

# CMI DMU Module – CATIA Teamcenter Integration Neighborhood Search Volume-based Search

T-Systems PLM Applications

 **T Systems**



# CMI DMU Module

## Key Features

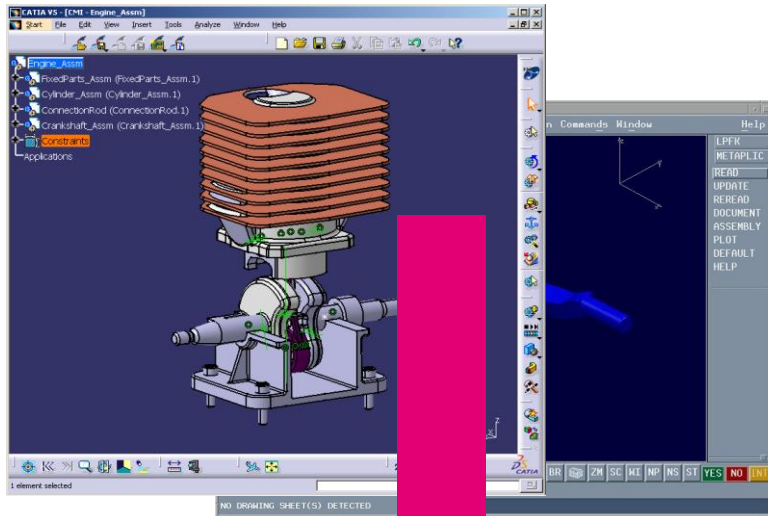
- The bounding box is oriented at the geometry's main axis system
  - closely wrapped geometry leads to good search results
  - bounding box information can be used for packaging
- Works with CATIA V4 and V5 models and with mixed product structures
- Fast bounding box collision detection algorithm
- Geometrical pre-selection directly in Teamcenter
  - reduced load time to CATIA V4/V5 and DMU Navigator
  - reduced amount of data in CATIA V4/V5 and DMU Navigator
- Tailored product structure can be stored as CMI saved session
  - reduced effort for DMU research
- High performance multi-level expand on base of DMU-file

# CMI DMU Module

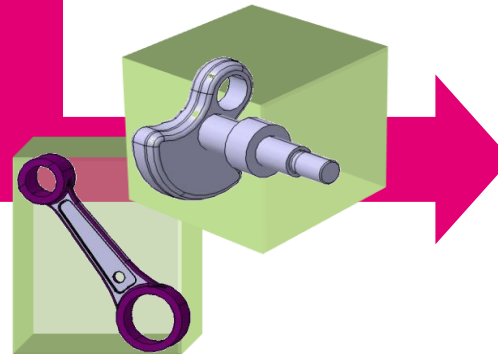
## Technical Highlights

- Neighborhood search
- Volume based search
  - Definition through part selection
  - Definition through manual input
- Definition of an offset (clearance) for search
- Multi-instance selection support
- Combination of geometrical researches

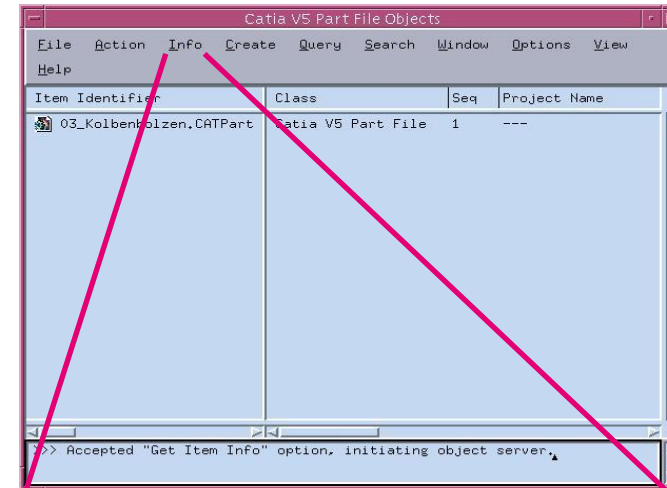
# CMI DMU Module Bounding Box Generation



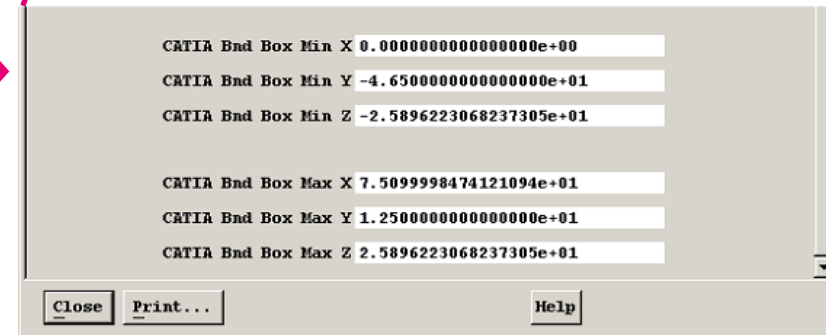
**CMI Update:**  
Stores bounding box information together with CATIA V4/V5 models in Teamcenter Enterprise



**Bounding Box generation is available in batch mode, too!**



Bounding box information is stored at CATIA V4/V5 object in Teamcenter Enterprise



# CMI DMU Module

## Neighborhood Search – User Scenario

**1** Creation of CMI-DMU file for the top-level assembly of a product structure “Engine\_Assm.dmu”

Item Identifier	Class
Engine_Assm.dmu	File
Trego.dmu	File

4 objects Found.  
7 objects Found.  
8 objects Found.



**2** CMI “Show Neighbor Models” is used to select the Root assembly in order to find all geometrically neighbored models in the scope of the product structure.

Root PartNumber for Neighbourhood

Dredger\_assembly A  
C000010544\_A.1\_A  
Dredger\_assembly A  
Engine\_Assm A

OK Cancel

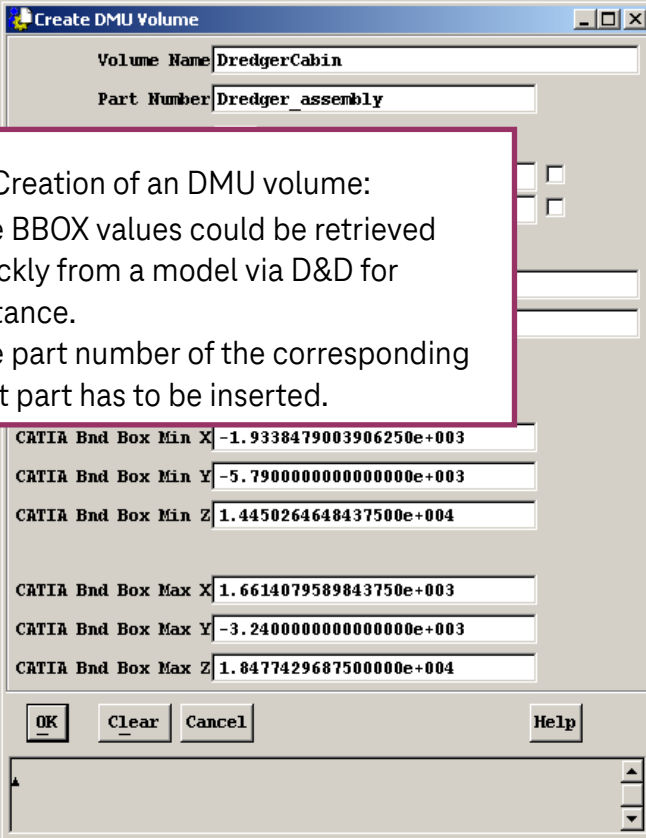
**3** CMI automatically expands the sub-structure including all neighbored geometries.



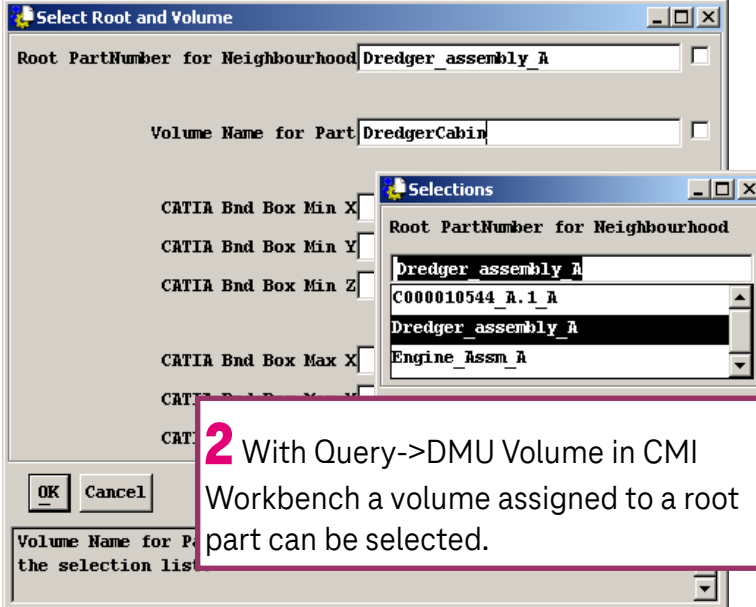
**4** The result of the geometrical research is displayed and can be sent to the DMU Navigator with the “Send to CATIA” action.

# CMI DMU Module

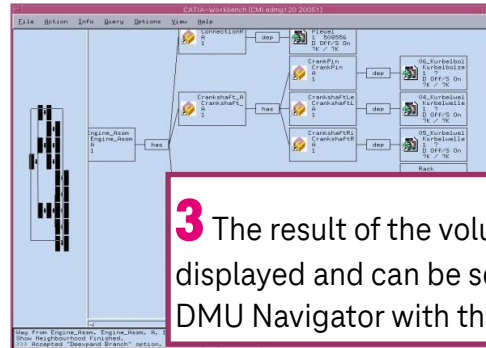
## Volume-based Search – User Scenario



**1** Creation of an DMU volume:  
The BBOX values could be retrieved quickly from a model via D&D for instance.  
The part number of the corresponding root part has to be inserted.



**2** With Query->DMU Volume in CMI Workbench a volume assigned to a root part can be selected.



**3** The result of the volume search is expanded and displayed and can be sent to the DMU Navigator with the “Send to CATIA” action.