439596 - Information about Customizing for planning procedures

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Please find the original document at **https://launchpad.support.sap.com/#/notes/ 439596**

Symptom

This SAP Note provides advice and information about Customizing for planning procedures. In particular, this SAP Note attempts to give answers to the following questions:

- Which planning procedures correspond to the old options "Automatic planning immediately" and "Automatic planning in a planning run"?

- When must events be taken into account from the Core Interface (CIF) and when must they not be taken into account?

- How does the action "Cover Dep./Stk Tr. Requirement Immediately" differ from the action "Start Product Heuristic Immediately"?

- What do I need to take into account in Customizing for the planning procedure "Cover Dependent Requirements Immediately"?

- Why is there a difference between creating and changing planned orders, but not between creating and changing purchase requisitions, for example?

- How is the reuse mode determined?

Other Terms

Planning procedure, Customizing, documentation

Reason and Prerequisites

"Automatic planning immediately" and "Automatic planning in a planning run"

"Automatic planning immediately" has been replaced by the planning procedure "Cover Dependent Requirements Immediately". "Automatic planning in a planning run" has been replaced by the planning procedure "Planning in Planning Run". With Customizing for planning procedures, two types of immediate planning are now possible. The system can either execute a heuristic directly after saving or the algorithm known as "Automatic planning immediately" in Release 3.0 can be executed. Therefore, we have decided to rename the planning procedures. Details about the planning procedure "Cover Dependent Requirements Immediately" are provided later on in this SAP Note.

Including changes from the CIF

Customizing for the planning procedures enables a different response to changes transferred via the CIF interface to the APO system compared to changes

originally made by the user or the system (for example, in the form of a heuristic) in APO. There is an event for each change in APO and an event for each change transferred to the APO system via the CIF interface.

Therefore, certain objects are usually changed in exactly one system, either in the APO system or in an R/3 system (or a CRM system or another OLTP system). Despite this, these objects are frequently replicated to other systems. Therefore, the APO system requires complete information about the requirements cycle of a product. The APO system requires the data for this from the sales orders. The sales orders themselves are managed in an R/3 system or in a CRM system. However, they must be replicated to the APO system.

Conversely, planned orders are changed only in the APO system, for example (this depends on which processes you want to support with APO). These changes are then transferred to the OLTP system; this system then sends these changes back to the APO system in the context of key completion. The change that is sent from the R/3 system to the APO system in the context of key completion is the exact same change that was previously made in APO itself. This change must not be taken into account in planning for a second time. For the events "Create or Change Planned Order in OLTP System" and "Create or Change a Dependent Requirement in OLTP System", specify that no action is to be carried out.

Your process may allow for changes to production orders in the OLTP system (that is, in an R/3 system, for example). These changes may result in changed reservations. Planning in APO must react to this. The requirement coverage elements must be adjusted there. Specify an action (for example "Create Planning File Entries") for the events "Create or Change Production Order in OLTP System" and "Create or Change a Dependent Reservation in OLTP".

Try to avoid making simultaneous changes to the same objects in different systems.

How does the action "Cover Dep./Stk Tr. Requirement Immediately" differ from the action "Start Product Heuristic Immediately"?

The planning procedure "Cover Dependent Requirements Immediately" ensures that the system reacts to the event "Create or Change Dependent/Stock Transfer Reqmt in PP/DS" with the action "Cover Dep./Stk Tr. Requirement Immediately".

If planned order P changes (planned order is recreated or the quantity is changed or the planned order is reexploded), dependent requirements A of planned order P also change, of course. The system then creates one or more receipt elements B1, B2, ... to cover dependent requirement A.

The action "Cover Dep./Stk Tr. Requirement Immediately" has the following individual features:

- When calculating the quantities of the receipt elements Bn, the system takes into account minimum and maximum lot size, fixed lot size, and rounding quantities. Other lot size parameters are ignored.

- If receipt element Bn cannot be provided in time and the scheduling strategy allows forward scheduling, then planned order P can be shifted to the future in order to create a feasible production plan. This may also occur in several stages. You can shift user P to the future in the case of an overdue available component only if you use the action "Cover Dep./Stk Tr. Requirement Immediately".

- The planning procedure "Cover Dependent Requirements Immediately" also works for stock transfers if the stock transfer is scheduled via resources (handling resource and/or transport resource).

- If, for example, planned order P is changed interactively in the product view or in the product planning table, the system implements the required planning steps for the components immediately online, and so the results are immediately visible from component planning.

- The planning procedure "Cover Dependent Requirements Immediately" is a prerequisite for the Capable-to-Promise (CTP) check. All products involved in a CTP check must have the planning procedure "Cover Dependent Requirements Immediately".

- You cannot call a heuristic to cover the dependent requirement.

- A planning procedure with the action "Cover Dep./Stk Tr. Requirement Immediately" can react only to a limited number of events. The next section contains details about this.

A planning procedure that carries out the action "Start Product Heuristic Immediately" has the following properties:

- You can use the heuristic to implement any lot size procedure.

- In the event of non-availability or late availability of a component, there is no change in the higher-level production level. The planned order with dependent requirements that can be covered only with a delay cannot be postponed automatically. If required, this can be done through an additional call of one of the heuristics SAP_PP_008 or SAP_PP_009.

- The heuristic is started only after the last change is saved. If changes are made online, the results of the heuristic are not immediately visible.

- The heuristic can react to any event; therefore, it is not limited to changes of dependent requirements.

What do I need to take into account in Customizing for the planning procedure "Cover Dependent Requirements Immediately"?

The action "Cover Dep./Stk Tr. Requirement Immediately" requires the relationship between planned order P and requirement coverage elements Bn that satisfy dependent requirement A of planned order P. This relationship is known only when there are changes to P in APO. The relationship is not known if there is a change to one of the requirement coverage elements Bn independently of P. P cannot be changed. This applies to the change in requirement coverage elements Bn in APO and particularly to changes in requirement coverage elements Bn that are transferred from R/3 via CIF to APO. If you call a heuristic when you make the changes to Bn (or set a planning file entry in order that the heuristic is called later), this heuristic can destroy the planning result from the action "Cover Dep./Stk Tr. Requirement Immediately". Therefore, we strongly recommend a response only to the following events in the context of the planning procedure "Cover Dependent Requirements Immediately":

- creating/changing dependent requirements or stock transfer requirements in APO;

- changing a plan; here we can re-explode the existing planned orders for the product;

- changing sales orders; Sales orders cannot be shifted to the future in any case. You should respond to a change in sales orders by immediately executing a heuristic. This heuristic is executed only when the sales order is saved, not during the ATP check. This heuristic has only one purpose; that is, to adjust the requirement coverage elements of the sales order when the quantity of the sales order is reduced or when the sales order is postponed. When sales orders are created, or when the number of sales orders increases, or when sales orders are shifted towards the present, the ATP

check takes over the task of generating the requirement coverage elements. Therefore, the heuristic is not suitable for a lot-size calculation. The heuristic should be based on the algorithm /SAPAPO/HEU_PLAN_DEFICITS - particularly "Reduce Surplus" (corresponding checkbox is selected in heuristic Customizing). The heuristic SAP_PP_003 is set in such a way in the standard system.

- If there is subassembly planning for the product of dependent requirement A, the system should also react to the event "Create or Change a Planned Independent Requirement" by immediately calling a heuristic.

- If there is subassembly planning for the product of dependent requirement A and if the consumption mode in the product master allows only backward consumption, then the system may react to the event "Reduction of Planned Independent Requirement w. Consumption" by calling a heuristic immediately. However, this does not have to occur. If the standard lot size heuristic SAP_PP_002 reacts to the event, then the requirement coverage elements originally intended for covering the planned independent requirement are adjusted to the new dependent requirements. If there is no reaction to the event, the original requirement coverage elements remain. Since, in the case of backward consumption, the original replenishment element always appears before the new dependent requirement, this does not cause any constraint violation. If there is a reaction to the event, the plan is adjusted better to the requirements. However, this has the disadvantage that the receipt elements are changed more frequently. If you do not want to change the receipt elements (if possible), use the heuristic SAP_PP_003.

- If there is subassembly planning for the product of dependent requirement A, and if the consumption mode in the product master also allows forward consumption, a planned independent requirement that is behind the dependent requirement can be reduced through the consumption. An access element for this planned independent requirement may represent a surplus after the consumption. In this case, we would advise you to respond to the event "Reduction of Planned Independent Requirement w. Consumption" by immediately calling the standard lot size heuristic SAP_PP_002.

Why is there a difference between creating and changing planned orders, but not between creating and changing purchase requisitions, for example?

In addition to defining the action on an event, Customizing for the planning procedures also allows you to define the desired scheduling status. A popular scenario ensures that new planned orders are always created as deallocated. Scheduling then occurs manually in the graphical planning table. If a planned order has been scheduled once, it should either retain its planning status or be deallocated again if there are changes in the quantity. You can adjust this using the scheduling status settings for the event "Change an In-House Production Order in PP/DS". In exactly the same way, you can specify that planned orders are to be created with immediate scheduling.
Purchase requisitions do not have a scheduling status. Therefore, you do not have to distinguish between creating and changing.

How is the reuse mode determined?

For each event, you can specify exactly which reuse mode is required. For changes to the quantities or dates of product requirements or product receipts, you can always obtain existing non-fixed product receipts (planned orders, purchase requisitions) as long as the quantity and date for the particular planned order still correspond to the requirement situation.
In the case of changes to plans (PPM, RTO), all planned orders must be exploded

again unless the explosion of the planned order is fixed. Therefore, the planned
order is reexploded even if the output of the planned order is fixed (and of
course when the planned order is not fixed). Even if there is a change in the
goods receipt processing time in the product master, the planned orders of the
product must be exploded again. This is because a separate activity is generated
for the goods receipt processing time and this activity is linked to a
relationship with the last production activity.
The maintenance dialog for planning procedure Customizing is generated. The
generation tool allows only certain changes to the maintenance dialog.
Therefore, the reuse mode could not be filled automatically even if only one
entry is always allowed for each event. Use the permitted entry.

Solution

You can find Customizing for planning procedures as follows:
Call transaction SPRO in your APO system.
Choose "SAP Reference IMG".
Open the following menu path:
SAP APO Implementation Guide
SAP Advanced Planning and Optimization
Supply Chain Planning
Production Planning and Detailed Scheduling (PP/DS)
Maintain Planning Procedures

Software Components

Software Component	Release
SAP_APO	310 - 310
SCM	400 - 400
SCM	410 - 410

Other Components

Component	Description
SCM-APO-PPS-SCF	Scheduling Functions

This document refers to

SAP Note/KBA	Title
557731	Planning file entry + reuse mode (documentation)

480292	Multilevel ATP (documentation)
441102	Consulting notes in PP/DS
426563	CTP: Settings, system behavior and performance (docu)

This document is referenced by

SAP Note/KBA	Title
1947025	Wrong documentation in customizing for planning procedures
441102	Consulting notes in PP/DS
426563	CTP: Settings, system behavior and performance (docu)
480292	Multilevel ATP (documentation)
557731	Planning file entry + reuse mode (documentation)