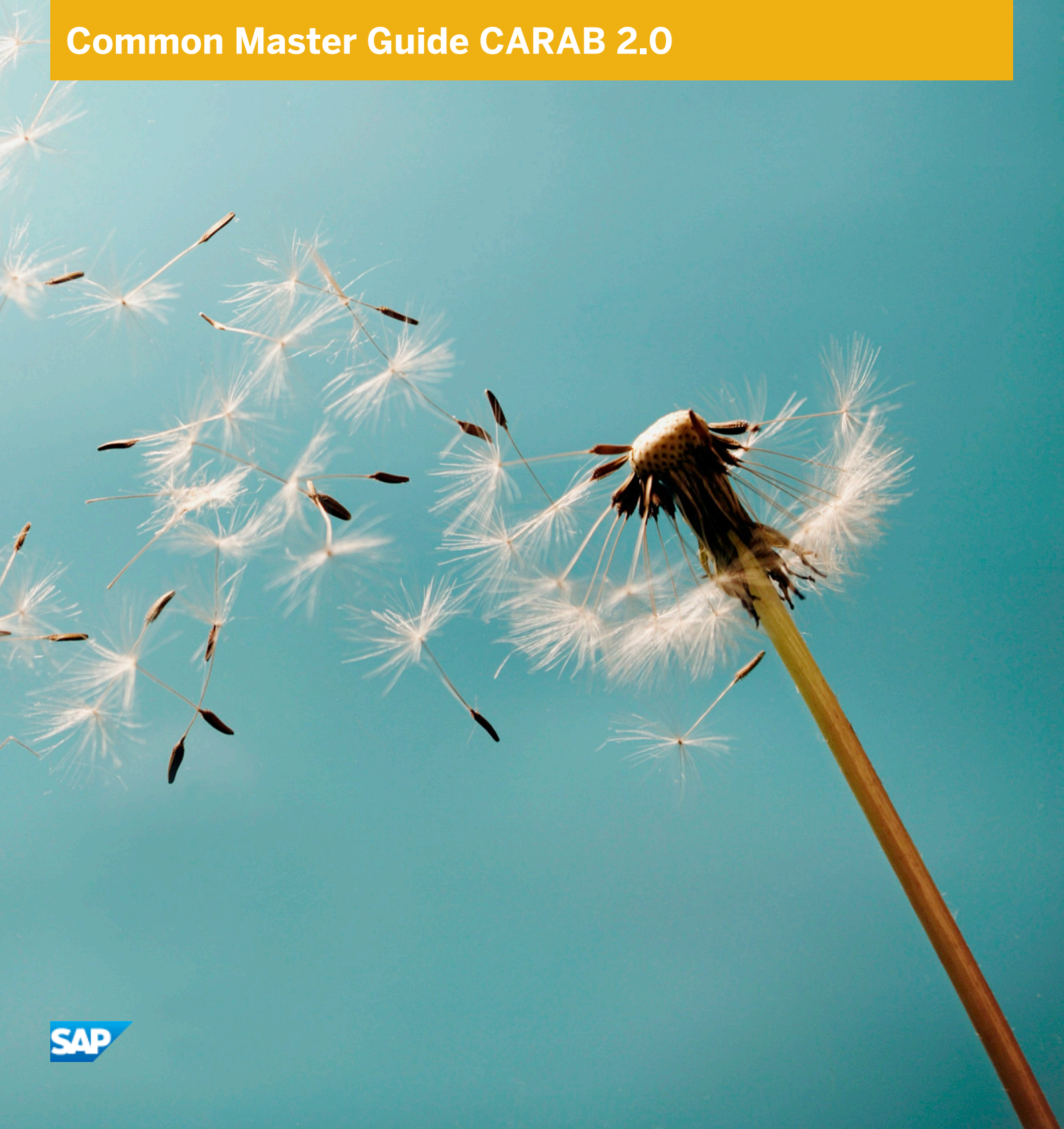


Common Master Guide CARAB 2.0



Content

1	Getting Started.	4
1.1	About this Document.	4
1.2	Related Information.	5
1.3	Naming Conventions.	6
1.4	SAP Notes for the Installation.	7
1.5	Overall System Landscape.	12
2	Business Overview.	13
2.1	SAP Customer Activity Repository.	13
	Introduction to SAP Customer Activity Repository.	13
	Software Units of SAP Customer Activity Repository.	23
2.2	SAP Allocation Management for Retail.	25
	Introduction to SAP Allocation Management for Retail.	25
	Software Component Matrix.	27
2.3	SAP Assortment Planning for Retail.	28
	Introduction to SAP Assortment Planning for Retail.	28
	Software Component Matrix.	28
2.4	SAP Merchandise Planning for Retail.	30
	Introduction to SAP Merchandise Planning for Retail.	30
	Software Component Matrix.	30
2.5	SAP Promotion Management for Retail.	31
	Introduction to SAP Promotion Management for Retail.	31
	Software Component Matrix.	31
3	Business Scenarios.	33
3.1	SAP Customer Activity Repository.	33
	Performing POS Data Transfer and Audit.	34
	Performing POS Transaction Data Migration.	34
	Performing POS Sales Analysis.	35
	Performing Inventory Visibility Analysis.	36
	Performing Sales (Billing) Document Analysis.	37
	Performing Multichannel Sales Analysis.	38
	Enabling Demand Data Foundation and Creating Demand Forecast.	39
	Monitoring On-Shelf Availability.	45
3.2	SAP Allocation Management for Retail.	46
	Enabling Demand Data Foundation.	47
	Manage Category Responsibilities.	49

	Manage Location Clusters.	50
	Manage Product Attributes for Allocation Processing (Optional).	51
	Manage Product Attributes for Distribution Curve Analysis (Optional).	51
	Manage Market Units.	52
	Manage Allocation Parameters.	52
	Manage Allocation Workload.	53
	Run Automatic Allocation.	54
	Manage Allocation Plans.	54
	Transfer Allocation Plans to Follow-on Systems.	55
3.3	SAP Assortment Planning for Retail.	56
	Enabling Demand Data Foundation and Creating Demand Forecast.	57
	Performing POS Data Transfer and Audit.	62
	Manage Category Responsibilities.	62
	Manage Products.	63
	Manage Locations.	64
	Manage Product Attributes.	65
	Manage Modules.	66
	Manage Location Clusters.	67
	Plan Options (Optional).	67
	My Assortment Lists.	68
	Plan Assortments.	69
	Match Placeholders.	70
	Export to Planned Independent Requirements (PIR) (Optional).	71
3.4	SAP Merchandise Planning for Retail.	72
	Enabling Demand Data Foundation.	72
	Developing Financial Plan.	74
	Developing Merchandise Plan.	75
3.5	SAP Promotion Management for Retail.	75
	Enabling Demand Data Foundation and Creating Demand Forecast.	76
	System Preparation.	81
	Data Preparation.	82
	Promotion Planning.	83
	Offer Scheduling.	85
	Data Transfer.	86
4	Solution-Wide Topics.	88
4.1	Service-Oriented Architecture (SOA).	88

1 Getting Started

1.1 About this Document

Use

This *Common Master Guide* is the central starting point for the technical implementation of the following SAP applications and their underlying business scenarios:

Table 1:

Application	SAP Help Portal with Product Documentation
SAP Customer Activity Repository	http://help.sap.com/car
SAP Allocation Management for Retail	http://help.sap.com/amr15
SAP Assortment Planning for Retail	http://help.sap.com/rap
SAP Merchandise Planning for Retail	http://help.sap.com/mpr
SAP Promotion Management for Retail	http://help.sap.com/retail-pm

Use this guide to get an overview of these applications, their software units, and their scenarios from a technical perspective. The guide is a planning tool that helps you to design your system landscape. It refers you to the required detailed documentation, mainly:

- Installation guides for single software units
- SAP Notes
- Configuration information
- SAP Library documentation

Constraints

The content in this guide serves as an example of how you can use SAP software in your company. This content is only intended as a model and the software does not necessarily run as described here in your customer-specific system landscape. Ensure to check your requirements and systems to determine whether these scenarios can be used productively at your site. Furthermore, we recommend that you test these scenarios thoroughly in your test systems to ensure they are complete and free of errors before going live.

Additional software dependencies might exist without being mentioned explicitly in this document. You can find more information on component-specific software dependencies in the corresponding installation guides.

1.2 Related Information

Planning Information

For more information on planning topics not covered in this guide, see the following sources:

Table 2:

Content	Location
Latest versions of installation and upgrade guides	http://service.sap.com/instguides
General information about SAP Customer Activity Repository	http://help.sap.com/car
SAP Business Maps - information about applications/solutions and business scenarios	http://service.sap.com/businessmaps
Sizing, calculation of hardware requirements - such as CPU, disk and memory resource - with the Quick Sizer tool	http://service.sap.com/quicksizer
Released platforms and technology-related topics, such as maintenance strategies and language support	http://service.sap.com/platforms To access the Product Availability Matrix directly, enter http://support.sap.com/pam .
Network security	http://service.sap.com/securityguide
High Availability	http://service.sap.com/ha
Performance	http://service.sap.com/performance
Information about Support Package Stacks, latest software versions, and patch level requirements	http://support.sap.com/sp-stacks

Further Useful Links

The following additional content is available:

Table 3:

Content	Location
Information about creating incidents	http://support.sap.com/incident
SAP Notes search	http://support.sap.com/notes
SAP Software Download Center	http://support.sap.com/swdc

Content	Location
Early Knowledge Transfer content including SAP Online Knowledge Products (OKPs) with role-specific learning maps	http://service.sap.com/rkt


1.3 Naming Conventions

Throughout this document the following naming conventions apply.

Definitions

The following terms are used consistently in the processes and procedures described in this guide:

Table 4:

Term	Definition
Common Installation Guide	<p>Common Installation Guide for SAP Customer Activity Repository 3.0, SAP Assortment Planning for Retail 2.0, SAP Merchandise Planning for Retail 1.1, SAP Promotion Management for Retail 8.2.</p> <p>You can find this guide on SAP Service Marketplace at http://service.sap.com/instguides</p> <p>▶ Installation & Upgrade Guides ▶ Industry Solutions ▶ Industry Solution Guides ▶ SAP for Retail ▶ SAP Customer Activity Repository ▶ SAP Customer Activity Repository 3.0 ▶ Installation Guide ▶</p>
Consuming application	<p>An SAP product designed to consume and utilize data obtained from SAP Customer Activity Repository.</p> <div style="background-color: #fff9c4; padding: 10px;"> <p> Example</p> <ul style="list-style-type: none"> • SAP Assortment Planning for Retail • SAP Merchandise Planning for Retail • SAP Promotion Management for Retail </div>

Term	Definition
SAP ERP	<p>Unless otherwise specified, references in this guide to SAP ERP are comprehensive; that is, they apply to SAP ERP and the following two add-ons:</p> <ul style="list-style-type: none"> • SAP Retail: an add-on to SAP ERP For more information, see SAP Help Portal for SAP Retail at http://help.sap.com/retail-erp. • SAP Fashion Management: an add-on to SAP Retail For more information, see SAP Help Portal for SAP Fashion Management at http://help.sap.com/fms. <p>For more information on how both add-ons relate to SAP ERP, see SAP Help Portal for SAP ERP at http://help.sap.com/erp > <your release> > <i>Application Help</i> > <i>Industries in SAP ERP</i> > <i>SAP Retail</i> and subsection <i>Fashion Management</i>.</p>

1.4 SAP Notes for the Installation

The following list includes SAP Notes that you must read (and, when appropriate, implement) before you start the installation.

Make sure that you have the up-to-date version of each SAP Note, which you can find on the SAP Support Portal at <http://support.sap.com/notes>.

Table 5: SAP Notes for SAP Customer Activity Repository

SAP Note Number	Title	Description
2379029	Release and Information Note (RIN) - SAP Customer Activity Repository 3.0	This note serves as an entry point for SAP Customer Activity Repository 3.0. It provides up-to-date information on the current release, together with a list of important SAP Notes that you must apply to complete the installation process.
2183947	Smart Business for SoH (Suite on Hana) delivery	Information on how to install add-on object UI-SAFND1 100 when installing the SAP Smart Business Modeler Apps Framework with User Interface Add-On 2.0 for SAP NetWeaver.
1605140	SAP HANA 1.0: Central Note - SAP LT Replication Server	Collective note for all the relevant SAP Notes for LT Replication Server for SAP HANA.
1778607	SAP HANA Live for SAP Business Suite	What to consider when implementing SAP HANA Live for SAP Business Suite.
1791342	Time Zone Support in SAP HANA	How to handle time zone functions <code>UTC_TO_LOCAL</code> and <code>LOCAL_TO_UTC</code> .












SAP Note Number	Title	Description
2387939 	Invalid Selection Input Cause an Empty POS Workbench Screen	How to correct a specific error with the POS Workbench user interface.
2388066 	Move S4H view into dedicated S4H package	Mandatory correction to the SAP HANA content activation report for SAP Customer Activity Repository.
2390790 	HANA Content Activation	Mandatory correction to the SAP HANA content activation report for SAP Customer Activity Repository.
2392194 	CAR Activation Report - Enablement of POSDM on S/4HANA	Mandatory correction to the SAP HANA content activation report for SAP Customer Activity Repository.
2387956 	CAR Activation Report - Fixes for Customer Activity Repository, Assortment Planning and Demand Data Foundation	Corrections to /CAR/ACTIVATE_HTA report.
2376424 	UDF Integration with S4H	Required to use UDF with an SAP S/4HANA source master data system.
2372802 	Analyze Forecast: SAP Fiori ID F1773A - Fix Negative Time Zone Offset Bug	Corrects a time zone issue in the Analyze Forecast SAP Fiori app.
2389537 	Previous UDF modeling results are deleted if there are issues in new data	Corrects a data issue in demand modeling with UDF.













Table 6: SAP Notes for SAP Allocation Management for Retail

SAP Note Number	Title	Description
2374336 	Release Information Note (RIN) for SAP Allocation Management for Retail 1.5	This note serves as an entry point for SAP Allocation Management for Retail 1.5.
2374362 	Release Information Note (RIN) for SAP Allocation Management for Retail 1.5	This note contains information, references, and notes in the context of applying SAP Allocation Management for Retail 1.5 back end part.
2374343 	Release Information Note (RIN) for SAP Allocation Management for Retail 1.5	This note contains information, references, and notes in the context of applying SAP Allocation Management for Retail 1.5 UI part.

SAP Note Number	Title	Description
2111539	Delete DDL sources: Generated codes not deleted completely during transport	Deletion of DDL sources
2340418	SAP HANA DB: RUTDDLSCREATE returns errors for CDS views with external views as base object	SAP HANA DB
2374190	ABAP CDS: Inconsistency in Reference Table/Field of CDS Views selecting from Table Functions; AMDP Table Function client handling	ABAP CDS: Inconsistency in Reference Table/Field

Table 7: SAP Notes for SAP Assortment Planning for Retail

SAP Note Number	Title	Description
SAP Notes for SAP Retail		
2196351	Pre-requisite for SAP Note #2196323	Corrections to SAP Retail data elements.
2196323	DRFOUT: Only valid current node assignments and article assignments are transferred during Article Hierarchy Replication	Article Hierarchy Transfer replication will transfer all node and article assignments irrespective of the validity.
2209621	Assortment Listing API: List by DC fix	Functionality on the SAP Retail side to enable PIR integration with SAP Assortment Planning for Retail.
2286994	New Listing API for Retail Assortment Planning	Supports: <ul style="list-style-type: none"> • Different listing periods for different products within an assortment • Changes in the listing after a product has been listed • In-season listing changes • Multiple validity time periods for the same location
SAP Notes for Back-End System		
2022080	Upgrade of PAL AFL and BFL AFL from SAP HANA earlier release to SPS08	Corrections to add privileges removed during upgrade to SAP HANA Platform SPS 08.
2388066	Move S4H view into dedicated S4H package	Corrections to /CAR/ACTIVATE_HTA report.
2390790	HANA Content Activation	Corrections to /CAR/ACTIVATE_HTA report.

SAP Note Number	Title	Description
2392194 	CAR Activation Report - Enablement of POSDM on S/4HANA	Corrections to /CAR/ACTIVATE_HTA report.
2395997 	2395997 - SAP Assortment Planning for Retail 2.0 (FPO) - Season, Collection and Theme issue	Corrections to /CAR/ACTIVATE_HTA report.
2387956 	CAR Activation Report - Fixes for Customer Activity Repository, Assortment Planning and Demand Data Foundation	Corrections to /CAR/ACTIVATE_HTA report.
2392499 	Assortment Planning: Module location validity activates entire cluster	Corrections to <i>Plan Assortment</i> workbook.
2387526 	Performance enhancements for Loc Clustering Capacity and Planned Sales	Performance enhancements.
SAP Notes for Front-End Server		
2383938 	RIN SAP Fiori for SAP Assortment Planning for Retail 2.0	Common note containing correction instructions that must be implemented following the installation of the SAP Fiori UI Components on the front-end server.
2296550 	LPD_CUST system Alias is not recognized	Corrections to central SAP Fiori component.
SAP Notes for Planning Functionality Used by SAP Assortment Planning for Retail		
1637199 	Using the planning applications KIT	Important information for running the Planning Application Kit (PAK).
2322360 	Missing field labels in FIORI applications	Corrections to SAP Fiori label display.
2336099 	Termination when calling input help (SAP HANA model, restriction to long text)	Corrections to input help.
2327576 	BW-PLA-IP: Exit for generation of characteristic combinations with SQLScript	Corrections to the generation of characteristic combinations.
2338767 	HCPR Column View is not generated on after import	Corrections to usage of composite providers.







SAP Note Number	Title	Description
1662968 	Clarification on setting ResultSetSizeLimit in Analysis Office	Information on changing the default <code>ResultSetSizeLimit</code> registry setting.
2074801 	Dumps and Issues with special InfoObjects like OFISCYEAR, OCALMONTH...	Corrections to in-memory planning.
2364967 	BICS: Delta update result set empty after variable submit or reprocessing of query view	Corrections to reprocessing variables and/or query views.

Table 8: SAP Notes for SAP Merchandise Planning for Retail

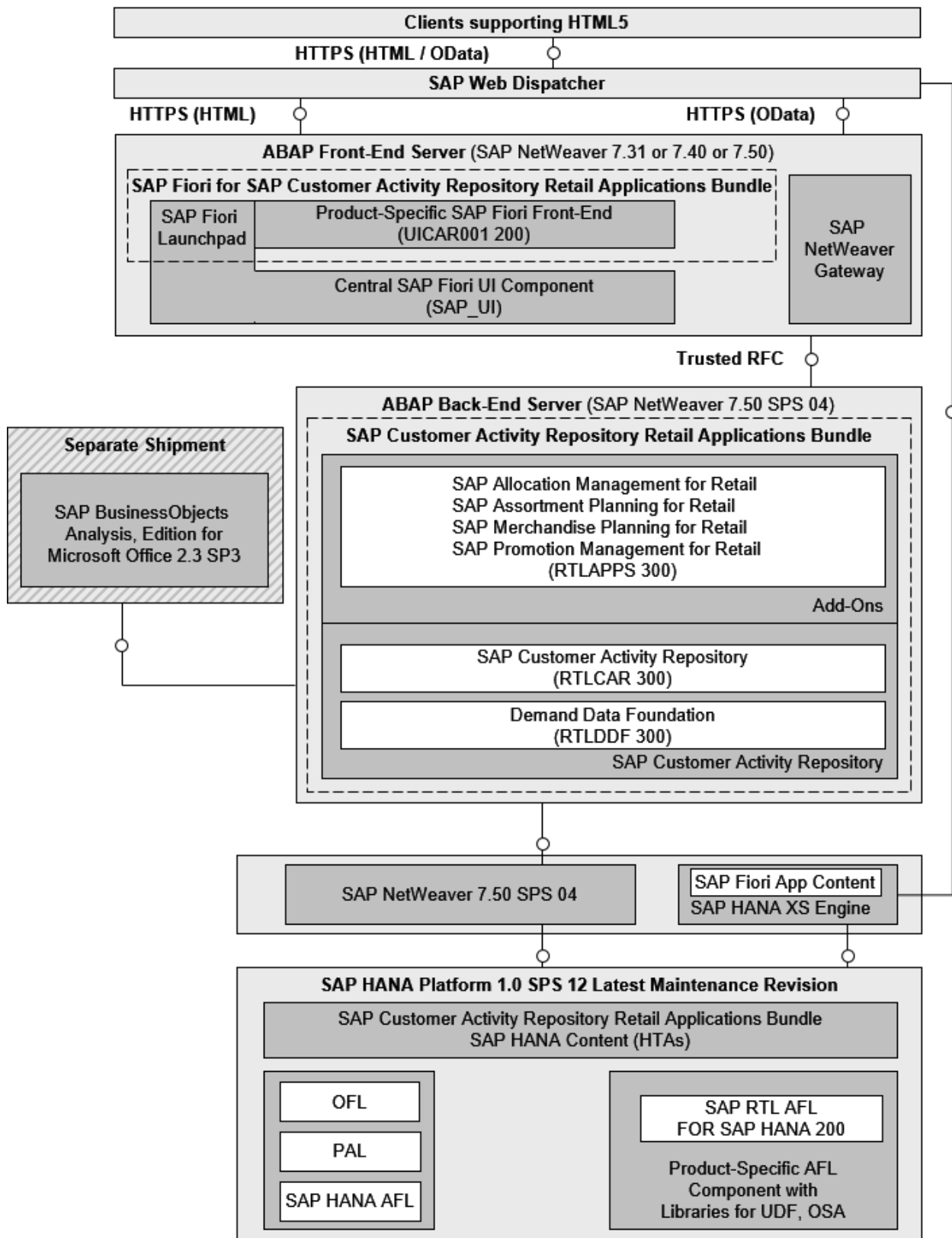
SAP Note Number	Title	Description
All SAP notes for SAP Customer Activity Repository are required.		
2391503	Release Information Note	The list of all SAP notes relevant for MPR (including BW IP in component SAP_BW).

Table 9: SAP Notes for SAP Promotion Management for Retail

SAP Note Number	Title	Description
2026580 	Release strategy for the ABAP add-on RTLPROMO	This SAP Note contains information about planning the installation and upgrades of the ABAP add-on <code>RTLPROMO</code> .
2163602 	DRFOUT: Incorrect timestamp send for Moving Average Price	This SAP Note contains information on correcting the timestamp field when using <code>DRFOUT</code> to replicate the Moving Average Price.
2292852 	It is required to transfer Offers in SAP PMR to SAP ERP to enable logistical processing of the articles in the sites	This SAP Note describes ways to send non-transferable offers to SAP ERP by means of custom enhancements.

1.5 Overall System Landscape

The following diagram displays a potential system landscape involving a combination of SAP Customer Activity Repository and its add-on applications:



2 Business Overview

2.1 SAP Customer Activity Repository

2.1.1 Introduction to SAP Customer Activity Repository

Customer-Centric, Unified Platform

Your customers are the driving force of your business. Your customers are an ever-evolving group who buy products in stores, research products online prior to making purchases, order products and product parts through catalogs, wait for promotions, splurge on gifts during holidays, make returns and exchanges when they are unhappy with their purchases, and sometimes even walk out of your stores when the product they came to buy is not available.

SAP Customer Activity Repository consolidates data related to customer transactional activities in one, unified platform as follows:

- Transactions your customers carry out in your brick-and-mortar stores are transferred to the repository, typically using trickle feed processing.
- Sales documents, created in your source SAP ERP system as a result of orders your customers place on the Web, through a call center or from a catalog, are either regularly replicated to the repository or accessed directly from the SAP ERP tables. The direct access to SAP ERP tables is only possible when SAP ERP and SAP Customer Activity Repository are installed on the same SAP HANA database.

SAP Customer Activity Repository classifies all these transaction by the order channel in which they were carried out.

Collecting loyalty information at the point-of-sale as well as the replication of customer information from a source CRM system to the repository allows you to drill down to the individual customer level when analyzing the transactional data.

Inventory Visibility

SAP Customer Activity Repository gives you insight to your current inventory position. Inventory information is available to the repository from a source SAP ERP system either through replication or through direct access to SAP ERP tables. The repository combines SAP ERP inventory information with the unprocessed POS sales information (that is, POS sales figures which have not yet been sent to SAP ERP). Combining the current SAP ERP inventory information with unprocessed POS sales figures allows you to gain a clearer picture of your current inventory.

Analytics

All data contained in the repository is exposed to consuming applications through SAP HANA views included in SAP HANA content for SAP Customer Activity Repository. The repository leverages all the flexibility and the convenience of SAP HANA views to simplify access to your customer's transactional data. This allows you to react faster, predict faster and make inventory and pricing decisions in your retail business faster than ever before.

SAP POS Data Management 1.0 and SAP Customer Activity Repository 2.0

SAP POS Data Management (SAP POS DM) 1.0 and SAP Customer Activity Repository 2.0 are two **separate** applications that allow you to receive and process POS transaction data from connected stores. You do not need to have SAP POS DM 1.0 installed to use SAP Customer Activity Repository 2.0, in fact, you **cannot** install both SAP POS DM 1.0 and SAP Customer Activity Repository 2.0 on the same SAP HANA database.

Both applications, SAP Customer Activity Repository 2.0 and SAP POS DM 1.0, rely on the POS Inbound Processing Engine (PIPE) to collect transaction data from connected stores, process the data, and send it to follow-on applications. PIPE is made available in both applications through the inclusion of the Point of Sale Data Management software component (`RTLPOSDM`). However, the SAP Customer Activity Repository and the SAP POS DM applications contain different versions of this component:

Table 10:

Application	Software Component Version	Functionality
SAP POS DM 1.0	<code>RTLPOSDM 100</code>	<ul style="list-style-type: none"> • Basic PIPE functionality • Master data obtained from SAP BW
SAP Customer Activity Repository 2.0	<code>RTLPOSDM 300</code>	<ul style="list-style-type: none"> • Basic PIPE functionality • Master data obtained from a source SAP ERP system, and, optionally, a source SAP CRM system • Additional SAP Customer Activity Repository functionality: <ul style="list-style-type: none"> ◦ SAP Workforce Management Integration ◦ Customizing and tasks for order channel assignment ◦ Additional fields in the <code>/ POSDW/TLOGF</code> table, BAdIs, and tasks for customer identification ◦ Predefined worklist to determine unprocessed sales

SAP Customer Activity Repository 2.0 offers significant advantages over SAP POS DM 1.0, including the availability of multichannel data in the same platform, predictive capabilities, inventory visibility and multichannel sales analytic content.

Unified Demand Forecast

Unified Demand Forecast (UDF) is the module in SAP Customer Activity Repository that provides the demand modeling and forecasting services:

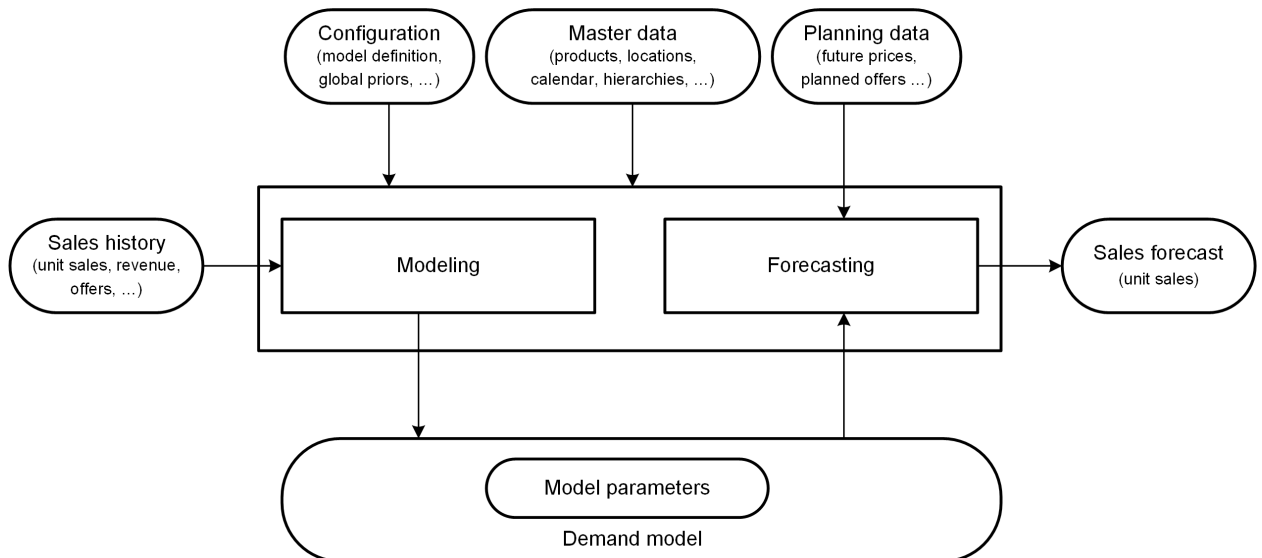


Figure 1: Data Flow in Modeling and Forecasting with UDF

Technically, UDF is provided as an application function library (software component `SAP_RTL_AFL_FOR_SAP_HANA`) that you install and run directly in the SAP HANA database.

UDF also requires the installation and implementation of Demand Data Foundation.

For more information about UDF, see <http://help.sap.com/carl/<your release>> > *Application Help* > *SAP Customer Activity Repository* > *Unified Demand Forecast* >

Demand Data Foundation

Demand Data Foundation (DDF, software component `RTLDDF`) is the module in SAP Customer Activity Repository that provides the consuming applications installed on top of SAP Customer Activity Repository with planning, analysis, and forecasting capabilities. DDF is a reusable data layer and includes a proprietary data model, data import infrastructure, reuse frameworks (such as exception handling and process controller), and reuse tools (such as data maintenance and scheduling interfaces).

DDF runs on the SAP HANA Platform, which stores transactional data and master data. DDF allows for the implementation of transactional (OLTP) and analytical (OLAP) use cases. DDF also supports UDF.

For more information about DDF, see <http://help.sap.com/carl/<your release>> > *Application Help* > *SAP Customer Activity Repository* > *Demand Data Foundation* >

Integrating Master Data

DDF can receive the following master data:

- Image
- Inventory
- Location (mandatory)
- Location Hierarchy
- Offer
- Placeholder Product
- Product (mandatory)
- Product Hierarchy (mandatory)
- Product Location (mandatory)
- Transportation Lane
- Vendor
- Vendor Fund

For more information about the master data objects, see <http://help.sap.com/car> > <your release> > *Application Help* > *SAP Customer Activity Repository* > *Demand Data Foundation* > *Data Management* > *Master Data* >.

You integrate master data into DDF in two steps:

1. You first import the data from the master data system into intermediate tables in DDF that are called “staging tables”. No business validations are performed at this point.
2. You transfer the data from the staging tables to the production tables. Business validations are performed.

i Note

You can choose to skip step 1 and bypass the staging tables. The imported data is then saved directly in the production tables.

For more information about integrating master data into DDF, see the following:

- *Detailed Monitoring and Analysis Tools Specific to Demand Data Foundation*
- <http://help.sap.com/car> > <your release> > *Application Help* > *SAP Customer Activity Repository* > *Demand Data Foundation* > *Integration Information* > *Inbound Processing* >

You have the following options for integrating the master data:

1. **SAP ERP-Based Integration**

This option is best suited where the master data system of record is an SAP ERP application. SAP ERP sends master data to DDF using the DRF data replication framework (transaction **DRFOUT**). The standard implementation of this framework maps the SAP ERP fields to the fields of the DDF staging tables. The DRF allows you to filter the data that you want to send to DDF, based on criteria such as project rollouts or data volumes.

i Note

For the minimum releases of SAP ERP, see the *Prerequisites* section in the *Common Installation Guide* or the *Common Upgrade Guide* of SAP Customer Activity Repository retail applications bundle.

For information on how to configure and use the DRF, see :

- SAP Help Portal for SAP Customer Activity Repository at <http://help.sap.com/car> > <your release> > *Application Help* > *SAP Customer Activity Repository* > *Demand Data Foundation* > *Integration Information* > and *Master Data Replication from SAP ERP to Demand Data Foundation*
- SAP Help Portal for SAP Master Data Governance at <http://help.sap.com/mdg> > <your release> > *Application Help* > *Working with SAP Master Data Governance* > *Working with SAP MDG, Central Governance* > *General Functions* > *Data Replication* >
- *SAP Customer Activity Repository Administration Guide*:
 - *Configuring Demand Data Foundation (DDF)*
 - *Configuring Data Replication from SAP ERP to DDF*
- In this *Common Master Guide*: [Enabling Demand Data Foundation and Creating Demand Forecast \[page 39\]](#)

2. Legacy System

You can use this option when the system of record for your master data is not an SAP ERP application (SAP ERP 6.0 with Enhancement Package EHP 5 SP Stack 07 or higher or EHP 6 SP Stack 02 or higher). This option includes any legacy system.

DDF provides inbound interfaces to receive the data into the staging tables. For more information, see <http://help.sap.com/car> > <your release> > *Application Help* > *SAP Customer Activity Repository* > *Demand Data Foundation* > *Integration Information* >.

Integrating Historical Demand Data

You must provide the historical demand data through one of the ways described in the following. This allows you to use the data and to model and forecast demand as required by your consuming application. For example, you might want to perform analytics in SAP Customer Activity Repository. Or you might want to forecast consumer demand with UDF and use the results to manage offers in SAP Promotion Management for Retail. UDF analyzes the provided historical demand data to identify and quantify each of the factors that affected your unit sales in the past (modeling) and to accurately forecast future demand (forecasting).

You can integrate different types of historical demand data in DDF, based on the following time series:

- Point-of-sale (POS) data
- Generic consumption data
- Sales orders

Each time series is completely independent. You can have separate outputs as a result of the modeling and forecasting processes. The outputs allow you to see different demand influencing factors (DIFs) by the different data sources in the same system.

➔ Recommendation

- You should provide 2 years of historical input data to ensure the proper interpretation of seasonality, trend, and other yearly factors.
- Make sure that your historical data is at daily granularity. Weekly data is currently not supported.

Time Series

i Note

For more information about the time series described in the following, see SAP Help Portal at <http://help.sap.com/car> > <your release> > *Application Help* > *SAP Customer Activity Repository* > *Demand Data Foundation* > *Data Management* > *Time Series* >.

1. **Time Series Source** POS_VDM

This virtual data model accesses POS data provided by SAP Customer Activity Repository as daily aggregated transaction log (TLOG) data. To use this time series, you need to configure the POS Data Transfer and Audit module (software component version RTLPOSDM 300) in SAP Customer Activity Repository. For more information about this module, see <http://help.sap.com/car> > <your release> > *Application Help* > *SAP Customer Activity Repository* > *POS Data Transfer and Audit* >.

➔ Recommendation

You should provide 2 years of historical TLOG data as input for modeling and forecasting.

The modeling and forecasting processes can access the TLOG data through the POS_VDM virtual data model. UDF uses this VDM to consume the `sap.is.retail.car/POSAggregatedSalesByArticleLocation` view in the SAP HANA content of SAP Customer Activity Repository. The data is aggregated dynamically and in real time to the daily level. Note that in this data, the product, location, sales organization, distribution channel, and order channel must match with the master data that is available in DDF.

2. **Time Series Source** POS_TS

This time series contains point-of-sale (POS) data persisted in DDF from the POS Inbound Processing Engine (PIPE).

Depending on your implementation strategy, you may choose to use the aggregated POS data available in DDF. Note that you can provide data to DDF from an SAP POS Data Management 1.0 system. Once the TLOG data is available in the RTLPOSDM 300 component of SAP Customer Activity Repository, you can switch to forecasting based on the POS_VDM time series source.

i Note

The POS data persisted in DDF can use offers that were created in SAP Promotion Management for Retail.

The following additional information is available on SAP Help Portal:

Table 11:

Information About	Path
POS transaction management, PIPE, RTLPOSDM	http://help.sap.com/car > <your release> > <i>Application Help</i> > <i>SAP Customer Activity Repository</i> > <i>POS Data Transfer and Audit</i> >

Information About	Path
Sending data to DDF	http://help.sap.com/car > <your release> > <i>Application Help</i> > <i>SAP Customer Activity Repository</i> > <i>POS Data Transfer and Audit</i> > <i>Task Processing</i> > <i>Tasks for Sending Data to Follow-On Applications</i> > <i>Sending Data to DMF-Based Applications</i> >

3. Time Series Source POS_TS

This time series contains point-of-sale (POS) data persisted in DDF from a legacy system and provided using enterprise services (service-oriented architecture, SOA) or the data replication framework (DRF).

You can use this option when you have a legacy system that stores transaction log (TLOG) or POS data and you do not want to persist 2 years of TLOG data in SAP Customer Activity Repository, or you do not yet want to fully implement SAP Customer Activity Repository and do not have SAP POS Data Management 1.0.

During a data integration project, you can determine the best way to capture and push this data into DDF. We recommend that you first perform a one-time push of the historical data. Then you include the latest sales data incrementally. This data is at the product, location, day, and channel level.

To receive the data, DDF uses the *Sales* (/DMF/BI_SALES_DATA) inbound interface.

i Note

You must use the historical promotions from the legacy system to match the historical offers with the POS data persisted in DDF.

4. Time Series Source SO_VDM

This virtual data model accesses sales order data in SAP Customer Activity Repository.

You can use this option to model and forecast sales orders (typically from a Web channel or non-brick-and-mortar store). Sales orders are available in SAP ERP. They are also available in SAP Customer Activity Repository (with multichannel information) through the SAP Landscape Transformation (SLT) replication. In this data, the product, location, sales organization, distribution channel, and order channel must match the master data that is available in DDF.

You can access the sales order data through the SO_VDM virtual data model. UDF uses this VDM to consume the `sap.is.retail.car/SalesDocumentAggregatedSalesByArticleLocation` view in the SAP HANA content of SAP Customer Activity Repository.

5. Time Series Source CONS_TS

This time series contains generic consumption data.

In some cases, this may be the only data available to understand the historical demand of a particular product in a particular location. This data can either be purchased from a third party, can be available from a retailer in a legacy system, or can be given from a retailer to a manufacturer (such as with consumer packaged goods or manufacturing scenarios). DDF can receive generic consumption data and provide it to UDF as input for demand modeling and forecasting.

i Note

If your data does not include information on promotions and offers, you can skip the *Integrating Promotions and Offers* section below.

You have the following options to send generic consumption data into the DDF staging tables:

- Via the SAP ERP data replication framework (DRF; PCON outbound implementation)
For more information about configuring the DRF, see the following:
 - SAP Help Portal for SAP Customer Activity Repository at <http://help.sap.com/car> >> <your release> >
> *Application Help* > *SAP Customer Activity Repository* > *Demand Data Foundation* > *Integration Information* > *Master Data Replication from SAP ERP to Demand Data Foundation* >
 - SAP Help Portal for Master Data Governance at <http://help.sap.com/mdg> >> <your release> >
> *Application Help* > *Working with Master Data Governance* > *Working with SAP MDG, Central Governance* > *General Functions* > *Data Replication* >
- Via the *Generic* inbound interface (function module /DMF/TS_GENERIC_INBOUND)

Integrating Promotions and Offers

Promotions are available in SAP ERP. Offers are more detailed views of promotions and can be available with SAP Promotion Management for Retail, for example. Offers can include information on tactics and tactic types, allowing you to quantify their impact on the promotion and, ultimately, on the demand of the product.

The following scenarios are possible:

- Historical offers **were** created in SAP Promotion Management for Retail.
The closed-loop integration ensures that the same offer identifier (ID) can be used across systems. This integration aligns SAP Promotion Management for Retail, SAP ERP, and either SAP Customer Activity Repository or SAP POS Data Management 1.0.
- Historical offers **were not** created in SAP Promotion Management for Retail.
The closed-loop integration must be created manually because the register and TLOG data do not distinguish the offer identifier (ID).

i Note

There is no specific table in SAP ERP that keeps a relationship between an offer and a promotion. This relationship is updated in the following tables:

- WAKP (promotion line item if there is a promotion price or discount)
- WAKR (discounts at the level of the multichannel hierarchy or the article hierarchy)
- KNOBBYH (bonus buy)
- WPM_TERM_OFPR_MAP (mapping table), used for an exceptional scenario when an offer cannot be mapped to a single bonus buy. This results in doing a logical split in SAP ERP by generating a bogus offer identifier (ID) there. This bogus offer ID is then mapped to the parent offer in SAP Promotion Management for Retail.

In DDF, the /DMF/OFPR_EXP_STS table provides the corresponding SAP ERP promotion information for an offer transferred from SAP Promotion Management for Retail. See *Historical Promotions from SAP ERP* in the next section.

Integration Considerations

1. *SAP ERP Promotion* View

Offers created in SAP Promotion Management for Retail are sent to SAP ERP (► *Type Code*). They are also stored in DDF as the system of record for later reference.

In addition to these offers, you can have promotions that were established in SAP ERP. These promotions provide valuable information to the demand modeling and forecasting processes.

The SAP ERP promotions are available as an SAP HANA view in SAP Customer Activity Repository through the SAP Landscape Transformation (SLT) replication. The view is `sap.is.retail.ecc/RetailPromotionByArticleLocationExcludingBonusBuy`.

Prerequisites:

- Your SAP ERP system must have been set up to provide all the promotional information required for demand modeling and forecasting. To determine those requirements for your customer-specific system landscape, please contact your SAP consultant.
- Be aware that you can only integrate the SAP ERP promotions with the following time series sources: POS_TS, POS_VDM, SO_VDM.
- Be aware that the *SAP ERP Promotion View* does not include offers that were created in SAP Promotion Management for Retail because this is not the system of record.

2. Historical Promotions from SAP ERP

You can use this option when you have historical promotions in SAP ERP and do not want to fully implement all modules of SAP Customer Activity Repository from the start. SAP ERP uses the DRF data replication framework (transaction **DRFOUT**; POFF outbound implementation) to send this data to the DDF staging tables.

Prerequisites:

- You can only use this option if the historical demand data contains the correct offer identifiers (IDs).
- Your SAP ERP system must have been set up to provide all the promotional information required for demand modeling and forecasting. To determine those requirements for your customer-specific system landscape, please contact your SAP consultant.
- Be aware that you can only integrate the SAP ERP promotions with the following time series sources: POS_TS, POS_VDM, SO_VDM.

For more information about configuring the DRF, see the following:

- SAP Help Portal for SAP Customer Activity Repository at <http://help.sap.com/car> > <your release> > *Application Help* > *SAP Customer Activity Repository* > *Demand Data Foundation* > *Integration Information* > *Master Data Replication from SAP ERP to Demand Data Foundation* >
- SAP Help Portal for Master Data Governance at <http://help.sap.com/mdg> > <your release> > *Application Help* > *Working with Master Data Governance* > *Working with SAP MDG, Central Governance* > *General Functions* > *Data Replication* >

3. Historical Promotions from a Legacy System

You can use this option when you have historical promotions in a legacy system that is not SAP ERP. DDF uses the *Offer* inbound interface (/DMF/OPIF_OFFER_INBOUND function module) to receive this data into the staging tables. For more information, see SAP Help Portal at <http://help.sap.com/car> > <your release> > *Application Help* > *SAP Customer Activity Repository* > *Demand Data Foundation* > *Data Management* > *Master Data* > *Offer* >.

Prerequisites:

- You can only use this option if the historical demand data contains the correct offer identifiers (IDs).
- Be aware that this option involves more effort to extract and transform the data.

4. Future Promotions

Future promotions follow the same logic as historical promotions. You should consider future promotions on a frequent basis to ensure that the modeling and forecasting processes have the latest information available.

➔ Recommendation

Consider how to automate or schedule your integration option to send frequent updates

Forecast Results

- The forecasts generated in SAP Customer Activity Repository are provided to the consuming application via the `CV_POS_TS` view in the `sap.is.ddf.udf.viz` SAP HANA content package. For more information on the data generated by modeling and by forecasting, see <http://help.sap.com/car> *>>* *<your release>* *>* [Application Help](#) *>* [SAP Customer Activity Repository](#) *>* [Unified Demand Forecast](#) *>* [Outbound Time Series](#) *>*.
- You can also provide the forecasts to an external system (for example, to SAP Forecasting and Replenishment for Retail). The `/DMF/UFC_RETRIEVE_RESULTS` function module is available for this purpose. It allows the external system to retrieve the forecast results on demand via a Remote Function Call (RFC). For more information about the required parameters and the forecast information provided, see the function module documentation (transaction **SE37**).
- You can use the *Analyze Forecast* SAP Fiori app to visualize detailed modeling and forecasting information and perform in-depth analyses. For more information, see <http://help.sap.com/car> *>>* *<your release>* *>* [Application Help](#) *>* [SAP Customer Activity Repository](#) *>* [Additional Content](#) *>* [Standalone SAP Fiori Apps for SAP Customer Activity Repository](#) *>* [Analyze Forecast](#) *>*.

Omnichannel Promotion Pricing (OPP)

Omnichannel Promotion Pricing (software component `RTLDDF`) is one of the modules included in SAP Customer Activity Repository.

OPP contains a central price and promotion repository that stores all the relevant information for the calculation of effective sales prices in all sales and communication channels (points of sale, web, mobile, call centers), for all items in a shopping cart. The OPP data that includes regular prices and OPP promotions can be replicated via IDocs to the different sales channel applications.

For the calculation of the effective sales prices, OPP provides the **promotion pricing service**. This promotion pricing service can be deployed locally or centrally:

- **Local deployment**
With this deployment option, the promotion pricing service runs locally on the database of the corresponding sales channel application. Therefore, regular prices and OPP promotions are replicated from the central price and promotion repository to the database of the sales channel application. In this way, the sales application can work without an additional remote system being continuously available.
- **Central deployment**
With this deployment option, the promotion pricing service runs on the central price and promotion repository located in SAP Customer Activity Repository powered by SAP HANA XS advanced (XSA).

i Note

OPP provides a local and a central deployment for **SAP Hybris Commerce**.

For more information about the promotion pricing service in SAP Hybris Commerce, see the *Administrator Guide* that is part of the software artifact of SAP Hybris Commerce, integration package for SAP for Retail.

2.1.2 Software Units of SAP Customer Activity Repository

2.1.2.1 Software Component Matrix

This section provides the software components used by each business process.

During the installation of SAP Customer Activity Repository retail applications bundle (shipped in the CAR RETAIL APPL BUNDLE back-end product version and the SAP FIORI FOR SAP CARAB front-end product version), all of the software components listed below are installed.

Whereas you must always install all of these software components, you only need to configure those that are required for your specific implementation scenario.

For more information, see the following guides on SAP Help Portal for SAP Customer Activity Repository at <http://help.sap.com/car> > <your release> > *Installation and Upgrade Information* :

- For initial installations: *Common Installation Guide*
- For upgrade scenarios: *Common Upgrade Guide*

Table 12: Software Components Used by SAP Customer Activity Repository Business Processes

SAP Customer Activity Repository Business Process	Back-End Product Version CAR RETAIL APPL BUNDLE				Front-End Product Version SAP FIORI FOR SAP CARAB
	RTLDDF	RTLCAR	SAP RTL AFL FOR SAP HANA	XSAC_OPP_PS	UICAR001 200
Performing POS Data Transfer and Audit		X			
Performing POS Transaction Data Migration		X			
Performing POS Sales Analysis		X			
Performing Inventory Visibility Analysis		X			
Performing Sales (Billing) Document Analysis		X			
Performing Multichannel Sales Analysis		X			X
Enabling Demand Data Foundation and Creating Demand Forecast	X	X	X		(X: required if you want to use the Analyze Forecast SAP Fiori app)
Monitoring On-Shelf Availability		X	X		

SAP Customer Activity Repository Business Process	Back-End Product Version				Front-End Product Version
	RTLDDE	RTL CAR	SAP RETAIL AFL FOR SAP HANA	APPL BUNDLE XSAC_OPP_P PS	SAP FIORI FOR SAP CARAB UICAR001 200
Calling a central promotion pricing service				X	

2.1.2.2 System Landscape

The following diagram displays a potential SAP Customer Activity Repository system landscape.

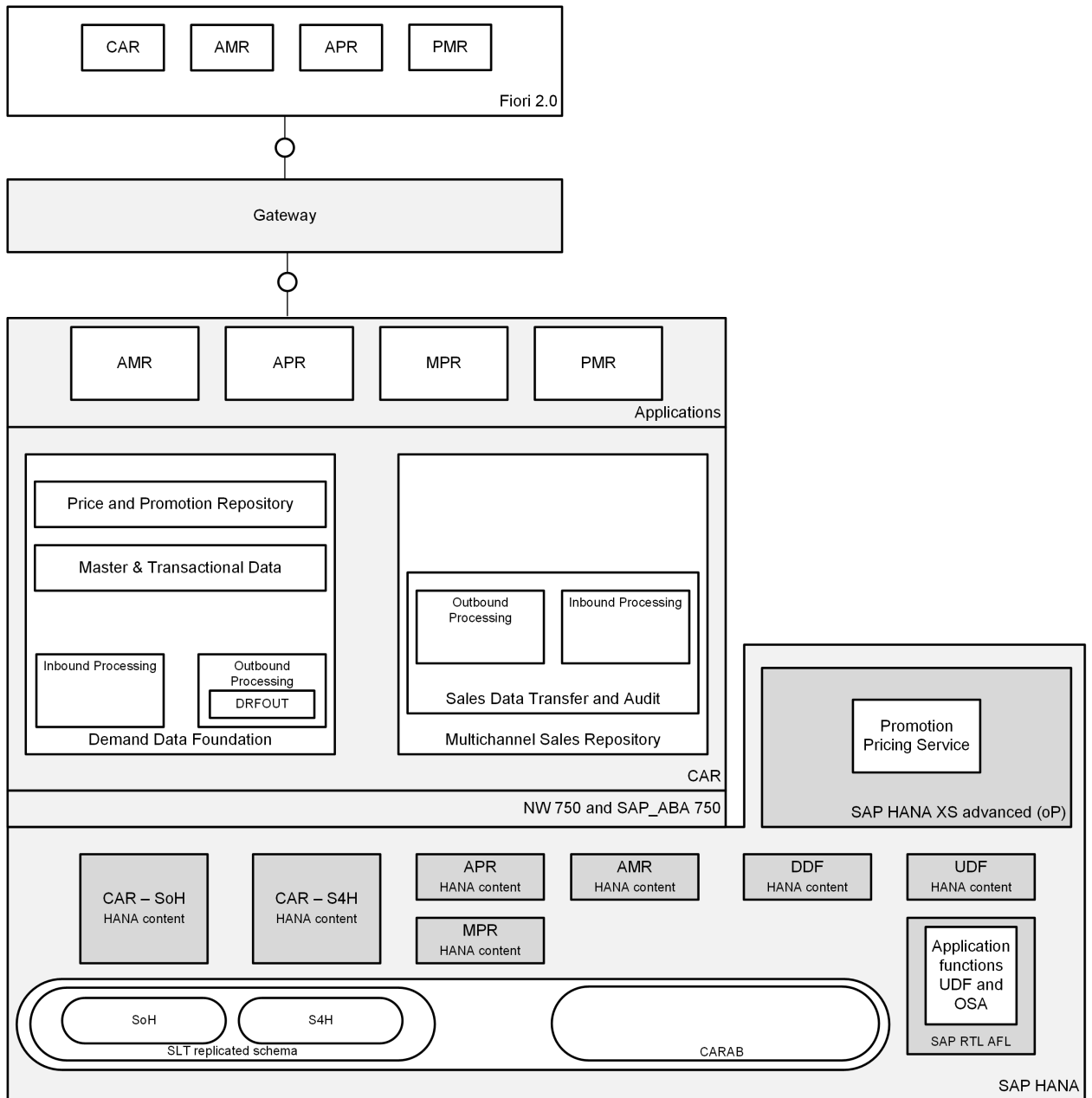


Figure 2: SAP Customer Activity Repository

2.2 SAP Allocation Management for Retail

2.2.1 Introduction to SAP Allocation Management for Retail

SAP Allocation Management for Retail is a flexible and intuitive solution to manage the distribution of fashion articles to stores to facilitate business scenarios, both initial allocations and in-season fill-ins. It provides users with an easy and swift user experience for understanding upcoming workloads as well as system-proposed allocation plans with full transparency. It leverages analytical functionalities of the SAP Customer Activity Repository application such as location clustering, distribution curve analysis, and real-time inventory, as well as

product-attribute management. The tool provides a set of predefined best-of-breed allocation strategies with the option to extend these on a project base. It enables fashion companies to run a highly automated allocation process. SAP Allocation Management for Retail is fully integrated with the SAP Fashion Management application and the SAP Merchandising for Retail and Wholesale Distribution package.

Business Scenarios

The following business scenarios are supported by SAP Allocation Management for Retail:

- **Initial Allocation**

This scenario covers the first allocation of new products to the stores and is usually processed at the start of a season, collection, or theme. SAP Allocation Management for Retail supports the allocator in preseasonal allocation planning and processing of products due for initial allocation. Initial allocation is usually based on a planned presentation date for the products in the stores and on planned store inventory at season start.

- **In-Season Fill-In**

This scenario covers the automatic replenishment of products after the first sales in the store. SAP Allocation Management for Retail supports the allocator in the process of refilling products that have been sold.

Additionally, SAP Allocation Management for Retail allows you to set up your customer-specific business scenarios. However, the new business scenario must be linked to one of the supported reference business scenarios, either initial allocation or in-season fill-in.

With this scenario, you

- Launch new fashion articles for the first time in your retail brick-and-mortar channel based on defined target stocks
- Facilitate the automatic fill-in during the season
- Set up the organizational structure of one or multiple market units that are relevant for allocations
Define the parameters on the level of product groups and either stores or distribution centers to provide allocators with system-proposed allocation plans
- Automate the allocation process up to an automation level defined for your company

By implementing this scenario, you benefit by:

- Simplifying the allocation processing for fashion products
- Satisfying the consumer demand to a higher extent as a result of better service levels
- Achieving faster processing through integration and automation resulting in a responsive supply chain
- Empowering business users through easy and swift applications combining real-time business information with sophisticated and highly automated allocation logic

As a result of implementing this scenario, you can:

- Rapidly and easily manage the allocation process
- Allow allocators to review and overwrite the system-proposed allocation plans acting based on exceptions that may occur for business or technical reasons
- Transfer all relevant information to the back end system for generating follow-on documents (typically stock transfer orders)

2.2.2 Software Component Matrix

Table 13: Software Components Used by SAP Allocation Management for Retail Business Processes

SAP Allocation Management for Retail Business Process	Back-End Product Version CAR RETAIL APPL BUNDLE 2.0			Front-End Product Version SAP FIORI FOR SAP CARAB 3.0
	RTLDDF	RTL CAR	RTLAPPS	UICAR001
Enabling Demand Data Foundation	X		X	
Manage Category Responsibilities (optional)	X			
Manage Location Clusters	X	X	X	X
Manage Product Attributes for Allocation Processing	X	X	X	X
Manage Product Attributes for Distribution Curve Analysis	X	X	X	X
Manage Market Units	X		X	X
Manage Allocation Parameters	X		X	X
Manage Allocation Workload	X	X	X	X
Run Automatic Allocation	X		X	
Manage Allocation Plans	X	X	X	X
Transfer Allocation Plans to Follow-on Systems	X		X	

2.3 SAP Assortment Planning for Retail

2.3.1 Introduction to SAP Assortment Planning for Retail

With SAP Assortment Planning for Retail you determine the number of products (breadth) and planned demand quantity (depth) for the upcoming season based on consumer purchasing history across product categories and selling locations. Location clustering, option planning, assortment listing, and sales projection capabilities help determine the optimal assortment for the retailer.

Using location clustering, you group selling locations based on common attributes such as geography, format, selling space, product category, sales, and margin performance. Combined attributes and performance metrics suggest multiple clustering scenarios for use in the assortment plan. Option planning defines the type of merchandise offered to the consumer at any level of the article hierarchy. Option counts are planned by attribute combinations such as brand, price point and fashion grade and matched against open to buy targets. The option plan is then used to determine the final assortment listing for the upcoming season. Optimization techniques are used to analyze sales and profit metrics which determine an optimal mix of products for the assortment.

Finally, the assortment plan uses sales projections from Demand Data Foundation (DDF) to help predict sales demand for each product included in the assortment based on historical demand or similar product performance. The end result of the assortment plan, sales demand by product and selling location, is used to create purchase instructions and the initial allocation of the purchased quantities when the order is first received.

2.3.2 Software Component Matrix

This section provides the software components used by each business process.

During the installation of SAP Customer Activity Repository, retail applications bundle (shipped in the `CAR RETAIL APPL BUNDLE` back-end product version and the `SAP FIORI FOR SAP CARAB` front-end product version), all of the software components listed below are installed.

Whereas you must always install all of these software components, you only need to configure those that are required for your specific implementation scenario.

For information on installation prerequisites and installation instructions, see the *SAP Assortment Planning for Retail* section in the *Common Installation Guide*, available at <http://help.sap.com/car> >> <your release> > *Installation and Upgrade Information* > *Installation Guide* > *Implementation Scenarios* > *SAP Assortment Planning for Retail* >.

Table 14: Software Components Used by SAP Assortment Planning for Retail Business Processes

SAP Assortment Planning for Retail Business Process	Back-End Product Version CAR RETAIL APPL BUNDLE				Front-End Product Version SAP FIORI FOR SAP CARAB
	RTLDDF	RTLCAR	RTLAPPS	SAP RTL AFL FOR SAP HANA	UICAR001
Enabling Demand Data Foundation and Creating Demand Forecast	X				
Performing POS Data Transfer and Audit		X			
Manage Category Responsibilities	X				
Manage Products	X				
Manage Locations	X				
Manage Product Attributes	X	X	X		X
Manage Modules	X		X		
Manage Location Clusters	X	X	X		X
Plan Options	X	X	X		X
My Assortment Lists	X	X	X		X
Plan Assortments	X	X	X		X
Match Placeholders	X		X		X
Generate Listing in SAP ERP			X		
Export to PIR			X		

i Note

This Master Guide provides just one way to implement each business scenario. Alternative implementations, including other SAP solutions, business scenarios and processes might be applicable to your specific business needs.

2.4 SAP Merchandise Planning for Retail

2.4.1 Introduction to SAP Merchandise Planning for Retail

The SAP Merchandise Planning for Retail enables consistent, end-to-end planning, and retail business processes based on industry best practices. The solution integrates and facilitates channel financial, location-to-merchandise, and open-to-buy processes including inventory management, purchase planning, and budgeting. It provides a centralized repository for all planning activities that enable the fast reconciliation of strategic merchandise plans and reduces the manual effort associated with spreadsheet based planning processes.

SAP Merchandise Planning for Retail is a consuming application of SAP Customer Activity Repository, which contains the SAP ERP data replicated as follows:

- SAP LT (Landscape Transformation) Replication Server for SAP HANA. For more information, see the [▶ Common Installation Guide ▶ Installation Scenarios ▶ SAP Customer Activity Repository ▶ Post-Installation ▶ Replicate SAP ERP Tables for SAP Customer Activity Repository ▶](#). You can find this guide on SAP Help Portal at <http://help.sap.com/car> [▶ Installation and Upgrade Information ▶ Installation Guide ▶](#).
- Demand Data Foundation (DDF)
DDF receives master data and time series data. For more information, see the [Enabling Demand Data Foundation](#) section under [▶ Master Guide ▶ Business Scenarios ▶ SAP Merchandise Planning for Retail ▶ Enabling Demand Data Foundation ▶](#).

2.4.2 Software Component Matrix

This section provides the software components used by each business process.

During the installation of SAP Customer Activity Repository retail applications bundle (`CAR_RETAIL_APPL_BUNDLE_2.0`), all of the software components listed below are installed. Whereas all these software components will be installed, not all of them need to be configured, depending on your implementation scenario.

For information in installation prerequisites and installation instructions, see section [SAP Merchandise Planning for Retail](#) in the [Common Installation Guide](#).

Table 15: Software Components Used by SAP Merchandise Planning for Retail Business Processes

SAP Merchandise Planning for Retail Business Process	SAP Customer Activity Repository retail applications bundle (CAR RETAIL APPL BUNDLE 2.0)				SAP NetWeaver	
	RTLDDF	RTL CAR	RTLAPPS	SAP RTL AFL FOR SAP HANA	ST-PI	SAP_BW
Enabling Demand Data Foundation and Unified Demand Forecast	X					
Creating and Releasing Channel Financial Plan		X	X		X	X
Creating and Releasing Merchandise Plan		X	X		X	X

i Note

This Master Guide provides just one way to implement each business scenario. Alternative implementations, including other SAP solutions, business scenarios and processes might be applicable to your specific business needs.

2.5 SAP Promotion Management for Retail

2.5.1 Introduction to SAP Promotion Management for Retail

SAP Promotion Management for Retail is a comprehensive solution for creating retail offers and preparing them for advertising to consumers. It supports business areas in advertising, marketing, merchandising and administration. The SAP Promotion Management for Retail documentation offers a comprehensive description of the functions used by the application and highlights the relationship between the application and the underlying technologies.

2.5.2 Software Component Matrix

This section provides the software components used by each business process.

During the installation of SAP Customer Activity Repository retail applications bundle (shipped in the CAR RETAIL APPL BUNDLE back-end product version and the SAP FIORI FOR SAP CARAB front-end product version), all of the software components listed below are installed.

Whereas you must always install all of these software components, you only need to configure those that are required for your specific implementation scenario.

For information on installation prerequisites and installation instructions, see the *SAP Promotion Management for Retail* section in the *Common Installation Guide*, available at <http://help.sap.com/car/<your release>> > *Installation and Upgrade Information* > *Installation Guide* > *Implementation Scenarios* > *SAP Promotion Management for Retail* >.

Table 16: Software Components Used by SAP Promotion Management for Retail Business Processes

SAP Promotion Management for Retail Business Process	Back-End Product Version CAR RETAIL APPL BUNDLE				Front-End Product Version SAP FIORI FOR SAP CARAB
	RTLDDF	RTLCAR	RTLAPPS	SAP RTL AFL FOR SAP HANA	UICAR001
System Preparation	X		X		
Enabling Demand Data Foundation and Creating Demand Forecast	X		X	X	
Data Preparation	X		X		
Offer Scheduling	X		X		
Promotion Planning	X		X		
Data Transfer	X		X		
Manage Promotional Offers	X		X		X

i Note

This Master Guide provides just one way to implement each business scenario. Alternative implementations, including other SAP solutions, business scenarios, and processes might be applicable to your specific business needs.

3 Business Scenarios

3.1 SAP Customer Activity Repository

SAP Customer Activity Repository business scenario

You use this scenario to collect transactional data that was previously spread over multiple independent applications into one common foundation. This scenario includes the business process that allows you to receive transactions from the point-of-sale (POS) terminals in your stores, cleanse and audit this data, and store it in SAP Customer Activity Repository.

You use the other business processes included in this scenario to obtain transactional data that can originate from a number of possible sources (for example, SAP CRM) and is stored in SAP ERP in the form of sales documents. Once this data is available in SAP Customer Activity Repository, these business processes allow you to harmonize the transactional data originating from several order channels and to perform a wide spectrum of analytical operations on this data. The analyses you perform can improve decision-making in your retail business. For example:

- Do some articles sell better in a particular channel? Based on this information, should my assortment per order channel be updated?
- What is the profitability of the different order channels in my retail business?
- What products does a particular customer buy in the store or on the web?

i Note

The customer for a given point-of-sale (POS) transaction can only be identified if the customer uses a loyalty card at the time of purchase.

- What is my current inventory (including unprocessed POS transactions)?
- What are the forecasted sales for a given product/location combination?
- Do I have any product on-shelf availability issues in my stores?

Prerequisites

You can implement this business scenario with different releases of the relevant components. However, only certain combinations are valid. For more information, see:

- [Software Units of SAP Customer Activity Repository \[page 23\]](#)
- *Business Scenarios*: Other scenarios provided with SAP Customer Activity Repository retail applications bundle

3.1.1 Performing POS Data Transfer and Audit

You can use this business process to manage point-of-sale (POS) transactions. During this process, cash register sales data from individual stores is transmitted (typically using trickle feed) to SAP Customer Activity Repository. Administrators monitor and troubleshoot the inbound queues.

After the transactional data is received, you can process, cleanse and audit the data. Auditors ensure the consistency of the sales transaction data.

You can also use outbound tasks of SAP Customer Activity Repository to send the processed transactional data to follow-on applications. Alternatively, you can store transactional data in the repository. Any consuming applications can access the stored data in near-real-time through SAP HANA views provided in the SAP HANA content for SAP Customer Activity Repository.

Process

1. Define workbench display parameters.
2. Perform short/over balancing.
3. Check data transfer.
4. Control task processing.
5. Analyze error messages.
6. Display follow-on documents.
7. Search for POS transactions.
8. Execute mass change for POS transactions (optional).

Result

Transactional data received from your stores is received, processed and stored in SAP Customer Activity Repository. This data is sent to all required follow-on applications and is made available to any consuming applications through SAP HANA views.

3.1.2 Performing POS Transaction Data Migration

Use

You can use this business process to move POS transaction data from an existing implementation of SAP NetWeaver BI Content (version 7.x6 or earlier) or SAP POS DM 1.0 to SAP Customer Activity Repository 1.0. You only need to perform this process if you want to re-use the POS transaction data already accumulated in your existing implementation to a new SAP Customer Activity Repository implementation.

Process

1. Read the *SAP POS DM and SAP Customer Activity Repository POS Transaction Data Migration Guide*. This guide is available on the SAP Service Marketplace at <http://service.sap.com/instguides> » [Industry Solutions](#) » [Industry Solution Guides](#) » [SAP for Retail](#) » [SAP Customer Activity Repository](#).
2. Examine your Customizing settings on the target SAP Customer Activity Repository system and disable all tasks set to *Immediate Processing*, as described in the migration guide.
3. Configure and execute the *POS Transaction Data Migration Report*.

Result

POS transactions are migrated from the source system to the new SAP Customer Activity Repository system.

3.1.3 Performing POS Sales Analysis

Use

You can use this business process to analyze POS sales data stored in SAP Customer Activity Repository in near real-time.

POS transactions are transferred to the repository using the *Performing POS Data Transfer and Audit* business process. Trickle feed posting of transactions from connected stores combined with the speed of the underlying SAP HANA database enables you to quickly analyze POS sales data.

Different roles in your retail organization need to analyze POS data at different levels. Some need to analyze data at the transaction line item level, and others need to quickly roll up POS transactional data to various aggregation levels. All these analysis scenarios are supported by this business process.

Prerequisites

Carry out the *Performing POS Data Transfer and Audit* business process.

Process

1. Process POS transaction data for analysis using tasks (if required).
2. Filter data by customer identifier (optional).
To narrow your results, you can apply a filter to the Customer Identifier field.
3. Filter data by order channel (optional).
To narrow your results, you can apply a filter to the Order Channel field to specify one or more channels.

4. Expose POS sales KPIs through SAP HANA VDM.

The POSSalesQuery is a set of characteristics and measures from the transaction log of the POS system combined with master data from SAP ERP. The amount measures are available with currency conversion in the display currency field.

Result

POS transaction data and Key Performance Indicators (KPIs) are made available using SAP HANA views included in SAP HANA content for SAP Customer Activity Repository.

3.1.4 Performing Inventory Visibility Analysis

You can use this business process to get accurate, near-real-time visibility of inventory during store operations, sales and other business processes. Current inventory considers SAP ERP unrestricted stock amounts and POS transactions stored in SAP Customer Activity Repository that are not yet posted to SAP ERP (unprocessed sales.) Combining these figures gives you a more accurate view of the current inventory levels in your retail business.

Implementing this business process to obtain a near-real-time snapshot of your inventory levels gives these benefits:

- Transparency on critical stock levels
- Overview of critical inventory characteristics and KPIs such as valuated stock, unprocessed sales quantities, stock valuations, and safety stock levels
- Answers to critical questions, such as *"Does this store have inventory in stock for a given article?"*
- A high degree of customer satisfaction when combined with sales, service or other store operation business processes.

Prerequisites

Carry out the [Performing POS Data Transfer and Audit](#) business process.

Process

1. Configure splitting of structured articles.
You execute SAP Customizing in SAP ERP to see the impact of splitting structured articles on current stock.
2. Obtain current SAP ERP stock quantities.
The stock quantities are replicated to SAP Customer Activity Repository using SAP Landscape Transformation (SLT).
3. Determine unprocessed sales from the POS transactions worklist.
An unprocessed sale is a POS sales transaction that has not yet been sent to SAP ERP for posting through two-step task processing.

4. Expose near-real-time inventory counts through the SAP HANA Virtual Data Model (VDM). The stock quantities information in SAP Customer Activity Repository is combined with quantities from unprocessed sales to derive the current stock in stores. The standard inventory visibility content includes three stock types:

- Unrestricted stock
- Stock in transit
- Stock in transfer

The following SAP HANA VDMs expose inventory visibility KPIs:

- InventoryVisibilityQuery
- InventoryVisibility
- InventoryVisibilityStockQuantities

Result

Near-real-time inventory data and KPIs are made available using SAP HANA views included in SAP HANA content for SAP Customer Activity Repository.

3.1.5 Performing Sales (Billing) Document Analysis

Use

You can use this business process to analyze the sales data that is generated in a source SAP ERP and made available in near-real-time in SAP Customer Activity Repository.

As sales take place, they are processed by SAP ERP, where corresponding sales documents are created. Certain types of sales documents, such as billing documents, are made available in SAP Customer Activity Repository in near-real-time.

Different roles in your retail organization need to analyze billing document data at different levels of detail. Some need to analyze data at the billing document line item level, and others need to quickly roll up billing document data to various aggregation levels. All these analysis scenarios are supported by this business process.

Process

1. Obtain current sales documents from SAP ERP
Sales (billing) document transactions are replicated from SAP ERP into Customer Activity Repository using the SAP Landscape Transformation (SLT) application.
2. Filter data by customer Identifier (optional).
To narrow your results, you can apply a filter to the Customer Identifier field.
3. Filter data by order channel (optional).
To narrow your results, you can apply a filter to the Order Channel field to specify one or more channels.

4. Expose Sales KPIs through SAP HANA VDM.

The BillingDocumentItemQuery is a set of characteristics and measures from the replicated Sales (Billing) Document combined with master data from SAP ERP.

Result

Billing document data and Key Performance Indicators (KPIs) are made available using SAP HANA views included in SAP HANA content for SAP Customer Activity Repository.

3.1.6 Performing Multichannel Sales Analysis

Use

You can use this business process to analyze multichannel sales data available in SAP Customer Activity Repository.

POS transactions created in your brick-and-mortar stores, also referred to as the store order channel, are transferred to the repository using the [Performing POS Data Transfer and Audit](#) business process.

Sales that take place through other order channels in your business, are processed by SAP ERP, where corresponding sales documents are created. Certain types of sales documents, such as billing documents, are made available in SAP Customer Activity Repository in near real-time.

SAP Customer Activity Repository consolidates sales data from these order channels to give you a holistic view of sales data in near-real-time. Capturing sales data from different order channels in one single platform provides:

- Near-real-time access and visibility into customer sales data across channels.
Different roles in your retail organization need to analyze multichannel sales data at different levels. Some need to analyze data at the line item level, and others need to quickly roll up sales data to various aggregation levels. All these analysis scenarios are supported by this business process.
- Near-real-time flash reports within split seconds
- Ability to compare current sales with sales from last year as well as forecasted sales
- Data required by follow-on business scenarios such as new segmentation and call center scenarios, as well as integration with SAP Customer Engagement Intelligence.

Prerequisites

Carry out the [Performing POS Data Transfer and Audit](#) business process.

Process

1. Prepare POS transaction data (SAP Customer Activity Repository).
Ensure that order channels are assigned to POS transactions at the line item level, and are based on the settings of the Assign Order Channels to Sales Item Type Customizing activity.
2. Obtain sales documents from SAP ERP (SAP Customer Activity Repository).
3. Consolidate multichannel data for analysis (SAP Customer Activity Repository).
A virtual data model (VDM) is provided that brings together the POS transactions and sales documents.
4. Filter data by customer identifier (optional) (SAP Customer Activity Repository).
To narrow your results, you can apply a filter to the Customer Identifier field.
5. Filter data by order channel (optional) (SAP Customer Activity Repository).
To narrow your results, you can apply a filter to the Order Channel field to specify one or more channels.
6. Enable forecasting KPIs (SAP Customer Activity Repository).
7. Expose figures using SAP HANA views (SAP HANA).
The following templates are available:
 - Multichannel Forecast measures view exposes the forecast from DDF/UDF and has a dependency on the table /POSDW/TLOGF and /DMF/UFC_TS
 - Sales and Forecast comparison by date
 - Multichannel Sales By Location Week Comparison
 - Multichannel Sales By Article Week Comparison
 - Multichannel Sales By Article Location
 - Multichannel Sales In Display Currency
 - MultiChannelSalesQuery, which is a set of characteristics and measures that combines measures from POS and Billing documents with master data from SAP ERP. The amount measures are available with currency conversion in the display currency field.
8. View Multichannel Sales Analytics Dashboards (SAP FIORI)
Multichannel sales analytics dashboards use SAP Fiori technology to provide category managers with real-time insight to sales activities across multiple sales channels.

Result

Multichannel sales data and KPIs are made available using SAP HANA views included in SAP HANA content for SAP Customer Activity Repository.

3.1.7 Enabling Demand Data Foundation and Creating Demand Forecast

You must enable Demand Data Foundation (DDF) to support consuming applications of SAP Customer Activity Repository and to create a demand forecast with Unified Demand Forecast (UDF). For more information about the DDF and UDF modules in SAP Customer Activity Repository, see SAP Help Portal at <http://help.sap.com/car>

► <your release> ► [Application Help](#) ► [Demand Data Foundation](#) ► and [Unified Demand Forecast](#).

The UDF demand forecast can serve as the basis for various cross-industry planning and automation use cases. UDF also provides insights into shopper behavior, enabling retailers to perform predictive analytics.

The demand forecast is generated in two steps:

1. Demand modeling is the process of finding the values for the parameters of a defined statistical model to explain the historical demand. The parameters of this demand model typically describe the effects of demand influencing factors (DIFs). The parameter values can then be used to predict the effects of similar DIF occurrences in the future, a process referred to as demand forecasting.
2. Demand forecasting predicts the demand for a particular product, in a particular location, for a given scenario (for example, promotion, sales channel), for a specific time period in the future. Any aggregation of demand forecasts across products, locations, scenarios, or time is also a demand forecast.

The demand forecast uses the following master data:

- Location
- Location hierarchy
- Product
- Product hierarchy
- Product location combination
- Offer (optional)

The demand forecast uses the following organizational data:

- Sales organization
- Distribution channel
- Order channel

The demand forecast can use the following transaction data (time series):

- Point-of-sale (POS) data from SAP Business Warehouse (SAP BW) or from an external application
- Virtual data model for POS data in SAP Customer Activity Repository
- Virtual data model for sales orders in SAP Customer Activity Repository
- Generic consumption data from an external application

For more information on the different master data objects and time series, see <http://help.sap.com/car> > <your release> > *Application Help* > *Demand Data Foundation* > *Data Management* >.

Process

This business process runs as follows:

1. Send master data (SAP ERP)
SAP ERP prepares and sends the master data through a Remote Function Call (RFC) by using transaction **DRFOUT**.

You have the following outbound implementations:

Table 17:

Sequence	Replication Mode	SAP ERP Outbound Implementation	SAP ERP Description	DDF Inbound Interface
1	Initialization	PMCH	Material Group Hierarchy	/DMF/ MDIF_PROD_HIER_INBOUND Product Hierarchy
2	Initialization, Change, and Manual	PMAT	Material	/DMF/ MDIF_PRODUCT_INBOUND Product
3	Initialization, Change, and Manual	PPLT	Plant	/DMF/ MDIF_LOCATION_INBOUND Location
4	Initialization, Change, and Manual	PMPL	Material and Plant	/DMF/ MDIF_PROD_LOC_INBOUND Product Location
5	Change	PSPR	Sales Price	/DMF/ MDIF_PROD_LOC_INBOUND Product Location
6	Initialization, Change, and Manual	PCON	Consumption	/DMF/ TS_GENERIC_INBOUND Generic
7	Initialization, Change, and Manual	PCUS	Customer	/DMF/ MDIF_LOCATION_INBOUND Customer
8	Initialization, Change, and Manual	PINV	Inventory	/DMF/ OPIF_INVENTORY_INBOUND Inventory

Sequence	Replication Mode	SAP ERP Outbound Implementation	SAP ERP Description	DDF Inbound Interface
9	Change	PMAP	Moving Average Price	/DMF/ MDIF_PROD_LOC_INBOUND Product Location
10	Initialization, Change, and Manual	PSOS	Source of Supply	/DMF/ MDIF_LANE_INBOUND Transportation Lane
11	Initialization, Change, and Manual	PVEN	Vendor	/DMF/ MDIF_LOCATION_INBOUND Location
12	Initialization, Change, and Manual	POFF	ERP Promotion Transferred as Offer	/DMF/ OPIF_OFFER_INBOUND Offer
13	Initialization	PPHY_CLASS	Plant Hierarchy and Group from Classification System	/DMF/ MDIF_LOC_HIER_INBOUND Location Hierarchy
14	Initialization	PAHY	Article Hierarchy	/DMF/ MDIF_PROD_HIER_INBOUND Product Hierarchy
15	Initialization	PPHY	Plant Hierarchy	/DMF/ MDIF_LOC_HIER_INBOUND Location Hierarchy

For more information about the DDF inbound interfaces, see SAP Help Portal for SAP Customer Activity Repository at <http://help.sap.com/car> ► <your release> ► *Application Help* ► *Demand Data Foundation* ► *Integration Information* ►.

When replicating the data, the system automatically generates data replication logs, which you can then evaluate. You can access this option via *SAP Easy Access SAP Retail* (transaction **w10t**) under ► *Logistics* ► *Retailing* ► *Distributed Retailing* ► *Merchandise Lifecycle Optimization* ► *Outbound* ► *Analyze Log for Outbound Implementations (DRFLOG)* ►.

2. Receive master data (DDF)

DDF can receive master data from the following:

- Multiple SAP ERP applications
- Non-SAP applications

By default, the data is stored in the DDF staging tables. From there, you transfer the data to the production tables by using one of the following options:

- The *Monitor Imports* function
You use this function to transfer data from the staging tables to the production tables, review erroneous records, delete erroneous records, and clean up the staging tables. Note that you correct the erroneous records in the source application, and then you send the data again. For more information about this function, see <http://help.sap.com/car> > <your release> > *Application Help* > *Demand Data Foundation* > *General Services* > *Monitor Imports* > .
- The *Process Inbound Staging Tables* function
For more information, see <http://help.sap.com/car> > <your release> > *Application Help* > *Demand Data Foundation* > *General Services* > *Monitor Imports* > *Process Inbound Staging Tables* > .
- The `/DMF/PROCESS_STAGING_TABLES` program
For more information, see the accompanying system documentation (transaction **SE38**).

i Note

You can choose to bypass the staging tables in Customizing under > *Cross-Application Components* > *Demand Data Foundation* > *Basic Settings* > *Integration* > *Define Import Settings* > . For more information, see the Customizing activity documentation (transaction **SPRO**).

DDF performs validation checks before inserting the data into the production tables.

For more information about how the data from external applications is processed, see <http://help.sap.com/car> > <your release> > *Application Help* > *Demand Data Foundation* > *Integration Information* > .

3. Define sales history (DDF)
For more information on how to define the sales history, see the *Integrating Historical Demand Data* section in [Introduction to SAP Customer Activity Repository \[page 13\]](#).
4. Provide SAP Planning for Retail information (SAP BW)
This step is optional. It is currently used only by SAP Assortment Planning for Retail to compare the planned assortment figures to the open-to-buy (OTB).
For more information about the standard SAP BW InfoProvider, see SAP Help Portal at <http://help.sap.com/bicontent> > <your release> > *SAP Library* > *BI Content* > *Industry Solutions* > *Trading Industries* > *Retail Trade* > *Merchandise and Assortment Planning* > *Retail Planning* > *MultiProvider* > *Merchandise Retail Plan* > .
5. Receive SAP Planning for Retail information (DDF)
This step is optional. It is currently used only by SAP Assortment Planning for Retail to compare the planned assortment figures to the open-to-buy (OTB).
Run report `/DMF/BI_IF_MERCH_PLAN` (transaction **SE38**) to receive the SAP Planning for Retail information from SAP Business Warehouse (SAP BW) to DDF. You can run this report as a scheduled background job (transaction **SM36**).

i Note

- Provide the required settings in the Customizing activities *Define SAP BW Application for Merchandise Planning* and *Define Field Mapping for Merchandise Planning* under > *Cross-Application Components* > *Assortment Planning for Retail* > *Imported Demand Data Foundation Settings* > *Integration* > .

Alternatively, provide a custom implementation for the *BAdI: Read Merchandise Planning* Business Add-In.

- If you use the standard settings in the *Define Field Mapping for Merchandise Planning* Customizing activity, that is, you are importing the OTB from the `ORP_MP12` MultiProvider, you must specify **MMF** (*Finalized Merchandise Version*) in the *Merchandise Plan Version* field of the report.

6. Schedule demand model (UDF)

You can schedule the system to create the demand model with the following options:

- Model by hierarchy
With this option, you can select a node to include all products and locations assigned to that hierarchy branch.
- Model by product location
With this option, you can specify a list of one or more products and one or more locations.

For more information, see <http://help.sap.com/car> > <your release> > *Application Help* > *Unified Demand Forecast* > *General Services* > *Schedule Model and Forecast* >.

7. Schedule demand forecast (UDF)

You can schedule the system to create the demand forecast with the following options:

- Forecast by hierarchy
With this option, you can select a node to include all products and locations assigned to that hierarchy branch.
- Forecast by product location
With this option, you can specify a list of one or more products and one or more locations.

For more information, see <http://help.sap.com/car> > <your release> > *Application Help* > *Unified Demand Forecast* > *General Services* > *Schedule Model and Forecast* >.

Result

The system generates the demand forecast, which is then saved in the database.

More Information

For more information on how this business process is used by the consuming applications of SAP Customer Activity Repository, see the following scenarios in this guide:

- [SAP Allocation Management for Retail \[page 46\]](#)
- [SAP Assortment Planning for Retail \[page 56\]](#)
- [SAP Merchandise Planning for Retail \[page 72\]](#)
- [SAP Promotion Management for Retail \[page 75\]](#)

3.1.8 Monitoring On-Shelf Availability

You can use this business process to perform monitoring or analysis:

- Perform monitoring to retrieve a regularly updated list of product locations that are likely out-of-shelf at a specific point in time in one or more stores. You can use this information to trigger follow-on actions, such as replenishment from the backroom, correction of inventory information, and tidying of the shelf to allow for an unobstructed view of the product.
- Perform an analysis to determine which product locations had on-shelf availability issues at what times in the past. This makes you aware of the on-shelf availability situation and allows you to define appropriate follow-up activities to improve the situations where necessary.

By detecting product locations that are likely out-of-shelf using a statistical algorithm based on POS transaction data in SAP Customer Activity Repository, you can determine possible out-of-shelf situations even if you have no separate system inventory for the shelf or the figures are not correct due to spoilage, theft or misplacement.

Process

1. Run the intra-week pattern analyzer.
The intra-week pattern models the regular intra-week and intra-day sales fluctuations of single items or categories. Sales rates are aggregated by product location, store, and store sub-department.
2. Calculate the estimation model parameters.
This calculation models the waiting time between two sales and determines the effect of the trend and sales influencing factors.
3. Perform monitoring or analysis.
 - Perform monitoring to detect and address operational out-of-shelf situations.
 - Perform an analysis to create calculation results for reporting
4. Evaluate the results.
The results of the monitoring are stored in table `/OSA/MONITORING`. Each record in the table represents an expected out-of-shelf situation. This situation is amended by the probability the item is considered to be out-of-shelf, the estimated lost transactions/lost sales/lost revenue (if activated in the monitoring step) and further attributes.
The results of the analysis are stored in table `/OSA/MON_ANA`. This table then contains the transaction intervals that are probably out-of-shelf situations.

Result

For monitoring, the result of this business process is a regularly updated list of product locations that are likely to be out-of-shelf.

For an analysis, the result of this business process is a list of transaction intervals in which the product location was probably out-of-shelf.

More Information

For more information, consult the application help at <http://help.sap.com/car> ▶ <your release> ▶ *Application Help* ▶ *SAP Customer Activity Repository* ▶ *On-Shelf Availability* ▶.

3.2 SAP Allocation Management for Retail

You can use this scenario to facilitate the business scenarios related to allocation:

- Initial allocation
- In-season fill-in

The following business processes are **required** for SAP Allocation Management for Retail:

- Enabling Demand Data Foundation
- Manage Market Units
- Manage Allocation Parameters
- Manage Allocation Workload
- Run Automatic Allocation
- Manage Allocation Plans
- Transfer Allocation Plans to Follow-on Systems

The following business processes are **optional** but recommended for SAP Allocation Management for Retail:

- Manage Category Responsibilities
- Manage Location Clusters
- Manage Product Attributes for Allocation Processing
- Manage Product Attributes for Distribution Curve Analysis

i Note

SAP Allocation Management for Retail consumes data from the SAP Customer Activity Repository. Ensure that you have completed the steps as defined in the *Common Master Guide CARAB 2.0* section *Business Scenarios for SAP Customer Activity Repository*.

Verify that you have configured the necessary Customizing settings in the *SAP Customizing Implementation Guide* (transaction code `SPRO`) choosing ▶ *Cross-Application Components* ▶ *Demand Data Foundation*. ▶

In addition to the Customizing settings above, you need to maintain the following Customizing settings:

- Set up the SAP Allocation Management for Retail application under ▶ *SAP Customizing Implementation Guide* ▶ *Cross-Application Components* ▶ *Allocation Management for Retail* ▶.
- Set up the distribution curve analysis under ▶ *SAP Customizing Implementation Guide* ▶ *SAP Customer Activity Repository* ▶ *Demand Data Foundation* ▶ *Data Maintenance* ▶ *Distribution Curve Configuration* ▶.

3.2.1 Enabling Demand Data Foundation

The SAP Merchandise Planning for Retail application requires master data and time series data for the productive operation. This data is not native to this application, and it is created in other applications, such as SAP ERP (S4/HANA, or third party system).

Note that SAP Customer Activity Repository also receives data replicated from a connected SAP ERP system by using the System Landscape Transformation (SLT) replication. For more information, see the *Common Installation Guide*.

Process

Caution

You must ensure that the following activities have been performed:

- Installation and post-installation steps of the *Common Installation Guide*
- Relevant configuration information in *Configuring Demand Data Foundation (DDF)*.

Note that only the following steps of this business process are relevant for this application:

- Send master data
- Receive master data
- Define sales history

The process to populate master data runs as follows:

1. Send master data (SAP ERP)

SAP ERP prepares and sends the master data through a Data Replication Framework (DRF) (transaction **DRFOU1**).

You have the following outbound implementations:

Table 18:

Sequence	Replication Mode	SAP ERP Outbound Implementation	SAP ERP Description	DDF Inbound Interface
1	Initialization	PMCH	Material Group Hierarchy	/DMF/MDIF_PROD_HIER_INBOUND Product Hierarchy
2	Initialization, Change, and Manual	PMAT	Material	/DMF/MDIF_PRODUCT_INBOUND Product
3	Initialization, Change, and Manual	PPLT	Plant	/DMF/MDIF_LOCATION_INBOUND Location

Sequence	Replication Mode	SAP ERP Outbound Implementation	SAP ERP Description	DDF Inbound Interface
4	Initialization, Change, and Manual	PMPL	Material and Plant	/DMF/MDIF_PROD_LOC_INBOUND Product Location
5	Change	PSPR	Sales Price	/DMF/MDIF_PROD_LOC_INBOUND Product Location
6	Initialization, Change, and Manual	PINV	Inventory	/DMF/OPIF_INVENTORY_INBOUND Inventory
7	Change	PMAP	Moving Average Price	/DMF/MDIF_PROD_LOC_INBOUND Product Location
8	Initialization, Change, and Manual	PSOS	Source of Supply	/DMF/MDIF_LANE_INBOUND Transportation Lane
9	Initialization, Change, and Manual	EVEN	Vendor	/DMF/MDIF_LOCATION_INBOUND Location
10	Initialization	PAHY	Article Hierarchy	/DMF/MDIF_PROD_HIER_INBOUND Product Hierarchy

When carrying out the data replication, the system automatically generates data replication logs, which you can then evaluate. You can access this option under *SAP Easy Access SAP Retail* (transaction **W10T**) under **Logistics > Retailing > Distributed Retailing > Merchandise Lifecycle Optimization > Outbound > Analyze Log for Outbound Implementations (DRFLOG)**.

2. Receive master data (DDF)

By default, the DDF staging tables receive the data. You use the *Monitor Imports* function to view the data, transfer the data from the staging tables to the production tables, and to process the received data. For more information about this function, see SAP Help Portal at <http://help.sap.com/carl> **> <your release>** **> Application Help > Demand Data Foundation > General Services > Monitor Imports**. DDF performs validation checks before inserting the data into the production tables.

i Note

You can choose to bypass the staging tables in Customizing under **Cross-Application Components > Demand Data Foundation > Basic Settings > Integration > Define Import Settings**. For more information, see the Customizing activity documentation (transaction **SPRO**).

3. Define sales history (DDF)

This application uses point-of-sale (POS) data from SAP Business Warehouse (SAP BW) or from an external application.

For more information on how to define the sales history, see the [Integrating Historical Demand Data](#) section in [Introduction to SAP Customer Activity Repository \[page 13\]](#).

Result

The system updates the data.

3.2.2 Manage Category Responsibilities

You use this business process to define and display areas of responsibilities.

Prerequisites

- You have defined a master data system.
- You have imported a product hierarchy.

For information about these prerequisites, see *Configuring Demand Data Foundation (DDF)*.

Process

1. Launch [Manage Category Responsibilities](#)
2. Define Area of Responsibility:
 - Select the user.
 - Choose [Continue](#).
 - Select the master data system.
 - Select the product hierarchy. Expand the nodes as required, select the relevant product groups, and choose [Apply](#).

i Note

- You can select multiple product groups by holding the CTRL key.
- You can also remove existing assignments.

3. Choose [Next](#) and review your changes.
4. Choose [Finish](#).

Result

As a result of this process, you have updated the area of responsibility.

3.2.3 Manage Location Clusters

You use this business process to group locations into clusters based on common characteristics or attributes into a set of clusters. These attributes include but are not limited to geography, formats, selling space, product category, sales and margin performance. Usually a combination of attributes and performance metrics are used. The clustering is done using a cluster algorithm. The cluster algorithm performs the grouping of locations and selects the optimal number of locations.

Process

The following business process creates a location cluster set:

1. Create a new location cluster set.
2. Select locations using a combination of attribute selection and location hierarchy criteria. The selected locations are subject to the clustering process.
3. Select Products using a combination of attribute selections and article hierarchy criteria.
4. Select Reference Date range for product attribute analysis.
5. Perform smart clustering.
 1. Select the attributes.
 2. Select the minimum and the maximum number of expected cluster.
 3. Perform clustering.
6. Analyze the result.
7. If required, select locations and
 1. Create new cluster
 2. Manually move selected locations from one cluster to another cluster
8. Save the cluster set.

Results

As a result of this process, you will have a cluster set. Cluster sets are used throughout the subsequent planning process steps such as:

- [Plan Options](#)
- [Plan Assortment](#)

3.2.4 Manage Product Attributes for Allocation Processing (Optional)

You can use this process to define the product attributes that are relevant for specific use cases in SAP Allocation Management for Retail. Product attributes support the user in identifying special characteristics of the products in the assortment and to parameterize allocation processing in a tailored way. Product attributes support the following functions of SAP Allocation Management for Retail:

- Parameter maintenance
- Allocation workload selection and display
- Allocation plan display

Process

1. Launch the *Manage Product Attributes* SAP Fiori app.
2. Select the article hierarchy level by choosing *Assign Attributes*.
3. Select **Allocation Management** as the relevant application.
4. Add the relevant attributes for allocation.
5. Select the purpose for each attribute.
6. Save the settings per attribute hierarchy level.

Result

There is an attribute setting for all article hierarchy levels that are relevant for allocation management. The result is used in subsequent allocation processes such as parameter maintenance, automatic allocation, allocation workload, and allocation plan.

3.2.5 Manage Product Attributes for Distribution Curve Analysis (Optional)

You can use this process to define the product attributes that are relevant for the usage of the distribution curve analysis. Distribution curve analysis is used by SAP Allocation Management for Retail and other applications.

Process

1. Launch the *Manage Product Attributes* SAP Fiori app.
2. Select the article hierarchy level by choosing *Assign Attributes*.

-
3. Select **Distribution Curve** as the relevant application.
 4. Add the relevant attributes for distribution curve analysis.
 5. Select the purpose for each attribute.
 6. Save the settings per attribute hierarchy level.

Result

There is an attribute setting for all article hierarchy levels that are relevant for distribution curve analysis. The result is used in the commonly available service for analyzing the distribution of sizes, colors, or both based on historic sales data.

3.2.6 Manage Market Units

You can use this process to set up the organizational entities relevant for allocation, the allocator responsibilities, and other basic settings for allocation parameter maintenance and business scenarios for allocation.

Process

1. Launch the *Manage Market Units* SAP Fiori app.
2. Select the relevant distribution centers and optionally, the corresponding storage locations.
3. Select the relevant stores and maintain store settings.
4. Add allocators and assign product hierarchy levels defining their areas of responsibility.
5. Specify store cluster sets for product hierarchy nodes.
6. Maintain settings for allocation parameter maintenance.
7. Select company-specific business scenarios for initial allocation and in-season fill-in.
8. Save the market unit.

Result

With this process, you have created the basic setup for all following process steps.

3.2.7 Manage Allocation Parameters

You use this process to maintain parameters relevant for system-proposed allocation plan creation.

Process

1. Launch the *Manage Allocation Parameters* SAP Fiori app.
2. Select the market unit and the product hierarchy node for which you want to maintain parameters.
3. On the *Stores* tab, add stores and maintain the relevant default parameter settings for the stores.
4. Select an attribute value and maintain attribute-specific parameter settings (optional).
5. Switch to the *Distribution Center* tab, add distribution centers, and maintain the relevant default parameter settings for them.
6. Select an attribute value and maintain attribute-specific parameter settings for distribution centers (optional).

i Note

You can use the function *Copy Parameters from Reference* to copy parameters from a reference store or reference distribution center to a store or distribution center for which no parameters exist yet. In the same way, you can create parameters from a reference product hierarchy node.

7. Save the parameter settings.

Result

With this process, you have defined the parameters that are required for manual and automatic allocation plan creation

3.2.8 Manage Allocation Workload

You use this process to trigger allocation plan creation for initial allocation manually, or to review automatically created allocation plans for both, initial and in-season fill-in allocation plans.

Process

1. Launch the *My Allocation Workload* SAP Fiori app.
2. Create a selection variant by selecting the market unit, distribution center, data source, season, and product dimension.
3. Use the graphical overview to select specific parts of the workload, for example select a time interval.
 - For initial allocation:
Work through the worklist to gather information about the product/colors that are supposed to arrive in the stores right before the presentation date.
 - Either change the processing type of the product/colors that you want to allocate to automatic, or trigger the allocation plan creation manually by choosing *Create Plan*.

-
4. For in-season fill-in:
Work through the worklist to understand the result of the automatic allocation plan creation.
 5. Go to the allocation plans for reviewing the details of the plans.

Result

With this process, you have prepared product/colors for an automatic initial allocation or even triggered that process. Moreover, during in-season fill-in, you have reviewed the result from automatic fill-in on a product/color level.

3.2.9 Run Automatic Allocation

You use this process, to automate the product selection for allocation and the creation of allocation plans.

Process

1. Define the necessary selection criteria for distribution center, product dimension, and other relevant selections.
2. Decide if you want the system to automatically release allocation plans or leave them in the status *In Planning*.
3. Schedule the report for automatic allocation plan creation as a background job or start it from [▶ Cross-Application Components](#) > [Allocation Management for Retail](#) > [Automatic Allocation](#) (transaction /AMR/AUTO_ALLOC).

Result

With this process, the system creates allocation plans and informs about exceptions.

3.2.10 Manage Allocation Plans

You use this process for reviewing allocation plans, which have been created by the system.

Process

1. Launch the *My Allocation Workload* or the *My Allocation Plans* SAP Fiori app.
2. Select an allocation plan and navigate to the detailed plan display.
3. Review the allocation plan data.
4. If the plan is not released, you can change the allocation plan data, for example allocation quantities or stock key figures (optional). You can recalculate the allocation plan data and save the changes.
5. Release allocation plan items and save the plan.

Result

With this process, you have accepted automatically created allocation plans or adjusted the plan data. The plans are available for the transfer to the system that triggers the logistics execution

3.2.11 Transfer Allocation Plans to Follow-on Systems

You use this process to trigger the creation of allocation tables from the allocation plans in the follow-on system SAP Retail or SAP Fashion Management.

Process

i Note

Make sure that the Customizing for allocation table creation in the follow-on system is set up.

1. Schedule the report for the transfer of allocation plans as a background job or start it manually by choosing [▶ Cross-Application Components ▶ Allocation Management for Retail ▶ Transfer Allocation Plans ▶](#) (transaction /AMR/TRANSFER).
2. Define the necessary selection criteria for collecting the released allocation plans to transfer.
3. Review system warnings or error messages to make sure the data was transferred to the back end system.

Result

With this process, you have sent allocation plans to SAP Retail or SAP Fashion Management to create allocation tables and subsequently trigger the logistics execution.

3.3 SAP Assortment Planning for Retail

Caution

SAP Assortment Planning for Retail consumes data from SAP Customer Activity Repository. As such, you must configure all of the necessary Customizing settings under:

- [▶ SAP Customizing Implementation Guide ▶ Cross-Application Components ▶ Demand Data Foundation ▶](#)
- [▶ SAP Customizing Implementation Guide ▶ Customer Activity Repository ▶ POS Data Management ▶](#)

In addition to the Customizing settings above, you may need to maintain Customizing specific to the SAP Assortment Planning for Retail application under [▶ SAP Customizing Implementation Guide ▶ Cross-Application Components ▶ Assortment Planning for Retail ▶](#).

You can use this business scenario to develop product strategies by sales channel for both basic and seasonal merchandise. You use forecasting and location clustering techniques to suggest assortment lists, and use similar product performance for the introduction of new product strategies.

With this scenario you can plan, create and optimize sales and profit of an assortment of products and product groups carried in various locations within a specific time period. You can maximize sales and profit for the selected group of products that are subject to various constraints such as space constraints or approved purchase budgets (merchandise plan). Essentially, the assortment planning scenario provides a balanced assortment of merchandise for the customer across all offered categories for each available selling channel.

With this scenario, you:

- Model product groups across selling channels to propose assortments for planning using predictive algorithm engines
- Plan sales and purchase quantities by location clusters
- Provide initial allocation instructions using approved purchase quantities

By implementing this scenario, you benefit by:

- Maximizing regular price sales and margin based on optimized product and cluster sets
- Reducing overall supply chain inventory costs using demand forecast algorithms
- Streamlining product movement from point of purchase to delivery
- Having direct access to SAP BW and SAP HANA
- Supporting high speed calculation and aggregation of plan and historical data

As a result of implementing this scenario, you can:

- Rapidly and easily segment large amounts of sales data to suggest relevant assortment line plans for each selling channel
- Review proposed product counts by location cluster when developing and assigning products to the assortment plan
- Use one central repository that allows the immediate reconciliation of strategic merchandise and assortment plans to eliminate large amounts of manual effort that supports merchandise planning.
- Increase your inventory turn and margin percent, and reduce your markdown percent.

3.3.1 Enabling Demand Data Foundation and Creating Demand Forecast

You must enable Demand Data Foundation (DDF) to support consuming applications of SAP Customer Activity Repository and to create a demand forecast with Unified Demand Forecast (UDF). For more information about the DDF and UDF modules in SAP Customer Activity Repository, see SAP Help Portal at <http://help.sap.com/car> ► <your release> ► [Application Help](#) ► [Demand Data Foundation](#) ► and [Unified Demand Forecast](#).

The UDF demand forecast can serve as the basis for various cross-industry planning and automation use cases. UDF also provides insights into shopper behavior, enabling retailers to perform predictive analytics.

The demand forecast is generated in two steps:

1. Demand modeling is the process of finding the values for the parameters of a defined statistical model to explain the historical demand. The parameters of this demand model typically describe the effects of demand influencing factors (DIFs). The parameter values can then be used to predict the effects of similar DIF occurrences in the future, a process referred to as demand forecasting.
2. Demand forecasting predicts the demand for a particular product, in a particular location, for a given scenario (for example, promotion, sales channel), for a specific time period in the future. Any aggregation of demand forecasts across products, locations, scenarios, or time is also a demand forecast.

The demand forecast uses the following master data:

- Location
- Location hierarchy
- Product
- Product hierarchy
- Product location combination
- Offer (optional)

The demand forecast uses the following organizational data:

- Sales organization
- Distribution channel
- Order channel

The demand forecast can use the following transaction data (time series):

- Point-of-sale (POS) data from SAP Business Warehouse (SAP BW) or from an external application
- Virtual data model for POS data in SAP Customer Activity Repository
- Virtual data model for sales orders in SAP Customer Activity Repository
- Generic consumption data from an external application

For more information on the different master data objects and time series, see <http://help.sap.com/car> ► <your release> ► [Application Help](#) ► [Demand Data Foundation](#) ► [Data Management](#) ►.

Process

This business process runs as follows:

1. Send master data (SAP ERP)
SAP ERP prepares and sends the master data through a Remote Function Call (RFC) by using transaction **DRFOUT**.
You have the following outbound implementations:

Table 19:

Sequence	Replication Mode	SAP ERP Outbound Implementation	SAP ERP Description	DDF Inbound Interface
1	Initialization	PMCH	Material Group Hierarchy	/DMF/ MDIF_PROD_HIER_INBOUND Product Hierarchy
2	Initialization, Change, and Manual	PMAT	Material	/DMF/ MDIF_PRODUCT_INBOUND Product
3	Initialization, Change, and Manual	PPLT	Plant	/DMF/ MDIF_LOCATION_INBOUND Location
4	Initialization, Change, and Manual	PMPL	Material and Plant	/DMF/ MDIF_PROD_LOC_INBOUND Product Location
5	Change	PSPR	Sales Price	/DMF/ MDIF_PROD_LOC_INBOUND Product Location
6	Initialization, Change, and Manual	PCON	Consumption	/DMF/ TS_GENERIC_INBOUND Generic
7	Intialization, Change, and Manual	PCUS	Customer	/DMF/ MDIF_LOCATION_INBOUND Customer

Sequence	Replication Mode	SAP ERP Outbound Implementation	SAP ERP Description	DDF Inbound Interface
8	Initialization, Change, and Manual	PINV	Inventory	/DMF/ OPIF_INVENTORY_INBOUND Inventory
9	Change	PMAP	Moving Average Price	/DMF/ MDIF_PROD_LOC_INBOUND Product Location
10	Initialization, Change, and Manual	PSOS	Source of Supply	/DMF/ MDIF_LANE_INBOUND Transportation Lane
11	Initialization, Change, and Manual	PVEN	Vendor	/DMF/ MDIF_LOCATION_INBOUND Location
12	Initialization, Change, and Manual	POFF	ERP Promotion Transferred as Offer	/DMF/ OPIF_OFFER_INBOUND Offer
13	Initialization	PPHY_CLASS	Plant Hierarchy and Group from Classification System	/DMF/ MDIF_LOC_HIER_INBOUND Location Hierarchy
14	Initialization	PAHY	Article Hierarchy	/DMF/ MDIF_PROD_HIER_INBOUND Product Hierarchy
15	Initialization	PPHY	Plant Hierarchy	/DMF/ MDIF_LOC_HIER_INBOUND Location Hierarchy

For more information about the DDF inbound interfaces, see SAP Help Portal for SAP Customer Activity Repository at <http://help.sap.com/car> > <your release> > *Application Help* > *Demand Data Foundation* > *Integration Information* >.

When replicating the data, the system automatically generates data replication logs, which you can then evaluate. You can access this option via *SAP Easy Access SAP Retail* (transaction **W10T**) under [► Logistics ► Retailing ► Distributed Retailing ► Merchandise Lifecycle Optimization ► Outbound ► Analyze Log for Outbound Implementations \(DRFLOG\) ►](#).

2. Receive master data (DDF)

DDF can receive master data from the following:

- Multiple SAP ERP applications
- Non-SAP applications

By default, the data is stored in the DDF staging tables. From there, you transfer the data to the production tables by using one of the following options:

- The *Monitor Imports* function
You use this function to transfer data from the staging tables to the production tables, review erroneous records, delete erroneous records, and clean up the staging tables. Note that you correct the erroneous records in the source application, and then you send the data again. For more information about this function, see <http://help.sap.com/car> ► *<your release>* ► *Application Help ► Demand Data Foundation ► General Services ► Monitor Imports ►*.
- The *Process Inbound Staging Tables* function
For more information, see <http://help.sap.com/car> ► *<your release>* ► *Application Help ► Demand Data Foundation ► General Services ► Monitor Imports ► Process Inbound Staging Tables ►*.
- The `/DMF/PROCESS_STAGING_TABLES` program
For more information, see the accompanying system documentation (transaction **SE38**).

i Note

You can choose to bypass the staging tables in Customizing under [► Cross-Application Components ► Demand Data Foundation ► Basic Settings ► Integration ► Define Import Settings ►](#). For more information, see the Customizing activity documentation (transaction **SPRO**).

DDF performs validation checks before inserting the data into the production tables.

For more information about how the data from external applications is processed, see <http://help.sap.com/car> ► *<your release>* ► *Application Help ► Demand Data Foundation ► Integration Information ►*.

3. Define sales history (DDF)

For more information on how to define the sales history, see the *Integrating Historical Demand Data* section in [Introduction to SAP Customer Activity Repository \[page 13\]](#).

4. Provide SAP Planning for Retail information (SAP BW)

This step is optional. It is currently used only by SAP Assortment Planning for Retail to compare the planned assortment figures to the open-to-buy (OTB).

For more information about the standard SAP BW InfoProvider, see SAP Help Portal at <http://help.sap.com/bicotent> ► *<your release>* ► *SAP Library ► BI Content ► Industry Solutions ► Trading Industries ► Retail Trade ► Merchandise and Assortment Planning ► Retail Planning ► MultiProvider ► Merchandise Retail Plan ►*.

5. Receive SAP Planning for Retail information (DDF)

This step is optional. It is currently used only by SAP Assortment Planning for Retail to compare the planned assortment figures to the open-to-buy (OTB).

Run report /DMF/BI_IF_MERCH_PLAN (transaction **SE38**) to receive the SAP Planning for Retail information from SAP Business Warehouse (SAP BW) to DDF. You can run this report as a scheduled background job (transaction **SM36**).

i Note

- Provide the required settings in the Customizing activities *Define SAP BW Application for Merchandise Planning* and *Define Field Mapping for Merchandise Planning* under **► Cross-Application Components ► Assortment Planning for Retail ► Imported Demand Data Foundation Settings ► Integration**. Alternatively, provide a custom implementation for the *BAdI: Read Merchandise Planning* Business Add-In.
- If you use the standard settings in the *Define Field Mapping for Merchandise Planning* Customizing activity, that is, you are importing the OTB from the `ORP_MP12` MultiProvider, you must specify **MMF** (*Finalized Merchandise Version*) in the *Merchandise Plan Version* field of the report.

6. Schedule demand model (UDF)

You can schedule the system to create the demand model with the following options:

- Model by hierarchy
With this option, you can select a node to include all products and locations assigned to that hierarchy branch.
- Model by product location
With this option, you can specify a list of one or more products and one or more locations.

For more information, see <http://help.sap.com/car> **► <your release> ► Application Help ► Unified Demand Forecast ► General Services ► Schedule Model and Forecast**.

7. Schedule demand forecast (UDF)

You can schedule the system to create the demand forecast with the following options:

- Forecast by hierarchy
With this option, you can select a node to include all products and locations assigned to that hierarchy branch.
- Forecast by product location
With this option, you can specify a list of one or more products and one or more locations.

For more information, see <http://help.sap.com/car> **► <your release> ► Application Help ► Unified Demand Forecast ► General Services ► Schedule Model and Forecast**.

Result

The system generates the demand forecast, which is then saved in the database.

More Information

For more information on how this business process is used by the consuming applications of SAP Customer Activity Repository, see the following scenarios in this guide:

- [SAP Allocation Management for Retail \[page 46\]](#)

- [SAP Assortment Planning for Retail \[page 56\]](#)
- [SAP Merchandise Planning for Retail \[page 72\]](#)
- [SAP Promotion Management for Retail \[page 75\]](#)

3.3.2 Performing POS Data Transfer and Audit

You can use this business process to manage point-of-sale (POS) transactions. During this process, cash register sales data from individual stores is transmitted (typically using trickle feed) to SAP Customer Activity Repository. Administrators monitor and troubleshoot the inbound queues.

After the transactional data is received, you can process, cleanse and audit the data. Auditors ensure the consistency of the sales transaction data.

You can also use outbound tasks of SAP Customer Activity Repository to send the processed transactional data to follow-on applications. Alternatively, you can store transactional data in the repository. Any consuming applications can access the stored data in near-real-time through SAP HANA views provided in SAP HANA Content for SAP Customer Activity Repository.

Process

1. Define workbench display parameters.
2. Perform short/over balancing.
3. Check data transfer.
4. Control task processing.
5. Analyze error messages
6. Display follow-on documents.
7. Search for POS transactions.
8. Execute mass change for POS transactions (optional).

Result

Transactional data received from your stores is received, processed and stored in SAP Customer Activity Repository. This data is sent to all required follow-on applications and is made available to any consuming applications through SAP HANA views.

3.3.3 Manage Category Responsibilities

You use this business process to define and display areas of responsibilities.

Prerequisites

- You have defined a master data system.
- You have imported a product hierarchy.

For information about these prerequisites, see *Configuring Demand Data Foundation (DDF)*.

Process

1. Launch *Manage Category Responsibilities*
2. Define Area of Responsibility:
 - Select the user.
 - Choose *Continue*.
 - Select the master data system.
 - Select the product hierarchy. Expand the nodes as required, select the relevant product groups, and choose *Apply*.

i Note

- You can select multiple product groups by holding the CTRL key.
- You can also remove existing assignments.

3. Choose *Next* and review your changes.
4. Choose *Finish*.

Result

As a result of this process, you have updated the area of responsibility.

3.3.4 Manage Products

You use this business process to search for products and to edit certain fields of the product master data.

i Note

If you want to change the fields that are not editable, you have to change the field in the source system and import the master data again. For more information about importing data, see *Enabling Demand Data Foundation and Creating Demand Forecast*.

Prerequisites

- You have completed the required master data replication, described in *Enabling Demand Data Foundation and Creating Demand Forecast*.
If you do not have an SAP ERP application, you can use the following Application Programming Interfaces (APIs) to receive the master data:
 - Product master data: /DMF/MDIF_PRODUCT_INBOUND function module
 - Product hierarchy data: /DMF/MDIF_PROD_HIER_INBOUND function module
 - Product master data: MerchandiseManagement *Process Component* of the Enterprise Services
- You have completed the relevant configuration steps described in *Configuring Demand Data Foundation (DDF)*.

Process

1. Launch *Manage Products*
2. Define new query search
 - Object Type
Enter *Product Maintenance* in the *Select Object Type* field.
Choose *Next*.
 - Maintain Criteria
Enter your search criteria.
Choose *Next*.
Choose *Finish*.
Note that you can save your search criteria by entering a query description and a category.
3. Manage product
 - Select a product ID
In the *Product Update* screen area, you can edit certain product fields on the following tab pages:
 - Product Attributes
 - Product Unit of Measure
 - Attributes
On this tab page, you can add or remove a new attribute type to your master data.

Result

As a result of this process, you have updated the product master data.

3.3.5 Manage Locations

You use this business process to search for locations and to edit certain fields of the location master data.

i Note

If you want to change the fields that are not editable, you have to change the field in the source system and import the master data again. For more information about importing data, see *Enabling Demand Data Foundation and Creating Demand Forecast*.

Prerequisites

- You have completed the required master data replication, described in *Enabling Demand Data Foundation and Creating Demand Forecast*.
If you do not have an SAP ERP application, you can use the following Application Programming Interfaces (APIs) to receive the location master data:
 - /DMF/MDIF_LOCATION_INBOUND function module
 - LocationDataManagement *Process Component* of the Enterprise Services
- You have completed the relevant configuration steps described in *Configuring Demand Data Foundation (DDF)*.

Process

1. Launch *Manage Locations*
2. Define new query search
 - Object Type
Enter *Location Maintenance* in the *Select Object Type* field.
Choose *Next*.
 - Maintain Criteria
Enter your search criteria.
Choose *Next*.
Choose *Finish*.
Note that you can save your search criteria by entering a query description and a category.
3. Manage location
 - Select a location
In the *Location Update* screen area, you can edit certain location fields on the following tab pages:
 - Properties
 - Attributes
On this tab page, you can add a new attribute type to your master data.

3.3.6 Manage Product Attributes

You can use this process to determine which attributes are relevant to planning for each article hierarchy.

Process

1. Launch the *Manage Product Attribute* app.
2. Select the product hierarchy

i Note

Only Brand, Price Band, and Fashion Grade product attributes are supported for SAP Assortment Planning for Retail 1.0.

3. Select date range.
4. Create attributes.
5. Assign attribute values.
6. Select category.
7. Assign functional attributes to categories.
8. Maintain multiple attributes for multiple products. (Optional)
9. Save changes to the attribute management.

Results

There is an attribute setting for all article hierarchy level that is relevant for planning. The result is used in subsequent planning process steps such as *Plan Options*.

3.3.7 Manage Modules

You can use this process to create and manage the list of assortment modules used by planners using the SAP Assortment Planning for Retail application.

Process

1. Launch module management (*Manage Modules* app.)
2. Create modules.
3. Save modules.

Result

The created modules can be used by assortment planners in various follow-on processes.

3.3.8 Manage Location Clusters

You use this business process to group locations into clusters based on common characteristics or attributes into a set of clusters. These attributes include but are not limited to geography, formats, selling space, product category, sales and margin performance. Usually a combination of attributes and performance metrics are used. The clustering is done using a cluster algorithm. The cluster algorithm performs the grouping of locations and selects the optimal number of locations.

Process

The following business process creates a location cluster set:

1. Create a new location cluster set.
2. Select locations using a combination of attribute selection and location hierarchy criteria. The selected locations are subject to the clustering process.
3. Select Products using a combination of attribute selections and article hierarchy criteria.
4. Select Reference Date range for product attribute analysis.
5. Perform smart clustering.
 1. Select the attributes.
 2. Select the minimum and the maximum number of expected cluster.
 3. Perform clustering.
6. Analyze the result.
7. If required, select locations and
 1. Create new cluster
 2. Manually move selected locations from one cluster to another cluster
8. Save the cluster set.

Results

As a result of this process, you will have a cluster set. Cluster sets are used throughout the subsequent planning process steps such as:

- [Plan Options](#)
- [Plan Assortment](#)

3.3.9 Plan Options (Optional)

You use this business process to determine the width and depth of an assortment strategy. At a high level, the width of an assortment refers to the number of different products carried by the retailer and the depth is the number of variations (options) of each product sold. As an assortment planner, you can determine the number of product options for each category needed for different locations based on selected attributes.

Attribute combinations of the product category are used to determine the future mix of a category and to divide the total offering according to the attribute combinations.

The option process usually takes place well in advance of determining the exact product mix and utilizes historical selling patterns and percentages to help the planner decide what to sell in the upcoming assortment season. The process is subject to constraints such as approved purchase budgets (merchandise plan data).

To determine the budget of the selected options, the number of options is planned by a category and attribute combination. The average selling price per option is selected. Options are grouped into modules. Modules are assigned to location clusters and determine the number of locations where the options will be offered. The selling price per option, the number of options per attribute combination and assignment to a module and thus to a cluster of stores determines the overall budget for the category. This is compared to the approved purchase budget.

Process

The following business process is used to plan options:

1. Select an option plan.
2. Select a category from the option plan.
3. Plan the option.
4. Save the option plan.

Results

As a result of this process is an option plan that is consumed in the [Manage Assortment Lists](#) process.

Additional Information

For more information on integrating with merchandise planning data, see [Enabling Demand Data Foundation and Creating Demand Forecast](#).

3.3.10 My Assortment Lists

You can use this business process to analyze sales and profit metrics to predict an optimal mix of products for selection in an assortment plan using Key Performance Indicators (KPIs) such as Sales Units, Sales at Cost, Sales at Retail, Gross Margin, Gross Margin Percent, and Gross Margin Return on Investment. KPIs can be ranked based on the Pareto algorithm, known as the 80/20 rule.

As an assortment planner, you can analyze which products are most profitable and then determine whether or not to continue selling these products in the next assortment season. Once determined, you can also add placeholder products to the assortment list.

Throughout the process, you can compare the products in the assortment list to targets set in the option plan, which you can optionally link to the assortment list. You can also request a system-generated proposal for the products to keep in the assortment list. This proposal considers an option plan if there is one available.

The combination of carryover products and new products using placeholders creates the assortment list for the selected categories.

Process

The following business process creates an assortment list:

1. In the *My Assortment Lists* SAP Fiori app, create a new assortment list or copy an existing one.
2. Optionally, select an option plan.
The back-end system supplies option plan data, created using the *My Option Plans* SAP Fiori app.
3. Select a reference period, used to analyze product performance.
4. Select a validity period for the assortment list.
5. Select products from the list of products supplied by the back-end system.
6. Select locations from the list of locations supplied by the back-end system.
7. Analyze product performance by evaluating the relevant KPIs based on reference sales.
8. Optionally, define rules based on product attributes to use them as guidance when determining product statuses and module assignments.
9. Determine which products to keep or drop from the new assortment list. Optionally, assign productions to modules. You can execute these two parts of the step manually or request a proposal.
10. Optionally, analyze fulfillment of rules as well as budget and option plan restrictions.
11. Add placeholder products to fill the planned target count for the assortment list.
12. Save assortment list.

Results

The resulting information from the assortment list is stored in the system as a Demand Data Foundation (DDF) product group and is used by the *Plan Assortment* planning processes.

3.3.11 Plan Assortments

In the assortment plan, you determine purchase needs based on anticipated and projected sales by locations and products. You plan each product, color, and size combination to determine the receipt unit quantity for the purchase of the assortment. Sell through, pricing strategies, and margin targets allow for building the required receipt amount for purchase for each product and location.

When satisfied, the planned sales values are disaggregated to the week level based on the projected sales distributions at the lowest level of the article hierarchy.

Following the detailed planning, you review the proposed receipt and sales flow by product as well as the receipt quantities planned.

Decide which weeks receive receipt units after looking at the purchasing-relevant KPI values that are distributed to fiscal periods.

When satisfied with the assortment plan, you can export the KPI values to allow for the creation of purchase orders.

Process

Use the following business process to plan assortments:

1. Select assortment plan
Select an assortment plan and supporting characteristics.
2. Select category.
Select the category you wish to start with.
3. Determine sales margins
Determine sales margin and other KPIs for each product.
4. Determine receipt quantities KPI.
Determine receipt quantities based on planned sales and inventory for each product.
5. Select the next category and determine the correct KPIs.
Repeat until all categories have been reviewed.
6. Distribute to sizes.
Apply size distribution to quickly distribute KPIs based on a size curve that is by product and by location.
7. Fine-tune single locations.
Plan key figures for individual locations in the *Plan Products by Location* worksheet.
8. Distribute to fiscal periods.
When finished with planning by product by location, distribute to fiscal periods.
9. Plan weekly receipt unit KPIs by fiscal period. Ensure the correct distribution across weeks.
10. Export the KPI values by product. Export the KPI values to allow for the creation of purchase orders.

Results

The assortment plan contains planned KPIs such as Sales, Receipt Units, and Gross Margin for each product (including sizes) in each location. The assortment plan also contains receipt unit KPIs by fiscal periods. You have exported the KPI values to allow for the creation of purchase orders.

3.3.12 Match Placeholders

You use this business process to match a placeholder product with existing products. Placeholder products are created in the *My Assortment List* process. Placeholders are positions in an assortment list for an expected product that does not exist at the time of creation of the assortment list. The product will be created later. Once it has been created, the placeholder is matched with the existing product. This is a required step before transferring purchase instructions to SAP ERP.

Process

The following business process matches placeholders with products:

1. Launch placeholder matching
2. Select an assortment list.
3. Select placeholder product
Select one placeholder from the selected assortment list.
4. Select list of products
Select a list of products using a combination of attribute selections and article hierarchy criteria.
5. Select product
Select one product.
6. Match variants
Match the variants of the placeholder with the variants of the product.
7. Save placeholder matching.

Results

The result of the *Match Placeholders* process is a list of placeholders with the matched products and variants. The matches are used during the transfer of order instructions to SAP ERP.

3.3.13 Export to Planned Independent Requirements (PIR) (Optional)

SAP Assortment Planning for Retail exports the planned sales demand to SAP Fashion Management to create planned independent requirements (PIR). The PIR serves as a placeholder for the actual demand that you expect in the future.

Process

1. Create an assortment list.
2. Maintain the *Plan Assortment* and *Plan Weekly Receipts* workbooks.
Maintain the planned quantities and weekly receipt details.
3. Export.
Send to an SAP Retail system to create a PIR.

3.4 SAP Merchandise Planning for Retail

Caution

SAP Merchandise Planning for Retail consumes data from the SAP Customer Activity Repository. Ensure you have completed the steps as defined in the *Common Master Guide CARAB 2.0* section *Business Scenarios for SAP Customer Activity Repository*.

- Verify you have configured the necessary Customizing settings using transaction code `SPRO`. Navigate to SAP Customizing Implementation Guide ► [Cross-Application Components](#) ► [Demand Data Foundation](#). ►
- Relevant configuration information by product is available in the *SAP Customer Activity Repository Administration Guide* section *Configuration Information*.

3.4.1 Enabling Demand Data Foundation

The SAP Merchandise Planning for Retail application requires master data and time series data for the productive operation. This data is not native to this application, and it is created in other applications, such as SAP ERP (S4/HANA, or third party system).

Note that SAP Customer Activity Repository also receives data replicated from a connected SAP ERP system by using the System Landscape Transformation (SLT) replication. For more information, see the *Common Installation Guide*.

Process

Caution

You must ensure that the following activities have been performed:

- Installation and post-installation steps of the *Common Installation Guide*
- Relevant configuration information in *Configuring Demand Data Foundation (DDF)*.
Note that only the following steps of this business process are relevant for this application:
 - Send master data
 - Receive master data
 - Define sales history

The process to populate master data runs as follows:

1. Send master data (SAP ERP)
SAP ERP prepares and sends the master data through a Data Replication Framework (DRF) (transaction [DRFOUT](#)).

You have the following outbound implementations:

Table 20:

Sequence	Replication Mode	SAP ERP Outbound Implementation	SAP ERP Description	DDF Inbound Interface
1	Initialization	PMCH	Material Group Hierarchy	/DMF/MDIF_PROD_HIER_INBOUND Product Hierarchy
2	Initialization, Change, and Manual	PMAT	Material	/DMF/MDIF_PRODUCT_INBOUND Product
3	Initialization, Change, and Manual	PPLT	Plant	/DMF/MDIF_LOCATION_INBOUND Location
4	Initialization, Change, and Manual	PMPL	Material and Plant	/DMF/MDIF_PROD_LOC_INBOUND Product Location
5	Change	PSPR	Sales Price	/DMF/MDIF_PROD_LOC_INBOUND Product Location
6	Initialization, Change, and Manual	PINV	Inventory	/DMF/OPIF_INVENTORY_INBOUND Inventory
7	Change	PMAP	Moving Average Price	/DMF/MDIF_PROD_LOC_INBOUND Product Location
8	Initialization, Change, and Manual	PSOS	Source of Supply	/DMF/MDIF_LANE_INBOUND Transportation Lane
9	Initialization, Change, and Manual	PVEN	Vendor	/DMF/MDIF_LOCATION_INBOUND Location
10	Initialization	PAHY	Article Hierarchy	/DMF/MDIF_PROD_HIER_INBOUND Product Hierarchy

When carrying out the data replication, the system automatically generates data replication logs, which you can then evaluate. You can access this option under *SAP Easy Access SAP Retail* (transaction **w10t**) under **► Logistics ► Retailing ► Distributed Retailing ► Merchandise Lifecycle Optimization ► Outbound ► Analyze Log for Outbound Implementations (DRFLOG) ►**.

2. Receive master data (DDF)

By default, the DDF staging tables receive the data. You use the *Monitor Imports* function to view the data, transfer the data from the staging tables to the production tables, and to process the received data. For more information about this function, see SAP Help Portal at <http://help.sap.com/car> ▶ <your release> ▶ *Application Help* ▶ *Demand Data Foundation* ▶ *General Services* ▶ *Monitor Imports* ▶. DDF performs validation checks before inserting the data into the production tables.

i Note

You can choose to bypass the staging tables in Customizing under ▶ *Cross-Application Components* ▶ *Demand Data Foundation* ▶ *Basic Settings* ▶ *Integration* ▶ *Define Import Settings* ▶. For more information, see the Customizing activity documentation (transaction **SPRO**).

3. Define sales history (DDF)

This application uses point-of-sale (POS) data from SAP Business Warehouse (SAP BW) or from an external application.

For more information on how to define the sales history, see the *Integrating Historical Demand Data* section in *Introduction to SAP Customer Activity Repository* [page 13].

Result

The system updates the data.

3.4.2 Developing Financial Plan

You use this business process to develop sales and margin plans for the upcoming fiscal years and seasons at various levels of the merchandise, channel, and time hierarchies. A planner creates a company-wide channel financial plan by distribution channel and sales organization for all selling channels to build a sales and margin plan by month and week that is used to seed the merchandise planning and the open to buy processes.

Process

The business process runs as follows:

1. Create channel mix plan
2. Create channel plan
3. Create channel merchandise plan

Result

The system updates the planning information.

3.4.3 Developing Merchandise Plan

You use this business process to develop sales, margin, inventory, and receipt flow for the upcoming fiscal year and seasons at various levels of the merchandise, channel, and time hierarchies. A planner creates a company-wide merchandise plan at all levels of the merchandise (planned product) hierarchy for all selling channels to build a receipt (purchase) budget by month and week that is used for Open-To-Buy (OTB) purposes.

Process

The business process runs as follows:

1. Create merchandise plan summary
2. Create top-down merchandise plan
3. Create middle-out merchandise plan
4. Create bottom-up merchandise plan
5. Perform budget reconciliation

Result

The system updates the planning information.

3.5 SAP Promotion Management for Retail

You use this scenario to plan, create and execute retail promotional events and campaigns. Implement this scenario to improve your overall profitability by:

- Identifying the offers that will be most profitable based on shopper demand
- Reducing the time required to plan and execute a promotional event
- Creating marketing and merchandising offer versions to target specific locations and specific products
- Helping retailers to efficiently manage their advertising dollars by better understanding the expected financial performance of each offer

As the scenario provides all participants in the promotion process with a single, up-to-date set of data points, it enables a comprehensive view and status of all promotional events and promotional offers throughout the retail operation.

This single view promotes collaboration between merchandising, marketing, advertising, inventory replenishment and location operations within a retailer. It ensures that the information is consistent throughout the planning and execution processes between these groups.

From a planning perspective it also reduces the number of tactical tasks each group must perform such as:

- Providing iterative support for the strategic annual (or semi-annual) planning process

- Reducing communications between merchandising and advertising with regards to promotional content
- Ensuring that pricing is consistent from the merchandising group to location operations
- Providing adequate visibility for inventory during promotional events, thus ensuring proper inventory levels during the promotions

3.5.1 Enabling Demand Data Foundation and Creating Demand Forecast

You must enable Demand Data Foundation (DDF) to support consuming applications of SAP Customer Activity Repository and to create a demand forecast with Unified Demand Forecast (UDF). For more information about the DDF and UDF modules in SAP Customer Activity Repository, see SAP Help Portal at <http://help.sap.com/car>

▶ *<your release>* ▶ *Application Help* ▶ *Demand Data Foundation* ▶ and *Unified Demand Forecast*.

The UDF demand forecast can serve as the basis for various cross-industry planning and automation use cases. UDF also provides insights into shopper behavior, enabling retailers to perform predictive analytics.

The demand forecast is generated in two steps:

1. Demand modeling is the process of finding the values for the parameters of a defined statistical model to explain the historical demand. The parameters of this demand model typically describe the effects of demand influencing factors (DIFs). The parameter values can then be used to predict the effects of similar DIF occurrences in the future, a process referred to as demand forecasting.
2. Demand forecasting predicts the demand for a particular product, in a particular location, for a given scenario (for example, promotion, sales channel), for a specific time period in the future. Any aggregation of demand forecasts across products, locations, scenarios, or time is also a demand forecast.

The demand forecast uses the following master data:

- Location
- Location hierarchy
- Product
- Product hierarchy
- Product location combination
- Offer (optional)

The demand forecast uses the following organizational data:

- Sales organization
- Distribution channel
- Order channel

The demand forecast can use the following transaction data (time series):

- Point-of-sale (POS) data from SAP Business Warehouse (SAP BW) or from an external application
- Virtual data model for POS data in SAP Customer Activity Repository
- Virtual data model for sales orders in SAP Customer Activity Repository
- Generic consumption data from an external application

For more information on the different master data objects and time series, see <http://help.sap.com/car> ▶ *<your release>* ▶ *Application Help* ▶ *Demand Data Foundation* ▶ *Data Management* ▶.

Process

This business process runs as follows:

1. Send master data (SAP ERP)
SAP ERP prepares and sends the master data through a Remote Function Call (RFC) by using transaction **DRFOUT**.
You have the following outbound implementations:

Table 21:

Sequence	Replication Mode	SAP ERP Outbound Implementation	SAP ERP Description	DDF Inbound Interface
1	Initialization	PMCH	Material Group Hierarchy	/DMF/ MDIF_PROD_HIER_INBOUND Product Hierarchy
2	Initialization, Change, and Manual	PMAT	Material	/DMF/ MDIF_PRODUCT_INBOUND Product
3	Initialization, Change, and Manual	PPLT	Plant	/DMF/ MDIF_LOCATION_INBOUND Location
4	Initialization, Change, and Manual	PMPL	Material and Plant	/DMF/ MDIF_PROD_LOC_INBOUND Product Location
5	Change	PSPR	Sales Price	/DMF/ MDIF_PROD_LOC_INBOUND Product Location
6	Initialization, Change, and Manual	PCON	Consumption	/DMF/ TS_GENERIC_INBOUND Generic
7	Initialization, Change, and Manual	PCUS	Customer	/DMF/ MDIF_LOCATION_INBOUND Customer

Sequence	Replication Mode	SAP ERP Outbound Implementation	SAP ERP Description	DDF Inbound Interface
8	Initialization, Change, and Manual	PINV	Inventory	/DMF/ OPIF_INVENTORY_INBOUND Inventory
9	Change	PMAP	Moving Average Price	/DMF/ MDIF_PROD_LOC_INBOUND Product Location
10	Initialization, Change, and Manual	PSOS	Source of Supply	/DMF/ MDIF_LANE_INBOUND Transportation Lane
11	Initialization, Change, and Manual	PVEN	Vendor	/DMF/ MDIF_LOCATION_INBOUND Location
12	Initialization, Change, and Manual	POFF	ERP Promotion Transferred as Offer	/DMF/ OPIF_OFFER_INBOUND Offer
13	Initialization	PPHY_CLASS	Plant Hierarchy and Group from Classification System	/DMF/ MDIF_LOC_HIER_INBOUND Location Hierarchy
14	Initialization	PAHY	Article Hierarchy	/DMF/ MDIF_PROD_HIER_INBOUND Product Hierarchy
15	Initialization	PPHY	Plant Hierarchy	/DMF/ MDIF_LOC_HIER_INBOUND Location Hierarchy

For more information about the DDF inbound interfaces, see SAP Help Portal for SAP Customer Activity Repository at <http://help.sap.com/car> > <your release> > *Application Help* > *Demand Data Foundation* > *Integration Information* >.

When replicating the data, the system automatically generates data replication logs, which you can then evaluate. You can access this option via *SAP Easy Access SAP Retail* (transaction **W10T**) under **Logistics** **Retailing** **Distributed Retailing** **Merchandise Lifecycle Optimization** **Outbound** **Analyze Log for Outbound Implementations (DRFLOG)**.

2. Receive master data (DDF)

DDF can receive master data from the following:

- Multiple SAP ERP applications
- Non-SAP applications

By default, the data is stored in the DDF staging tables. From there, you transfer the data to the production tables by using one of the following options:

- The *Monitor Imports* function
You use this function to transfer data from the staging tables to the production tables, review erroneous records, delete erroneous records, and clean up the staging tables. Note that you correct the erroneous records in the source application, and then you send the data again. For more information about this function, see <http://help.sap.com/car> **<your release>** **Application Help** **Demand Data Foundation** **General Services** **Monitor Imports**.
- The *Process Inbound Staging Tables* function
For more information, see <http://help.sap.com/car> **<your release>** **Application Help** **Demand Data Foundation** **General Services** **Monitor Imports** **Process Inbound Staging Tables**.
- The `/DMF/PROCESS_STAGING_TABLES` program
For more information, see the accompanying system documentation (transaction **SE38**).

i Note

You can choose to bypass the staging tables in Customizing under **Cross-Application Components** **Demand Data Foundation** **Basic Settings** **Integration** **Define Import Settings**. For more information, see the Customizing activity documentation (transaction **SPRO**).

DDF performs validation checks before inserting the data into the production tables.

For more information about how the data from external applications is processed, see <http://help.sap.com/car> **<your release>** **Application Help** **Demand Data Foundation** **Integration Information**.

3. Define sales history (DDF)

For more information on how to define the sales history, see the *Integrating Historical Demand Data* section in [Introduction to SAP Customer Activity Repository \[page 13\]](#).

4. Provide SAP Planning for Retail information (SAP BW)

This step is optional. It is currently used only by SAP Assortment Planning for Retail to compare the planned assortment figures to the open-to-buy (OTB).

For more information about the standard SAP BW InfoProvider, see SAP Help Portal at <http://help.sap.com/bicotent> **<your release>** **SAP Library** **BI Content** **Industry Solutions** **Trading Industries** **Retail Trade** **Merchandise and Assortment Planning** **Retail Planning** **MultiProvider** **Merchandise Retail Plan**.

5. Receive SAP Planning for Retail information (DDF)

This step is optional. It is currently used only by SAP Assortment Planning for Retail to compare the planned assortment figures to the open-to-buy (OTB).

Run report /DMF/BI_IF_MERCH_PLAN (transaction **SE38**) to receive the SAP Planning for Retail information from SAP Business Warehouse (SAP BW) to DDF. You can run this report as a scheduled background job (transaction **SM36**).

i Note

- Provide the required settings in the Customizing activities *Define SAP BW Application for Merchandise Planning* and *Define Field Mapping for Merchandise Planning* under **► Cross-Application Components ► Assortment Planning for Retail ► Imported Demand Data Foundation Settings ► Integration ►**. Alternatively, provide a custom implementation for the *BAdI: Read Merchandise Planning* Business Add-In.
- If you use the standard settings in the *Define Field Mapping for Merchandise Planning* Customizing activity, that is, you are importing the OTB from the 0RP_MP12 MultiProvider, you must specify **MMF** (*Finalized Merchandise Version*) in the *Merchandise Plan Version* field of the report.

6. Schedule demand model (UDF)

You can schedule the system to create the demand model with the following options:

- Model by hierarchy
With this option, you can select a node to include all products and locations assigned to that hierarchy branch.
- Model by product location
With this option, you can specify a list of one or more products and one or more locations.

For more information, see <http://help.sap.com/car> **► <your release> ► Application Help ► Unified Demand Forecast ► General Services ► Schedule Model and Forecast ►**.

7. Schedule demand forecast (UDF)

You can schedule the system to create the demand forecast with the following options:

- Forecast by hierarchy
With this option, you can select a node to include all products and locations assigned to that hierarchy branch.
- Forecast by product location
With this option, you can specify a list of one or more products and one or more locations.

For more information, see <http://help.sap.com/car> **► <your release> ► Application Help ► Unified Demand Forecast ► General Services ► Schedule Model and Forecast ►**.

Result

The system generates the demand forecast, which is then saved in the database.

More Information

For more information on how this business process is used by the consuming applications of SAP Customer Activity Repository, see the following scenarios in this guide:

- [SAP Allocation Management for Retail \[page 46\]](#)

- [SAP Assortment Planning for Retail \[page 56\]](#)
- [SAP Merchandise Planning for Retail \[page 72\]](#)
- [SAP Promotion Management for Retail \[page 75\]](#)

3.5.2 System Preparation

You use this business process to prepare your SAP Promotion Management for Retail system as well as your peripheral systems to carry out this business scenario.

SAP Promotion Management for Retail requires master data in order to carry out its intended purpose. This master data is obtained from one or more external systems such as SAP ERP, but any other external system can be interfaced. SAP POS sales data must also be interfaced to SAP Promotion Management for Retail so that scientific-based demand modeling can take place and to produce offer forecasts. Finally, there are SAP Promotion Management for Retail specific configuration settings which need to be maintained in order to enable full functionality in SAP Promotion Management for Retail.

Process

1. System receives POS data from SAP Customer Activity Repository (optional)
SAP Promotion Management for Retail receives aggregated transaction log sales history from SAP Customer Activity Repository
This step is only required if using forecasting. It can only take place after master data has been successfully replicated and received.
2. System replicates low resolution image data (optional)
Images are sequentially loaded into SAP Promotion Management for Retail after master data has been successfully replicated and received.

i Note

There is no native interface for replicating low resolution image data in SAP ERP.

This step is only required if using product images in SAP Promotion Management for Retail.

3. System receives low resolution image data (optional)
An enterprise SOA service loads images into SAP Promotion Management for Retail. When images are imported, they go into staging tables visible in the *Monitor Imports* function. From there, the data is processed into the SAP Promotion Management for Retail tables.
This step is only required if using product images in SAP Promotion Management for Retail.
4. Maintain offer priorities (optional)
Maintain the offer priority for event planning and offer modelling. This priority is assigned at the block level of an area template and is used to identify the value of the block within the area.
5. Maintain SAP ERP promotion types
Maintain settings for the SAP ERP system and the valid promotion types associated with it. The promotion types can then be assigned to offers and events. Only offers that have valid SAP ERP promotion types assigned to them can be transferred from SAP Promotion Management for Retail.
6. Maintain margin and price allocation for vendor funds (optional)

Maintain the default price percentage and margin percentage allocated for each type of vendor fund. These percentages must equal 100% for each vendor fund. When a fund is associated with offers, the fund impact per product is divided into price and margin. It is possible to override the default allocation at the time of associating a vendor fund with an offer.

This step is only required if using vendor funds in SAP Promotion Management for Retail.

7. Maintain placeholder product settings (optional)

Maintain settings and controls for the use of placeholder products (PHPs) in SAP Promotion Management for Retail and the transfer of Placeholder Product data to the SAP ERP system.

This step is only required if using placeholder products in SAP Promotion Management for Retail.

8. Maintain shopper card settings (optional)

Maintain the shopper card types that are used in SAP Promotion Management for Retail that correspond to the customer types in the SAP ERP system. You can also create shopper card types that do not exist in SAP ERP but integration between SAP Promotion Management for Retail, SAP POS and the SAP ERP system cannot be guaranteed.

This step is only required if using shopper cards in SAP Promotion Management for Retail

9. Maintain content template types and categories

Maintain and organize content templates, content template types and content template categories. The content template category simply provides a way to categorize the content template types. Both the content template type and the content template category facilitate the search and selection of a content template to a block template's box.

Results

At the conclusion of this business process:

- All attributes and images (optionally) will be available in SAP Promotion Management for Retail
- All POS history required for modelling purposes will be available in SAP Promotion Management for Retail
- All relevant configuration settings for an SAP ERP system will be linked to SAP Promotion Management for Retail
- All mandatory SAP Promotion Management for Retail settings will be made
- Shopper cards, vendor funds, incentives and placeholder products will be available for use in SAP Promotion Management for Retail

3.5.3 Data Preparation

You use this business process to set up job scheduling for various activities and to create and configure additional components in SAP Promotion Management for Retail.

Process

1. Define area of responsibility

Define the area of responsibility by assigning one or more merchandise (or article) hierarchy nodes to users. This assignment will personalize the data presented during promotional activities in SAP Promotion Management for Retail.

2. Maintain templates

Create and configure area, block and content templates for use in SAP Promotion Management for Retail.

3. Schedule jobs for exporting

Create jobs designed to transfer:

- Master data from SAP Promotion Management for Retail. to SAP ERP
- Event and offer information from SAP Promotion Management for Retail to SAP BI
- Layout information and instructions from SAP Promotion Management for Retail to an external desktop publishing system

4. Assign attributes to products (optional)

Assign previously-configured attribute types and attribute values to products. This is typically used to associate product text and images to an offer.

This step is only required if using attributes in SAP Promotion Management for Retail.

5. Maintain placeholder products (optional)

Create and maintain placeholder products that function as temporary products in SAP Promotion Management for Retail for products that do not yet exist in the master data system. When the placeholder products are replicated in the master data system (such as SAP ERP), the new fully maintained real master data will be created. Once transferred to SAP Promotion Management for Retail, the new products will automatically replace the placeholder products and all their assignments.

This step is only required if using placeholder products in SAP Promotion Management for Retail.

6. Maintain location hierarchies

Create and maintain location hierarchies that group together individual locations that already exist in the master data system. Retail events use location hierarchies to determine primary and secondary market versions.

Results

At the conclusion of this business process:

- All of the required administrative settings and job scheduling will be available in SAP Promotion Management for Retail.
- All of the required data management components will be available in SAP Promotion Management for Retail.

3.5.4 Promotion Planning

You use this business process to plan promotional activities and to create vendor funds in SAP Promotion Management for Retail.

Process

1. Maintain campaigns (optional)
Create and maintain promotional campaigns to which you assign one or more retail events.
This step is only required if using campaigns in SAP Promotion Management for Retail.
2. Maintain event query settings
Create and standardize user interface settings and queries related to event planning in order to personalize the screen layout and pre-filter the data retrieved by active queries.
3. Maintain events
Create and maintain retail events that function to promote products to consumers. Events can be planned in advance on a yearly basis, seasonal basis, or manually at any time.
4. Assign market versions to events
Assign a single location hierarchy to an event to establish the primary market version. You can optionally assign additional hierarchy nodes to create secondary market versions in which deviations from event planning (such as the language used in the event) can be created and monitored.
5. Maintain event partitions
Create and maintain partitions that establish the structure or layout of an event. You assign areas and the number of desired positions to your event. Traditional partitions are mapped directly to merchandise or article hierarchy categories, whereas open partitions are freely definable and not mapped to any product category in particular.
You also define financial and layout-related goals to an event.
6. Assign areas to partitions by market version
Assign one or more defined partitions with assigned areas to each market version.
7. Assign templates
Rename areas to correspond with the intended product category promoted in each area, then assign area templates to each of the areas.
8. Assign partitions to blocks
Assign categories to each area in your primary and secondary market versions and assign partition names to available blocks.
9. Maintain vendor funds (optional)
Create and maintain vendor funds that function to provide retailers with additional financial incentives to promote the products of vendors.
Vendor funds must have a status of Recommended before they can be used in SAP Promotion Management for Retail. Vendor funds cannot be modified once they are assigned to an offer.
This step is only required if using vendor funds in SAP Promotion Management for Retail.

Results

At the conclusion of this business process:

- Campaigns and events will be available in SAP Promotion Management for Retail
- Event query settings and personalization will be available
- Market versions will be assigned to events
- Events will be structured into partitions
- Templates will be assigned to events
- Vendor funds will be available in SAP Promotion Management for Retail

3.5.5 Offer Scheduling

You use this business process to:

- Create and forecast offers that can achieve the sales goals for your retail event
- Assign vendor funds to offers and calculate their impact on overall financials
- Review all financials associated with events and their associated offers

Process

1. Maintain offer schedule settings
Create and standardize user interface personalization settings and queries for offer scheduling.
2. Maintain product group settings
Create and standardize user interface personalization settings and queries related to product groups.
3. Maintain product groups
Create and maintain products groups, then assign attributes to products and product groups.
4. Maintain offer headers
Create and maintain offer header information, including the offer name, time period associated with the offer, location group, tactic type and tactic. When the location group is assigned in the header, it automatically becomes the primary market for the offer.
5. Maintain offer version settings
Maintain personalization settings on the offer version tab within the offer.
6. Create offer terms
Create and maintain the offer terms that dictate the products, placeholder products, product groups, discount type, discount value and user projection. Additional offer versions can be created by adding or excluding locations from specific product group offerings. You can also review the financial expectations of the offer at all levels.
7. System models and forecasts offers (optional)
confidence indices and forecast decompositions based on POS data from SAP Customer Activity Repository. Forecasts can be continually updated as desired. If you do not want to use forecasting in SAP Promotion Management for Retail, manual projections can be entered instead.
This step is only required if using forecasting in SAP Promotion Management for Retail.
8. Review financial forecasts
Review system-generated forecasts, as well as the forecast confidence index and the decomposition of how the forecast was derived.
9. Update offer status
Once complete, set the offer status to *Recommended*.
10. Assign block templates
Assign block templates to offers. The templates assigns actual values to attributes, such as display images and selling descriptions.
11. Apportion values and percentages to offers
Modify apportionment discount values and/or apportionment percentage values for each product
12. Assign offers to events
Offers with a *Recommended* status can be assigned to areas within an event. Once complete, set the offer status to *Recommended*.
13. Preview events

Display all accepted offers by area.

14. Review event financials

View multiple events by date range, comparing planned and forecasted values between events and partitions.

15. Edit events (optional)

Edit events and partitions, reassign offers and update financials

Result

At the conclusion of this business process:

- All required user settings and master data for offers will be available in SAP Promotion Management for Retail
- Offers will have products, locations, templates and (optionally) vendor funds
- Offers will have forecasts and be available for financial review
- Accepted offers will be assigned to events
- Events can be previewed by area
- Event financials and layout assignments can be reviewed
- Events can be edited and offers can be reassigned after having been reviewed

3.5.6 Data Transfer

You use this business process to transfer finalized events and offers for follow on processing in SAP ERP, SAP BI, and in desktop publishing.

Process

1. Transfer offers and events to SAP ERP

Offers possessing valid SAP ERP promotion types can be transferred; an associated promotion is created in SAP ERP and the appropriate pricing conditions for the products and locations in the promotion are sent from SAP ERP to SAP POS.

Offers not possessing valid SAP ERP promotion types will not be transferred; messaging is sent after the transfer indicating whether or not the transfer was successful.

2. Receive offers and events from SAP ERP

3. Receive pricing conditions from SAP ERP

4. Transfer offers and events to desktop publishing

5. Receive offers and events from SAP ERP

6. Transfer offers and events to SAP BI

Details regarding finalized and executed promotional offers are sent to SAP BI in order to for the system to continuously provide SAP Promotion Management for Retail with the most accurate forecasting possible.

7. Receive offers and events from SAP ERP

8. Receive POS sales data from POS system

9. Receive POS sales data from SAP Customer Activity Repository

Result

At the conclusion of this business process:

- Finalized offers and events are sent to SAP ERP
- Promotions are created in SAP ERP
- Pricing conditions are generated and sent to SAP POS
- Versioned content from offers and events is exported to desktop publishing for creation of appropriate advertising versions
- Finalized offers and events are sent to SAP BI for analysis
- POS sales data is sent to SAP BI for analytics
- POS sales data is sent from SAP Customer Activity Repository to SAP Promotion Management for Retail for modeling purposes

4 Solution-Wide Topics

4.1 Service-Oriented Architecture (SOA)

SAP's delivery on SOA (service-oriented architecture) differs from the pure architectural concept of SOA in the delivery of ready-to-use enterprise services. Enterprise services are SAP-defined Web services which provide end-to-end business processes or individual business process steps that can be used to compose business scenarios while ensuring business integrity and ease of reuse. SAP designs and implements enterprise service interfaces to ensure semantic harmonization and business relevance. This section deals with the service-enablement of SAP Customer Activity Repository.

Service Enablement

The service enablement of SAP Customer Activity Repository consists of one or more of the following SAP components:

- SAP Customer Activity Repository
Enterprise services are a part of the software components of the SAP Customer Activity Repository application. Enterprise services are the technical interfaces to the functionality available in the business application. These enterprise services also cover Demand Data Foundation (DDF) interfaces.
- SAP NetWeaver PI 7.0 or higher
SAP NetWeaver Process Integration (SAP NetWeaver PI) is an open integration and application platform that provides tools enabling you to set up a service-oriented architecture for business applications. You can use the platform for providing, discovering, and consuming services, integrating applications using the integration server, and managing business processes. Process integration is required in a runtime environment to consume enterprise services in a mediated scenario.
We recommend that you use the highest version of SAP NetWeaver Process Integration (PI). For more information, see SAP Note [1515223](#) and SAP Note [1388258](#).

i Note

Starting with SAP NetWeaver Process Integration (PI) 7.3, SAP provides a new installation option: Advanced Adapter Engine Extended (AEX). Since AEX is based on AS Java alone, it is easier to install, maintain, and it needs less memory and data storage. AEX is a cost-saving option compared to a full installation of SAP NetWeaver PI. For more information about the AEX, enter the phrase Advanced Adapter Engine Extended in the documentation of SAP NetWeaver Process Integration under <http://help.sap.com/nw73> and see SAP Note [1573180](#).

i Note

Asynchronous services that are enabled for Web Services Reliable Messaging (WS-RM) can be called in a point-to-point communication scenario. Otherwise asynchronous services can only be consumed in a mediated scenario.

- **Enterprise Services Repository**
The Enterprise Services Repository (ES Repository) is the central repository that contains the definition of all enterprise services and models. The ES Repository is shipped with SAP NetWeaver PI and with SAP NetWeaver Composition Environment (CE) starting with SAP NetWeaver PI 7.1 and with SAP NetWeaver CE 7.1. The Enterprise Services Repository is a design time environment that enables you to create and enhance enterprise service definitions.

i Note

In a SAP NetWeaver 7.0x landscape you use the Integration Repository to create and enhance enterprise service definitions.

- **Services Registry**
The Services Registry is shipped with SAP NetWeaver PI and SAP NetWeaver CE starting with SAP NetWeaver PI 7.1 and SAP NetWeaver CE 7.1. The Service Registry is only required for the publication of enterprise service end-points (Web services) that have been configured and activated in the SAP Customer Activity Repository.
- **SAP NetWeaver CE 7.1 or higher**
The SAP NetWeaver Composition Environment (SAP NetWeaver CE) provides a robust environment for the design and implementation of composite applications.
The design time environment of SAP NetWeaver CE can be used for the model-driven design and development of composite applications based on enterprise services. SAP NetWeaver CE offers the tools and the environment necessary for running composite applications quickly and efficiently in a runtime environment.

Installation of the SOA

The installation of service interfaces, and therefore the service enablement of SAP Customer Activity Repository, consists of one or more of the following phases:

- **Identification of software components and required business functions**
You use the technical data section of the enterprise service documentation to identify the following data for each enterprise service:
 - the software component version with which the service was shipped (use transaction `SOAMANAGER` in your SAP Customer Activity Repository system)
 - the business function(s) required to be activated
- **Import of ESR Content (also known as XI Content) (optional)**

Related Documentation

For more information about the service-oriented architecture (SOA), see the following information sources:

- SCN Community in the SAP Network at <http://scn.sap.com/community/soa> (registration required)
- SAP Note [838402](#): Problems with non-Unicode system landscapes

-
- SAP Help Portal for SAP Customer Activity Repository at <http://help.sap.com/car> > <your release> >
[Application Help](#) > [Additional Content](#) > [Enterprise Services](#) >

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A background image of dandelion seeds floating in the air against a light blue sky. The seeds are in various stages of dispersal, with some showing their dark, oval-shaped seed heads and others showing their white, feathery parachutes. The overall scene is peaceful and airy.

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