

PDM Workbench for Aras Innovator

T-Systems PLM Applications

T Systems

Let's power
higher performance

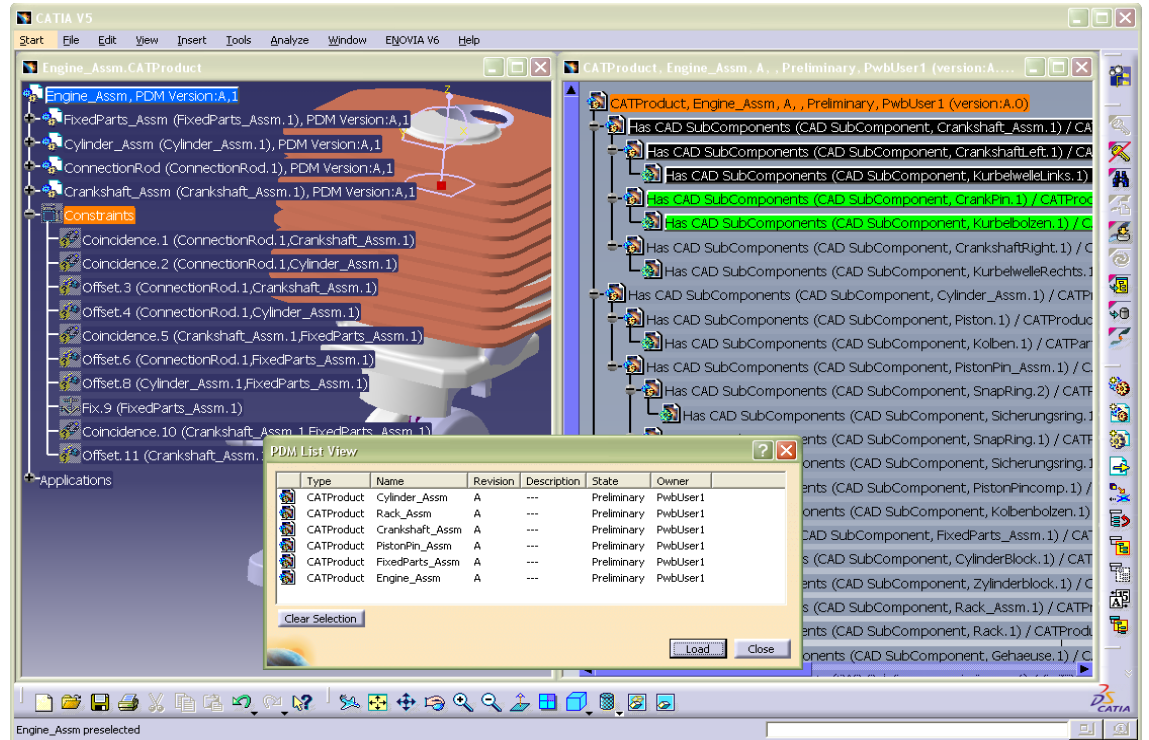


PDM Workbench for Aras Innovator Overview

The PDM Workbench is a comprehensive PDM Rich Client seamlessly integrated in CATIA V5. It enables access to and full control of CATIA data via PDM.

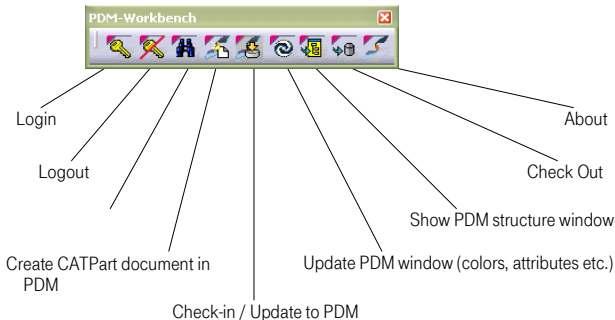
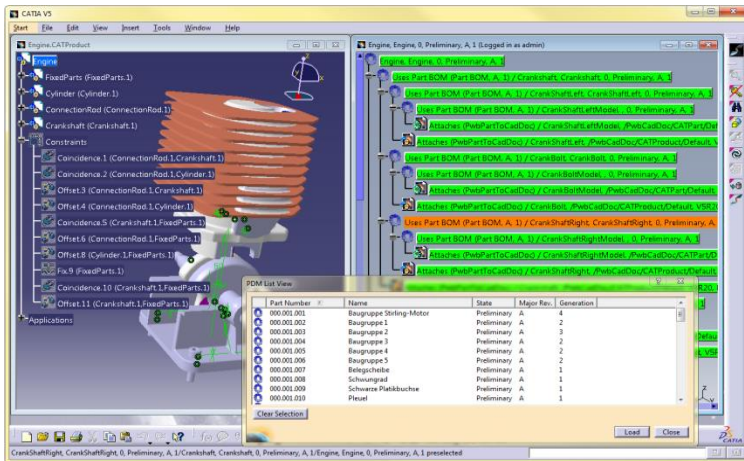
Supported PDM systems

- SAP ERP 6.0
- Matrix/ENOVIA
- Aras Innovator
 - BOM Part Structure
 - Document Structure



PDM Workbench for Aras Innovator

The immersive PDM Integration for CATIA V5



PDM Workbench 7.0 for Aras Innovator 11 SP9

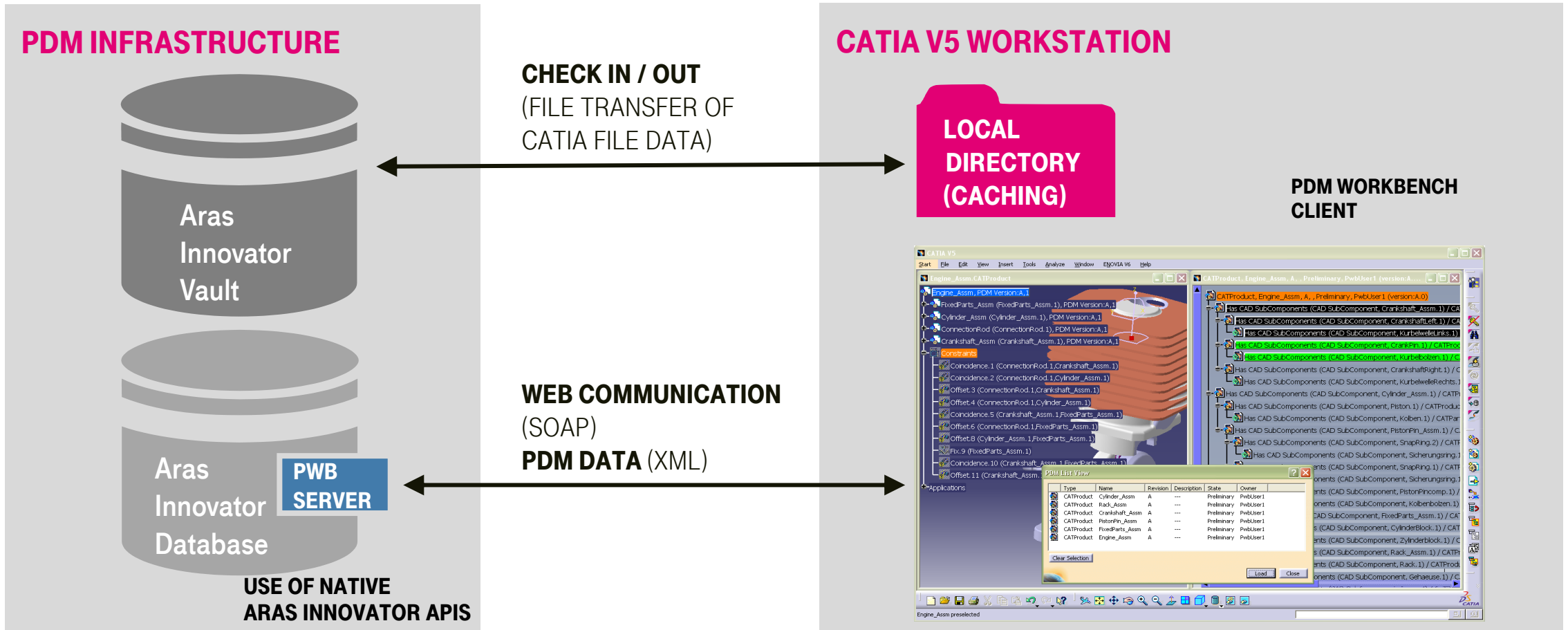
CATIA V5 6R2014, 6R2015, 6R2016, and 6R2017. Other revisions on request.

- CAD specific PDM functionality in CATIA V5 enabling design engineers to stay in CATIA only.
- CATIA V5 look and feel by using standard CAA framework.
- Allows the use of any customized data model.
- Follows relevant configuration context (expand).
- PDM Workbench features can be tailored by simply editing schema files.

Examples for PDM functionality in CATIA V5

- Check In/Out, Lock/Unlock, Update and Synchronize of CATIA data
- Comprehensive management of PDM objects and structures
- Copy & Paste, context menus, tool bar
- Tree navigation and list view
- Display and modification of PDM properties via dialogs
- Identification of nodes, display of access rights

PDM Workbench for Aras Innovator Architecture Overview



PDM Workbench for Aras Innovator

Key Features

Supports CAD relevant PDM capabilities like

- Query
- Structure navigation
 - BoM navigation
 - CAD navigation
- Check In/Out
- Load CAD data corresponding to expanded structure
- Update of PDM and CAD data

Furthermore

- Company defined CAD Use cases as PDM Workbench Add-On's

PDM Workbench for Aras Innovator

Technical Highlights

No special CATIA licenses required (CAA, PX1).

Communication between CATIA session and PDM session based on Web Services.

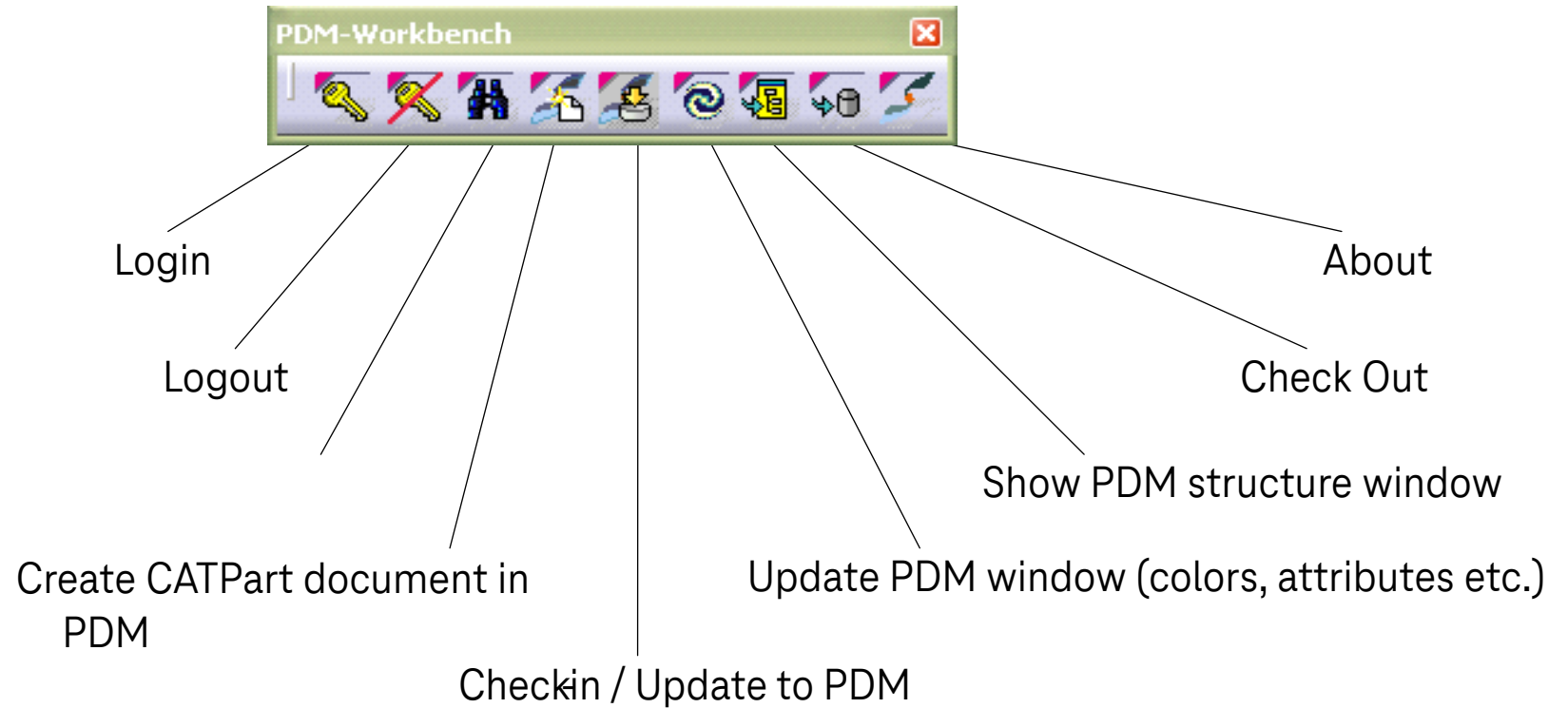
SOAP (Simple Object Access Protocol) is used as communication protocol:

- Firewall-friendly
- Using the XML-based protocol SOAP and Web Services because of:
 - Independence of
 - Platform/operating system
 - Programming language
 - Transport protocol
 - Security aspects
 - http or https can be used
 - Encryption of XML tag values

PDM Workbench for Aras Innovator Accessibility

Directly within CATIA

- Central Toolbar
- Context Menu
 - PDM objects
 - Product
- Part Toolbar



PDM Workbench for Aras Innovator

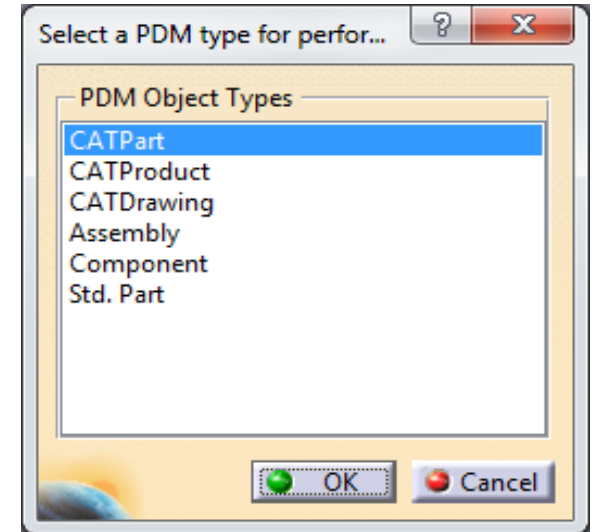
Create – Creating new Documents and PDM Objects

Create new PDM object

- Dialog guided
- Decide which class of objects you want to create in PDM
- Specify attribute values for resulting Create dialog
- Object created in PDM appears in active PDM Workbench window

Create new PDM object in context

- Object created in PDM appears in active PDM Workbench window
- Note that created PDM object is related to its context object!!



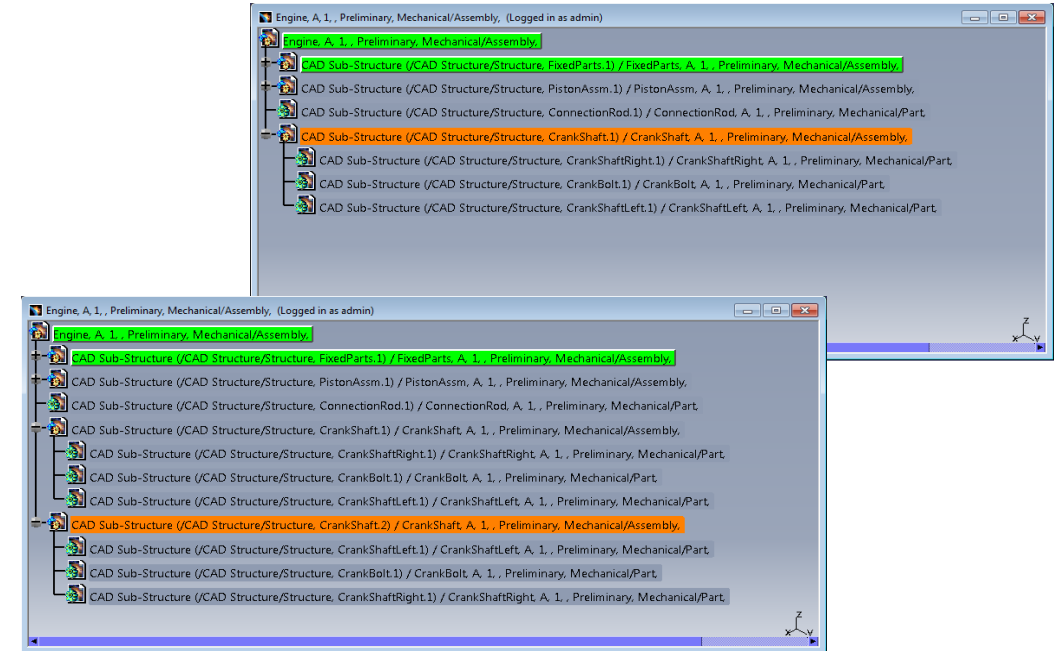
PDM Workbench for Aras Innovator

Modify Structure – Building Structures

Reopen structure window.

Multiple modification possibilities:

- Immediate in the PDM window
 - Copy/Paste
 - Create new PDM objects in context
- On Update
 - Copy/Paste in CATIA workshop
 - Create new in CATIA workshop



PDM Workbench for Aras Innovator Expand – Exploring the Structure

Various relations:

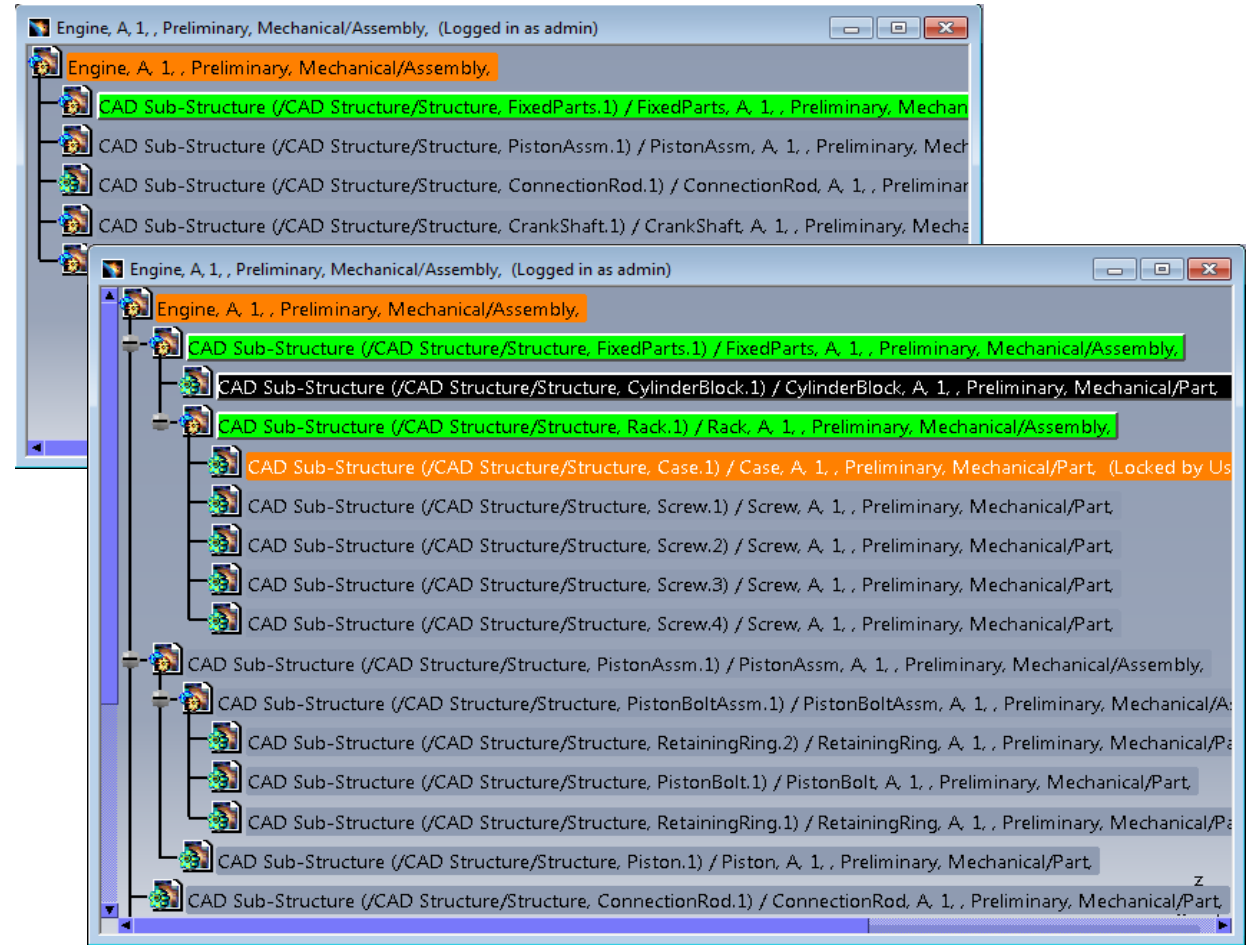
- Is attached by
- Derives drawing
- Sub-Structure
- Used in structure

Multi levels possible:

- Multiple Levels Sub-Structure
- Multiple Used in structure

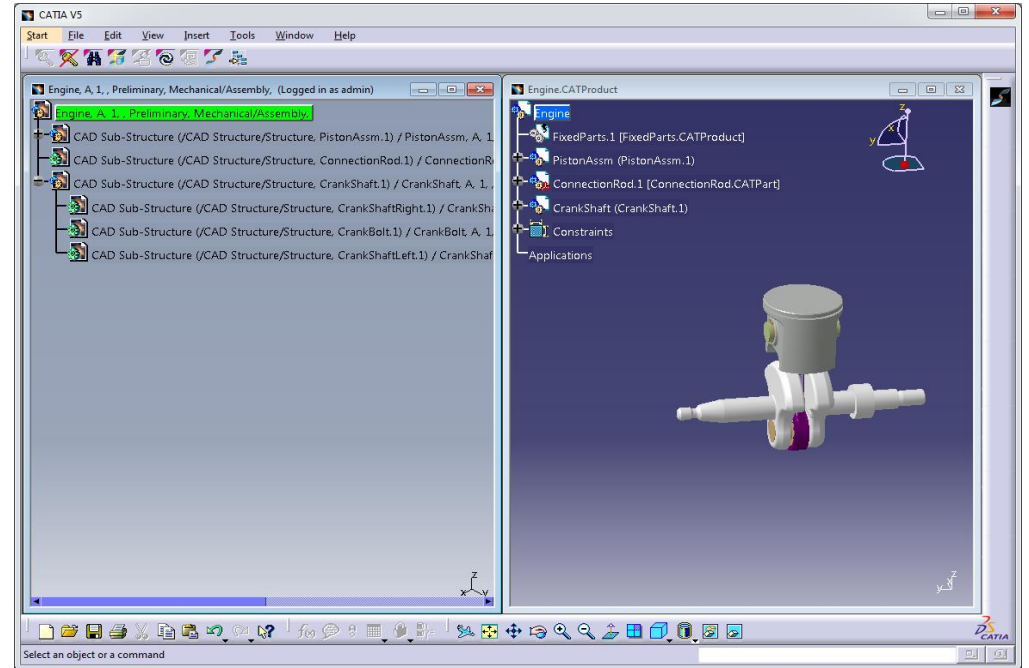
Collapse structure with:

- De-Expand



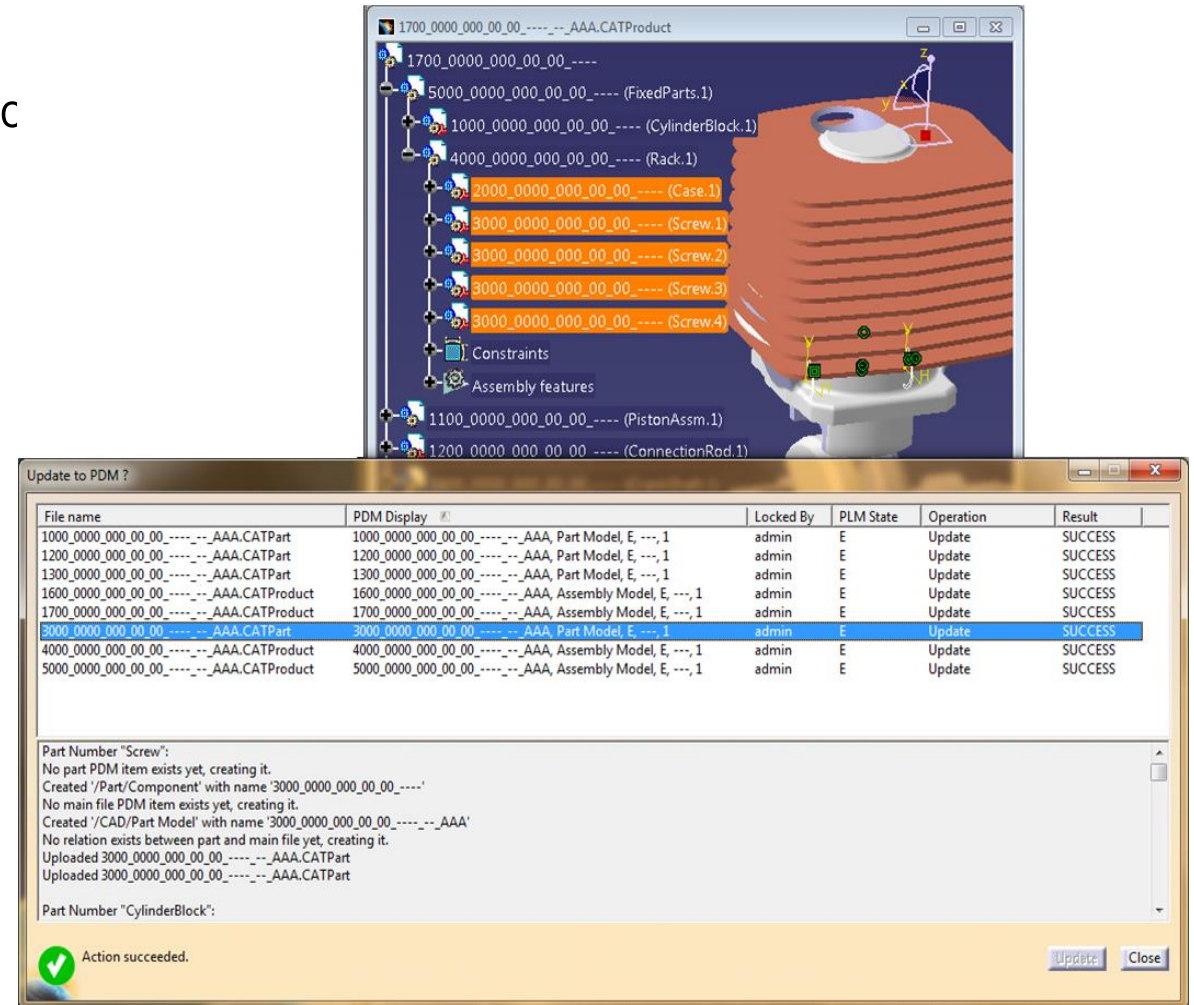
PDM Workbench for Aras Innovator Load – Opening a Structure

- Assembly structure expanded to PDM Workbench window
 - No full expansion needed
- “Load Structure” on “root” object loads expanded product structure to CATIA V5 window
- PDM meta information as well as CAD files get downloaded out of the PDM system



PDM Workbench for Aras Innovator Update – Create/Update Documents

- Includes highlight of the geometry of the files selected
- Feedback



PDM Workbench for Aras Innovator

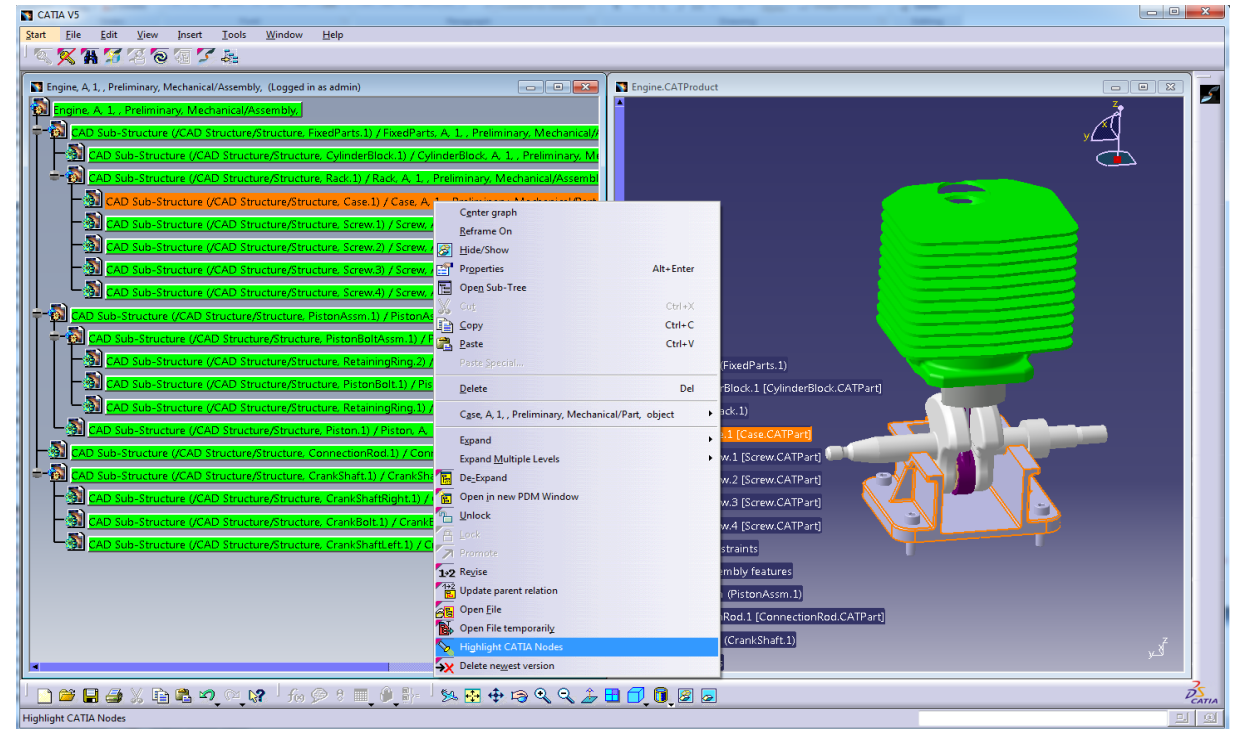
Properties – Reviewing and Editing PDM Properties

- View configured properties
- Edit configured properties directly

The screenshot shows the 'Properties' dialog box in the PDM Workbench. The title bar reads 'Properties'. Below the title bar, there is a 'Current selection' dropdown menu containing the text 'Case, A, 1, , Preliminary, Mechanical/Part, /Rack, A, 1, , Preliminary, Mechanical/Assembly, /FixedF'. Below this, there are two tabs: 'Properties' (which is selected) and 'Update Item'. The main area is divided into two columns. The left column is titled 'CATPart' and contains the following fields: 'Doc. Number' (Case), 'Major Rev.' (A), 'Generation' (1), 'Name' (empty), 'State' (Preliminary), 'Description' (empty), 'New Version' (checkbox, unchecked), 'Type' (Mechanical/Part), 'Assigned Creator' (empty), 'Designated User' (empty), 'Created by' (Innovator Admin), 'Created on' (2012-04-20T18:16:30), 'Modified by' (Innovator Admin), 'Modified on' (2012-04-20T18:16:36), 'Locked by' (Innovator Admin), and 'Standard Part' (checkbox, unchecked). The right column is titled 'CAD Structure (Structure)' and contains the following fields: 'CATIA Instance Name' (Case.1) and 'CATIA Instance Descr.' (empty). At the bottom right of the dialog, there are three buttons: 'More...', 'OK', and 'Apply', followed by a 'Close' button.

PDM Workbench for Aras Innovator Highlight – Find Component in other View

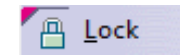
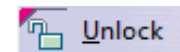
- Highlight PDM object in Design structure
- Highlight Design component in PDM view



PDM Workbench for Aras Innovator

Lock – Locking and Unlocking PDM Objects

- Locking on demand
 - Only lock what should be updated
 - Prevents unnecessary updates on not really changed PDM objects
 - Mutual design changes lead to lost updates
- Locking on check out (recommended)
 - PDM Objects are locked before design changes
 - Only way to modify PDM structure directly in PDM window
- Locking from within CATIA design workshop

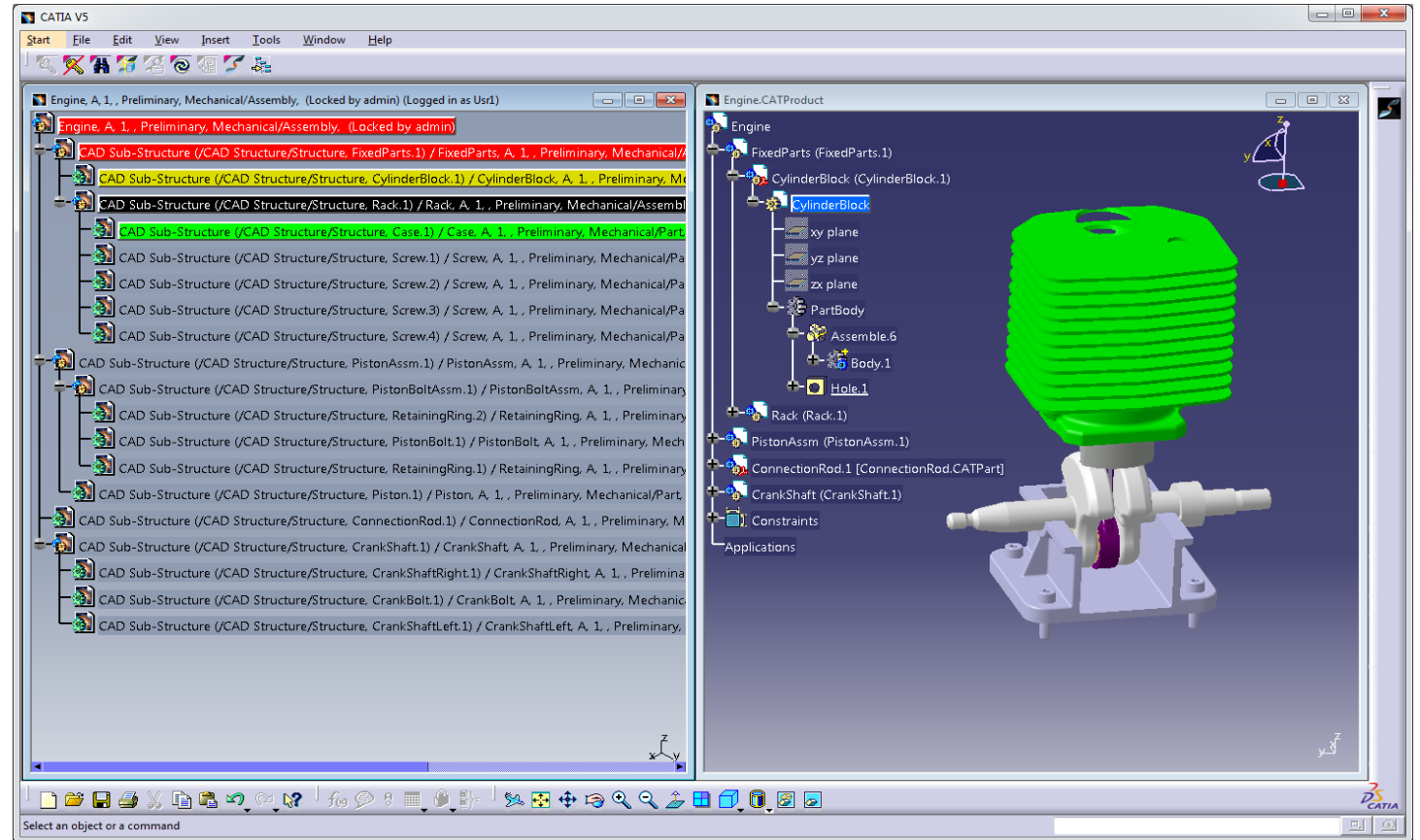


PDM Workbench for Aras Innovator

Visual Lock Feedback

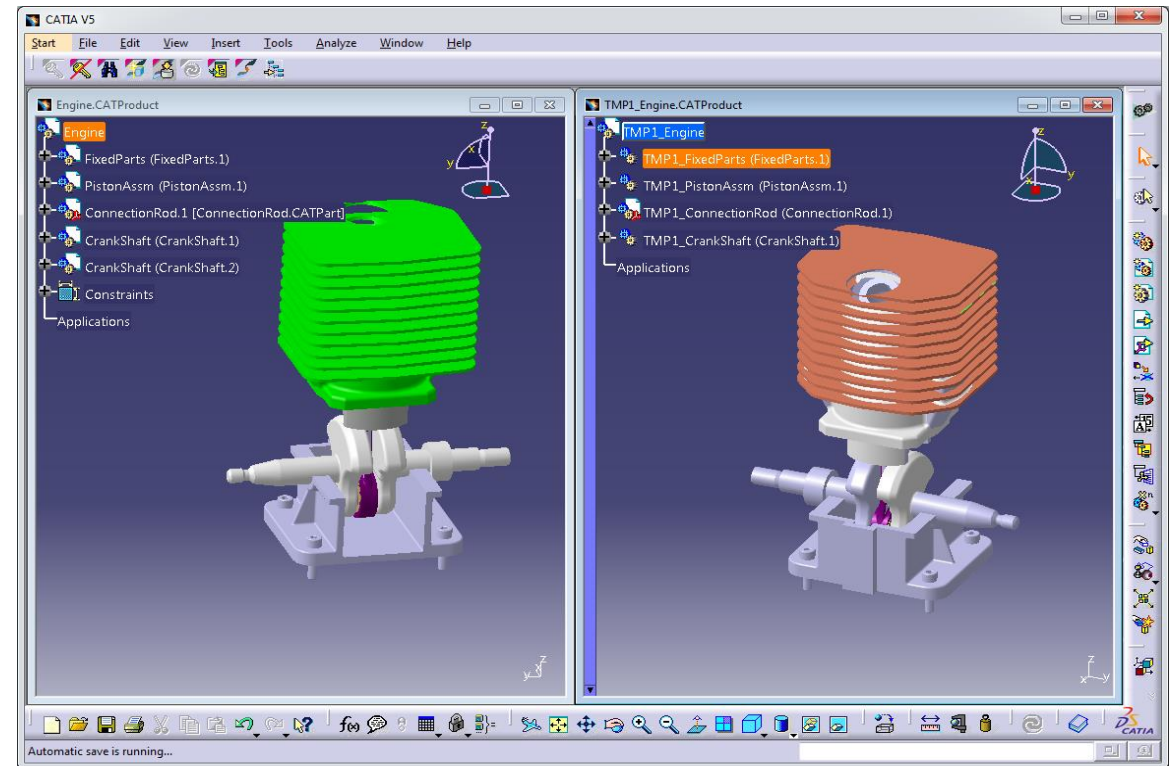
You can see if object is:

- Unlocked
- Locked (by own)
- Locked (by other)
- Modified locked
- Modified not locked
- Superseded



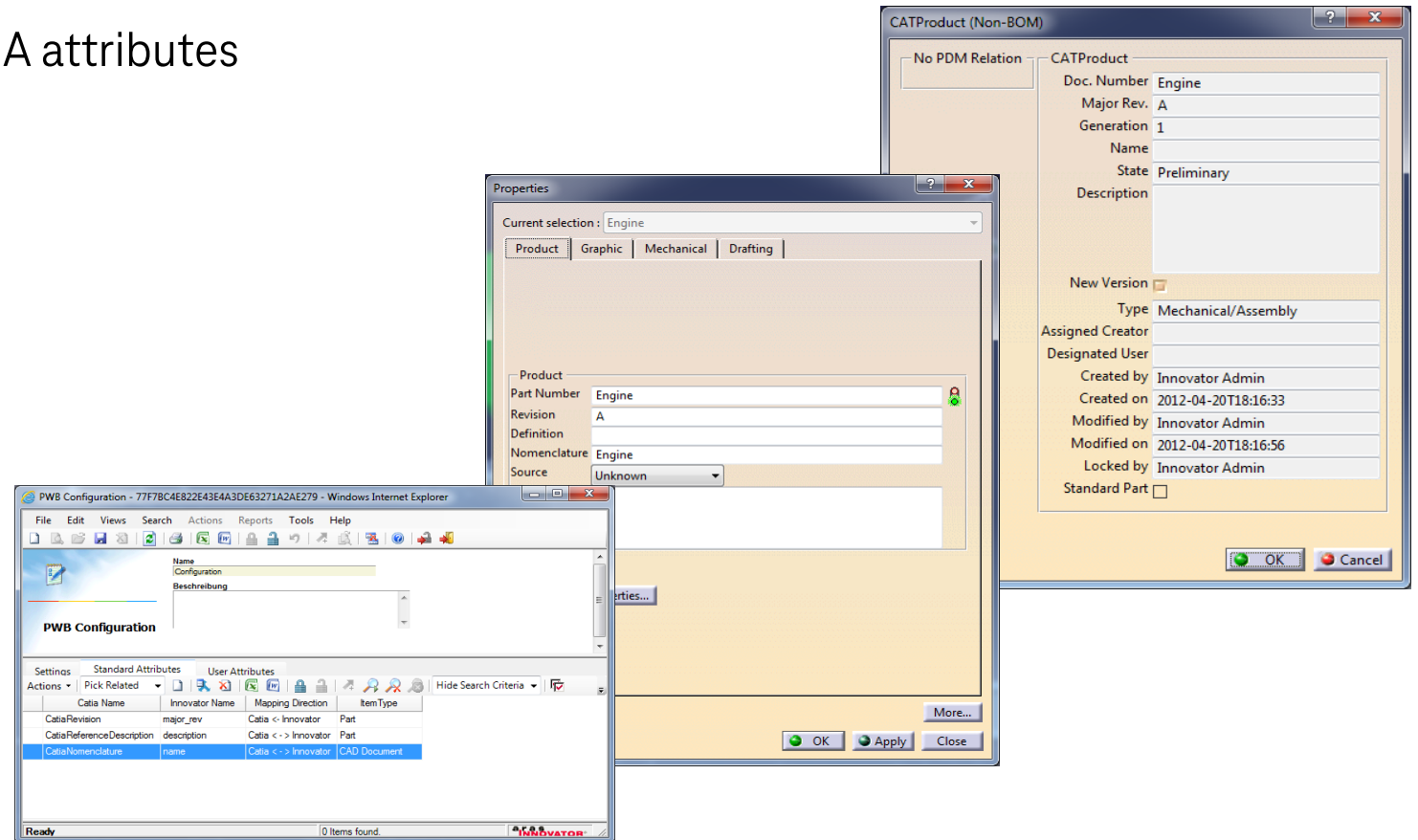
PDM Workbench for Aras Innovator Addtemp – Comparing Structures

- Open a structure for comparison
- Generic prefix is added
- Added structure is not updateable



PDM Workbench for Aras Innovator Attribute Mapping

- Map PDM object properties to CATIA attributes
- Unidirectional
- Bidirectional
- CATIA Standard attributes
- CATIA User attributes
- Configurable



PDM Workbench for Aras Innovator Others

There are more functions available:

- Update structure relations
- Update parent relation
- Delete
 - Delete whole PDM object
 - Delete latest version of PDM Object
- Lifecycle management
 - Promote
 - Revise

PDM Workbench for Aras Innovator

Data in the PDM System

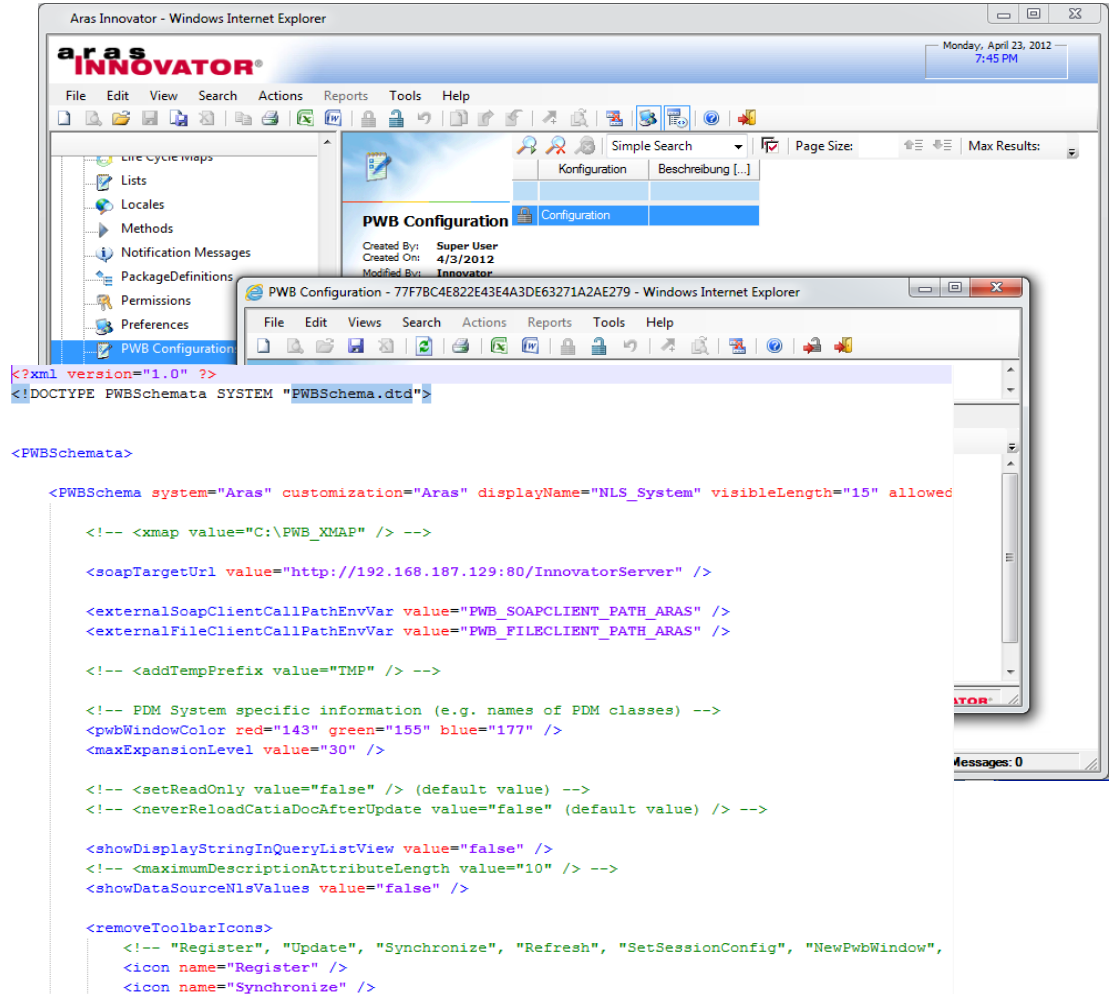
- Different data structures
 - CAD Structure
 - BOM Part Structure
 - Processes & Lifecycles
 - Part
- Identifying PDM objects
 - One single property value
 - Part number (default)

PDM Workbench for Aras Innovator PWB Client and Server Configuration

The CATIA Integration UI can be configured in a wide range via XLM Schema file:

- Dialogs
- Displayed attributes
- List view
- Context menus
- Available functionality
- Data model to be supported (Part or Document data model)

```
StandardPartAdmin = Standard Part Administrator  
TemplateFileAdmin = Template File Administrator  
ShowCreateDialogsDuringUpdate = false  
UpdateDerivedPdfFile = false  
UpdateDerived3DxmlFile = false  
CheckAttributeValueLength = true  
CheckForDuplicateInstanceNames = false  
UseDesignTables = false  
UseArchives = false
```

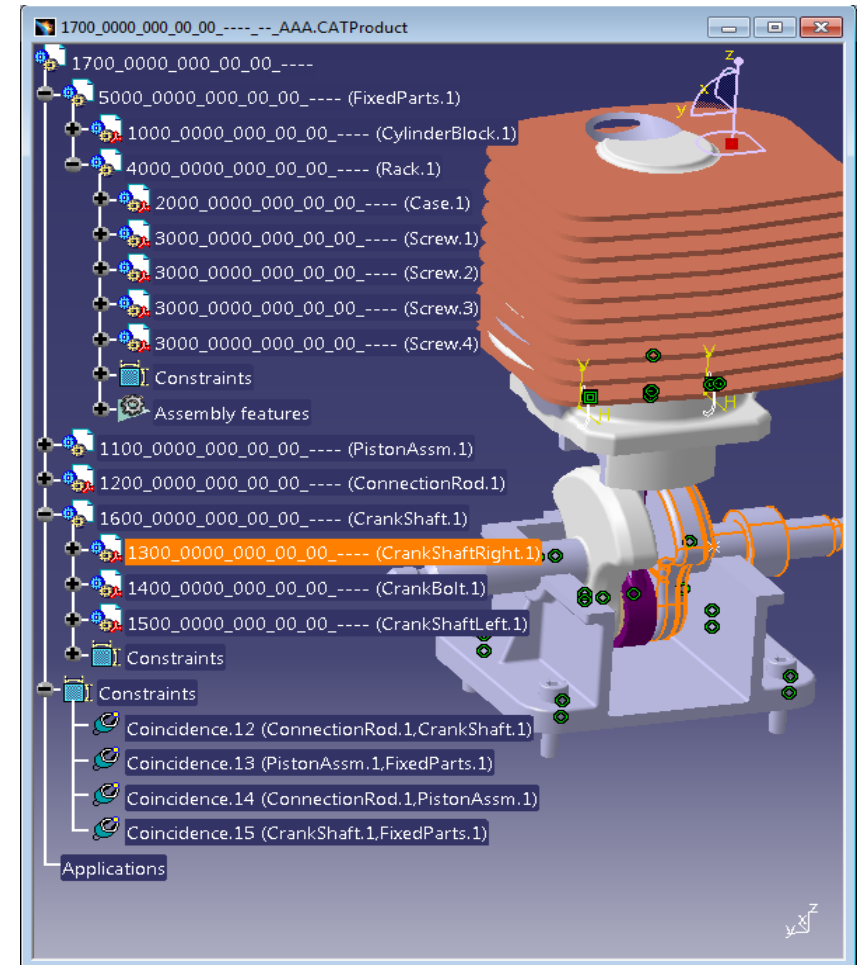


The screenshot shows the Aras Innovator PWB Configuration interface. The main window displays the configuration details for a PWB Configuration, including the user 'Super User' and the date '4/3/2012'. An overlaid window shows the XLM Schema file editor, displaying the following XML code:

```
<?xml version="1.0" ?>  
<!DOCTYPE PWBSchemata SYSTEM "PWBSchema.dtd">  
  
<PWBSchemata>  
  
<PWBSchema system="Aras" customization="Aras" displayName="NLS_System" visibleLength="15" allowed  
  
<!-- <xmap value="C:\PWB_XMAP" /> -->  
  
<soapTargetUrl value="http://192.168.187.129:80/InnovatorServer" />  
  
<externalSoapClientCallPathEnvVar value="PWB_SOAPCLIENT_PATH_ARAS" />  
<externalFileClientCallPathEnvVar value="PWB_FILECLIENT_PATH_ARAS" />  
  
<!-- <addTempPrefix value="TMP" /> -->  
  
<!-- PDM System specific information (e.g. names of PDM classes) -->  
<pwbWindowColor red="143" green="155" blue="177" />  
<maxExpansionLevel value="30" />  
  
<!-- <setReadOnly value="false" /> (default value) -->  
<!-- <neverReloadCatiaDocAfterUpdate value="false" (default value) /> -->  
  
<showDisplayStringInQueryListView value="false" />  
<!-- <maximumDescriptionAttributeLength value="10" /> -->  
<showDataSourceNlsValues value="false" />  
  
<removeToolBarIcons>  
<!-- "Register", "Update", "Synchronize", "Refresh", "SetSessionConfig", "NewPwbWindow",  
<icon name="Register" />  
<icon name="Synchronize" />
```


PDM Workbench for Aras Innovator Customization – Specific Part Numbers

Customer-specific part numbers can be generated from the dialog attribute values (both part and document attributes) in a customizable server-side method



PDM Workbench for Aras Innovator Customization – Specific Dialogs for the Update Process

Dialogs can contain pre-defined values, including dropdown lists

Part and CAD document are regarded as one entity, attributes for both types can be shown in one window

The screenshot shows a dialog box titled "PDM Create" with a yellow background. It is divided into two sections: "Create dialog for type Component:" and "Create dialog for type CATPart:". Each section contains several input fields with pre-defined values and asterisks indicating required fields. The "Component" section includes fields for Customer Part Number (0000_0000_000), Customer Pos Number (00), Customer Count Number (00), Customer Var Number (----), and Customer Part Name (Customer part name). The "CATPart" section includes fields for Customer Character (--), Customer Type Rep (AAA), Customer Sheet Number (00), Customer Language (DE), Customer Doc Name (Customer document name), and Customer Part Version (000). A "Name" field is also present at the bottom of the CATPart section. At the bottom right, there are three buttons: "OK", "Apply", and "Cancel".

Field	Value	Required
Customer Part Number	0000_0000_000	*
Customer Pos Number	00	*
Customer Count Number	00	*
Customer Var Number	----	*
Customer Part Name	Customer part name	*
Customer Character	--	*
Customer Type Rep	AAA	*
Customer Sheet Number	00	*
Customer Language	DE	*
Customer Doc Name	Customer document name	*
Customer Part Version	000	*
Name		