and use “Create Database Object” to include the added tables to the

database.

The following message is displayed:

”The view does not contain any Where condition, continue with operation anyway?”

7. Confirm with YES.
8. Search for the class names T_PAC_MUL and select again “Create Database Object” to modify this already existing table in the database.

Note Only if this is the first installation of the Agile e6 Plot Management, please exit Agile e6 and login as the user “plotkernel” or “plotcusto”!

9. Load the loader file axa_cdd_dat.dat with mode I.

Define the Application Library

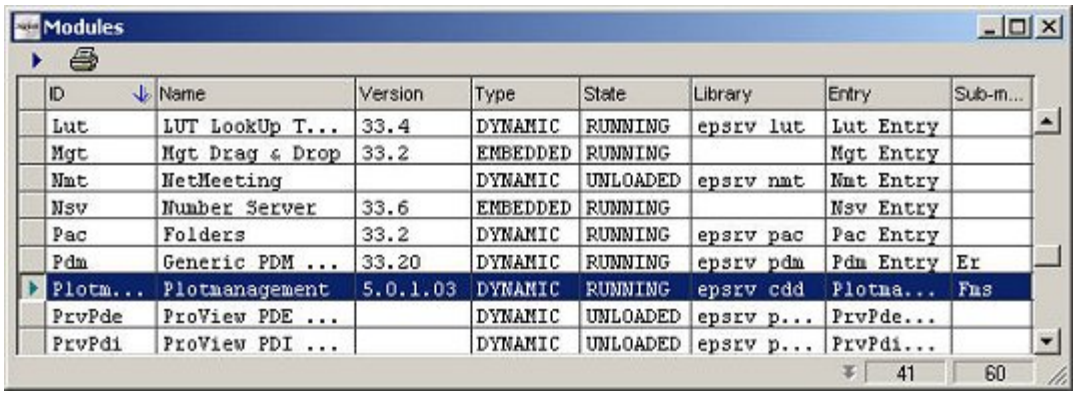
To make the plot management application library available for the server process, add a new section into your application environment file.

You can do this via the Agile e6 administration desktop:

1. Select “Manage existing environment”.
2. Follow the dialog to insert a new section.

Note You can also insert a new section into the application environment file in Agile_e6/init with an editor!

```
The following section entries are necessary:
<Custom>
…
<Cdd Name=”Plot Management” Library=”epsrv_cdd”
Startup=”immediately” Entry=”Plotmanagement_Entry”/>
…
</Custom>
```



(Manager > Monitor > Libraries)

License Control

The Plot Management module is part of the Product Data Management solution. Please activate the solution Product Data Management in the Available Licenses mask (System > Licenses).

In the current Agile e6 version the Plot Management is inhibited for the web client. To make the Plot Management available for the web client, please set the default parameter E6-PDM-PLT-{H} to ON.

Access to the Plot Order Function

In the shipped version, the user has access to the plot order interface through the document type masks (of type: DRAWING and DRAWFILE) and through the item and project mask.

If access to the plot management interface is required from other document types (forms or lists), please attach the selection CDD-PLOTTEN-CG to the related menu (NOS menu for forms or SEL menu for lists).

Update an Existing Installation

1. Open the Oracle SQLplus Worksheet. (Query-Analyzer for SQL-SERVER)
2. Execute the SQL file cdd_upd.sql with the following command:

   start cdd_upd.sql.

   A log file CDD_UPD.LOG will be created in the current directory.

Note Check the log file for errors. The following error may occur:

```
SQL> ALTER TABLE T_PAC_MUL ADD
  2  (
  3    CDD_FILE_SEL VARCHAR(2000)
  4  );
  CDD_FILE_SEL VARCHAR(2000)
  *
ERROR at line 3:
ORA-01430: column being added already exists in table
```

3. Start Agile e6.
4. Login with the user:

- plotkernel and the password PLOTKERNEL OR
- plotcusto and the password PLOTCUSTO.

5. Search in the list of number variants for the number variant PAC and write down the current number for later use.
6. Assure that the loader mode for this user is set to BIN.

   The following loader files have to be loaded:

- dtv_cdd.bin
- lgv_cdd.bin

- lgv_cdd_cust.bin

7. Load the files dtv_cdd.bin, lgv_cdd.bin and lgv_cdd_cust.bin with mode O (Overwrite).

Note If you use mode O, keep in mind that all previous data owned by the user plotkernel and plotcusto will be deleted prior to the loading process!
If you use mode O copy the logic model CDD_CUSTOMIZE first. It is also mandatory to load lgv_cdd.bin before lgv_cdd_cust.bin!

Note Please exit Agile e6 and login again as user plotkernel!

8. Set the number variant PAC to the value as described in step 2.
9. Adapt the logic model CDD_CUSTOMIZE.
10. In the shipment version the user has access to the plot order interface through the document type masks of the type DRAWING and DRAWFILE and through the item and project mask.

    If access to the plot management interface is required from other document types (forms or lists), please attach the selection CDD-PLOTTEN-CG to the related menu (NOS menu for forms or SEL menu for lists).