

PDM Workbench

PDM Workbench Release 20.0.12 for Aras Innovator

Release Notes

Version 1

T Systems

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Preface

About this Document

This document provides general release information for the PDM Workbench.

Related Documents

The following manuals contain information about installation, administration, usage, and customization of the PDM Workbench:

Manual Title	Version
PDM Workbench Installation & Administration Manual	*20.0*
PDM Workbench User Manual	*20.0*

Your Comments are Welcome

Please feel free to tell us your opinion; we are always interested in improving our publications. Mail your comments to:

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CHAPTER 1

Platform Support

Supported Platforms

CATIA V5 Version V5-6R2022, V5-6R2023, V5-6R2024, and V5-6R2025

(other revisions on request):

CATIA V5 Client V5-6R2022	Windows 10 (64Bit), Windows 11 (64Bit)
CATIA V5 Client V5-6R2023	Windows 10 (64Bit), Windows 11 (64Bit)
CATIA V5 Client V5-6R2024	Windows 10 (64Bit), Windows 11 (64Bit)
CATIA V5 Client V5-6R2025	Windows 10 (64Bit), Windows 11 (64Bit)

Important notice:

CATIA V5-6R2014 SP2 has been retracted by Dassault Systèmes and is not supported. Please use SP3 instead.

CATIA V5-6R2022. Minimum service pack: SP1

Server Installation of Aras Innovator:

(Other service packs on request)

Aras Innovator Server 12 SP09	Windows Server 2019, Windows Server 2016, Windows Server 2012
Aras Innovator Server 22 to 37	Windows Server 2022, Windows Server 2019, Windows Server 2016

T-Systems licman21 license manager:

T-Systems licman21	Please refer to the Licman documentation.

CHAPTER 2

Functional Changes

Inertia Information

Also support “Inertia Matrix”, “Principal Axis” and “Principal Moments”.

This means now it is possible to save the following inertia properties of a CATPart to Aras: “Mass”, “Volume”, “Center of Gravity”, “Wet Area”, “Density”, “Inertia Matrix”, “Principal Axis” and “Principal Moments”.

The inertia properties use the following units:

Mass	kg	Kilogram
Wet Area	m^2	Square meter
Volume	m^3	Cubic meter
Center of Gravity	m	Meter
Inertia Matrix	kg m^2	Kilogram square meter (9 space separated values)
Principal Moments	kg m^2	Kilogram square meter (3 space separated values)
Density	kg / m^3	Kilogram per cubic meter
Principal Axis	-	(9 space separated values)

Improve check for 'CAD Structure' expand resolution.

Before loading a structure into CATIA, PDM Workbench checks if the structure (or a sub structure) is already loaded in CATIA using a different expand mode. The check about the different expand mode was refined. The PDM Workbench no longer uses the expand mode to determine if it is possible to load the structure. Now PDM Workbench uses the versions of the expanded children to determine if it is possible to load the structure.

Improvements in the replace functionality Instance

- Now it is possible to replace an instance with a new CAD without a native file. In this case the native file is created on the fly in CATIA and saved to Aras Innovator during the next update.

- Replace a node below an embedded CATIA Component.
- Do no longer open a separate window during replace.

Improvements in Debug mode

Now the debug output of debug level PWB_DEBUG=ON also holds some time trace information like PWB_DEBUG=ON2.

Repair instance with UseCadIsMaster = true

By default, the setting UseCadIsMaster=true causes only the structure from the CATProducts to be used during loading.

The setting UseCadIsMasterRepairInstance=true in the PWB Schema.xml file:

```
<setting name="UseCadIsMasterRepairInstance" value="true" />
<!-- Default value is "false" -->
```

changes this behavior to repair the broken links in the structure. Broken links to be repaired will occur if some UUIDs of the child CATIA files were changed (this could happen if these files are updated / replaced in Aras without using PDM Workbench).

Giving the path to root information for specific problematic PSN nodes to the user

If there are some inconsistent CATIA structures, like multiple instances with the same instance name or instances without an instance name in CATIA, it is not possible to update such a (sub-)structure to Aras Innovator. (The only known way such structures occur in Aras Innovator is for a migrated data from a legacy system). For such structures the user gets a message which holds the complete path to root to the problematic CATProduct. This allows the user to repair the structure before doing the update.

Performance improvement when working with CATIA design tables

Improve performance if the configuration UseDesignTables is activated. The performance is also improved if there are no design tables in the structure, but the setting UseDesignTables is active.

Activate 'DynContextPromote' functionality by default

The 'DynContextPromote' functionality shows a dialog to the user, where the user can select the new state of a CAD. The list is generated dynamically in Aras Innovator using the user and the CAD to determine the possible promote states.

PWB Workbench toolbar - embed login / logout buttons in a fly-out toolbar

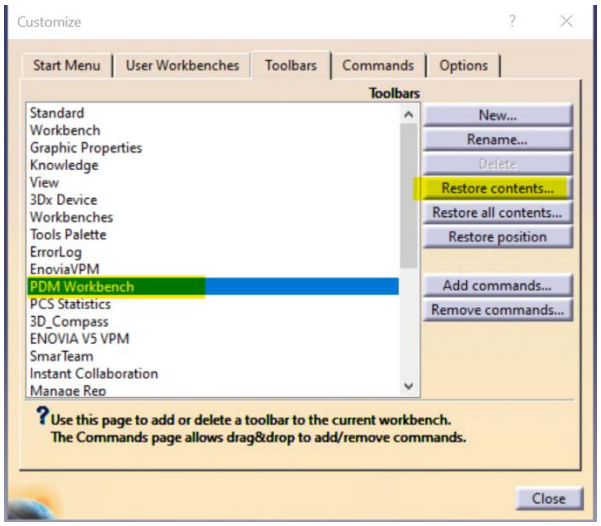
It is possible to use a fly-out toolbar icon for the PWB login / logout command.

To activate the fly-out command activate the following setting in the PWBSchema.xml file:

```
<setting name="UseFlyoutLogoutCmd" value="true" /> <!--
Default value is "false" -->
```

If the user does not see the flyout logout command because he has customized the PWB toolbar, it is possible to use the command:

Tools->Customize->Toolbars->Restore contents for "PDM Workbench"



Picture 1: Restore contents for "PDM Workbench"

Possibility to use CATIA User-Defined Properties in Autoname and PreProcDlgAttrs Custom Methods

It is possible to use user-defined properties in the autoname method and the customization method defined by the setting 'CustomMethod_PreProcCreDlgAttrs'.

Here is how to retrieve them in the autoname method (Pwb_Sample_AutonameMethod):

```
// Standard CATIA Properties
Item CadStdPropsItem = this.getPropertyItem("CadStdProps");
IDictionary<string, string> CadStdPropsDict = null;
if (CadStdPropsItem != null)
{
   CadStdPropsDict =
      PwbServerApiObj.DialogAttrsItemToDictionary(
         CadStdPropsItem);
}

// NEW: User-defined CATIA Properties
Item CadUserDefPropsItem = this.getPropertyItem("CadUserDefProps");
IDictionary<string, string> CadUserDefPropsDict = null;
if (CadUserDefPropsItem != null)
{
   CadUserDefPropsDict =
      PwbServerApiObj.DialogAttrsItemToDictionary(
         CadUserDefPropsItem);
   }
```

Here is how to retrieve them in Pwb_Sample_PreProcDlgAttrs:

```
// CATIA user-defined properties
IDictionary<string, string> CatiaUserDefPropsDict = null;
Item CatiaUserDefPropsItem =
   this.getPropertyItem("CadUserDefProps");
if (CatiaUserDefPropsItem != null)
{
```

```
   CatiaUserDefPropsDict =
      PwbServerApiObj.DialogAttrsItemToDictionary(
         CatiaUserDefPropsItem);
}
if (CatiaUserDefPropsDict != null)
{
   foreach (KeyValuePair<string, string> Attribute in CatiaUserDefPropsDict)
   {
      PwbServerApiObj.Log(
         "CATIA user-defined property '" + Attribute.Key +
         "'/'" + Attribute.Value + "'");
   }
}
```

Print call Stack when creating PWBServerAPI object if configured (PWB 20.0.5)

Sometimes it is difficult to see which method / event calls a custom method. To help to debug, it is possible to write the call stack to the log file of the method.

To activate set Aras variable PwbServerLogCallStackHistoryLvls=<level count>

Show filenames in 'do you want to overwrite' message (PWB 20.0.6)

When loading a structure from Aras with some of the files to be loaded are already available in the exchange directory of the client, PWB checks if the files still use the original geometry from Aras. If not, the user must decide if the files should be overwritten by the files from Aras. Starting with 20.0.6 the file names of the modified files are shown in the message box.

It is possible to configure the attributes to be shown instead of the file name:

```
<setting name="OverwriteModifiedFilesDisplayAttributes"
         value="item_number|name" />
         <!-- default value is "filename" -->
```

Additional ServerLog with ProcessIds (PWB 20.0.6)

Starting with PWB 20.0.6, the PWB server log files also contain the process id and the tread number of the current Aras process.

When setting the Aras variable “PwbPrintTraceId=true”, TraceId and SpanId of the process are also added to the output.

Start Login during startup of CATIA (PWB 20.0.7)

It is possible to launch the PWB Login process directly during startup of CATIA.

Add the option “-e PWBLoginCmd” to the startup command of CATIA in the file pwb_start.bat:

```
start CNEXT -env pwbcatiaenv.txt -direnv "%PWBDIR%\config" -e PWBLoginCmd
```

Hide login dialog for Single-Sign-On (PWB 20.0.7)

If single-sign-on has been configured and there is no user entry needed, it is possible to hide the login dialog completely using the following setting in the settings section of the PWB Schema file:

```
<settings>
   …
   <setting name="ShowLoginDialog" value="false" />
   …
</settings>
```

Support secure WSS connection for PWB Listener Service (PWB 20.0.7)

To activate the secure connection, you must create a server certificate for localhost (127.0.0.1). You must install the certificate or its root certificate as a trusted certificate.

Then add the certificate file and the key file to the config file of the Listener:

```
PWB_CERTIFICATE_FILE=<path>\<listener>.crt
PWB_KEY_FILE=<path>\<listener>.key
```

Overwrite modified files behavior (PWB 20.0.8)

If the same version of some files to be loaded are already located in the PWB exchange directory, but are locally modified, the user is asked if these files should be overwritten by the saved files from the PLM system. Starting with PWB 20.0.8 it is possible to configure the behavior:

- Ask overwrite (default, old behavior): “Do you want to overwrite …?
- Ask keep: “Do you want to keep …?
- Overwrite: Always overwrite modified files
- Keep: Always keep modified files

Note:
If a file modified on the client is based on a different file version in PDM, it will be overwritten without prompting.

Configuration

To change the default behavior, you must add the following in the PWB Schema.xml file on the client:

```
<settings>
  …
  <!-- OverwriteModifiedBehavior Possible Values:               -->
  <!-- "AskOverwrite" (default), "AskKeep", "Overwrite", "Keep" -->
  <setting name="OverwriteModifiedBehavior" value="AskKeep" />
</settings>
```

Overwrite modified files behavior (PWB 20.0.9)

Add option for automatically overwriting unclaimed locally modified files:

PWBSchema.xml setting "OverwriteModifiedBehavior" -> "Keep|OverwriteUnclaimed"

```
<settings>
  …
  <!-- OverwriteModifiedBehavior Possible Values:               -->
```

```
  <!-- "AskOverwrite" (default), "AskKeep", "Overwrite", "Keep" -->
  <setting name="OverwriteModifiedBehavior"
           value="Keep|OverwriteUnclaimed" />
</settings>
```

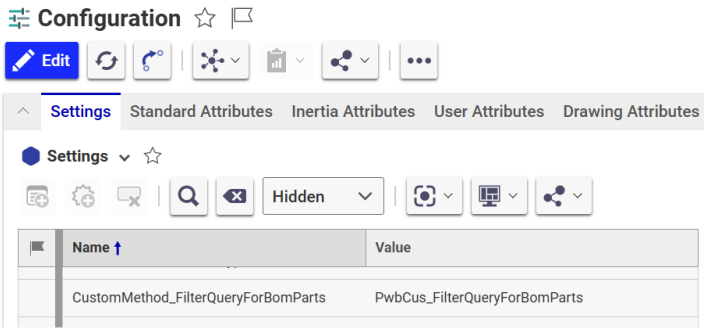
Query for corresponding Part (PWB 20.0.9)

Enabling this feature allows you to search for a specific Part in the BOM Part mode instead of creating a new part.

When using an existing Part, it is essential that the selected Part does not have an existing Part BOM sub structure, and that there is no CAD attached yet.

Configuration

As there is always a filter required to make sure there is no Part BOM sub structure and no attached CAD, the functionality is enabled by defining the custom method CustomMethod_FilterQueryForBomParts.



This method gets a list of Part IDs and filters out all Parts which are not valid.

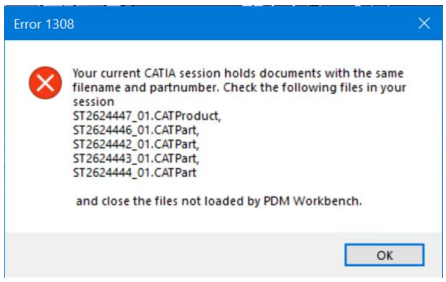
```
using (var PwbServerApiObj = new PwbServerAddin.PwbServerApi(this))
{
  PwbServerApiObj.Log("Called method 'PwbCus_FilterQueryForBomParts' -> ");
  string partIdList = getProperty("partIdList");
  PwbServerApiObj.Log(" -> partIdList:'" + partIdList + "'");
  List<string> partIds =
     partIdList.Split(',',
     StringSplitOptions.RemoveEmptyEntries).Select(s => s.Trim()).ToList();
  if (partIds.Count == 0)
  {
    return PwbServerApiObj.GetResultItem();
  }
  var InnovatorObj =  this.getInnovator();
  string PartBomAML = "<AML><Item type='Part BOM' action='get' select='source_id'><or>";
  string PartCadAML = "<AML><Item type='Part CAD' action='get' select='source_id'><or>";
  foreach (var partId in partIds)
  {
    PartBomAML += "<source_id>"+partId+"</source_id>";
    PartCadAML += "<source_id>"+partId+"</source_id>";
  }
  PartBomAML += "</or></Item></AML>";
  PartCadAML += "</or></Item></AML>";
  var PartIdsToRemove = new HashSet<string>();
  Item result = InnovatorObj.applyAML(PartBomAML);
  if (result != null)
  {
    if (result.isError())
    {
      PwbServerApiObj.Log(result.getErrorCode());
    }
    else
    {
      if (result.isCollection())
      {
        for (int i = 0; i < result.getItemCount(); ++i)
        {
```

```
          var CurrentItem = result.getItemByIndex(i);
          PartIdsToRemove.Add(CurrentItem.getProperty("source_id"));
        }
      }
      else
      {
        PartIdsToRemove.Add(result.getProperty("source_id"));
      }
    }
  }
  result = InnovatorObj.applyAML(PartCadAML);
  if (result != null)
  {
  if (result.isError())
    {
      PwbServerApiObj.Log(result.getErrorCode());
    }
    else
    {
      if (result.isCollection())
      {
        for (int i = 0; i < result.getItemCount(); ++i)
        {
          var CurrentItem = result.getItemByIndex(i);
          PartIdsToRemove.Add(CurrentItem.getProperty("source_id"));
        }
      }
      else
      {
        PartIdsToRemove.Add(result.getProperty("source_id"));
      }
    }
  }
  partIds.RemoveAll(item => PartIdsToRemove.Contains(item));
  string filteredPartIdList = string.Join(",", partIds);
  var ResultItem = PwbServerApiObj.GetResultItem();
  PwbServerApiObj.Log("filteredPartIdList: '" + filteredPartIdList + "'");
  ResultItem.setProperty("filteredPartIdList", filteredPartIdList);
  return ResultItem;
}
```

Warn if a filename is used for more than one document (PWB 20.0.10)

If you create a new CATProduct or CATPart in a separate window and set the part number to a part number that has already been used and was loaded by PWB in another window, PDM Workbench cannot distinguish between the files because it uses the part number as an identifying attribute.

To avoid overwriting the existing file in Aras by the new file, this function checks if there are multiple instances of the same with the same part number.



Configuration

To enable the check, add the following setting into the PWBSchema.xml file:

```
<settings>
      ...
      <setting name="CheckForRepeatedlyOccurringFilenames"
               value="true" />
</settings>
```

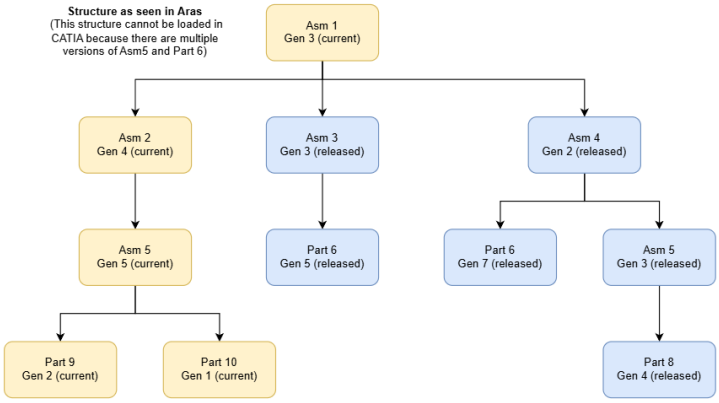
Enable "AlignVersionsInCadStructure" with custom expand (PWB 20.0.10)

In CATIA it is not possible to load multiple versions of the same file at the same time. To make sure an assembly that uses different versions of the same Item, PDM Workbench uses the AlignVersionsInCadStructure functionality.

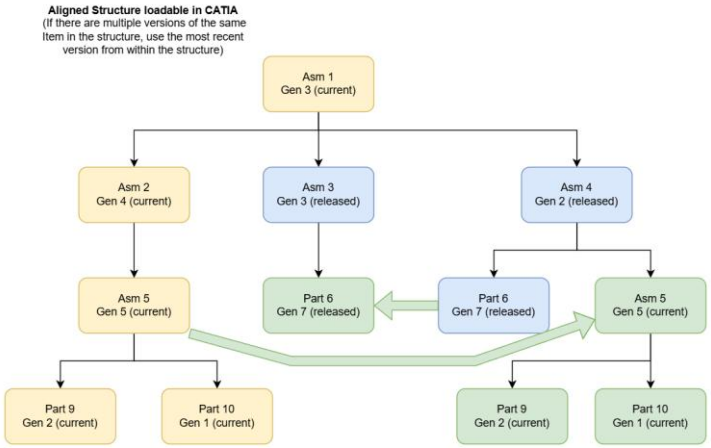
By default, the AlignVersionsInCadStructure is not used if you expand in “Current” mode, because with the expand mode “Current” you will always get the latest version of each Item in the structure and therefore no version conflict.

Using a custom method to expand CAD Structure, that uses an expand mode like: Expand “Current” until the first released “Released” CAD. From the “Released” CAD expand the sub assembly in “AsSaved” mode.

Your structure may look like follows:

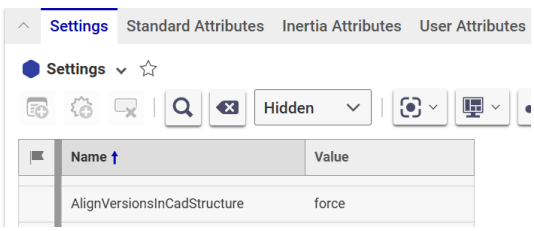


The AlignVersionsInCadStructure functionality will change the structure as follows to make the structure loadable in CATIA:



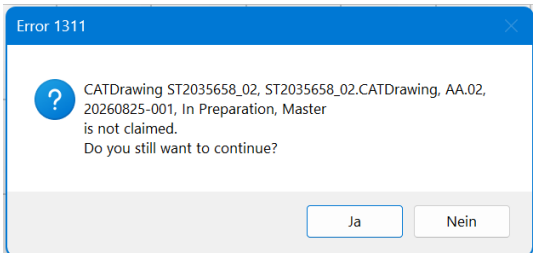
Configuration

Add the PWB Configuration setting “AlignVersionsInCadStructure” to “force” to the PWB Configuration object in Aras:



Enable warning when trying to update readonly CATDrawing (PWB 20.0.12)

When updating a CATDrawing with all dependencies, the user sometimes misses the “SKIP” state of the CATDrawing. This feature allows to enable an extra warning if the user starts the update from a readonly CATDrawing:



Configuration

To enable the check, add the following setting into the PWBSchema.xml file:

```
<settings>
      ...
      <setting name=" AskUpdateReadonlyDrawing" value="true" />
</settings>
```

CHAPTER 3

Data Model Changes

The following data model changes are introduced in this release of the PDM Workbench.

Changed Forms

Added Forms

Added ItemType

Added LifeCycle

Added RelationshipTypes

Changed Client Methods

Added Client Methods

Changed Server Method

20.0.2 PwbSetClaimedIsNewGenVal

20.0.4 Pwb_Sample_SyncCadToBom

20.0.7 Pwb_Sample_SyncCadToBom

Added Server Methods

CHAPTER 4

Bug Fixes

Version 20.0.1

- Renamed Instances not received in PostProcUpdate
- Deleted structure in CATIA does not always delete CAD Structure in Aras
- CustomMethod_GetCustomItemInfo is only called for expand
- Issue when replacing a CGR in a product
- Restrict PSN Node Consistency check to CATPart and CATProduct
- Cannot update Aras Part in CATIA
- Change message type of 'PWBMessageUtil::NoUpdateOnlyReadOnlyFilesInformation' from information to warning.
- Save issue: Save fails when change window but process result shows success.

Version 20.0.2

- Fixed issue where inertia values were not updated when the center of gravity as on one of the principal axes.
- Fixed the issue where, if a dynamic dialog used "Query for existing Part" as first corresponding Part action, the query dialog was not directly opened with the create dialog for the CAD.
- Fixed the issue where the error was not shown to the user when a custom method returned a SOAP error.
- Performance improvement in CAD Structure mode: When using claim / unclaim for multiple CADs from CATIA with attribute mapping from Part to CAD or with CadTreeIconInfoUsePartInfo=true, PWB used a seperate expand for "Part CAD" (left to right) from each CAD instead of using the setbased method. This is fixed now.

Version 20.0.3

- Cannot create a CGR under an existing CATProduct
- Change message type of 'PWBMessageUtil.NoUpdateOnlyReadOnlyFiles' from information to warning.
- CustomMethod_SaveUsedMaterials does not provide different message types to user.
- Update after "Duplicate Structure" with drawing causes Warning 1304.

- Update: show node with invalid representation type.
- Close window directly after pressing save

Version 20.0.4

- PostProcUpdate not called after updating a CAD Structure to current
- Open Drawing with related 3D always opens the related 3D
  By default when open a Drawing with related 3D, the related 3D is openend in a Window in CATIA. The value of the user setting "Open linked Documents in own Window" is ignored.
  To respect the user setting the following schema setting can be activated:
```
<setting name="OpenDrawingWithRelatedUseLinkSetting"
         value="true" /> <!-- default is false -->
```
- Duplicate output when calling custom Action
- Claim / Unclaim optionally enable confirm message
  Optionally enable confirm message for Claim and Unclaim in the schema file.
```
<setting name="ClaimUnclaimAskUser" value="true" />
<!-- Default value is "false", if set to "true"
"ClaimUnclaimAllAskUser"="false" has no effect -->
```
- Reset structure level counting for MMLs
- Impossible to duplicate a CAD Document due to special characters
- PDM Save dialog - Correct the "action succeed" message
- Replace broken link during load does not work correctly
- Alignment of Create Dialog input fields
  To align multiple dialog fields, only set the width ({"visibleLength", "<width>"}) for one of the input fields in the dynamic dialog method. For the other element use {"visibleLength", "-1"}

Version 20.0.5

- Reopen assembly structure induces download of all files in BOM Part mode.
- Open in CATIA always refers to default Configuration item in BOM Part mode.
- Warn when Native file name is different from document file name before Save.
  (Try to save file with correct name before warning)
- Support special XML characters in attribute list for PWBImport
- Continue update if one object cannot be claimed for attribute update.

Version 20.0.7

- Load Assembly downloads some files even if the correct version is already available in the exchange directory.
- Ignore "CAD Structure/Structure" children of a CATPart during load.
- CATIA Crash when using claim / unclaim from Query Expand dialog.
- Refine “Check after repair”.

Version 20.0.8

- Replace Node in BOM Part Structure always creates new file.

Version 20.0.9

- PWBRename: fetch Error if ::Create_Session fails.
- Common Client does not end when closing CATIA.
- Save Operation Reports Success Before Completion.

Version 20.0.10

- Duplicate structure cannot start the CATIA session for duplication.
- Refresh PDM Structure in CATIA after PostProcUpdate.
- Followup updates fail if Part BOM does not exist.
- UnlockAfterUpdate fails if update dialog is hidden.
- Open current not working when the "Load with drawings" is selected.
- Single Duplicate. The name of the new document is sometimes set in the original document.
- Update Dialog: Result Icon missing for BOM Part Structure.
- CATProduct CATIA part number in non-BOM structure mode gets overwritten by Part item_number.
- Error processing CATIA instance information in the case of embedded components.

Version 20.0.11

- Partnumber of replaced file not set correctly after load.
- Duplicate Structure shows error.
- R35 Load very large CATPart (> 2GB) failes.
- Performance: Refresh objects in CATIA Session.
- Slow opening large structure.

Version 20.0.12

- BOM Sync does not work.