SAP PLM: Innovations & Enhancements

SAP PLM
Jan, 2016
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Agenda / Content

- Customer Influence approach
- Latest Innovations & Enhancements in SAP PLM
  - Engineering Record
  - Product Structure Management
  - Product Structure Synchronization
How to influence SAP's Products and Solutions?

- Innovate with SAP in current development projects:
  - Customer Engagement Initiative

- Experience a new product release in the test phase:
  - Beta (before product release)

- Adopt SAP innovations early on:
  - Early Adopter Care (after product release)

- Improve existing SAP products by requesting small enhancements:
  - Customer Connection

Find more information about the programs at http://service.sap.com/influence
Influencing through customer connection –
A joint and transparent process

Planning of focus topics
(Focus Topic Preparation)

Detailed analysis and
decision on implementation

Delivery of notes and
support packages

Continuous improvement
of the Customer
Connection process

External Kickoff
Final Call
Selection Call
Delivery Call

Define
Collect
Select
Develop
Use

Definition of Focus Topics for improvements
Collection of Improvement Requests
Selection of improvement requests for implementation
Development (delivered as notes /SP)

Productive use in customers’ systems

Hand in suggestions for Focus Topics
Submit improvement requests
Subscribe for improvement requests
Provide feedback in development and testing
Provide feedback on productive use

open project workspace
close project workspace
2 weeks
~ 6 months
Agenda / Content

- Customer Influence approach
- Latest Enhancements in SAP PLM
  - Engineering Record
  - Product Structure Management
  - Product Structure Synchronization
- Ongoing Customer Influence Programs
Engineering Record
Change Management & Workflow

- New engineering (change) record based on SAP Records and Case Management for flexible change processing
- Same web UI capabilities as for all other major PLM objects
- Embedded ad-hoc workflow functionality
- Automatic generation of target Change Masters, incl. affected objects
Engineering Record
Overview of recent developments

- Easy start of approval process
- Automatic rule-based
  - Status determination
  - Global process route template determination
- Background activities with custom services
- Agent Determination
- Decisions during the approval
- Rejection – a special decision
- Global process route template
- Process Route Authorization
- Sending e-mails
Easy start of approval process

Function

- Approval process can be started with the „Start Approval” Button.
- Status change no more triggers the approval process, although the old behaviour will remain available for existing ER types in which the new features are not enabled.
Automatic rule-based status determination
Based on BRF+

Rules can be defined to control the path of the approval in the status network.
Automatic rule-based status determination
Based on BRF+

By initiating the approval with the „Start Approval” button, the change request is automatically moved from the initial phase to the next phase based on predefined rules. All other statuses can be determined and set with background services in the process route.
Automatic rule-based status determination
Based on BRF+

Complex rules can be set up in BRF+ for automatic Engineering Record status determination.
Automatic rule-based process route template determination
Based on BRF+

Different approval steps can be determined for each phase of the approval.
Automatic rule-based process route template determination
Based on Customizing

- Different process route templates can be defined for every phase of the change request.

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Simple or complex global process route template determination rules can be set up in the Customizing. Simple and complex rules cannot be used simultaneously.
1. For complex rules, BRF+ is required.
2. For simple template determination, templates can directly be assigned to statuses.
Background activities with custom services
Create background activity
Background activities with custom services
Automatic rule-based status change

- Status was automatically changed by the system based on rules set in the BRF.
Manual Agent Determination
Team Definition

By default, all the persons of Financial Assessor will be receiver of this task. But user can reduce the unrelated persons manually.
Manual Agent Determination
Restricting the team

After saving the ER, only Owen will receive the tasks.
Manual Agent Determination
Result

1. Inbox of Owen

2. Inbox of Aaron

- Aaron does NOT receive the task.
Engineering Record
Overview of recent developments

✓ Easy start of approval process
✓ Automatic rule-based
  ✓ Status determination
  ✓ Global process route template determination
✓ Background activities with custom services
✓ Agent Determination

✓ Decisions during the approval
✓ Rejection – a special decision
✓ Global process route template
✓ Process Route Authorization
✓ Sending e-mails
Decisions during the approval
Completing an execution task

✔ Only tasks with „Executed” status are displayed on the decision UI. The „Save and Complete” button becomes available in edit mode to complete the approval step right from the Engineering Record to eliminate the need to navigate back to the workflow inbox.
Decisions during the approval
Completing a decision task

In case of a decision task, a decision has to be made before it can be completed. In case of a rejection, the user has to leave an explanation in the „Note“ section.
Decisions during the approval
Displaying previous decisions

- Previous decisions are displayed in a new column and can be accessed by clicking on the link.
Rejection - a special decision
Mandatory note

✓ In case a rejection decision is selected, the note becomes mandatory.
Rejection - a special decision
Display in the process route table

In case a rejection type of decision is made, it’ll have its own status and icon for better visibility.
Rejection Scenario

In the sample process, after analyzing the changes, the process goes to the Approve Change phase (status 30).

CCB (Change Control Board) Meeting is sometimes required for a complex change.
Enhanced Task Rejection Functions
Parallel approval process for a product change

In the sample process, R&D Manager and Manufacture Manager are approving the product change in parallel in status 30. A task Attach documents is added after the approval.
Enhanced Task Rejection Functions
Make a rejection decision

R&D Manager makes a Rework required decision.

In the meantime, Manufacture Manager has executed the assigned task.
Enhanced Task Rejection Functions
System behavior after a rejection

After the rework decision is made by the *R&D Manager*, the system behaves as follows:

- The status of the approval task of *R&D manager* is displayed as **Rejected**.
- The status of the approval task of *Manufacture Manager* is displayed as **Canceled**, as the task is canceled after the rejection.
- The task of *Attach Documents* is skipped, as it is only validate if the process is approved.
- The process jumps back to status 20 for the reworking according to the status metrics configuration.
- The same tasks in status 20 have been loaded into the process.
Enhanced Task Rejection Functions
E-mail notification for canceling an executed task during rejection

Manufacture Manager receives an e-mail notification as the executed task has been canceled.

No e-mail notification is sent if the canceled task has not been executed or the e-mail service is not enabled.
Decisions during the approval

Customizing

1. After defining decision (1), they can be explicitly assigned to process route activities (2).

<table>
<thead>
<tr>
<th>Decision Define Activities for GOS Objects for Process Routes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set Up Automatic Template Determination</td>
</tr>
<tr>
<td>Define and Assign Decisions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Decision Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision</td>
</tr>
<tr>
<td>Decision Descr.</td>
</tr>
<tr>
<td>Rejection</td>
</tr>
<tr>
<td>ACCEPT</td>
</tr>
<tr>
<td>APPROVED</td>
</tr>
<tr>
<td>REJECT</td>
</tr>
<tr>
<td>REJECTED</td>
</tr>
<tr>
<td>ZAG_DEC1</td>
</tr>
<tr>
<td>ZAG_DEC2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZAG_EA3</td>
</tr>
<tr>
<td>ZAG_EA4</td>
</tr>
<tr>
<td>ZAG_DEC1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check available information</td>
</tr>
<tr>
<td>Approve change</td>
</tr>
<tr>
<td>Sent for Approval</td>
</tr>
</tbody>
</table>

After defining decision (1), they can be explicitly assigned to process route activities (2).
Rejection - a special decision
Indication to the next person

- In case someone rejected an approval step, it is displayed to the next person in the approval process. It is possible to adjust the visibility of this indicator at the customer side for complex approval process hierarchies.
The global process route template ID is automatically generated if it’s not filled by the user. New activities (eg. System tasks or decision tasks) can be defined in the global process route template.
Existing global process route templates can be easily maintained.
Global Process Route Template
Displaying existing templates

Existing global process route templates can be easily viewed.
Process Route Authorization
Limited access

✓ Normal users do not have authorization.
Process Route Authorization
Full access

Users with authorization will have access to the process route features.
Process Route
Templates can be created for different PLM objects

✓ Process route template workbench to monitor activation and transport of requests
Email Notification
Sending E-mails via Additional Functions

- E-mail’s subject and body can be freely customized via BAdI implementations.
Email Notification
Sending E-mails via Background Services

Custom code can be executed by background services to send e-mails to the required colleagues.
Agenda / Content

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  - Product Structure Synchronization
- Ongoing Customer Influence Programs
Product Structure Management

- Web UI for product structure management
- Integrated variant configuration and simulation
- Supporting change management both with date and parameter effectivity
- Web UI for variant assembly management
- CAx integration to variant assembly management
Overview of recent enhancements in Product Structure Management

- **Product Structure Creation**
  - Copy using another structure
  - Copy using template

- **Product Structure Comparison**

- **Change documents**
Activation of New Functions

Customizing:
PLMWUI → Objects → PSM/ASM → Additional Settings
Create using Copy from Template Node... 1

- Specify node type (e.g. Product family) to be created
- Creation based on a template
- Specify the classification name
Create using
Copy from Template Node... 2

- Option to chose from different categories
- Multiple templates for each category
Create using
Copy from Template Node… 3

- Specify the node name which needs to be copied
- Class, material and configuration profile information are automatically copied
Create using
Copy from Template Node… 4

✓ Source Structure displayed
✓ Different Copy conditions: Deep Copy & Structure Copy
✓ Option to specify the naming identifiers
✓ Advanced option of copying Geometric instances
Create using
Copy from Template Node… 5

- Specify the header information for the target structure
- Option to specify the Change number, Access control context information for the target structure
Create using
Copy from Template Node... 6
Create using Copy from Class Template Node… 1

- Copy from Class Template option
- Roadmap of different steps for creating the product structure
Create using
Copy from Class Template Node… 2

- Selection from a category of templates
- Selection of template from a given category
- Class, material and variant are created in the background
New Product Family is created with Class, Material and Product Variant being created in the background.

Class is assigned to Product Family and Material assigned to Product Variant
Change Documents

Change documents for Product Structures

Trigger from Additional Functions
Change Documents

- Filtering of data can be done in the first section: search criteria
- The change objects are mentioned in second section.
- Upon selection of a row, the detail section shows the relevant changes in detail
✓ Comparing two product structures
✓ Option to specify the levels needed to be compared
✓ Option to Specify simulation names
Compare Product Structures

- **Color legend**
- Colour legend defined to categorize the comparison
- The categorization is based on rows which are similar in both trees, different in first tree, different in second tree, selected row, and row which is searched as part of “find in first tree” or “find in second tree”
Maintaining Customizing - Switch

Path: IMG->Logistics-General->Product Lifecycle Management (PLM)->PLM Web User Interface->Objects in PLM WEB UI-> Product Structure and Assembly Management-> Additional Settings
Simplified user settings

- Settings to Display: Allows hiding parameters from the user (not changeable)
- Additional settings
  - Preferred Tree View
  - Material BoM explosion parameters
- Customizing path: PLM WUI → Objects → PSM/ASM → Maintain Default User Settings for PSM/ASM
Dependency Maintenance Table optimization

Tree display

- Display of the Dependency Maintenance Table (DMT) as a tree structure
- Material number as additional column
- Ongoing CEI for further enhancing the DMT
Integration of geometric instances

Integration of geometric instance management in PSM/ASM

✓ Copy option „Copy Geometric Instances“ at structure copy: Allows to copy geometric instances together with their variants

✓ Detail information for geometric instance information at the PIV: Shows per PIV
✓ Geometric instances as table,
✓ Details per geometric instance (Dependency, Transformation)
Integration of geometric instances
DMT, VE integration

✓ Integration of geometric instances in the DMT (for adding geometric dependency), accessible via the new function „Dependencies • Variants and Geometric Instances“

✓ Assignment to Visual Instance Planner (VIP) and Visual Manufacturing Planner (VMP)

✓ Integration of 3D visualization
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Product Structure Synchronization
Handover of Engineering BOMs

- Allow decoupled engineering BOM (eBOM) and manufacturing BOM (mBOM) management, to serve manufacturing and engineering requirements.
- Guided process for semiautomatic reconciliation between eBOM and mBOM.
- Memorize the restructuring operations between mBOM and eBOM.
- Synchronize and compare structure and attributes of items.
- Consider change state (smallest atom) during synchronization.
Overview of changes for Product Structure Synchronization

Changes for Dependency Editing
  – Customizing

Item Management during Synchronization
  – Generic tool: Toolbar enhancements concept for GSS as implemented for PSM 2 BOM
  – Functions added to support the Item Management
  – Customizing
150% to 100% BOM
Changes to Object Dependencies - Editing

- Object dependency can be edited, syntax checked right on the Reconciliation Workbench. Errors are shown and editing box is highlighted.
Item Management during Synchronization – New Toolbars

The toolbars of the Source and Target Structure(s) was reorganized for better usability as well as new features were added into these toolbars.

Toolbar for the Source Structures

Toolbar for the Target Structure
The CREATE menu contains any feature adding new items:

✓ Create item: existing feature to add new independent item inside RWB
✓ [NEW] Create item for multiple BOMs: create new item for any BOMs currently being synchronized
✓ [NEW] Create item with reference: select an item from an already existing BOM and copy over to the current BOM while preserving it’s relation (mapping) to an element in the source structure
✓ Create structure: existing feature to create a new BOM Header inside RWB
The MODIFY menu contains any features for modification of existing data:

- [NEW] Change: enables to change the BOM Header’s Quantity or the BOM Item’s Item number or Quantity. Changes are reflected also in the structure’s view.
- [NEW] Duplicate item(s): selected BOM items will be duplicated while preserving relation to the mapped item on the source side.
- Delete: existing feature to delete from Target Structure
Item Management during Synchronization
New Toolbar: The COPY/MOVE menu

- The COPY/MOVE menu contains features to manage items across hierarchy:
  - [NEW] Copy to Target: the item that has the selection will be duplicated (pushed) into another BOM as a copy. Original item remains untouched, relation to an element of a Source Structure (if any) will be preserved.
  - [NEW] Move to Target: the item that has the selection will be moved below a different BOM header. Relation to an element of a Source Structure (if any) will be preserved, but the item will be removed from it’s original BOM Header.
  - Copy to Clipboard: existing feature to copy an item to clipboard for later use
  - [NEW] Move to Clipboard: items will be removed from the BOM after they have been moved to the Clipboard and can be used later (will not exist any more at its original position)
Item Management during Synchronization – The Mapping Overview screen

- How the items are related to each other - Between Source (PSM) and Target (BOM)
  On a particular Key date (based on Change Number or freely selected)

- Evaluating (Calculating) Quantity requirements vs. Quantities for production & Indicating any mismatch
  Also showing special scenarios like ‘Mapped to BOM Header’ or whether there are any items on source or target side without a matching ‘pair’.
SAP Customer Influence > Products > Product Lifecycle Management

Get Involved
Show projects/programs in which you can register for participation or submit improvement requests.

In Progress
Show projects/programs currently running. In some you can still participate or you can monitor the project execution.

Benefit
Show projects/programs completed or can benefit through enhancements or new features offered in releases and EHPs.

- Big Data Intelligence rapid-deployment...
- Bill of Material as Product Structure in...
- Collaborative Business Scenarios with SAP Jam
- Deploying Fiori applications from SAP WebIDE to...
- Develop a solution for electronic warranty...
- Document Management in SAP S/4 HANA
- Dynamic filtering of SAP product documentation
- PLM Engineering Record
- PLM Portfolio & Project Management (2015)
- PLM Recipe Development
- SAP Project System (2015)
- SAP Quality Management
Thank You!

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