Oracle Agile Engineering Data Management

Oracle Agile Engineering Data Management - MCAD Connector for SolidEdge Version 3.4.0.0 Installation and Administration Manual

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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.

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Screen readers may not always correctly read the code examples in this document. The

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Chapter 1

Introduction

Overview

This manual describes the installation, configuration and customizing options for the Agile e6 SolidEdge integration (CCH). The information in this document is related to the standard installation so the actual appearance of your installation may vary.

Note	For additional information on Agile e6 e.g. Installation or File Management refer to the Agile e6 documentation on the Agile e6 product CD or the Agile Documentation Website at https:\docs.agile.com (requires a user/password).
Note	For additional information on SolidWorks refer to SolidWorks documentation on the appropriate product DVD.

Architecture

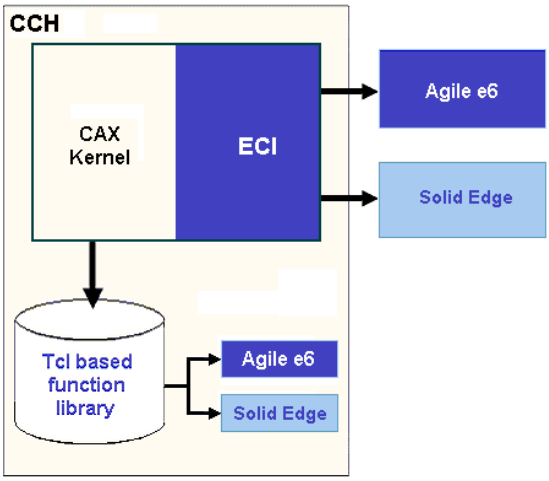
The architecture of the integration between Agile e6 and SolidEdge is based on the Object Linking and Embedding (OLE) software technology created by Microsoft. Therefore, a central component of the CCM-integration is the so-called “Cax-OLE-server” (CaxOleSrv.exe).

The communication between the SolidEdge (as the OLE-client) and the Cax-OLE-server is realized by the Remote Procedure Call protocol (rpc).

So-called ECI functions (ECI = External Communication Interface) are used to realize the Interprocess Communication (IPC)-based on Application Programming Interface (API) of Agile e6 to link to the CAD systems SolidEdge.

It enables a close interaction between the CAD system and the database. This is called “CAX”, an acronym that simply adds the idea of “eXtensibility” to the familiar acronym “CAD”.

The following figure shows the simplified architecture of the integration between SolidEdge and Agile e6:



Manipulations of the CAD structure or of CAD objects (such as creating, interconnecting, deleting, copying, etc.) are performed from the CAD system. The CAD system represents the “Engineering Master”.

Agile e6 is the „Organizing Master“ that manages the CAD objects/structures, which are significant as independent objects in the construction/design sequence of a company (such as piece parts, drawings, 3-D models), but no individual CAD elements (such as lines, areas, bodies, etc.).

Chapter 2

Installation

Note	After a correct installation, a basic structure of the integration is running. The original files, especially the text files containing default values should NOT be changed.

The installation of the Agile e6 SolidEdge integration CCH is divided into several steps. Performing the steps in the proper order is important for correct operation.

The following steps must be carried out:

1. Prerequisites
2. Checking the Prerequisites
3. Unpacking the Archive File
4. Customizing Vault Options
5. Deinstallation

Prerequisites

The Agile e6-SolidEdge integration is currently available for several hardware platforms and operating systems.

For a complete and most current list of all officially supported platforms, see the Release Notes.

Checking the Prerequisites

- Agile e6 is installed and running.
  For running the integration, the following Agile e6 licenses are required as a minimum:
  - Technical Document Management Solution
  - Product Data Management (PDM) solution for managing items and bills of material based on the SolidEdge structure
  - DataView development license if you want to customize your integration
- A license for using the CCH connector is registered and available on the FELICS license server.
  You can obtain the required licenses from the Agile Sales Representative.
- A user with administrator privileges is logged into the operating system.
- The Agile e6 file management service (FMS or DFM) works properly.
- A user environment is already set up in Agile e6.
- Agile e6 users for logging into the system and for testing (test user with password) are created.
- Solid Edge is installed and can be started properly.
- The Solid Edge integration requires a concurrent license for the following module: CCH ...

#003147.

Unpacking the Archive File

To install the CCH integration, extract the delivered zip-file to any path, e.g. C:\AgilePLM\cch

When you unzip, make sure that you retain the folder paths from the zip file. When the files are unzipped, you should see the following folder structure in the directory you specified for unzipping:

Main Directory	Sub-directory	Sub-directory	Description
\server			Software concerning the CaxOLE-server
	\Scripts		Start scripts (*.bat) and internally used scripts (*.tcl)
		\TclLibrary	Required software to run Tcl
		\Txt	Message texts and menu texts (*.txt)
	\Dll		Contains binary library files
	\Loader		Contains a loader file (in ASCII format) for the LogiView logic model "CAX". One-off it has to be added ("loadered") to the used PLM environment of the server if it is not present there yet. The containing procedure CaxDisplayDocument enables to display the metadata set in an Agile document form when selecting the menu "Display document metadata set".
	\MSXML		Contains the installer package for Microsoft XML Parser (MSXML). Needed to be launched if this parser is not yet installed on the local machine.
\Solid Edge			Required binary libraries and executable files

Now the integration is installed and works with an Agile e6 standard environment (standard dump).

Customizing Vault Options

The default name of the used vault is “PROE” (capitalized). If you want to use another name, you need to change it in Agile e6.

Note	How to set up a vault can be found in the Agile e6 documentation.

Deinstallation

To uninstall the integration software follow the steps below:

1. Run the batch script unregisterSE.bat

Command Line of File unregisterSE.bat	Description
regsvr32 -u SolidEdge\agilePLMSEClient.dll	The runtime library PLMSEClient.dll will be unregistered in the operating system.
Server\CaxOleSrv.exe /unregserver	The executable program CaxOleSrv.exe will be unregistered in the operating system.

2. Delete the complete directory tree of the CCH integration manually.

   The tree is the result of unpacking the delivered .zip file at installation.

3. Delete the temporary local Check-out directory.

Chapter 3

Configuration

When the integration is set up correctly, it works in default mode. The behavior of the integration can now be configured.

Running the Command Procedure registerSW200<x>.bat

There are three executable files in binary format CaxOleSrv.exe, agilePLMSEClient.dll, and SExml.dll. To ensure the CCH integration works automatically with those files they have to be registered.

The way to accomplish this is to run the command procedure registerSE.bat once.

Command Line of File registerSE.bat	Description
.\Server\setenv.exe CaxOleLanguage=EN	The content of the operating system variable CaxOleLanguage is set permanently to EN (no reboot is necessary). Note – If it should be set to German (DE) edit the batch script before running the integration. Replace EN by DE
.\Server\setenv.exe CaxOleScriptDir=%~dp0%Server\Scripts	The content of the operating system variable CaxOleScriptDir is set permanently to "%~dp0%Server\Scripts" (no reboot is necessary).
regsvr32 SolidEdge\PLMSEClient.dll	The runtime library PLMSEClient.dll is registered in the operating system.
regsvr32 SolidEdge\SEXml.dll	The runtime library SEXml.dll is registered in the operating system.
Server\CaxOleSrv.exe /regserver	The executable program CaxOleSrv.exe is registered in the operating system.

When the process CAX-OLE-server is running, a small symbol (a globe) is displayed in the task bar at the lower right corner of the screen.

This process will be closed always automatically at the end of a SolidEdge session. Only after running the batch file registerSE.bat, it has to be closed manually by right-clicking on the globe symbol and choosing "Exit".

Next, the file …\Server\Scripts\dtv.bat has to be edited to adapt in the first command line the path name of the dataview command directory.

Finally, the file 3DCADMapping.ini has to be edited. Its content defines essential integration settings.

Note	Avoid blank lines in this file! At least a semicolon (used as comment sign) has to be placed at the start of the line.

Make sure the lines starting with "-Djava." or "-Dagile." at the beginning of that file should always preceeded with a semicolon to mark them as comments. They are only used for the integration to Agile9.

The complete path name (i.e. drive + path) of the directory containing the local logfiles is defined in section [LogFileDir].

Defining the Temporary (Transfer) Directory

When installing the integration a temporary directory for the file transfer has to be defined in the file „3DCADMapping.ini“. The directory D:\axalanttmp\ is the default. The directory name is assembled from the content of two sections. In section [CheckOutDisk] the drive character inclusive the colon is defined. In section [CheckOutPath] the path is defined.

```
;
[CheckOutDisk]
;
D:
;
[CheckOutPath]
;
\axalanttmp\
;
```

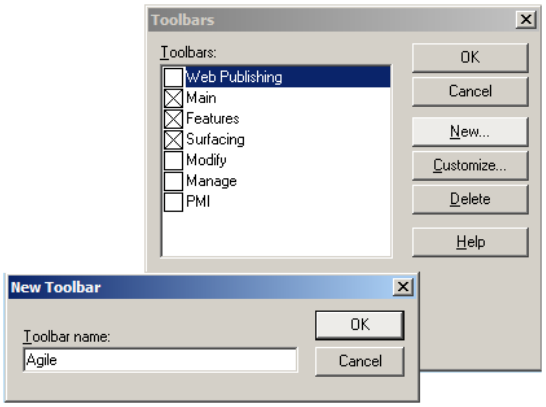
Keep in mind that for the check-out of large assemblies enough space should be available temporary.

Creating Own Toolbar

It is necessary to pass through one-off the following steps in order to create a context-sensitive Agile toolbar for every type of CAD object.

1. Select View > Toolbars > Toolbars

   The Toolbars window is opened..

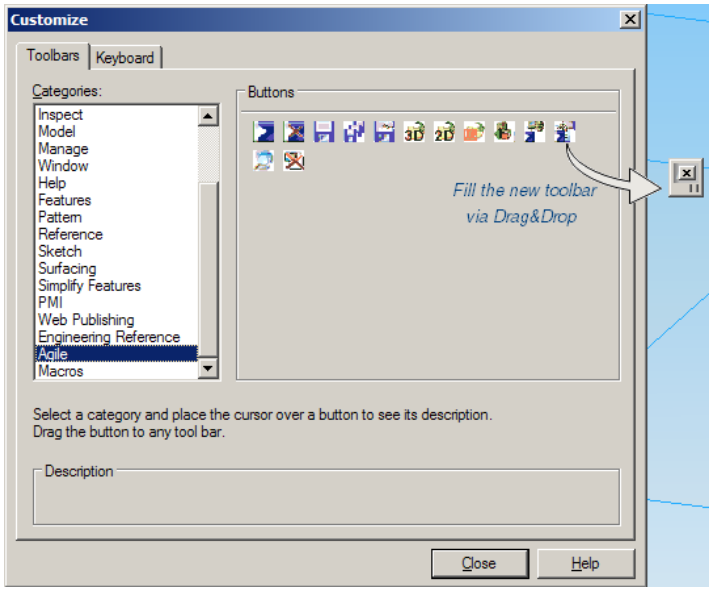


2. Click New.

   The New Toolbar window is opened.

3. Type Agile and click OK.

   The Customize window is opened.



   The empty Agile toolbar is placed right beside it.

4. From Categories select Agile.

   Icons assigned to Agile are displayed.

5. Drag & drop the icons onto the empty Agile toolbar.

6. Click Close.

Note	This can be repeated for any context.

Data Model in Agile e6

The standard configuration of Agile e6 already contains the tables and fields that are required for the integration and corresponding allocations in the standard masks.

Standard Tables and Fields

In order to facilitate specific adaptations, the database fields that are required for the integration sequence are listed here.

Table	Field	Type	Description
T_DOC_DAT	CAX_TYPE	S20	CAX Object type
	CAX_SUBTYPE	S20	CAX subtype
	CAX_TIMESTAMP	S20	Time stamp
	CAX_CRE_SYSTEM	S40	Creator system
	CAX_FIL_PATH	S255	File path
	CAX_FIL_NAME	S255	File name
	CAX_FIL_OLD_PATH	S255	Old file path
	CAX_FIL_OLD_NAME	S255	Old file name
T_DOC_STR	UG2_IDENT	S40	Structure ident
	CAX_COM	S255	Component name
	CAX_REF	S255	Reference
T_MASTER_STR	UG2_IDENT	S40	Structure ident
T_MASTER_DOC	CAX_CONFIG	S20	Configuration

The fields can be arranged as required within the masks. It is important that the virtual column width of the fields (B/vir) has a sufficient size.

The fields must exist in the Agile e6 masks. With the exception of CAX_TYPE and CAX_CRE_SYSTEM, the fields can be arranged in that way that they are not visible to the user. The user does not need any write privileges to these fields.

Standard Masks

The following masks are used in the Agile e6 standard:

Mask	Field
EDB-DOC-DRW-TFR and EDB-DOC-DRW-TLI	T_DOC_DAT.CAX_TYPE T_DOC_DAT.CAX_SUBTYPE T_DOC_DAT.CAX_CRE_SYSTEM T_DOC_DAT.CAX_FIL_PATH T_DOC_DAT.CAX_FIL_NAME T_DOC_DAT.CAX_TIMESTAMP T_DOC_DAT.CAX_FIL_OLD_PATH T_DOC_DAT.CAX_FIL_OLD_NAME
EDB-DOC-3DM-TFR and EDB-DOC-3DM-TLI	T_DOC_DAT.CAX_TYPE T_DOC_DAT.CAX_SUBTYPE T_DOC_DAT.CAX_CRE_SYSTEM T_DOC_DAT.CAX_FIL_PATH T_DOC_DAT.CAX_FIL_NAME T_DOC_DAT.CAX_TIMESTAMP T_DOC_DAT.CAX_FIL_OLD_PATH T_DOC_DAT.CAX_FIL_OLD_NAME
EDB-DOC-CFR	T_DOC_DAT.CAX_TYPE T_DOC_DAT.CAX_SUBTYPE T_DOC_DAT.CAX_CRE_SYSTEM T_DOC_DAT.CAX_FIL_PATH T_DOC_DAT.CAX_FIL_NAME T_DOC_DAT.CAX_TIMESTAMP
EDB-DOC-CFR	T_DOC_DAT.CAX_FIL_OLD_PATH T_DOC_DAT.CAX_FIL_OLD_NAME
EDB-DOC-STR-RLI and EDB-DOC-STR-ALI	T_DOC_STR.UG2_IDENT T_DOC_STR.CAX_COM T_DOC_STR.CAX_REF
EDB-ART-STR-RLI	T_MASTER_STR.UG2_IDENT

EDB-ART-DOC-RLI and EDB-ART-DOC-ALI	T_MASTER_DOC.CAX_CONFIG

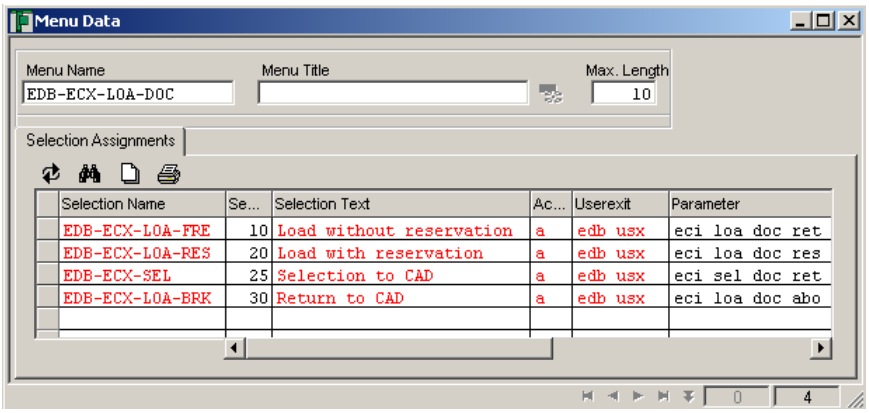
Note To increase the performance of the integration, an additional database index should be applied to the field T_DOC_DAT.CAX_FIL_NAME can be created with a unique name, e.g.CAX_FIL_IND.

Selection to CAD

The Agile e6 standard configuration already contains the necessary selections in the internal menu EDB-ECX-LOA-DOC.

If, due to specific customizing, another mask must be customized, „Selection by CAD“ should be set up accordingly.

This is used either for loading the selected object to the application or for cancelling the loading process and returning to the Solid Edge window.



Chapter 4

Debugging

The most profound view into the integration's functioning enables tracing the ECI-calls which are sent from the local Agile client to the connected Agile server including the responds. A file is created on the Agile server machine which can be viewed by user using the client.

It is possible to start and to stop the ECI-trace at any time during the session.

The trace function is activated in Agile e6:

1. Click Tools > Trace > Select Module
2. Select the checkbox for ECI-Module E 9.
3. Click OK.
4. To start the trace log any time during the session, click Tools > Trace > Trace New .

   The name of the new trace file is displayed in the message bar (e.g. Test output on D:\AgilePLM\tmp\tst173.trc).

Note	The file location is that on the Agile server machine!

5. Execute the process you want to test/trace.
6. To end tracing, click Tools > Trace > Trace Off.
7. To display the contents of the trace file in a list, click Tools > Trace > Show trace.

   You can copy and paste the trace contents into an Excel file and save it locally.

Note	The information in the trace file can be extended by e.g. adding SQL statements.

Chapter 5

Appendix

Additional Sections of the Mapping File 3DCADMapping.ini

The mapping file 3DCADMapping.ini was extended.

[JNIOPTIONS]	For internal use only!
;	All lines in this section must start with a semicolon (made as comment).
;	
[ActiveChangeManagement]	For internal use only!
;	
;1	
;	
[BatchJobSleepTime]	For internal use only!
;	
1000	
;	
[LoadPropertyUpdate]	For internal use only!
;	
1	
;	
[LoadSaveOption]	Enables to predefine the default settings for load and save procedures.
;	Save: 0 = Standard / 1 = Batch / 2 = Interactive
Save = 0 0/1/2	Tif, Dxf, Bmp: 0 = Not activated / 1 = Activated
Tif = 0 0/1	
Dxf = 0 0/1	

Bmp = 0 0/1 ;	
[PDFAddin]	For internal use only!
[ResetReservation] ;	Enables to predefine the default setting for the checkbox Unset Reservation in the information window Save Preview.
1 ;	0 = Nnot activated /1 = Activated
[SavePreview-AutoPlmInfo] ;	Triggers the behavior when the information window Save Preview is filled. 0 = The additional information from PLM is displayed after clicking PLM Info
1 ;	1 = The additional information from PLM is displayed immediately for each listed object. Note: Performance-loss happens especially for big assemblies.
[SaveProgress] ;	Triggers the logging of the Save processes.
0 ;	1 = The file Log.txt is written in the check-out path every time when the save process runs.

The following sections must be present in the mapping file 3DCADMapping.ini. This is checked at each start of the CaxOleServer.exe. The program exits with an error message if such a section cannot be found.

- [CreateDocument3DModelQuick]
- [CreateDocumentDrawingQuick]
- [ChangeDocument3DModelQuick]
- [ChangeDocumentDrawingQuick]
- [CheckIn3DModelEPRT]
- [CheckInDrawingEDRW]
- [ChangeItem]
- [CreatePartViewFile]
- [CreateAssemblyViewFile]
- [CreateDrawingViewFile]

- [GetProperties3DModel]
- [GetPropertiesDrawing]

Title Box

The title box can be filled with metadata information from Agile e6. It requires a drawing template that contains the corresponding element details. The integration takes the information from the Agile e6 database text content (reference text) and places it for the respective object.

For a standard installation, the following Agile e6 objects can be exchanged:

- Document
- Document history (for the drawing)
- Item

Note	It is also possible to assign SolidEdge properties to Agile e6 fields.

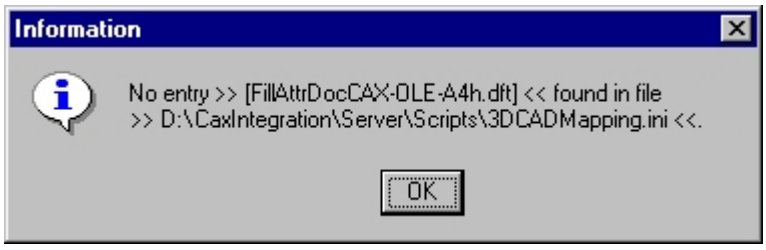
Information control for SolidEdge data transfer is performed using Tcl scripts (Tcl = Tool Command Language). The customization for this behavior is done in 3DCADMapping.ini which is located in your installation directory ..\CaxIntegration\Server\Scripts.

The bi-directional transfer of values is linked to the name of the drawing template. This means in case of the usage of the standard template, you get "Normal" as name. If custom templates are used with special names, you need to add all appropriate sections to the mapping file.

For example, if the drawing template name is CAX-OLE-A4h, copy all sections with ...Normal... to ...CAX-OLE-A4h... As a result you have now 10 new sections in your mapping file, i.e.:

```
FillAttrDocCAX-OLE-A4h.dft]
...
[FillAttrDocHisCAX-OLE-A4h.dft]
...
```

If a section is missing, you will get the following message:



Note	All user defined properties should be initialized by the system. Thus, the following properties need to be added to the section [FillAttrInitPropertiesNormal.dft].

- Property_1 = NULL
- Property_2 = NULL

- Property_3 = NULL

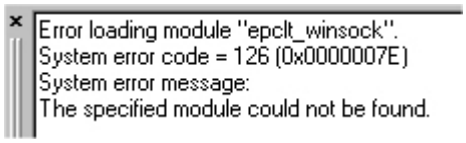
Error Handling

Error Starting Agile e6 from SolidEdge

If Agile e6 does not start from inside SolidEdge, the problem can be found in most of the cases in the file …\Server\Scripts and start the file dtv.bat. For more information regarding this file, please refer to the Agile e6 documentation.

Error Message when Starting Agile e6

If Agile e6 starts with an error message in the message window (see screenshot), the PATH variable needs to be expanded in the Agile e6 start batch file:



8. Go to …\Server\Scripts and open the file dtv.bat.
9. Extend the first line

   set AXA_ROOT=C:\Agile_e6\ext\bin\intel-ms-nt5.0

   by

   set AXA_ROOT=C:\Agile_e6\ext\bin\intel-ms-nt5.0;C:\Agile_e6\axalant\bin\intel-ms-nt5.0

Note	This is only an example! The correct drive and directory of your system has to be entered in here.

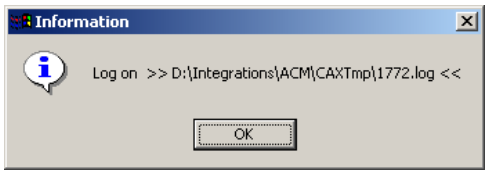
Additional Error Handling

1. Select the CAX/OLE icon with the right mouse button.

   The context menu is opened.

2. Click Debugging.

   An Information window is opened.



3. To monitor a log file for error tracking purposes click OK.

Note This action can also be deactivated.

Error Message

When the message ‘Error Creating CaxOleSrv.Application Object” appears, ensure that the paths specified in your system environment are set correctly. If necessary, restart the computer. Then manually start the CAX/OLE server from …\Server and stop this with the menu function Exit of the CAX-OLE server context menu.