STREAMLINING YOUR PART-CENTRIC PLM PROCESSES

Mark Lobo
Senior Director, Solutions Management
November 2018
• Reducing the Friction while working with Part and CAD
• Visualizing your BOM
• Working with your BOM
• Defining Product Families with Platform Structures
• Manufacturing BOM Transformation – Extending the Value
MANAGING THE BOM
PRODUCT DATA IS COMPLEX, AND CONSUMED IN MANY WAYS

PRODUCT DATA

Specifications, parts and product characteristics

Multiple data types: Sensor, Electronic, Software, Mechanical

Global enterprise teams, partners, suppliers, customers

Multiple systems
PLM HAS BECOME STRATEGIC ENTERPRISE-WIDE SOFTWARE

There is a growing need for the entire global enterprise to get involved with product development and in the context and domain they are accustomed.
Windchill BOM Management:
- Single view to all product configuration data
- End user access to relevant views of product data
- Capture and trace updates

Managing a holistic product definition:
- Reduces errors between systems
- Improves data quality with associative BOMs
- Synchronizes product configurations with ERP/MES
REDUCING THE FRICTION WHILE WORKING WITH PART AND CAD
SAVED FILTERS SUPPORT FOR ADD TO WORKSPACE

CAPABILITIES

• Access to Saved Filters in Add to Workspace UI

• Access to Saved Filters created in Add to Workspace, CAD Document Structure Browser and Part Structure Browser

• Available from Basic and Advanced UI

• Admin can share saved filters to other users

• User may create his own personal filters

Available as of: Windchill 11.1 F000
ROLE BASED IDENTITY IMPROVEMENTS

CAPABILITIES

• Profile settings to disable explicit setting of identity fields: Number, Name and File Name

• Enforce business rules in Save As and Rename for Parts and CAD/Dynamic Documents:
  – Number: ONLY generated from OIRs
  – Name: ONLY generated from OIRs
  – File Name: Same as number ONLY

• New: Preferences for Rename to control default behavior

Available as of: Windchill 11.1 F000
Commonspace Save Support

• Collect and Copy CAD Docs, Parts and Docs together

• Maintain links between new copies

• New Server-side preferences to control the default collection of Documents

• New Multi-select object entry points

Available as of: Windchill 11.1 M010
CAPABILITIES

• Show/Hide actions on the toolbar per user.

• Customize control available for:
  – Commonspace Save As
  – Workspace Save As
  – Revise

• User’s configuration is saved to the database

Available as of: Windchill 11.1 M010
CREATE ASSOCIATIONS IN COMPARE TO PART STRUCTURE

Benefit

• Makes editing CAD driven BOM structures more accessible for the non-CAD user
• Easily identify missing associations
• Structured view for previewing and updating engineering BOM

Capabilities

• Associate new and Existing Parts while comparing CAD structure to Part Structure
• Change and Remove associations

Available as of: Windchill 11.1 M010
VISUALIZING YOUR BOM
DYNAMIC VISUALIZATION

• Meant to provide the ability to **dynamically** build the resulting product visualization based on the structure and navigation criteria already in Windchill.

  – Visual navigation of BOM structure
  – Filter based adjustment in content (i.e. overloaded BOM filtering)
  – Viewing product data in various configurations (ex. released configurations)

• **Dynamic Visualization** can be in the context of a **WTPart** or **CAD Document** structure

  In PSB
  RMC to launch CreoView from PSB
  Launch from Representations
VISUALIZATION
RECENT
CAPABILITIES
RECENT CAPABILITIES

• Assembly Feature Support – 10.2 M030
  – Use-case: Assembly Geometry Cuts

• Flexible Assemblies – 11.1 M010
  – Use-case: Assemblies with flexible positioning based on installation requirements

• CAD Represented Parts – 10.2 M030
  – Use-case: Supplier Parts associated with parts via Image Link
  – Use-case: Flexible Components modeled in various states (Hoses)

Position Altered in higher level assembly
WHERE DOES THIS GET US

• From Here:

- Assembly features (ex: cut with missing geometry) missing
- Supplier Part (Image Link only) not loaded
- Flexible Assembly contains wrong position information
- Multi-state represented parts in as-designed non-flexible state

Legend:
- Green: Assembly Features
- Blue: CAD Represented Parts
- Orange: Flexible Assemblies
WHERE DOES THIS GET US

- To Here:

### Classification
- Multi-state Parts geometry loaded correctly
- Image Link components loaded correctly
- Flexible assembly location loaded correctly
- Assembly feature geometry loaded correctly

### Visualization
- Assembly Features
- CAD Represented Parts
- Flexible Assemblies
STREAMLINING WORKING WITH YOUR BOM
CONFIGURATION MANAGEMENT USABILITY

- **User set Default Filter**
  - Select a Saved Filter to apply as the default in Product Structure Browser (PSB)

- **Advanced Find**
  - Create more robust searches against Part and Usage including data that is displayed and not displayed
  - Reuse Saves Advanced Searches (Windchill 11.1 M010)

- **Path Filter**
  - Prune the structure down to branches of interest

Available as of: Windchill 11.1 F000

User can select a Saved Filter as their default for Part clients

Create powerful searches to easily find Parts in your BOM

The information in these slides regarding possible future releases is not intended to be part of any commercial offer and is provided solely for informational purposes. Such information does not in any way constitute commitments, promises or legal obligations upon which customers may or should rely. The development, release and timing of any features or functionality described for PTC products remains subject to change at any time at PTC’s sole discretion. In no event shall PTC be liable to customers for failure to adhere to any such roadmap and/or to produce or deliver any functionality described in these slides. A customer’s decision to purchase any PTC software products must in all cases be based upon the current functionality of the relevant products and not upon any potential future functionality and/or features described in the product roadmap.
CONFIGURATION MANAGEMENT & CLASSIFICATION

• Attribute Editing in the Structure
  – Simplify editing for some attributes in the tree in Product Structure Browser
  – The user can edit some Part & Part Usage attributes in the tree
  – Editing will trigger a checkout

• Existing Similar Parts Notification upon Classification
  – New feature shows the user similar Parts, based on attribute(s) assigned to Classified Part
  – New Preference to enable/disable feature

Available as of: Windchill 11.1 M010

Objects returned if system detects similar/same attributes on existing parts
- Improve usability of Variant Specification
  - Show filtered Structure
  - Visualization Tab displays the variant
  - Understand whether modules are driven by Assigned Expression or Manual Selection (Product Family only)

- Authoring Auto-suggest *
  - When entering Expressions, Rules and Aliases users can leverage Auto-suggest to speed up entry of Choice values

- Option Pool / Option Set experience *
  - Improved control of the display of Option Pool and Set with configurable table views
  - Use Export List to file to generate Excel, PDF, HTML and more

Available as of: Windchill 11.1 M020

Choice suggestions are displayed as the users starts to type characters.
PRODUCT FAMILY MANAGEMENT WITH PLATFORM STRUCTURES
PTC’s solution manages modular platform “elements”
• Windchill delivers a powerful ability to deliver a Platform based upon product modularity to improve reuse and address diverse market needs

• Use to validate a broader range of designs while improving collaboration with manufacturing and service.

• But….what if I want to work with and see a family of products together?
PRODUCT FAMILY MANAGEMENT

- Foundation based upon Configurable Structure Side-by-side view & define features for a family

- Enable Product Family Definition
  - Formal WC objects for defining Digital Families
  - Enables intuitive navigation
    - Easy to setup & maintain
    - Enterprise-wide definition

- Product Family Matrix View
  - Simplify view and management of the Product Configurations within a Family
  - Define configurations using Assigned Expression
  - Delivers a Side-by-side view of many configurations
PRODUCT FAMILY MANAGEMENT STRUCTURE

- Easily define a family of products or SKUs so they can be easily displayed
- Organize them as makes sense for your business needs
- Related to the Configurable Product to define a platform of solutions that can be evolved and managed together

©2017 PTC Proprietary & Confidential - Forward Looking Information
Product Families start with Configurable Product Structures
MANUFACTURING BOM TRANSFORMATION – EXTENDING THE VALUE
Windchill BOM Transformation

- Role based views of product and process information that update to remain in-sync
- Streamline change across engineering and manufacturing
- Associative connection eBOM, mBOM and Process Plans
“FINISH” JAVA APPLET MOVE TO HTML

- Usability and Performance over WAN
- Compatible with modern browser (No Plugin)
- Embedded 3D
STANDARD OPERATIONS

• Now you can re-use same Standard Operations multiple times

• Organize the Standard Operations in Group hierarchy

• Duplicate regular Operations as Standard Operations
CONTROL CHARACTERISTICS/ DATA COLLECTIONS

CAPABILITIES

• Publish CAD annotations to Windchill – PMI (GDT & FTA) and define 3D Control Characteristics

• Define none 3D control characteristics (e.g Process or Note) in Windchill MPMLink

• Define libraries of Standard Control Characteristics

• Allocate control characteristics to process plan operations from Parts or EPMDoc.

• Allow provision of Data collections and Buy-Off

Library of STD Control Characteristics/ Data Collection

Usage of STD Control Characteristics/ Data Collection on Operation
PTC BOM SOLUTION

✓ Correct, Complete, Reliable BOM Information
✓ Better Decision Making
✓ Improved Process Efficiency
✓ Fewer Errors
THE WORLD'S MOST RESPECTED DIGITAL TRANSFORMATION CONFERENCE

BOSTON CONVENTION & EXHIBITION CENTER
June 10 – 13, 2019

REGISTER FOR YOUR ALL ACCESS PASS:
FOR ONLY $500!
USE CODE: FORUM19

* Offer only valid until January 9th, 2019

7000+ Technologists

240+ Breakout Sessions

300+ Industry Experts

100+ Product Demos

livworx.com #LIVEWORX