1-1. Master Planning Object Structure (MPOS)

Purpose
Describe the master planning object structure (MPOS) setup process in Demand Planning.

Overview
Below topics are covered in this page.

- <1. Create Characteristics>
  - Generally used characteristics in DP
  - Standard delivered characteristics in APO system
  - Create customizing characteristics
- <2. Create MPOS>
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<What is MPOS>

Master Planning Object Structure (MPOS) is a combination, or a group of characteristics. (Characteristic is a BW concept, defined using BW processes.)
In Demand Planning, you use MPOS to model the planning products and locations in your enterprise.

<1. Create Characteristics>

To create MPOS, we first need to have characteristics. Except for the general characteristics stand for Product and Location, you can have as many characteristics as you need to describe the planning factors of your products. For example, if you need to categorize the products with different ship-to parties, you can have a characteristic named as "Ship-To Party".

- **Generally used characteristics in DP**
  "Product" and "Location" are most commonly used characteristics in demand planning – without specifying product location, forecast data cannot be released for further planning. There're some other commonly used characteristics like ship-to party, product group etc, but none of them is mandatory. The consultant must determine the characteristics that model the customer's business best.

- **Standard delivered characteristics in APO system**
  In standard APO system we have some standard delivered characteristics for users to use directly. These characteristics are started from "9A", e.g. 9AMATNR for product and 9ALOCNO for location. Users can use SAP delivered characteristics directly, but they cannot be modified. It is suggested to use customizing characteristics if you want to modify the standard characteristics.

- **Create customizing characteristics**
  Characteristic is a kind of BW object. We use BW t-code RSD1 to create your own characteristics. A best practice is that, you can use the standard delivered characteristics as template when you create your own.

<2. Create MPOS>

To create an MPOS, follow below steps.

1. Enter t-code: /n/SAPAPO/MSDP_ADMIN.
2. Push F5 to switch to MPOS view.
3. Right click on the root note, and choose "Create Planning Object Structure", give a name and execute.
4. In the next screen, specify below header information.
   - Text: Description of the MPOS is a must.
4. SNP Possible: If you set this flag, the MPOS is used for Supply Network Planning (SNP) instead of DP.
   * Since customizing SNP MPOS is not supported, so you're supposed never to set this flag to your own MPOS. This is the same to flag "SNP: Scheduling Agreement".
5. Character-Based Forecasting: The MPOS is for CBF planning when this flag is set.

5. Look for the characteristics you want to include in the MPOS from the list on the right, select it and push the arrow button to move them to the right list.

6. Assign location/product. This is a step with great importance. If you're not using 9AMATNR for product characteristic or 9ALOCNO for location characteristic, you must assign the corresponding characteristics in this step, so that relevant functionalities (e.g. forecast release, UOM setting in planning book etc.) can recognize the characteristics for product and location.

7. Save.

**Notice:** Changes to MPOS can only be made when the MPOS is inactive. To deactivate an active MPOS, all dependent planning areas must be deactivated first.

### <3. Activate MPOS>

To activate MPOS, push "Activate" button in the MPOS change screen, or right click on the MPOS in the MPOS list and choose "Activate". After MPOS is activated successfully, a corresponding BW object will be generated in the embedded BW in APO system. If you access t-code RSA1 (BW workbench) and look for the BW object with the same name as your MPOS, you'll find an infocube (DSO in case of HANA environment) with the same name with description "internal generated ... ". Please notice that you're not allowed to manipulate this infocube (or DSO) in RSA1 as other BW objects because they're maintained internally by Demand Planning processes.

For detailed information about BW objects for MPOS, please refer to page BW Objects in Demand Planning. In the above page, you can also find information regarding HANA migration of MPOS.

### <4. Create and Activate Fixed Aggregate>

Fixed Aggregates are a subset of characteristics of an MPOS. The purpose of using fixed MPOS is to create persistent repository of data in liveCache at aggregated level. Using fixed aggregates can improve performance of reading data from liveCache when processing huge amount of data. SAP Note 503363 has provided a very detailed description of the concepts, usage, advantage and disadvantage of fixed aggregates.

To create a fixed aggregate, right click on the MPOS in /sapapo/msdp_admin, and select "Create Aggregate". Specify a meaningful name, and then in the next screen, select the necessary characteristics from the left side. To activate a fixed aggregate, right click on the Aggregate and select Activate. Activation of fixe aggregates will add new persistent planning objects (CVC) to the MPOS, and time series will also be created for these planning objects in case active dependent planning areas exist.

When you decided to use fixed aggregates after you have read SAP Note 503363 carefully, you must pay attention to some points (also mentioned in the note).
1) When you add/delete CVCs from the MPOS, fixed aggregates must be adjusted accordingly using /SAPAPO/TS_PSTRU_TOOL. (See next section).
2) Fixed aggregates may improve the performance of data reading, but you may encounter bad performance on data saving.
3) Fixed aggregates may cause lock problems during background job execution, especially multiple (or parallel) processes processing the same planning area / planning version.

### <5. Tool for MPOS / Aggregate Administration>

An useful tool is provided by SAP standard system for various functionalities of MPOS / Aggregate. The report name is /SAPAPO/TS_PSTRU_TOOL. This tool provides you with options to check and operate the MPOS and Aggregates.

- Tools for CVCs: Check duplicate CVCs.
- Tools for Aggregates: Get technical information, as well as re-filling the aggregates with current data.
- Tools for MPOS and Aggregates: Activate, deactivate, delete MPOs and Aggregates.
There exists a useful consistency check report for MPOS, Aggregates, and CVCs. The report is `/SAPAPO/TS_PSTRU_CONS_CHECK` with this report, you can perform a series of checks on the MPOS, Aggregates and CVCs – The documentation in the report explains each check very well.