What's New in NX…

Update Legacy NX Drawings to PMI

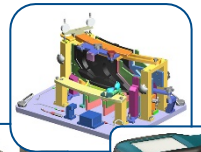
By Matt Martin

11/7/2017

SHERPA DESIGN

WHO WE ARE

A joint venture of 2 Respected Professional Services companies established to back the best software with the best support. We are solely focused on Siemens/NX PLM.

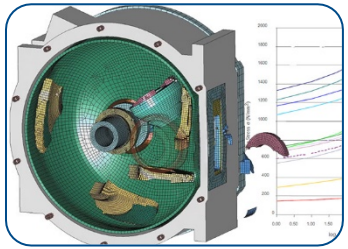


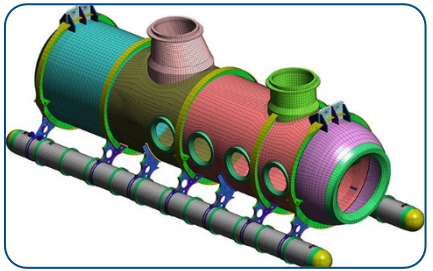
SHERPA DESIGN

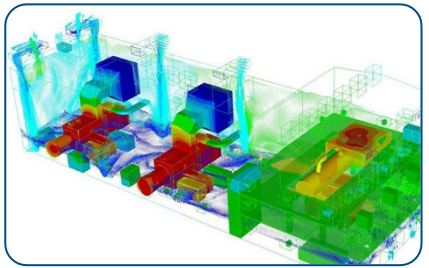
- NX CAD/CAM/PLM
- 20 Engineers
- 2 veteran Teamcenter Architects
- Diverse range of design experience
- Training CAD/CAM/Tc
- Process Development & Automation
- Engineering & Industrial Design
- Teamcenter Services
- CAM/CMM Services
- Machining Services

Finite Element Analysis Predictive Engineering

- NX CAE, Femap
- 6 Engineers
- Femap, LS-Dyna, Nastran
- PhD, P.E.
- FEMAP Advisory Board







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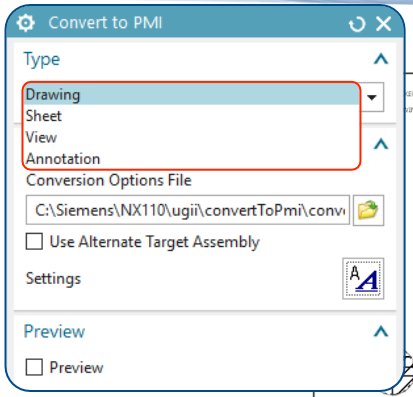
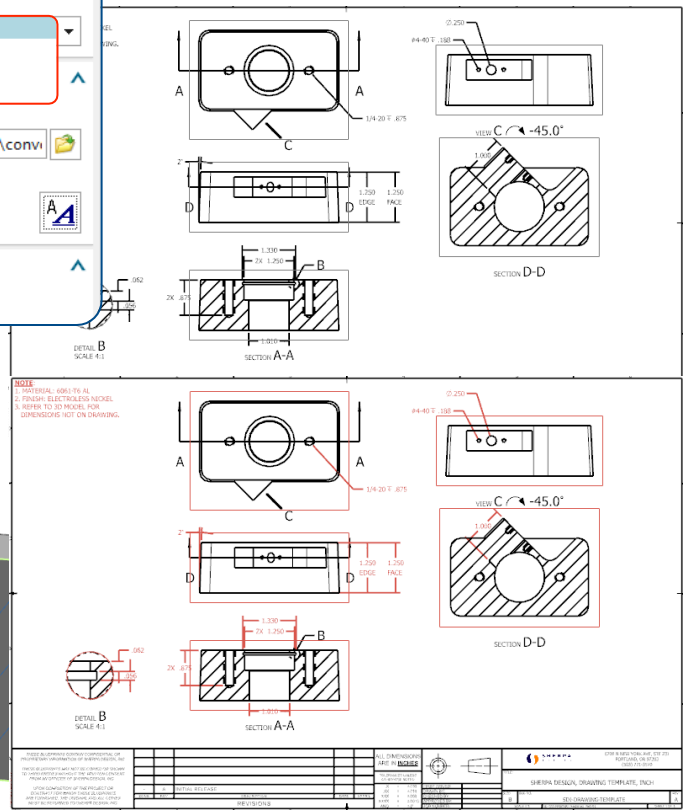
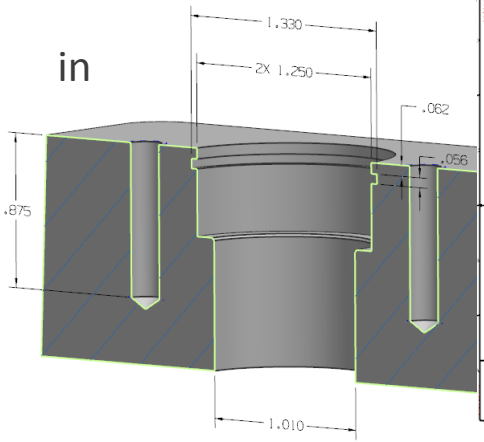
Solution Partner PLM SIEMENS

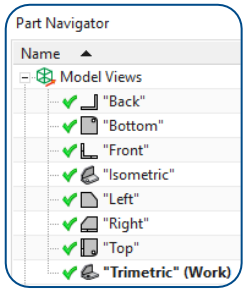
Update Legacy Drawings for PMI/MBD

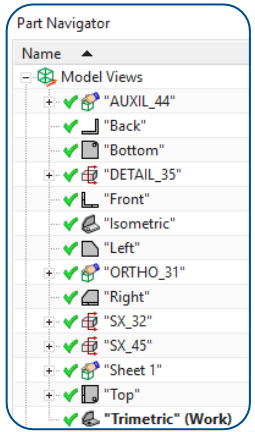
- Use the Convert to PMI command to convert drafting views and objects directly to corresponding model views and PMI objects.
- You can convert specific annotations and dimensions, specific views or drawing sheets.
- Drawings can be converted for PMI in Batch Mode.





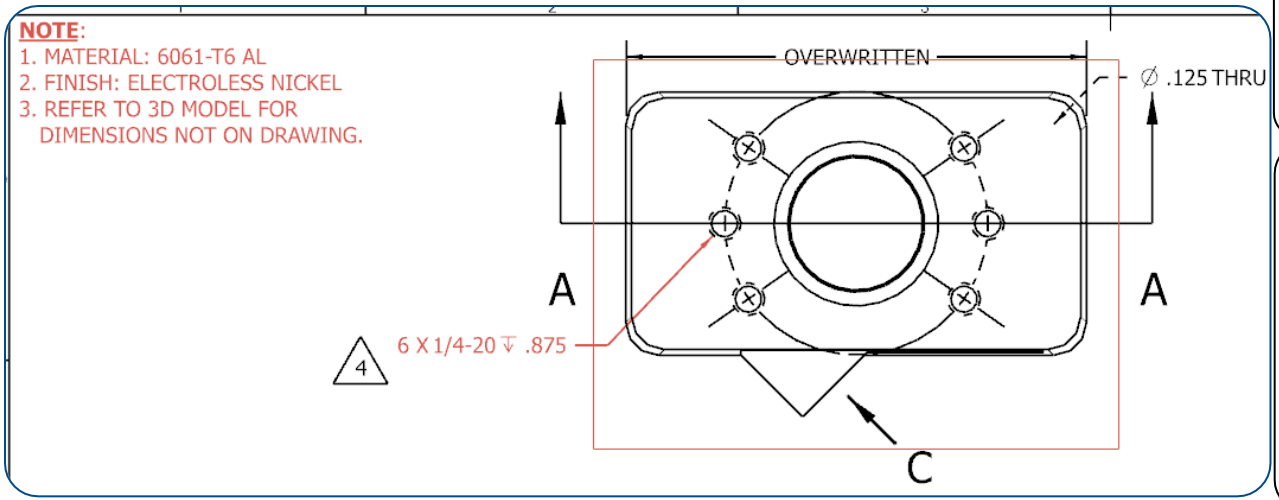


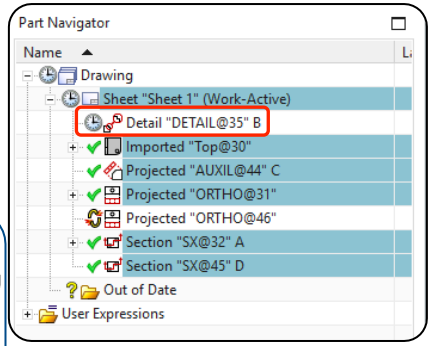


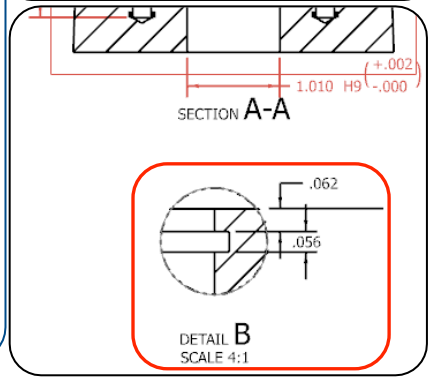


Limitations

- Some Drafting Dimensions do not have an associated PMI type. See List:
  - Approximate dimensions
  - Projected dimensions
  - Manually edited dimensions
  - Balloon notes created using shapes other than a circle.
  - Target Point symbols
  - Intersection symbols
  - Crosshatch & Area Fill symbols
  - Some User Defined Symbols
  - Bold Circle, Circular, Symmetrical & 2D Centerlines
  - Offset Center Point symbols
  - Break and foreshortening symbols
  - Tables including Tabular notes, Parts Lists, Hole Tables and Bend Tables
  - Embedded images
  - Sheet Zone annotation.





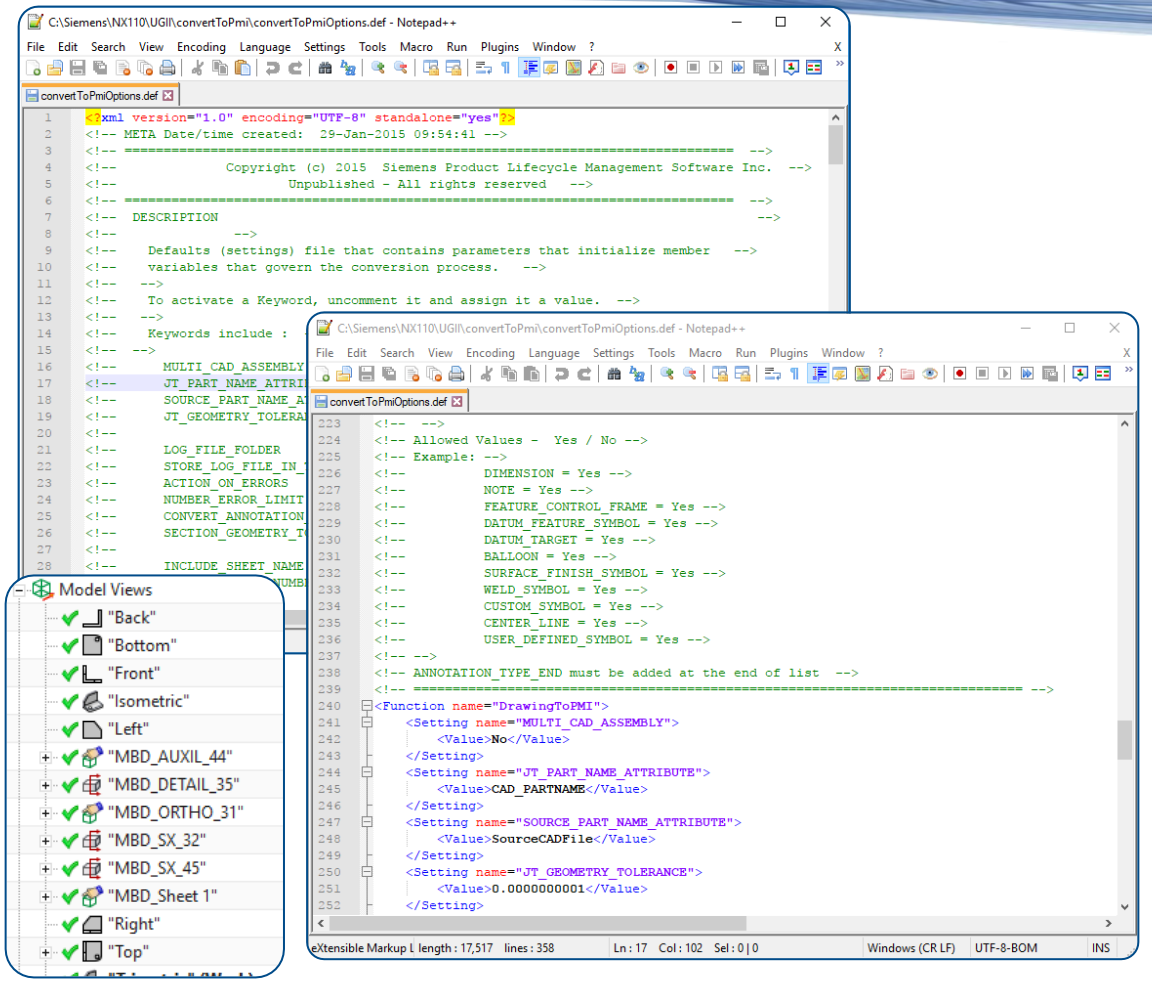


Settings File

- Default settings file is located in your install directory:

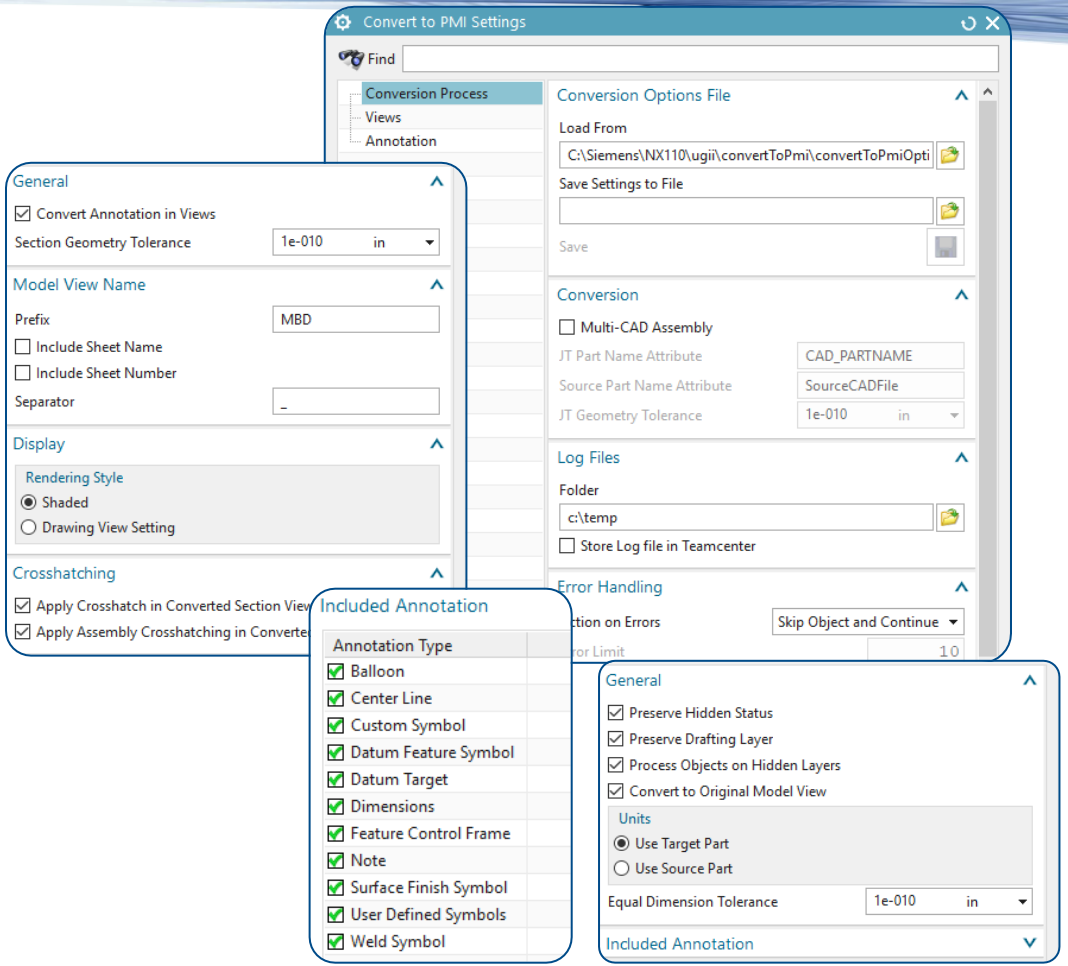
{UGII_BASE_DIR}\ugii\convertToPmi\convertToPmiOptions.def

- Use this file to establish conversion settings such as:
  - Log file folder location
  - Action on Errors
  - Number Error Limit
  - Conversion of annotations in views
  - Add a prefix to views
  - Many others and examples given in the file.
- The Settings File should be used for batch processing.



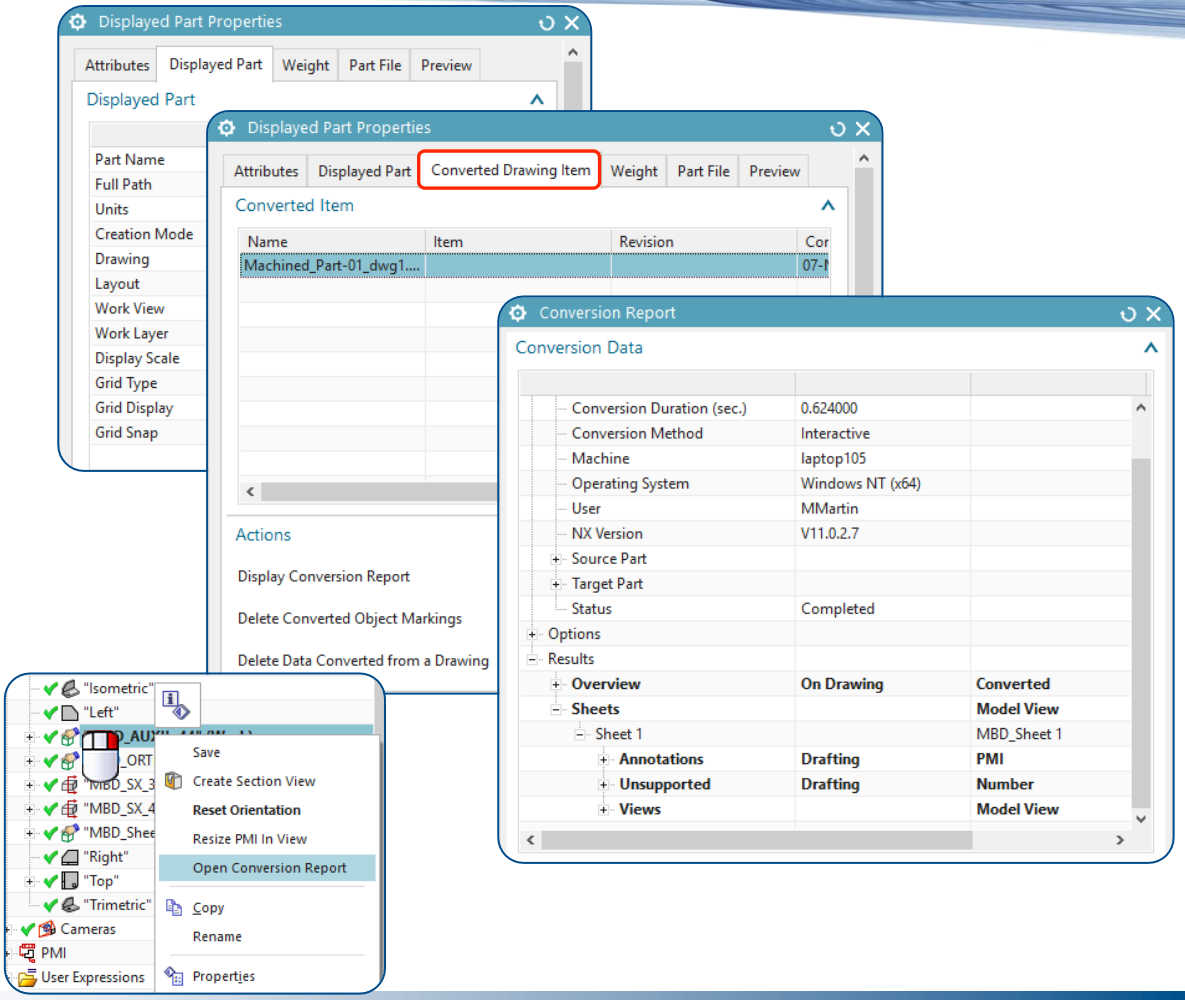
Settings within Dialog

- In addition to the settings file, you can set up a conversion based on the needs of the drawing in front of you.
- These settings can be edited in an ad hoc fashion to experiment with results or to target specific dimension and annotation types.



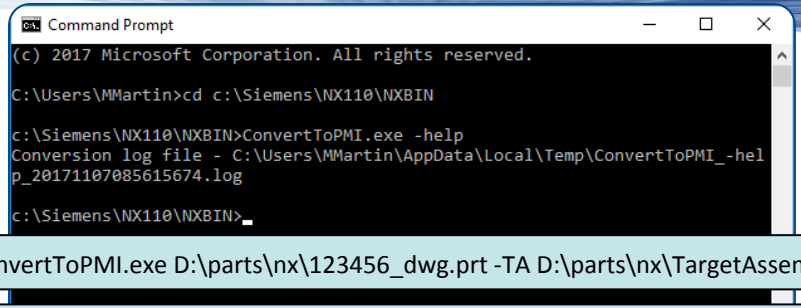
Convert to PMI Report

- A detailed report of the conversion is saved within the part file where it remains until it is manually deleted.
- Access the report by displaying part properties. **File** > **Properties**. The **Converted Drawing Item** tab will be visible once the PMI application is started.
- You can also open the Conversion Report by Right Clicking the Work view and select **Open Conversion Report**.



Batch Processing

- Without starting NX, you can convert many drawings or very large drawings during off-peak hours.
- The ConvertToPMI program does the following:
  - Load a part or assembly and its components with specific load options.
  - Validates a configuration file location if specified.
  - Validates load options file location if specified
  - Converts all sheets, views and annotation from a drawing to a master part or an alternate target assembly if specified.
  - Saves the target master or assembly.
  - Closes all parts
  - Generates a log file

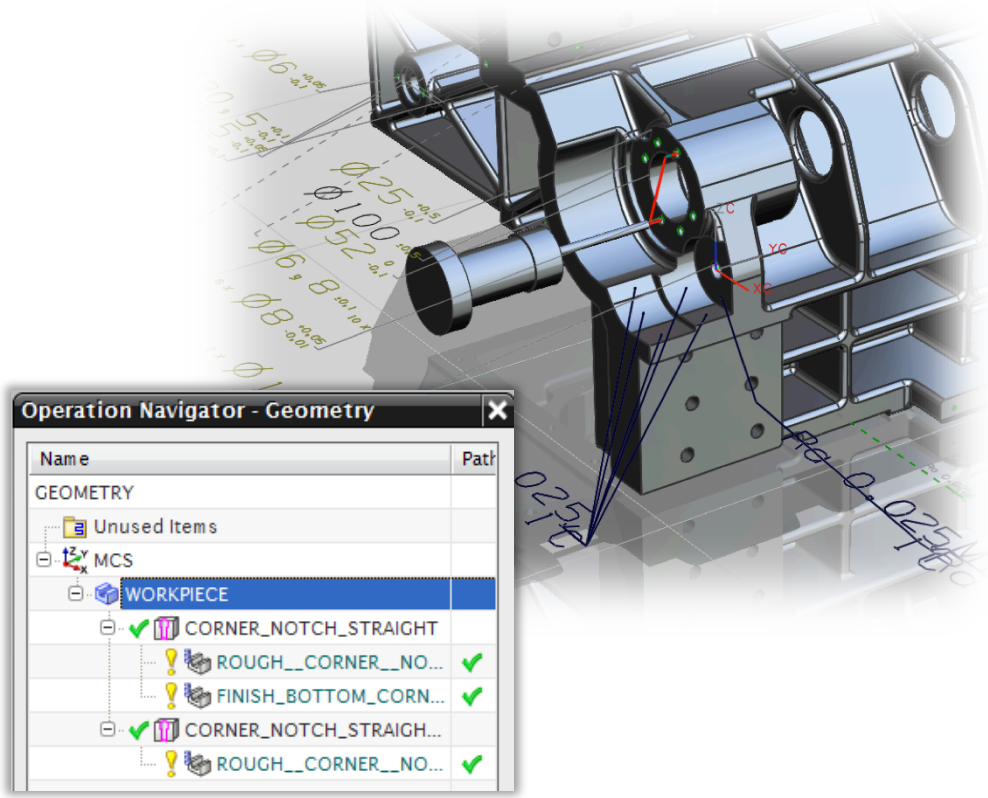


ConvertToPMI.exe D:\parts\nx\123456_dwg.prt -TA D:\parts\nx\TargetAssembly.prt

Processing User Inputs.
ConvertToPMI Help:
[<drawing>] : Convert the Drawing Contents to 3D for the specified part file <drawing>.
For Teamcenter give CLI spec of the drawing part CLI spec format : @DB/<MFK ID>/<rev id>,
Use fnd0partIdentifier property on item in teamcenter to get MFK ID
[-config <config.def>] : Conversion options file path input for conversion operation
[-LO <load options file>]: Load options file. If not specified the ConvertToPMI_load_options.def file shipped with the installation will be used.
[-TC] : To process in Teamcenter.
[-u=<username> : Teamcenter username.
This option is applicable for Teamcenter mode only.
[-p=<password>] : Teamcenter password.
This option is applicable for Teamcenter mode only.
[-TA <filename>] : Specification for the target Assembly if used.
[-NAME name] : If specified, indicates the target part is saved as a new Item/Rev and specifies the item name.
[-NUMBER number : If specified, indicates the target part is saved as a new Item/Rev and specifies the item number. If "ASSIGN", system will assign new number.
[-REV <revision>] : If specified without item name and number, just a new revision of the target part. If "ASSIGN", system will assign new revision.

What to Convert?

- You can Convert to PMI if you are programming parts in NX CAM to extract:
  - Dimensional Tolerance
  - Surface Finish
  - Thread information such as type, pitch, length.
- Should you convert everything? Generally no. Model Based Definition or MBD can more easily work with “reduced dimensions” as the 3D model geometry is the master. All non-dimensioned features should be referred to the 3D model.
- Convert to PMI will be a business process. How to handle released components. Convert on an As needed basis, when the model is revised, etc.



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