

## Demand Planning Integration Best Practices: SAP SCM Perspective – PART 1

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### ABSTRACT

The SAP Supply Chain Management is one of the key modules in SAP ERP and controls Production Planning, business forecasting and demand planning. It helps the organization to manage their supply chain process in a dynamic environment. SAP SCM is a complete software to cover key processes such as supply chain networking, supply chain planning and coordination, and supply chain execution. This article describes different case studies with solid results for demand planning bucket profiles, characteristic values, Mass processing, planning books etc.

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### Introduction

The Demand Planning process component supports demand planners in creating a forecast of the demand for their company's products to be sold in a target market. Demand planning is used to create forecasts for finished products or for dependent demand for the components of a product. The result of demand planning is the demand plan. For more information about demand plans, see the Demand Plan business object.

The planning process in Demand Planning includes at least the following steps:

Create a demand planning scenario using already existing key figures, characteristics, one or more planning periods, unit of measure, and optionally an existing time stream (see also Demand Planning Scenario business object). To create a demand planning scenario, a preconfigured demand planning scenario template can be used as a template to facilitate the creation (see also Demand Planning Scenario Template business object). Create the characteristic value combinations in demand planning, based on characteristics defined in the demand planning scenario (see the Demand Planning Characteristic Value Combination business object).

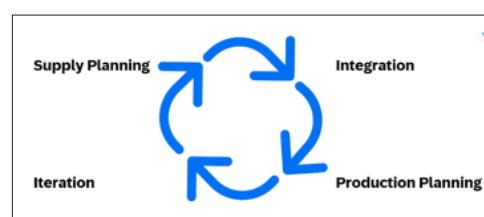
Create a demand plan as a container for planning data (see the Demand Plan business object).

Assign at least one planning version, which already exists in the back-end system, to the newly built demand plan.

Use a demand plan selection for building a subset of all characteristic value combinations (see the Demand Plan business object).

### Literature Review

The planning process is cyclic as the results from PP/DS are also respected in TS Supply. This means, planners get feedback on their production planning from PP/DS and can directly analyze the effects on their supply plan within one system.



**Figure 1:** Process Flow

### Configuration

The following section describes the complete settings for this building block. These settings can be divided into three main groups:

Prerequisite settings that have to be checked and which were delivered by SAP (as part of the standard delivery)

The term Check refers to these prerequisite settings.

Settings defined by the customer (in the customer namespace and customer-specific):

The system uses automation to request individual customer settings during the personalization process. These settings can be initial or reused from existing SAP ERP layers and are indicated in the text by <your value>.

Additional settings that need to be made, covered either by automation or manual configuration (in the customer namespace)

The term Create refers to these additional settings in t

### Methodology

#### Creating the Storage Bucket Profile in Demand Planning

A storage buckets profile defines the time buckets in which data based on a given planning area is saved in Demand Planning or Supply Network Planning. You need a storage bucket profile before you can create a planning area. You need to define a storage bucket profile before you can create a planning area.

Access the activity, use one of the following navigation options:  
Transaction code, /SAPAPO/TR32

SAP SCM Menu, Demand Planning ® Environment ® Current settings ® Periodicities for Planning Area

The screen Maintain Periodicity is displayed. Enter the following values:

**Table 1: Bucket Profile Details**

Field name	User action and values	Comment
Stor. buck. prof	YDP_SBP_MO	
Month	!	
Year	!	
Start date	01.01.2010	Example, maintain according to customer requirements
End date	31.12.2013	Example, maintain according to customer requirements

Time bucket profiles define the historical or future time horizon for Demand Planning or Supply Network Planning, specifically which time buckets are used for planning, how many periods of each time bucket are used and the sequence in which the time buckets appear in the planning table.

Access the activity, use one of the following navigation options:  
Transaction code, /SAPAPO/TR30. SAP SCM Menu, Demand Planning → Environment → Current settings → Maintain Time Buckets profile for Demand Planning and Supply Network Planning.

Define the following profiles:

Time buckets prfl ID YDP\_MON24 the horizon spans 24 months.  
Description 24 Months

- In the Time Buckets Prof. Details Section, enter the following value and choose Enter: Number Basic periodicity Periv2 Display periodicity Choose Save. The time bucket profile is created
- The planning object structure is the structure to be used for the planning area which forms the basis on which a demand planning cycle can be executed according to the characteristics which have been created earlier.
- Choose Planning Area and select Planning Object Structures.
- Right-click the Plng Object Structures folder and choose Create Planning Object Structures. Enter the ID of your master planning object structure: for example, YDP\_POS. then choose Enter.
- On the S&DP Administration - Configure Planning Object Structure screen, enter the description in the text field. SNP-possible, SNP scheduling, Char.-based forecasting and DP BOMs relevant are not used.
- Transfer the following Characteristic from the right part (Copy Fr.) to the left part (Planning Obj. Struct.) of the screen:

**Table 2: Object Structure**

ZY93_BK01	Sales Quantity 1
ZY93_BK04	Hist. Sales Corr.
ZY93_BK05	Hist. Sales Override
ZY93_BK06	Corrected Sales Hist
ZY93_BK07	Statistical Forecast
ZY93_BK08	Manual Forecast
ZY93_BK09	Additional demand
ZY93_BK10	Local Fest. Adj.
ZY93_BK11	Central Fest. Adj
ZY93_BK12	Demand Plan
ZY93_BK91	Hist Sales w/o add.
ZY93_BK92	Additional KF 2
ZY93_BK93	Additional KF 3
ZY93_BK94	Additional KF 4
ZY93_BK95	Additional KF 5

### Creating the Planning Area

A planning area is the central data structure of Demand Planning. It groups together the parameters that define the scope of planning activities. It also determines where and how the planning results are saved in liveCache.

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To access the activity, use one of the following navigation options:  
Transaction Code /SAPAPO/MSDP\_ADMIN SAP SCM Menu Advanced Planning and Optimization à Demand Planning → Environment → /SAPAPO/MSDP\_ADMIN - Administration of Demand Planning and Supply Network Planning  
Right-click the Planning areas folder and choose Create planning area. In the dialog box Create Planning Area, enter the following data:

Choose Enter.

In the Change Planning Area window, choose the Key figs tab page and transfer the required Key figs from the right part (Copy Fr.) to the left part (Planning Area) of the screen.

On the Key Figs tab page, choose button Details. Maintain the fields as follows:

Key figure	Description	Zero allowed	Ty.	Fixable Zero
ZY93_BK05	Hist. Sales Override	X		
ZY93_BK06	Corrected Sales Hist	X		
ZY93_BK07	Statistical Forecast	X		
ZY93_BK08	Manual Forecast	X	Fixable Key Figure	X
ZY93_BK10	Local Fest. Adj.	X	Fixable Key Figure	X
ZY93_BK11	Central Fest. Adj.	X	Fixable Key Figure	X
ZY93_BK91	Hist Sales w/o add.	X		
ZY93_BK09	Additional demand	X		

ZY93_BK12	Demand Plan	X		
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Choose the Key Figure Aggregation tab page; set the Calculation type and disaggregation key figures. Make the following entries:

Key figure	Description	Calc type	Disag. Key Fig.
ZY93_BK01	Sales Quantity 1	P	APODPDANT
ZY93_BK04	Hist. Sales Corr.	P	ZY93_BK01
ZY93_BK05	Hist. Sales Override	P	APODPDANT
ZY93_BK06	Corrected Sales Hist	P	APODPDANT
ZY93_BK07	Statistical Forecast	P	APODPDANT
ZY93_BK08	Manual Forecast	P	ZY93_BK07
ZY93_BK09	Additional demand	P	APODPDANT
ZY93_BK10	Local Fcst. Adj.	P	ZY93_BK07
ZY93_BK11	Central Fcst. Adj	P	ZY93_BK07
ZY93_BK12	Demand Plan	P	APODPDANT
ZY93_BK91	Hist Sales w/o add.	P	APODPDANT
ZY93_BK92	Additional KF2	S	
ZY93_BK93	Additional KF3	S	
ZY93_BK94	Additional KF4	S	
ZY93_BK95	Additional KF5	S	

Field name	User action and values	Comment
Basic Settings		
Planning area	YDP_PA	Your planning area
Master prfl	YDP_MFP	Your master forecast profile name
Description	Master profile	Your profile description
Forecast key figure	ZY93_BK07	The key figure used to keep statistic forecast result
Additional Settings		
Period indicator	M	Months
Forecast Horizon		
Periods	24	Define a time period for your forecast horizon
History Horizon		

Periods	24	Define a time period for your history horizon
Model Selection		
Univariate forecast	√	select checkbox for univariate forecast
Univariate forecast profile	YDP_UFP	

To use the locking logic in conjunction with the macros used for the planning cycle for local and central planner, settings need to be maintained on the locking logic tab page. Choose Save and return to the planning areas overview list.

### Creating the Forecast Profile

To run a forecast, a profile needs to be set up. This contains a reference to the key figure corrected historical on which a forecast can be generated and a target key figure where the forecast results can written to. In this configuration guide an automatic forecasting model will be chosen based upon the historical data.

To Access the activity, use one of the following navigation option: Transaction code /SAPAPO/MC96B

SAP SCM Menu Advanced Planning Optimization → Demand Planning → Environment → Maintain Forecast Profiles

On the Maintain Forecast Profile screen, choose the Master prfl. tab page and make the following entries:

- Choose Enter. If the information window with the information the profile does not exist is displayed, ignore by choosing Enter.
- Choose the Univariate prfl tab page and enter the following values:
- Choose Save single profile, and then choose Adopt. The Univariate profile has been assigned to the master profile.
- Choose the Mater Prfl. tab page, choose Save. The master forecast profile has been created.

### Creating the Diagnosis Group

The diagnosis group contains the threshold values, which trigger an alert when they are exceeded.

- To Access the activity, use one of the following navigation option: Transaction code /SAPAPO/MC96B
- SAP SCM Menu Demand Planning → Environment → Maintain Forecast Profiles

Choose Save single profile, and then choose Adopt. The Univariate profile has been assigned to the master profile.

- Choose the Mater Prfl. tab page, choose Save. The master forecast profile has been created.

### Creating the Diagnosis Group

The diagnosis group contains the threshold values, which trigger an alert when they are exceeded.

- To Access the activity, use one of the following navigation option: Transaction code /SAPAPO/MC96B
- SAP SCM Menu Demand Planning → Environment → Maintain Forecast Profiles
- Input YDP\_PA in Planning Area the field, on the Master Prfl. Tab page.
- Choose the Univariate Profil. tab page, select your Univariate Profile by input help.
- Then choose Maintain diagnos. Group in the Model Parameters section.
- In the dialog box Maintain Diagnosis group, maintain the

value as follows:

- Choose Save Group to save the diagnosis group.
- On the same screen, choose Adopt values. The defined Diagnosis Group has been assigned to the Univariate Profile.
- On the Univariate Forecast Profile screen, choose Save Single Profile.
- Characteristic Values:
- The purpose of this activity is to determine the master data on which you want to create the demand plans, a necessary prerequisite of demand planning.
- Access the activity, use one of the following navigation options:
- Transaction Code /SAPAPO/MC62
- SAP SCM Menu Advanced Planning and Optimization → Master Data → Application Specific Master data → Demand Planning ® Maintain Characteristic Values
- On the Maintain Planning-Relevant characteristic combinations view, enter the following data:
- Master Planning Object Structure YDP\_POS In the Maintain Characteristic Combinations section, choose Create Characteristic Combination.
- On the Create Characteristic Combinations screen, create the following entries:

1. Field Name	2. Entry Value
3. Create Characteristic Combinations	4.
5. Generate Immediately	6. X
7. Data Source	8.
9. Load Data From:	10. InfoProvider
11. InfoProvider	12. ZY93_IC01
13. Data from	14. For example, Current date – two years
15. To	16. For example, Current date
17. Action Selection	18.
19. Results Log	20. X

Choose Execute.

### Result

You have generated the master data for demand planning. You can check the characteristics combination you have just generated by using the Display characteristics combinations option in the Maintain Planning-Relevant characteristic combinations view.

### Creating the Planning Book and Data View

A planning book defines the content and layout of the interactive planning screen. You use planning books in Demand Planning and Supply Network Planning. They allow you to design the screen to suit individual planning tasks. A planning book is based on a planning area.

You create one or more data views for the planning book. You need at least one view in order to use the planning book.

In Configuration, you can assign planning books and data views to users; you can also define whether or not a user is able to access other planning books and data views. Typically, a view is used by one demand planner or by a group of demand planners with a common business goal. In the data view you specify the

planning horizon, which means that planning horizons can be user-specific. You can create several user-specific data views in a planning book based on the same data.

Here we will create three Planning Books each with one or multiple data views for different planning activities.

### Planning Book-Mass Processing

This planning book is used for system background job, which can be scheduled to run during non-working period, for example during night. It includes 4 data views. To create planning book execute the following steps:

- The Proportional factor APODPDANT key figure is automatically added to your planning area when you create the planning area. You do not have to add this key figure yourself and assign it to the planning book in this step. When you create the respective view, this key figure will be automatically there for your selection.
- Choose Continue to go to the Characteristics tab page.
- On the Characteristics tab page, assign the following characteristics from the Planning Area at the right side to the Planning Book at the left side via drag and drop:

This data view is used to calculate the key figure Historical Sales without additional demand by subtracting Additional demand from Sales Quantity 1; the key figure Historical sales without additional demand will then be used as the base for statistical forecast run.

Choose Continue to go to the Key figures tab page and assign the following key figures from the Planning Book area at right side to the Data View area at the left side via drag and drop:

This data view is used to determine the statistical forecast based upon the historical sales without additional demand key figure.

This data view is used to consolidate all input to get the final demand plan which can be released to ECC or SNP for further planning

- The Proportional factor APODPDANT key figure is automatically added to your planning area when you create the planning area. You do not have to add this key figure yourself and assign it to the planning book in this step. When you create the respective view, this key figure will be automatically there for your selection.
- Choose Continue to go to Characteristics tab page.
- On the Characteristics tab page, assign the following characteristics from the planning area to the planning book via drag and drop:
- This data view in the planning book Central Planner is used to review and to maintain the historical sales data.

The Proportional factor APODPDANT key figure is automatically added to your planning area when you create the planning area. You do not have to add this key figure yourself and assign it to the planning book in this step. When you create the respective view, this key figure is automatically there for your selection.

- Choose Continue to go to Characteristics tab page.
- On the Characteristics tab page, assign the following characteristics from the planning area to the planning book via drag and drop:

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This data view is used to review and to maintain the local forecast adjustment and additional demand key figures.



**Go to the Data View tab page and enter the following values:**

Field name	User action and values	Comment
Data View	YDP_DV_LOC_ADJ	
Data view Descr.	FORECAST LOCAL ADJUSTMENT	
Status	3	Changeable
Period Information		
TB Profile ID (Future)	YDP_MON24	24 months in future, your time bucket profile.
Title		
Table 1	DPA_DV_LOC_ADJ	
Unit Column		
Unit column	!	Unit of measure visible

Characteristic	Description
ZY93_BC01	Product
ZY93_BC02	Product Line
ZY93_BC03	Location
ZY93_BC04	Customer
ZY93_BC05	Region
ZY93_BC06	Sales Organization
ZY93_BC08	Customer classification
ZY93_BC09	Area

Planning Book	Data View	Output Only Rows
YDP_PB_CENTRAL_PLAN	YDP_DV_HS_ADJ	Sales Quantity 1 Historical Sales without additional demand
	YDP_DV_FC_REV	Sales Quantity 1 Historical Sales without additional demand Statistical Forecast Additional Demand Local Planner Forecast Adjustment
YDP_PB_LOCAL_PLAN	YDP_DV_LOC_ADJ	Statistical Forecast Manual Forecast Central Planner Forecast Adjustment

Choose continue to go to the Key figures tab page and assign the following key figures from the planning book area at right side to the data view area at the left side via drag and drop:

- On the SDP: Interactive Planning – Initial Screen, choose the planning book YDP\_CENTRAL\_PLAN and data view YDP\_DV\_HS\_ADJ, choose combo Data View, and then choose Change.
- Select the row Sales Quantity 1, then right-click, and choose Select rows → Output only.

- Sales Quantity Historical additional demand forecast adjustments
- Save successfully to create key figures from the planning book
- YDP\_DV\_LOC\_ADJ with YDP\_PB\_LOCAL\_PLAN

On the Characteristics tab page, assign the following characteristics from the planning area to the planning book via drag and drop

**Conclusion**

In this article able to describe few case studies, methodologies and results related to Process flow, Bucket Profile in Demand Planning, Planning Area, Planning Book and Data View and Forecasting. SAP Supply Chain Management, Demand planning, Forecasting will have more number of case studies and methodologies. We'll cover few more in next article [1-25].

**References**

- Analyzing Demand Planning. Learning SAP [https://learning.sap.com/learning-journey/discovering-end-to-end-business-processes-for-the-intelligent-enterprise/analyzing-demand-planning\\_c51b50fc-7ec6-43e9-96e0-5842d1122d4d](https://learning.sap.com/learning-journey/discovering-end-to-end-business-processes-for-the-intelligent-enterprise/analyzing-demand-planning_c51b50fc-7ec6-43e9-96e0-5842d1122d4d).
- Demand Planning. SAP HELP [https://help.sap.com/docs/SAP\\_SUPPLY\\_CHAIN\\_MANAGEMENT/d8a0d82aa9c041028502c8c175143205/7ee8fd508d67e85ee1000000a44538d.html?version=7.0](https://help.sap.com/docs/SAP_SUPPLY_CHAIN_MANAGEMENT/d8a0d82aa9c041028502c8c175143205/7ee8fd508d67e85ee1000000a44538d.html?version=7.0).
- Demand Sensing in IBP. SAP Blogs <https://blogs.sap.com/2023/03/23/demystifying-demand-sensing-in-sap-ibp-how-it-brings-value-to-your-supply-chain/>.
- Demand Planning. SAP HELP [https://help.sap.com/doc/saphelp\\_scm700\\_ehp02/7.0.2/en-US/7e/e8fd508d67e85ee1000000a44538d/content.htm?no\\_cache=true](https://help.sap.com/doc/saphelp_scm700_ehp02/7.0.2/en-US/7e/e8fd508d67e85ee1000000a44538d/content.htm?no_cache=true).
- Jomerc PJ (2018) PP/DS for SAP S/4HANA (Advanced Planning) : A powerful planning and scheduling tool SAP Blogs <https://blogs.sap.com/2018/02/12/ppds-for-sap-s4hana-advanced-planning-a-powerful-planning-and-scheduling-tool/>.
- Berthold von Haaren (2023) Production Planning Integration – Synchronized Planning for Production Using Key Figure Integration and the New Flexible Constraint Heuristic. SAP Blogs <https://blogs.sap.com/2023/11/02/production-planning-integration-synchronized-planning-for-production-using-key-figure-integration-and-the-new-flexible-constraint-heuristic/>.
- Ulrich Mast (2022) SAP S/4HANA Manufacturing for planning and scheduling – Release 2022 is now available, SAP Blogs <https://blogs.sap.com/2022/11/01/sap-s-4hana-manufacturing-for-planning-and-scheduling-release-2022-is-now-available/>.
- Gayatree Bhattacharyya (2022) Flexible Integration with PP/DS for SAP S/4HANA. SAP Blogs <https://blogs.sap.com/2022/01/05/flexible-integration-with-pp-ds-for-sap-s-4hana/>.
- Ahmet Tasdelen (2021) Basic configuration of embedded PP/DS in S/4 HANA. SAP Blogs <https://blogs.sap.com/2021/01/04/basic-configuration-of-embedded-pp-ds-in-s-4-hana/>.
- Gerhard Welker (2020) Highlights for Manufacturing in SAP S/4HANA 2020. SAP Blogs <https://blogs.sap.com/2020/12/15/highlights-for-manufacturing-in-sap-s-4hana-2020/>.
- Phillip Dent (2019) Production Planning and Detailed Scheduling in SAP S/4HANA – What Does It Mean to Me?. SAP Blogs <https://blogs.sap.com/2019/02/19/production-planning-and-detailed-scheduling-in-sap-s4hana-what-does->

- it-mean-to-me/.
12. Venkadesh Seetharaman (2019) PP/DS on S/4 HANA (Advanced Planning) Insights. SAP Blogs <https://blogs.sap.com/2019/01/17/ppds-on-s4-hana-advanced-planning-insights/>.
  13. Jomercer PJ (2018) Production Scheduling Board with PP/DS for SAP S/4HANA (Advanced Planning) on SAP S/4HANA 1709 FPS1. SAP Blogs <https://blogs.sap.com/2018/02/15/production-scheduling-board-with-ppds-for-sap-s4hana-advanced-planning-on-sap-s4hana-1709-fps1/>.
  14. Pranit Bankar (2023) Planning with Characteristics using SAP S/4HANA DSC Edition of PP/DS. SAP Blogs <https://blogs.sap.com/2023/06/21/planning-with-characteristics-using-sap-s-4hana-dsc-edition-of-pp-ds/>.
  15. Berthold von Haaren (2023) Exploring the Benefits of Synchronized Planning for Production. SAP Blogs <https://blogs.sap.com/2023/05/25/exploring-the-benefits-of-synchronized-planning-for-production/>.
  16. Tom Arne Altmueller (2021) Business benefits of a PP/DS for SAP S/4HANA implementation. SAP Blogs <https://blogs.sap.com/2021/03/17/business-benefits-of-a-pp-ds-on-sap-s-4hana-implementation/>.
  17. Pradeep Vijay (2015) SCM Core Interface- Handbook (PART-1). SAP Blogs <https://blogs.sap.com/2015/01/21/scm-core-interface-handbook-part-1/>.
  18. Roman Gorbenko (2020) Integrate It! SAP EWM and SAP ERP integration via CIF. Step-by-step guide. SAP Blogs <https://blogs.sap.com/2020/08/17/integrate-it-sap-ewm-%d0%b8-sap-erp-integration-via-cif.-step-by-step-guide/>.
  19. Balakrishna Gajula (2020) Master Data transfer through CIF using BTEs. SAP Blogs <https://blogs.sap.com/2020/08/24/master-data-transfer-through-cif-using-btes/>.
  20. CIF Customizing in SAP ECC or SAP S/4HANA. SAP HELP [https://help.sap.com/docs/SAP\\_INTEGRATED\\_BUSINESS\\_PLANNING/68fa1e86fe6f41d98421d1ce13a08a9f/a37c66e3e4de42d891ea922a2e65d4c6.html](https://help.sap.com/docs/SAP_INTEGRATED_BUSINESS_PLANNING/68fa1e86fe6f41d98421d1ce13a08a9f/a37c66e3e4de42d891ea922a2e65d4c6.html).
  21. How to Perform CIF Post Processing. SAP HELP [https://help.sap.com/docs/SAP\\_INTEGRATED\\_BUSINESS\\_PLANNING/68fa1e86fe6f41d98421d1ce13a08a9f/a37c66e3e4de42d891ea922a2e65d4c6.html](https://help.sap.com/docs/SAP_INTEGRATED_BUSINESS_PLANNING/68fa1e86fe6f41d98421d1ce13a08a9f/a37c66e3e4de42d891ea922a2e65d4c6.html).
  22. Luke Krogh (2022) How To Choose A Forecasting Model in SAP S/4HANA. SAP Blogs <https://blogs.sap.com/2022/04/08/how-to-choose-a-forecasting-model-in-sap-s-4hana/>.
  23. Girish MP (2021) Sales Forecasting & Planning using SAP Analytics Cloud. SAP Blogs <https://blogs.sap.com/2021/09/21/demand-forecasting-planning-using-sap-analytics-cloud/>.
  24. Oleksandr Golubet (2021) Planning and Forecasting with SAP Profitability and Performance Management Solution – A modern approach, SAP Blogs <https://blogs.sap.com/2021/01/27/planning-and-forecasting-with-sap-profitability-and-performance-management-solution-a-modern-approach/>.
  25. Hardik Shah (2023) SAP success metrics and cloud deployment options. SAP Blogs <https://blogs.sap.com/2023/11/02/sap-success-metrics-and-cloud-deployment-options/>.

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