Product Structure Using iPPE in PLM (Part 2)

Overview

We have previously seen how a Product structure can be designed in iPPE.
http://scn.sap.com/docs/DOC-47579

Now we will convert this Product Variant Structure in to a Bill of Material in PP-PI (Production Planning Process Industries) area.

Difference between a Configurable and Configured Product

Configurable products do not have characteristic values at design time. Only at the time of production they are assigned values. The assigned values will be taken from the expected values of Characteristics based on selection conditions.

For eg a Configurable car can have Engine as 200 hp or 400 hp
Chasis as Standard or Special
Wheels as Steel or Alumunium

Configured product will have characteristic values assigned to it.

For eg a Configured Product has Engine - 200hp
Chasis - Standard
Wheels - Steel

We can say that a Configurable product gets converted to Configured Product at the time of Production.

Conversion of a iPPE Structure to a BoM
As you can see in the above diagram, on the left side we have a BoM for a Configurable Material where variants exists for Items where as for Configured material BoM no alternative items exist

Conversion of Product variant structure to BoM in iPPE.

We will see how Product Variant Structure for Configurable Economy Car will be converted to BoM. As seen in previous link we will create a Filter in iPPE workbench. This time we will not assign any Characteristic values.

BoM conversion involves the following steps:

1. Create Filter/Focus in iPPE workbench.
2. Use the Filter in BoM Converter transaction.
3. Maintain settings in BoM Converter transaction.
4. Execute, Preview the results.
5. Modify BoM items in Engineering Work Bench (EWB) and save the BoM.
6. Display the created BoM.

1 Create Filter/Focus in iPPE workbench.

We will create filter in iPPE workbench using transaction PDN.
We can see the filter detail

As seen in the above diagram, the filter ‘FIL_ECON_WO_CHAR’ does not have any characteristic values associated with it.

2 Use the Filter in BoM Converter transaction

We can use the filter created in the above step in BoM Converter transaction PPECS. We should take the filter tab in PPECS transaction and give the filter created in previous step.
3 Maintain settings in BoM Converter transaction

Now we need to maintain settings for BoM conversion.

In the main settings tab page, we have two types of settings:

1. **Structural settings** (relates to BoM explosion for different node types).
   
   Trace Model marker - If this flag is set, the model is exploded as completely as possible.
Convert View structures - We have view nodes in PVS which groups together structural nodes. These does not have any material assigned to it if this flag is set, the view nodes will be exploded.

**2 Dialog settings (relates to display preview of results)**

Display Results: Result preview is displayed automatically and then navigate to Engineering Work bench (where user can add/delete BoM item)

Go to Processing: It goes to Engineering Work Bench (where user can add/delete BoM item)

We will maintain dialog settings as ‘Display Results’ as we need to show result preview before the EWB.

In settings create tab page, we mention the BoM usage and validity date of the created BoM.

The validity date can be taken from the change number or we can give them manually or can be copied from the iPPE object

In this case we will copy the validity date from the iPPE object

One more setting which is important for BoM conversion is in variant tab page

We will ignore the status of variant. Otherwise, the variants in iPPE object needs to be released.
4 Execute, Preview the results

Once we execute, we will be taken over to Results preview. Here we can see whether BoM conversion encountered any error.

From the results preview, we navigate to EWB by clicking the 'To EWB' button.

5 Modify BoM items in Engineering Work Bench (EWB) and save the BoM

We will be taken over to Engineering Work bench as shown below.

Here we see the BoM header details like what is BoM material, Plant, BoM Usage, Alternative, Quantity, etc.

Now to see the items/components inside BoM we have to use menu Bills of Material -> Items.
Here we have options to add/change/delete components in BoM.

We have to save the BoM so that it gets created.

6 Display the created BoM

For displaying the created BoM, we use transaction CS03.

In the initial screen we need to mention the BoM header details like below and press enter.
Here we can see the BoM items that we created from the iPPE object. Also you can see the object dependencies for all items have been checked.

Once you double click on a BoM item, you can see the details.
Once you click on object dependencies, we can see the dependency editor. Here we can see the selection conditions that we maintained at the ippe node level has been carried over to the BoM side.

Summary

In the above document we have seen how a configurable Product Variant Structure has been converted to Bill of Material on the Logistic side using the PPE converter.