Agile
Version e6.0

ORACLE

Oracle Agile Engineering Data Management

Oracle Agile Engineering Data Management - MCAD Connector for Pro/Engineer – Version 3.7.2.0

User Manual

Part No. E12424-01

April 2008

Copyright and Trademarks

Copyright © 1995, 2008, Oracle. All rights reserved.

The Programs (which include both the software and documentation) contain proprietary information; they are provided under a license agreement containing restrictions on use and disclosure and are also protected by copyright, patent, and other intellectual and industrial property laws. Reverse engineering, disassembly, or decompilation of the Programs, except to the extent required to obtain interoperability with other independently created software or as specified by law, is prohibited.

The information contained in this document is subject to change without notice. If you find any problems in the documentation, please report them to us in writing. This document is not warranted to be error-free. Except as may be expressly permitted in your license agreement for these Programs, no part of these Programs may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose.

If the Programs are delivered to the United States Government or anyone licensing or using the Programs on behalf of the United States Government, the following notice is applicable:

U.S. GOVERNMENT RIGHTS Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the Programs, including documentation and technical data, shall be subject to the licensing restrictions set forth in the applicable Oracle license agreement, and, to the extent applicable, the additional rights set forth in FAR 52.227-19, Commercial Computer Software--Restricted Rights (June 1987). Oracle USA, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

The Programs are not intended for use in any nuclear, aviation, mass transit, medical, or other inherently dangerous applications. It shall be the licensee's responsibility to take all appropriate fail-safe, backup, redundancy and other measures to ensure the safe use of such applications if the Programs are used for such purposes, and we disclaim liability for any damages caused by such use of the Programs.

Oracle and Agile are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

The Programs may provide links to Web sites and access to content, products, and services from third parties. Oracle is not responsible for the availability of, or any content provided on, third-party Web sites. You bear all risks associated with the use of such content. If you choose to purchase any products or services from a third party, the relationship is directly between you and the third party. Oracle is not responsible for: (a) the quality of third-party products or services; or (b) fulfilling any of the terms of the agreement with the third party, including delivery of products or services and warranty obligations related to purchased products or services. Oracle is not responsible for any loss or damage of any sort that you may incur from dealing with any third party.

CONTENTS

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 Engineering Data Management 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.

TTY Access to Oracle Support Services

Oracle provides dedicated Text Telephone (TTY) access to Oracle Support Services within the United States of America 24 hours a day, 7 days a week. For TTY support, call 800.446.2398. Outside the United States, call +1.407.458.2479.

Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible, with good usability, to the disabled community. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Accessibility standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For more information, visit the Oracle Accessibility Program Web site at http://www.oracle.com/accessibility/ http://www.oracle.com/accessibility/.

Release Notes

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

This documentation may contain links to Web sites of other companies or organizations that Oracle does not own or control. Oracle neither evaluates nor makes any representations regarding the accessibility of these Web sites.

Introduction

Documentation

This documentation is intended to be sufficient to use the integration. It does not give in-depth information on the concepts and usage of Agile e6 or the CAD system.

For more information on that refer to the respective documentation.

Note   The information in this document is based on a standard installation.

Constraints

▫   Modification of the CAD structure and objects (e.g. create, move, delete, copy, etc.) is done in the CAD system. It represents the "Engineering Master".

▫   Agile e6 is the "Organizational Master" for managing CAD objects/structures with independent objects in the construction and release process of a company (e.g. single parts, drawings, 3D models) but not for individual CAD base elements (e.g. lines, surfaces, bodies, etc.).

Agile Pro/Engineer Integration

The Agile e6 Pro/Engineer integration (ECP) solution extends the CAD system Pro/Engineer to enable a controlled storing of models and drawings in Agile e6.

The main features of the ECP Connector is:

▫   Save – Saves native CAD data from the current session into Agile

▫   Load – Loads native CAD data from Agile into the current CAD session

▫   Manage Change – Allows users to control checkout reservation and revisioning

▫   Update Properties – Updates property (attribute) values in the title box between the CAD files and Agile using the so-called parameter transfer functionality

▫   Duplicate – Creates a duplication of an existing Agile object (parts/documents) and stores it under a new name.

▫   Create Viewables – Creates neutral format files, such as PDF, to be used for viewing, plotting, or manufacturing

▫   BOM Publication – Automatically creates and updates the Part BOM based on the CAD design structure, with Agile change control

Overview of the Basic Processes
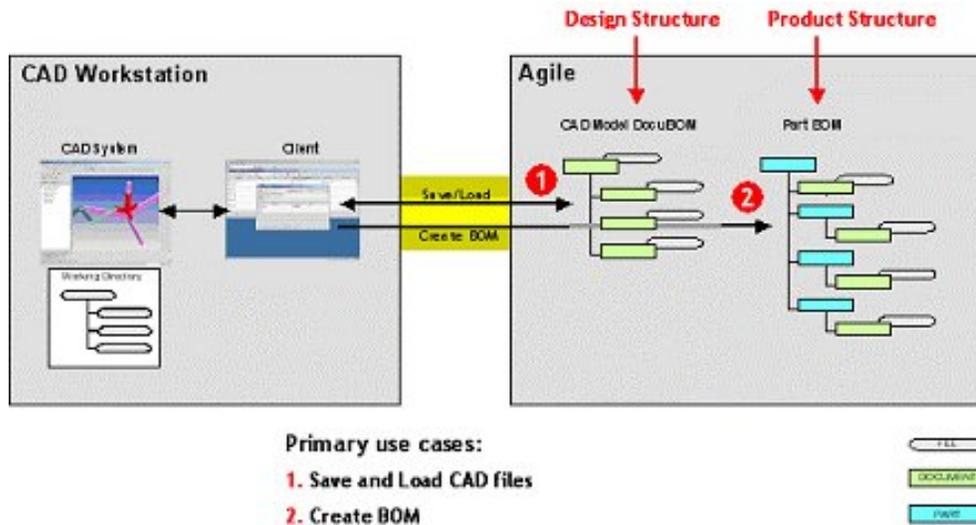
Save and Load CAD Files

CAD designs are created within the CAD system environment, with files in a working directory (which may be local or network attached). The designer saves into Agile, which creates a design structure that mimics the structure of the CAD assembly. The native CAD files are attached to this design structure, which is used as the basis for loading and re-saving the CAD designs. Since Agile is a centralized repository, all CAD designers in the enterprise have access to these files, subject to the control of Agile roles and privileges. Individual designers can set checkout reservations in Agile when they load files into their CAD session. Additional files such as viewables (PDF, TIFF, etc.) can be attached to the Design Structure.

Create a BOM

The designer may use the Create BOM command to create or update the Agile e6 BOM, representing the Product Structure either for all substructures or flat (i.e. only the first level).

To avoid unnecessary manual entries in the BOM, it is possible to merge standard parts and auxiliary parts. This function is used when an item representing the design structure already exists.

Creating and updating the BOM is performed in the background.

The BOM can also be updated with interaction. This enables to modify the appropriate information in Agile e6.

Key Features

Menu

A main menu has been added for PLM to the standard Pro/Engineer menu. This allows accessing the features of the integration. It is available within all modules of Pro/Engineer.

The standard menu structure of the integration is shown in the following diagram.
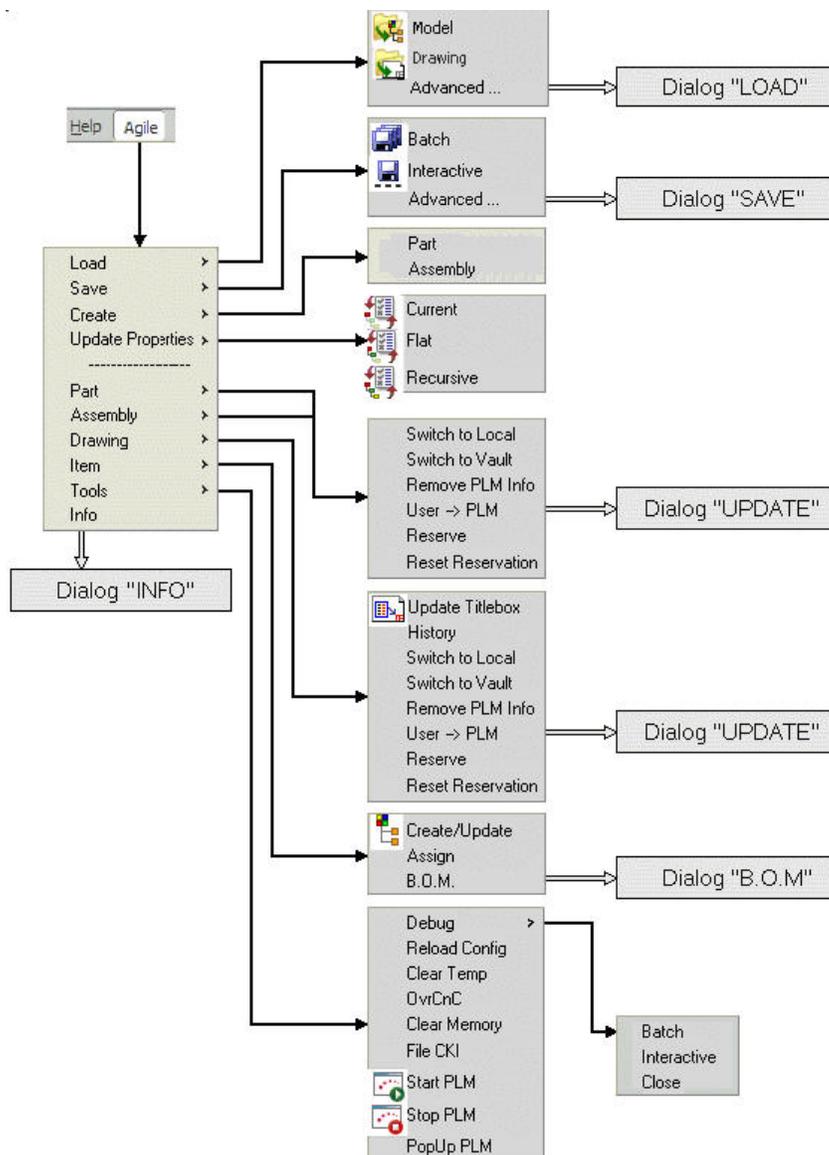
Additionally, a brief help description for each function is shown in the Pro/Engineer message window.

Functional Features of the Standard Menu PLM

Load

Load Model	Retrieves a model from Agile e6.
Load Drawing	Retrieves a drawing from Agile e6.
Advanced...	An additional dialog box enabling a more complex loading is displayed.

Save

Batch	Saves the active Pro/Engineer object, which is already known in Agile e6, and updates the meta data set in the background without user interactions (batch mode).
Interactive	Saves the active Pro/Engineer object, which is already known in Agile e6, and updates the meta data set in the interactive user mode.
Advanced...	An additional dialog box enabling a more complex saving is displayed.

Create

Part	Creates a new part in Pro/Engineer and a new meta data set to save this part in Agile e6.
Assembly	Creates a new meta data set to save the Pro/Engineer assembly in Agile e6.

Update Properties

Current	Updates the parameters of the active Pro/Engineer object.
Flat	Updates the parameters of the active Pro/Engineer object and (if any) for the children of the first level.
Recursive	Updates the parameters of the active Pro/Engineer object and (if any) for the children of all levels below.

Part

Switch to Local	Switches from saving the work with the fileserver to local saving.

Switch to Vault	Switches from local saving of the work to saving with the fileserver.
Remove PLM Info	Separates the active Pro/Engineer object from its Agile e6 metadata set. When the object is saved again to the Agile e6 vault, a new metadata set will be created (e.g. the new CAD-file receives a new document-ID). The old file name is still linked to the old metadata set.
User → PLM	The active Pro/Engineer object is added to an existing object in Agile e6. A check is run to ensure that the targeted data set is unique. If this check fails – i.e. more than one data set meets the search criteria –the correct data set has to be selected manually.
Reserve	Reserves the active Pro/Engineer object.
Reset Reservation	Disables the reservation of the active Pro/Engineer object.

Assembly

Switch to Local	Switches from saving the work with the fileserver to local saving
Switch to Vault	Switches from local saving of the work to saving with the fileserver
Remove PLM Info	Separates the active Pro/Engineer object from its Agile e6 metadata set. When the object is saved again to the Agile e6 vault, a new metadata set will be created (e.g. the new CAD-file receives a new document-ID). The old file name is still linked to the old metadata set.
User → PLM	The active Pro/Engineer object is added to an existing object in Agile e6. A check is run to ensure that the targeted data set is unique. If this check fails – i.e. more than one data set meets the search criteria –the correct data set has to be selected manually.
Reserve	Reserves the active Pro/Engineer object and its assembly structure.
Reset Reservation	Disables the reservation of the active Pro/Engineer object and its assembly structure.

Drawing

Update Titlebox	Updates the content of the titlebox (frame).
History	Adds history information from Agile e6.

Switch to Local	Switches from saving the work with the fileserver to local saving.
Switch to Vault	Switches from local saving of the work to saving with the fileserver.
Remove PLM Info	Separates the active Pro/Engineer object from its Agile e6 metadata set. When the object is saved again to the Agile e6 vault, a new metadata set will be created (e.g. the new CAD-file receives a new document-ID). The old file name is still linked to the old metadata set.
User → PLM	The active Pro/Engineer object is added to an existing object in Agile e6. A check is run to ensure that the targeted data set is unique. If this check fails – i.e. more than one data set meets the search criteria –the correct data set has to be selected manually.
Reserve	Reserves the active Pro/Engineer object.
Reset Reservation	Disables the reservation of the active Pro/Engineer object.

Item

Create / Update	Creates or updates an item.
Assign	Assigns the PLM dataset of a document describing a 3D-Model to an item.
B.O.M.	Creates or updates the BOM in PLM for an assembly.

Tools

Debug	Enables debug mode (Batch, Interactive, Close).
Reload Config	Reads the content of configuration files (e.g. EcpCustomer.ini).
Clear Temp	Removes all files from the local TMP-directory of the user.
OvrCnC	Overwrites the concurrent conflict when trying to save a Pro/Engineer object.
Clear Memory	Updates the internal memory lists.
File CKI	Enables checking in files.
Start PLM	Starts the Agile e6 client.

Stop PLM	Stops the Agile e6 client.
Popup PLM	Opens the Agile e6 client window.

Info

Info	Displays meta data set information about the current active object in Pro/Engineer.
	The button "ext Ref Info" opens an information window describing the external references (the content is comparable to the Global Reference Viewer of Pro/Engineer).

Save and Load CAD Files

The PLM system establishes Agile objects (parts/documents) for each CAD object. Its content derives from this object type (3D model, 2D drawing, item). Such Agile objects have a reference to at least one CAD file that can be stored in a dedicated vault or locally in the network.

Create, Load, and Save Objects

Create an Agile Object for a New Part / New Assembly

This ensures a consistent data management in an early state throughout the company. This example describes first how an Agile object is created in the PLM system and then how a drawing is created in CAD system and a file is attached to the Agile object.

1. Select from the Pro/Engineer main menu PLM > Create > Part / Assembly.

    The PLM window is opened and displays a standard form containing the default metadata of the new part /assembly.

2. Fill in all mandatory fields and save the entry.

ECP automatically adds the following information to the mask:

- □ File name (Pro/Engineer model name)
- □ Search path
- □ File type

The following entries are made in the PLM document history:

- Creator
- Date of creation
- Creation system

3. The Pro/Engineer window is opened and the new part / new assembly is ready for editing.
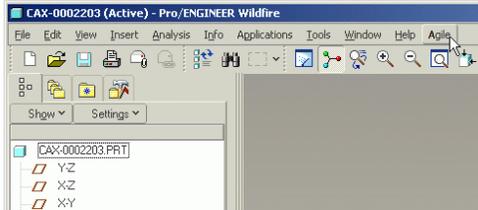
4. To store the part / assembly, select Agile > Save > Batch.

The CAD file will be checked into the vault. This prevents to reopen the form containing the respective Agile object.

All necessary parameters are updated.

Note	If you want to modify the information of the Agile object (e.g. the description), select Agile > Save > Interactive.

Load a Pro/Engineer Object

You can load any Pro/Engineer object managed by Agile e6, provided that the object is known in Agile e6 and the file is stored in a vault.

When loading objects the following options are available:

- □ 3D-model: PLM > Load > Model

- □ Drawing: PLM > Load > Drawing

- □ Dialog Window: PLM > Load > Advanced

Load with Advanced Mode

With the "Advanced" mode further criteria for loading objects (e.g. load model in design view) can be combined. The following combinations are not possible:

- □ "Fast retrieve" AND "Baseline"

- □ "Simplified Representation" AND "Open Top"
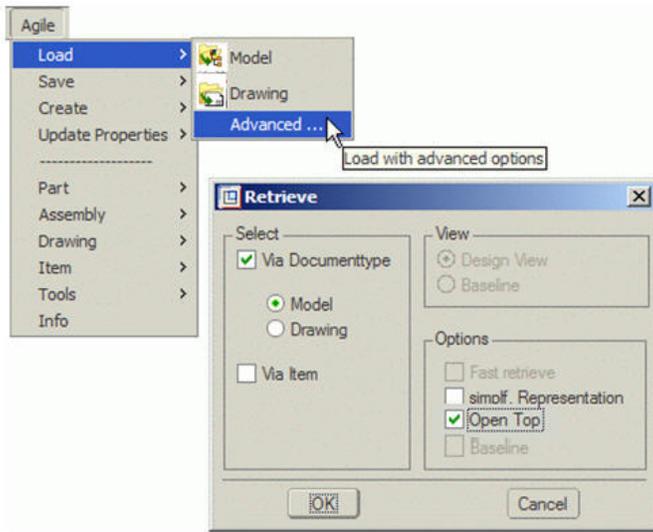
The CAD manager can initialize this dialog window with default values using the section "Initialize" in the file EcpCustomer.ini.

Note   Important information about the loaded objects can be found in the Pro/Engineer message line.

Save a Modified Pro/Engineer Object

If the Pro/Engineer object has been modified in the CAD system, you need to check in the changes into the PLM system and update the Agile object. This can be done in standard mode (with default settings), or in advanced mode (manually defining the save criteria).

Save in Standard Mode

A modified object is already known in the PLM system. A document record containing the Agile object already exists.

You can save with the default settings (e.g. the automatic number generator) in Batch mode.

Note   If saving the object via network to the central PLM vault is too slow, store this object in a local directory <cax_work> which is also managed by Agile e6 — select Agile > Object > Fileserver > Local.
If you then want to use the vault, select Agile > Object > Local > Fileserver.

Save in Advanced Mode

With the "Advanced" option you can combine further criteria for saving objects.

Select Agile > Save > Advanced.
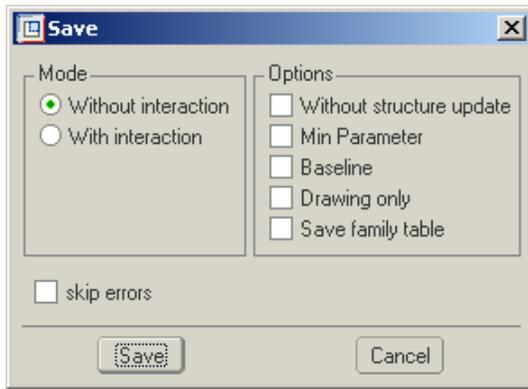
The possible options depend on the actual context. Irrelevant fields are grayed out

Note   In order to use the "Baseline" option, your CAD-manager needs to adapt the general setting. He also must decide whether the option "skip errors" is activated by default or not. If activated, no further inquiry follows, especially in case of an access problem. The faulty object is skipped.

Update a Pro/Engineer Drawing

The content of company specific frames can be supplemented with data stored in Agile e6. This is an aspect of the parameter transfer functionality. It is also possible to transfer parameter data using the integration.

To update the titlebox content with data stored in Agile e6, select Agile > Drawing > Update Titlebox.
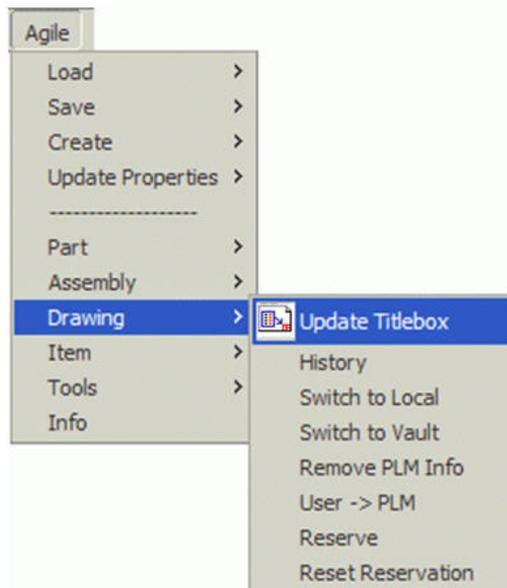
| Note | The content of titlebox fields like document number, document name, creator's name, and date is stored in Agile e6.Therefore, you always have to use the PLM system when changing some of this content! |

To store an updated drawing select Agile > Save > Batch. Necessary data of this object and its drawing are already known in the PLM system.

Duplicating an Object Known in PLM

Sometimes development efforts can be reduced by starting with known objects and modifying them. These objects are already stored in Agile e6.

1.   Load the desired 3D model using the PLM system.

2.   After this select Agile > Part / Assembly > Remove PLM Info.

3.   The loaded active object is no longer known in Agile e6.

4.   Select Agile > Save > Interactive.

5.   A blank 3D-model mask is opened in the PLM client.

6.   Fill in the mandatory fields and save it.

7.   The duplicated object is checked in and the Pro/Engineer window is opened again.

Assign a User Object to PLM Data

It is possible to assign a user object to an existing PLM metadata set (a PLM document).

1.   Select Agile > Part / Assembly > User -> PLM.

 The Update window is opened.
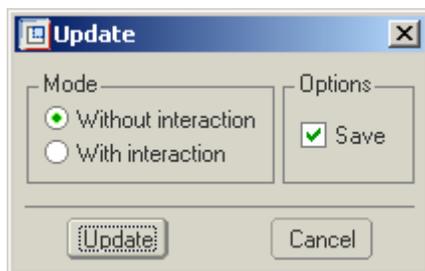
- With interaction – enables to modify the information in PLM.
- Without interaction – enables to save immediately.

2.   Click Update.

Create BOM

If a CAD object is known in PLM than it is possible to create a PLM data set describing an associated item. Of course this does not work with generic objects but with each member of the family table that represents a physical part.

Create / Update an Item

1. Select a Pro/Engineer object and select Agile > Item > Create/Update.

2. This opens the Item mask in edit mode in PLM.

3. Fill in all mandatory fields of the new part and save the entry.

Assign an Item

It is also possible to create an item in PLM first and then assign a 3D model

1. Select Agile > Item > Assign.

2. PLM then runs a test to check if this relationship already exists. If not, an empty Item List is opened in PLM.

3. Search for the desired item.

4. Create the relation. Select Load to CAD > Selection to CAD from the context menu.
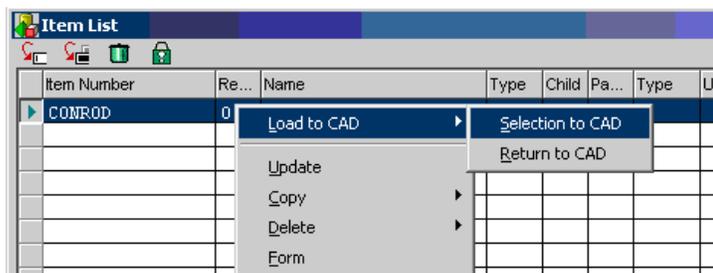
Generate a BOM

1. To assign a Bill of Material, select Agile > Item > B.O.M.

The B.O.M. window is opened. The BOM list can be create in the background (Without interaction) or interactively (With interaction).
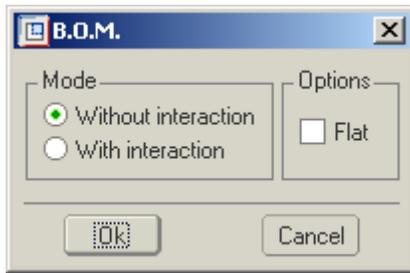
- □ **With interaction** – enables to modify the information in PLM.
- □ **Without interaction** – enables to save immediately.
- □ **Flat** - to get a flat BOM, i.e. only at the first level or a multilevel BOM.

Monitor the Integration

1. To activate a detailed monitoring of all activities, select Agile > Tools > Debug > Batch.

   All activities running internally will be written into 2 trace files:

   - cax_<processnumber>.trc
   - ecp_<processnumber>.trc

Note   You can also select Agile > Tools > Debug > Interactive.
            Compared to the Batch mode in the Interactive mode every step is reflected in the trace
            file and in the Pro/Engineer message line. When saving an object, an additional form is
            opened in the PLM window, describing the files to be checked in and associated to the
            PLM document. It allows to supplement several information before completing the check
            in process.

2. To finish monitoring, select Agile > Tools > Debug > Close.

   The trace files are finished. It is recommended to trace only problems in a session.

Note   To get the actual settings of your session using the above features, start debugging in
            batch mode and select Agile > Tools > Reload Config.
            All settings will be written into the trace file.

3. Close the debug mode.

Appendix

Getting Information

To get information about the current object, the current assembly structure, or all objects in the CAD session, select Agile > Info.

The following window is opened:
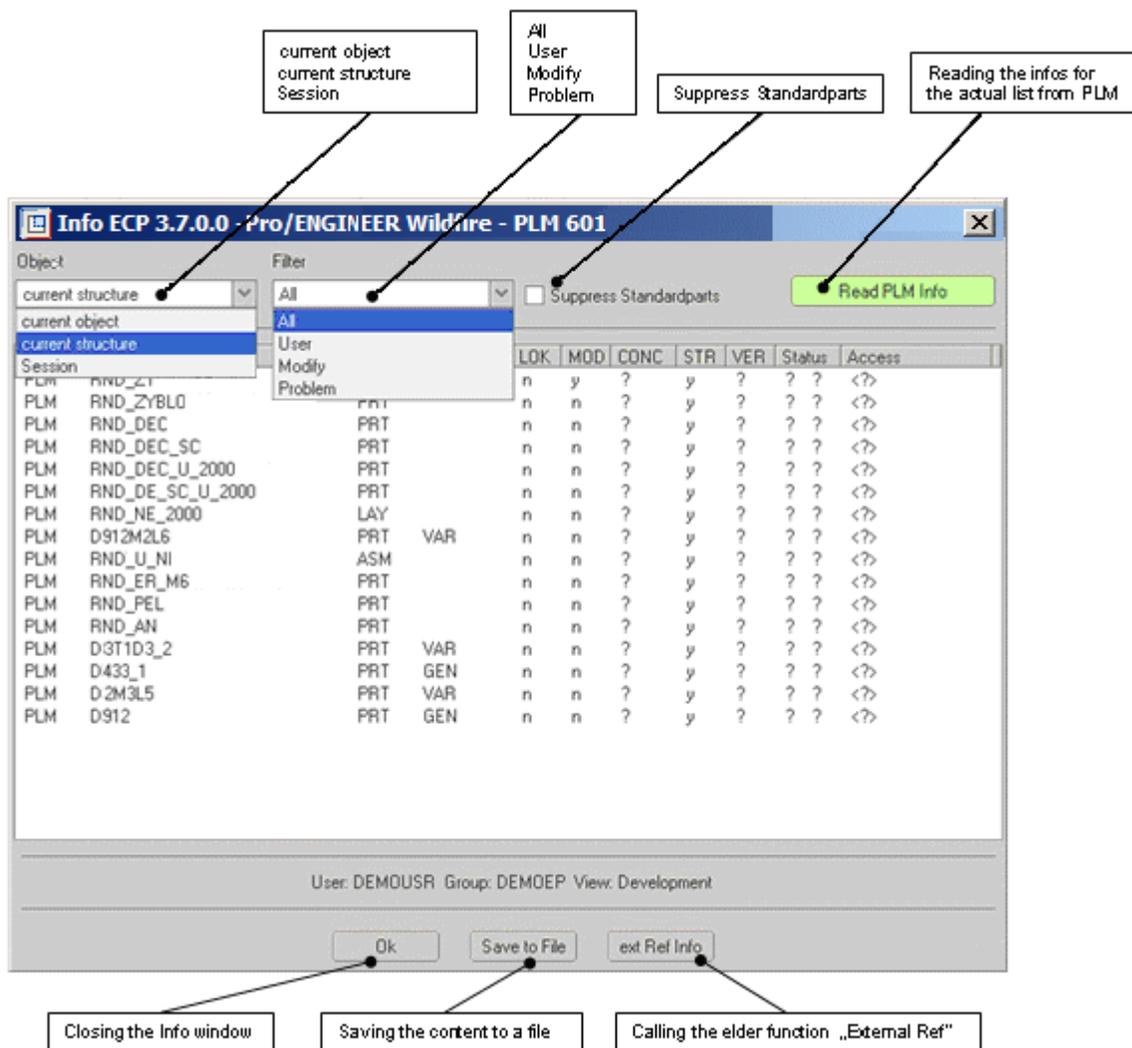
This window displays information about the current object. If a connection exists to PLM, the object information is retrieved automatically.

If "current structure" or " Session" is selected using the object selection, only the information within the ECP is displayed in the information list (no data exchange with PLM). The list is generated very quickly, even in case of larger structures.
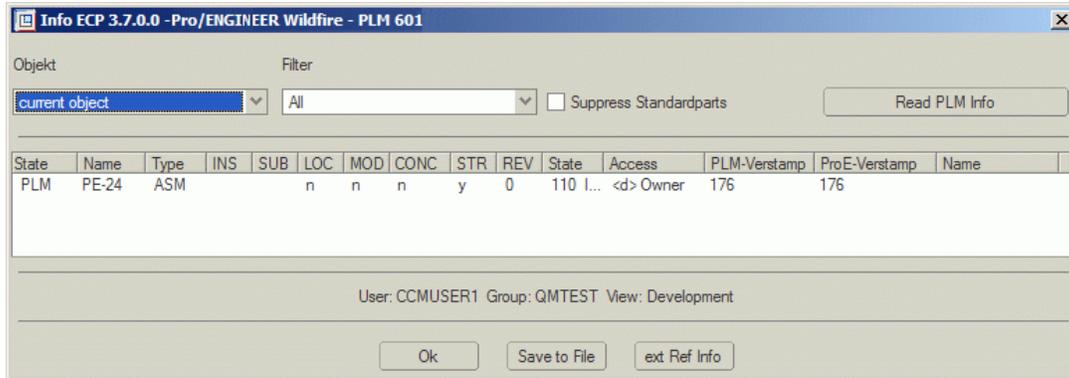
The PLM data can be read out by pressing the Read PLM Info button; this always refers to the entries in the list that are currently displayed.
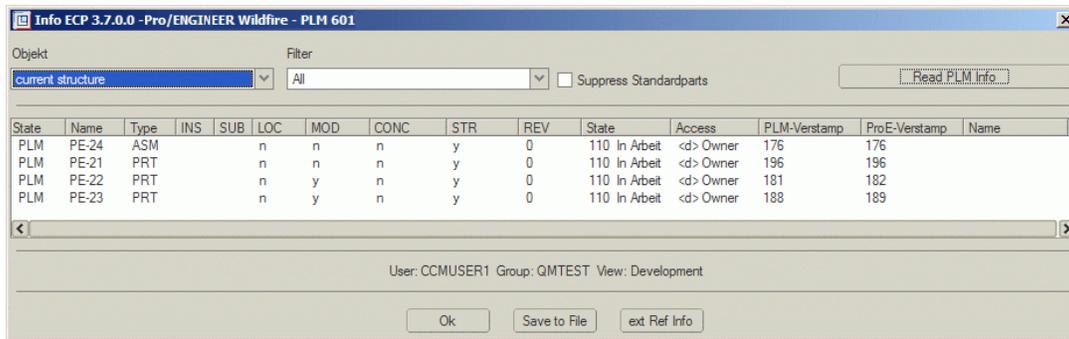
Use the filter selection to reduce the list of objects.

- VAR: Indicates whether an object is a instance (VAR) or generic (GEN)
- VER: Version number in PLM
- Status: Current status in PLM

If an object is reserved, the user ID of the person who reserved it is displayed in the Access column.

Optionally, a Pro/Engineer parameter can be displayed in the last column of the list. The name of this parameter is defined in EcpCustomer.ini ("Initialize" section):

EcpInfoCustParameter = NONE   or   <NAME of the parameter>

In addition to the USER/PLM status, there is a new status "???" for objects that have not been found (because in the current version view it is not visible or it has been deleted). These objects are always shown if the "Problem" filter is used (regardless of whether they have been modified or not).

To read out the information for objects that are invisible due to the current version view, an extra button "Read global view Info" can be displayed in the Info function. To initialize this, insert the

following line in EcpCustomer.ini ("Initialize" section):

EcpUIInfoDialog = ecpinfo2
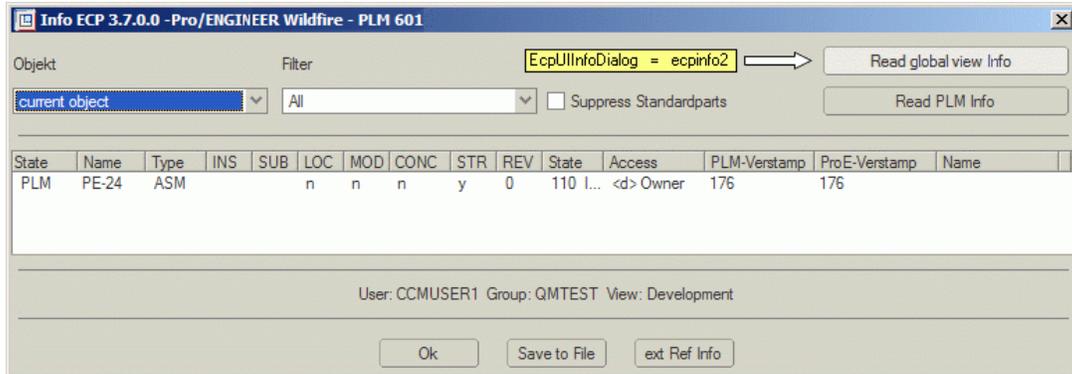
Read globale view Info: Dieser Button hat einen Tippfehler. Es muss nur global heißen. Bitte ändern und Screenshot erneuern.

The ext Ref Info button calls the previous function "External Ref" after closing the Info dialog box.