

Agile

Version e6.1

ORACLE®

# **Oracle Agile Engineering Data Management**

**MCAD Connector for SolidWorks - Version 2.9.1.0  
User Manual**

Part No. E14017-01

November 2008



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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) (<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.

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**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) (<http://www.adobe.com>).

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**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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## 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.

## 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_eseries.html) ([http://www.oracle.com/technology/documentation/agile\\_eseries.html](http://www.oracle.com/technology/documentation/agile_eseries.html)).

## Agile Training Aids

Go to the [Oracle University Web page](http://www.oracle.com/education/chooser/selectcountry_new.html) ([http://www.oracle.com/education/chooser/selectcountry\\_new.html](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.

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# Introduction

## Documentation

This documentation is intended to be used with the integration. It does not give in-depth information on the concepts and usage of Agile e6.1 or the CAD system.

For more information on that refer to the respective documentation.

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

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## 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 e6.1 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.).

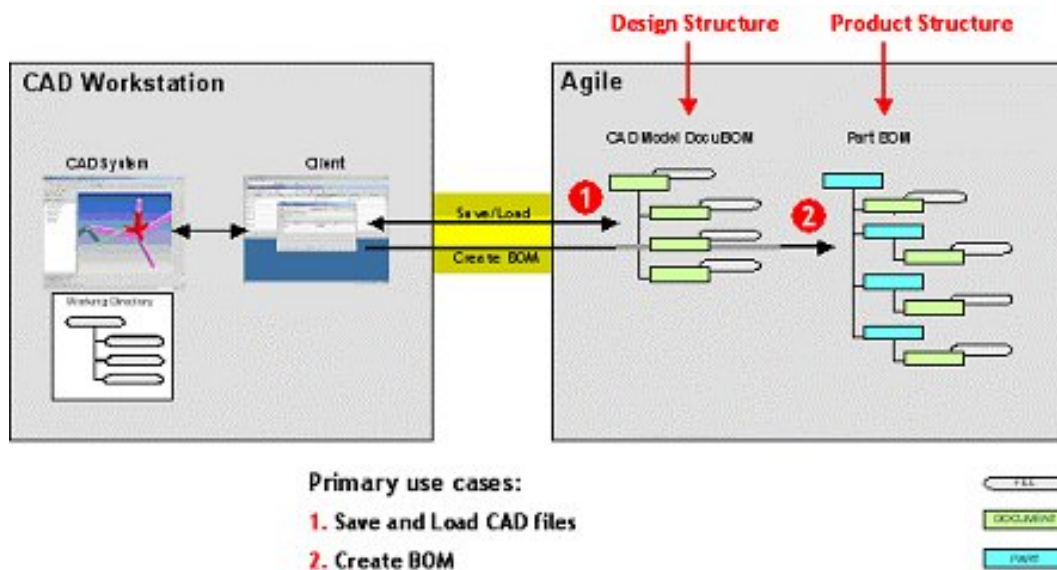
## Agile SolidWorks Integration

This integration facilitates the management of SolidWorks parts, components and drawings and metadata information in Agile e6.1. Files created in SolidWorks will be checked into Agile e6.1 file vault and managed with additional meta information.

The main features of the SolidWorks integration are:

- **Save**  
Saves native CAD data from the current session into Agile
- **Load**  
Loads native CAD data from Agile into the current CAD session
- **Reserving objects**  
Reserves CAD objects
- **Create item**  
Creates an item of a SolidWorks model
- **Creating BOM**  
Creates a BOM structure of a SolidWorks assembly

## Overview of the Basic Processes



## Save and Load CAD Files

CAD designs (i.e. 3D objects and 2D drawings for parts as well as assemblies) 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 e6.1, 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 e6.1 manages a centralized repository (or alternatively Distributed File Management), all CAD designers in the enterprise have access to these files, under control of Agile e6.1 roles and privileges. Individual designers can set checkout reservations in Agile e6.1 when they load files into their CAD session. Additional files such as viewables (PDF, TIFF, etc.) can be attached to the Agile e6.1 document.

## Create a BOM

If the data of the particular involved items exist, the designer may use the Create BOM command to create or update the Agile e6 BOM. This will create a Product Structure either for all substructures or only flat (i.e. only at the first level).

To avoid tedious manual entries of the BOM it is possible to merge items of standard parts and items of auxilliary parts as well.

This function is used when an item representing the Design Structure already exists.

Creating and updating the BOM is running in the background. The BOM can also be updated with interaction. This enables to modify the appropriate information in Agile e6.1.



# Key Features

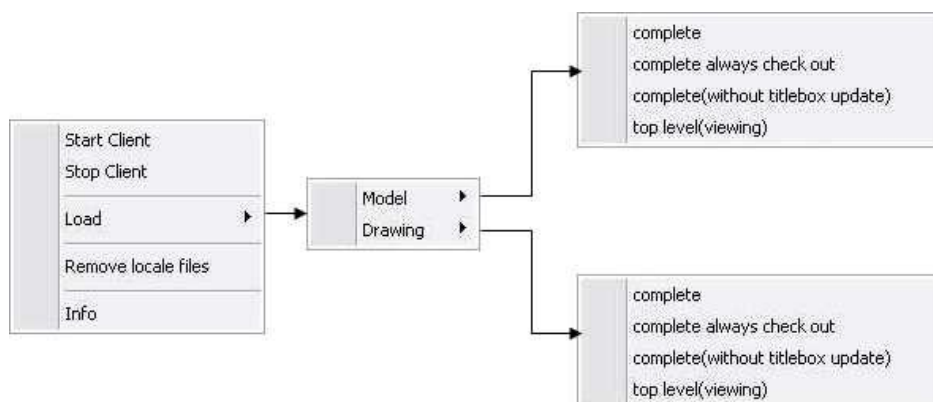
## Menu

The Agile e6.1 SolidWorks integration (CCM) is an add-on module to the standard Agile e6.1 system. The integration functions are provided with additional and expanded menus in Agile e6.1 and SolidWorks. A main menu has been added for Agile e6.1 to the standard SolidWorks menu. This allows accessing the features of the integration. It is available within all modules of SolidWorks. The appropriate Agile e6 submenus are context-sensitive.

A brief description of each function is shown in the bottom line of the SolidWorks window.

Agile e6 – SolidWorks Integration CCM 2.9.1.0

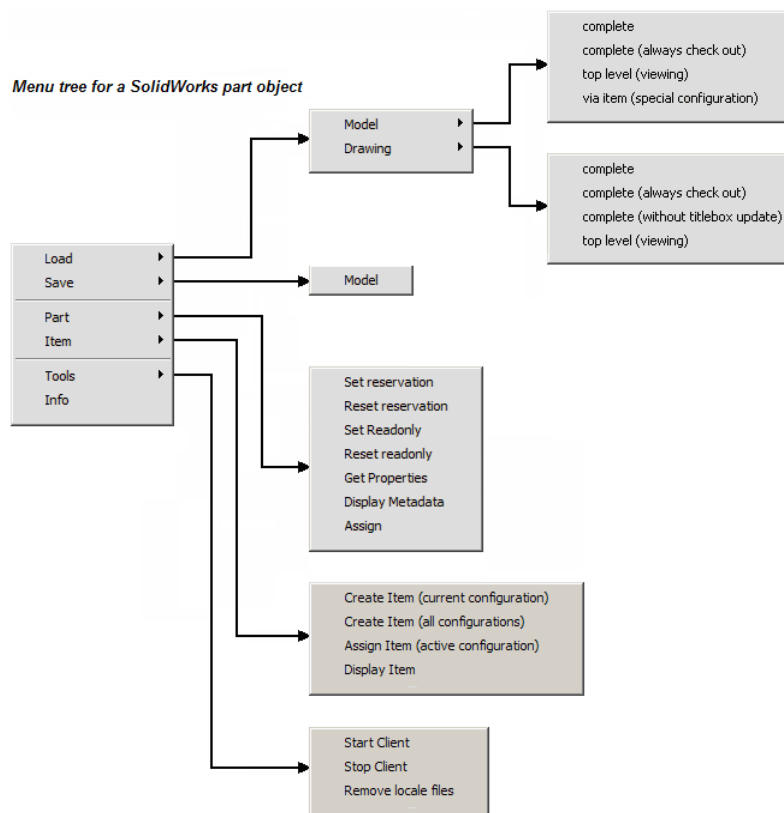
Initial state of the menu tree:

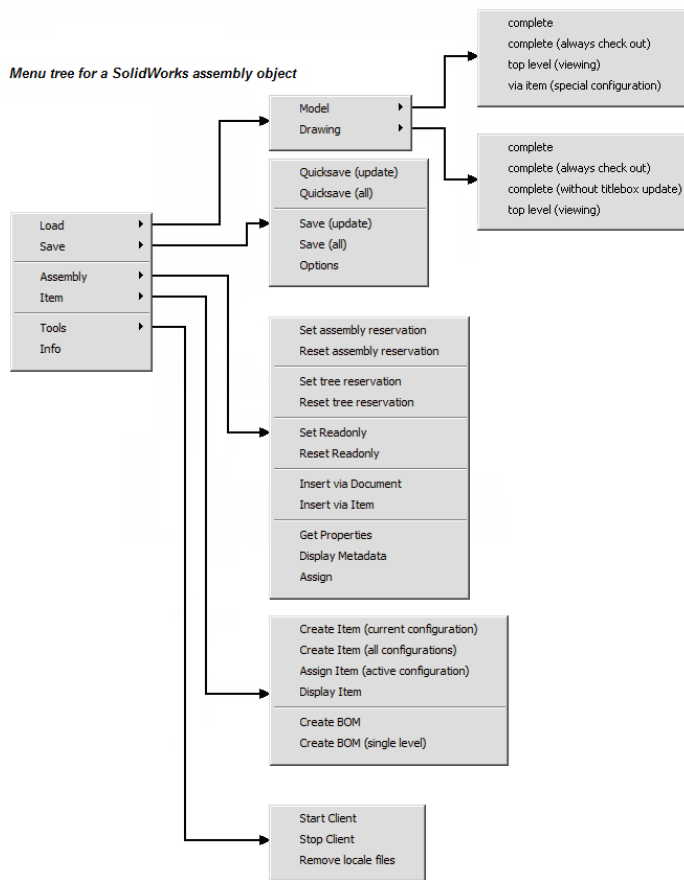


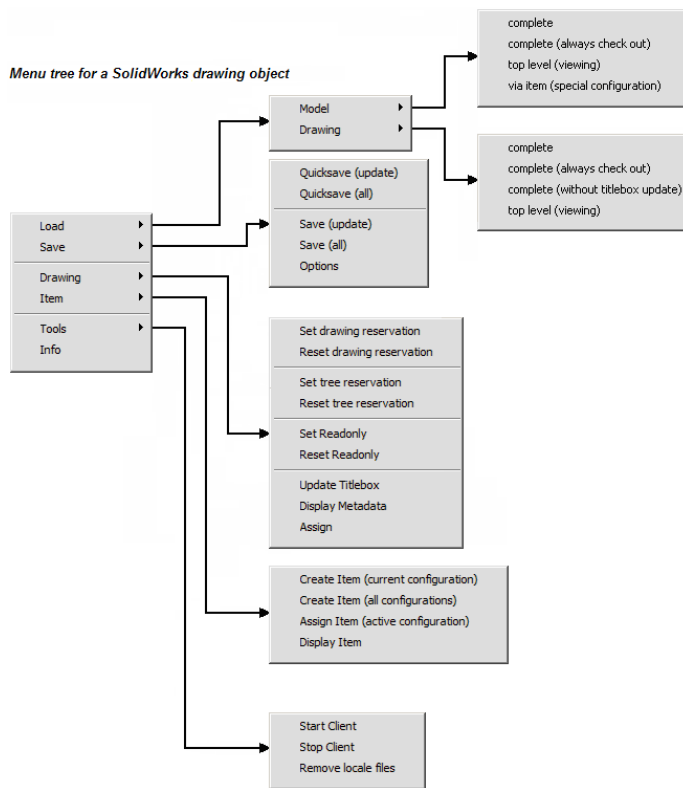
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**Note** The official menu is this harmonized menu.

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# 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.

## Start and Stop the Agile e6.1 Client

1. From your SolidWorks main toolbar, select Agile > Start Client.
2. To stop the Agile e6.1 client, select Agile > Stop Client.

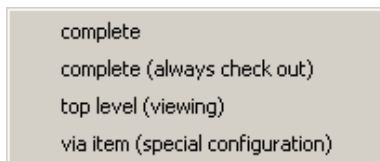
**Note** Save updated files in Agile e6.1 (Check-in) before stopping the Agile e6.1 client. If the files are not saved, they will be stored only in the local work directory (CheckOutPath). When stopping the SolidWorks session you will be asked if the files should be deleted.

## Load Model

A SolidWorks model is specified by at least one file ( \*.SLDPRT, \*.SLDASM). Using the CCM integration, the usage of these files will be managed by Agile e6.1. Each file stored in the vault has a reference to a document metadata set.

1. Select Agile > Load Models > ...

The following options are available for loading models



Menu Entry	Description
complete	Opens in Agile e6.1 the Type List to search for the document metadata sets. The respective document can be selected and the PLM system is prompted to make the SolidWorks object, which belongs to that document metadata set, available.  After copying the file(s) successfully from the vault to the local temporary directory (determined in the file 3DCADMapping.ini in section [CheckOutDisk] and [CheckOutPath]) it becomes a SolidWorks object. If a newer version of this file exists, a warning is displayed.
complete (always check out)	See description 'complete'.  If a newer version of this file exists, no warning is displayed.
top level (viewing)	Checks out the top level structure of an assembly for viewing. The SolidWorks Feature

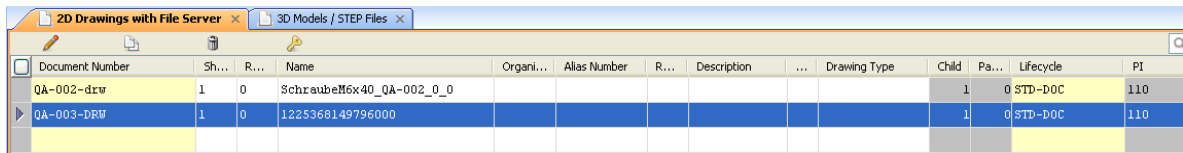
	Manager design tree is empty. The object is in 'Read only' mode.
via item (special configuration)	Checks out a special configuration of the SolidWorks object because an item references to this special configuration.

## Load Drawings

A 2D drawing (\*.SLDDRW) can be generated from a SolidWorks object. This file is also stored in the vault and has also a reference to the corresponding document metadata set.

1. In Agile e6.1 open the 2D Drawing and the respective Type List.
2. Select the respective drawing.
3. Click Selection to CAD.

The corresponding model is identified and checked out automatically.



Document Number	Sh...	R...	Name	Organi...	Alias Number	R...	Description	...	Drawing Type	Child	Pa...	Lifecycle	PI
QA-002-drw	1	0	SchraubeM6x40_QA-002_0_0							1	0	STD-DOC	110
QA-003-DRW	1	0	1225368149796000							1	0	STD-DOC	110

The following options are available for loading:

complete
complete (always check out)
complete (without titlebox update)
top level (viewing)

Menu Entry	Description
complete	<p>Opens in Agile e6.1 the Type List to search for the document metadata sets. The respective document can be selected and the PLM system is prompted to make the SolidWorks object, which belongs to that document metadata set, available.</p> <p>After copying the file(s) successfully from the vault to the local temporary directory (determined in the file 3DCADMapping.ini in section [CheckOutDisk] and [CheckOutPath]) it becomes a SolidWorks object. The title box of the drawing is automatically updated with the appropriate metadata. If a newer version of this file exists, a warning is displayed.</p>
complete (always check out)	<p>See description 'complete'.</p> <p>If a newer version of this file exists, no warning is displayed.</p>
complete (without titlebox update)	<p>See description 'complete'.</p> <p>To increase the performance, the titlebox update is avoided.</p>
top level (viewing)	<p>Checks out the top level structure of an assembly for viewing. The SolidWorks Feature Manager design tree is blank. The object is in 'Read only' mode.</p>

# Save a CAD Object

Two features are available for saving new or updated SolidWorks objects in Agile e6.1:

- Quicksave

The structure links will be checked in a faster way using a new SolidWorks programming tool. This is recommended to use.

- Save

This is the traditional way for saving. Several minor object properties are updated additionally.

## Quicksave

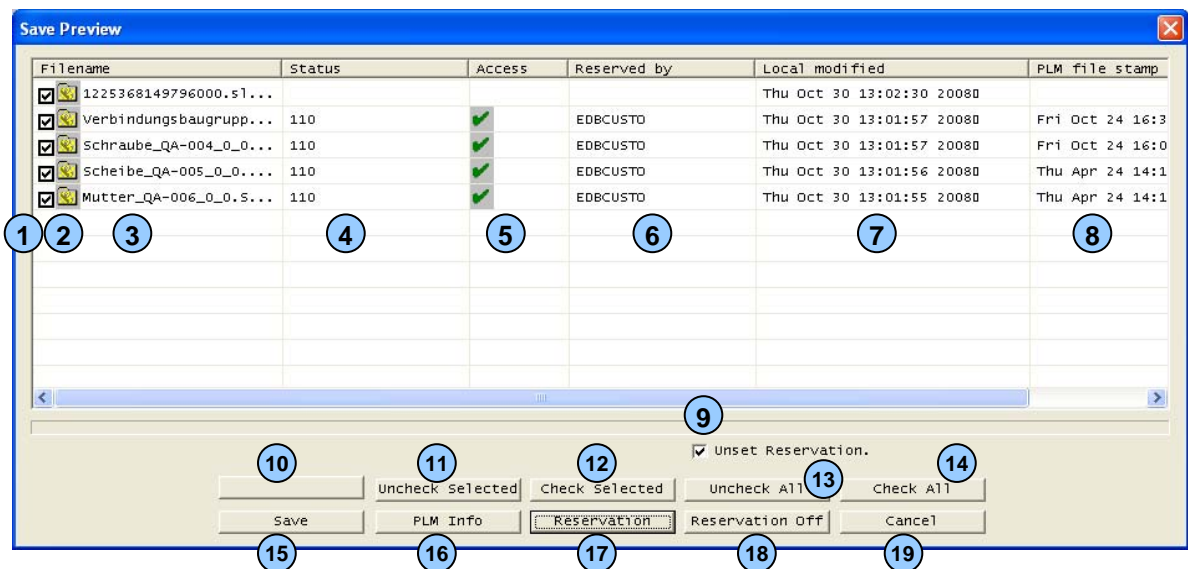
1. Select Agile > Save > Quicksave (update).

Only updated objects are saved.

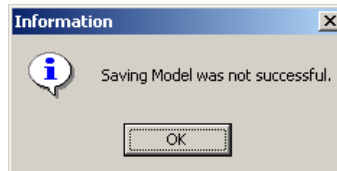
**Note** It is also possible to save all objects related to the assembly (Agile > Save > Quicksave (all)).

The Save Preview window is opened containing the respective SolidWorks objects.

2. Select the files that should be checked-in.



No	Description
1	Check box Activated = Intended for saving in PLM Highlighted = No effect It is also the select criteria when using button 12 or 13.
2	Icon for the respective file type (is the same for *.SLDPRT and *.SLDASM )

3	File name incl. extension.
4	Workflow status of the model.
5	Check result for sufficient access rights enabling a successful saving.
6	Clicking button 12 = Displays username Clicking button 13 = Cancels displaying user name
7	Date of the last file modification in the local user work directory.
8	Date of the last modification of the latest file version that was checked in to PLM.
9	Selected = After a successful saving the reservation of the objects will be cancelled. Unselected = After a successful saving the reservation of the objects will not be cancelled.
10	Disabled by default, can be enabled to execute a custom script, settings see 3DCADMapping.ini sections [SavePreview-ExecTclButton] and [SavePreview-ExecTclScript]
11	Deselects the checkboxes in the first column of those lines that have been selected if, e.g. button 14 has been used before.
12	Deselects the checkboxes in the first column of those lines that are not selected if, e.g. button 14 has been used before.
13	All selections from the checkboxes in the first column are removed.
14	All checkboxes in the first column are selected.
15	For the selected lines the process starts saving the SolidWorks files in the PLM vault and simultaneous updating of the metadata in the corresponding PLM-document data set
16	For all marked objects the corresponding metadata in the PLM-document data sets will be read out.
17	Enables a temporary access reservation during saving the entire assembly. This avoids an access conflict situation when an unintended load order for an involved document comes from another user. The reservation is not permanently in PLM.
18	Disables a temporary access reservation during saving the entire assembly.
19	Cancels the planned saving in PLM, and a message is displayed in SolidWorks. 

3. If an object is saved the first time, a type-specific form is opened in Agile e6.1.

This form is already filled with data. In the standard dump there is only one mandatory field – the Document Number.

4. Save the form.



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## Save

This is the normal way for saving.

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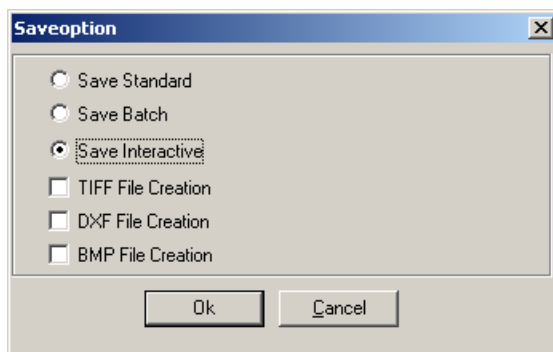
**Note** The menu entry Save is part of the menu because some older SolidWorks versions do not support the QuickSave feature.

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## Setting Save Options

When saving, several save options are available for saving a SolidWorks object to PLM (as an attachment to an Agile e6.1 document).

1. Select Agile > Save > Options



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**Note** The save options can be changed at any time before saving is chosen. Generally, when starting the Agile e6.1 client, the option 'Save standard' is pre-selected. When saving in Batch mode it is necessary to ensure that all mandatory mask fields will be filled automatically (e.g. using a number generator).

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Save Option	Description
Save Standard	If an object is saved the first time, it runs in interactive mode. Updates are saved in Batch mode.
Save Batch	Save is run in the background and the metadata set is updated.
Save Interactive	Allows changing entries manually in the updated Type mask.
TIFF File Creation	Saves file additionally in TIFF format and checks it in when the active object is a drawing.
DXF File Creation	Saves file additionally in DXF format and checks it in when the active object is a drawing.
BMP File Creation	Saves file additionally in BMP format and checks it in when the active object is a model.



## Create a BOM

If a CAD object is known in Agile e6.1 then it is possible to create a Agile e6.1 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 an Item

New items can be created in Agile e6.1 which are then linked to the current SolidWorks object.

Select Agile > Item >...

- ▣ Create Item

Creates an item metadata set in Agile e6.1.

First, the model structure is analyzed to test if all involved models of the structure belong to an item. If this is the case, the metadata set is updated in the background.

After this, Agile e6.1 is opened and the item form is in edit mode for each model that is not linked to an item yet. The default entries are already included. After completing the new item metadata set manually, save it.

Finally, the item form for the active SolidWorks object is displayed in edit mode. Complete the new item metadata set manually and save it.

- ▣ Create Item (current configuration)

See also description for Create Item. Creates an item metadata set in Agile e6.1 that is linked to a current SolidWorks part in its current configuration.

If the current SolidWorks object is already linked to an item in the database, an update will be performed in the background.

- ▣ Create Item (all configurations)

See also description for Create Item.

Creates a separate item metadata set in Agile e6.1 for each configuration of the actual SolidWorks part.

- ▣ Display Item

Agile e6.1 is opened and displays the respective item form (default: EDB-ART-CFR).

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Note	In a standard, out of the box installation, the item number is the same as the document number.
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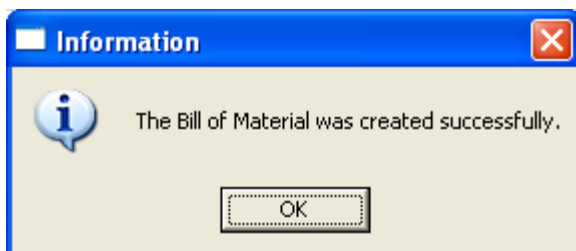
### Create a BOM

This function generates an item structure for the item linked to the active assembly model.

1. Select Agile > Item > Create BOM.

First, the model structure is analysed. If no error is detected, the Bill of Material is generated in the background and added to the metadata set of the respective item.

If the Bill of Materials was created successfully, a message window is opened. The SolidWorks window remains in the foreground.



2. To see the BOM, select Agile > Item > Display Item.

The Agile e6.1 window is opened and displays the item form filled with the item metadata set. From the context menu of this form, select the menu for the multi level structure explosion.

The screenshot shows the Agile e6.1 window. At the top, there are input fields for 'Item Number' (QA-003-ITEM), 'Revision' (0), 'Child' (3), 'Name' (kurz), 'Parent' (0), 'Organization', 'Alias Number', and another 'Revision' field. Below these fields is a table representing the Bill of Materials (BOM).

	>>>>>>...	PNo.	Item Number	R...	Name
1		10	QA-005-ITEM	0	Default
1		20	QA-006-ITEM	0	Default
1		30	QA-004-ITEM	0	kurz

**Note** The structure of this item is also displayed in the BOM tab of this form.

Item Number

Revision

Child

Name

Parent

Organization

Alias Number

Revision

General Alias IDs Preview **BOM** Multi-Level Structure in Items Documents in Projects

<input type="checkbox"/>	Type	Position	Item Number	R...	Name
		10	QA-005-ITEM	0	Default
		20	QA-006-ITEM	0	Default
		30	QA-004-ITEM	0	kurz



# Additional Functions

## For Parts, Assemblies, and Drawings

### Get Properties

#### Assemblies

There are three possibilities to update the properties of assemblies:

1. The properties of the complete hierarchy are updated. Every configuration is considered and their properties are also updated.  
Select Agile > GetProperties > whole hierarchy
2. Only the properties of the top element are updated. Multiple configurations of the top element are also considered and their properties are also updated.  
Select Agile > GetProperties > top element, all configurations
3. Only the properties of the top element are updated. Only the currently active configuration is considered and its properties are also updated.  
Select Agile > GetProperties > top element, current configuration

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**Note** Possibility 1 takes the longest, and possibility 3 is the fastest.

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#### Parts

There are two possibilities to update the properties of parts:

1. The properties of all configurations are updated.  
Select Agile > GetProperties > all configurations
2. The properties of the current configuration are updated.  
Agile > GetProperties > current configuration

### Display Metadata

1. Select Agile > Part|Assembly|Drawing > Display Metadata.

The Agile e6.1 window is opened and displays the respective type form (2D Drawing, or 3D Models, etc.) which contains the metadata of the active object.

### Assigning to an Existing Document Dataset

1. Select Agile > Part|Assembly|Drawing > Assign.

Assigns the current SolidWorks object to an existing Agile e6.1 metadata set.

**Note** It is only possible to assign a model to a 3D Model, and a drawing to a 2D Drawing.

## Remove Local Files

1. Select Agile > Tools > Remove local files.

Removes copies of SolidWorks files, which are checked out, from your hard drive.

**Note** Files can only be deleted when they are no longer used in the SolidWorks session. The files will be physically removed and cannot be recovered.

The Remove local files list is opened, displaying all checked out files.

Remove local files	
Files	Status
C:\axalanltmp\DemoPpart02_CAX-00001354_0_0.SLDPRT	On Disk
C:\axalanltmp\1125586522471000_CAX-00001354_0_0.SLDDRW	On Disk

2. Select the required files and click Delete.

The local copy of the file(s) is deleted. At the end of a SolidWorks session you will be asked if the local directory should be cleaned.

## Reservation

### Object Reservation

1. Select Agile > Part|Assembly|Drawing > Set '...' Reservation.

In SolidWorks, it is possible to reserve objects which are then blocked for other users.

The function runs automatically in the background and the reservation is stored in PLM.

When another user tries to save the reserved object, a warning is displayed in the SolidWorks window. To avoid structure confusions, this warning should be answered with "No".

The message window in Agile e6.1 displays the name of the user who reserved this object. The same information is displayed in the Save Preview window when clicking the PLM Info button.

Save Preview						
Filename	Local modified	PLM file stamp	Status	Access	Reserved by	
<input checked="" type="checkbox"/> U-joint_CAX-00001068_0_0.SLDASM	Fri Sep 02 16:37:41 20050	Fri Sep 02 16...	110 In Work	✗	DEMOUSR	
<div> <span>Save</span> <span>Cancel</span> <span>PLM Info</span> <span>Reservation</span> <span>Reservation Off</span> </div>						

2. To cancel the reservation select Agile > Part|Assembly|Drawing > Unset Reservation.

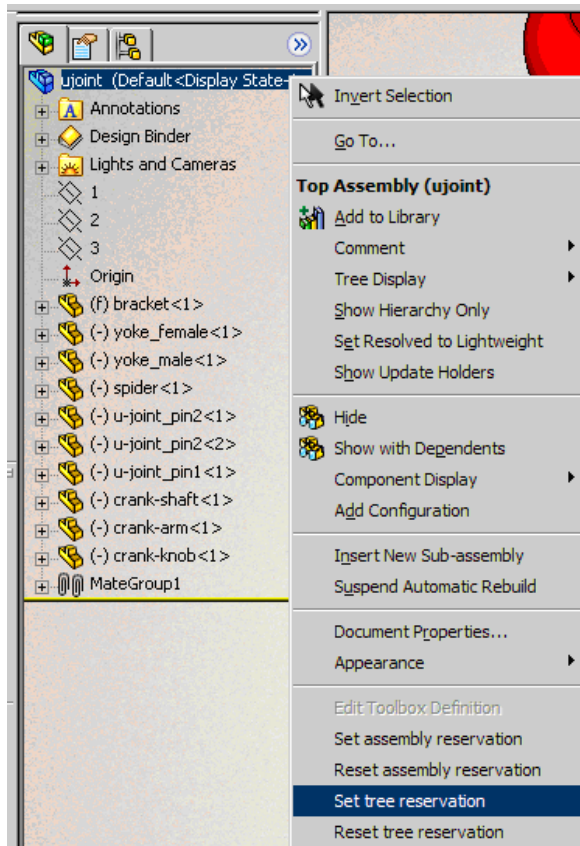


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## Tree Reservation

**Note** For assemblies it is possible to reserve either a single part or a complete tree using the context menu of the FeatureManager design tree in Solid Works.

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1. 'Set tree reservation' reserves an assembly tree.

The function runs automatically in the background and the reservation is stored in Agile e6.1.

When another user tries to save the reserved object, a warning is displayed in the SolidWorks window. To avoid structure confusions, this warning should be answered with "No".

The message window in Agile e6.1 displays the name of the user who reserved this object. The same information is displayed in the Save Preview window when clicking the PLM Info button.

2. With 'Reset tree reservation' the reservation is cancelled.

