Version 2021.9

SAP S/4HANA Manufacturing for Planning & Scheduling - Implementation Guide
SAP S/4HANA 2021

SAP Digital Supply Chain

THE BEST RUN **SAP**

Typographic Conventions

Type Style	Description
Example	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Textual cross-references to other documents.
Example	Emphasized words or expressions.
`EXAMPLE`	Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.
`Example`	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade, and database tools.
`Example`	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
`<Example>`	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
`EXAMPLE`	Keys on the keyboard, for example, `F2` or `ENTER`.

Document History

Version	Date	Change
2021.0	2021-10-13	Initial Version for SAP S/4HANA 2021
2021.1	2021-10-27	Chapter 3.1.2 *Basic Settings for the Data Transfer* (p. 14) and 3.2.4 *Change Target-System-Independent Settings in CIF* (p. 17) updated.
2021.2	2022-01-11	Added information related to support for S/4HANA 1909 as ERP system with DSC Edition PPDS. Updated the following chapters: 1.2 *Relevant SAP Notes* (p. 7) 2 *Prerequisites* (p. 8)
2021.3	2022-03-02	Added information related to transferring the classification/variant data changes using a scheduled job. Updated the Chapter 7.1 *Master Data Integration with Classes and Characteristics* (p. 33).
2021.4	2022-06-02	Added information related to transferring the Business Partners, Customers, and Vendors to the DSC system. Added a new Chapter 7.2 *Master Data Integration of Business Partners, Customers, and* Vendors (p. 39).
2021.5	2022-10-12	Added information related to integrating the material master data with MRP areas. Added a new chapter 7.6 *Integrate Material Master Data with MRP Areas* (p. 61).

2021.6	2022-11-16	Added information related to real-time integration of SAP IBP with the DSC system. Added a new Chapter 7.7 *Real-time Integration of SAP Integrated Business Planning (IBP) with the DSC System* (p. 61).
2021.7	2023-01-06	Added information related to the Subcontracting without Source Location in PP/DS scenario. Updated chapter 7.4 *Additional Settings for Subcontracting* (p. 57).
2021.8	2023-01-19	Replaced all the instances of SAP Note 3169639 with SAP Note 3250473. Updated the chapters 1.2 *Relevant SAP Notes* (p. 7) and 7.7 *Real-time Integration of SAP Integrated Business Planning (IBP) with the DSC System* (p. 61).
2021.9	2023-03-06	Updated the Chapter 7.4 *Additional Settings for Subcontracting* (p. 57) by adding information related to support for the "Subcontracting with Phantom Assembly in PP/DS" scenario. Added a new Chapter 3.2.8 *Settings for Planning with Characteristics* (p.20), which provides the necessary settings for planning with characteristics.

Contents

1 Introduction

1.1 About this Document

The SAP S/4HANA Manufacturing for planning & scheduling capability of SAP Digital Supply Chain Management, edition for SAP S/4HANA (DSC system) is not a legal successor of the PP/DS component from the SAP SCM Server. A standard migration path does not exist for data migration and customer code migration from the SAP SCM Server to the PP/DS component. However, you can achieve this using a customer-specific implementation project.

This guide describes the detailed configuration for using the SAP S/4HANA Manufacturing for planning & scheduling capability of SAP Digital Supply Chain Management, edition for SAP S/4HANA (DSC system), in a side-by-side deployment with one or more additional ERP systems.

In the DSC system, you only use Production Planning and Detailed Scheduling (PP/DS) (aka Advanced Planning, embedded Production Planning and Detailed Scheduling, embedded PP/DS). In the ERP system, which can be another SAP S/4HANA system or an SAP ERP system, you can use all available components.

> **i Note**
>
> This guide describes the settings that are only specific to the tested scenarios. Depending on your business processes, additional configuration settings and master data may be required.
> For current constraints and restrictions, see SAP Note 2997719.

Deployment with One or Multiple Independent ERP Systems

ERP System	PP/DS System	ERP System
Finance Sales Human Resources Sourcing & Procurement Marketing Service...	Production Planning and Detailed Scheduling (PP/DS)	Finance Sales Human Resources Sourcing & Procurement Marketing Service...

ERP System
Finance
Sales
Human Resources
Sourcing & Procurement
Marketing
Service...
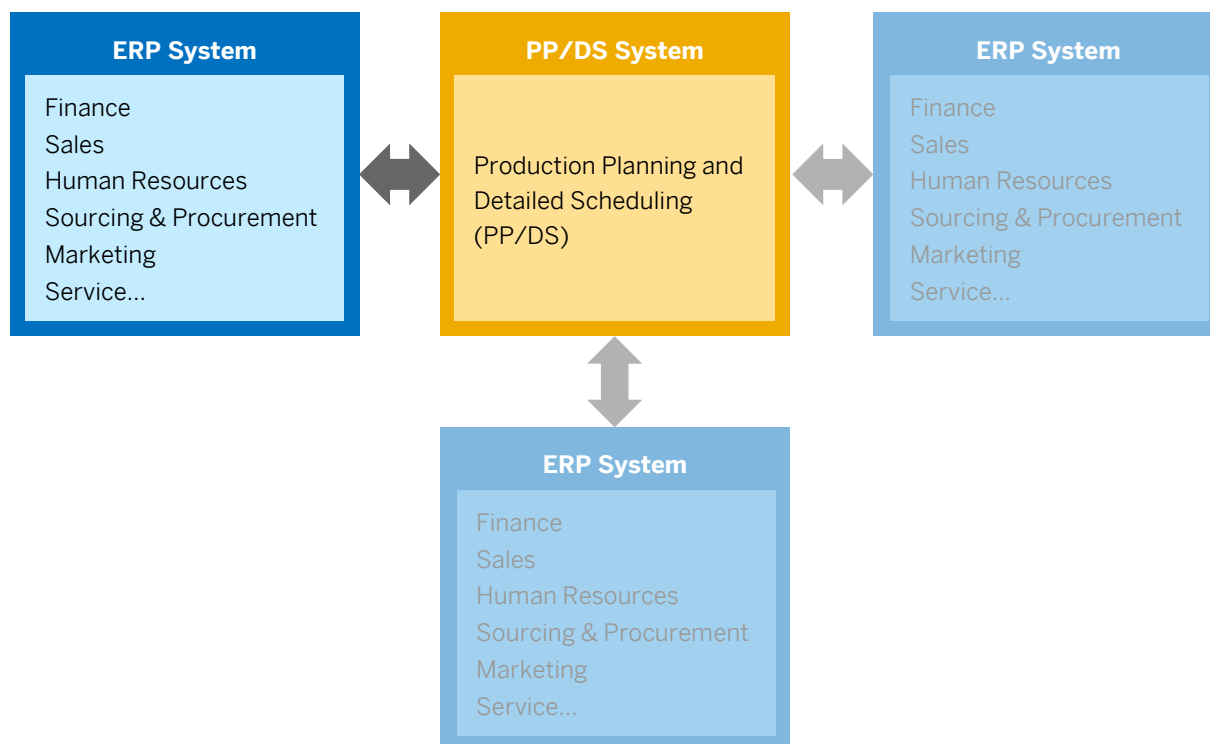
> **i Note**
>
> For additional settings for a scenario where you use different ERP systems for customer and vendor, see chapter *7.3 Setup for Distributed Customer/Vendor ERP* Systems (p. 51).

1.2 Relevant SAP Notes

You must read the following SAP Notes before you start the installation. These SAP Notes contain the most recent information on the installation, as well as corrections to the installation documentation.

i Note

Ensure that you have the up-to-date version of each SAP Note, which you can find at:
http://support.sap.com/notes.

SAP Note Number	Title
3020852	CIF Integration: Planned and Production Orders using wrong Work Center and Capacity
2997719	Restrictions and Implementation Recommendations for Using Advanced Planning Side-by-Side with an ERP System
3126428	Support S/4HANA 1909 as ERP system with DSC Edition PPDS
3004711	Connect an SAP ERP system with advanced planning (PP/DS) in an SAP S/4HANA system
3098005	Release Information Note: Production Planning and Detailed Scheduling for SAP S/4HANA 2021
3073670	Restrictions and Implementation Recommendations for Production Planning and Detailed Scheduling in SAP S/4HANA 2021
3250473	Define Additional Location Material Master Data for Production Planning Integration (SAP IBP OBP with SAP S/4HANA PP/DS)

1.3 Naming Conventions

The term **ERP system** refers to the SAP ERP (or SAP S/4HANA) systems that are used for components other than PP/DS.

The term **PP/DS system** refers to the SAP S/4HANA system in which you use PP/DS.

2   Prerequisites

As **ERP systems,** you can use the following systems:
- SAP S/4HANA 2020 FPS1 with SAP Note 3020852 or higher.
- SAP S/4HANA 1909 with support package 6 or higher or SAP Note 3126428.
- SAP Enhancement Package 7 for ERP 6.0 with support package 23 or SAP Note 3004711.
- SAP Enhancement Package 8 for ERP 6.0 with support package 17 or SAP Note 3004711.

As **PP/DS system**, you can use SAP S/4HANA 2021.

> **i Note**
>
> You can also use an SAP S/4HANA 2020 system as PP/DS system. However, some settings are different. In that case, refer to the related version of this guide that is also attached to SAP Note 2952988.

SAP liveCache

The **SAP liveCache** is installed for the PP/DS system. For more information, see SAP Note 2407589.

PP/DS Optimizer (optional)

An **optimizer** is installed for the PP/DS system. For more information, see SAP Notes 1686826 and 712066.

RFC Users

Before any customizing activity can be done, check that an **RFC user** exists in each system/client that is used.

RFC Connections and Logical Systems

Ensure that the ERP systems and the PP/DS system are all connected via RFC connections, and logical systems are maintained.

Roles

For using integration via Core Interface (CIF), users need the roles described in the following table.

System Type	Release	Technical Name of Role	Comment
ERP system (for CIF Outbound)	SAP Enhancement Package 7 for ERP 6.0	SAP_SCM_INTEGRATION_DIMP	See SAP Note 727839.
	SAP Enhancement Package 8 for ERP 6.0	SAP_SCM_2_ERP_Integration	See SAP Note 2081387
	SAP S/4HANA 1909 or higher		
PP/DS system (for CIF inbound)	SAP S/4HANA 2020 or higher	SAP_SCM_Integration_2	See SAP Note 3061830.

3 Customizing and Configuration

3.1 Settings in the ERP System

Prepare the ERP system for communication with the PP/DS system. The settings affect all clients of the ERP system and require authorizations for cross-client settings on user and client level.

> ℹ **Note**
>
> In a multiple-system landscape with customizing system (for example ERC client 100), test system (for example ERT client 001), and productive system (for example ERP, client 001), make all customizing settings in the customizing system, and transport these settings to all other ERP systems (for example, test system, productive system).

3.1.1 Basic Settings for Setting Up the System Landscape

The following settings are done in customizing under *Integration with Other SAP Components* → *Advanced Planning and Optimization* → *Basic Settings for Setting Up the System Landscape*.

> ⚠ **Caution**
>
> Even though the names of the customizing activities are like the names of activities you used in the PP/DS system, these are not the same activities! Ensure that you use the correct path.

Name Logical System

1. Open activity *Name Logical System* or use transaction `BD54`.
2. Define a logical system for ERP system and a logical system for the PP/DS system.

> ℹ **Note**
>
> In a multiple-system landscape with customizing system (for example ERC client 100), a test system (for example ERT client 001), and a productive system (for example ERP, client 001), you define multiple logical systems (for example, `ERTCLNT001` and `ERPCLNT001`) in the customizing system.

Assign Logical System to a Client

1. Open activity *Assign Logical System to a Client* or use transaction `SCC4`.
2. Assign the logical systems to the correct client.
   Specify all other settings for the client in alignment with your company's IT policy.

Specify SAP APO Release

1. Open activity *Specify SAP APO Release* or use transaction `NDV2`.
2. Specify system type `SAP_S4HANA` for the PP/DS system/client (for example, `PPSCLNT100 SAP_S4HANA, 105`).

Set Up RFC Destination

1. Open activity *Set Up RFC Destination* or use transaction `SM59`.

2. Choose the *Create* button.

3. Enter the destination name for the PP/DS system following pattern `<SYSTEMID>CLNT<CLIENTNUMBER>`, for example, `PPSCLNT100`.

4. Select connection type *RFC connection to ABAP system* (`3`) and choose *Continue*.

5. On the *Technical Settings* view, enter the description and the target system settings.

6. On the *Log on & Security* view, enter the logon data for the RFC user.

7. In the *Select Protocol* screen area of the *Special Options* view:

   o For an SAP S/4HANA system, set the *Outbound bgRFC Behavior* to *No outbound bgRFC* (`1`).

   o For an SAP ERP system, set the *qRFC Version* to *t-/qRFC* (`2`).

8. Verify your settings by choosing *Remote Logon*. You should see a screen from which you can navigate to *SAP Easy Access*.

Assign RFC Destinations to Different Application Cases

1. Open activity *Assign RFC Destinations to Different Application Cases.*

2. Enter the RFC destination and the logical system. Leave the field *CIF Application Case* empty.

Set Target System and Queue Type

1. Open activity *Set Target System and Queue Type* or use transaction `CFC1`.

2. Create an entry for the logical system and set the queue type to *Inbound Queues* (`I`). The operating mode will be set to *Transactional Events Active (Standard)* (`T`) automatically after the initial transfer.

3.1.2 Basic Settings for the Data Transfer

The following settings are done in customizing under *Integration with Other SAP Components → Advanced Planning and Optimization → Basic Settings for the Data Transfer → Change Transfer*.

Configure Change Transfer for Master Data

1. Open activity *Change Transfer for Master Data → Configure Change Transfer for Master Data* or use transaction `CFC9`.
2. Make the following settings:

Field	Value
Material Master Change Transfer	*BTE Transfer, Immediately* (2)
Change Transfer for Customers	*No Change Transfer* (empty)
Change Transfer for Vendors	*No Change Transfer* (empty)
Change Transfer for Setup Groups	*BTE Transfer, Immediately* (2)
Immediate Transfer	Selected
Use Ext. Capacity	*No External Capacity* (empty)
Change Transf. Mode	*Chng Trans. for Pl.-Vers-Indep. Res. and all PVs Model 000* (A)
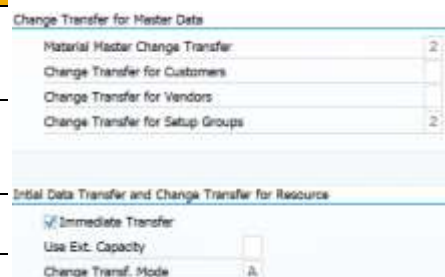
> ℹ **Note**
>
> Settings for other fields in this activity are only relevant in the PP/DS system.

Activate ALE Change Pointers for Message Types

1. Open activity *Change Transfer for Master Data → Activate ALE Change Pointers for Message* or use transaction `BD50`.
2. Ensure that the change pointers for message type `CIFSRC` are active.

Activate Online Transfer Using BTE

1. Open activity *Change Transfer for Transaction Data → Activate Online Transfer Using BTE* or use transaction `BF11`.
2. Activate online transfer using business transaction events (BTEs) for the applications *New Dimension PlugIn APO* (`ND-APO`) and *New Dimension Integration* (`NDI`).

> ℹ **Note**
>
> If you want to use block planning in context of variant configuration, create an entry for application *Matching Klassensystem CACL/CDP* (`CACDP`) as well. For more information, see SAP Note 3073717.

3.1.3 Register RFC Destination for the PP/DS System

1. Open transaction *qRFC Monitor (QOUT Scheduler)* (`SMQS`) .
2. Choose *Registration* and enter the following data:

Field	Value
Destination	RFC destination of the PP/DS system, for example, `PPSCLIENT001`
Max.Conn.	`10`
Max. Runtime	`60`
No tRFC	Leave this field empty.

3.1.4 Register Queue Names

Configure the execution of inbound queues in the ERP system. This setting is relevant for the qRFC communication from the PP/DS system to the ERP system.

1. Open transaction *qRFC Monitor (QIN Scheduler)* (`SMQR`).
2. Choose *Registration* and enter the following data:

Field	Value
Queue Name	`CF*`
Mode	`D`
Max. Runtime	`60`
Destination	Leave this field empty.
Retries/Attempts	e.g. `30`
Pause	`300`

3. Open transaction *Registration of Inbound Queues* (`CFC2`).
4. Add an entry for a generic user that allows all users to generate, debug, or log CIF queues:

Field	Value
User Name	`*`
RFC Mode	*Queued RFC* (`Q`)
Logging Mode	*Detailed* (`D`)
Debugging On/Off	*Debugging off* (empty)

You can create additional entries for specific users as needed.

3.1.5 Register Display Programs

This function enables you to display the data of a queue entry by double-clicking the queue name or to display the application log of a queue entry by double-clicking the status text in the qRFC monitor for inbound queues.

1. Open transaction *qRFC Administration* (`SMQE`).
2. In the menu, choose *Edit → Register Display Program*.
3. Enter *Queue Name* `CF*` and *Program Name* `CIFQEV02`.

3.1.6 Maintain Object Types and Class Types (for CDP)

If you use characteristics-dependent planning (CDP), you must assign classes to organizational areas.

1. In customizing activity *Cross-Application Components → Classification System → Classes → Maintain Object Types and Class Types*, choose *Object Table* and search for the `MARA` table by using the *Position* button.
2. Select the `MARA` table and choose *Organizational Areas* in the dialog structure.
3. Create at least the following new entry with the following values:

Field	Value
Class Type	`023`
Organizational Area	`P` (or any other value)
Organizational Area Description	`PP/DS`
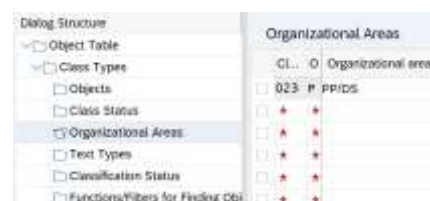
4. Create additional entries according to your business needs.

3.2 Settings in the PP/DS System

 i Note

In a multiple-system landscape with customizing system (for example PPC client 100), test system (for example PPT client 001), and productive system (for example PPS, client 001), make all customizing settings in the customizing system, and transport these settings to all other PP/DS systems (for example, test system, productive system).

3.2.1 Basic Settings for Creating the System Landscape

The following settings are done in the PP/DS customizing system in customizing under *Advanced Planning →
Integration via Core Interface (CIF) → Integration → Basic Settings for Creating the System Landscape*.

 ⚠️ Caution

Even though the names of the customizing activities are like the names of activities you used in the ERP system, these are not the same activities! Ensure that you are using the correct path.

Name Logical Systems

1. Open activity *Name Logical System.*
2. Enter the name of the RFC connection to the ERP system.

Assign Logical System to a Client

1. Open activity *Assign Logical System to a Client*.
2. Assign the logical system to the correct client (for example, in system PPS, assign `PPSCLNT001` to client `001`).

Set Up RFC Destination to ERP System

1. Open activity *Set Up RFC Destination* or use transaction `SM59`.
2. Choose the *Create* button.
3. Enter the destination name for the ERP system following pattern `<SYSTEMID>CLNT<CLIENTNUMBER>`, for example, `ERPCLNT100`.
4. Select connection type *RFC connection to ABAP system* (3) and choose *Continue*.
5. On the *Technical Settings* view, enter the description and the target system settings.
6. On the *Log on & Security* view, enter the logon data for the RFC user. Ensure that the RFC user has role `SAP_SCM_Integration_2` assigned.
7. In the *Select Protocol* screen area of the *Special Options* view, ensure that *the Outbound bgRFC Behavior* is set to *No outbound bgRFC* (1).
8. Verify your settings by choosing *Remote Logon*. You should see a screen from which you can navigate to *SAP Easy Access*.

Set Up RFC Connection to ERP System for Order Navigation

To enable navigation to the ERP system to display orders like production orders or purchasing requisitions from the *Product View* (`/SAPAPO/RRP3`), you create an additional RFC connection and assign it to the application case.

1. Open activity *Set Up RFC Destination* or use transaction `SM59`.
2. Choose the *Create* button.
3. Enter the destination name for the ERP system following pattern `<SYSTEMID>CLNT<CLIENTNUMBER>_NAV`, for example, `ERPCLNT100_NAV`.
4. Select connection type *RFC connection to ABAP system* (3) and choose *Continue*.
5. On the *Technical Settings* view, enter the description and the target system settings.
6. On the *Log on & Security* view, enter the logon data for the user (having the necessary authorizations) that will use the navigation or select the *Current User* checkbox.
7. In the *Select Protocol* screen area of the *Special Options* view, ensure that *the Outbound bgRFC Behavior* is set to *No outbound bgRFC* (`1`).
8. Verify your settings by choosing *Remote Logon*. You should see a screen from which you can navigate to *SAP Easy Access*.
9. Open activity *Assign RFC Destinations to Various Application Cases*.
10. Choose the *New Entries* button.
11. Enter the logical system and the RFC destination you just created and assign the CIF application *Order Navigation* (`XN`).

Maintain Business System Group

1. Open activity *Maintain Business System Group* or use transaction `/SAPAPO/C1`.
2. Define a business system group by specifying an ID and a description.

Assign Logical System and Queue Type

1. Open activity *Assign Logical System and Queue Type*.
2. Define two new entries for the just created business system group and the logical systems for the ERP and the PP/DS system with the following values:

Field	Value
SAP System Indicator	`X`
Release	`700`
Queue Type	*Inbound Queues* (`I`)
Error Handling	*Strict (Terminate at Errors)* (empty)
Role	*Not specified* (empty)

3.2.2 Register Queue Names

1. Open transaction *qRFC Monitor (QIN Scheduler)* (`SMQR`).

2. Choose *Registration* and enter the following data:

Field	Value
Queue Name	`CF*`
Mode	`D`
Max. Runtime	`60`
Destination	Leave this field empty.
Retries/Attempts	`e.g. 30`
Pause	`300`

3. Open transaction *Registration of Inbound Queues* (`CFC2`).

4. Add an entry for a generic user that allows all users to generate, debug, or log CIF queues:

Field	Value
User Name	`*`
RFC Mode	*Queued RFC* (`Q`)
Logging Mode	*Detailed* (`D`)
Debugging On/Off	*Debugging off* (empty)

You can create additional entries for specific users as needed.

3.2.3 Basic Settings

The following settings are done in the PP/DS customizing system in customizing under *Advanced Planning* → *Basic Settings.*

Activate Advanced Planning

1. Open activity *Activate Advanced Planning and Scheduling* → *Activate Advanced Planning and Scheduling*.

2. Choose *New Entries*.

3. Select the *Activate Advanced Planning and Scheduling* checkbox.

Specify Settings for Data Transfer

1. Open activity *Settings for Data Transfer*.

2. Deselect all order types.

> ⚠️ **Caution**
>
> In this scenario, all the data is transferred from the ERP system to the PP/DS system (and back) using Core Interface (CIF), therefore you must deselect all order types here.

Define Configuration Schema

1. Open activity *Define Configuration Schema (CDP or Variant Configuration)*.

2. Set the configuration relevance to *Characteristics-Dependent Planning (CDP)* (C) or *Variant Configuration (VC)* (I) according to your business needs.

3.2.4 Change Target-System-Independent Settings in CIF

1. Open transaction *Change Target-System-Independent Settings in CIF* (CFC9).

2. Make the following settings:

Field	Value
Material Master Change Transfer	*BTE Transfer, Immediately* (2)
Change Transfer for Customers	*No Change Transfer* (empty)
Change Transfer for Vendors	*No Change Transfer* (empty)
Change Transfer for Setup Groups	*BTE Transfer, Immediately* (2)
Immediate Transfer	Selected
Use Ext. Capacity	*External Capacity for All Resources* (A)
Change Transf. Mode	*Chng Trans. for Pl.-Vers-Indep. Res. and all PVs Model 000* (A)

i Note

Define all other settings according to your business needs.

Activate ALE Change Pointers for Message Types

1. Open activity *Change Transfer for Master Data* → *Activate ALE Change Pointers for Message* or use transaction BD50.

2. Ensure that the change pointers for message type CIFSRC are active.

Activate Online Transfer Using BTE

1. Open activity *Change Transfer for Transaction Data* → *Activate Online Transfer Using BTE* or use transaction BF11.

2. Activate online transfer using business transaction events (BTEs) for the applications *New Dimension PlugIn APO* (ND-APO) and *New Dimension Integration* (NDI).

i Note

If you want to use block planning in context of variant configuration, also create an entry for application *Matching Klassensystem CACL/CDP* (CACDP). For more information, see SAP Note 3073717.

3.2.5 Global Settings

The following settings are done in the PP/DS customizing system in customizing under *Advanced Planning → Global Settings.*

Maintain Number Ranges for Orders

1. Open activity *Maintain Number Ranges for Orders*.
2. Define the number ranges you want to use for planned orders.

Maintain Global Parameters and Default Values

1. Open activity *Maintain Global Parameters and Defaults*.
2. Choose the *Planning* view and make the following settings:

Field	Value
Use Number Range	Selected
Number Range Number	The number range you created before

For other settings, leave the default values or choose the settings that fit best to your business scenario.

3.2.6 Settings for Forecast and Sales Order Consumption

Maintain Category Groups

Depending on the requirements strategy you are using, specific category groups may be required. Ensure that at least the following category groups are defined.

1. In the PP/DS system, open customizing activity *Advanced Planning → Maintain Category Groups*.
2. If the following entries do not yet exist, create them, and assign categories.

Category Group	Categories	Quantity Type from Order Network
Consumption Sales Orders (K01)	*Sales Order* (BM)	*Requested Quantity* (01)
Consumption Third Party Orders (K04)	*Sales Order* (BM) *Third-Party Purch. Req. Stat. Receipt* (DG) *Third-Party Purch. Order Stat. Receipt* (DI)	*Requested Quantity* (01) *Requested Quantity* (01) *Requested Quantity* (01)

Check Settings in the ERP System

1. In customizing of the ERP system, open activity *Production* → *Production Planning* → *Demand Management* → *Planned Independent Requirements* → *Planning Strategy* → *Define Strategy* and check the details of the strategy you are using for your business scenario.
   For example, you are using strategy *Planning without final assembly* (50).

2. On the *Details* screen for the strategy, check the requirements class and the allocation indicator that is specified under *Requirements type of customer requirements*.

   For example, for strategy 50, the requirements type of customer requirements is *Make-to-order with consumption* (KEV), and the requirements class is *MTO val. with cons.* (045). The allocation indicator is *Consume planning w/o assembly* (2).

Specify Requirement Strategies

1. In customizing of the PP/DS system, open activity *Advanced Planning* → *Specify Requirements Strategies*.

2. For the requirements strategy you are using in for your materials, ensure that the correct category group is assigned, and that the assignment mode number is the same as the allocation indicator number in the ERP system.

   For example, if you are using *Planning Without Final Assembly* (30), select the *Assignment Mode* that fits to the allocation indicator setting in the ERP system (e.g. 2 - *Assign customer requirements to planning without assembly*) and assign category group K01.

   ⚠️ Caution

   The descriptive text for the assignment mode can be different from the text for the allocation indicator. It is only important, that the technical values are the same.

Maintain Check Mode

1. In customizing of the PP/DS system, open activity *Advanced Planning → Maintain Check Mode*.

2. Define a check mode with the same number as the requirements class that is used in the ERP system (e.g. `045`) and select the assignment mode that fits to the allocation indicator setting in the ERP system (e.g. `2` - *Assign customer requirements to planning without assembly*).

3.2.7 Maintain Object Types and Class Types (for CDP)

If you use characteristics-dependent planning (CDP), you must assign classes to organizational areas.

1. In customizing activity *Cross-Application Components → Classification System → Classes → Maintain Object Types and Class Types*, choose *Object Table* and search for the `MARA` table by using the *Position* button.

2. Select the `MARA` table and choose *Organizational Areas* in the dialog structure.

3. Create a new entry with the following values:

Field	Value
Class Type	`023`
Organizational Area	`P` (or any other value)
Organizational Area Description	`PP/DS`

4. Create additional entries according to your business needs.

3.2.8 Settings for Planning with Characteristics

To plan with characteristics, you must perform the following:

1. Using the following path in SAP customizing, maintain Configuration Schema:

   Advanced Planning → Basic Settings → Define Configuration Schema (CDP or Variant Configuration)

2. If you use reference characteristics with object dependencies, maintain the appropriate characteristic mapping of the object, either in the Maintenance View */SAPAPO/CUCDPMAP* or in the implementation for BAdI */SAPAPO/CTINT*.

3.3 Customizing for Material Master Data in Both Systems

Ensure that the customizing settings for the following activities are the same both in the ERP system and in the PP/DS system.

In both systems, open the customizing path *Logistics - General* → *Material Master* and compare the following settings.

Field Selection

Open customizing activity *Field Selection* → *Maintain Field Selection for Data Screens* in both systems. Ensure that all fields that are set as *Required Entry* in the PP/DS system are also defined as required entries in the ERP system, otherwise the integration might fail if the data is missing in the ERP system.

Fields that are needed in the ERP system for other business purposes but that are not relevant for PP/DS, should be defined as *Optional Entry* in the PP/DS system.

Example

In the ERP system, *Checking Group for Availability Check* (`MARC_MTVFP`) is defined as a required entry for raw material (`ROH`). Since the PP/DS system does not support Available-to-Promise (ATP) features, this entry should be set to optional.

Material Types

1. In customizing of both systems, choose *Basic Settings* → *Material Types* → *Define Attributes of Material Types*.
2. For each material type that you are using, choose *Details*.
3. Ensure that the settings in both systems match **except** for the setting *Value updating* in subsection *Quantity/value updating.*
   In the ERP system, the setting can be defined per valuation area in the *Quantity/value updating* view according to your business needs.

   In the PP/DS system however, you set the *Value updating* to *In no valuation area* or **deselect** the *Value Update* checkbox for all valuation areas in the *Quantity/value updating* view.

Settings for Key Fields

1. In customizing of both systems, choose the activities under *Settings for Key Fields.*
2. Define all settings according to your business needs.
3. Ensure that all the value lists in both systems are the same.

Organizational Areas

If you are using classes and characteristics, assign the classes and characteristics to an organizational area before they can be transferred via the Core Interface (CIF).

In both systems, use transaction *Maintain Class Types* (O1CL) to create the same organizational areas.

4 Setup and Integration of Master Data

Basically, all master data is created in the ERP system and the master data that is relevant for PP/DS is transferred to the PP/DS system via Core Interface (CIF). This means that, for the distribution of master data, the direction is **always** from ERP system to PP/DS system.

> **i Note**
>
> The integration via CIF only transfers the data that is relevant for PP/DS. Material or work center attributes that are not relevant for PP/DS are not made available in the PP/DS system.

Master data changes made directly in the PP/DS system, will in most cases be overwritten with the data from the ERP system by the CIF integration. Therefore, we recommend changing master data only in the ERP system.

Nevertheless, some master data and master data attributes cannot be transferred using CIF and therefore must be maintained in the PP/DS system as described in chapter 4.1 *Manual Creation of Master Data in PP/DS* System (p. 23).

After the manual setup is done, you create CIF integration models for all master data objects as described in chapter 4.2 *Master* Data Integration (p. 28).

> **i Note**
>
> If you are using classes and characteristics, the process is different as classes and characteristics must be transferred via Application Link Enabling (ALE). See chapter *7.1 Master Data Integration with Classes and Characteristics* (p.33).

Main Master Data Object Types and How They Are Integrated
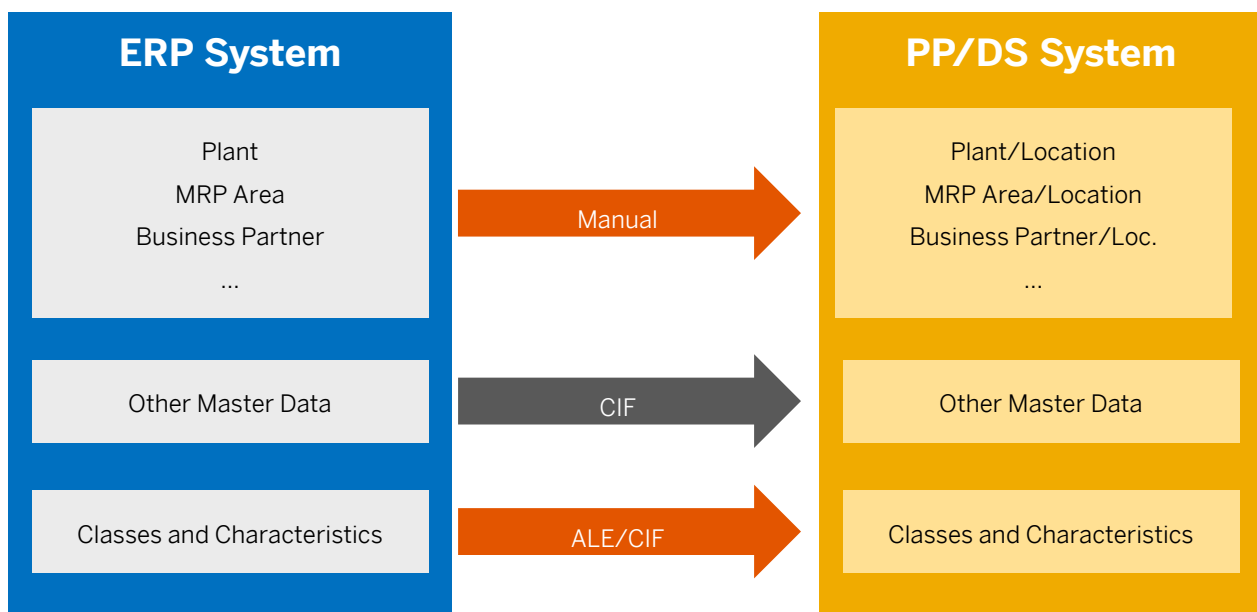
> **⚠ Caution**
>
> If you connect multiple ERP systems to one PP/DS system, ensure that the master data is unique in each ERP system, to ensure that the master data is not overwritten in the PP/DS system and that related transactional data is sent back to the correct ERP system.

SAP S/4HANA Manufacturing for Planning & Scheduling - Implementation Guide (2021.9)
Setup and Integration of Master Data

22

4.1 Manual Creation of Master Data in PP/DS System

Some master data cannot be transferred but must be created in both systems as described in the following sections.

ℹ Note

Depending on your business processes, additional master data may be required. In this document, we only describe the settings that were necessary for the scenarios that we tested.

ERP System		PP/DS System
Plant	Manual →	Plant/Location
MRP Area	Manual →	MRP Area/ Location
Business Partner	Manual →	Business Partner/ Location
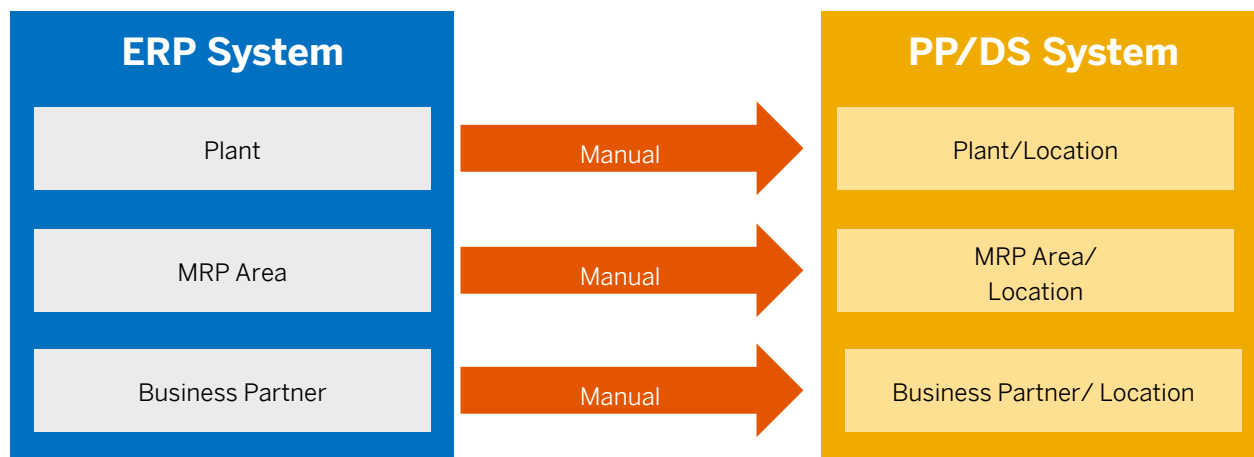
4.1.1 Create Model and Planning Version for PP/DS

Before any master data can be transferred, model `000` and planning version `000` must be created manually in the PP/DS system as transferred data is automatically assigned to this model and planning version.

1. On the *SAP Easy Access* screen, choose *Logistics →Advanced Planning → Master Data → Planning Version Management → Model and Version Management* or use transaction `/SAPAPO/MVM`.
2. Choose *Create Model/Planning Version*.
3. Create model `000` and select it.
4. Create planning version `000` for this model with the following values:

Field	Value
Change Planning Active	Selected
Standard Planning Horizon (Days)	`999`
Copy	*In Foreground*

SAP S/4HANA Manufacturing for Planning & Scheduling - Implementation Guide (2021.9)
Setup and Integration of Master Data

23

4.1.2 Create Factory Calendars

1. In customizing, choose *Advanced Planning → Master Data → Calendar → Maintain Factory Calendar*.

2. On the next screen, select *Factory Calendar* and choose *Change*.

3. On the next screen, choose *Create*.

4. Define the factory calendar as needed.

> **Important**
>
> Factory calendars are not client specific. Each change takes effect directly in all clients.

4.1.3 Create Plants

Plant must be created in the PP/DS system manually and cannot be transferred to the PP/DS system using the Core Interface (CIF).

1. In customizing, choose *Enterprise Structure → Definition → Logistics - General → Define, copy, delete, check plant*.

2. On the next screen, choose *Define Plant.*

   Create new entries for all the plants you need. Ensure that the entries are the same as in the ERP system.

   As the plants are only used in PP/DS, it is enough to define the country and region data of the plant.

4.1.4 Assign Plant to Company Codes

1. In customizing, choose *Enterprise Structure → Assignment → Logistics – General → Assign plant to company code.*

2. Assign each plant you created before to a company code. You can choose any dummy company code for your purpose.

SAP S/4HANA Manufacturing for Planning & Scheduling - Implementation Guide (2021.9)
Setup and Integration of Master Data

24

4.1.5 Create Business Partners

> ⚠️ **Caution**
>
> The transfer of business partners from the ERP system via Core Interface (CIF) is currently not supported. Therefore, you must create business partners manually in the PP/DS system. You can also use ALE or DRF integration from the ERP system to the PP/DS system if Customizing for Customer-Vendor Integration (CVI) is defined. For more information, see chapter 7.2 *Master Data Integration of Business Partners, Customers, and Vendors (p.39).*

1. Open transaction *Create Business Partner* (`BUP1`).

2. Create a new business partner as *Person* and specify at least the following attributes with the same data as in the ERP system:

   o *Create in BP Role (Vendor)*
   For business partners of type *Vendor*, ensure that you are using the correct BP role

   o *ID*

   o *Grouping*

   o On the *Address* view, specify the following attributes:

      o *Title*, *First Name*, *Last Name*, *Correspondence Lang.*

      o *Search Term 1/2*

      o *Street Address* (*Street/House Number*, *Postal Code/City*, *Country/Region*)

   o On the *Vendor: General Data* view, specify the following attributes:

      o *External Vendor No.*

      o *Account Group*

3. Switch to *Purchasing*, and specify the following attributes:

   o *Purchasing Organization*

   o *Order Currency*

4.1.6 Create MRP Areas for Plant/Storage Locations

> ℹ️ **Note**
>
> All the MRP areas present in the relevant plants in the ERP system should be created in the PP/DS system as well. For information on exceptions, see chapter 7.6 *Integrate Material Master Data with MRP* Areas (p 61).

MRP areas for storage locations must be created in both systems with the same settings.

1. In customizing, choose *Production → Material Requirements Planning → Master Data → MRP Areas → Define MRP Areas for Plant/Storage Locations.*

2. Create a new entry by specifying the name, description, and plant.

3. Assign a storage location to the MRP area.

4.1.7 Create MRP Areas for Subcontracting

> ℹ️ **Note**
>
> All the MRP areas present in the relevant plants in the ERP system should be created in the PP/DS system as well. For information on exceptions, see chapter 7.6 *Integrate Material Master Data with MRP* Areas (p 61).

SAP S/4HANA Manufacturing for Planning & Scheduling - Implementation Guide (2021.9)
Setup and Integration of Master Data

25

MRP areas for subcontracting must be created in both systems with the same settings.

1. In customizing, choose *Production* → *Material Requirements Planning* → *Master Data* → *MRP Areas* → *Define MRP Areas for Subcontractors.*

2. Create a new entry by specifying name, description, plant, and vendor.

4.1.8 Create Locations

Create locations for the plants, business partners, and MRP areas you created before.

1. Open transaction *ABAP Editor: Initial Screen* (`se38`).

2. Enter program `/SAPAPO/CREATE_LOCATION`.

3. Execute.

4. On the next screen, select the plants, subcontracting MRP areas, and business partners you created in the previous steps.

5. Execute.

4.1.9 Publication to Connected System

The following settings are done in the PP/DS customizing system in customizing under *Advanced Planning* → *Integration via Core Interface (CIF)* → *Basic Settings for Data Transfer* → *Publication*.

Maintain Distribution Definition

1. Open activity *Maintain Distribution Definition* or use transaction `/SAPAPO/CP1`.

2. Create distribution definitions for the publication types *External Procurement* and *In-House Production* for all locations (plants) you use in this scenario by specifying the location and the logical system.

> **i** Note
>
> If the locations do not exist yet, you have to create them first as described under Manual Creation of Master Data in PP/DS System → *Create Plants* (p. 24).

Maintain Object-Specific Settings

1. Open activity *Maintain Object-Specific Settings* or use transaction `/SAPAPO/CP3`.

2. Create an entry for publication type *In-House Production* and set the *Retransfer* to *Always Transfer* (`A`).

> **i** Note
>
> For more information, see the following SAP notes: 2456959, 2872226, 2728245, 446866.

4.1.10 Create Production Planners for Product and Resource Master

1. In customizing, choose *Advanced Planning* → *Master Data* → *Specify Person Responsible (Planner)*.

2. Create new entries for the production planners you need.

SAP S/4HANA Manufacturing for Planning & Scheduling - Implementation Guide (2021.9)
Setup and Integration of Master Data

26

ⅰ Note

We recommend using the same codes for the production planners that are used for MRP controllers in the ERP system.

4.1.11 Define MRP Groups

1. In customizing, choose *Production → Material Requirements Planning → MRP Groups.*
2. Define the MRP groups you need.

4.1.12 Define MRP Controllers

1. In customizing, choose *Production → Material Requirements Planning → Master Data → Define MRP Controllers*.
2. Create new entries for the MRP controllers you need. Use the same codes for the MRP controllers that are used for MRP controllers in the ERP system.

4.1.13 Define Special Procurement Types

1. In customizing, choose *Production → Material Requirements Planning → Master Data → Define Special Procurement Type*.
2. Create the new entries you need.

4.1.14 Define Special Procurement for Plants

1. In customizing, choose *Production → Material Requirements Planning → Plant Parameters → Carry Out Overall Maintenance of Plant Parameters*.
2. On the next screen, choose *Maintain*.
3. On the next screen, enter your plant.
4. On the next screen, choose *Special Procurement*.
5. On the next screen, define your special procurement settings.

ⅰ Note

We recommend using the same codes for special procurement in your PP/DS system and the ERP system.

4.1.15 Create Work Center Responsible

1. In customizing, choose *Production → Basic Data → Work Center → General Data → Determine Person Responsible*.
2. Create a *Person Responsible for Work Center* that can be assigned to work centers.

SAP S/4HANA Manufacturing for Planning & Scheduling - Implementation Guide (2021.9)
Setup and Integration of Master Data

27

4.1.16 Define Shifts, Formulas, and other Capacity-Relevant Objects

If you want to use shift, formulas, or other data objects that define the available capacity, define these objects in customizing under *Production → Basic Data → Work Center → Capacity Planning*.

4.1.17 Define Time-Dependent Safety Stock

Time-dependent safety stock that is stored in table `pph_dd_stk` cannot be integrated. You must define the data manually by using report *Time Dependent Stock and Penalties* (`/SAPAPO/PPO_TIME_DEP_STOCK`, transaction `/SAPAPO/TDS`).

4.2 Master Data Integration

Some object types cannot be transferred via CIF but must be created manually in both connected systems (see chapter 4.1 *Manual Creation of Master Data in PP/DS* System (p. 23)). For all other object types, create integration models in the ERP system.

> **i Note**
>
> If you are using classes and characteristics, see the necessary settings in chapter *7.1 Master Data Integration with Classes and Characteristics* (p. 33).

Most important object types are:

- Material
- Work center
- Production data structure (PDS) for in-house production
- Source of supply for external procurement (contracts, purchasing info records, scheduling agreements)

SAP S/4HANA Manufacturing for Planning & Scheduling - Implementation Guide (2021.9)
Setup and Integration of Master Data

28
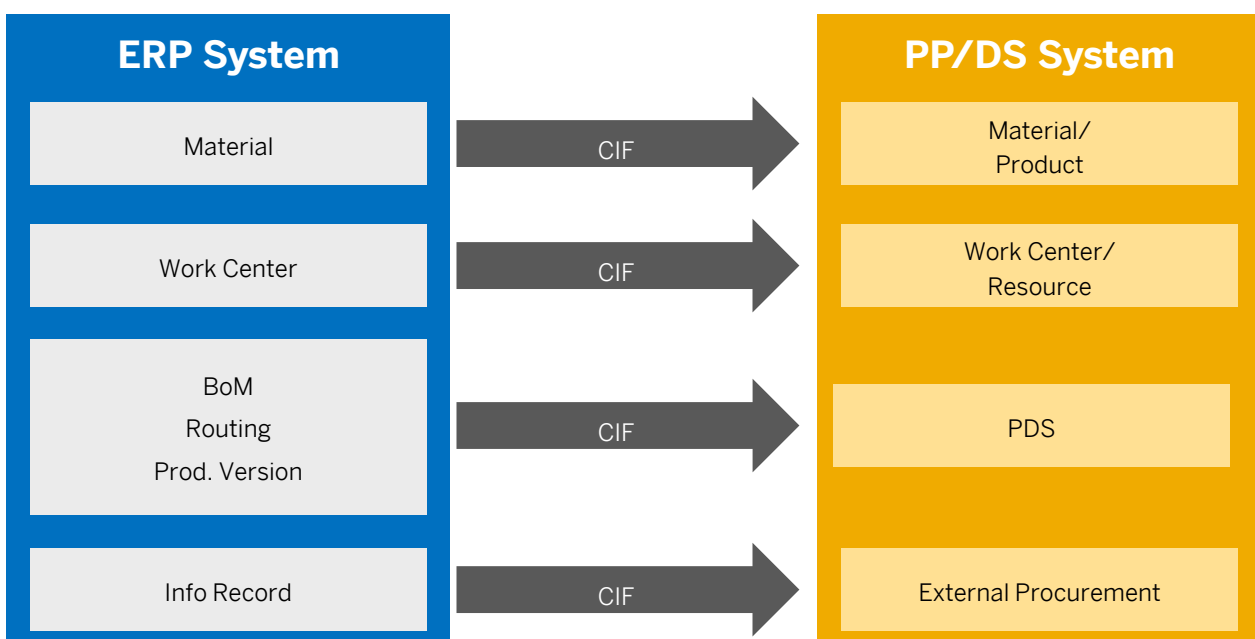
4.2.1 Create an Integration Model for Each Object Type in the ERP System

1. Open transaction *Create Integration Model* (`CFM1`)
2. On the *Create Integration Model* screen, enter the following values:

Field	Value
Model Name	Choose a name that describes the model
Logical System	Select the logical PP/DS system
APO Application	Specify a name (any value you like)

3. Select the object type for which this integration model is used.
   For the integration model for materials, specify the selection criteria in the *General Selection Options for Materials* screen area and select the *Activate Planning* checkbox in the *Activate Planning in Target System* screen area.

   ⚠️ Caution

   If the ERP system is also an SAP S/4HANA system, ensure that the *Advanced Planning* indicator (`PPSKZ`) is not selected in the ERP system. Also ensure that the *Extended Service Parts Planning* indicator is not selected in the ERP system.
   You must create a work center in the ERP system and then transfer it to the PP/DS system.
   If you use pooled capacities and include a work center that uses the pooled capacity in an integration model, all other work centers that use the pooled capacity will also be integrated.

4. Execute.
5. On the next screen, check whether the *Filter Object* and *No. Filter Objects* is correct.
6. Choose *Generate IM.*

   ℹ️ Note

   If you are using classes and characteristics, create an integration model for those objects as well. After the integration, use transaction *Classes* (`CL02`) to assign classes and characteristics to the relevant organizational areas.

4.2.2 Activate Integration Models

1. Open transaction *Manually Activate Integration Models* (`CFM2`).
2. Enter the selection criteria for the models you defined in the previous step.
3. Execute.
4. On the next screen, select your integration model in the tree on the left.
   Detailed information for the integration model is displayed.
5. Select the integration model in the table in the detail screen area and choose *Active/Inactive*.
   In the *New Status* column, the integration model is marked as active.
6. Choose *Start*.

SAP S/4HANA Manufacturing for Planning & Scheduling - Implementation Guide (2021.9)
Setup and Integration of Master Data

29

4.2.3 Define Additional Master Data Attributes in the PP/DS System

If your ERP system is not an SAP S/4HANA system, you can use the following Business Add-Ins (BAdIs) to transfer attributes for PP/DS that cannot be maintained in the ERP system:

- *Change Product Data Before CIF Outbound to Connected SAP S/4HANA System* (`CIF_S4_BADI_PRODUCT_OUTBOUND`)

  The default BAdI implementation sets the *PP Planning Procedure* to *Manual Without Check (2)*, if it's not yet defined.

  Other product attributes that you can transfer via the BAdI are, for example, attributes for Production Planning Optimization (PPO):

  - o *Priority*
  - o *Safety Stock Penalty*
  - o *Product-Dependent Storage Costs*
  - o *Goods Issue Processing Time*
  - o *Procurement Costs*

- *Change Work Center Data Before CIF Outbound to Connected SAP S/4HANA System* (`CIF_S4_WORK_CENTER_OUTBOUND`)

  The default implementation of this BAdI activates the work centers for Advanced Planning (PP/DS).

After the first transfer via CIF, the following attributes of materials or work centers must be defined manually in the PP/DS system as they are not transferred via CIF:

Material Attributes

Attributes	Maintenance View/Transaction
Penalties for PPO *Delay Penalty* for customer demand and forecast demand *Maximum Delay Penalty* for customer demand and forecast demand *Non-Delivery Penalty* for customer demand and forecast demand	Transaction `/SAPAPO/PPO_DPEN`
Time-dependent safety stock penalties for PPO	Transaction `/SAPAPO/TDS`

Work Center Attributes

Attributes	Maintenance View/Transaction
PPO Capacity Constraints	Transaction *Change Work Center* (`CR02`) → *Capacity Header* → *APO Resource* view → *PPO Capacity Constraints*

> ℹ **Note**
>
> If you change work center data after the initial transfer via CIF, the change is only transferred if at the same time data on the *Capacities* view that is relevant for PP/DS is changed. If your ERP system is an SAP S/4HANA system, changes are also transferred, if intervals or shifts are changed at the same time.

SAP S/4HANA Manufacturing for Planning & Scheduling - Implementation Guide (2021.9)
Setup and Integration of Master Data
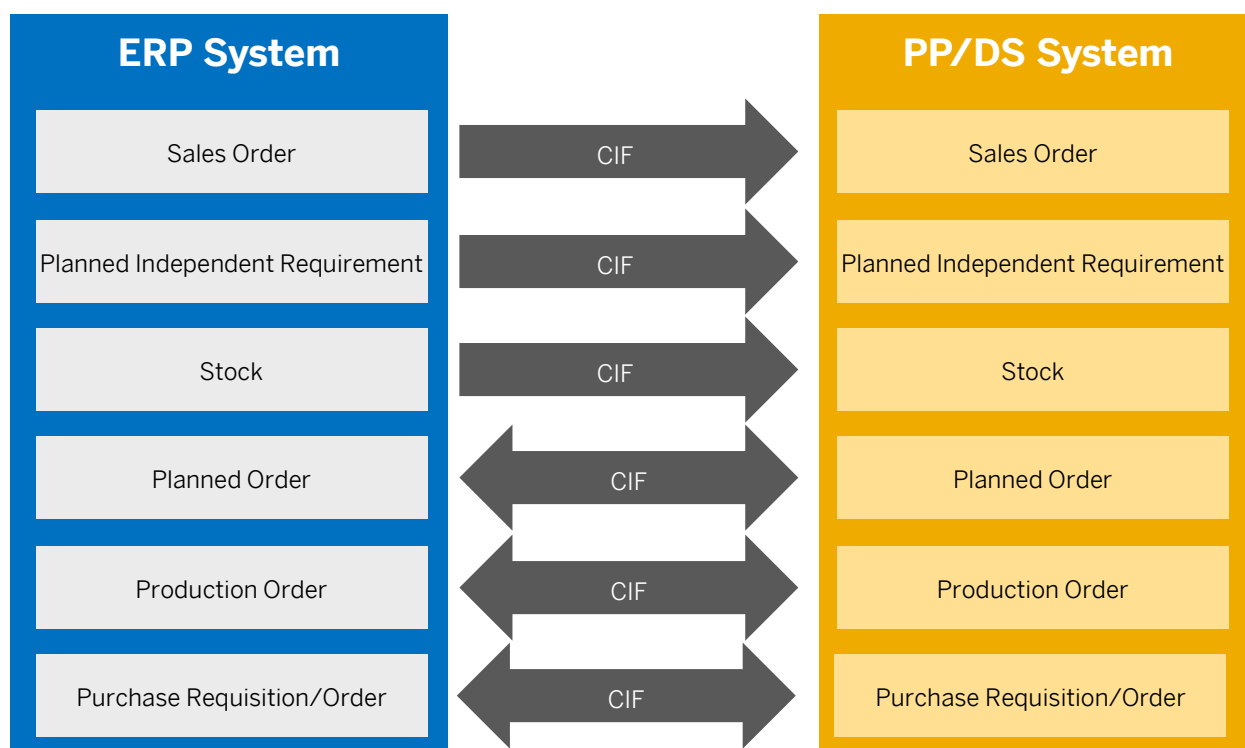
30

5 Integration of Transactional Data

For the integration of transactional and master data between the ERP system and the PP/DS system, you use CIF integration models. The same CIF integration models transfer the transactional data that contains classification and configuration information. The integration of transactional data is bi-directional for most object types.

Create CIF integration models for all object types you need as described in chapter 4.2 *Master Data* Integration (p. 28).

i Note

In the PP/DS system, the transactional data is only available in the PP/DS transactions and not in classical PP transactions like the *Stock/Requirements List* (MD04).

Main Transactional Data Object Types and How They Are Integrated

ERP System		PP/DS System
Sales Order	CIF →	Sales Order
Planned Independent Requirement	CIF →	Planned Independent Requirement
Stock	CIF →	Stock
Planned Order	← CIF →	Planned Order
Production Order	← CIF →	Production Order
Purchase Requisition/Order	← CIF →	Purchase Requisition/Order

6 Checks

After the integration models have been activated, check whether the data has transferred successfully to the PP/DS system.

Check Outbound Queues in the ERP System

1. Open transaction *qRFC Monitor (Outbound Queue)* (`SMQ1`).
2. Enter the client of your ERP system.
    Optionally, you can also specify your queue or the queue destination.
3. Execute.
4. On the next screen, you see all outbound queues that could not be processed yet.

    Ensure that your outbound queues are not listed.

Check Inbound Queues in the PP/DS System

1. Open transaction *qRFC Monitor (Inbound Queue)* (`SMQ2`).
2. Enter the client of your PP/DS system.
    Optionally, you can also specify your queue or the queue destination.
3. Execute.
4. On the next screen, you see all inbound queues that could not be processed yet.
5. Ensure that your inbound queues are not listed.

## Check Transfer Results in the PP/DS System

Open the master data objects and transactional data in the related transactions (e.g. *Material Master* `MM03`) and check whether they have been transferred correctly.

Particularly, ensure that the *Advanced Planning* checkbox is selected for materials and work centers, and that the PP planning procedure is defined for materials.

7 Specific Topics

7.1 Master Data Integration with Classes and Characteristics

If you use classes and characteristics, you must setup the master data in both the ERP and PP/DS systems and ensure that the master data is transferred in the correct order.
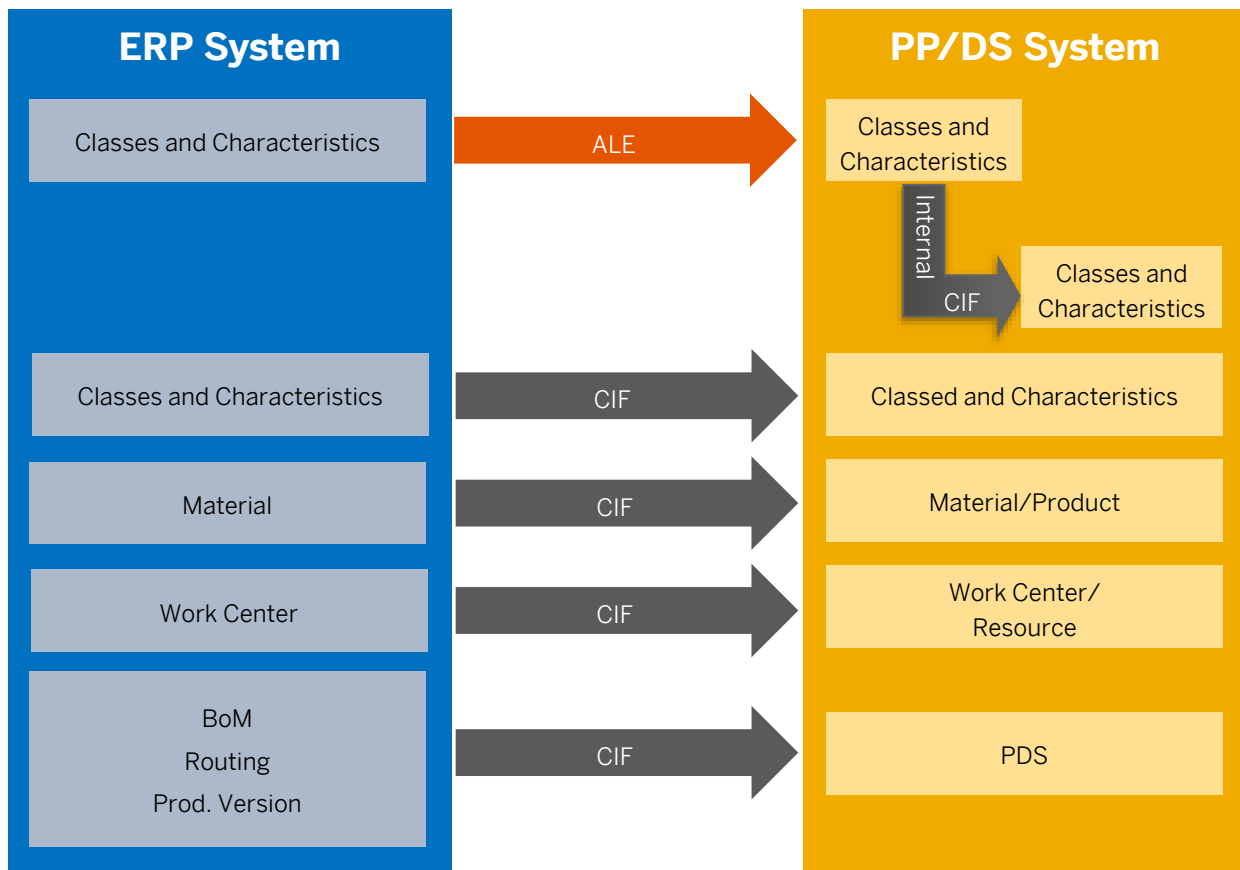
i Note

For material classifications and variant data, only the initial transfer via CIF is currently supported. Update transfer using business transaction events (BTEs) is currently not supported.
To transfer the classification/variant data changes, either run or schedule a run for the report RIMODINI in the background mode. For more information on running the report RIMODINI in the background mode, see SAP Note 2960972.

⚠ Caution

If you want to clear **all** the classification values within a class in the Classification view of a material in the ERP system, then you must manually clear **all** the classification values within a class in the PP/DS system as well.

7.1.1 Preparational Settings

Include Port Definition in the ERP System

1. Open transaction *Ports in IDoc Processing* (`WE21`) in the ERP system.
2. Create a new port for the system/client of the PP/DS system with the following values:

Field	Value
Port	`<SYSTEMID>CLNT<CLIENTNUMBER>`
Description	Enter a description
Version	Select *IDOC record types SAP Release 4.x*
RFC Destination	Select the RFC destination you created for the PP/DS system

Maintain Partner Profiles in the ERP System

1. Open transaction *Partner profiles* (`WE20`) in the ERP system.
2. Create a new partner profile with type *Logical System* (`LS`). As partner number, choose `<SYSTEMID>CLNT<CLIENTNUMBER>` of the PP/DS system.
3. Define the following outbound message types with the PP/DS system as *Receiver Port* and the RFC user as *Processor*.

Message Type	Basic Type	Usage
`CHRMAS`	`CHRMAS05`	Characteristics
`CLSMAS`	`CLSMAS04`	Classes
`CNPMAS`	`CNPMAS04`	Configuration profile

Optionally, you can also define the following outbound message types with the PP/DS system as *Receiver Port* and the RFC user as *Processor*.

Message Type	Basic Type	Usage
`VTAMAS`	`VTAMAS02`	Table structures
`VTMMAS`	`VTMMAS02`	Table contents
`KNOMAS`	`KNOMAS02`	Object dependencies
`DEPNET`	`DEPNET02`	Dependency net

Include Port Definition in the PP/DS System

1. Open transaction *Ports in IDoc Processing* (`WE21`) in the PP/DS system.
2. Create a new port for the system/client of the ERP system with the following values:

Field	Value
Port	`<SYSTEMID>CLNT<CLIENTNUMBER>`
Description	Enter a description
Version	Select *IDOC record types SAP Release 4.x*
RFC Destination	Select the RFC destination you created for the ERP system

Maintain Partner Profiles in the PP/DS System

1. Open transaction *Partner profiles* (`WE20`) in the PP/DS system.
2. Create a new partner profile with type *Logical System* (`LS`). As partner number, choose `<SYSTEMID>CLNT<CLIENTNUMBER>` of the ERP system.
3. Define the following inbound message types with the PP/DS system as *Receiver Port* and the RFC user as *Processor*.

Message Type	Inbound Process Code	Usage
`CHRMAS`	`CHRM`	Characteristics
`CLSMAS`	`CLSM`	Classes
`CNPMAS`	`CNPM`	Configuration profile

Optionally, you can also define the following inbound message types with the PP/DS system as *Receiver Port* and the RFC user as *Processor*.

Message Type	Inbound Process Code	Usage
`VTAMAS`	`VTAM`	Table structures
`VTMMAS`	`VTMM`	Table contents
`KNOMAS`	`KNOM`	Object dependencies
`DEPNET`	`DEPN`	Dependency net

7.1.2 Transfer Classes and Characteristics from the ERP System to the PP/DS System via ALE

Send Characteristics

1. Open transaction *Distribute All Characteristics via ALE* (`BD91`) in the ERP system.
2. On the selection screen, enter the following criteria:

Field	Value
Characteristic	Select all characteristics you want to use.
Logical System	Logical system of the PP/DS system

3. Execute and confirm the dialog boxes.

Send Classes

1. Open transaction *Distribute Classes via ALE: Send Direct* (`BD92`) in the ERP system.
2. On the selection screen, enter the following criteria:

Field	Value
Class Type	Select *Batch* (`023`) and *Variants* (`300`) (and all other classes you might need, e.g. `001`)
Class	Select all classes you want to use.
Logical System	Logical system of the PP/DS system

3. Execute and confirm the dialog boxes.

(Optional) Distribute Structures of Variant Tables

1. Open transaction *Distribution of Structures for Variant Tables* (`CLD3`) in the ERP system.
2. On the selection screen, enter the following criteria:

Field	Value
Table Name	Select all tables you want to transfer.
Logical System	Logical system of the PP/DS system

Execute and confirm the dialog boxes.

(Optional) Distribute Variant Table

1. Open transaction *Distribution of Variant Tables* (`CLD4`) in the ERP system.
2. On the selection screen, enter the following criteria:

Field	Value
Table Name	Select all tables you want to transfer.
Logical System	Logical system of the PP/DS system

3. Execute and confirm the dialog boxes.

7.1.3 Transfer Classes and Characteristics in the PP/DS System to Embedded PP/DS via Internal CIF

After the classes and characteristics have been transferred via ALE, they must be transferred system-internally to embedded PP/DS via CIF.

1. Open transaction *Create Integration Model* (`CFM1`) in the PP/DS system.

2. Define the header data and select the *Classes/Charact* checkbox.

3. Choose the *Special Restrictions* button.

4. In the *Classes and Characteristics* screen area, define the *Org.area ind.* and select classes `023` and `300` (and all other classes (e.g. `001`) and additional characteristics (like reference characteristics that are required).

5. Execute.

6. Open transaction *Activate of Deactivate Integration Model* (`CFM2`) in the PP/DS system and activate the integration model.

7. If you use characteristics-dependent planning (CDP), open transaction *Class* (`CL02`) and check whether classes `230` and `400` have been created.

7.1.4 Set Up Integration Model for Classes and Characteristics in the ERP System

> ℹ **Note**
>
> This step will not create classes and characteristics in the PP/DS system but ensure that an active integration model is in place to transfer changes. Furthermore, table `TCL_CLINT_IDENT` will be updated with the mapping of class IDs.

1. Open transaction *Create Integration Model* (`CFM1`) in the ERP system.

2. Define the header data and select the *Classes/Charact* checkbox.

3. Choose the *Special Restrictions* button.

4. In the *Classes and Characteristics* screen area, define the *Org.area ind.* and select classes `023` and `300` (and all other classes you might need, e.g. `001`.)

5. Execute.

   > ℹ **Note**
   >
   > If you use reference characteristics, ensure that the table /SAPAPO/CUCDPMAP is maintained accordingly. For more information, see SAP Notes 2554539 and 610873.

6. Open transaction *Activate of Deactivate Integration Model* (`CFM2`) in the ERP system and activate the integration model.

7.1.5 Transfer Material Data from the ERP System to the PP/DS System via CIF

Create an integration model for materials in the ERP system as described in chapter 4.2.1 *Create an Integration Model for Each Object Type in the ERP System* (p. 29) and activate it as described in chapter 4.2.2 *Activate Integration Models* (p. 29).

Configuration profiles for `KMATs` (if existing) are transferred together with the material.

Check Material Master in the PP/DS System

Check whether all the material master data is transferred as expected.

1. Open the material master (transaction `MM02`) in the PP/DS system.
2. On the *Basic data 2* view check the settings under *Client-specific configuration*.
3. On the *Classification* view, check that all classes are assigned correctly.
4. If the material is a material variant, check the *Plant-specific configuration* data on the *MRP3* view.

Check Product Master in the PP/DS System

Check whether product master data for products is transferred as expected.

1. Open the product master (transaction `/SAPAPO/MAT1`).
2. Check settings on the *Classification* view, particularly the *Reference Product (Loc.-Indep.)* and *CDP Class* fields.

7.1.6 Transfer of Work Centers and PDS

Create Integration Model for Work Centers and PDS in the ERP System

Create an integration model for work centers and production data structures (PDS) as described in chapter 4.2.1 *Create an Integration Model for Each Object Type in the ERP System* (p. 29) and activate it as described in chapter 4.2.2 *Activate Integration Models* (p. 29).

> **ⅰ Note**
>
> Work center classification data is only needed in the ERP system where it is evaluated during creation of the PDS. It is therefore not transferred to the PP/DS system.

Check PDS

Check whether all configuration data for PDSs is transferred correctly.

1. Open transaction *Load Production Data Structure* (`/SAPAPO/CURTO_SIMU`) in the PP/DS system and load your PDS.
2. Select the PDS.
3. In the *Components* view, select a component that has configurable data assigned.
4. In the *Selection Conditions* screen area, check whether the configuration data is visible.

Define Additional Master Data Attributes in the PP/DS System

Define additional attributes as described in chapter 4.2.3 Define Additional Master Data Attributes in the PP/DS System (p. 30).

7.2 Master Data Integration of Business Partners, Customers, and Vendors

7.2.1 Customer and Vendor Master Data Integration via ALE/IDOC

You use this process to integrate customer and vendor master data via ALE/IDOC from the ERP system to the PP/DS system.

Preparational Settings

Include Port Definition in the ERP System

1. Open transaction *Ports in IDoc Processing* (`WE21`) in the ERP system.
2. Create a new port for the system/client of the PP/DS system with the following values:

Field	Value
Port	`<SYSTEMID>CLNT<CLIENTNUMBER>`
Description	Enter a description
Version	Select *IDOC record types SAP Release 4.x*
RFC Destination	Select the RFC destination you created for the PP/DS system

Maintain Partner Profiles in the ERP System

1. Open transaction *Partner profiles* (`WE20`) in the ERP system.
2. Create a new partner profile with type *Logical System* (`LS`). As partner number, choose `<SYSTEMID>CLNT<CLIENTNUMBER>` of the PP/DS system.
3. Define the following outbound message types with the PP/DS system as *Receiver Port* and the RFC user as *Processor*.

Message Type	Basic Type	Usage
CREMAS	CREMAS06	Vendors
DEBMAS	DEBMAS07	Customers

Include Port Definition in the PP/DS System

1. Open transaction *Ports in IDoc Processing* (`WE21`) in the PP/DS system.
2. Create a new port for the system/client of the ERP system with the following values:

Field	Value
Port	`<SYSTEMID>CLNT<CLIENTNUMBER>`
Description	Enter a description
Version	Select *IDOC record types SAP Release 4.x*
RFC Destination	Select the RFC destination you created for the ERP system

Maintain Partner Profiles in the PP/DS System

1. Open transaction *Partner profiles* (`WE20`) in the PP/DS system.
2. Create a new partner profile with type *Logical System* (`LS`). As partner number, choose `<SYSTEMID>CLNT<CLIENTNUMBER>` of the ERP system.
3. Define the following inbound message types with the PP/DS system as *Receiver Port* and the RFC user as *Processor*.

Message Type	Inbound Process Code	Usage
`CREMAS`	`CRE1`	Vendors
`DEBMAS`	`DEBM`	Customers

Creating Reduced Message Types

You use this procedure to select segments and fields of the basic types for master data that you want to integrate. By reducing the number of segments and fields, you also reduce the number of customizing tables (containing allowed field values for master data) that need to be synchronized between both systems.

Basic types for master data are supplied in the standard SAP System. If you want to reduce the basic types, you use transaction BD53 to select the segments and fields that you want to integrate. To do this you activate the segments and fields that you require and generate a new message type.

Mandatory segments and mandatory fields cannot be deactivated.

> ⓘ Note
>
> If you change a reduced message type after you have set up filters, some entries may be reset. In this case, you will receive a warning in transaction BD53. You should then test the transfer again. For example, you must check new entries in transaction BD59 as they may be removed in case of changes of an existing reduced message type.

> ⓘ Note
>
> If you use Data Replication Framework (DRF) for the integration of customers and vendors, you do not need to create the reduced message types for DEBMAS and CREMAS.

Creating a Reduced Message Type for DEBMAS

You use this procedure to create a reduced message type based on the DEBMAS message type for the integration of customer master data from the ERP system to the PP/DS system.

1. In the ERP system, open transaction `BD53` (*IDOC Reduction Maintenance*).
2. Enter a name for the reduced message type, for example `ZPPDSDEBMAS` and press *Create*.
3. Enter `DEBMAS` as message type reference and press *Continue*.
4. Enter a description for the reduced message type, for example *Reduced DEBMAS (Customer) for PP/DS* and press *Continue*.
5. On the next screen, select the following segments:
   1. E1KNA1M (already selected as it is mandatory)
   2. E1KNA11
6. Select the fields for each segment as proposed in the tables below. Mandatory fields are already selected.
7. Save your entries. You will be prompted to enter a transport request for the new message type.

The following tables contain a proposal for segments and fields to be integrated with the PP/DS system:

Fields from Segment E1KNA1M	Description
MSGFN (mandatory)	Function
KUNNR (mandatory)	Customer Number
ANRED (mandatory)	Title
KTOKD (mandatory)	Customer Account Group
LAND1 (mandatory)	Country Key
LIFNR	Account Number of Vendor or Creditor
LOEVM (mandatory)	Central Deletion Flag for Master Record
NAME1 (mandatory)	Name 1
NAME2 (mandatory)	Name 2
ORT01 (mandatory)	City
ORT02 (mandatory)	District
PFACH (mandatory)	PO Box
PSTL2 (mandatory)	P.O. Box Postal Code
PSTLZ (mandatory)	Postal Code
REGIO	Region (State, Province, County)
SORTL (mandatory)	Sort field
SPRAS (mandatory)	Language Key
STRAS (mandatory)	Street and House Number
TELF1	First telephone number

| TELFX | Fax Number |

Fields from Segment E1MKNA11	Description
CVP_XBLCK	Business Purpose Completed Flag

⚠️ **Caution**

The list of segments and fields mentioned in the above table is just a proposal. The list of segments and fields may differ depending on which release you want to create the reduced message type for. It shows a set of fields the PP/DS system requires for main processes. Depending on your requirements you may add/remove segments or fields. If you add a new field, check whether allowed values for this field are defined in a customizing table. If yes, entries for the table are also needed in the PP/DS system.

Creating a Reduced Message Type for CREMAS

You use this procedure to create a reduced message type based on the CREMAS message type for the integration of vendor master data from the ERP system to the PP/DS system.

1. In the ERP system, open transaction `BD53` (*IDOC Reduction Maintenance*).
2. Enter a name for the reduced message type, for example **ZPPDSCREMAS** and press *Create*.
3. Enter **CREMAS** as message type reference and press *Continue*.
4. Enter a description for the reduced message type, for example *Reduced CREMAS (Vendor) for PP/DS* and press *Continue*.
5. On the next screen, select the following segments:
    1. E1LFA1M (already selected as it is mandatory)
    2. E1LFA1A
6. Select the fields for each segment as proposed in the tables below. Mandatory fields are already selected.
7. Save your entries. You will be prompted to enter a transport request for the new message type.

The following tables contain a proposal for segments and fields to be integrated with the PP/DS system:

Fields from Segment E1LFA1M	Description
MSGFN (mandatory)	Function
LIFNR (mandatory)	Account Number of Vendor or Creditor
KTOKK (mandatory)	Vendor account group
KUNNR	Customer Number
LAND1 (mandatory)	Country of Company
LOEVM	Central Deletion Flag for Master Record
NAME1 (mandatory)	Employee's last name
ORT01 (mandatory)	City
PSTL2 (mandatory)	Postal Code
PSTLZ (mandatory)	Postal Code
SORTL (mandatory)	Character Field Length = 10
SPRAS (mandatory)	Language Key
STRAS	Street and House Number
SPERQ	Function That Will Be Blocked
ADRNR	Address
SCACD	Standard carrier access code

Fields from Segment E1LFA1A	Description
CVP_XBLCK	Business Purpose Completed Flag

Executing Initial Transfer of Customers

To transfer customer master data, perform the following steps in the ERP system:

1. Open transaction `BD12` (*Send Customers*).
2. Enter the data as shown in the following table:

Fields	Value
Customer	Select all customers you want to transfer
Output Type	`DEBMAS` or your reduced message type for customers
Logical System	Logical system of the PP/DS system

3. Press *Execute* or, if you expect a big amount of data to be transferred, choose *Program → Execute in Background*.

Executing Initial Transfer of Vendors

To transfer vendor master data, perform the following steps in the ERP system:

1. Open transaction `BD14` (*Send Vendors*).
2. Enter the data as shown in the following table:

Fields	Value
Account Number of Vendor	Select all vendors you want to transfer
Message Type	**CREMAS** or reduced message type for vendors
Target System	Logical system of the PP/DS system

3. Press *Execute* or, if you expect a big amount of data to be transferred, choose *Program → Execute in Background*.

7.2.2 Business Partner Master Data Integration via Data Replication Framework (DRF)

You use this process to integrate business partner master data via DRF from the ERP system to the PP/DS system.

Prerequisites

1. Ensure that you have activated the customer vendor integration (CVI) in the SAP ERP system.
2. Ensure that you have configured the system connections and global settings. RFC destinations and logical systems exist both in the ERP and the PP/DS systems.

Activate Function Module for Master Data Governance Change Handling

To transfer Business Partner changes you should activate Function Module **MDG_BS_BP_OUTBOUND_DRF** in the sender system only. For further details see note 2211045.

Perform the following steps in the ERP system:

1. Activate the function module in Customizing under *Cross-Application Components → SAP Business Partner → Data Distribution → Activate Function Modules*

2. Search for the following entry:
   - Event: **BPOUT** (Business Partner Outbound)
   - Object: **BUPX** (Business Partner and BP Relationships)
   - Item: **5000001**
   - Function Module: **MDG_BS_BP_OUTBOUND_DRF**

3. Set the checkbox *Call* to active for this entry.

4. Save your changes.

Setup DRF for Business Partner Transfer

Define Technical Settings for Business Systems

Perform the following steps in the ERP system:

1. Define a business system in the Customizing for *Data Replication* (transaction DRFIMG) under *Data Replication → Define Custom Settings for Data Replication → Define Technical Settings → Define Technical Settings for Business Systems → Define Business Systems*

   Enter the data as shown in the following table:

Field	Value
Business System	Name of the PP/DS business system
Logical System	Logical system of the PP/DS system
RFC Destination	Name of the RFC Destination of the PP/DS system
Disabled for Replication	Inactive

   Save your entries.

2. Select your defined business system and navigate to *Define Bus. Systems, BOs* to define the assigned BOs.

   Enter the data as shown in the following table:

Field	Value
BO Type	**986** (Business Partner including Relationships)
System Filter	Inactive
Outp. Mode	**P Pooled Out** or any other output mode of your choice

Save your entries.

3. Select your defined business object type system and navigate to *Define Bus. Systems, BOs, Communication Channel* to define the communication channel.

Enter the data as shown in the following table:

Field	Value
C. Channel	**1 Replication via Services**
Key Harm	**Not Defined**

Save your entries.

Define Replication Model for Business Partner Transfer

Perform the following steps in the ERP system:

1. Define a replication model in the Customizing for *Data Replication* (transaction DRFIMG) under *Data Replication* → *Define Custom Settings for Data Replication* → *Define Replication Models*

Enter the data as shown in the following table:

Field	Value
Replication Model	Define a replication model
Description	Enter a description

Save your entries.

2. Select your defined replication model and navigate to *Assign Outbound Implementation.*

Enter the data as shown in the following table:

Field	Value
Outbound Implementation	**986_3** (Outbound Impl. for BP/REL via Services)
Communication Channel	**1 Replication via Services**
Filter Time	**2 Filter After Change Analysis**

Save your entries.

3. Select your defined outbound implementation and navigate to *Assign Target Systems for Repl- Model / Outb. Impl.*

Enter the data as shown in the following table:

Field	Value
Business System	Name of the PP/DS business system

Save your entries.

4. Select your defined outbound implementation and navigate to *Assign Outbound Parameter*.

   Enter the data as shown in the following table:

Field	Value
Outbound Parameter	**PACK_SIZE_BULK** *(Package Size for Bulk Messages)*
Mandatory	Active
Outbound Parameter Value	**1**

   Save your entries.

5. Navigate back to *Define Replication Models* to activate the replication model.

   o Select your defined Replication Model.

   o Click *Activate.*

Define Filter Criteria for Business Partner Transfer via DRF

Perform the following steps in the ERP system:

1. Define filter criteria for business partner distribution in the SAP Easy Access Menu for *Data Cross Application Components → Processes and Tools for Enterprise Applications → Master Data Governance → Data Replication → Define Filter Criteria (*Transaction DRFF)

2. Select your Replication Model and click *Change*.

   Enter *Filter Criteria to Include Business Objects*. For example, for the account group, set:

Field	Value
Filter Criterion	**Account Group**
Relation	**is** or any other relation of your choice
Filter Value	**DEBI** or your customer or vendor account group

   Save your entries.

3. Click *Show Segment Filters*.

   o Select *Company Code Seg. replicated – 98602* from the list of segment filters (click on the name to navigate).

   o Click *Edit* in the new window.

   o Enter the following data in the *Filter Criteria to Exclude Business Objects*:

Field	Value
Filter Criterion	**Company Code**
Relation	**contains**
Filter Value	*****

   Save your entries.

4. Navigate back to the Filter Criteria and click *Show Segment Filters*.

   o Select *Purchasing Org Seg. replicated – 98603* from the list of segment filters (click on the name to navigate).

   o Click *Edit* in the new window.

   o Enter the following data in *Filter Criteria to Exclude Business Objects:*

Field	Value
Filter Criterion	`Purch Organization`
Relation	`contains`
Filter Value	`*`

Save your entries.

5. Navigate back to the Filter Criteria and click *Show Segment Filters*.

    o   Select *Cust Company Code Seg. replicated – 98604* from the list of segment filters (click on the name to navigate)

    o   Click *Edit* in the new window.

    o   Enter the following data in *Filter Criteria to Exclude Business Objects*:

Field	Value
Filter Criterion	`Company Code`
Relation	`contains`
Filter Value	`*`

Save your entries.

6. Navigate back to the Filter Criteria and click *Show Segment Filters*.

    o   Select *Cust Sales Area Seg. replicated – 98605* from the list of segment filters (click on the name to navigate).

    o   Click *Edit* in the new window.

    o   Enter the following data in *Filter Criteria to Exclude Business Objects*:

Field	Value
Filter Criterion	`Distribution Channel`
Relation	`contains`
Filter Value	`*`

Field	Value
Filter Criterion	`Division`
Relation	`contains`
Filter Value	`*`

Field	Value
Filter Criterion	`Sales Organization`
Relation	`contains`
Filter Value	`*`

Save your entries.

7. Navigate back to the Filter Criteria and click *Show Segment Filters*.

   o Select *BP Seg. Filter for TaxCategory – 98700* from the list of segment filters (click on the name to navigate).

   o Click *Edit* in the new window.

   o Enter the following data in *Filter Criteria to Exclude Business Objects*:

Field	Value
Filter Criterion	`Tax Number Category`
Relation	`contains`
Filter Value	`*`

Save your entries.

ℹ Note

In transaction `DRFOUT` (SAP Easy Access Menu for *Data Cross Application Components → Processes and Tools for Enterprise Applications → Master Data Governance →Data Replication →Execute Data Replication*) it is possible to maintain manual filter criteria for the execution of the business partner data transfer. This does not affect the filters defined for the data replication model in this chapter. The same logic can be used for defining filters for execution

Execute Initial Business Partner Data Transfer via DRF

You use this process to execute the initial transfer of Business Partners to the PP/DS system.

Perform the following steps in the ERP system:

1. Execute the initial data transfer of business partners in the SAP Easy Access Menu for *Data Cross Application Components → Processes and Tools for Enterprise Applications → Master Data Governance →Data Replication → Execute Data Replication* (Transaction `DRFOUT`).

   Enter the following selection data:

Field	Value
Replication Model	Name of your replication model
Outbound Implementation	**986_3** (Outbound Impl. for BP/REL via Services)
Replication Mode > Initialization	Active
Options for Report Control > Test Run Only	Inactive

Click *Execute* (F8).

Execute Delta Business Partner Data Transfer via DRF

You use this process to execute the delta transfer of changed Business Partners to the PP/DS system.

Perform the following steps in the ERP system:

1. Execute the delta data transfer of business partners in the SAP Easy Access Menu for *Data Cross Application Components → Processes and Tools for Enterprise Applications → Master Data Governance →Data Replication → Execute Data Replication* (Transaction `DRFOUT`).

   Enter the following selection data:

Field	Value
Replication Model	Name of your replication model
Outbound Implementation	**986_3** (Outbound Impl. for BP/REL via Services)
Replication Mode > Initialization	Active
Options for Report Control > Test Run Only	Inactive

Click *Execute* (F8).

ℹ️ Note

You can schedule the corresponding report RDRF_MESSAGE_OUT as a background job to transfer the changes of business partner data regularly.
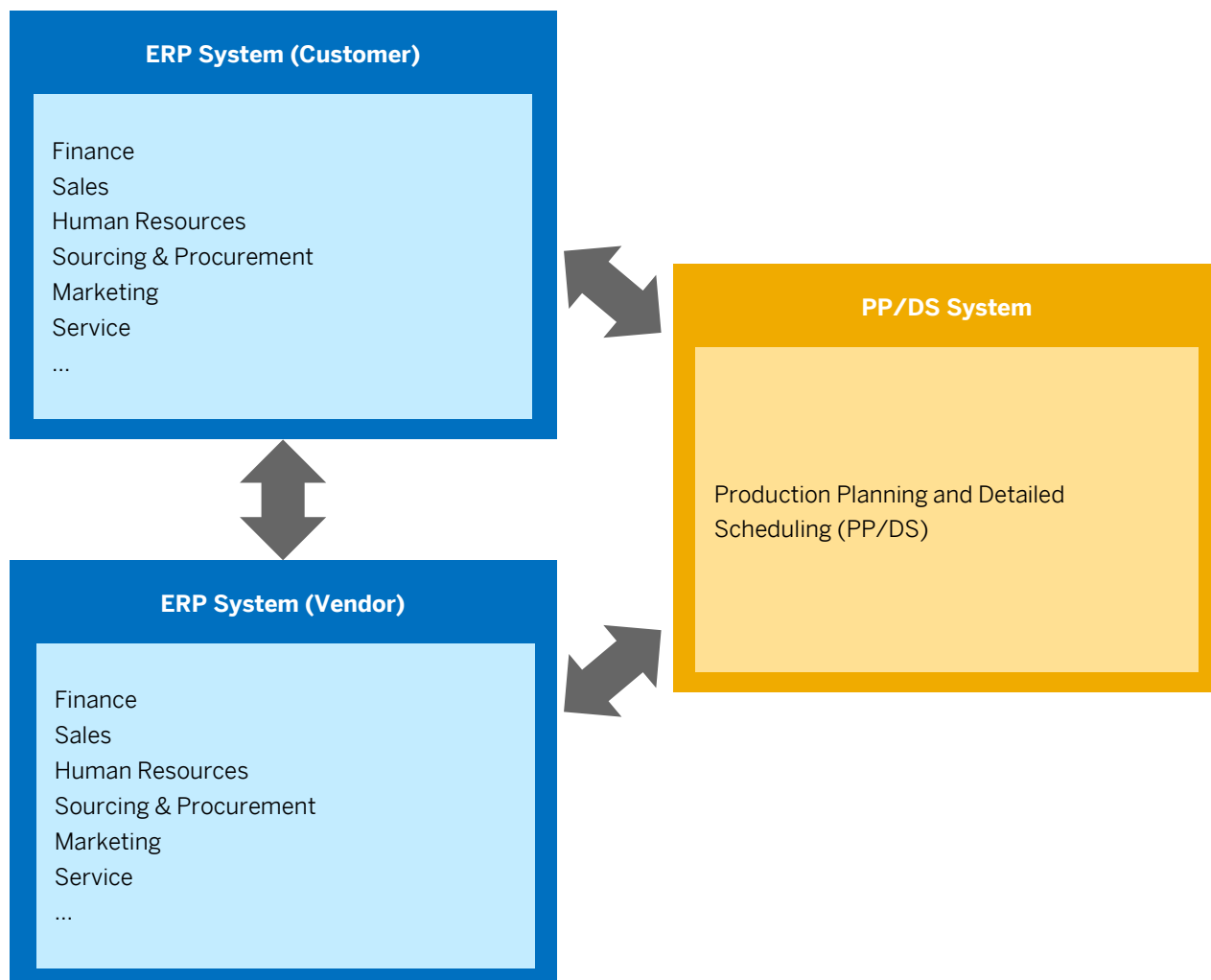
Monitoring the DRF Transfer of Business Partners

If you use point-to-point direct communication for the DRF data transfer, you can use the transaction SRT_MONI (Web Services Message Monitor) to monitor the data exchange between the ERP and the PP/DS systems.

If you use an XI server for the communication, you can use transaction SXI_MONITOR (XI: Message Monitoring) to monitor the data exchange between the ERP and PP/DS systems.

7.3 Setup for Distributed Customer/Vendor ERP Systems

You can also deploy a PP/DS system in combination with multiple ERP systems between which stock transfers are distributed. For different sources of supply, one ERP system is used as customer, another ERP system as vendor. In addition to the settings that are described for the standard scenario, additional settings are required to ensure that the communication between the ERP systems works.

ERP System (Customer)

Finance
Sales
Human Resources
Sourcing & Procurement
Marketing
Service
...

PP/DS System

Production Planning and Detailed Scheduling (PP/DS)

ERP System (Vendor)

Finance
Sales
Human Resources
Sourcing & Procurement
Marketing
Service
...

In both ERP systems, you define the materials and vendors and customer master data for all plants that you need for the business purposes.

Additionally, you set up the *Application Link Enabling* (ALE) communication via between both systems.

> ℹ Note
>
> Depending on the SAP ERP release and depending on the Customer Vendor Integration (CVI) that is activated, also business partners are required. If you want to process returns, you define a customer assignment for each vendor and a vendor assignment for each customer.

7.3.1 Settings in the Customer ERP System

Additional Settings for Business Partners

For all business partners with role *Vendor* in each purchasing organization, enter the ID of the related customer that is defined in the delivering system in field *Account with supplier* (or *Acc. with vendor* depending on your system).

Additional Settings for Purchasing Info Records

For all purchasing info records, enter the material number that is used in the delivering system in field *Supplier Material Group* (or *Vendor Material Group* depending on your system).

ALE Settings

Maintain Ports

1. Open transaction *Ports in IDoc Processing* (`WE21`).
2. Select *Transactional RFC* and choose *Create*.
3. Enter the vendor ERP system as RFC destination,
4. Leave all other options deselected and save.

Define Outbound Partner Profile

1. Open transaction *Partner Profiles* (`WE20`).
2. Select *Partner Type LI* (vendor) and choose *Create*.
3. In the *Outbound* screen area, choose *Create outbound parameter*.
4. Create three new outbound parameters of type *Vendor* (`LI`) with the RFC user as processor.
5. On the *Outbound Options* view, enter the following data:

Partner Role	Message Type	Receiver Port	Output Mode	Basic Type
(empty)	`SYNCH`	The port you created in the previous step	*Pass IDoc Immediately*	`SYNCHRON`
Vendor (`VN`)	`ORDERS`			`ORDERS05`
Vendor (`VN`)	`ORDCHG`			`ORDERS05`

6. On the *Message Control* view, enter the following data:

Partner Role	Message Type	Application	Message Type	Process Code	Change Message
Vendor (`VN`)	`ORDERS`	EF	NEU	ME10	deselected
Vendor (`VN`)	`ORDCHG`			ME11	selected

> **i** Note
>
> Depending on your system landscape, it might also be necessary to define settings on the *EDI Standard* view.

Define Output Conditions

1. Open transaction *Change Output – Condition Records* (`NACR`).

2. Enter application `EF` and output type `NEU`.

3. Choose key combination *Purchasing Output Determination: Purch. Org./Vendor for EDI*.

4. For each supplier/vendor in your purchasing organization, define condition records with the following attributes:

Field	Value
Function	*Vendor* (`VN`)
Message Transmission Medium	*EDI* (`6`)
Dispatch Time	*Send immediately (when saving the application)* (`4`)
Language Key	*English* (`EN`)

Define Inbound Partner Profile

1. Open transaction *Partner Profiles* (`WE20`).

2. Select *Partner Type LS* (logical system) and choose *Create*.

3. In the *Inbound* screen area, choose *Create inbound parameter*.

4. Create a new inbound parameter of type *Logical System* (`LS`) with the RFC user as processor.

5. On the *Inbound Options* view, enter the following data:

Partner Role	Message Type	Process Code	Processing by Function Modules
(empty)	`ORDRSP`	`ORDR`	
(empty)	`DESADV`	`DELS`	*Trigger Immediately*
(empty)	`INVOIC`	`IV01`	
(empty)	`ORDERS`	`ORDE`	

7.3.2 Settings in the Vendor ERP System

Material Master Data

Define all master data as described above. Ensure that all master data have a sales organization, distribution channel, division data, and unit of measure conversions defined.

Additional Settings for Business Partners

Create business partner or customer for each plant that is defined in the ordering system with the sales organization, distribution channel, and division data that is defined in your material master data.

Ensure that the partner function *Ship-to Party* (`SH`) is defined.

ALE Settings

Maintain Ports

1. Open transaction *Ports in IDoc Processing* (`WE21`).
2. Select *Transactional RFC* and choose *Create*.
3. Enter the customer ERP system as RFC destination,
4. Leave all other options deselected and save.

Define Outbound Partner Profile

1. Open transaction *Partner Profiles* (`WE20`).
2. Select *Partner Type KU* (customer) and choose *Create*.
3. In the *Outbound* screen area, choose *Create outbound parameter*.
4. Create two new outbound parameters of type *Customer* (`KU`) with the RFC user as processor.
5. On the *Outbound Options* view, enter the following data:

Partner Role	Message Type	Receiver Port	Output Mode	Basic Type
(empty)	SYNCH	The port you created in the previous step	*Pass IDoc Immediately*	SYNCHRON
Ship-to Party (SP)	ORDRSP			ORDERS05
Ship-to Party (SP)	DESADV			DELVRY07
Ship-to Party (SP)	INVOIC			INVOIC02

6. On the *Message Control* view, enter the following data:

Partner Role	Message Type	Application	Message Type	Process Code	Change Message
Ship-to Party (SP)	ORDERSP	V1	BA00	SD10	Deselected
Ship-to Party (SP)	DESADV	V2	LD00	DELV	Deselected
Ship-to Party (SP)	INVOIC	V3	RD00	SD09	Deselected

> ⓘ Note
>
> Depending on your system landscape, it might also be necessary to define settings on the *EDI Standard* view.

Define Output Conditions

1. Open transaction *Change Output – Condition Records* (`NACR`).
2. Enter application `V1` and output type `BA00`.
3. Choose key combination *Sales Organization/Customer Number*.
4. For each customer in your sales organization, define condition records with the following attributes:

Field	Value
Function	*Sold-to Party* (SP)
Message Transmission Medium	*EDI* (6)
Dispatch Time	*Send immediately (when saving the application)* (4)
Language Key	*English* (EN)

5. Define the same output conditions for application `V2` and output type `LD00` as described in the previous steps.
6. Define the same output conditions for application `V3` and output type `RD00` as described in the previous steps.

Define Inbound Partner Profile

1. Open transaction *Partner Profiles* (`WE20`).

2. Select *Partner Type LS* (logical system) and choose *Create*.

3. In the *Inbound* screen area, choose *Create inbound parameter*.

4. Create two new inbound parameters of type *Logical System* (`LS`) with the RFC user as processor.

5. On the *Inbound Options* view, enter the following data:

Partner Role	Message Type	Process Code	Processing by Function Modules
(empty)	ORDRCHG	ORDC	*Trigger Immediately*
(empty)	ORDERS	ORDE	

Define Mapping of Customers to Sales Organization Data

1. Open transaction *View for Table EDSDC* (`VOE2`).

2. Select your customers and assign a sales organization, distribution channel, and division as defined for the location material and select a suitable sales order type.

Assign Partner Function Ship-To

Assign the ship-to partner function for the plant defined in the ordering system to an internal customer number.

1. Open transaction *View for Table EDPAR* (`VOE4`).

2. Select your customers and external function *Ship-to* (`SH`) and assign an internal customer number.

7.3.3 Settings in the PP/DS Systems

1. Create all plants that are used in the ERP systems in the PP/DS system and ensure that the related locations are available in PP/DS.

2. Open transaction *Location Alias* (`/SAPAPO/LOCALI`) and create the following location aliases for the relevant locations:

    o   For the logical customer systems, create a new alias for each relevant plant that exists in the supplier system with type *Vendor* (`C`).

    o   For the logical supplier systems, create a new alias for each relevant plant that exists in the customer system with type *Customer* (`B`).

7.4 Additional Settings for Subcontracting

We support the following Subcontracting scenarios:

- Subcontracting with Source Location in PP/DS
- Subcontracting with Scheduling Agreements in PP/DS
- Subcontracting with Third-party Provision of Components in PP/DS
- Subcontracting with Phantom Assembly in PP/DS
- Subcontracting without Source Location in PP/DS

> **i Note**
>
> To use the Subcontracting without Source Location in PP/DS scenario, you must first implement the SAP Note 3133251.

If you want to implement a subcontracting scenario, you need to make additional settings as described in the following section. Currently, subcontracting with source location is the only subcontracting scenario that is supported in this release. To understand the restrictions in subcontracting scenarios, see SAP Note 3073717.

Create Business Partners

1. Create a business partner in the PP/DS system with role Vendor (for example, `FLVN00`) as described under 4.1.5 *Create Business Partners* (p. 25).
2. Select an account group with external number assignment, for example, `LIEF`.
3. Use the same vendor number as the vendor number that is used in the ERP system on the *Vendor: General Data* view.

Create MRP Areas (for Subcontracting with Source Location)

1. Create an MRP area in the PP/DS system as described under 4.1.7 *Create MRP Areas for* Subcontracting (p. 25) and assign the vendor. Ensure that the names of the MRP areas in the ERP and the PP/DS system are identical.
2. Add the MRP area to material master of the relevant components in both systems.

Create Locations

Create locations for plants, MRP areas, and vendors in the PP/DS system as described under 4.1.8 *Create Locations* (p. 26).

Integration Model

Create and activate an integration model for subcontracting in the ERP system.

Ensure that the *Production Data Structure (PDS)* with type *PP/DS Subcont.* and the relevant info record are included in the same integration model.

> **⚠ Caution**
>
> Don't include the vendor in the integration model!

7.5 Supported and Unsupported Scenarios for Planning Products in the ERP and/or PP/DS Systems

In a side-by-side deployment of the PP/DS system with an ERP system, you can plan the materials and components present in the BoM structure either in the ERP and/or PP/DS systems.

In a BoM structure, if a BoM header material is relevant for planning in the PP/DS system and its components are relevant for planning either in the ERP and/or PP/DS systems, you must perform the following:

1. In the PP/DS system, use *Product Heuristic* to plan the BoM header material and all its components that are relevant for planning in the PP/DS system.

2. After the PP/DS system saves the planning results, ensure that the updated transactional data is available in the ERP system. For more information, see chapter 5 *Integration of Transactional Data* (p. 31).

3. Ensure that the ERP system creates the requirements for components that are relevant for planning in the ERP system.

4. In the ERP system, plan the materials and components that are relevant for planning in the ERP system.

⚠️ Caution

In a BoM structure, for a BoM header material relevant for planning in the ERP system, you cannot plan the components that are relevant for planning in the PP/DS system.

7.5.1 Examples of Supported and Unsupported Planning Scenarios

The examples given below provide a better understanding of the supported and unsupported planning scenarios.

Context

In the examples given below, the materials ERP-RAW-MAT and ERP-FINISHED-MAT:

- Are created in the ERP system and are not relevant for planning by Advanced Planning in the PP/DS system.
- Are not transferred to the PP/DS system using Core Interface.
- Exist only in the ERP system together with their transactional data.

In the examples given below, the materials DSC-RAW-MAT and DSC-FINISHED-MAT:

- Are created in the ERP system and are relevant for planning by Advanced Planning in the PP/DS system.
- Are transferred to the PP/DS system using CIF.
- Have the MRP Type *X0*.

Example 1: Supported Planning Scenario
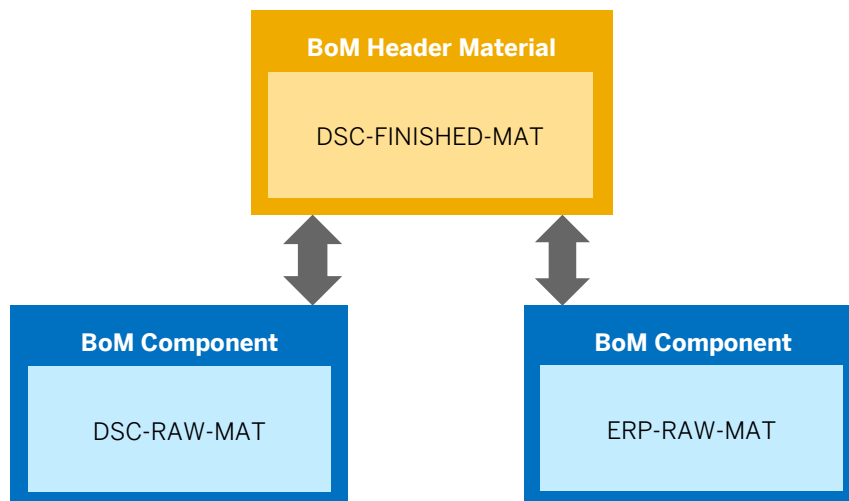
This example explains how you can plan the components that are relevant for planning either in the ERP and/or PP/DS systems and have a BoM header material that is relevant for planning in the PP/DS system.

i Note

In this example, the Production Data Structure (PDS) will display only DSC-RAW-MAT as a component under DSC-FINISHED-MAT.

When a demand for DSC-FINISHED-MAT is placed:

1. The PP/DS system plans DSC-FINISHED-MAT and DSC-RAW-MAT using *Product Heuristic*.
2. After the PP/DS system saves the planning results, the updated transactional data should become available in the ERP system.
3. The ERP system then creates a requirement for ERP-RAW-MAT based on the BoM structure present in the ERP system.
4. The ERP system plans the component ERP-RAW-MAT, either using MRP Live (if the ERP system is an SAP S/4HANA system) or any of the *MDXX* transactions.

Example 2: Unsupported Planning Scenario
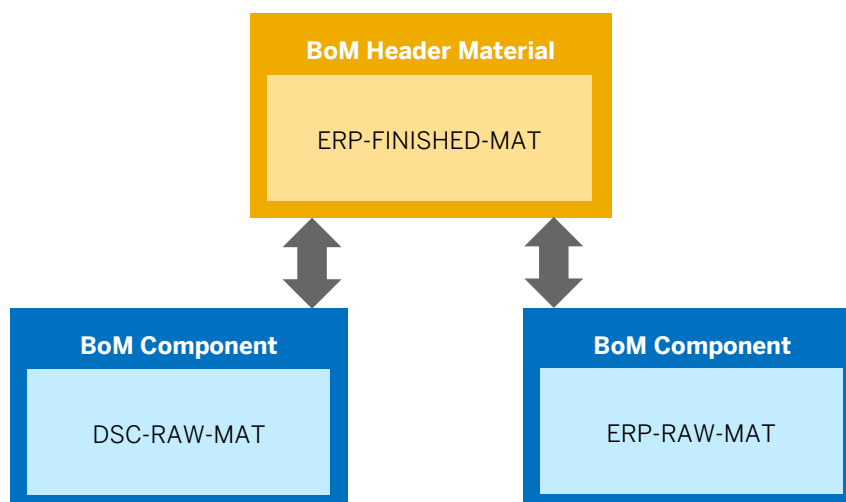
This example explains why you cannot plan the components that are relevant for planning in the PP/DS system and have a BoM header material that is relevant for planning in the ERP system.

If a demand for ERP-FINISHED-MAT is placed:

1. The ERP system plans ERP-FINISHED-MAT and ERP-RAW-MAT, either using MRP Live (if the ERP system is an SAP S/4HANA system) or any of the *MDXX* transactions.

2. The ERP system creates a requirement for DSC-RAW-MAT in the ERP system, but does not plan it in the ERP system because DSC-RAW-MAT has MRP Type *X0*.

3. The requirement for DSC-RAW-MAT depends on the planned order created for ERP-FINISHED-MAT. Therefore, because ERP-FINISHED-MAT and its transactional documents are not transferred to the PP/DS system, the requirement for DSC-RAW-MAT is not available in the PP/DS system.

4. Now, because the requirement for DSC-RAW-MAT is not available in the PP/DS system, it cannot be planned in the PP/DS system. And, because DSC-RAW-MAT has MRP Type *X0* in the ERP system, it cannot be planned in the ERP system as well.

Conclusion

In a BoM structure:

> If you plan a component in the PP/DS system, then you must plan all components up to the BoM header material in the PP/DS system.
>
> If you plan a component in the ERP system, then you must plan all its sub-components.
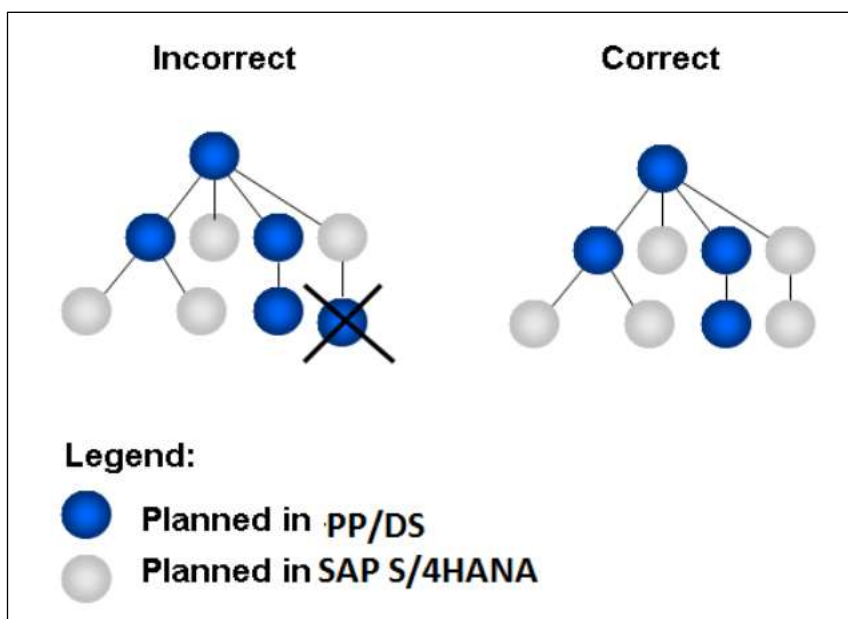
7.6 Integrate Material Master Data with MRP Areas

1. Create an MRP area in the ERP system and the PP/DS system as described in chapters 4.1.6 *Create MRP Areas for Plant/Storage Locations* (p.25) and 4.1.7 *Create MRP Areas for* Subcontracting (p.25). You must create the MRP Areas in the ERP system and the PP/DS system with identical names.

2. In the ERP system, add the MRP area to the material master using transaction `MM01`.

3. Create an integration model using transaction `CFM1` to enable an initial transfer of the MRP area data for materials from the ERP system to the PP/DS system via Core Interface (CIF).

> ⚠️ **Caution**
>
> After the initial transfer, if you update the MRP area data for materials, the changes to the MRP area data for materials will not be transferred to the PP/DS system using business transaction events (BTEs). This is because currently the transfer of updates to the MRP area data for materials using BTE is not supported. For more information on transferring this data to the PP/DS system, see SAP Note 1875164.

> ℹ️ **Note**
>
> If you want to restrict the transfer of one or more MRP areas in the material master, use the following BAdI: `CIF_S4_BADI_PRODUCT_OUTBOUND`

7.7 Real-time Integration of SAP Integrated Business Planning (IBP) with the DSC System

You can use SAP Integrated Business Planning (IBP) 2211 and above for Supply Chain order-based planning in combination with the DSC system by implementing the SAP Note 3250473.

With SAP IBP 2211 and above, you can perform operational supply planning (OSP), which allows you to create a rough-cut plan to optimize the use of your supply chain network. In the DSC system, you can use Advanced Planning (PP/DS) to optimize the use of the production resources in your plants and finitely schedule planned orders and production or process orders.

The DSC system performs the short-term detailed planning and scheduling of an SAP IBP production plan. The changes to the planned dates and times of all supply elements are available in SAP IBP order-based planning.

For more information, see Using Order-Based Planning with Flexible Master Data.

Appendix

Important Disclaimers and Legal Information

Coding Samples

Any software coding and/or code lines / strings ("Code") included in this documentation are only examples and are not intended to be used in a productive system environment. The Code is only intended to better explain and visualize the syntax and phrasing rules of certain coding. SAP does not warrant the correctness and completeness of the Code given herein, and SAP shall not be liable for errors or damages caused by the usage of the Code, unless damages were caused by SAP intentionally or by SAP's gross negligence.

Accessibility

The information contained in the SAP documentation represents SAP's current view of accessibility criteria as of the date of publication; it is in no way intended to be a binding guideline on how to ensure accessibility of software products. SAP in particular disclaims any liability in relation to this document. This disclaimer, however, does not apply in cases of willful misconduct or gross negligence of SAP. Furthermore, this document does not result in any direct or indirect contractual obligations of SAP.

Gender-Neutral Language

As far as possible, SAP documentation is gender neutral. Depending on the context, the reader is addressed directly with "you", or a gender-neutral noun (such as "salesperson" or "working days") is used. If when referring to members of both sexes, however, the third-person singular cannot be avoided or a gender-neutral noun does not exist, SAP reserves the right to use the masculine form of the noun and pronoun. This is to ensure that the documentation remains comprehensible.

Internet Hyperlinks

The SAP documentation may contain hyperlinks to the Internet. These hyperlinks are intended to serve as a hint about where to find related information. SAP does not warrant the availability and correctness of this related information or the ability of this information to serve a particular purpose. SAP shall not be liable for any damages caused by the use of related information unless damages have been caused by SAP's gross negligence or willful misconduct. All links are categorized for transparency (see: http://help.sap.com/disclaimer).

Open-Source Software and Third-Party Components

Please refer to https://scn.sap.com/docs/DOC-42044 for information respecting open-source software components made available by SAP as part of SAP NetWeaver and any specific conditions that apply to your use of such open-source software components. Please refer to https://scn.sap.com/docs/DOC-42045 for information relating to SAP's use of third-party software with or within SAP NetWeaver.

SAP Digital Supply Chain

THE BEST RUN **SAP**