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Prepackaged Integration with SAP ERP

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1 Scope and Methodology

This document describes how to integrate SAP Cloud for Customer with an existing on-premise SAP ERP system using either SAP Cloud Integration or SAP Process Integration.

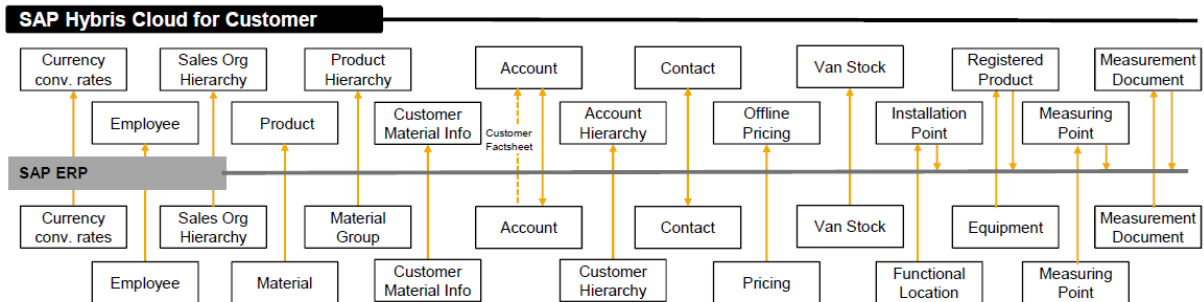
1.1 Integration Scope

This section describes the scope of the integration between SAP Cloud for Customer and SAP ERP. The below figures depicts the integrated functional scenarios at a high-level.

Master Data View

SAP Hybris Cloud for Customer Integration with SAP ERP

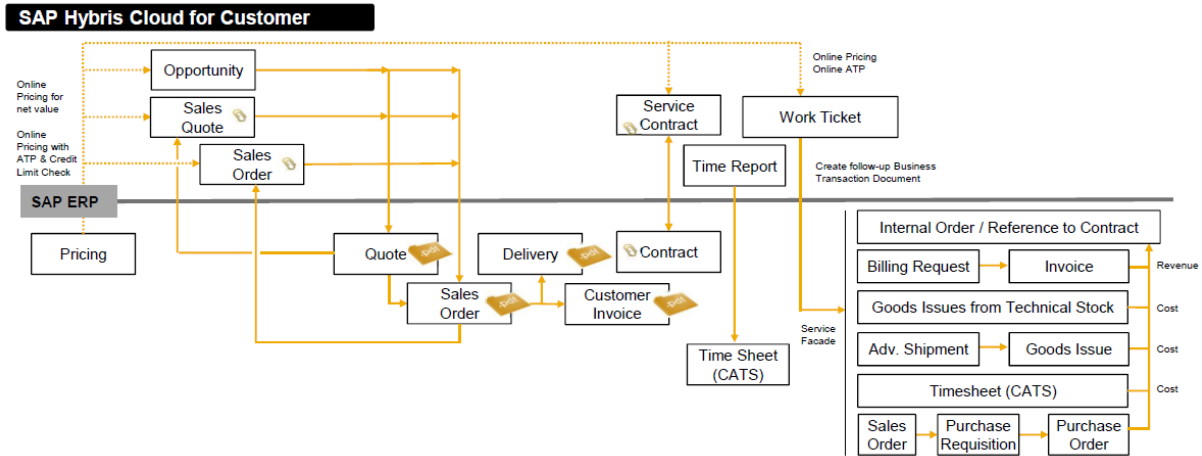
Master Data View



Transactional Scenario View

SAP Hybris Cloud for Customer Integration with SAP ERP

Transactional Scenario View



1.2 Methodology

When you configure your SAP Cloud solution with SAP ERP, you must observe dependencies that arise among the activities in different systems. We therefore recommend that you perform the activities in this guide in the sequence in which they are documented. Pay special attention to the prerequisites, if mentioned, at the beginning of each section. Activities that you must perform in:

- SAP ERP system are identified by the prefix **ERP**
- SAP Cloud for Customer are identified by the prefix **Cloud Solution**

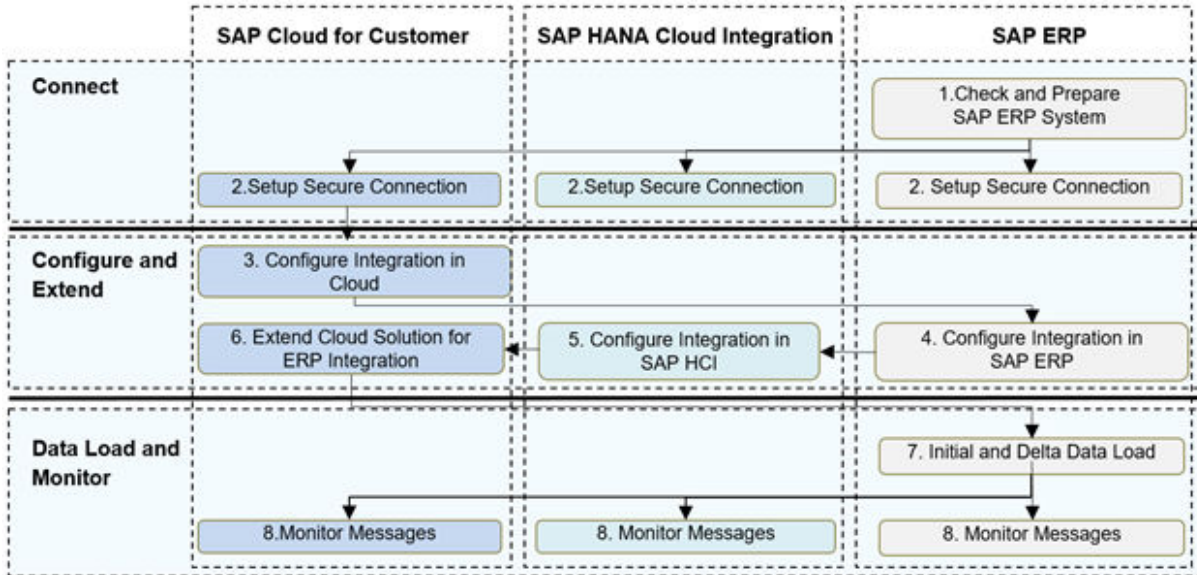
Target Audience

Typically, several functional and configuration experts are involved in the integration process. The following table outlines the roles and responsibilities during a standard integration. Additional role of an SAP ERP Developer may be required, if additional BADI's or any custom work becomes necessary.

Role	Activity
SAP ERP Consultant	Configuration activities in Sales and Distribution area of the SAP ERP system
SAP Cloud Integration	Configuration activities in the SAP Cloud Integration
Cloud Administrator	Configuration activities in SAP Cloud for Customer Will need functional expert participation for code-list mapping.
System Administrator	<ul style="list-style-type: none"> • Establishing a secure network connection between the SAP ERP system and SAP Cloud for Customer systems • Installing software components

Integration Guide Map

This integration guide map is an overview of the steps necessary for an end-to-end integration between SAP ERP and SAP Cloud for Customer. It acts as a checklist outlining various activities to be performed in each of the systems in a given phase.



2 Prepare Your Tenant

The SAP ERP and SAP CRM test systems are usually refreshed based on the corresponding productive system at regular intervals. Similarly, you may want to periodically refresh your SAP Cloud for Customer test tenant based on the productive tenant. This helps in keeping the tenants in sync with their backend source systems.

The default expectation is that the integration between the SAP Cloud for Customer and the on-premise systems work with minimal effort. However, if you face any challenges, follow the next sections.

2.1 Basic Preparation

Do the following:

1. Ensure that your test and production tenants are on same patch level before initiating the tenant copy.
2. Clear up or cancel any error or queued messages.
3. To maximize data parity between the two systems, we recommended that there is as little time gap between the distribution of new SAP Cloud for Customer tenant and the new on premise (CRM/ERP) test tenant. Data discrepancy due to timing issues of the two test systems, may prevent subsequent master and transactional data from replicating successfully.

2.2 Request an SAP Cloud for Customer Tenant

In the [▶ Service Control Center ▶ Systems ▶](#) view, you can request to create a new tenant. For example, you can request the following:

- A new productive tenant from a test tenant.
Typically, applicable for new customer who starts with a test system, and then request for a productive system. In this case, master data, configuration and flexibility data is copied from the source system [**Test Tenant**] to the target system [**Production Tenant**]. No transactional data is copied.

Create New System

DATA SOURCE FOR NEW SYSTEM

*System Type: Productive System

*Data Source: Copy of Source System (Copy Solution Profile)

*Data Source System ID: Copy of Source System

*Solution Profile Source System ID: Copy of Source System (Copy Solution Profile)

*Source Solution Profile ID: Initial System

Initial System (Copy Solution Profile)

DOWNTIME OF SOURCE SYSTEM

*Downtime Not Before: 14.04.2015 09:26 UTC+3

OK Cancel

- A new test tenant from a test/production tenant.
This is often done to refresh and have most up-to-date data into the test system for training or test purposes. This is a complete copy of the source system [**Test/Production**] to the target Test Tenant. Transactional data is also copied from the source to the target tenant.

Create New System

DATA SOURCE FOR NEW SYSTEM

*System Type: Test System

*Data Source: Copy of Source System (Copy Solution Profile)

*Data Source System ID: Copy of Source System

*Solution Profile Source System ID: Copy of Source System (Copy Solution Profile)

*Source Solution Profile ID: Initial System

Initial System (Copy Solution Profile)

DOWNTIME OF SOURCE SYSTEM

*Downtime Not Before: 14.04.2015 09:26 UTC+3

OK Cancel

2.3 Activities in the New SAP Cloud for Customer Tenant

Do the following:

1. Adjust the communication system and communication arrangements, so that they point to the right on-premise system.

If the tenant was copied from a productive tenant:

- All the communication systems and communication arrangements are copied
- All the outbound services are set as **inactive** - this prevents accidental update of productive backend system data with the new test tenant

If the tenant was copied from a test tenant:

- All the communication systems and communication arrangements are copied
- All the outbound services are set as **active**

COMMUNICATION ARRANGEMENT: BUSINESS PARTNER REPLICATION TO SAP ERP

Status: **Active** Communication Method: **Direct Connection**

Save and Reactivate Save as Draft Close Preview Edit Basic Settings Check Completeness

BUSINESS DATA **TECHNICAL DATA**

Outbound

Check Service Check Connection Download WSDL

Enabled	Use B...	Service	Application Protocol	Service URL
<input checked="" type="checkbox"/>	Yes	Replicate Business Partner to SAP ERP	Format Conversion	https://dummy.gallagher.co:40043/CCP/BusinessPartnerERPReplicationOut?sap-client=402
<input type="checkbox"/>	Yes	Replicate Business Partner Address to SAP ERP	Format Conversion	https://dummy.gallagher.co:40043/CCP/BusinessPartnerERPAddressReplicationOut?sap-client=4...
<input type="checkbox"/>	Yes	Replicate Business Partner Contact Address to SAP ERP	Format Conversion	https://dummy.gallagher.co:40043/CCP/BusinessPartnerERPContactAddressReplicationOut?sap...

DETAILS: REPLICATE BUSINESS PARTNER TO SAP ERP

Use Basic Settings:

Application Protocol: Format Conversion

Protocol: Hypertext Transfer Protocol Secure (https)

Host Name: dummy.gallagher.co

Port: 40043

Path: /CCP/BusinessPartnerERPReplicationOut?sap-client=40

Service URL: https://dummy.gallagher.co:40043/CCP/BusinessPartnerERPReplicationOut?sap-client=402

Authentication Method: User ID and Password

User ID: ZPIAPPLSXP Edit Credentials

Note

New communication system and communication arrangement are created in the copied tenant. The system does not edit any existing communication system and communication arrangement.

2. Adjust the integration content for new tenant:

1. Go to the *Administrator* work center.
2. Under *Integration*, click *Adapt Integration content for new tenant*.
3. In the window, click *New Adaptation*.

ADAPT INTEGRATION CONTENT FOR NEW TENANT

* Old System:

* New System:

Test Mode:

Execute and Close | Close

4. Enter the following:

- System instance ID from which this tenant was copied.

- New communication system instance ID created in the copied tenant.
5. Click *Execute and Close*
- The BTD references and ID mapping will be adjusted. You can check the status in the application log.

2.4 Activities in the On-Premise Suite System

On the system that is to be integrated with the new SAP Cloud for Customer tenant, do the following:

1. Refresh the on-premise test system from the corresponding production system
2. Create a logical system for the SAP Cloud for Customer tenant using BD54.
3. Run BDLS to update the old logical system with the new logical system. BDLS copies the partner profile from the old logical system to the new logical system.
4. Adjust the RFC destinations and SOAMANAGER endpoints.
5. If the on-premise system is SAP CRM, then adjust the SITE additionally.
 1. Go to T-code SMOEAC and change the site name.

Administration Console: Display Site

Object Type: Site

Object Name: OLO7ESN

Object Information: Site

Name	OLO7ESN
Description	CRM Integration with OnDemand_QXL/...
Type	External Interface for IDOCs
Dependent Site of	

Site Attributes

Last Changed by: WALMSLEYP

Last Changed on: 24.02.2014 At 10:34:19

Dependent Information

Subscriptions Employees Organizations

2. Change the site attributes. EDI partner number should be the logical system created for the refreshed Cloud tenant.

Administration Console: Display Site

Object Type: Site

Object Name: OLO7ESN

Object Information: Site

Name	OLO7ESN
Description	CRM Integration with OnDemand_QXL/...
Type	External Interface for IDOCs
Dependent Site of	

Site Attributes

Last Changed by: WALMSLEYP

Last Changed on: 24.02.2014 At 10:34:19

Dependent Information

Subscriptions Employees Organizations

- Adjust the DBTABLES that store the tenant ID. BUTOID (BP: ID Numbers) DBTABLE stores the tenant ID as a part of ID number. Since the IDNUMBER column is not of domain LOGSYS or EDI_PARNUM, this table is not automatically adjusted by BDLS.

Data Browser: Table BUTOID Select Entries 4

Check Table...

Table: BUTOID
 Displayed Fields: 12 of 12 Fixed Columns: [4] List Width 0250

CLIENT	PARTNER	TYPE	IDNUMBER	INSTITUTE
400	0000863787	CRMPCD	0AB6KEE#863787	
400	0000863787	CRMPCD	0LO7ER0#863787	
400	0000863787	CRMPCD	0LO7FQ1#863787	
400	0000863787	CRMPCD	0M10T06#863787	

Therefore, a special routine is executed with BDLS which replaces all the entries in the BUTOID table where IDNUMBER contains the old tenant ID, with new tenant ID (logical system).

Table BDLSEXT Display

OBJKEY [CRMPCD]

OBJCLS [X]

PROGRA... [CRMPCD_PROCESS_TABLE_BUTOID]

SUBROUTI... [BUTOID_ADJUST_IDNUMBER]

2.5 Settings in PI

Do the following:

- Update all receiver communication channels that send data to SAP Cloud for Customer, with the new tenant host name.
- Update the authentication information.

Connection Parameters

Target URL

Configure User Authentication

User

Password

Configure Certificate Authentication

Configure Proxy

Host

Port

- Update the value mappings as shown in the following image to include the new cloud solution tenant ID.

Display Value Mapping Group Status Active

Group ID

Description

Group Name

Agency	Scheme	Value
CRM_SenderPort	SenderPort	SAPCOD
COD_SenderParty	SenderParty	0M10DJQ
COD_SenderParty	SenderParty	0M10LCT

- Adapt the adapter-specific identifiers with the new logical system name in the IDOC receiver adapter if required.

Display Communication Component

Communication Component

Party

Description

Display Adapter-Specific Identifiers

IDoc Adapter

Logical System

IDoc Adapter and RFC Adapter

R/3 System ID

Client

Marketplace Adapter

DDID

2.6 Settings in CPI

In CPI , do the following:

1. Change all the endpoint URLs in externalized parameters for both the cloud solution URL and ERP /CRM host and authentication information.
2. Assign the cloud solution tenant certificate to all the integration flow artifacts, where SAP Cloud for Customer is the sender for certificate based authentication from the cloud solution to CPI .

2.7 Decommission the Existing Test Tenant


Complete the procedure by decommissioning the existing test tenant.

3 Set Up Integration



Learn about the integration scenario and set up the integration based on middleware.

Integration Scenario

Integration of SAP Cloud for Customer with SAP ERP using SAP Middleware is to exchange both master data and transactional data. Most of the communication is bidirectional, and automated replication that is mediated by the SAP Middleware system is particularly for mapping purposes. You can find detailed information about what master data and transaction data is replicated between the two systems.

For a detailed presentation on the scenarios supported with the SAP ERP and SAP Cloud for Customer prepackaged integration, see the [SAP Cloud for Customer Integration with SAP On-Premise: ERP, CRM, BW](#)  blog on SAP Community Network (SCN).

Summary of Useful Links for Reference

Useful Information	When to read it
SCN Blog - SAP Cloud for Customer Integration with SAP ERP and CRM: How-to Guides and E-Learning 	Bookmark this blog. It is a compilation of all SAP Cloud for Customer integration collateral - presentations, demos, you-tube videos, and how-to guides.
How-to guide (HTG) within the SAP Best Practice for Cloud for Customer integration 	The how-to guide gives you instructions similar to those available in this integration guide for select scenarios. Read it if you are new to the integration topic, and want to view illustrations of the configuration activities.

Set up your integration based on your middleware.

[SAP Cloud Integration \[page 15\]](#)

Learn how to set up integration for SAP Cloud Integration

[SAP Process Integration \(PI\) \[page 43\]](#)

Learn how to set up integration for SAP Process Integration.

3.1 SAP Cloud Integration

Learn how to set up integration for SAP Cloud Integration

[Check and Prepare SAP ERP System \[page 16\]](#)

[Set Up Secure Connection between ERP-Cloud Platform Integration-Cloud Systems \[page 19\]](#)

This chapter covers the requirements for configuring secure connection between SAP Cloud for Customer and SAP On-Premise. In addition to the information in this chapter, you can refer to the Technical Connectivity guide ([▶ SAP Help Portal ▶ Cloud for Customer ▶ Integration ▶ Technical Connectivity Guide ▶](#)) for generic connectivity issues.

[Configure Integration in SAP Cloud for Customer \[page 21\]](#)

[Configure Integration in SAP ERP \[page 32\]](#)

[Configure Integration in SAP Cloud Integration \[page 39\]](#)

[Monitor Message Flow Across Systems \[page 42\]](#)

3.1.1 Check and Prepare SAP ERP System

Prerequisites

Your enterprise operates on SAP ECC 6.0 EHP 0 or a higher release. To check the ERP release, go to [▶ System ▶ Status ▶](#). Under SAP System Data, check the component version. The minimum support package levels for the software component SAP APPL needed for SAP Cloud for Customer Integration are as follows.

SAP APPL 6.00	(At least SAPKH60015)
SAP APPL 6.02	(At least SAPKH60206)
SAP APPL 6.03	(At least SAPKH60305)
SAP APPL 6.04	(At least SAPKH60405)
SAP APPL 6.05	(At least SAPKH60503)
SAP APPL 6.06	(At least SAPKH60601)
SAP APPL 6.16	(At least SAPKH61601)
SAP APPL 6.17	(At least SAPKH61701)
SAP APPL 6.18	(At least SAPK-61801INSAPAPPL)

In case you need to upgrade your system, we recommend installing the latest support package.

Prerequisites for selected features

Feature	Prerequisites
PDF version of ERP customer fact sheet	<ul style="list-style-type: none">• SAP_APPL 602• Activation of Business Function SD_01• Configuration of Adobe Document Server

Feature	Prerequisites
External pricing from sales quote, sales order, service ticket and contract	<ul style="list-style-type: none"> • SAP Note 1984312 • SAP Note 2220998
Query of ERP sales order details	SAP_APPL 602
Query of ERP sales quote details	SAP_APPL 603
Print preview of ERP sales document details	<ul style="list-style-type: none"> • SAP_APPL 604 • SAPScript or Adobe Print Forms (Smartforms are not supported) • Activation of Business Function LOG_SD_SIMP_02 • Activation of Business Function SD_01
Print preview of ERP delivery or billing document details	<ul style="list-style-type: none"> • Adobe Print Forms <ul style="list-style-type: none"> ◦ SAP_APPL 602 ◦ Activation of Business Function SD_01 • SAPScript Forms <ul style="list-style-type: none"> ◦ SAP_APPL 604 ◦ Activation of Business Function SD_01 ◦ Activation of Business Function LOG_SD_SIMP_02 • Smartforms are not supported
Exchange rates for currencies	Installation of Add-On ECC-SE. See SAP Note http://service.sap.com/sap/support/notes/1162517

3.1.1.1 SAP ERP Software Components

Purpose

SAP Cloud for Customer (Cloud) provides an add-on for SAP ECC that mainly contains the following:

- Missing interfaces for the Cloud for Customer-ERP integration,
- Convenience functionality to simplify the setup of the integration.

The add-on does not modify any core ERP coding, and hence is modification-free.

Each Cloud release comes with a new support package of the ECC add-on that may contain additional functionality to enable new integration scenarios. An upgrade to a newer version of the add-on is only required if you plan to enable one of these new integration scenarios after the Cloud upgrade.

Install the latest available SP in one of the following cases:

- The add-on is not yet installed in your SAP ECC system, or
- If an upgrade is required in order to use new features available in the latest Service Pack.
In other words, if you already have the add-ons installed, and do not need to upgrade, you may skip this chapter.

Procedure

1. Go to SAP ONE Support Launchpad (Launchpad.<https://support.sap.com>)
2. Click on [Software Downloads](#).
3. Search for `COD_ERP_INT 6.00`.
4. Choose the entry marked for [Installation Software Component](#).
5. If you install the add-on for the first time, click on [Installation](#) and install the package.
6. On the `COD_ERP_INT 6.00` page, click on [Support Packages and Patches](#).
7. Select the required packages and click on [Download Basket](#). If you are upgrading from an SP, download the next available SP and above. For example, if you are upgrading from SP2, then download SP3 and above.
8. Select the items you want to download and click on [Download Manager](#).
9. Install the add-on in your ECC system, and upgrade to the latest support package.

3.1.1.2 Important SAP Notes for ERP Core Component

The SAP Note [2293774](#) lists important notes for the ERP core component that are required to make the integration between SAP Cloud for Customer and SAP ERP seamless. You must ensure the listed notes are implemented in your system.

3.1.1.3 Business Configuration Sets

The `COD_BYD_ERP_INT` business configuration (BC) set is contained in the add-on CODERINT 600:

Several customizing entries described in this guide are contained within the BC set `COD_BYD_ERP_INT`. Each section that contains a description of these customizing entries contains note referring to the BC set. If you activate this BC set now, you can skip those sections. Activate this BC set in the client you use for the integration of SAP Cloud for Customer and SAP ERP.

For general information about BC sets, see [SAP Help Portal](#)

3.1.1.4 Create SAP ERP User

Purpose

The following procedure describes how to create a user in SAP ERP with the necessary roles. This user enables communication from SAP Cloud for Customer to SAP ERP. This user is entered in:

- The SAP Cloud for Customer system, when you configure outbound communication arrangements to allow communication from SAP Cloud for Customer to SAP Middleware.
- The middleware (SAP CPI or SAP PI) system, which is used to login from your SAP Middleware to SAP ERP.

Recommendation

For the SAP ERP user, maintain the user type as *B - System* or *C - Communication*. SAP recommends that you only provide minimal authorizations to this user.

The ERP add-on contains the following PFCG roles::

- SAP_SD_COD_INTEGRATION
- SAP_SD_COD_INTEGRATION_EXT

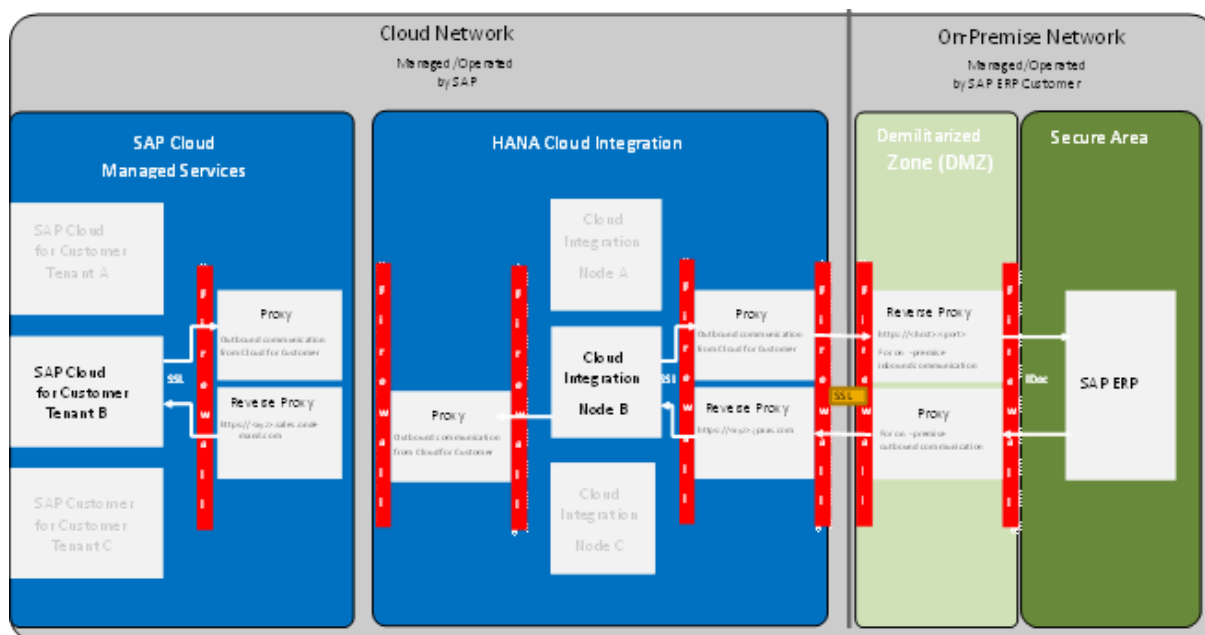
You can use these roles as a template for the authorizations. As these PFCG roles are not tailored to your specific needs, please maintain individual PFCG roles.

In case you use CPI as middleware, please see [SAP Note 2242343 - How to restrict the IDoc transfer C4C > CPI >ERP](#).

3.1.2 Set Up Secure Connection between ERP-Cloud Platform Integration-Cloud Systems

This chapter covers the requirements for configuring secure connection between SAP Cloud for Customer and SAP On-Premise. In addition to the information in this chapter, you can refer to the Technical Connectivity guide (▶ [SAP Help Portal](#) ▶ [Cloud for Customer](#) ▶ [Integration](#) ▶ [Technical Connectivity Guide](#) ▶) for generic connectivity issues.

The following diagram illustrates a typical setup for secure communication between the Cloud network and the on-premise network. Communication between the Cloud solution and the SAP ERP system must be secured by transport layer security (TLS) in both directions using the https protocol.



i Note

CPI allows both [certificate-based authentication](#) and [basic authentication](#).

Communication between Cloud Solution and CPI Tenant

To establish communication between the SAP Cloud for Customer tenant and the SAP Cloud Integration tenant, there must be secure HTTPS connections set up as part of the tenant provisioning configuration.

Communication from SAP ERP to CPI Tenant

The SAP ERP system must be able to connect to the Internet via https protocol as a prerequisite for communication from SAP ERP to the Cloud solution. The Cloud solution tenant can only be reached by a reverse proxy used in the SAP cloud network. The server certificate of this reverse proxy is signed by the certification authority (CA) Baltimore CyberTrust Root.

You must import the certificates of the above mentioned CA into the SAP ERP system in transaction STRUST. Import the certificates into the folder SSL Client (Standard) for authentication with client certificate. You can obtain the Baltimore CyberTrust root certificate from the CPI provisioning e-mail.

Additionally, the SAP ERP client certificate should be signed by the authorities listed here:

1. Go to <https://cloudintegration.hana.ondemand.com/CPI/help>.
2. Open the complete documentation, click SAP CPI for process integration complete documentation (HTML).
3. Go to ► ► [Connecting a Customer System to SAP](#) ► CPI ► [Concepts of Secure Communication](#) ► [HTTPS-Based Communication](#) ► [Load Balancer Root Certificates Supported by SAP](#) ►.

Communication From CPI Tenant to SAP ERP

It should be possible for CPI to access SAP ERP system over the Internet. For more information on how to establish secure communication between these systems, see the [SAP NetWeaver Security Guide](#), in the appropriate NetWeaver version of your ERP system, and go through the section *Network and Communication Security*.

The server certificate used by the reverse proxy must be trusted by the cloud CPI tenant. Therefore, it must be signed by one of the [certification authorities](#).

Ensure that the root CA of CPI client certificate is trusted by your reverse proxy or SAP ERP system, as applicable..

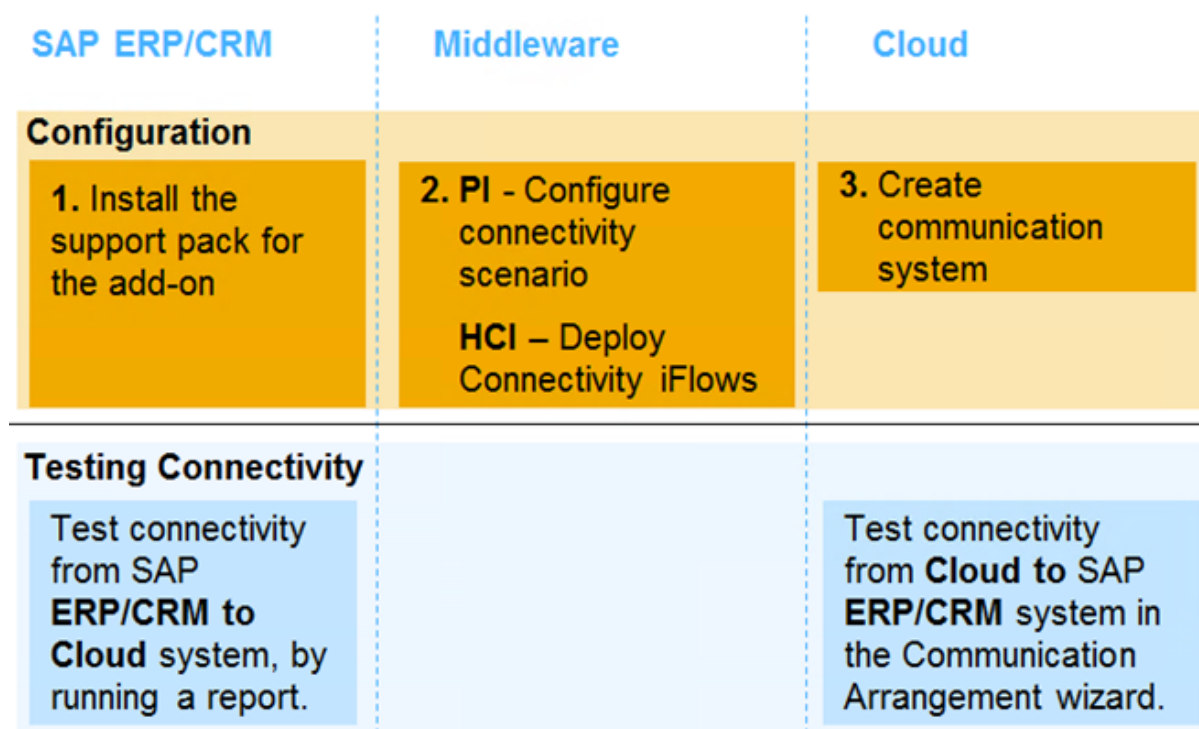
i Note

Alternatively, connection from CPI tenant to SAP ERP can also be established via SAP Cloud Connector. For more information on setting up SAP Cloud Connector, see [SAP Cloud Platform Connectivity](#).

3.1.2.1 Check End-to-End Connectivity

You can now check if a technical connection has been successfully established between your SAP on-premise and SAP Cloud for Customer systems. A successful connection ensures that the data is flowing between the two systems via the SAP Middleware.

The necessary configuration to use this feature is explained in the graphic below:



- **ERP report:** RCOD_CHECK_E2E_CONNECTIVITY
 - **CRM report:** CRMPCD_CHECK_E2E_CONNECTIVITY
- In the Cloud system, you can click the *Test Connection* in the *Communication Arrangement* wizard to check if the data is successfully reaching the SAP on-premise system.

3.1.3 Configure Integration in SAP Cloud for Customer

3.1.3.1 Activate SAP ERP Integration in Scoping

Purpose

You must check the scope of your SAP Cloud for Customer and ensure that the required integration is active.

Procedure

1. Logon to SAP Cloud for Customer as a system administrator.
2. In the *Business Configuration* work center, choose the *Implementation Projects* view.
3. Select your implementation project and click *Edit Project Scope*.
4. In the scoping wizard, choose *Next* until the Scoping screen appears.
5. Expand the nodes ► *Communication and Information Exchange* ► *Integration with External Applications and Solutions* ▾.

- Select the required scoping options and choose *Next*.

i Note

Select the node	If you want to
Integration with ERP	Ensure SAP ERP integration is active in your Cloud solution
Integration with Master Data	Allow master data to be exchanged with SAP ERP
Integration into Sales, Service and Marketing Processes	Allow transactional data to be exchanged with SAP ERP

The *Questions* screen displays only the selected scoping options.

- On the *Questions* screen, expand *Communication and Information Exchange*, and review the scoping questions.
- After you have carefully reviewed and confirmed your entries, click *Finish*.

⚠ Caution

Although you have defined the scoping of the solution, you have not yet deployed it. To do so, confirm the milestone *Design Accepted* in the activity list of the project.

- Go to ► *Business Configurationview* ► *Open Activity List* ▾.
- Select *Confirm Milestone: Design Accepted*.
- Select *Design Accepted* and click *Confirm*.

3.1.3.1.1 Sales Quote Replication

Purpose

Additional scoping questions have to be maintained for sales report replication to SAP ERP.

- Logon to the Cloud solution as a system administrator.
- In the *Business Configuration* work center, choose the *Implementation Projects*.
- Select your implementation project and click on *Open Activity List*.
- Click on *Fine-tune*
- Search for the activity *Sales Quotes* and select *Maintain Document Types*
- Select *External pricing* and *Replication*

3.1.3.2 Set up Communication System

Purpose

A communication system represents an external system for communication. A communication system is also the reference for ID mapping maintained within your Cloud solution. It must be representative of the on-premise client, even if the technical communication occurs using an SAP middleware.

To integrate your Cloud solution and an on-premise system using an SAP middleware, you define the on-premise client as the communication system. Note that all information except the host name is that of the on-premise system.

Before a communication system can be used for data exchange, communication arrangements must be maintained. For additional information, see *Configure Communication Arrangements*.

Prerequisites

You have administrator user rights.

Procedure

1. In the *Administrator* work center choose *Communication Systems*.
2. Click *New*.
3. On the *New Communication System* screen, in the *Basic Information* section, enter the following information.

Field	Entry	Example
<i>ID</i>	ID or name of the on-premise system to be connected	Q5E
<i>SAP Business Suite</i>	Select the checkbox	X
Internal Comment	A short description of the on-premise system you are connecting	Q5E - ERP Test System
<i>Host Name</i>	<ul style="list-style-type: none">○ If using PI, then enter the reverse proxy of the middleware○ If using CPI, then enter the SAP Cloud Integration worker node host name provided by SAP Cloud Managed Services	PI: <XXX>.SAP.COM CPI : https://<XXXXX>-ifl-map.cpisbt.<XXX>.hana.ondemand.com
<i>System Access Type</i>	Internet	Internet

4. (Optional): In the *Technical Contact* section, you can enter data of the contact person for this system.
5. Save your data.
6. In the *System Instances* section, enter the following data:

Field	Entry	Example
<i>Business System Instance ID</i>	Displays the ID or name of your business instance of the SAP on-premise systemclient	PI: Q5E_004 CPI : Q5ECLNT004

Field	Entry	Example
<i>Business System ID</i>	<p>Business system ID of the SAP on-premise client. If you are using PI, then you can get the business system ID in one of the following ways: ◦</p> <ul style="list-style-type: none"> ◦ Under ▶ System Landscape ▶ System Landscape Directory ▶ Business Systems ▶ Search for the ERP system, say Q5E* ▶ Go ▶ In the <i>Overview</i> tab, you will find Name, which is the business system name ◦ Run this function module in the ERP system: LCR_GET_OWN_BUSINESS_SYSTEM If you are using CPI , then default it to the same value as the IDoc Logical System ID. <p>If you are using CPI , enter the IDoc logical system ID of your ERP instance. For information on how to get the IDoc logical system ID, see below.</p>	PI: Q5E_004 CPI : Q5ECLNT004
<i>IDoc Logical System ID</i>	<p>The IDoc logical system ID of the SAP on-premise client, maintained in ALE. Path.</p> <p>▶ SAP Customizing Implementation Guide ▶ SAP NetWeaver ▶ Application Server ▶ IDoc Interface / Application Link Enabling ▶ Basic Settings ▶ Logical Systems ▶ DefineLogical Systems ▶</p>	Q5ECLNT004
<i>SAP Client</i>	Client of the SAP on-premise system	004
<i>Preferred Application Protocol</i>	Web Service	5_Web Service

7. Choose [▶ Actions ▶ Set to Active ▶](#)
8. Choose *Save and Close*.

3.1.3.3 Configure Communication Arrangements

Purpose

You need to configure and activate the communication arrangements to enable the integration between an on-premise system and the Cloud solution. Multiple communication arrangements can be created for on-premise integration through a guided activity. Instead of repeating common information each time you create a communication arrangement, you can enter common information once, and create communication arrangements in bulk.

i Note

The number of communication scenarios to be defined depends on the scoping you have performed.

You can find a list of all the communication arrangements and the corresponding service interfaces in the **Integration Flow** spreadsheet ([▶ SAP Help Portal ▶ Cloud for Customer ▶ Integration ▶ Integration Flows ▶](#)).

Prerequisites

You know the following:

- Communication system ID as maintained in the *Set up Communication System*.
- Tenant ID of SAP Cloud for Customer. For more information, see *Determine Short Tenant ID*.

Procedure

1. To create multiple communication arrangements go to ► [Administrator](#) ► [Communication Arrangement for On-Premise Integration](#) ► common task.
2. In the [Select Communication System](#) step, enter business data.
 1. Under [Integration Details](#) select the system that you want to integrate with and the relevant *tabs are displayed, depending on Integration Middleware* that you want to use.
 2. Under [Communication System](#), enter the [System Instance ID](#) of the communication system with which you want to set up communication arrangements.
 3. Select the code list mapping that should be used for this integration, say [SAP On Premise Integration](#).

i Note

If a communication arrangement contains a service interface that supports code list mapping, the [Code List Mapping](#) field is displayed. In this field, you can choose the relevant code list mapping group for the communication scenario that you are using. For more information, see the relevant integration guide.

4. Click [Next](#).
3. In the [Communication Arrangements](#) step, select the communication scenarios for which you want to create the communication arrangements.

You can only select those communication scenarios for which a communication arrangement has not yet been created.
4. The [Inbound and Outbound Communication Scenario](#). For example, if a communication arrangement has only an inbound service interface, then the [Inbound](#) tab is displayed.
5. For each of the communication scenarios, check the details on the [Inbound](#) tab as necessary:

Enabled	If you do not want to use a service, uncheck the checkbox. If the service is mandatory, the checkbox is disabled.
Service	Displays the name of the service.
Application Protocol	Check if the protocol is Web Service .
Service URL	Displays the URL of the service.

6. To check the information on an inbound service, select the service and click [Check Service](#).
7. For each of the communication scenarios, check the details on the [Outbound](#) tab as necessary:

Enabled	If you do not want to use a service, uncheck the checkbox. If the service is mandatory, the checkbox is disabled.
Service	Displays the name of the service.
Port	Enter the reverse proxy port of the on-premise system

Path	Displays the path to the service interface.
Service URL	Displays the URL of the service.

8. In the *Communication Credentials* step, provide the inbound and outbound credentials.
1. If you use inbound communication, select the *Authentication Method* in the *Inbound Communication Credentials* section. In the *User ID* field, click *Edit Credentials*.
Depending on the chosen authentication method, you need to define the credentials of the communication user as described in the following table. The user ID of the communication user is created automatically.

Authentication Method	Settings
SSL Client Certificate	<p>If you use this authentication method, you need to either:</p> <ul style="list-style-type: none"> ○ Upload the public key certificate that has been provided by your communication partner as part of provisioning. You can also receive it on creating an incident in the component for your respective SAP Middleware (LOD-CPI / LOD-PI). ○ If the communication partner cannot provide a certificate, then create a PKCS#12 key pair file, which is password encrypted and contains a public key certificate and a private key, and provide the credentials to your communication partner. <p>To upload a PKCS#12 file:</p> <ul style="list-style-type: none"> ○ Choose <i>Certificate</i>. ○ Click and choose the relevant Upload Certificate ○ Click <i>OK</i>. <p>To create a PKCS#12 key pair file:</p> <ul style="list-style-type: none"> ○ Choose <i>Certificate</i>. ○ Click <i>Create and Download Key Pair</i>. ○ Enter a name for the PKCS#12 file and save it. ○ Define a password for the PKCS#12 file and click <i>OK</i>. The certificate details will be displayed. ○ Click <i>OK</i>.
User ID and Password	<p>If you use this authentication method, you need to define a password as follows:</p> <ul style="list-style-type: none"> ○ Choose <i>Change Password</i>. ○ Enter a password. <div style="border: 1px solid #ccc; background-color: #f0f0f0; padding: 5px; margin: 10px 0;"> <p>i Note</p> <p>You need the user ID and password while configuring the receiver communication channel in SAP Middleware.</p> </div> <ul style="list-style-type: none"> ○ Click <i>OK</i>.

2. If you use outbound communication, select the *Authentication Method* in the *Outbound Communication Credentials* section. Select the *Authentication Method*.
Depending on the chosen authentication method, you need to define the relevant settings as described in the following table

Authentication Method	Authentication	Settings
SSL Client Certificate	SAP System Key Pair (recommended)	<p>If you use this authentication, the relevant certificate must be known to the communication partner. Download the certificate as follows:</p> <ul style="list-style-type: none"> ○ In the <i>Certificate</i> field, click <i>Download</i>. ○ Choose a location to save the certificate, enter a file name, and click <i>Save</i>. <p>The certificate will be downloaded with the specified name. and in the chosen folder you need to export the certificate.</p>
	Trusted Third-Party Key Pair	<p>If you use this authentication, you need to upload the PKCS#12 key pair file provided by your communication partner. The PKCS#12 file is password encrypted and contains a public key certificate and a private key.</p> <ul style="list-style-type: none"> ○ Choose the option <i>Trusted Third-Party Key Pair</i>. ○ In the Certificate field, click <i>Edit Credentials</i>. ○ Click <i>Upload Key Pair</i>, and choose the PKCS#12 file you want to upload. ○ Enter the required password and click <i>OK</i>.

Authentication Method	Authentication	Settings
User ID and Password		<p>If you use this authentication method, you need to enter the user ID and password that is used by the communication partner for the same communication arrangement.</p> <ul style="list-style-type: none"> ○ In the User ID field, click Edit Credentials. ○ Enter the user ID and password. ○ Click OK.

9. To create and activate your communication arrangements in the system, click [Finish](#).

Result

A success message is shown once the communication arrangement has been created successfully.

For information on how to manually create or edit a communication arrangement, see [Communication Arrangements Quick Guide](#) .

In case, the chosen middleware is CPI , to configure the connectivity, follow the steps outlined in the [Configure SAP CPI Certificate based Authentication for SAP Cloud for Customer](#) .

3.1.3.4 Export the Root Certificate

SAP Cloud for Customer client certificate is signed by SAP Passport CA. This CA needs to be imported into the middleware system. You can download the Passport CA certificate [here](#) .

3.1.3.5 Determine Short Tenant ID

Purpose

The tenant ID is required for several upcoming configuration steps in the SAP middleware system. We recommend that you note it at this point in your configuration.

Procedure

1. In the [Administrator](#) work center, choose [Communication Arrangements](#).
2. Select a communication arrangement that you have created in, for example, [Business Partner Replication from External System](#).

3. Under *My Communication Data* section, note the ID under *My System*.

3.1.3.6 Optional: Maintain ERP Number Ranges

Purpose

ERP number ranges for accounts (KUNNR) and contacts (PARNR) are used when these objects are created in SAP ERP using IDoc. This activity is an optional one because default numbers are already provided. If you want to change the default numbers and you do not see this activity in the fine tuning activity list, choose *All Activities* from the **Show** drop-down list.

Prerequisites

You have configured at least one internal number range. Make sure that the number range has enough values available. You can also use the number range in standard customizing delivered with your solution.

Procedure

1. In the *Business Configuration* work center, choose the *Implementation Projects* view.
2. Select the line that contains your project, and click *Open Activity List*.
3. On the *Activity List <...>* screen, choose *Fine-Tune*.
4. Click *Integration of Business Partner Data from Your Cloud Solution to SAP ERP*. The system provides default number ranges for prospects, contacts, and customers that can be used in SAP ERP.
5. Make sure the number ranges you define match the number ranges defined in the ERP system. For more information, see *Define Number Intervals*.

ERP System	Cloud Solution
Debitor C1	Prospect
Debitor C2	Customer
Partner C1	Contact

i Note

The entries you make must be copied from the test environment (cloud tenant and ERP tenant) to the productive environment.

⚠ Caution

Changing previously assigned number ranges can lead to problems. You should create number ranges with sufficient intervals to avoid future complications. If you connect more than one cloud tenant to one SAP ERP system, make sure to define specific number ranges for each cloud tenant. If you do not, you might risk sending different business partners with the same ID to SAP ERP, which leads to inconsistencies.

3.1.3.7 Perform Code List Mapping

For information on how to perform code list mapping, read the [Quick Start Guide](#)..

3.1.3.8 Create ID Mapping

Purpose

This section describes how to create ID mapping for selected business objects such as sales. For these selected objects, ID mapping is created manually. ID mapping for most objects is carried out automatically during the initial load of data into the system. However, it can be checked and adapted in this view as well.

You can maintain the entries for ID mapping either directly in the system user interface or in a Microsoft Excel template, that can be downloaded from the user interface. For information on ID mapping using the Microsoft Excel template, see *ID Mapping using the Microsoft Excel Template*.

Prerequisites

Before you create ID mapping, the data for these objects must be maintained in the cloud solution. Also, data must have been migrated so that they can be mapped.

Procedure

1. In the *Administrator* work center under *Common Tasks*, choose *Edit ID Mapping for Integration*.
2. From the *Mapping Of* dialog box, choose the object for which you want to map the IDs
3. In the *System Instance ID* field, use the input help to select the ID of your SAP ERP system.
4. Click *Go*.
5. In the *External ID* column, enter the ID of the object in the system.
6. Repeat steps 2 to 5 for the following objects.
 - Company
 - Accounts
 - Contacts
 - Employees
 - Equipments
 - Functional locations
 - Materials
 - Measurement points
 - Planning group
 - Product categories
 - Planning group
 - Sales office
 - Sales organizations

i Note

ERP values for:

Product categories/ material group

ERP Customizing path

▶ [Logistics General](#) ▶ [Material Master](#) ▶ [Settings for Key Fields](#) ▶ [Define Material Groups](#) ▶

i Note

In the standard integration content, the product category in the Cloud solution is the material group in ERP.

Employees

▶ [Enterprise Structure](#) ▶ [Assignment](#) ▶ [Human Resource Management](#) ▶ [Assign employee subgroup to employee group](#) ▶ [Enterprise Structure](#) ▶ [Definition](#) ▶ [Human Resource Management](#) ▶ [Employee Groups](#) ▶

7. Save your entries.

3.1.3.8.1 ID Mapping using the Microsoft Excel Template

The Microsoft Excel® template for ID mapping allows you to maintain IDs easily.

i Note

You cannot use the Microsoft Excel Template to change mappings that have been created directly on the user interface. If you want to change mappings using the Microsoft Excel template, you must create them in this template as well.

Prerequisites

You have installed the Add-In for Microsoft Excel, which is available as a download in your system.

Procedure

Download the content to Microsoft Excel

1. From the *Mapping Of* drop-down box, choose object for which you want to download ID mappings. .
2. In the *Business Instance ID* field, use the input help to select the ID of your SAP on-premise system.
3. Click *Go*.
4. Click *ID Mapping to Microsoft Excel*. The data is downloaded to an excel file.
5. Open the file, and accept messages to enable macros.
6. Go to *SAP Add-In Logon* , and provide the URL to Cloud system, and your user credentials, and click *Log On*.

i Note

The Local IDs correspond to the IDs used in the cloud solution. The External IDs correspond to the IDs in the SAP ERP system.

7. Make the necessary changes and save the excel file.

Upload the changed Microsoft Excel document to Cloud

1. In the Cloud system, [Click ID Mapping from Microsoft Excel](#). An excel template is downloaded.
2. Open the file, and accept messages to enable macros.
3. Go to [SAP Add-In Logon](#) , and provide the URL to Cloud system, and your user credentials, and click [Log On](#).
4. Copy the content from the excel file where you have saved your changes.
5. Under [▶ SAP Add-In > Workbook > Save Data to](#) [▶](#), in order to save data to Cloud.

3.1.3.9 Optional: Handling of Inconsistent Address Data

In addition to the topics we are covering as part of the Integration Guide map, there is an additional topic of handling inconsistent address data. This chapter describes how to turn-off the address checks provided by default. This section is optional.

Purpose

The system checks if address data, such as country, region, and postal code length, is consistent. Inconsistent address data leads to error messages and cannot be saved or activated unless you allow it by specifying it in Fine Tuning.

Procedure

1. In the [Business Configuration](#) work center, select the [Implementation Projects](#) view.
2. Mark the line that contains your project and click [Open Activity List](#).
3. On the [Activity List](#) screen, select [Fine-Tune](#).
4. Show [All Activities](#) and find for [Address Checks](#).
5. Select [Address Checks](#) and click [Add to Project](#).
6. Open [Address Checks](#)
7. Optionally, if you want to allow inconsistent address master data to be saved, select the check box [Allow saving of inconsistent address based on your business requirements](#). Any inconsistent address data in the check results are shown as warnings, and the data will be saved. This setting affects addresses of master data, such as business partners and organizational units, when you maintain the data in the work center views for master data, during migration, and during data replication. Checks of address data for business documents are not affected.
8. Save and close the activity.

3.1.4 Configure Integration in SAP ERP

3.1.4.1 SAP Customizing Implementation Guide in the ERP System

All the customization activities necessary to integrate SAP ERP with SAP Cloud for Customer are defined in a hierarchical structure in the SAP Implementation Guide structure. The necessary documentation is also made available with the activity.

For example, the structure contains the customizing activities for code lists, automatic generation of integration settings, manually maintaining the integration settings, and BADIs.

Purpose

1. In the ERP system, go to the transaction *SPRO*, and click *SAP Reference IMG*.
2. Expand Integration with Other mySAP.com Components and Integration with SAP Cloud for Customer
3. Run the report to automatically perform the basic configuration activities:

IMG Activity	Description
▶ Communication Setup Automatically ▶ Generate Integration Settings for Data Exchange ▶	<p>This activity will run the report <code>RCOD_CREATE_CONNECTIVITY_SIMPL</code>, and automatically configures the basic settings for establishing a connection between the systems. For example:</p> <ul style="list-style-type: none">○ Creates RFC destinations to connect from SAP ERP to SAP middleware○ Creates port definition with the required configuration for outbound and inbound message types○ Creates partner profiles with the required configuration for outbound and inbound message types○ Maintains ALE distribution model○ Activates a service○ Maintains endpoints for services○ Creates logical port in SOA Management for attachment replication○ Processes jobs for inbound and outbound IDocs, and time slice reports

i Note

The report only supports creation of entities, and does not update any existing entities.

4. If you want to manually update any entries, expand [▶ Communication Setup ▶ Manually Adjust Integration Settings for Data Exchange ▶](#)

ALE Settings for the HTTP inbound	<a one liner as to why this activity is necessary>
Define Logical System	The ERP system must be configured as clientindependent Customizing. The communication partner is not the middleware but the Cloud solution.
Define RFC destination	The ERP system must be configured as clientindependent Customizing. The RFC destination is required for the middleware system.
Maintain Port Definition	The ERP system must be configured as clientindependent Customizing.
Maintain Distribution Model	Create a distribution model to determine the system to which IDocs should be sent.
Register Service for IDoc Inbound	You need to register the IDoc inbound service if IDocs have to be received by ERP via SOAP/HTTPS.
Maintain IDoc Partner Profile	Create a partner profile of type LS, and maintain the inbound and outbound parameters for inbound and outbound IDoc message types.
Setup ICF Nodes	<p>You can configure HTTP services and activate them individually, so HTTP requests can be handled in the work process of an SAP System (server and client).</p> <p>You need to activate the service /sap/bc/srt/IDoc (Inbound SOAP for IDoc) before registering it.</p>
Configuration in SOA Management	<p>In SOA Management, you need to perform configuration:</p> <ul style="list-style-type: none"> ○ To generate PDF files of sales orders or quotes in an opportunity ○ To maintain end points for services ○ To send attachments from SAP ERP to SAP Cloud for Customer ○ To send attachments from SAP Cloud for Customer to SAP ERP
Create Communication Users	You need to create a user in SAP ERP, which can be used by the Cloud solution for authentication against SAP ERP. You can enter this user when you configure outbound communication arrangements in the Cloud solution.
Maintain Authorizations	You need to maintain the assignments of authorization required for business transactions to your communication user.

ALE Settings for the HTTP inbound	<a one liner as to why this activity is necessary>
Maintain Certificate to User Mapping	The client certificate (public key) of middleware system should be mapped to the communication user in the on-premise system.
Activate Event Linkage	You need to activate the event linkage for the object types.
Maintain Requirement Routine	<a one liner as to why this activity is necessary>
Maintain Output Determination Procedure	<a one liner as to why this activity is necessary>
Maintain Output Types	You need to define all the output types representing supported SD outputs, such as quotations, order confirmations, and delivery notes in the SAP system.
Maintain Output Condition Records	You need to add your Sales Document Type to the output type in this transaction.

5. Based on the objects you want to replicate between ERP and SAP Cloud for Customer, perform the necessary configuration activities under [Application-Specific Settings](#):

ALE Settings for the HTTP inbound	<a one liner as to why this activity is necessary>
▶ Sales Processing ▶ Setup: Sales Document ▶ Define Sales Document Type ▶	To define sales document type request for customer quote and sales order.
▶ Sales Processing ▶ Setup: Sales Documents ▶ Assign Item Categories ▶	To create item category determination for the defined sales document types
▶ Sales Processing ▶ Setup: Sales Document Confirmation ▶ Maintain Output Types ▶	To create output types, say, COD1 and COD4, and add the processing routine for the ALE
▶ Sales Processing ▶ Setup: Sales Document Confirmation ▶ Maintain ALE Outbound Process Code ▶	To create the process codes for objects that need confirmation, say opportunity and service request.
▶ Sales Processing ▶ User Exists ▶ User Exit for Sales Order Status Replication ▶	To implement an SAP Note to receive information about any changes made to sales order's delivery and invoice status changes in the sales order in Cloud..
▶ Number Ranges ▶ Define Number Ranges for Customer and Contacts ▶	To ensure that the customer and contact ID in the SAP ERP system is the same as in the SAP Cloud for Customer system.
▶ Maintain Workflow for Incoming Request ▶ Definition of an Agent Determination Rule ▶	To maintain workflow for incoming requests from SAP Cloud for Customer.

ALE Settings for the HTTP inbound	<a one liner as to why this activity is necessary>
▶ Maintain Workflow for Incoming Request ▶ Maintain Agent Assignments for Standard Tasks ▶	To maintain workflow for incoming requests from SAP Cloud for Customer.
▶ Maintain Workflow for Incoming Request ▶ Maintain Agent Assignments in Workflow Template ▶	To maintain workflow for incoming requests from SAP Cloud for Customer.
▶ Service Processing ▶ Time Sheet Integration ▶ Assign Data Entry Profile ▶	To specify the data entry profile, which should be used for the transfer of confirmation items and time reports from SAP Cloud for Customer to the cross-application time sheet (CATS) in SAP ERP.
▶ Service Processing ▶ Time Sheet Integration ▶ Define Derivation of Activity Type ▶	To define the activity type for a service material, which should be used when transferring confirmation items with a service from the Cloud system to the time sheet in the ERP system.
▶ Service Processing ▶ Controlling Integration ▶ Create and Change Controlling Scenario ▶	To create a controlling scenario. If you have specified controlling type and singleobject controlling for a transaction type in the IMG activity and Controlling Scenarios, assign one of the controlling scenarios created here.
▶ Service Processing ▶ Controlling Integration ▶ Establish Controlling Type and Controlling Scenarios ▶	To specify the controlling type for a transaction type. If you selected single-object controlling as the controlling type, you also specify the controlling scenario.
▶ Service Processing ▶ Logistics Integration ▶ Assign Plant to Service Organizational Units ▶	As SAP Cloud for Customer does not have any plant information, and a plant is necessary for processes in ERP, you need to define how the plant and other logistic relevant information are determined.

6. In case you want to enhance the standard delivered content, you can check for available BAdIs and implement them. We recommend that you perform business checks based on the receiver logical system when multiple receivers are available in the system landscape. You can find BAdIs:

- For generic enhancements, under ▶ [Communication Setup](#) ▶ [BAdIs](#) ▶ [<business object>](#) ▶:

BAdI	Description	Classic BAdI Definition Name	Enhancement Spot
IDoc: Inbound Mapping		IDOC_DATA_MAPP ER	
IDoc: Adding additional segments		IDOC_DATA_INSER T	
IDoc: Creation check		IDOC_CREATION_C HECK	

BAdI	Description	Classic BAdI Definition Name	Enhancement Spot
Reduce Change Pointers for Message Type	This reduces the scope of change pointers to be written to changes relevant to the distribution.	BDCP_BEFORE_WRITE	

- For each object under ► *Application* ► *Specific Settings* ► *<business object>* ► *BAdIs* ►:

BAdI	Description	Classic BAdI Definition Name	Enhancement Spot
Organizational Units IDoc: Outbound Mapping	This BAdI when implemented will adjust the outbound mapping message from ERP for Organization replication.	COD_ERP_ORG_UN IT_OUTBOUND	
Quotation Pricing Request Service: Inbound and Outbound Mapping	This BAdI when implemented will adjust the inbound and outbound data for quotation pricing request.	COD_SLS_SE_ADJ UST_DATA	
Opportunity Pricing Request Service: Inbound and Outbound Mapping	This BAdI when implemented will adjust the inbound and outbound data for opportunity pricing request.	COD_SLS_SE_SLS ORDPRCGINFOQR	
Print Preview Service: Output Type Retrieval	This BAdI when implemented will adjust the retrieval of output type for print preview different from the default one.	COD_SLS_SE_GET_OUTPUT_TYPE	
Adjust Sales order replication information	This BAdI when implemented will adjust the sales order replication data in ERP.	COD_SLS_SE_SALESORDER_REPL	

BAdI	Description	Classic BAdI Definition Name	Enhancement Spot
ERP Document flow in C4C: Output mapping	This enhancement will be used by the function module 'COD_ERP_GET_DOC_FLOW'. This can be used for any type of changes to a document flow which will be sent to an external system from an SAP ERP system.		BADI_COD_ERP_DOC_FLOW
User Exit for Sales Order Status Replication	When ECC sales order's delivery and invoice status changes, these statuses in the corresponding SAP Cloud for Customer sales order is not updated. Check Note 2142202		
Workflow: Follow-Up Document Type Determination	This BAdI when implemented is for the determination of follow up document type for workflows.	BADI_COD_ERP_IN T_IN-QUIRY_PROC	
BAdI: Enhancements for Service Processing	This BAdI when implemented will adjust the service processing data in ERP.	BADI_COD_ERP_SE RVICE_CONF	
Enhancement for Time Report Replication	This BAdI when implemented will adjust the time entries booking in ERP.		BADI_COD_CATS_TIME

3.1.4.2 Area Menu

An area menu is available to consolidate all the commonly used transactions for integrating SAP ERP with the SAP Cloud for Customer solution.

You can access this area menu in the transaction COD_INT_MENU.

The transactions are grouped as follows:

- **Monitor and Process Errors:** Transactions used to monitor IDocs, XML messages, scheduled jobs, and RFC queues, and also the transactions to reprocess IDocs, and analyze application logs.
- **Periodic Processing:** Transactions used to work with change pointers, send and process collected IDocs, and distribute time-dependent data.

- [Initial Loading or Resending Objects from SAP ERP to SAP Cloud for Customer](#): Transactions of all reports that can be used to load and send data from SAP ERP to SAP Cloud for Customer system.

For more information about the reports, and the sequence in which these reports should be run, see the Initial Load section in the **Integration with SAP ERP** guide.

3.1.5 Configure Integration in SAP Cloud Integration

SAP provides prepackaged, generic integration content called integration flows (iFlows) for the integration of SAP Cloud for Customer with an on-premise system using SAP Cloud Integration. The list of iFlows with their corresponding mappings, downloaded as a spreadsheet. You can download and drill down for more detailed sample field mapping description in the Integration Flows spreadsheet ([▶ SAP Help Portal ▶ Cloud for Customer ▶ Integration ▶ Integration Flows ▶](#)).

Prerequisites

To be able to import and deploy iFlows, you need the AuthGroup.IntegrationDeveloper role assigned in your tenant.

3.1.5.1 View Prepackaged iFlows using SAP CPI Web UI

1. Access the web UI URL from the provisioning e-mail. It should be in the format: `https://<cpitenant>.hana.ondemand.com/itspaces`.
2. View all pre-packaged iFlows in the Catalog tab.
3. Click on the package SAP Cloud for Customer [Integration with CRM](#) or SAP Cloud for Customer [Integration with ERP](#) name of the on-premise solution.
4. For each iFlow, select the [Download](#) option, and view all iFlow relevant metadata.

3.1.5.2 Configure and Deploy the iFlow using SAP Web UI

1. Select all the iFlows you want to deploy for each iFlow, and select the [Deploy Mass Configure](#) option.
2. Under the [Endpoints](#) tab, for Receiver Endpoints, enter the hostname and port information of the "Receiver" system (either SAP Cloud for Customer or SAP CRM or ERP)
3. Under the [Certificates](#) tab, for the externalized parameters, select the [Browse](#) button to upload the client certificate of the sender system.
4. Click [Deploy](#) to see the "Deploy Successful" message in the console.

3.1.5.3 View and Extend the Deployed iFlow using SAP Eclipse

Pre-requisites

1. Install the SAP CPI Eclipse environment, see <https://tools.hana.ondemand.com/#cpi> \
2. Maintain the CPI Operation server details at ► *Windows* ► *Preferences* ► SAP Cloud Integration ► *Operation server* (see provisioning e-mail for details)
3. Configure and deploy the pre-package content using CPI web UI, see section above. http://help.sap.com/cloudintegration/SAP_CPI_DevGuide.pdf (applicable only for SAP consulting)

3.1.5.3.1 Download the iFlow projects on your desktop

1. Go to *Integration Operations* Perspective.
2. In the Node Explorer, click the root element (this should launch the Message Monitoring and Deployed Artifacts view for that particular CPI runtime tenant).
3. Go to *Deployed artifacts*.
4. For each iFlow that was previously deployed from SAP CPI Web UI, click *Download*.
5. Save the zipped file locally on your desktop.

3.1.5.3.2 Import the iFlow projects into the local workspace

1. Import the iFlow projects into your eclipse environment by going to the Integration Designer perspective, ► *Windows* ► *Open Perspective* ► *Integration Designer* .
2. Click on ► *File* ► *Import* option.
3. Select the option Existing projects into Workspace and Click on *Next*.
4. Browse and import the downloaded version of the iFlow project (as done in step 1).
5. Click *Finish*.
6. The selected iFlow projects are now imported into your local workspace in the CPI eclipse environment.

3.1.5.3.3 View the configured certificates and externalized parameters

1. In the *Project Explorer* expand the tree view and double click to open the iFlow found under *src.main.resources.scenarioflows.integrationflows*.
2. In the *Integration Designer*, select the *iFlow*.
3. Within the iFlow, select the *sender system*, and under *Properties* tab.

- If you wish to update the authentication of the iFlow to Basic Authentication, it is possible by selecting the mode of authentication as Basic Authentication. For more information on configuring basic authentication, see [How-To guides](#).

i Note

When using basic authentication make sure to create new SCN user or use the existing SCN user and password to authenticate into CPI . The SAP SCN can be accessed from <http://scn.sap.com>

- For Certificate-based Authentication, view the details under the *Properties* tab.
- To view the configuration of the iFlow, click on *Externalized Parameters* tab, under the *Value* field, and view the configured <host>:<port> information of the receiver system.

3.1.5.3.4 Extend the Project in Eclipse and Deploy

- To extend the iFlow project, you can make modifications to either of the three folders,
 - src.main.resources.mapping
 - src.main.resources.scenarioflows.integrationflow
 - src.main.resources.wsdl
- Deploy the modified iFlow project by using the right-click option at the iFlow project level and select *Deploy Integration Content*.
- Enter the Tenant ID and click *OK*.

3.1.5.3.5 Maintain Value Mapping between Cloud and ERP in CPI

The value mappings listed in the table below are delivered as part of the pre-packaged CPI content which can be found in the eclipse project com.sap.sod.scenarios.valuemapping.

Agency 1	Scheme 1	Agency 2	Scheme 2
COD	ReceiverParty	ERP	ReceiverPort
COD	SenderParty	ERP	SenderPort
COD	CustomerABCClassification-Code	ERP	CustomerClassificationCode
COD	CODDocumentTypeCode	ERP	ERPDocumentTypeCode
COD	CODDocumentTypeCode	ERP	ERPTextTypeCode
COD	CODPricingRequest	ERP	ERPDocumentTypeCode
COD	COD_PartyFunction_Contact	ERP	ERP_PartyFunction
COD	BusinessSystemID	ERP	LogicalSystemID
COD	WarrantyID	ERP	DiscountConditionType

Agency 1	Scheme 1	Agency 2	Scheme 2
COD	OrderReason	ERP	OrderReason
ERP	DeliveryPriorityCode	COD	DeliveryPriorityCode
ERP	ProductUsageTypeCode	COD	ProductUsageTypeCode
ERP	ReleaseStatusCode	COD	ReleaseStatusCode
ERP_Academictitlecode	AcademicTitleCode	COD_Academictitlecode	AcademicTitleCode
COD	TimeType	ERP	ActiviyType

Procedure

1. Import the project com.sap.sod.scenarios.valuemapping into the Eclipse similar to importing an iFlow
2. In the Project Explorer, open the value mapping file value_mapping.xml found in the value mapping project.
3. In the value_mapping.xml file each group element should have two set of agency, schema and value element representing source and target values.
4. Maintain the value mapping based on the requirement by providing the source agency name, source schema name, source value with respective target agency name, target schema name and target value.
5. To change the value of existing value mapping identify the respective source and target agency-schema combination and change the value mapping as required
6. A new value mapping entry can also be added by using the existing value mapping entry as a template.
7. Save the value_mapping.xml file.
8. Deploy to the CPI runtime tenant.

i Note

Transfer accounts with sales area data from Cloud to ERP

You can create and edit sales area information in an account in the Cloud system, and also transfer it to ERP. Special consideration when you create a new sales area in Cloud and transfer it to SAP ERP:

- Few sales-area-specific fields may be mandatory in your ERP system (depending on your system configuration) which are not available in Cloud. This can lead to errors in IDoc processing in ERP.
- To overcome this, you can use BAdIs to fill the mandatory fields, for example, with default values.
- SAP Note 2065329 provides an example code for BAdI implementation

If you **do not want** to use this feature, deactivate sales area data segment /DEBMAS06/IDOC/E1KNA1M/E1KNVVM in the target interface through the message mapping COD_ERP_BusinessPartnerERPBulkReplicateRequest.

3.1.6 Monitor Message Flow Across Systems

Messages are exchanged between the SAP on-premise, SAP Middleware and SAP Cloud for Customer systems, during data load and go-live phases. These messages need to be monitored for following reasons:

- Identify incorrect data in messages

- Narrow down on the component where the message has failed
- Check connectivity issues between the components

3.2 SAP Process Integration (PI)

Learn how to set up integration for SAP Process Integration.

[Check and Prepare SAP ERP System \[page 43\]](#)

[Check and Prepare PI System \[page 48\]](#)

[Set Up Secure Connection between ERP-PI-Cloud Systems \[page 53\]](#)

This chapter covers the requirements for configuring secure connection between SAP Cloud for Customer and SAP On-Premise. In addition to the information in this chapter, you can refer to the Technical Connectivity Guide ([▶ SAP Help Portal ▶ Cloud for Customer ▶ Integration ▶ Technical Connectivity Guide ▶](#)) for generic connectivity issues.

[Configure Integration in SAP Cloud for Customer \[page 57\]](#)

[Configure Integration in SAP ERP \[page 68\]](#)

[Configure SAP ERP Integration in PI System \[page 75\]](#)

[Extend Prepackaged Integration \[page 83\]](#)

[Perform SAP ERP Initial Data Load \[page 84\]](#)

[Perform SAP ERP Delta Load \[page 84\]](#)

[Monitor Message Flow Across Systems \[page 84\]](#)

[Appendix \[page 85\]](#)

3.2.1 Check and Prepare SAP ERP System

Prerequisites

Your enterprise operates on SAP ECC 6.0 EHP 0 or a higher release. To check the ERP release, go to [▶ System ▶ Status ▶](#). Under SAP System Data, check the component version. The minimum support package levels for the software component SAP APPL needed for SAP Cloud for Customer Integration are as follows.

SAP APPL 6.00	(At least SAPKH60015)
SAP APPL 6.02	(At least SAPKH60206)
SAP APPL 6.03	(At least SAPKH60305)
SAP APPL 6.04	(At least SAPKH60405)
SAP APPL 6.05	(At least SAPKH60503)
SAP APPL 6.06	(At least SAPKH60601)
SAP APPL 6.16	(At least SAPKH61601)
SAP APPL 6.17	(At least SAPKH61701)
SAP APPL 6.18	(At least SAPK-61801INSAPAPPL)

In case you need to upgrade your system, we recommend installing the latest support package.

Prerequisites for selected features

Feature	Prerequisites
PDF version of ERP customer fact sheet	<ul style="list-style-type: none"> • SAP_APPL 602 • Activation of Business Function SD_01 • Configuration of Adobe Document Server
External pricing from sales quote, sales order, service ticket and contract	<ul style="list-style-type: none"> • SAP Note 1984312 • SAP Note 2220998
Query of ERP sales order details	SAP_APPL 602
Query of ERP sales quote details	SAP_APPL 603
Print preview of ERP sales document details	<ul style="list-style-type: none"> • SAP_APPL 604 • SAPScript or Adobe Print Forms (Smartforms are not supported) • Activation of Business Function LOG_SD_SIMP_02 • Activation of Business Function SD_01
Print preview of ERP delivery or billing document details	<ul style="list-style-type: none"> • Adobe Print Forms <ul style="list-style-type: none"> ◦ SAP_APPL 602 ◦ Activation of Business Function SD_01 • SAPScript Forms <ul style="list-style-type: none"> ◦ SAP_APPL 604 ◦ Activation of Business Function SD_01 ◦ Activation of Business Function LOG_SD_SIMP_02 • Smartforms are not supported

Feature	Prerequisites
Exchange rates for currencies	Installation of Add-On ECC-SE. See SAP Note http://service.sap.com/sap/support/notes/1162517

3.2.1.1 SAP ERP Software Components

Purpose

SAP Cloud for Customer (Cloud) provides an add-on for SAP ECC that mainly contains the following:

- Missing interfaces for the Cloud for Customer-ERP integration,
- Convenience functionality to simplify the setup of the integration.

The add-on does not modify any core ERP coding, and hence is modification-free.

Each Cloud release comes with a new support package of the ECC add-on that may contain additional functionality to enable new integration scenarios. An upgrade to a newer version of the add-on is only required if you plan to enable one of these new integration scenarios after the Cloud upgrade.

Install the latest available SP in one of the following cases:

- The add-on is not yet installed in your SAP ECC system, or
- If an upgrade is required in order to use new features available in the latest Service Pack.
In other words, if you already have the add-ons installed, and do not need to upgrade, you may skip this chapter.

Procedure

1. Go to SAP ONE Support Launchpad (Launchpad.<https://support.sap.com>)
2. Click on *Software Downloads*.
3. Search for `COD_ERP_INT 6.00`.
4. Choose the entry marked for *Installation Software Component*.
5. If you install the add-on for the first time, click on *Installation* and install the package.
6. On the `COD_ERP_INT 6.00` page, click on *Support Packages and Patches*.
7. Select the required packages and click on *Download Basket*. If you are upgrading from an SP, download the next available SP and above. For example, if you are upgrading from SP2, then download SP3 and above.
8. Select the items you want to download and click on *Download Manager*.
9. Install the add-on in your ECC system, and upgrade to the latest support package.

3.2.1.2 Important SAP Notes for ERP PI Integration

We recommend that you install the latest support package, and if necessary find all the relevant notes in the component LO-INT-COD. You can find a list of all ERP notes that may be relevant in this integration in the SAP Note [2293774](https://support.sap.com/notes/2293774).

3.2.1.3 Business Configuration Sets

The **COD_BYD_ERP_INT** business configuration (BC) set is contained in the add-on CODERINT 600:

Several customizing entries described in this guide are contained within the BC set **COD_BYD_ERP_INT**. Each section that contains a description of these customizing entries contains note referring to the BC set. If you activate this BC set now, you can skip those sections. Activate this BC set in the client you use for the integration of SAP Cloud for Customer and SAP ERP.

For general information about BC sets, see [SAP Help Portal](#)

3.2.1.4 RFC Destination to PI

The RFC destination contains technical information that enables the PI system to be located. This destination is required for IDoc communication to occur from the SAP on-premise system to the PI system.

In case of Java-only installation of PI or IDOC_AAE adapter, see [RFC Destination to PI \(IDOC AAE Adapter\) \[page 46\]](#) only.

You can skip this step, if you run the report RCOD_CREATE_CONNECTIVITY_SIMPL. If you will not use the report, then for each PI system, an RFC destination must be configured as client-independent Customizing. You must perform this action in the corresponding Customizing client.

→ Recommendation

We recommend that you use the logical system ID of the PI system as the destination names, as follows:
<PI System> CLNT <PI Client><PI System>CLNT<PI Client>.

To set up a transactional RFC (TRFC) connection,

1. Go to transaction **SM59**.
2. Create an RFC destination to the PI system with the following details:
 - **RFC Destination** : <PI System> CLNT <PI Client>
 - **Connection Type** : 3 (Connection to ABAP System)
 - **Description** : PI System
3. Enter the technical settings of the PI system.
4. Enter the PI technical user's login and security information.

i Note

The PI user you will reference should have the role SAP_XI_APPL_SERV_USER. For more information, see [Creating RFC Destinations in the ABAP Environment of PI System](#).

3.2.1.5 RFC Destination to PI (IDoc AAE Adapter)

This section applies to Java-only installation of PI or IDOC_AAE adapter.

For an IDOC_AAE adapter, you need to set up a transactional RFC (TRFC) of connection Type T, as described below:

1. In the SAP on-premise system, go to transaction [SM59](#).
2. Select [TCP/IP Connections](#), and click [Create](#).
3. To create an RFC destination to the PI system enter the following details:
 - **RFC Destination:** IDOC_AAE_<PI System>
 - **Connection Type:** T (TCP/IP Connection)
 - **Description:** PI System
4. In the [Technical Settings](#) tab, enter the registered server program ID of the PI system.
5. Enter the gateway details where the program ID is registered:
 - **Gateway Hos :** <This should be same as the one maintained in PI>
 - **Gateway Service:** <Gateway service>

⚠ Caution

The Program ID, Gateway Host, and Gateway Service should exactly match the values maintained in the inboundRA resource adapter in NWA of PI system, under [► Configuration ► Infrastructure ► Application Resources](#) [►](#) For more information, see [Resource Adapter \(InboundRA\) Configuration for IDOC_AAE Adapter \[page 51\]](#).

6. In the [Unicode](#) tab, select the [Communication Type with Target System as Unicode](#).

3.2.1.6 Create SAP ERP User

Purpose

The following procedure describes how to create a user in SAP ERP with the necessary roles. This user enables communication from SAP Cloud for Customer to SAP ERP. This user is entered in:

- The SAP Cloud for Customer system, when you configure outbound communication arrangements to allow communication from SAP Cloud for Customer to SAP Middleware.
- The middleware (SAP CPI or SAP PI) system, which is used to login from your SAP Middleware to SAP ERP.

Recommendation

For the SAP ERP user, maintain the user type as [B - System](#) or [C - Communication](#). SAP recommends that you only provide minimal authorizations to this user.

The ERP add-on contains the following PFCG roles::

- SAP_SD_COD_INTEGRATION
- SAP_SD_COD_INTEGRATION_EXT

You can use these roles as a template for the authorizations. As these PFCG roles are not tailored to your specific needs, please maintain individual PFCG roles.

In case you use CPI as middleware, please see [SAP Note 2242343 - How to restrict the IDoc transfer C4C > CPI >ERP](#).

3.2.2 Check and Prepare PI System

Prerequisites

You are using SAP Process Integration 7.11 or a higher release. To check the PI release, go to ► [System](#) ► [Status](#) ► under *SAP System Data*, check the component version.

Implement the SAP Note [856597](#): FAQ: XI 3.0 / PI 7.0/7.1/7.3 SOAP-Adapter.

3.2.2.1 Access PI System

In the likely case that your PI system resides in a demilitarized zone (DMZ), ask your IT department how to access the SAP Logon for the PI system. An example is via Windows Terminal Services (WTS).

To access Java Swing client of the PI system,

1. Go to [SAP Log On](#), enter the details for your PI System and logon to it.
2. In the PI system, execute transaction [SXMB_IFR](#). It will open the PI system's homepage.
3. From here, you can access the [PI clients for Enterprise Service Repository](#), [Integration Directory](#), and [System Landscape Directory](#).

3.2.2.2 Create SLD Configuration

Register the on-premise system in the System Landscape Directory (SLD). Systems are typically registered in SLD when they are initially configured.

To check if your system is registered in SLD, follow the below steps:

1. Login to the PI system.
2. Go to the transaction [SXMB_IFR](#). This opens the Integration directory in your web browser.
3. Click ► [System](#) ► [Landscape Directory](#) ► [Technical Systems](#) ►.
4. Register your on-premise system in PI, by creating a technical system of type AS ABAP for your on-premise system.
For more information, see [Creating New Web AS ABAP Technical Systems](#).
5. Under [ABAP System Details](#), in the [Business Systems](#) tab, Create the corresponding business system for the technical system. For more information, see [Creating and Removing Business Systems](#)
6. Register your Cloud solution in PI, by clicking ► [Home](#) ► [Technical Systems](#) ►, and creating a technical system of type Third Party.
7. Create a corresponding business system for the Cloud solution.
8. Assign [SWCV SAP BYD 2.40](#) under the product [SAP BUSINESS BYDESIGN 240](#):
 1. Go to ► [System Landscape Directory](#) ► [Technical Systems](#) ►.
 2. Select the [Cloud for Customer system](#) and click [Installed Software](#).
 3. Select [Add New Product](#), and add the product SAP BUSINESS BYDESIGN 240 and assign the software component version SAP BYD 2.40.

9. Similarly, assign *SWCV SAP BYD 1411* under the product *SAP BUSINESS BYDESIGN 1411*.

3.2.2.3 ERP PI Software Components

Download the listed components and the support packages.

1. Download ESR Contents from [SAP ONE Support Launchpad](#).
Download the following components. Always ensure that you install the latest version and all the available support packages.

Component	Description
▶ XI Content SAP BYD ▶ XI Content SAP_BYD 2.40 ▶	PI content that includes the interface definitions from SAP Cloud for Customer
▶ XI Content SAP_Basis ▶ XI Content SAP BASIS 7.00 ▶	PI content that includes the interface definitions for SAP ERP
▶ XI Content SAP_Basis ▶ XI Content SAP BASIS 7.10 ▶	PI content that includes the interface definitions for SAP ERP
▶ XI Content SAP_Basis ▶ XI Content SAP BASIS 7.11 ▶	PI content that includes communication channel template metadata
▶ XI Content BYD COD ▶ XI Content BYD COD 3.0 ▶	PI content that includes the interface definitions for SAP Cloud for Customer
▶ XI Content COD_ERP_INT ▶ XI Content COD_ERP_INT 6.00 ▶	PI content that includes the interface definitions for the Add-On for SAP ERP
▶ XI CONTENT COD_ERP_INT_IC ▶ XI CONTENT COD_ERP_INT_IC 6.00 ▶	PI content that includes the mappings between the SAP ERP interfaces and the SAP Cloud for Customer interfaces provided in the Add-On
XI CONTENT SAP_APPL <ul style="list-style-type: none"> ○ XI CONTENT SAP_APPL 600 ○ XI CONTENT SAP_APPL 602 ○ XI CONTENT SAP_APPL 603 	PI content that includes the interface definitions for SAP ERP

3.2.2.4 RFC Destination to SAP On-Premise

The RFC destination contains technical information to connect to an SAP on-premise system. This destination is required for IDoc communication to occur from the PI system to an on-premise system.

In case of Java-only installation of PI or IDOC_AAE adapter, see RFC Destination to SAP On-Premise (IDOC_AAE adapter) [RFC Destination to SAP On-Premise \(IDOC_AAE adapter\) \[page 50\]](#)

i Note

For each on-premise system, you must configure an RFC destination as a client-independent Customizing and in the corresponding Customizing client.

→ Recommendation

We recommend that you use the logical system ID of the on-premise system as the destination names, as follows: <SAP on-premise system>CLNT<SAP on-premise client>.

To set up a transactional RFC (TRFC) connection, proceed as follows:

1. Go to transaction **SM59** in PI.
2. Create an RFC destination to the on-premise system with the following details:
 - **RFC Destination:** <SAP on-premise system>CLNT<SAP on-premise client>
 - **Connection Type:** 3 (Connection to ABAP System)
 - **Description:** SAP <on-premise system name> <version><System>
3. Enter the technical settings of the SAP on-premise system.
4. Enter the on-premise system technical user's login and security information.. For information on creating a user, see .

3.2.2.5 PI Port Configuration

This configuration port will be used to send and receive messages to on-premise system. The port configuration is required when using the IDoc adapter with the PI ABAP stack.

i Note

This port configuration is not applicable for Java-only installation of PI or IDOC_AAE adapter.

Procedure

1. Go to the Transaction *IDX1*
2. Click *Create*
3. Enter the Port Name (e.g. SAPCRD) on-premise System Client, Description and the RFC Destination to on-premise System Client system created in the previous step.
4. Save the port.

3.2.2.6 RFC Destination to SAP On-Premise (IDOC_AAE adapter)

The RFC destination contains technical information connecting to SAP on-premise system. This destination is required for IDoc communication to occur from the PI system to the on-premise system.

This section applies for Java-only installation of PI or IDOC_AAE adapter.

i Note

For each SAP on-premise system, an RFC destination must be configured as client-independent Customizing. You must perform this action in the corresponding Customizing client.

Procedure

1. On the *PI browser* page, navigate to *Configuration Destination* via *NWA* (<http://<PI-host>:<HTTP port>/nwa>).
2. Create a new destination to the SAP on-premise system with the following details, under *General Data* section.
 - **Hosting System:** Local Java System <SID of PI system>
 - **Destination Name:** XI_IDOC_DEFAULT_DESTINATION_<SID of the on-premise system>
 - **Destination Type:** RFC
3. Maintain the technical settings of SAP on-premise system under the *Connection* and *Transport Security* section.
4. Maintain the following details under the *Logon Data* section.
 - **Authentication:** Enter the on-premise technical user's login and security information.
 - **Repository Connection:** Enter "This Destination", if this destination needs to be used to query the metadata, else select the appropriate RFC destination using the F4 help.
5. IDOC_AAE adapter expects a fall back destination in the name of XI_IDOC_DEFAULT_DESTINATION. If it is not available, create the same and ensure that it points to a system from where IDOC metadata can be loaded.

3.2.2.7 Resource Adapter (InboundRA) Configuration for IDOC_AAE Adapter

Prerequisites

You want to use IDOC_AAE (Java based IDOC adapter) to communicate with SAP on-premise system for sending and receiving IDocs.

i Note

This section applies for Java-only installation of PI or IDOC_AAE adapter.

Procedure

1. On the PI browser page, navigate to ► *Configuration* ► *Infrastructure* ► *Application Resources in SAP NetWeaver Administrator (NWA)* ►.
2. Search for *Resource Adapter inboundRA*.
3. Make sure the following properties are defined in the *Resource Details* section:

Property	Value	Notes
BindingKey	PI_AAE_IDOC	This property should not be changed. It is used to associate the inboundRA resource adapter with the IDOC_AAE adapter.
Local	true	If the Local property is set to <i>true</i> , the local gateway of the PI system is used with the SCS gateway service.
GatewayServer		If the Local property is set to <i>false</i> , maintain the Gateway Server Host of another SAP system.
GatewayService		If the Local property is set to <i>false</i> , maintain the Gateway Server Service of the above mentioned Gateway Server.
ProgramID	<Unique ID>	The unique program ID used to register the inboundRA resource adapter on the used gateway. The same value should be maintained in the RFC destination on SAP on-premise system as the Program ID
MaxReaderThreadCount	5	This property specifies the number of connections (registered programs) on the gateway for each server node of the PI system. It should be a positive number.
DestinationName	XI_IDOC_DEFAULT_DESTINATION	IDOC_AAE adapter expects a fallback destination in the name of XI_IDOC_DEFAULT_DESTINATION. For more information, see step 5 in RFC Destination to SAP On-Premise (IDOC_AAE adapter) [page 50] .
multiRepository		This property should not be changed manually as it is populated by the IDOC_AAE adapter.

Caution

The Program ID, Gateway Host and Gateway Service should exactly match the values maintained in the TCP destination maintained in the on-premise system, as explained in RFC Destination to PI (IDOC_AAE adapter only).

3.2.2.8 Import TPZ Package in ESR

1. There are software components that need to be imported into ESR. These packages contain all design objects required for PI configuration.

2. Save the downloaded TPZ files to your local system (see).
3. From the *PI* homepage, open the **Enterprise Service Repository (ESR)**.
4. From *ESR*, choose **Tools > Import Design Objects**.
5. Select *Import from client*, as you are importing the package from your local machine.
6. Browse to the location where the TPZ file is saved on your local system, and upload this to ESR.
7. Repeat the steps from 4 – 6 and import all the software components.
8. The imported software components become visible under *Design Objects* in ESR.

3.2.2.9 Import Business System

1. On the PI browser page, open **Integration Builder**.
2. In the left-pane switch to *Object View*
3. In the left-pane, follow the path **Communication Component without Party > Business System** and from the context menu, select *Assign Business System*.
4. In the *Assign Business System* dialog box, click *Continue*.
5. Select the business systems you want to define as business system components. That is, select your Cloud solution (COD) and your SAP CRM/ERP system (in cases where the system has not already been defined as business system component).
6. Ensure that the checkbox *Create Communication Channels for Following Adapters* is not selected.
7. Select *Finish*.

3.2.2.10 ALEAUD Check

i Note

This section is not applicable in the following cases:

- Java-only installation of PI or IDOC_AAE adapter.
- IDOC_AAE adapter is used for receiving IDoc from on-premise system in a dual stack PI installation.

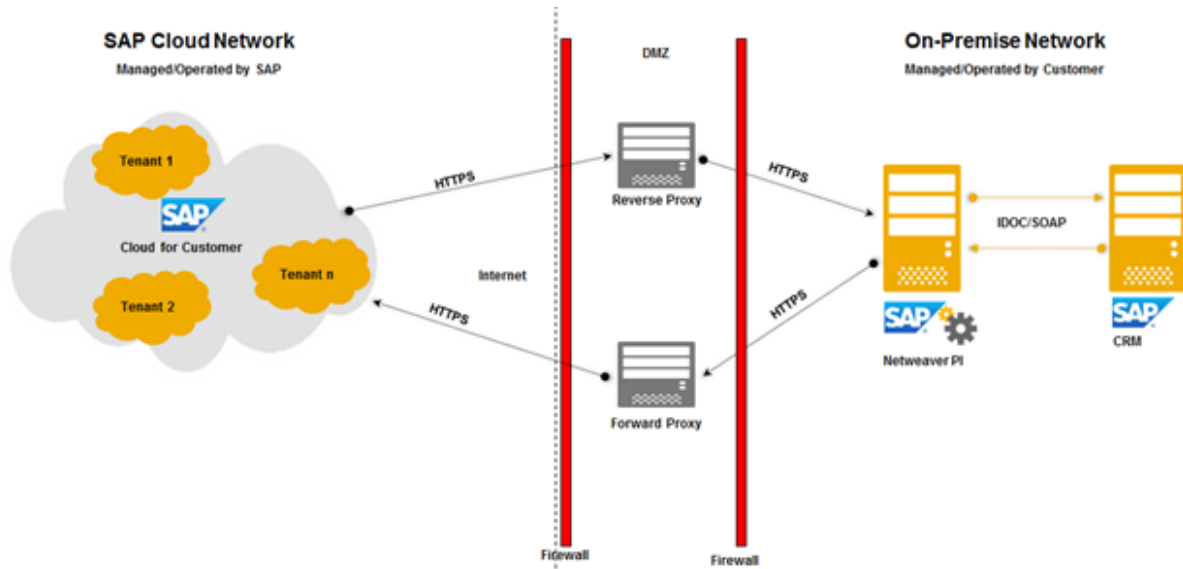
1. Execute transaction *SE38*, and then go to report *IDX_ALEREQUEST*.
2. Ensure that no entry is selected for request of ALEAUD.

3.2.3 Set Up Secure Connection between ERP-PI-Cloud Systems

This chapter covers the requirements for configuring secure connection between SAP Cloud for Customer and SAP On-Premise. In addition to the information in this chapter, you can refer to the Technical Connectivity

Guide ([SAP Help Portal](#) > [Cloud for Customer](#) > [Integration](#) > [Technical Connectivity Guide](#) >) for generic connectivity issues.

The following diagram illustrates a typical setup for secure communication between the Cloud network and the on-premise network. Communication between the Cloud solution and the SAP ERP system must be secured by transport layer security (TLS) in both directions using the https protocol.



Communication Between SAP ERP and PI

To establish communication between an SAP ERP and PI systems, an RFC (TRFC) connection is configured during the connect phase in the PI and ERP systems.

Communication from PI to Cloud Solution

As a prerequisite for communication from the SAP PI system to the SAP Cloud solution, the SAP PI system must be able to connect to SAP Cloud via https protocol. In order to establish this https connection the Baltimore CyberTrust Root certificate must be installed in the SAP NW PI.

Since we are using SOAP Adapter on SAP NW PI, this certificate should be imported by an administrator into [SAP NetWeaver Administrator \(NWA\)](#) > [Configuration](#) > [Certificates and Keys](#) > [Folder "Trusted CA's"](#) >.

Procedure

1. Download the certificates:
 1. Go to the logon screen of your Cloud Solution.
 2. Click on the security icon on the [web browser](#) > [View certificates](#) >
 3. Download the following certificates:
 - o Cybertrust Sure Server Standard Validation CA
 - o GTE Cyber Trust Global Root
2. Import the downloaded certificates into the SAP NetWeaver PI JAVA Keystore.
 1. Open up the [SAP NetWeaver Administrator \(NWA\)](#) on [SAP NetWeaver PI](#).
 2. Under the [Configuration](#) tab, click [Certificates and Keys](#)
 3. Select the view for Trusted CA's
 4. Import the root certificates using the entry type *X.509*.

Communication from Cloud Solution to PI

Access to your SAP NW PI system from the public Internet and from the hosted network, in which your SAP Cloud for Customer tenant is situated, must be secured by means of an application-level gateway in the corporate network DMZ, as described in the [SAP NetWeaver Security Guide](#), under the section *Network and Communication Security*.

For more information about Network and Communication Security, see [SAP Help Portal](#).

Path: [▶ Help.sap.com](#) [▶ SAP NetWeaver](#) [▶ SAP NetWeaver Platform](#) [▶ SAP NetWeaver 7.3 including Enhancement Package 1](#) [▶ Security Information](#) [▶ English](#) [▶ Network and Communication Security](#) [▶](#)

The relevant subsections are as follows:

- [▶ Using Firewall Systems for Access Control](#) [▶ Application-Level Gateways Provided by SAP](#) [▶ Web Dispatcher](#) [▶](#)
- Using Multiple Network Zones

i Note

In the following sections of this guide, the application-level gateway is referred to as reverse proxy.

The server certificate used by the reverse proxy must be trusted by the Cloud tenant. Therefore, it must be signed by one of the certification authorities listed in the section [Supported Certification Authorities \(PI Integration\)](#) [page 55] .

3.2.3.1 Supported Certification Authorities (PI Integration)

The following certification authorities are supported for the SAP Cloud for Customer tenant:

The following certification authorities are supported for the reverse proxy in the SAP Cloud network: (only relevant for client certificates)

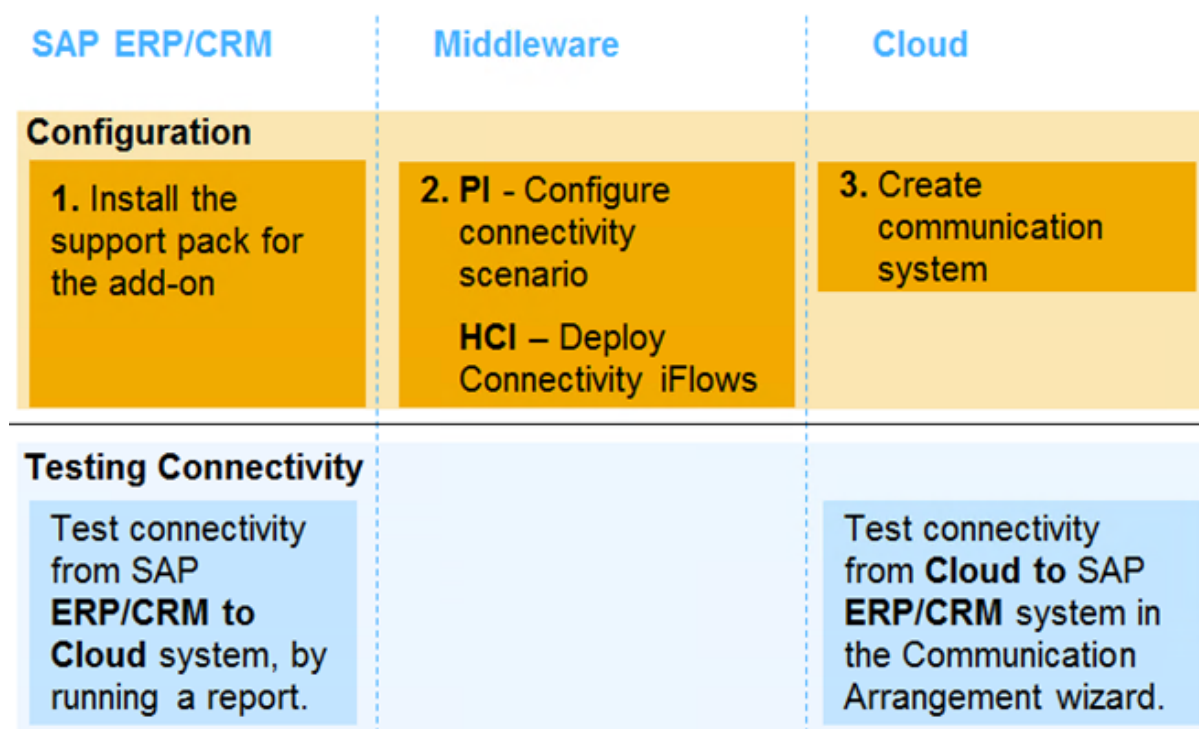
- Baltimore CyberTrust Root cer
- EntrustPersonalServerCA.cer
- EntrustServerCA.cer
- EquifaxIntermediate.cer
- EquifaxSecureCA.cer
- Go_Daddy_Class2.cer
- Go_Daddy_Secure_Certification_Authority.cer
- SAPNetCA.cer
- SAPPassportCA.cer
- TC_TrustCenter_Class_1_L1_CA_VII.cer
- TC_TrustCenter_Class_2_CA_II.cer
- TC_TrustCenter_Class_2_L1_CA_XI.cer
- TCTrustcenterClass2.cer
- TelekomOnlinePass.cer
- Thawte_ServerBasic.cer

- Thawte Premium Server CA Root
- Thawte Primary Intermediate CA
- Thawte Secondary Intermediate CA
- Verisign_Class3_Intermediate.cer
- VeriSignClass3_Secure_server.cer
- VeriSignClass1_G1.cer
- VeriSignClass1_G2.cer
- VeriSignClass1_G3_b64.cer
- VeriSignClass2_G1.cer
- VeriSignClass2_G2.cer
- VeriSignClass2_G3_b64.cer
- VeriSignClass3_G1.cer
- VeriSignClass3_G2.cer
- VeriSignClass3_G3_b64.cer
- VeriSignClass4_G2.cer
- VeriSignClass4_G3_b64.cer
- VeriSignClass3_SecureServer_CA_G2.cer
- Entrust.net Client Certification Authority
- Entrust.net Secure Server Certification Authority
- SAP Passport CA • Server CA
- Deutsche Telekom Root CA 1
- Thawte Server
- VeriSign Class 1 Public Primary Certification Authority - G3
- VeriSign Class 2 Public Primary Certification Authority - G3
- VeriSign Class 3 Public Primary Certification Authority - G3
- VeriSign Class 4 Public Primary Certification Authority - G3
- Go Daddy Secure Certification Authority
- TC TrustCenter SSL CA I • CompuTop GmbH
- Entrust.net Certification Authority (2048)
- Entrust Certification Authority - L1B
- TC TrustCenter Class 1 L1 CA VI
- VeriSign Class 3 Secure Server CA
- TC TrustCenter Class 1 L1 CA VII
- Thawte Premium Server
- TC TrustCenter Class 2 L1 CA XI
- TC TrustCenter Class 2 CA II

3.2.3.2 Check End-to-End Connectivity

You can now check if a technical connection has been successfully established between your SAP on-premise and SAP Cloud for Customer systems. A successful connection ensures that the data is flowing between the two systems via the SAP Middleware.

The necessary configuration to use this feature is explained in the graphic below:



- **ERP report:** RCOD_CHECK_E2E_CONNECTIVITY
 - **CRM report:** CRMPCD_CHECK_E2E_CONNECTIVITY
- In the Cloud system, you can click the *Test Connection* in the *Communication Arrangement* wizard to check if the data is successfully reaching the SAP on-premise system.

3.2.4 Configure Integration in SAP Cloud for Customer

3.2.4.1 Activate SAP ERP Integration in Scoping

Purpose

You must check the scope of your SAP Cloud for Customer and ensure that the required integration is active.

Procedure

1. Logon to SAP Cloud for Customer as a system administrator.
2. In the *Business Configuration* work center, choose the *Implementation Projects* view.
3. Select your implementation project and click *Edit Project Scope*.
4. In the scoping wizard, choose *Next* until the Scoping screen appears.
5. Expand the nodes ► *Communication and Information Exchange* ► *Integration with External Applications and Solutions* ▾.

6. Select the required scoping options and choose *Next*.

i Note

Select the node	If you want to
Integration with ERP	Ensure SAP ERP integration is active in your Cloud solution
Integration with Master Data	Allow master data to be exchanged with SAP ERP
Integration into Sales, Service and Marketing Processes	Allow transactional data to be exchanged with SAP ERP

The *Questions* screen displays only the selected scoping options.

7. On the *Questions* screen, expand *Communication and Information Exchange*, and review the scoping questions.
8. After you have carefully reviewed and confirmed your entries, click *Finish*.

⚠ Caution

Although you have defined the scoping of the solution, you have not yet deployed it. To do so, confirm the milestone *Design Accepted* in the activity list of the project.

1. Go to ► *Business Configurationview* ► *Open Activity List* ▾.
2. Select *Confirm Milestone: Design Accepted*.
3. Select *Design Accepted* and click *Confirm*.

3.2.4.1.1 Sales Quote Replication

Purpose

Additional scoping questions have to be maintained for sales report replication to SAP ERP.

1. Logon to the Cloud solution as a system administrator.
2. In the *Business Configuration* work center, choose the *Implementation Projects*.
3. Select your implementation project and click on *Open Activity List*.
4. Click on *Fine-tune*
5. Search for the activity *Sales Quotes* and select *Maintain Document Types*
6. Select *External pricing* and *Replication*

3.2.4.2 Set up Communication System

Purpose

A communication system represents an external system for communication. A communication system is also the reference for ID mapping maintained within your Cloud solution. It must be representative of the on-premise client, even if the technical communication occurs using an SAP middleware.

To integrate your Cloud solution and an on-premise system using an SAP middleware, you define the on-premise client as the communication system. Note that all information except the host name is that of the on-premise system.

Before a communication system can be used for data exchange, communication arrangements must be maintained. For additional information, see *Configure Communication Arrangements*.

Prerequisites

You have administrator user rights.

Procedure

1. In the *Administrator* work center choose *Communication Systems*.
2. Click *New*.
3. On the *New Communication System* screen, in the *Basic Information* section, enter the following information.

Field	Entry	Example
<i>ID</i>	ID or name of the on-premise system to be connected	Q5E
<i>SAP Business Suite</i>	Select the checkbox	X
Internal Comment	A short description of the on-premise system you are connecting	Q5E - ERP Test System
<i>Host Name</i>	<ul style="list-style-type: none">○ If using PI, then enter the reverse proxy of the middleware○ If using CPI, then enter the SAP Cloud Integration worker node host name provided by SAP Cloud Managed Services	PI: <XXX>.SAP.COM CPI : https://<XXXXX>-ifl-map.cpisbt.<XXX>.hana.ondemand.com
<i>System Access Type</i>	Internet	Internet

4. (Optional): In the *Technical Contact* section, you can enter data of the contact person for this system.
5. Save your data.
6. In the *System Instances* section, enter the following data:

Field	Entry	Example
<i>Business System Instance ID</i>	Displays the ID or name of your business instance of the SAP on-premise systemclient	PI: Q5E_004 CPI : Q5ECLNT004

Field	Entry	Example
<i>Business System ID</i>	<p>Business system ID of the SAP on-premise client. If you are using PI, then you can get the business system ID in one of the following ways: ◦</p> <ul style="list-style-type: none"> ◦ Under ▶ System Landscape ▶ System Landscape Directory ▶ Business Systems ▶ Search for the ERP system, say Q5E* ▶ Go ▶ In the <i>Overview</i> tab, you will find Name, which is the business system name ◦ Run this function module in the ERP system: LCR_GET_OWN_BUSINESS_SYSTEM If you are using CPI , then default it to the same value as the IDoc Logical System ID. <p>If you are using CPI , enter the IDoc logical system ID of your ERP instance. For information on how to get the IDoc logical system ID, see below.</p>	PI: Q5E_004 CPI : Q5ECLNT004
<i>IDoc Logical System ID</i>	<p>The IDoc logical system ID of the SAP on-premise client, maintained in ALE. Path.</p> <p>▶ SAP Customizing Implementation Guide ▶ SAP NetWeaver ▶ Application Server ▶ IDoc Interface / Application Link Enabling ▶ Basic Settings ▶ Logical Systems ▶ DefineLogical Systems ▶</p>	Q5ECLNT004
<i>SAP Client</i>	Client of the SAP on-premise system	004
<i>Preferred Application Protocol</i>	Web Service	5_Web Service

7. Choose [▶ Actions ▶ Set to Active ▶](#)
8. Choose *Save and Close*.

3.2.4.3 Configure Communication Arrangements

Purpose

You need to configure and activate the communication arrangements to enable the integration between an on-premise system and the Cloud solution. Multiple communication arrangements can be created for on-premise integration through a guided activity. Instead of repeating common information each time you create a communication arrangement, you can enter common information once, and create communication arrangements in bulk.

i Note

The number of communication scenarios to be defined depends on the scoping you have performed.

You can find a list of all the communication arrangements and the corresponding service interfaces in the **Integration Flow** spreadsheet ([▶ SAP Help Portal ▶ Cloud for Customer ▶ Integration ▶ Integration Flows ▶](#)).

Prerequisites

You know the following:

- Communication system ID as maintained in the *Set up Communication System*.
- Tenant ID of SAP Cloud for Customer. For more information, see *Determine Short Tenant ID*.

Procedure

1. To create multiple communication arrangements go to ► [Administrator](#) ► [Communication Arrangement for On-Premise Integration](#) ► common task.
2. In the *Select Communication System* step, enter business data.
 1. Under *Integration Details* select the system that you want to integrate with and the relevant *tabs are displayed, depending on Integration Middleware* that you want to use.
 2. Under *Communication System*, enter the *System Instance ID* of the communication system with which you want to set up communication arrangements.
 3. Select the code list mapping that should be used for this integration, say *SAP On Premise Integration*.

i Note

If a communication arrangement contains a service interface that supports code list mapping, the *Code List Mapping* field is displayed. In this field, you can choose the relevant code list mapping group for the communication scenario that you are using. For more information, see the relevant integration guide.

4. Click *Next*.
3. In the *Communication Arrangements* step, select the communication scenarios for which you want to create the communication arrangements.

You can only select those communication scenarios for which a communication arrangement has not yet been created.
4. The *Inbound and Outbound Communication Scenario*. For example, if a communication arrangement has only an inbound service interface, then the *Inbound* tab is displayed.
5. For each of the communication scenarios, check the details on the *Inbound* tab as necessary:

Enabled	If you do not want to use a service, uncheck the checkbox. If the service is mandatory, the checkbox is disabled.
Service	Displays the name of the service.
Application Protocol	Check if the protocol is <i>Web Service</i> .
Service URL	Displays the URL of the service.

6. To check the information on an inbound service, select the service and click *Check Service*.
7. For each of the communication scenarios, check the details on the *Outbound* tab as necessary:

Enabled	If you do not want to use a service, uncheck the checkbox. If the service is mandatory, the checkbox is disabled.
Service	Displays the name of the service.
Port	Enter the reverse proxy port of the on-premise system

Path	Displays the path to the service interface.
Service URL	Displays the URL of the service.

8. In the *Communication Credentials* step, provide the inbound and outbound credentials.
- If you use inbound communication, select the *Authentication Method* in the *Inbound Communication Credentials* section. In the *User ID* field, click *Edit Credentials*.
Depending on the chosen authentication method, you need to define the credentials of the communication user as described in the following table. The user ID of the communication user is created automatically.

Authentication Method	Settings
SSL Client Certificate	<p>If you use this authentication method, you need to either:</p> <ul style="list-style-type: none"> Upload the public key certificate that has been provided by your communication partner as part of provisioning. You can also receive it on creating an incident in the component for your respective SAP Middleware (LOD-CPI / LOD-PI). If the communication partner cannot provide a certificate, then create a PKCS#12 key pair file, which is password encrypted and contains a public key certificate and a private key, and provide the credentials to your communication partner. <p>To upload a PKCS#12 file:</p> <ul style="list-style-type: none"> Choose <i>Certificate</i>. Click and choose the relevant Upload Certificate Click <i>OK</i>. <p>To create a PKCS#12 key pair file:</p> <ul style="list-style-type: none"> Choose <i>Certificate</i>. Click <i>Create and Download Key Pair</i>. Enter a name for the PKCS#12 file and save it. Define a password for the PKCS#12 file and click <i>OK</i>. The certificate details will be displayed. Click <i>OK</i>.
User ID and Password	<p>If you use this authentication method, you need to define a password as follows:</p> <ul style="list-style-type: none"> Choose <i>Change Password</i>. Enter a password. <div style="border: 1px solid #ccc; background-color: #f9f9f9; padding: 10px; margin: 10px 0;"> <p>i Note</p> <p>You need the user ID and password while configuring the receiver communication channel in SAP Middleware.</p> </div> <ul style="list-style-type: none"> Click <i>OK</i>.

- If you use outbound communication, select the *Authentication Method* in the *Outbound Communication Credentials* section. Select the *Authentication Method*.
Depending on the chosen authentication method, you need to define the relevant settings as described in the following table

Authentication Method	Authentication	Settings
SSL Client Certificate	SAP System Key Pair (recommended)	<p>If you use this authentication, the relevant certificate must be known to the communication partner. Download the certificate as follows:</p> <ul style="list-style-type: none"> ○ In the <i>Certificate</i> field, click <i>Download</i>. ○ Choose a location to save the certificate, enter a file name, and click <i>Save</i>. <p>The certificate will be downloaded with the specified name. and in the chosen folder you need to export the certificate.</p>
	Trusted Third-Party Key Pair	<p>If you use this authentication, you need to upload the PKCS#12 key pair file provided by your communication partner. The PKCS#12 file is password encrypted and contains a public key certificate and a private key.</p> <ul style="list-style-type: none"> ○ Choose the option <i>Trusted Third-Party Key Pair</i>. ○ In the Certificate field, click <i>Edit Credentials</i>. ○ Click <i>Upload Key Pair</i>, and choose the PKCS#12 file you want to upload. ○ Enter the required password and click <i>OK</i>.

Authentication Method	Authentication	Settings
User ID and Password		<p>If you use this authentication method, you need to enter the user ID and password that is used by the communication partner for the same communication arrangement.</p> <ul style="list-style-type: none"> ○ In the User ID field, click Edit Credentials. ○ Enter the user ID and password. ○ Click OK.

9. To create and activate your communication arrangements in the system, click [Finish](#).

Result

A success message is shown once the communication arrangement has been created successfully.

For information on how to manually create or edit a communication arrangement, see [Communication Arrangements Quick Guide](#) .

In case, the chosen middleware is CPI , to configure the connectivity, follow the steps outlined in the [Configure SAP CPI Certificate based Authentication for SAP Cloud for Customer](#) .

3.2.4.4 Export the Root Certificate

SAP Cloud for Customer client certificate is signed by SAP Passport CA. This CA needs to be imported into the middleware system. You can download the Passport CA certificate [here](#) .

3.2.4.5 Optional: Maintain ERP Number Ranges

Purpose

ERP number ranges for accounts (KUNNR) and contacts (PARNR) are used when these objects are created in SAP ERP using IDoc. This activity is an optional one because default numbers are already provided. If you want to change the default numbers and you do not see this activity in the fine tuning activity list, choose [All Activities](#) from the **Show** drop-down list.

Prerequisites

You have configured at least one internal number range. Make sure that the number range has enough values available. You can also use the number range in standard customizing delivered with your solution.

Procedure

1. In the *Business Configuration* work center, choose the *Implementation Projects* view.
2. Select the line that contains your project, and click *Open Activity List*.
3. On the *Activity List <...>* screen, choose *Fine-Tune*.
4. Click *Integration of Business Partner Data from Your Cloud Solution to SAP ERP*. The system provides default number ranges for prospects, contacts, and customers that can be used in SAP ERP.
5. Make sure the number ranges you define match the number ranges defined in the ERP system. For more information, see *Define Number Intervals*.

ERP System	Cloud Solution
Debitor C1	Prospect
Debitor C2	Customer
Partner C1	Contact

Note

The entries you make must be copied from the test environment (cloud tenant and ERP tenant) to the productive environment.

Caution

Changing previously assigned number ranges can lead to problems. You should create number ranges with sufficient intervals to avoid future complications. If you connect more than one cloud tenant to one SAP ERP system, make sure to define specific number ranges for each cloud tenant. If you do not, you might risk sending different business partners with the same ID to SAP ERP, which leads to inconsistencies.

3.2.4.6 Perform Code List Mapping

For information on how to perform code list mapping, read the [Quick Start Guide](#).

3.2.4.7 Create ID Mapping

Purpose

This section describes how to create ID mapping for selected business objects such as sales. For these selected objects, ID mapping is created manually. ID mapping for most objects is carried out automatically during the initial load of data into the system. However, it can be checked and adapted in this view as well.

You can maintain the entries for ID mapping either directly in the system user interface or in a Microsoft Excel template, that can be downloaded from the user interface. For information on ID mapping using the Microsoft Excel template, see *ID Mapping using the Microsoft Excel Template*.

Prerequisites

Before you create ID mapping, the data for these objects must be maintained in the cloud solution. Also, data must have been migrated so that they can be mapped.

Procedure

1. In the *Administrator* work center under *Common Tasks*, choose *Edit ID Mapping for Integration*.
2. From the *Mapping Of* dialog box, choose the object for which you want to map the IDs
3. In the *System Instance ID* field, use the input help to select the ID of your SAP ERP system.
4. Click *Go*.
5. In the *External ID* column, enter the ID of the object in the system.
6. Repeat steps 2 to 5 for the following objects.
 - Company
 - Accounts
 - Contacts
 - Employees
 - Equipments
 - Functional locations
 - Materials
 - Measurement points
 - Planning group
 - Product categories
 - Planning group
 - Sales office
 - Sales organizations

i Note

ERP values for:

Product categories/ material group

ERP Customizing path

▶ *Logistics General* ▶ *Material Master* ▶ *Settings for Key Fields* ▶ *Define Material Groups* ▶

i Note

In the standard integration content, the product category in the Cloud solution is the material group in ERP.

Employees

▶ *Enterprise Structure* ▶ *Assignment* ▶ *Human Resource Management* ▶ *Assign employee subgroup to employee group* ▶ *Enterprise Structure* ▶ *Definition* ▶ *Human Resource Management* ▶ *Employee Groups* ▶

7. Save your entries.

3.2.4.7.1 ID Mapping using the Microsoft Excel Template

The Microsoft Excel® template for ID mapping allows you to maintain IDs easily.

i Note

You cannot use the Microsoft Excel Template to change mappings that have been created directly on the user interface. If you want to change mappings using the Microsoft Excel template, you must create them in this template as well.

Prerequisites

You have installed the *Add-In for Microsoft Excel*, which is available as a download in your system.

Procedure

Download the content to Microsoft Excel


1. From the *Mapping Of* drop-down box, choose object for which you want to download ID mappings.
2. In the *Business Instance ID* field, use the input help to select the ID of your SAP on-premise system.
3. Click *Go*.
4. Click *ID Mapping to Microsoft Excel*. The data is downloaded to an excel file.
5. Open the file, and accept messages to enable macros.
6. Go to *SAP Add-In Logon*, and provide the URL to Cloud system, and your user credentials, and click *Log On*.

i Note

The Local IDs correspond to the IDs used in the cloud solution and the External IDs correspond to the IDs in the SAP CRM system.

7. You can make the necessary changes and save the excel file.

Upload the changed Microsoft Excel document to Cloud

1. In the Cloud system, click *ID Mapping from Microsoft Excel* to download the excel template.
2. Open the file and accept messages to enable macros.
3. Go to *SAP Add-In Logon*, and provide the URL to Cloud system, user credentials, and click *Log On*.
4. Copy the content from the excel file where you have saved your changes.
5. Under **▶ SAP Add-In > Workbook > Save Data to**  in order to save data in the Cloud

3.2.4.8 Optional: Handling of Inconsistent Address Data

In addition to the topics we are covering as part of the Integration Guide map, there is an additional topic of handling inconsistent address data. This chapter describes how to turn-off the address checks provided by default. This section is optional.

Purpose

The system checks if address data, such as country, region, and postal code length, is consistent. Inconsistent address data leads to error messages and cannot be saved or activated unless you allow it by specifying it in Fine Tuning.

Procedure

1. In the *Business Configuration* work center, select the *Implementation Projects* view.
2. Mark the line that contains your project and click *Open Activity List*.
3. On the *Activity List* screen, select *Fine-Tune*.
4. Show *All Activities* and find for *Address Checks*.
5. Select *Address Checks* and click *Add to Project*.
6. Open *Address Checks*
7. Optionally, if you want to allow inconsistent address master data to be saved, select the check box *Allow saving of inconsistent address based on your business requirements*. Any inconsistent address data in the check results are shown as warnings, and the data will be saved. This setting affects addresses of master data, such as business partners and organizational units, when you maintain the data in the work center views for master data, during migration, and during data replication. Checks of address data for business documents are not affected.
8. Save and close the activity.

3.2.5 Configure Integration in SAP ERP

3.2.5.1 Add an Authorization Profile for a Role

You need to maintain an authorization profile for one of the following roles:

- SAP_SD_COD_INTEGRATION: This role contains the required authorization objects if the processing is done through IDoc/ALE technology in background (workflow)
- SAP_SD_COD_INTEGRATION_EXT: This role contains the required authorization objects if the processing is done through IDoc/ALE technology synchronously (without workflow)

The detailed information about the role can be found in the transaction *PFCG* in the role itself on the *Description* tab page.

Caution

Make sure to restrict authorizations, for example for sales areas or document types, depending on your needs and authorization concept.

Purpose

1. Go to transaction *PFCG*, and open a role.
2. On the *Authorizations* tab page, choose *Change Authorization Data*.
3. Expand the node *Check at Start of External Services*.
4. Next to the entry *Program, transaction or function*, choose *Change*.
5. In the *Define Values* dialog box, add the following entries.

Field	Entry
Serv. Type	WS
Service	ECC_SALESORDER009QR and ECC_CUSTOMER-QUOTE006QR

6. Choose [Copy](#).
7. Expand the node [Sales and Distribution](#).
8. For each of the entries [Sales Document: Authorization for Sales Document Types](#) and [Sales Document: Authorization for Sales Areas](#), make the following changes:
9. Make sure to generate the profile after you have maintained the necessary authorizations. For more information about Generating Authorization Profiles, see [▶ SAP Library for SAP ERP ▶ under SAP ERP Central Component Identity Management User and Role Administration of AS ABAP Configuration of User and Role Administration under ▶ under ▶ Role Administration ▶ Role Administration Function ▶ Generating Authorization Profile ▶](#).

3.2.5.2 SAP Customizing Implementation Guide in the ERP System

All the customization activities necessary to integrate SAP ERP with SAP Cloud for Customer are defined in a hierarchical structure in the SAP Implementation Guide structure. The necessary documentation is also made available with the activity.

For example, the structure contains the customizing activities for code lists, automatic generation of integration settings, manually maintaining the integration settings, and BADIs.

Purpose

1. In the ERP system, go to the transaction [SPRO](#), and click [SAP Reference IMG](#).
2. Expand Integration with Other mySAP.com Components and Integration with SAP Cloud for Customer
3. Run the report to automatically perform the basic configuration activities:

IMG Activity	Description
▶ Communication Setup Automatically ▶ Generate Integration Settings for Data Exchange ▶	<p>This activity will run the report RCOD_CREATE_CONNECTIVITY_SIMPL, and automatically configures the basic settings for establishing a connection between the systems. For example:</p> <ul style="list-style-type: none"> ○ Creates RFC destinations to connect from SAP ERP to SAP middleware ○ Creates port definition with the required configuration for outbound and inbound message types ○ Creates partner profiles with the required configuration for outbound and inbound message types ○ Maintains ALE distribution model ○ Activates a service ○ Maintains endpoints for services ○ Creates logical port in SOA Management for attachment replication ○ Processes jobs for inbound and outbound IDocs, and time slice reports <div style="border: 1px solid #ccc; background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <p>i Note</p> <p>The report only supports creation of entities, and does not update any existing entities.</p> </div>

4. If you want to manually update any entries, expand [▶ Communication Setup ▶ Manually Adjust Integration Settings for Data Exchange ▶](#)

ALE Settings for the HTTP inbound	<a one liner as to why this activity is necessary>
Define Logical System	The ERP system must be configured as clientindependent Customizing. The communication partner is not the middleware but the Cloud solution.
Define RFC destination	The ERP system must be configured as clientindependent Customizing. The RFC destination is required for the middleware system.
Maintain Port Definition	The ERP system must be configured as clientindependent Customizing.
Maintain Distribution Model	Create a distribution model to determine the system to which IDocs should be sent.
Register Service for IDoc Inbound	You need to register the IDoc inbound service if IDocs have to be received by ERP via SOAP/HTTPS.

ALE Settings for the HTTP inbound	<a one liner as to why this activity is necessary>
Maintain IDoc Partner Profile	Create a partner profile of type LS, and maintain the inbound and outbound parameters for inbound and outbound IDoc message types.
Setup ICF Nodes	<p>You can configure HTTP services and activate them individually, so HTTP requests can be handled in the work process of an SAP System (server and client).</p> <p>You need to activate the service /sap/bc/srt/IDoc (Inbound SOAP for IDoc) before registering it.</p>
Configuration in SOA Management	<p>In SOA Management, you need to perform configuration:</p> <ul style="list-style-type: none"> ○ To generate PDF files of sales orders or quotes in an opportunity ○ To maintain end points for services ○ To send attachments from SAP ERP to SAP Cloud for Customer ○ To send attachments from SAP Cloud for Customer to SAP ERP
Create Communication Users	You need to create a user in SAP ERP, which can be used by the Cloud solution for authentication against SAP ERP. You can enter this user when you configure outbound communication arrangements in the Cloud solution.
Maintain Authorizations	You need to maintain the assignments of authorization required for business transactions to your communication user.
Maintain Certificate to User Mapping	The client certificate (public key) of middleware system should be mapped to the communication user in the on-premise system.
Activate Event Linkage	You need to activate the event linkage for the object types.
Maintain Requirement Routine	<a one liner as to why this activity is necessary>
Maintain Output Determination Procedure	<a one liner as to why this activity is necessary>
Maintain Output Types	You need to define all the output types representing supported SD outputs, such as quotations, order confirmations, and delivery notes in the SAP system.
Maintain Output Condition Records	You need to add your Sales Document Type to the output type in this transaction.

- Based on the objects you want to replicate between ERP and SAP Cloud for Customer, perform the necessary configuration activities under *Application-Specific Settings*:

ALE Settings for the HTTP inbound	<a one liner as to why this activity is necessary>
Sales Processing > Setup: Sales Document > Define Sales Document Type	To define sales document type request for customer quote and sales order.
Sales Processing > Setup: Sales Documents > Assign Item Categories	To create item category determination for the defined sales document types
Sales Processing > Setup: Sales Document Confirmation > Maintain Output Types	To create output types, say, COD1 and COD4, and add the processing routine for the ALE
Sales Processing > Setup: Sales Document Confirmation > Maintain ALE Outbound Process Code	To create the process codes for objects that need confirmation, say opportunity and service request.
Sales Processing > User Exists > User Exit for Sales Order Status Replication	To implement an SAP Note to receive information about any changes made to sales order's delivery and invoice status changes in the sales order in Cloud..
Number Ranges > Define Number Ranges for Customer and Contacts	To ensure that the customer and contact ID in the SAP ERP system is the same as in the SAP Cloud for Customer system.
Maintain Workflow for Incoming Request > Definition of an Agent Determination Rule	To maintain workflow for incoming requests from SAP Cloud for Customer.
Maintain Workflow for Incoming Request > Maintain Agent Assignments for Standard Tasks	To maintain workflow for incoming requests from SAP Cloud for Customer.
Maintain Workflow for Incoming Request > Maintain Agent Assignments in Workflow Template	To maintain workflow for incoming requests from SAP Cloud for Customer.
Service Processing > Time Sheet Integration > Assign Data Entry Profile	To specify the data entry profile, which should be used for the transfer of confirmation items and time reports from SAP Cloud for Customer to the cross-application time sheet (CATS) in SAP ERP.
Service Processing > Time Sheet Integration > Define Derivation of Activity Type	To define the activity type for a service material, which should be used when transferring confirmation items with a service from the Cloud system to the time sheet in the ERP system.
Service Processing > Controlling Integration > Create and Change Controlling Scenario	To create a controlling scenario. If you have specified controlling type and singleobject controlling for a transaction type in the IMG activity and Controlling Scenarios, assign one of the controlling scenarios created here.

ALE Settings for the HTTP inbound

<a one liner as to why this activity is necessary>

▶ [Service Processing](#) > [Controlling Integration](#) > [Establish Controlling Type and Controlling Scenarios](#) ▶

To specify the controlling type for a transaction type. If you selected single-object controlling as the controlling type, you also specify the controlling scenario.

▶ [Service Processing](#) > [Logistics Integration](#) > [Assign Plant to Service Organizational Units](#) ▶

As SAP Cloud for Customer does not have any plant information, and a plant is necessary for processes in ERP, you need to define how the plant and other logistic relevant information are determined.

6. In case you want to enhance the standard delivered content, you can check for available BAdIs and implement them. We recommend that you perform business checks based on the receiver logical system when multiple receivers are available in the system landscape. You can find BAdIs:

- For generic enhancements, under ▶ [Communication Setup](#) > [BAdIs](#) > <business object> ▶

BAdI	Description	Classic BAdI Definition Name	Enhancement Spot
IDoc: Inbound Mapping		IDOC_DATA_MAPPER	
IDoc: Adding additional segments		IDOC_DATA_INSERT	
IDoc: Creation check		IDOC_CREATION_CHECK	
Reduce Change Pointers for Message Type	This reduces the scope of change pointers to be written to changes relevant to the distribution.	BDCP_BEFORE_WRITE	

- For each object under ▶ [Application](#) > [Specific Settings](#) > <business object> > [BAdIs](#) ▶

BAdI	Description	Classic BAdI Definition Name	Enhancement Spot
Organizational Units IDoc: Outbound Mapping	This BAdI when implemented will adjust the outbound mapping message from ERP for Organization replication.	COD_ERP_ORG_UN IT_OUTBOUND	
Quotation Pricing Request Service: Inbound and Outbound Mapping	This BAdI when implemented will adjust the inbound and outbound data for quotation pricing request.	COD_SLS_SE_ADJ UST_DATA	

BAdI	Description	Classic BAdI Definition Name	Enhancement Spot
Opportunity Pricing Request Service: Inbound and Outbound Mapping	This BAdI when implemented will adjust the inbound and outbound data for opportunity pricing request.	COD_SLS_SE_SLS ORDPRCGINFOQR	
Print Preview Service: Output Type Retrieval	This BAdI when implemented will adjust the retrieval of output type for print preview different from the default one.	COD_SLS_SE_GET_OUT- PUT_TYPE	
Adjust Sales order replication information	This BAdI when implemented will adjust the sales order replication data in ERP.	COD_SLS_SE_SALE SOR- DER_REPL	
ERP Document flow in C4C: Output mapping	This enhancement will be used by the function module 'COD_ERP_GET_DOC_FLOW'. This can be used for any type of changes to a document flow which will be sent to an external system from an SAP ERP system.		BADI_COD_ERP_DOC _FLOW
User Exit for Sales Order Status Replication	When ECC sales order's delivery and invoice status changes, these statuses in the corresponding SAP Cloud for Customer sales order is not updated. Check Note 2142202		
Workflow: Follow-Up Document Type Determination	This BAdI when implemented is for the determination of follow up document type for workflows.	BADI_COD_ERP_IN T_IN- QUIRY_PROC	
BAdI: Enhancements for Service Processing	This BAdI when implemented will adjust the service processing data in ERP.	BADI_COD_ERP_SE RVICE_CONF	

BAdI	Description	Classic BAdI Definition Name	Enhancement Spot
Enhancement for Time Re- port Replication	This BAdI when imple- mented will adjust the time entries booking in ERP.		BADI_COD_CATS_TIME

3.2.5.3 Area Menu

An area menu is available to consolidate all the commonly used transactions for integrating SAP ERP with the SAP Cloud for Customer solution.

You can access this area menu in the transaction COD_INT_MENU.

The transactions are grouped as follows:

- *Monitor and Process Errors*: Transactions used to monitor IDocs, XML messages, scheduled jobs, and RFC queues, and also the transactions to reprocess IDocs, and analyze application logs.
- *Periodic Processing*: Transactions used to work with change pointers, send and process collected IDocs, and distribute time-dependent data.
- *Initial Loading or Resending Objects from SAP ERP to SAP Cloud for Customer*: Transactions of all reports that can be used to load and send data from SAP ERP to SAP Cloud for Customer system.

For more information about the reports, and the sequence in which these reports should be run, see the Initial Load section in the **Integration with SAP ERP** guide.

3.2.6 Configure SAP ERP Integration in PI System

Purpose

Configure integration between SAP ERP and SAP Cloud for Customer using SAP PI as the middleware. SAP delivers the following four process integration scenarios for the integration of SAP Cloud for Customer with SAP ERP, using PI in dual stack::

- **ERP > Cloud for Customer**
 - **Send Material Master > Receive Material Master**
 - **Send Customer Master > Receive Customer Master**
 - **Send Organization Address > Receive Organization Address**
 - **Send Contact Partner Address > Receive Contact Partner Address**
 - **Send Customer Hierarchy > Receive Customer Hierarchy**
- **Cloud for Customer > ERP**
 - **Send Customer Master > Receive Customer Master**
 - **Send Organization Address Update > Receive Organization Address Update**

- ▶▶ *Send Contact Partner Address Update* ▶ *Receive Contact Partner Address Update* ▶
- ▶▶ *Send Business Partner Customer Fact Sheet Query* ▶ *Receive Business Partner Customer Fact Sheet Query* ▶
- ▶▶ *ERP* ▶ *Cloud for Customer* ▶
 - ▶▶ *Send Opportunity Confirmation* ▶ *Receive Opportunity Confirmation* ▶
 - ▶▶ *Send Service FollowUp Document* ▶ *Receive Service FollowUp Document* ▶
 - ▶▶ *Send Sales Org Hier* ▶ *Receive Sales org Hierarchy* ▶
- ▶▶ *Cloud for Customer* ▶ *ERP* ▶
 - ▶▶ *Request Pricing* ▶ *Simulate Sales Order for Price Determination* ▶
 - ▶▶ *Send Customer Quote/Sales Order Request* ▶ *Create Inquiry* ▶
 - ▶▶ *Trigger Query Customer Quotes* ▶ *Query Customer Quotes* ▶
 - ▶▶ *Trigger Query Customer Orders* ▶ *Query Sales Orders* ▶
 - ▶▶ *Trigger Query Sales Doc Print Preview* ▶ *Query Sales Doc Print Preview* ▶
 - ▶▶ *Send Service Request to Sales Order Request* ▶ *Receive Sales Order request from Service Request* ▶
 - ▶▶ *Send Time Report* ▶ *Receive Time Report* ▶

i Note

In case of JAVA only installation of PI system (AEX or PO) the Process Integration Scenario names are as listed below:

- COD_ERP_MasterDataSync_AAE
- COD_ERP_BusinessDataSync_AAE

All of the above scenarios are included in the software component COD_ERP_INT_IC 6.00.

3.2.6.1 Create a Key Storage View and Load the Certificate

Purpose

In case you exchange a certificate with the Cloud solution, this certificate must be signed by one of the certification authorities listed in the section [Supported Certification Authorities \(PI Integration\) \[page 55\]](#).

If you generated the certificate, while specifying inbound communication credentials in a communication arrangement, this should be imported into a view in a key storage.

Prerequisites

The certificate file is in the Base64 format.

i Note

Outbound communication from PI is always managed by a PI administration in NetWeaver Administrator.

Procedure

1. Logon to NetWeaver Administrator (NWA) of the SAP PI system.

2. In the *Configuration* tab, click *Certificate and Keys*.
3. In the *Key Storage* tab, click *Add View*.
4. Enter a name and description, and click *Create*.
5. Select the view you just created, and click *Import Entry*.
6. In the *Entry Import* dialog, do the following:
 1. Select the entry type as *PKCS#12 Key Pair*.
 2. Select the file that you created as the key pair in SAP Cloud for Customer.
 3. Enter the corresponding password.
 4. Click *Import*.

3.2.6.2 Import the Root Certificate

You can import the root certificate that is used to sign the SAP Cloud for Customer certificate. Depending of the configuration of the PI system and which is the PSE provider, the location on where the root certificate has to be imported change. This is determined by the parameter `ssl/pse_provider`.

If the parameter `ssl/pse_provider` is:

- ABAP, load the certificate into SSL Server standard for ABAP
- JAVA or SAP PI AEX (JAVA only), load certificate in `ICM_SSL_<instanceID>_<port>` view for JAVA

Prerequisites

You know the path to the root certificate file that was exported. For more information, see [Export the Root Certificate \[page 64\]](#).

Procedure

Load the certificate into SSL Server standard for ABAP

1. Using SAPGUI, logon to the ABAP stack of the SAP PI system, and open transaction *STRUST*.
2. Open *SSL server standard*, and click *Import* under *Certificate*.
3. Select the location of the root certificate and click *Continue*.
4. Under *Certificate*, click *Add to certificate List* and click *Save*.

Load the certificate in `ICM_SSL_<instanceID>_<port>` view for JAVA

1. Logon to NetWeaver Administrator (NWA) of the SAP PI system.
2. In the *Configuration* tab, click *Certificate and Keys*.
3. Under *Key Storage Views*, check if the root certificate, say *SAPPassportCA*, used to sign the SAP Cloud for Customer x.509 certificate is already imported into the `ICM_SSL_<instanceID>_<port>` view within the key storage.
4. If the root certificate is not there, it can be imported by clicking *Import Entry* from the *View Entries* tab.
5. Select the entry type as *X.509 Certificate*, and then the location of the saved file and click *Import*.
6. Set the value for `VCLIENT` to 1 on the profile parameter `icm/server_port_<xx>` for the corresponding SSL port used. For example: `icm/server_port_5 = PROT-`

3.2.6.3 Create ERP Configuration Scenarios

Prerequisites

You have imported the software component COD_ERP_INT_IC 6.00 into the Enterprise Service Repository (Integration Repository) of your PI system (see section [Import TPZ Package in ESR \[page 52\]](#)).

i Note

This section describes steps for the dual stack. The main difference in case of JAVA only installation of PI system (AEX or PO) is that the scenario names differ, and are listed below:

- <Prefix>_COD_ERP_MasterDataSync_AAE
- <Prefix>_COD_ERP_BusinessDataSync_AAE

Procedure

1. On the PI browser page, open **Integration Builder**.
2. Switch to *Configuration Scenario* View
3. From the menu, select **Object > New** to pop-up a dialog box containing the list of Integration Builder objects
4. On the left-pane, select *Configuration Scenario* under the section *Administration*
5. Enter the *Configuration Scenario* as **<Prefix>_COD_ERP_MasterDataSync** and select *Type of ES Repository Model as Process Integration Scenarios* (Prefix e.g. C4C_ERP800_COD_ERP_MasterdataReplication, where C4C is the Cloud Solution and ERD800 is the ERP system)
6. In the ES Repository Model Reference(s), use the input help to select the Process Integration Scenario **COD_ERP_MasterDataSync**. Make sure to select the Process Integration Scenarios from the namespace <http://sap.com/xi/CODERINT/IC> and the Software Component **COD_ERP_INT_IC 6.00**.
7. The namespace and the Software Component Version will be automatically populated.
8. Click *Create* and *Save* the Configuration Scenario
9. Repeat the steps 3 – 8 for the configuration scenario **COD_ERP_BusinessDataSync**.

3.2.6.4 Configure Interfaces

You can configure interfaces for the dual stack.

i Note

The main difference in case of JAVA only installation of PI system (AEX or PO) is that the Process Integration Scenario name differs, and are listed below:

- COD_ERP_MasterDataSync_AAE
- COD_ERP_BusinessDataSync_AAE

Procedure

1. On the PI browser page, open *Integration Builder*.

2. Switch to *Configuration Scenario View*
3. On the left-pane double-click to open the configuration scenario *<Prefix>_COD_ERP_MasterDataSync* and switch to the edit mode.
4. On the *ES Repository Model* tab click the *Model Configurator*. The Model Configurator creates all the required configuration objects to establish the connection between the Cloud solution and SAP ERP.
5. Click *Select Component View...* to list all the available component view, and then apply the component view **COD_ERP_MasterDataSync**.

i Note

A component view is a variant of the configuration scenario. Select the component view depending upon the enhancement package of your SAP ERP release. Select the component view **Cloud for Customer and EHP5 for SAP ERP 6.0** upwards if your SAP ERP is ERP 6.0 and EHP5 or above.

6. Select the swim lane **Cloud for Customer**, or select *Assign Component...*
7. In the bottom-pane, select *Business System Components for A2A tab*, use the input help of the *Communication Component* field to add the Cloud solution that is defined (Refer section [Create SLD Configuration \[page 48\]](#)).

→ Tip

While selecting the *Communication Component* from the input help, set the Communication Component Selection option as *All Business System Components* under the *Search Criteria*.

8. Repeat steps 6 and 7 for the **SAP ERP 7.0** swim lane to add SAP ERP system as the *Communication Component*.
9. Select *Configure Connections...*
10. In the bottom pane, select the *Connections from Component Assignment* tab, highlight the *Communication Channel* field for the *Sender Business System Components*.
11. Select *Create Communication Channel with Template*.
12. In the *Create Communication Channel* dialog box, select *Continue* to go to the next screen that shows the pre-populated communication channel template. Click *Continue* to proceed to the next step.
13. The system provides a defined name for the *Communication Channel* and shows the respective *Communication Component*. To confirm the defined name and create the communication channel, click *Finish*.
14. A confirmation message is displayed for a successful creation of the communication channel, click *Close* to proceed further.
15. Highlight the *Communication Channel* field for the *Receiver Business System Components* and repeat the steps 11 to 14 to create the receiver communication channel.
16. Repeat the steps 10 to 15 for all other connections. (Select *Next Connection*. To proceed from one connection to the next until communication channels are created for all the connections.)

i Note

If a communication channel has already been created and is used a second time, then you can use the input help to select the communication channel (e.g. For SAP ERP system for IDoc communication there is only one receiver communication channel is created i.e. ERP_Idoc_Receive and will be reused for all the connections where SAP ERP is the receiver). Sender Communication Component does not require a communication based on IDOC ABAP adapter for PI dual stack installations.

17. Select *Create Configuration Objects*, and in the *Create Configuration Objects* dialog box, select the *Generation*, and uncheck the *Activate Changes* checkbox.

18. Select *Start*.
19. Close the log dialog box.
20. In the *Model Configurator*, select *Apply*. On the configuration scenario screen select *Objects* tab to view the list of objects that are generated.
21. Save the configuration scenario.
22. Repeat the steps 3 to 22 for the **COD_ERP_BusinessDataSync** by opening up the configuration scenario **<Prefix>_COD_ERP_BusinessDataSync**.

i Note

Refer to the Appendix section on list of Communication Channels that are generated by the Model Configurator (refer section [Generated Communication Channels \[page 102\]](#)).

3.2.6.5 Maintain Communication Channel for ERP Integration

1. On the PI browser page, open *Integration Builder*.
2. In the left-hand frame switch to *Object View*
3. In the left-hand frame, follow the path **► Communication Component without Party ► Business System ► <Cloud Solution Business System (COD)> ► Communication Channel ►** to display the communication channel list.
4. Double click and open the receiver SOAP communication channel (normally receiver communication channel ends with suffix *_Receive*) one after the other to maintain the *Target URL*.
5. On the *Display Communication Channel* screen, switch to *Edit* mode.
6. For SOAP adapter the *Target URL* will be pre-populated, however the hostname and port needs to be adjusted to the hostname and port of your cloud solution. Refer to the Appendix section for the list of communication channels and their respective Target URL [Communication Channel Target URL \[page 106\]](#).

i Note

The target end points must be maintained in the following format:

- For Cloud Solution `https://<Cloud system host>:<port>/sap/bc/srt/scs/sap/<service>?MessageId`
- For SAP ERP `https://<Cloud system host>:<port>/sap/bc/srt/scs/sap/<service>?sap-client=<client>`

7. To configure the user or certificate authentication, select any one of the following checkbox::
 - *Configure User Authentication*
 - *Configure Certificate Authentication* .
 The following must be maintained:
 - **Keystore Entry** – Select the keypair that was created while creating the communication arrangement. [Configure Communication Arrangements \[page 60\]](#)
 - **Keystore View** – Select the view that you created in NWA key store [Create a Key Storage View and Load the Certificate \[page 76\]](#).

i Note

For user authentication, enter the user from the Cloud solution. While creating an inbound communication arrangement the cloud solution provides the communication user. If the communication arrangement is not done yet, the communication channel can be modified later after completing the communication arrangement in the cloud solution.

- To configure the proxy, select [Configure Proxy](#) and enter the proxy host and the port. Select the [Configure Proxy User Authentication](#) if required and maintain the user name and password.
- Save the changes and close the communication channel.
- Repeat the steps 4 – 9 to configure the [Target URL](#) for all receiver SOAP communication channel.
- In the left-pane, select **► Communication Component without Party ► Business System ► <ERP System> ► Communication Channel ►** to display the communication channel list.
- If there are any receiver SOAP communication channels, then repeat steps 4 to 9.
- Double-click to open the receiver IDOC communication channel (normally receiver communication channel ends with suffix _Receive e.g. ERP_Idoc_Receive) and switch to the Edit mode.
- Maintain the RFC Destination created in the section RFC Destination to ERP and the Port (refer to [PI Port Configuration \[page 50\]](#)).
- Save the changes and close the communication channel.

Example of SOAP and IDoc Receiver Communication Channel Configuration

	User Entry	Example
For SOAP Receiver Channel	Add the HTTP connection to the reverse proxy that is installed by the Cloud solution provider and the pertaining port in front of the default entry. Do not delete the default entry of this path.	The URL for the Communication Channel COD_SOAP_BusinessPartnerReplication_Receive should conform to the following format: https:// <hostname>:<port>/sap/bc/srt/scs/sap/businesspartnererereplication?MessageId
For IDOC Receiver Channel	For the SAP ERP system, include the target RFC destination and the port name of the corresponding receiver SAP ERP system.	For communication channel ERP_Idoc_Receive – for example, for system ERD and client 800 – specify RFC destination ERDCLNT800 and port SAPERD
For IDOC_AAE Receiver Channel	For the SAP ERP system, include the target RFC destination.	For a system named ERP - specify the destination name as XI_IDOC_DEFAULT_DESTINATION_ERP.

i Note

For list of URL respective to each communication channels please refer to Appendix section [Communication Channel Target URL and Destinations \[page 106\]](#).

3.2.6.6 Adjust Routing Conditions for ERP Integration

i Note

This section is not applicable for Java-only installation of PI or IDOC_AAE adapter.

As a single IDoc (for example, ORDERS.ORDER05) is used for multiple interfaces, routing conditions are required to identify the receiver interface corresponding to this sender interface. For **ERP > COD**, routing conditions must be adjusted when the sender interface is FollowupDocument, QuoteToSalesOrderConfirmation and QuoteToSalesOrderNotification

The following routing conditions must be added in the *Interface Determination* object of the configuration scenario ERP_COD_BusinessDataSync.

i Note

For information about [how to add content-based routing condition in PI](#), visit SAP Help Portal.

Procedure

1. On the PI browser page, open *Integration Builder*.
2. Switch to *Configuration Scenario View*.
3. On the left pane, go to configuration scenario <Prefix>_COD_ERP_BusinessDataSync □ Interface Determination to list the interface determination for the sender IDoc interface ORDERS.ORDER05.
4. Double-click to open the interface determination for ORDERS.ORDER05 and switch to edit mode
5. Maintain the routing condition using the condition editor as per the table given below

For details on the routing conditions and the operation mapping, see [Integration Flows](#) spreadsheet.

3.2.6.7 Maintain Value Mapping between Cloud and ERP in PI

The value mappings listed in the steps below needs to be created in the Integration Builder of the PI system to enable integration between SAP Cloud for Customer and on-premise using SAP PI.

Procedure

1. On the PI browser page, open **Integration Builder**.
2. Go to menu path **Tools > Value Mapping**
3. Enter the *Source Agency*, *Source Schema*, *Target Agency* and *Target Schema* as per the table given above
4. Click *Display* to open up the *Value Mapping maintenance* screen.
5. Switch to the *Edit* mode to maintain the Value Mapping. For information on the values that needs to be mapped between the systems, see [PI Value Mappings \[page 106\]](#).
6. Save the value mapping
7. Repeat the steps 2 – 6 for all the Agency and Schemas as given in the Appendix.

i Note

Transfer accounts with sales area data from Cloud to ERP

You can create and edit sales area information in an account in the Cloud system, and also transfer it to ERP. Special consideration when you create a new sales area in Cloud and transfer it to SAP ERP:

- Few sales-area-specific fields may be mandatory in your ERP system (depending on your system configuration) which are not available in Cloud. This can lead to errors in IDoc processing in ERP.
- To overcome this, you can use BAdIs to fill the mandatory fields, for example, with default values.
- SAP Note 2065329 provides an example code for BAdI implementation

If you **do not want** to use this feature, deactivate sales area data segment /DEBMAS06/IDOC/E1KNA1M/E1KNVVM in the target interface through the message mapping COD_ERP_BusinessPartnerERPBulkReplicateRequest.

3.2.6.8 Activate Changes in Change List

Procedure

1. In the **Integration Builder**, select *Change Lists* tab.
2. Select your change list. From the context menu choose *Activate*.

i Note

If you want to test the end-to-end communication of a selected scenario, do the following during the configure phase:

1. Activate the scoping.
2. Create a communication system.
3. Configure the selected communication arrangement.
4. Export the certificate used to sign the SAP Cloud for Customer x.509 certificate.
5. Import the root certificate used to sign the SAP Cloud for Customer certificate.
6. Load certificate in ICM_SSL_<instanceID>_<port> view for JAVA.
7. Maintain the communication channel.
8. Adjust the routing conditions.
9. Maintain value mapping.
10. Activate the changes in the change list.
11. Perform code list mapping.

3.2.7 Extend Prepackaged Integration

If you want additional fields from your on-premise system to be displayed in the Cloud solution, you can extend pre-packaged content delivered by SAP (iFlows). SAP recommends you to use SAP Key User Tool (KUT) for simple extensions, and the SAP Cloud Studio for complex extensions. Once you have extended the source and target interfaces, you should map the extended field(s) in the SAP middleware system.

For more information, see the following:

- [Extending SAP Cloud for Customer](#) (|) [SAP Help Portal](#) > [SAP Cloud for Customer](#) > [Integration](#) > [Extending SAP Cloud for Customer with SAP Cloud Platform](#) >
- [How to Extend SAP Cloud for Customer - SAP On-Premise Pre-Packaged Integration Content](#) >

3.2.8 Perform SAP ERP Initial Data Load

The Data Load Phase defines how to extract data from the SAP ERP system and loads it into the Cloud solution. As a prerequisite for the initial load, you must specify the entire configuration settings for SAP ERP, SAP middleware such as SAP Process Integration or SAP Cloud Integration, and Cloud systems.

The initial load guide describes the configuration settings necessary to send master data from the SAP ERP system to the cloud solution and to process data in the SAP ERP system that was sent from the cloud solution. When you send and receive IDocs, SAP ERP and the cloud solution expect different sequences for customers and addresses. In order to send and process IDocs in the right sequence, you need to adhere to the sequence of steps as mentioned in the guide while defining background jobs.

For more information, see the Initial Load section in the **Integration with SAP ERP** guide.

For information on how you can plan for optimal performance during high volume data loads into your SAP Cloud for Customer solution from an SAP on-premise system, see [Best Practices for Optimal Performance of Data Loads into SAP Cloud for Customer](#) >

3.2.9 Perform SAP ERP Delta Load

The Data Load Phase defines the steps required for the delta load of customer hierarchies. During the initial load, the change pointers created for customer hierarchy takes only the current state into account. Hence, there is a mechanism necessary to also identify the time slice changes. As this is not triggered by any user interaction, there are no change pointers created. For example, an end date for a specific entry is reached, and the customer hierarchy turns invalid. If the change pointers are not created, the hierarchy deletion information is not reflected in the Cloud solution.

To overcome this issue, the report RCOD_CUSTHIER_TIME_SLICES must be scheduled as daily background job in transaction SM36 in your ERP system. It discovers time slice changes and creates change pointers for the same.

3.2.10 Monitor Message Flow Across Systems

Messages are exchanged between the SAP on-premise, SAP Middleware and SAP Cloud for Customer systems, during data load and go-live phases. These messages need to be monitored for following reasons:

- Identify incorrect data in messages
- Narrow down on the component where the message has failed

- Check connectivity issues between the components

3.2.11 Appendix

[Configure Phase: Integration for Industries \[page 85\]](#)

[PI Configuration for ERP Integration \[page 102\]](#)

This section covers the PI configuration for ERP Inegration.

[PI Value Mappings \[page 106\]](#)

3.2.11.1 Configure Phase: Integration for Industries

This chapter in the integration guide contains integration information specific to industries solutions in SAP Cloud for Customer. It is recommended that you read through the information in the section relevant for each industry solution before setting-up the landscape..

3.2.11.1.1 Professional Services: Integration Overview

The SAP Cloud for Customer for Professional Services integration with the SAP ERP system connects the cloud solution to the SAP Commercial Project Management (CPM) add-on. This section of the guide contains information that is specific to the Professional Services solution.

- **Communication Arrangement:** The standard solution delivers the communication arrangement **CPM Opportunity Project Replication to External System** for the Professional Services solution.
- **Business Configuration Sets:** The following BC sets must be scoped for the Professional Services solution.
 - `BC_A1S_CRM_PS_PROJECTSTAGE` – Maintain all the project stages supported in the CPM system in this BC set.
 - `BC_A1S_CRM_PS_PROJECTTYPE` – Include the set of CPM project stages in this BC set.

i Note

The translation is allowed on the configured text. The *Project Stage ID* and *Description* are supported in the current release version.

3.2.11.1.1.1 Communication from SAP Cloud for Customer

In the scenarios for opportunity create or update in the cloud solution, an outbound interface to PI system is triggered. The PI system in turn calls the proxy class in receiver SAP ERP system. The standard CPM RFCs

(create - /CPD/CREATE_MP_FP and update - /CPD/UPDATE_MP_FROM_ITEMS) within this proxy class are implemented to create or update the corresponding master project in CPM.

Response from CPM: The CPM system sends an asynchronous message to the cloud solution with details such as ID, GUID and URL of the master project in CPM.

3.2.11.1.2 Communication from SAP Commercial Project Management (CPM)

The following process flow is triggered from CPM system when a master project is modified:

- The Business Add-In `COD_PS_CPM_PROJECT_GET_BADI` provided in the standard solution calls the standard CPM RFC `COD_PS_GET_PROJECT_DETAILS`. The updated data in CPM is sent to the importing parameters of this function module.

i Note

Relevant logic has been provided in the method `GET_PROJECT_DETAILS` of this RFC to map the incoming data from CPM to the outgoing data to PI system via the proxy. You can modify this logic and set the flag `SKIP_FLAG` in the BAdI to 'X'. This will override the standard mapping and implement custom logic.

- The proxy class within this RFC - `COD_PS_GET_PROJECT_DETAILS` in turn passes the data to the PI system from where the updates are replicated to the cloud solution.

3.2.11.1.2 (Deprecated) Apparel and Footwear Solution (AFS): Integration Overview

This chapter contains information related to the Integration between SAP Cloud for Customer and SAP AFS.

The following communication scenarios are predelivered as part of the integration:

- AFS Characteristics replication (AFS to Cloud for Customer)
- AFS Grid replication (AFS to Cloud for Customer)
- AFS Products replication (AFS to Cloud for Customer)
- Pricing (Cloud for Customer to AFS synchronous)
- Image (Cloud for Customer to External Image Server synchronous)
- Sales Order simulation (Cloud for Customer to AFS synchronous)
- Image (Cloud for Customer to External Image Server synchronous)

i Note

Set up the interfaces for replicating Business Partner and Organization Unit between AFS and SAP Cloud for Customer solutions in addition to the AFS specific integration scenarios listed above. In addition, perform the Product Category ID Mapping.

Perform the replication of AFS characteristics, grid, and products in the following order:

► *Characteristics* ► *Grid* ► *Products* ►

You must follow the order, as these master data objects are dependent on each other.

❖ Example

AFS product refers to an AFS grid.

i Note

Follow the order, as these master data objects are dependent on each other.

i Note

This standard ERP report **RCOD_CREATE_CONNECTIVITY_SIMPL** which is used for creating connectivity objects for interfaces, is not used for the AFS solution. Hence, you must define the connectivity objects for interfaces for AFS objects manually.

3.2.11.1.2.1 AFS Characteristics Replication

IDoc type to be configured on AFS: J3ACHRMAS . J3ACHRMAS04

i Note

For IDoc related configurations like port, partner profile, distribution model etc, refer to the section on [\[\[unresolved text-ref: ERP: Configuration\]\]](#).

Process Integration Scenario in PI:

- For dual stack PI systems: COD_ERP_AFSMasterDataSync Namespace: http://sap.com/xi/CODERINT/IC%20%20SWCV:%20COD_ERP_INT_IC%206.00
- For single stack PI systems: COD_ERP_AFSMasterDataSync_AAE Namespace: http://sap.com/xi/CODERINT/IC%20SWCV:%20COD_ERP_INT_IC%206.00

Sender Interface: J3ACHRMAS . J3ACHRMAS04 Namespace: <http://sap.com/urn:sap-com:document:sap:idoc:messages%20SWCV:%20P3A%20V603>

Receiver Interface: AFSBusinessAttributeReplicationIn Namespace: <http://sap.com/xi/A1S/Global%20SWCV:%20SAP%20BYD%202.40>

Operation Mapping: ERP_COD_AFS_CharacteristicReplicate Namespace: http://sap.com/xi/CODERINT/IC%20SWCV:%20COD_ERP_INT_IC%206.00

SOAP receiver Communication Channel Path: [\[\[unresolved text-ref: https://<host>:<port>/sap/bc/srt/scs/sap/businessattributereplicationre?MessageId\]\]](https://<host>:<port>/sap/bc/srt/scs/sap/businessattributereplicationre?MessageId)

Communication Scenario to be maintained on Cloud for Customer Communication Arrangement:

AFS Business Attribute and Assignment Replication (Only the inbound service “Replicate Business Attribute from SAP Business Suite” is relevant. The other two inbound services “AFS Grid Replication” and “AFS Material Replication” are not used)

Code list mappings: NA.

→ Recommendation

The AFS report RBDSECHR (Or transaction BD91) must be used to trigger the AFS characteristics IDocs from AFS system.

i Note

It is not possible to distribute AFS characteristics via ALE, as this needs to be implemented in the AFS backend system for transferring Characteristics master data via ALE. For details see SAP Note: [1169383](#)

3.2.11.1.2.2 AFS Grid Replication

IDoc type to be configured on AFS: J3AGRI . J3AGRI02

i Note

For IDoc related configurations like port, partner profile, distribution model etc, refer to the section on [\[\[unresolved text-ref: ERP: Configuration\]\]](#).

Process Integration Scenario in PI:

- For dual stack PI systems: COD_ERP_AFSMasterDataSync Namespace: http://sap.com/xi/CODERINT/IC%20%20SWCV:%20COD_ERP_INT_IC%206.00
- For single stack PI systems: COD_ERP_AFSMasterDataSync_AAE Namespace: http://sap.com/xi/CODERINT/IC%20%20SWCV:%20COD_ERP_INT_IC%206.00

Sender Interface: J3AGRI . J3AGRI02 . Namespace: <http://sap.com/urn:sap-com:document:sap:idoc:messages%20SWCV:%20P3A%20V603>

Receiver Interface: AFSBusinessAttributeGridReplicationIn. Namespace: <http://sap.com/xi/A1S/Global%20SWCV:%20SAP%20BYD%202.40>

Operation Mapping: ERP_COD_AFS_GridReplicate . Namespace: <http://sap.com/xi/CODERINT/IC>

SWCV: COD_ERP_INT_IC 6.00

SOAP receiver Communication Channel Path: [\[\[unresolved text-ref: https://<host>:<port>/sap/bc/srt/scs/sap/afsgridreplicatein?MessageId\]\]](https://<host>:<port>/sap/bc/srt/scs/sap/afsgridreplicatein?MessageId)

Communication Scenario to be maintained on Cloud for Customer Communication Arrangement:

Replicate AFS Grid.

Code list mappings: NA.

i Note

The AFS report J_4ASGRI (Or transaction J4A-) must be used to trigger the AFS Grid IDocs from AFS system for initial load purposes. For triggering Delta updates, the report RBDMIDOC must be scheduled with the appropriate variant. Distribution model must be maintained in transaction BD64.

3.2.11.1.2.3 AFS Products Replication

IDoc type to be configured on AFS: J3AMAT. /AFS/MATMAS05.

i Note

For IDoc related configurations like port, partner profile, distribution model etc, refer to the section on [\[\[unresolved text-ref: ERP: Configuration\]\]](#).

Process Integration Scenario in PI:

- For dual stack PI systems: COD_ERP_AFSMasterDataSync . Namespace: http://sap.com/xi/CODERINT/IC%20%20SWCV:%20COD_ERP_INT_IC%206.00
- For single stack PI systems: COD_ERP_AFSMasterDataSync_AAE. Namespace: http://sap.com/xi/CODERINT/IC%20%20SWCV:%20COD_ERP_INT_IC%206.00

Sender Interfaces: J3AMAT. /AFS/MATMAS05. Namespace: [\[\[unresolved text-ref: urn:sap-com:document:sap:idoc:messages SWCV: P3A V603\]\]](#).

Operation Mapping: ERP_COD_AFS_MaterialReplicateBulk . Namespace: http://sap.com/xi/CODERINT/IC%20%20SWCV:%20COD_ERP_INT_IC%206.00

SOAP receiver Communication Channel Path: [\[\[unresolved text-ref: https://<host>:<port>/sap/bc/srt/scs/sap/afsmaterialreplicatein?MessageId\]\]](#).

Communication Scenario to be maintained on C4C Communication Arrangement: Replicate AFS Products.

Code list mappings:

Maintain Code List Mappings for the following entities:

- Distribution Channel
- Unit Of Measure

i Note

The AFS report J_4ASMAT (Or transaction J4A0) must be used to trigger the AFS Products IDocs from AFS system for initial load purposes. For triggering Delta updates, schedule the report RBDMIDOC with the appropriate variant.

3.2.11.1.2.4 Price from AFS

As the AFS Material Price is not replicated to SAP Cloud for Customer, there is a synchronous runtime outbound service call made from SAP Cloud for Customer to AFS backend to fetch the AFS material price, including the grid-specific price for an AFS material.

Process Integration Scenario in PI:

- For dual stack PI systems: COD_ERP_AFSMasterDataSync . Namespace: http://sap.com/xi/CODERINT/IC%20%20SWCV:%20COD_ERP_INT_IC%206.00
- For single stack PI systems: COD_ERP_AFSMasterDataSync_AAE. Namespace: http://sap.com/xi/CODERINT/IC%20%20SWCV:%20COD_ERP_INT_IC%206.00

Sender Interface: AFS PricingOut. Namespace: <http://sap.com/xi/A1S/Global%20SWCV:%20SAP%20BYD%202.40>.

Receiver Interface: AFS PricingIn. Namespace: http://sap.com/xi/CODERINT/Global%20SWCV:%20COD_ERP_INT%206.00.

Operation Mapping: COD_ERP_AFS Pricing . Namespace: http://sap.com/xi/CODERINT/IC%20SWCV:%20COD_ERP_INT_IC%206.00.

Integration Scenario to be maintained on SAP Cloud for Customer Communication Arrangement: AFS Product Pricing Details.

Note

A bidding has to be created in the AFS system in the transaction SOAMANAGER for the AFSPRODUCTPRICEService, and the URL of the same must be referred in the SOAP receiver channel in PI

The following BADIs have been provided for allowing the customers to implement a custom price retrieval from AFS:

- COD_AFS_PROD_PRICE
 - This BADI can be used for a custom implementation of price functionality for fetching both, the product price and the grid price.
 - This BADI interface takes material number, unit of measure, and GTIN as the input. Based on the IV_GRIDPRICEflag, it can be implemented to return either grid price or product price.
- COD_AFS_GRID_PRICE
 - This BADI is used for fetching the Grid price.
 - This BADI takes material number, unit of measurement, and GTIN as the input and returns the grid price.

3.2.11.1.2.5 Image Outbound Service Interface for AFS Materials

Images that are displayed for AFS Materials in the Product List and Product Detail page are retrieved dynamically at runtime via an Outbound Service Interface (OSI) call.

The **AFS Product Image URL Details** communication scenario needs to be configured to fetch Image data from an external Image server.

For the list page (OWL) in SAP Cloud for Customer, a sample request-response is as shown below:

Sample Input for List Page

This input format supports fetching images for multiple products in one call as displayed below:

Sample Code

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:v1="http://mobiliser.sybase365.com/retail/services/contract/v1_0">
  <soapenv:Header/>
  <soapenv:Body>
```

```

    <v1:GetProductImageDetailRequest>
      <!--Zero or more repetitions:-->
      <productId>1234</productId>
      <productId>1235</productId>
      <isVariantImageNeeded>>false</isVariantImageNeeded>
    </v1:GetProductImageDetailRequest>
  </soapenv:Body>
</soapenv:Envelope>

```

Sample Output for List Page

Sample Code

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body>
    <ns2:GetProductImageDetailResponse xmlns:ns2="http://
mobiliser.sybase365.com/retail/services/contract/v1_0" xmlns:ns3="http://
mobiliser.sybase365.com/loyalty/services/contract/v1_0/beans">
      <Status code="0"/>
      <articleimage>
        <ProductID>1234</ProductID>
        <ProductImages>
          <Thumbnail>
            <isURL>true</isURL>
            <imageUrl>Thumbnail Image URL Goes here</imageUrl>
          </Thumbnail>
          <FullImage>
            <isURL>true</isURL>
            <imageUrl>Full Image URL Goes here </imageUrl>
          </FullImage>
        </ProductImages>
      </articleimage>
      <articleimage>
        <ProductID>1235</ProductID>
        <ProductImages>
          <Thumbnail>
            <isURL>true</isURL>
            <imageUrl> Thumbnail Image URL Goes here </imageUrl>
          </Thumbnail>
          <FullImage>
            <isURL>true</isURL>
            <imageUrl> Full Image URL Goes here </imageUrl>
          </FullImage>
        </ProductImages>
      </articleimage>
    </ns2:GetProductImageDetailResponse>
  </soapenv:Body>
</soapenv:Envelope>

```

Sample Input for Product Detail Page

As AFS deals with a single material linked to a grid, which further defines the different characteristic values. The following is the input format triggered upon load of the Product Detail page for a single AFS material:

i Note

The AFS material ID is passed to the <productId> node. The allowed grid values are passed to the <AssignedAttributes> node as shown below. With such an interface, the AFS Product Detail page displays the images corresponding to the Grid Dimensions as selected by the end user.

Sample Code

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:v1="http://mobiliser.sybase365.com/retail/services/contract/v1_0">
  <soapenv:Header/>
  <soapenv:Body>
    <v1:GetProductImageDetailRequest>
      <productId>AFS_MAT_01</productId>
      <productIdWithVariants>
        <!--Optional:-->
        <productId>AFS_MAT_01</productId>
        <!--Zero or more repetitions:-->
        <AssignedAttributes>
          <!--Optional:-->
          <ItemId>AFS_MAT_01-DUMMY-01</ItemId>
          <!--Zero or more repetitions:-->
          <AssignedAttributes>
            <!--Optional:-->
            <charId>c4c_colour</charId>
            <!--Optional:-->
            <charValue>red</charValue>
          </AssignedAttributes>
          <AssignedAttributes>
            <!--Optional:-->
            <charId>c4c_size</charId>
            <!--Optional:-->
            <charValue>large</charValue>
          </AssignedAttributes>
        </AssignedAttributes>
        <AssignedAttributes>
          <!--Optional:-->
          <ItemId>AFS_MAT_01-DUMMY-02</ItemId>
          <!--Zero or more repetitions:-->
          <AssignedAttributes>
            <!--Optional:-->
            <charId>c4c_colour</charId>
            <!--Optional:-->
            <charValue>red</charValue>
          </AssignedAttributes>
          <AssignedAttributes>
            <!--Optional:-->
            <charId>c4c_size</charId>
            <!--Optional:-->
            <charValue>large</charValue>
          </AssignedAttributes>
        </AssignedAttributes>
      </productIdWithVariants>
      <isVariantImageNeeded>true</isVariantImageNeeded>
    </v1:GetProductImageDetailRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

Sample Output for Product Detail Page

i Note

For the Product Detail page, the AFS material image, independent of the Characteristic Values are passed to the <ProductImages> sub-node under the <articleimage> node, as shown below. The Variant images are passed to the <ProductVariantImages> node, along with the corresponding ItemId, whereby, each ItemId identifies the set of Characteristic Values, as indicated in the sample request.

i Note

Multiple images are supported in the Product Detail page for the AFS Material and the corresponding variants.

Sample Code

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body>
    <ns2:GetProductImageDetailResponse xmlns:ns2="http://
mobiliser.sybase365.com/retail/services/contract/v1_0" xmlns:ns3="http://
mobiliser.sybase365.com/loyalty/services/contract/v1_0/beans">
      <Status code="0"/>
      <articleimage>
        <ProductID>AFS_MAT_01</ProductID>
        <ProductImages>
          <Thumbnail>
            <isURL>true</isURL>
            <imageUrl>Thumbnail Image URL goes here</imageUrl>
          </Thumbnail>
          <FullImage>
            <isURL>true</isURL>
            <imageUrl> Full Image URL goes here </imageUrl>
          </FullImage>
        </ProductImages>
        <ProductVariantImages>
          <Item>
            <ItemId>AFS_MAT_01-DUMMY-02</ItemId>
          </Item>
          <ItemImages>
            <Thumbnail>
              <isURL>true</isURL>
              <imageUrl> Thumbnail Image URL goes here </imageUrl>
            </Thumbnail>
            <FullImage>
              <isURL>true</isURL>
              <imageUrl>Full Image URL goes here </imageUrl>
            </FullImage>
          </ItemImages>
        </ProductVariantImages>
        <ProductVariantImages>
          <Item>
            <ItemId>AFS_MAT_01-DUMMY-01</ItemId>
          </Item>
          <ItemImages>
            <Thumbnail>
              <isURL>true</isURL>
              <imageUrl> Thumbnail Image URL goes here </imageUrl>
            </Thumbnail>
            <FullImage>
              <isURL>true</isURL>
              <imageUrl> Full Image URL goes here </imageUrl>
            </FullImage>
          </ItemImages>
        </ProductVariantImages>
      </articleimage>
    </ns2:GetProductImageDetailResponse>
  </soapenv:Body>
</soapenv:Envelope>
```


3.2.11.1.2.6 Sales Order Simulation

As price and inventory is not replicated to SAP Cloud for Customer, there is a synchronous runtime outbound service call made from to SAP AFS backend to simulate the sales order, to check if all data in the order is correct and enough to create a sales order and also to get pricing for each variant with provision for additional manual discount.

Process Integration Scenario in PI:

- For dual stack PI systems: COD_ERP_AFSTransactionalDataSync. Namespace: http://sap.com/xi/CODERINT/IC%20%20SWCV:%20COD_ERP_INT_IC%206.00

Sender Interface: SalesOrderSimulationOut Namespace: <http://sap.com/xi/A1S/Global%20SWCV:%20SAP%20BYD%202.40>

Receiver Interface: SalesOrderSimulationIn. Namespace: http://sap.com/xi/CODERINT/Global2%20SWCV:%20COD_ERP_INT%206.00

Operation Mapping: COD_ERP_AFS_SalesOrderSimulate. Namespace: http://sap.com/xi/CODERINT/IC%20SWCV:%20COD_ERP_INT_IC%206.00

Maintain Integration Scenario on SAP Cloud for Customer Communication Arrangement: Sales Quote with pricing in SAP Business Suite.

i Note

Create a bidding in the SAP AFS system in the transaction SOAMANAGER for the ZCOD_AFS_ORDER_SIMULATE service, and the URL of the same must be referred to in the SOAP receiver channel in PI.

The following FM have been used for obtaining simulation results with pricing from SAP AFS as follows:

- ZCOD_AFS_SALESORDER_SIMULATE

3.2.11.1.2.7 Sales Order Transfer

Once a sales order is simulated that is correct and complete, the order has to be transferred to the SAP AFS backend system via an asynchronous runtime outbound service call made from SAP Cloud for Customer to the SAP AFS backend.

Process Integration Scenario in PI:

- **For dual stack PI systems:** COD_ERP_AFSTransactionalDataSync. Namespace: http://sap.com/xi/CODERINT/IC%20%20SWCV:%20COD_ERP_INT_IC%206.00

Sender Interface: AFSSalesOrderTransferOut. Namespace: <http://sap.com/xi/A1S/Global%20SWCV:%20SAP%20BYD%202.40>

Receiver Interface: ORDERS ./AFS/ORDERS05. Namespace: *[[unresolved text-ref: unresolved text-ref: urn:sapcom:document:sap.idoc:messages SWCV: P3A V603]]*.

Operation Mapping: COD_ERP_AFS_SalesOrderTransfer. Namespace: http://sap.com/xi/CODERINT/IC%20SWCV:%20COD_ERP_INT_IC%206.00

Maintain the Integration Scenario on SAP Cloud for Customer Communication Arrangement: Sales Order Replication to SAP Business Suite.

i Note

Perform ALE configuration in SAP AFS backend to receive `ORDERS ./AFS/ORDERS05 IDoc`, and process it and create the sales order.

3.2.11.1.3 (Deprecated) SAP Cloud for Customer for Retail: Integration Overview

This chapter and the following related topics contain information specific to integration of SAP Cloud for Customer for Retail with the SAP IS-Retail system.

The following communication scenarios are pre delivered for the Retail solution:

- Characteristics Replication (inbound to SAP Cloud for Customer) Merchandising Category Replication (inbound to SAP Cloud for Customer)
- Article Replication (inbound to SAP Cloud for Customer)
- Store Replication (inbound to SAP Cloud for Customer)
- Store Article Relationship (outbound synchronous to IS-Retail)
- Product Pricing (outbound synchronous to IS-Retail)
- Images (outbound synchronous to External Image Server)

i Note

Set up the interfaces for replication of Business Partner and Organization Unit between SAP AFS and SAP Cloud for Customer solutions in addition to the AFS-specific integration scenarios listed above. In addition, perform the Product Category ID Mapping.

Perform the replication of characteristics, merchandising category, and articles in the following order:

▶ [Characteristics](#) ▶ [Merchandising Category](#) ▶ [Article](#) ▶

It is important to follow the order because these master data objects are dependent on each other.

🔗 Example

Article replication depends on merchandising category that is already being replicated to SAP Cloud for Customer. Merchandising category replication depends on the associated characteristics which is already being replicated to SAP Cloud for Customer.

i Note

This standard ERP report `RCOD_CREATE_CONNECTIVITY_SIMPL` for creating connectivity objects for interfaces is not used for the AFS solution. Therefore, the connectivity objects for interfaces for AFS objects must be manually defined.

3.2.11.1.3.1 Characteristics Replication (Inbound)

Process Integration Scenario in PI: COD_ERP_RetailMasterDataSync.

Sender Interface: CHRMAS.CHRMAS04 . Namespace: [\[\[unresolved text-ref: urn:sap-com:document:sap:idoc:messages\]\]](#).

Receiver Interface: IS_Retail_BusinessAttributeReplication_In . Namespace: <http://sap.com/xi/AP/FO/BusinessAttribute/Global>.

Operation Mapping: ERP_COD_IS_Retail_BusinessAttributeReplicateBulk.

SOAP receiver Communication Channel Path: [\[\[unresolved text-ref: https://host:port/sap/bc/srt/scs/sap/businessattributereplicationre?MessageId\]\]](#).

Integration Scenario to be maintained on C4C Communication Arrangement: B2E Retail Characteristics from External System.

→ Recommendation

Use transaction BD91 tto trigger the outbound characteristics IDocs from the SAP IS-Retail system.

3.2.11.1.3.2 Merchandising Category Replication (Inbound)

Process Integration Scenario in PI: COD_ERP_RetailMasterDataSync.

Sender Interface: WMERCAT.WMERCAT01 . Namespace: [\[\[unresolved text-ref: urn:sap-com:document:sap:idoc:messages\]\]](#).

Receiver Interface: IS_Retail_Business_AttributeSetReplication_In. Namespace: <http://sap.com/xi/AP/FO/BusinessAttribute/Global>.

Operation Mapping: ERP_COD_IS_Retail_MerchandisingCategory.

SOAP receiver Communication Channel Path: [\[\[unresolved text-ref: https://host:port/sap/bc/srt/scs/sap/businessattributetsetreplicatio?MessageId\]\]](#)

Integration Scenario to be maintained on SAP Cloud for Customer Communication Arrangement: B2E Retail Characteristics from External System.

→ Recommendation

Use transaction WAFS to trigger the outbound Merchandising Category IDocs from theSAP IS-Retail system.

3.2.11.1.3.3 Article Replication (Inbound)

Process Integration Scenario in PI: COD_ERP_RetailMasterDataSync.

Sender Interface: ARTMAS.ARTMAS05. Namespace: [\[\[unresolved text-ref: urn:sap-com:document:sap:idoc:messages\]\]](#).

Receiver Interface: IS_Retail_MaterialReplicationBulkIn .Namespace: <http://sap.com/xi/A1S/Global>.

Operation Mapping: ERP_COD_IS_Retail_ARTMAS.

SOAP receiver Communication Channel Path: [\[\[unresolved text-ref: https://host:port/sap/bc/srt/scs/sap/retailmaterialrepliein?MessageId\]\]](#)

Integration Scenario to be maintained on C4C Communication Arrangement: Replicate IS-Retail Products from External System.

→ Recommendation

Use transaction BD10 to trigger the outbound Article IDocs from the SAP IS-Retail system.

3.2.11.1.3.4 Store Replication (Inbound)

Process Integration Scenario in PI: COD_ERP_RetailMasterDataSync.

Sender Interface: DEBMAS_CFS.DEBMAS06. Namespace: [\[\[unresolved text-ref: urn:sap-com:document:sap:idoc:messages\]\]](#).

Receiver Interface: BusinessPartnerERPReplicationIn. Namespace: <http://sap.com/xi/A1S/Global>.

Operation Mapping: ERP_COD_BusinessPartnerRetailBulkReplicateRequest.

SOAP receiver Communication Channel Path: [\[\[unresolved text-ref: https://host:port /sap/bc/srt/scs/sap/businesspartnererreplicationi?MessageId\]\]](#).

Receiver Interface: BusinessPartnerERPAddressReplicationIn. Namespace: <http://sap.com/xi/A1S/Global>.

Operation Mapping: ERP_COD_BusinessPartnerRetailAddressBulkReplicateRequest.

SOAP receiver Communication Channel Path: [\[\[unresolved text-ref: https://host:port/ sap/bc/srt/scs/sap/businesspartnererpaddressrepli?MessageId\]\]](#)

Integration Scenario to be maintained on C4C Communication Arrangement: Business Partner Replication from SAP ERP from External System.

→ Recommendation

Use transaction BD12 to trigger the outbound Store IDocs (DEBMAS_CFS) from the SAP IS-Retail system.

3.2.11.1.3.5 Store Article Relationship (Outbound Synchronous)

The Store – Article relationship is not replicated to SAP Cloud for Customer. It is fetched at runtime via this synchronous service call from the SAP IS-Retail system.

Process Integration Scenario in PI: COD_ERP_RetailMasterDataSync.

Sender Interface: IS_Retail_StoreArticleRelationshipOut . Namespace: <http://sap.com/xi/AP/CRM/Globa>).

Receiver Interface: IS_Retail_StoreArticleRelationshipIn. Namespace: <http://sap.com/xi/CODERINT>.

Operation Mapping: COD_ERP_IS_Retail_StoreArticleRelationship.

SOAP receiver Communication Channel Path: *[[unresolved text-ref: https://host:port/ /sap/bc/srt/rfc/sap/retailstorearticlerelationship/410/retailstorearticlerelationship/retailstorearticlerelationship]].*

Integration Scenario to be maintained on SAP Cloud for Customer Communication Arrangement: B2E Retail Store Article Relationship from External System.

3.2.11.1.3.6 Article Pricing (Outbound Synchronous)

The Article and the Variant prices are not replicated to SAP Cloud for Customer. Hence, it is fetched during runtime via this Outbound Synchronous service call from the SAP IS-Retail system.

Process Integration Scenario in PI: COD_ERP_RetailMasterDataSync.

Sender Interface: IS_Retail_ProductPricingOut . Namespace: <http://sap.com/xi/AP/CRM/Globa>).

Receiver Interface: IS_Retail_ProductPricingIn. Namespace: <http://sap.com/xi/CODERINT>.

Operation Mapping: COD_ERP_IS_Retail_ProductPricing.

SOAP receiver Communication Channel Path: *[[unresolved text-ref: https://host:port/sap/retailproductpricinginfofetch/410/getproductpricing/getproductpricing]].*

Integration Scenario to be maintained on SAP Cloud for Customer Communication Arrangement: B2E Retail Product Pricing Details from External System.

The Business Add-In BADI_COD_ARTICLE_PRICE_DET provided in the standard solution RFC - FM_COD_RETAIL_GET_PRICE is a Business Add-In for any custom implementation to be done by customers and skip the standard implementation. The imported parameter values to the RFC is also passed on to the Business Add-In.

i Note

You can implement custom logic in the method PRICE_DETERMINATION of the BAdI and set the SKIP_FLAG flag in the BAdI to 'X'. This will override the standard implementation.

3.2.11.1.3.7 Image Outbound Service Interface for Retail Generic Article and Variants

Images that are displayed for Retail Generic Article and Product Variants in the Product List and Product Detail page are retrieved dynamically at runtime via an Outbound Service Interface (OSI) call.

The **B2E Retail Product Images Details** communication scenario needs to be configured to fetch Image data from an external Image server.

For the list page (OWL) in SAP Cloud for Customer, only the generic articles are displayed. The following is a sample request-response:

Sample Input for List Page

This input format supports fetching images for multiple products in one call.

Sample Code

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:v1="http://mobiliser.sybase365.com/retail/services/contract/v1_0">
  <soapenv:Header/>
  <soapenv:Body>
    <v1:GetProductImageDetailRequest>
      <!--Zero or more repetitions:-->
      <productId>1234</productId>
      <productId>1235</productId>
      <isVariantImageNeeded>false</isVariantImageNeeded>
    </v1:GetProductImageDetailRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

Sample Output for List Page

Sample Code

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body>
    <ns2:GetProductImageDetailResponse xmlns:ns2="http://
mobiliser.sybase365.com/retail/services/contract/v1_0" xmlns:ns3="http://
mobiliser.sybase365.com/loyalty/services/contract/v1_0/beans">
      <Status code="0"/>
      <articleimage>
        <ProductID>1234</ProductID>
        <ProductImages>
          <Thumbnail>
            <isURL>true</isURL>
            <imageUrl>Thumbnail Image URL Goes here</imageUrl>
          </Thumbnail>
          <FullImage>
            <isURL>true</isURL>
            <imageUrl>Full Image URL Goes here </imageUrl>
          </FullImage>
        </ProductImages>
      </articleimage>
      <articleimage>
        <ProductID>1235</ProductID>
        <ProductImages>
          <Thumbnail>
            <isURL>true</isURL>
            <imageUrl> Thumbnail Image URL Goes here </imageUrl>
          </Thumbnail>
          <FullImage>
```

```

        <isURL>true</isURL>
        <imageUrl> Full Image URL Goes here </imageUrl>
      </FullImage>
    </ProductImages>
  </articleimage>
</ns2:GetProductImageDetailResponse>
</soapenv:Body>
</soapenv:Envelope>

```

Sample Input for Product Detail Page

The following is the sample input format for the Product Detail page for a Generic Article that has a set of linked Product Variants.

i Note

The Generic Article ID is passed in the <productId> node. The Product Variant Product IDs are passed in the <productIdWithVariants> node as shown below. With such an interface, the Retail Product Detail page displays the images corresponding to the Characteristics linked to the Product Variants as selected by the end user.

Sample Code

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:v1="http://mobiliser.sybase365.com/retail/services/contract/v1_0">
  <soapenv:Header/>
  <soapenv:Body>
    <v1:GetProductImageDetailRequest>
      <productId>GENERIC_ARTICLE_ID</productId>
      <productIdWithVariants>
        <productId>PRODVARIANT01</productId>
      </productIdWithVariants>
      <productIdWithVariants>
        <productId>PRODVARIANT2</productId>
      </productIdWithVariants>
      <isVariantImageNeeded>true</isVariantImageNeeded>
    </v1:GetProductImageDetailRequest>
  </soapenv:Body>
</soapenv:Envelope>

```

Sample Output for Product Detail Page

i Note

Multiple images are supported for the Generic Article and Product Variants in the Product Detail page.

Sample Code

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body>
    <ns2:GetProductImageDetailResponse xmlns:ns2="http://
mobiliser.sybase365.com/retail/services/contract/v1_0" xmlns:ns3="http://
mobiliser.sybase365.com/loyalty/services/contract/v1_0/beans">
      <Status code="0"/>
      <articleimage>
        <ProductID>GENERIC_ARTICLE</ProductID>
        <ProductImages>
          <Thumbnail>
            <isURL>true</isURL>
            <imageUrl> Generic Article Thumbnail Image URL goes here </
imageUrl>

```

```

        </Thumbnail>
        <FullImage>
          <isURL>true</isURL>
          <imageUrl> Generic Article Full Image URL goes here </
imageUrl>
        </FullImage>
      </ProductImages>
      <ProductVariantImages>
        <Item>
          <ItemId>PRODVARIANT01</ItemId>
        </Item>
        <ItemImages>
          <Thumbnail>
            <isURL>true</isURL>
            <imageUrl> Thumbnail Image URL goes here for Variant
PRODVARIANT01 </imageUrl>
          </Thumbnail>
          <FullImage>
            <isURL>true</isURL>
            <imageUrl> Full Image URL goes here for Variant
PRODVARIANT01</imageUrl>
          </FullImage>
        </ItemImages>
      </ProductVariantImages>
      <ProductVariantImages>
        <Item>
          <ItemId>PRODVARIANT2</ItemId>
        </Item>
        <ItemImages>
          <Thumbnail>
            <isURL>true</isURL>
            <imageUrl> Thumbnail Image URL goes here for Variant
PRODVARIANT02</imageUrl>
          </Thumbnail>
          <FullImage>
            <isURL>true</isURL>
            <imageUrl> Full Image URL goes here for Variant
PRODVARIANT02</imageUrl>
          </FullImage>
        </ItemImages>
      </ProductVariantImages>
    </articleimage>
  </ns2:GetProductImageDetailResponse>
</soapenv:Body>
</soapenv:Envelope>

```

3.2.11.1.3.8 Order Tracking (Outbound Synchronous)

After the order is replicated to SAP IS-Retail, you can track status of all line items in the sales order, using this OSI. OSI call would have order number in the request, and in response will receive status for all line items from SAP IS-Retail backend.

Process Integration Scenario in PI: COD_ERP_RetailTransactionalDataSync.

Sender Interface: IS_Retail_OrderItemStatus_Out. Namespace: <http://sap.com/xi/AIS/Global>,
SWCV: SAP BYD 2.40.

Operation Mapping: COD_ERP_IS_Retail_OrderItemStatus.

Maintain Integration Scenario on SAP Cloud for Customer Communication Arrangement: Retail Order Track Info Get from ERP System.

In the SAP IS-Retail backend function module, `COD_SD_ITEM_STATUS_GET` is used to retrieve the status for each line item in the order.

3.2.11.1.4 Complaint Management for Chemical Industry

Information on PI integration configuration for Complaint Management

Service Chemical Sales Order Search (Outbound Synchronous)

Service Chemical Sales Order Search (Outbound Synchronous)

Parameter	Value
Process Integration Scenario in PI	NA
Sender Interface	Chemical_SalesOrderSearch_Ext_Out (namespace: http://sap.com/xi/A1S/Global).
Receiver Interface	Chemical_SalesOrderSearch_Ext_In (namespace: http://sap.com/xi/CODER-INT).
Operation Mapping	COD_ERP_Chemical_SalesOrderSearch_Ext
SOAP receiver Communication Channel Path	https://host:port/sap/xi/engine?type=entry (ABAP Inbound Proxy)
Integration Scenario	ERP Complaint Management (Complaint Sales Order Search)

3.2.11.2 PI Configuration for ERP Integration

This section covers the PI configuration for ERP Inegration.

3.2.11.2.1 Generated Communication Channels

For `COD_ERP_MasterDataSync`

Integration Scenario	Type	Sender System	Receiver System	Sender Communication Channel	Receiver Communication Channel
Account Replication	Asynchronous	COD	ERP	COD_SOAP_BusinessPartnerReplication_Send	ERP_Idoc_Receive

Integration Scenario	Type	Sender System	Receiver System	Sender Communication Channel	Receiver Communication Channel
Account Address Replication	Asynchronous	COD	ERP	COD_SOAP_BusinessPartner-Address_Send	ERP_Idoc_Receive
Account contact Replication	Asynchronous	COD	ERP	COD_SOAP_BusinessPartner-Contact_Send	ERP_Idoc_Receive
Account Replication	Asynchronous	ERP	COD	N/A	COD_SOAP_BusinessPartnerReplication_Receive
Account Address Replication	Asynchronous	ERP	COD	N/A	COD_SOAP_BusinessPartnerReplication_Receive
Account contact Replication	Asynchronous	ERP	COD	N/A	COD_SOAP_BusinessPartnerReplication_Receive
Product Data Replication	Asynchronous	ERP	COD	N/A	COD_SOAP_BusinessPartnerReplication_Receive
Organization Unit Hierarchy Replication					COD_SOAP_OrganisationUnitHierarchy_Receive

For COD_ERP_BusinessDataSync

Integration Scenario	Type	Sender System	Receiver System	Sender Communication Channel	Receiver Communication Channel
Opportunity Confirmation	Asynchronous	ERP	COD	N/A	COD_SOAP_Opportunity-WithFollowup_Receive
Opportunity Follow Up	Asynchronous	COD	ERP	COD_SOAP_OpportunityWithFollowup_Send	ERP_Idoc_Receive
Query Customer Quote	Synchronous	COD	ERP	COD_SOAP_BusinessPartner-Contact_Send	ERP_SOAP_Query-Customer-Quote_Receive
Query Sales Order	Synchronous	COD	ERP	COD_SOAP_QuerySalesOrder_Send	ERP_SOAP_Query-SalesOrder_Receive
Product Pricing within Sales Order	Synchronous	COD	ERP	COD_SOAP_SalesOrderPricing_Send	ERP_SOAP_Sales-Order-Pricing_Receive
Sales Document Print Preview	Synchronous	COD	ERP	COD_SOAP_SalesDocPrintPreview_Send	ERP_SOAP_Sales-DocPrint-Preview_Receive
Quote to Sales Order in ERP	Asynchronous	COD	ERP	COD_SOAP_QuotetoSalesOrder_Send	ERP_Idoc_Receive

For COD_ERP_MasterDataSync_AAE

Integration Scenario	Type	Sender System	Receiver System	Sender Communication Channel	Receiver Communication Channel
Account Replication	Asynchronous	COD	ERP	COD_SOAP_BusinessPartnerReplication_Send	ERP_IDOC_AAE_Receive
Account Address Replication	Asynchronous	COD	ERP	COD_SOAP_BusinessPartnerAddress_Send	ERP_IDOC_AAE_Receive

Integration Scenario	Type	Sender System	Receiver System	Sender Communication Channel	Receiver Communication Channel
Account contact Replication	Asynchronous	COD	ERP	COD_SOAP_BusinessPartnerContact_Send	ERP_IDOC_AAE_Receive
Account Replication	Asynchronous	ERP	COD	ERP_IDOC_AAE_Send	
Account Address Replication	Asynchronous	ERP	COD	ERP_IDOC_AAE_Send	COD_SOAP_BusinessPartnerAddress_Receive
Account contact Replication	Asynchronous	ERP	COD	ERP_IDOC_AAE_Send	COD_SOAP_BusinessPartnerContact_Receive
Product Data Replication	Asynchronous	ERP	COD	ERP_IDOC_AAE_Send	COD_SOAP_ProductDataReplication_Receive
Organization Unit Hierarchy Replication				COD_SOAP_OrganisationUnitHierarchy_Receive	

For COD_ERP_BusinessDataSync_AAE

Integration Scenario	Type	Sender System	Receiver System	Sender Communication Channel	Receiver Communication Channel
Opportunity Confirmation	Asynchronous	ERP	COD	ERP_IDOC_AAE_Send	COD_SOAP_OpportunityWithFollowup_Receive
Opportunity Follow Up	Asynchronous	COD	ERP	COD_SOAP_OpportunityWithFollowup_Send	ERP_IDOC_AAE_Receive
Query Customer Quote	Synchronous	COD	ERP	COD_SOAP_QueryCustomerQuote_Send	ERP_SOAP_QueryCustomerQuote_Receive
Query Sales Order	Synchronous	COD	ERP	COD_SOAP_QuerySalesOrder_Send	ERP_SOAP_QuerySalesOrder_Receive
Product Pricing within Sales Order	Synchronous	COD	ERP	COD_SOAP_SalesOrderPricing_Send	ERP_SOAP_SalesOrderPricing_Receive
Sales Document Print Preview	Synchronous	COD	ERP	COD_SOAP_SalesDocPrintPreview_Send	ERP_SOAP_SalesDocPrintPreview_Receive
Quote to Sales Order in ERP	Asynchronous	COD	ERP	COD_SOAP_QuoteToSalesOrder_Send	ERP_IDOC_AAE_Receive

3.2.11.2.2 Communication Channel Target URL

To find the URLs corresponding to a scenario, see **Integration Flows** (▶ [SAP Help Portal](#) ▶ [Cloud for Customer](#) ▶ [Integration](#) ▶ [Integration Flows](#) ▶). Filter on Target System URL and Receiver communication channel columns.

3.2.11.3 PI Value Mappings

The screenshots shown in this appendix are only examples taken from PI value mapping. They are not complete from a PI configuration point of view.

i Note

Some of the code lists named below can be enhanced or modified in SAP Cloud for Customer during fine-tuning.

3.2.11.3.1 Mapping COD||ProductUsageTypeCode ↔ ERP||ProductUsageTypeCode

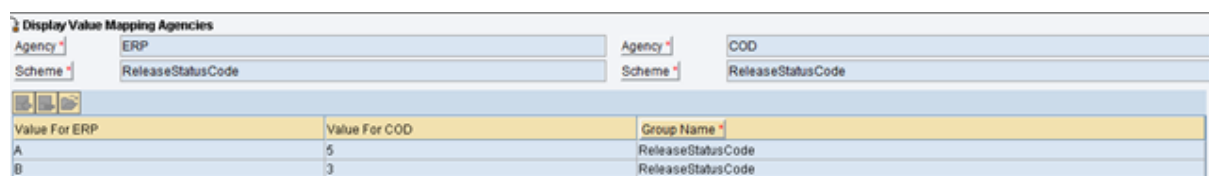
COD ProductUsageTypeCode	ERP ProductUsageTypesCode
1	DEN

Value For ERP	Value For COD	Group Name
DIEN	1	ProductUsageTypeCode

The values of this mapping are used in ERP_COD_MATMAS_CFS.

3.2.11.3.2 Mapping COD||ReleaseStatusCode ↔ ERP||ReleaseStatusCode

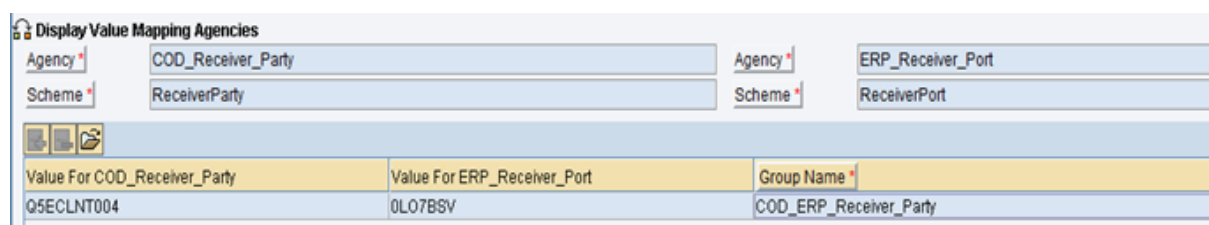
COD ReleaseStatusCode	ERP ReleaseStatusCode
5	A
3	B



The values of this mapping are used in ERP_COD_SalesPriceSpecificationReplicateMassRequest.

3.2.11.3.3 Mapping COD||ReceiverParty ↔ ERP||ReceiverPort

COD ReceiverParty	ERP ReceiverPort
<SID>CLNT<client_number>, where SID is the system ID of the connecting ERP system.	The short tenant ID of the cloud system. For information on how to get this ID, see Determine Short Tenant ID.



The values of this mapping are used in the following PI message mappings:

- COD_ERP_BusinessPartnerERPAddressBulkReplicateRequest
- COD_ERP_BusinessPartnerERPBulkReplicateRequest
- COD_ERP_BusinessPartnerERPContactAddressReplication
- COD_ERP_Opp_Followup_Business_Transaction_Document

3.2.11.3.4 Mapping COD||SenderParty ↔ ERP||SenderPort

COD SenderParty	ERP SenderPort
The short tenant ID of the cloud system.	The short tenant ID of the cloud system.

For information on how to get this ID, see

The screenshot shows the 'Display Value Mapping Agencies' interface. The Agency is 'COD_Sender_Party' and the Scheme is 'SenderParty'. The corresponding Agency is 'ERP_Sender_Port' and the Scheme is 'SenderPort'. The table below shows the mapping values:

Value For COD_Sender_Party	Value For ERP_Sender_Port	Group Name *
0L07BSV	0L07BSV	COD_ERP_Sender_Party

The values of this mapping are used in the following PI message mappings:

- COD_ERP_BusinessPartnerERPAddressBulkReplicateRequest
- COD_ERP_BusinessPartnerERPBulkReplicateRequest
- COD_ERP_BusinessPartnerERPContactAddressReplication
- COD_ERP_Opp_Followup_Business_Transaction_Document

3.2.11.3.5 Mapping COD||CustomerABCClassificationCode ↔ ERP||CustomerClassificationCode

COD CustomerABCClassificationCode	ERP CustomerClassificationCode								
The following values are contained in the GDT Customer-ABCClassificationCode:	You can find the customer classifications in the table TKUKL in SAP ERP. For more information, see the IMG in the SAP ERP system under ▶ SAP Customizing Implementation Guide ▶ Sales and Distribution ▶ Master Data ▶ Business Partners ▶ Customers ▶ Marketing ▶ Define Customer Classifications ▶ .								
<table border="1"> <thead> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>A-Account</td> </tr> <tr> <td>B</td> <td>B-Account</td> </tr> <tr> <td>C</td> <td>C-Account</td> </tr> </tbody> </table>	Code	Description	A	A-Account	B	B-Account	C	C-Account	
Code	Description								
A	A-Account								
B	B-Account								
C	C-Account								

The screenshot shows the 'Display Value Mapping Agencies' interface. The Agency is 'COD_CustomerABCClassificationCode' and the Scheme is 'CustomerABCClassificationCode'. The corresponding Agency is 'ERP_CustomerClassificationCode' and the Scheme is 'CustomerClassificationCode'. The table below shows the mapping values:

Value For COD_CustomerABCClassificationCode	Value For ERP_CustomerClassificationCode	Group Name *
C	05	CustomerABCClassificationCode
B	06	CustomerABCClassificationCode
A	07	CustomerABCClassificationCode

The values of this mapping are used in the following PI message mappings:

- COD_ERP_BusinessPartnerERPBulkReplicateRequest
- ERP_COD_BusinessPartnerERPBulkReplicateRequest

3.2.11.3.6 Mapping COD||DocumentTypeCode ↔ ERP|| DocumentTypeCode

COD||DocumentTypeCode

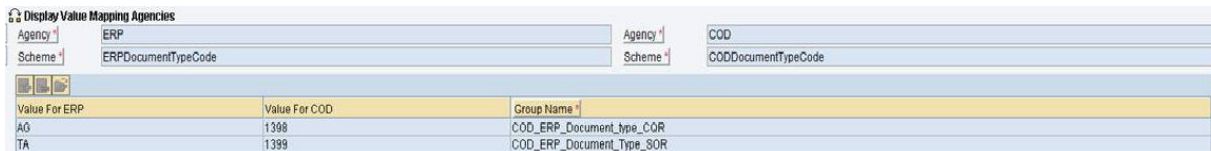
The following values are contained in the GDT COD_Fol-lowUp_Doc_Type:

Code	Description
1398	Customer Quote Request
1399B	Sales Order Requestt

ERP||DocumentTypeCode

You can find the customer classifications in the table TKUKL in SAP ERP. For more information, see the IMG in the SAP

ERP system under [SAP Customizing Implementation Guide](#) > [Sales and Distribution](#) > [Sales Documents](#) > [Sales Document Header](#) > [Define Sales Document Types](#).



Value For ERP	Value For COD	Group Name
AG	1398	COD_ERP_Document_type_COR
TA	1399	COD_ERP_Document_Type_SOR

The values of this mapping are used in the following PI message mappings:

- COD_ERP_Opp_Followup_Business_Transaction_Document
- COD_ERP_OppportunityFollowupBusinessTransactionDocumentReq

3.2.11.3.7 Mapping COD||CODDocumentTypeCode ↔ ERP|| ERPTextTypeCode

The employee responsible of the opportunity cannot be mapped to a partner function in the customer quote request or sales order request always. As a workaround, the name of the employee responsible can be stored in a text document of the customer quote request or sales order request in SAP ERP. The text ID of this text document can be specified here.

COD||CODDocumentTypeCode

The following values are contained in the GDT COD_Fol-
lowUp_Doc_Type:

Code	Description
1398	Customer Quote Request
1399B	Sales Order Requestt

ERP||ERPTextTypeCode

You can find the customer classifications in the table TKUKL in SAP ERP. For more information, see the IMG in the SAP

ERP system under [▶ SAP Customizing Implementation Guide ▶ Sales and Distribution ▶ Basic Functions ▶ Text Control r ▶ Define Text Types ▶ Sales Document ▶ Header ▶](#).

Display Value Mapping Agencies

Agency *	COD_FollowUp_Doc_Type	Agency *	ERP_Text_Type_Code
Scheme *	CODDocumentTypeCode	Scheme *	ERPTextTypeCode

Value For COD_FollowUp_Doc_Type	Value For ERP_Text_Type_Code	Group Name *
1398	0003	COD_ERP_Document_type_CQR
1399	0004	COD_ERP_Document_Type_SOR

The value of this mapping is used in the COD_ERP_OpportunityFollowupBusinessTransactionDocumentReq.

3.2.11.3.8 Mapping COD||CODPricingRequest ↔ ERP|| CODDocumentTypeCode

COD||CODPricingRequest

The constant "PricingRequest" is used.

ERP||ERPDocumentTypeCode

You can find the sales document types in the table TVAK in SAP ERP. For more information, see the IMG in the SAP ERP system under [▶ SAP Customizing Implementation Guide ▶ Sales and Distribution ▶ Basic Functions ▶ Text Control r ▶ Define Text Types ▶ Sales Document ▶ Header ▶ Define Sales Document Types ▶](#).

Display Value Mapping Agencies

Agency *	COD_Pricing_Request	Agency *	ERP_Document_Type
Scheme *	CODPricingRequest	Scheme *	ERPDocumentTypeCode

Value For COD_Pricing_Request	Value For ERP_Document_Type	Group Name *
PricingRequest	TA	COD_ERP_Document_type_pricing

The value of this mapping is used in the COD_ERP_SalesOrderPricingInformationRequest PI message mapping.

3.2.11.3.9 Mapping COD||COD_PartyFunction_Contact ↔ ERP||ERP_PartyFunction

COD||COD_PartyFunction_Contact.

The value is the constant 'AP'

ERP||ERP_PartyFunction

The partner function that represents your partner function for contacts in ERP. See table TPAR in ERP.

Default: Per default the ERP Partner Function AP is used for the contact person in ERP.

The screenshot shows the 'Display Value Mapping Agencies' dialog. The Agency is set to 'COD' and the Scheme is 'COD_PartyFunction_Contact'. On the right, the Agency is 'ERP' and the Scheme is 'ERP_PartyFunction'. Below, a table shows the mapping:

Value For COD	Value For ERP	Group Name *
AP	ZM	PartyFunction

The value of this mapping is used in the COD_ERP_CustomerQuoteFollowupBusinessTransactionDocumentReq PI message mapping.

3.2.11.3.10 Mapping COD||BusinessSystemID ↔ ERP||LogicalSystemID

COD||BusinessSystemID

This is the Business System ID of the ERP system in the System Landscape Directory and in the Communication System in SAP Cloud for Customer.

ERP||LogicalSystemID

This is the Logical System ID of your ERP system in the Communication System in SAP Cloud for Customer. It can also be derived by executing the function module OWN_LOGICAL_SYSTEM_GET in ERP.

The screenshot shows the 'Display Value Mapping Agencies' dialog. The Agency is 'COD' and the Scheme is 'BusinessSystemID'. On the right, the Agency is 'ERP' and the Scheme is 'LogicalSystemID'. Below, a table shows the mapping:

Value For COD	Value For ERP	Group Name *
Q2C_400	Q2CCLNT400	BusinessSystemID

The values of this mapping are used in the following PI message mappings:

- COD_ERP_CustomerQuoteProcessingSalesOrderRequest
- COD_ERP_BusinessPartnerERPAddressBulkReplicateRequest
- COD_ERP_BusinessPartnerERPBulkReplicateRequest

- COD_ERP_BusinessPartnerERPContactAddressReplication
- COD_ERP_Opp_Followup_Business_Transaction_Document
- COD_ERP_ServiceRequestSalesOrderCreationRequest

3.2.11.3.11 Mapping COD||WarrantyID ↔ ERP||DiscountConditionType

COD||WarrantyID

The warranties can be found in SAP Cloud for Customer in the work center Product.

ERP||DiscountCondition_Type

This is the ERP condition type that should be used for providing a 100% discount. For more information, see the IMG in the SAP ERP system under [▶▶ SAP Customizing Implementation Guide ▶ Sales and Distribution ▶ Basic Functions ▶ Pricing ▶ Pricing Control ▶ Define Condition Types ▶](#).

Default: Per default the ERP condition type RAO0 is used.

Value For COD	Value For ERP	Group Name *
MCG-0101	ZRA0	WarrantyID

The value of this mapping is used in the COD_ERP_CustomerQuoteFollowupBusinessTransactionDocumentReqPI message mapping.

3.2.11.3.12 Mapping COD||OrderReason ↔ ERP||OrderReason

COD||OrderReason

The value is the constant 'EDI'.

ERP||OrderReason

This is the ERP condition type that should be used for providing a 100% discount. For more information, see the IMG in the SAP ERP system under [▶▶ SAP Customizing Implementation Guide ▶ Sales and Distribution ▶ Sales ▶ Sales Documents ▶ Sales Document Header ▶ Define Order Reasons ▶](#).

Default: Per default the ERP Order Reason EDI is used.

Value For COD	Value For ERP	Group Name
EDI	ZEDI	OrderReason

The value of this mapping is used in the COD_ERP_ServiceRequestSalesOrderCreationRequest PI message mapping.

3.2.11.3.13 Mapping COD||DeliveryPriorityCode ↔ ERP|| DeliveryPriorityCode

The Delivery Priority code in ERP is a two character field whereas it has just one character in Cloud.

COD||DeliveryPriorityCode

The following values are contained in the GDT PriorityCode:

Code	Description
1	Immediate
2	Urgent
3	Normal
4	Low

ERP||DeliveryPriorityCode

You can find the delivery priority codes in the table TPRIO in SAP ERP. For more information, see the IMG in the SAP ERP system under [SAP Customizing Implementation Guide > Sales and Distribution > Master Data > Business Partners > Customers > Shipping > Define Delivery Priorities >](#)

Value For ERP	Value For COD	Group Name
02	2	ERP_COD_DeliveryPriorityCode
03	3	ERP_COD_DeliveryPriorityCode
06	7	ERP_COD_DeliveryPriorityCode
01	1	ERP_COD_DeliveryPriorityCode

The value of this mapping is used in the following PI message mappings:

- COD_ERP_BusinessPartnerERPBulkReplicateRequest
- ERP_COD_BusinessPartnerERPBulkReplicateRequest

3.2.11.3.14 Mapping COD||Academictitlecode ↔ ERP||Academictitlecode

The academic title code in ERP are text fields whereas academic title code in SAP Cloud for Customer is numeric field.

COD Academictitlecode	ERP Academictitlecode
<p>In In SAP Cloud for Customer system, Academic title codes are maintained in the fine tuning under General Business Partners > Maintain Academic Title ></p>	<p>You can find the academic title codes in the table T535N in SAP ERP. For more information, see the IMG in the SAP ERP system under SAP Customizing Implementation Guide path Personnel Management > Personnel Administration > Personnel Data > Personnel Data > Maintain Titles ></p>

Value For ERP_Academictitlecode	Value For COD_Academictitlecode	Group Name
Dr.	0001	AcademicTitlecode
Prof. Dr.	0003	AcademicTitlecode
B.A.	0004	AcademicTitlecode
MBA	0005	AcademicTitlecode
Ph.D.	0006	AcademicTitlecode
Prof.	0002	AcademicTitlecode

The value of this mapping is used in the following PI message mappings:

- ERP_COD_Employee_Replication

4 Set Up Functional Scenarios for Integration

Learn how to set up functional scenarios for integration between SAP Cloud for Customer and SAP ERP.

[Common Scenarios \[page 115\]](#)

Learn about features that are applicable commonly across several functional scenarios.

[Employee Replication \[page 116\]](#)

[Material Replication \[page 117\]](#)

[Business Partner Replication \[page 126\]](#)

[Print Preview of Price Conditions \[page 141\]](#)

[Sales Contract - Supports Item Pricing Date and Eligible Call-Off Parties \[page 142\]](#)

[Contract Call-Off Statistics \[page 145\]](#)

[Contract Replication: Add Notes and Parties at Item Level \[page 149\]](#)

[Sales Order Integration \[page 149\]](#)

[Sales Quote Integration \[page 166\]](#)

[Service Contract - Header Billing Plan Fields \[page 178\]](#)

[Covered Objects on Item Level in Service Contract Integration \[page 179\]](#)

[Work Ticket Integration \[page 183\]](#)

[Multi-Resource Scheduling Integration Overview via CPI \[page 208\]](#)

4.1 Common Scenarios

Learn about features that are applicable commonly across several functional scenarios.

4.1.1 IDoc Extensions Simplified

Extensions to IDocs are made easier.

See this blog for details: [Extending Generated \(Function Module based\) IDOC](#) 

4.2 Employee Replication

Business Scenario Overview

This scenario is applicable when you want employee master data created in SAP ERP system to be replicated to SAP Cloud for Customer. In principle, since SAP Cloud for Customer is only catering to Customer Engagement and Commerce, only a subset of the capabilities offered in SAP ERP is required to be mapped to SAP Cloud for Customer.

Technical Scenario Overview

Employee data form is part of the SAP HR module. The administrative personnel structure for SAP Human Resources relates primarily to working hours and compensation. It is made up of three elements:

4.2.1 Lean employee replication without staging area

i Note

This feature is available for integration with SAP ERP as well as integration with SAP S/4HANA. While the example illustrated here is from SAP S/4HANA, the integration works similarly in SAP ERP.

Previously, employee replication into SAP Cloud for Customer used a staging area. The employee interface did not update the employee record directly, but created a record for the same in the staging area. Update of employees was done as an additional step by the **Employee Master Data Replication** in *Data Integration*. As of the May 2018 release, direct update of employee records is available using an additional employee inbound service and iFlow.

i Note

This feature is optional. You can continue using the older inbound service and iFlow.

See here a sample SAP S/4HANA employee record created using transaction PA30.



The replicated employee record in SAP Cloud for Customer.



Technical Information

Scoping Entries

This feature is available using the existing scoping entry:

► [Communication and Information Exchange](#) ► [Integration with External Applications and Solutions](#) ► [Integration of Master Data](#) ► [Employees](#) ► [Do you want to replicate employee data from an external application or solution to your cloud solution?](#) ►

Communication Scenario / Arrangements

Employee Replication from External System

- Inbound Communication Services
 - Replicate Employee from External System

Interfaces / Cloud Integration iFlow / PI operation mapping

SAP S/4HANA Source Interface	PI/Cloud Integration Mapping	SAP Cloud for CustomerTarget Interface
HRMD_A07	S4_COD_SimplifiedEmployeeReplication	EmployeeReplicationIn

4.3 Material Replication

4.3.1 Replication of Functional Location and Equipment

You can exchange functional locations and equipment with your ECC system to allow this information in your SAP Cloud for Customer service processes. For example, you can reference these objects in the Cloud service tickets. The replication is unidirectional from ECC to the cloud solution.

i Note

If your ERP support package (SP) < 15, then apply the 2160512 note.

Outbound replication from SAP Cloud for Customer is supported for functional location, equipments, measuring point and measuring document

4.3.1.1 Data Model in ERP

In the ERP system, functional locations and equipment are completely independent entities with individual storage locations. The most important databases are IFLOT for functional locations and EQUI for equipment. The hierarchy information is located in the IFLOT-TPLMA (functional location) and EQUZ-HEQUI (equipment) DB table fields. In comparison to the functional location hierarchy information the one for equipment is time dependent.

4.3.1.2 Data Model in SAP Cloud for Customer

In the cloud solution, the business objects, as described in the following sections, might represent possible counterparts for functional locations and equipment.

Equipment

The **Registered Product** is semantically the counterpart of equipment in the cloud solution. It consists of two business objects:

- The serialized product (BO PDM_INDIVIDUAL_PRODUCT) represents the core equipment information.
- The BO /IBASE/INSTALL_POINT contains additional information about the serialized product. For example, location, involved parties and the hierarchy. To support the hierarchy information, you will also need BO /IBASE/INSTALLED_BASE. This BO is currently used as an entry point to the different hierarchies in the UI. The current data model requires this BO to represent the hierarchy, thus it is mandatory.

Functional Location

For the alternatives, as shown in the following table, the BO's /IBASE/INSTALLED_BASE—used for representing the hierarchy, and /IBASE/INSTALL_POINT—representing the functional location master data, are considered:

SAP ECC	SAP Cloud
Alternative 1	→ IBase 1
Function Location 1	→ → Installation Point 1
→ Functional Location 2	
Alternative 2	→ Installation Point 1
Function Location 1	→ → Installation Point 2
→ Functional Location 2	

Alternative 2 is followed.

4.3.1.3 New IDocs

New IDoc types COD_EQUIPMENT_SAVE01 and COD_FUNCTIONAL_LOCATION_SAVE01 are available. Both were generated using transaction BDFG, based on the parameter structure of the function modules COD_EQUIPMENT_SAVE and COD_FUNCTIONAL_LOCATION_SAVE. Both IDoc types are bulk enabled, due to the defined structure and do not need to be used with technical bulking. The corresponding message types are COD_EQUIPMENT_SAVE and COD_FUNCTIONAL_LOCATION_SAVE.

4.3.1.4 ERP Outbound Processing

Initial Load

For the initial load, the RCOD_EQUIPMENT_EXTRACT and RCOD_FLOC_EXTRACT reports are created. The following is the list of parameters:

- User status (status number)
- System status
- Class
- Object Type
- Validity
- Category
- Equipment ID
- Sales Org
- Distr. Channel
- Division
- Maintenance Plant

Functional location is the same except for the maintenance plant and the validity.

Delta Load

To generate the IDocs directly, it is possible to register for Business Transaction Events (BTE) triggered by the application. It is not possible to use change pointers because some data updates (for example, Partners, Texts, and Warranty) will not create change documents and/or change pointers.

The available BTEs are: PM000020 - Update Equipment, PM000070 - Update Technical Location

The registered modules can be maintained using transaction FIBF and are called COD_EQUIPMENT_BTE_CHANGE and COD_FLOC_BTE_CHANGE.

Based on the created or updated object instance, the relevant data is determined, then mapped to the IDoc structures, and later the IDocs are generated. An application log is created if an error occurs. To read the

current data by using existing APIs, it must be ensured, that all buffers and/or the database are up to date. This could be achieved by using update function modules running in delayed mode (V2 updates). These FMs execute the described logic:

COD_EQUIPMENT_BTE_CHANGE_UPD and COD_FLOC_BTE_CHANGE_UPD. All created modules are located in function group COD_EQUI_MODULES or COD_FLOC_MODULES of package COD_BYD_ERP_INT.

Relevant Transactions

For equipment the IE01, IE02 and IE03 transactions are used, and for functional locations the IL01, IL02 and IL03 are used.

4.3.1.5 PI Mapping Entities

For the middleware, it is necessary to create the ERP_COD_RegisteredProductBulkReplicateRequest operation mappings for equipment, and ERP_COD_InstallationPointBulkReplicateRequest for functional locations. Both are located in the namespace <http://sap.com/xi/CODERINT/IC> and software component version COD_ERP_INT_IC 6.00.

4.3.1.6 SAP Cloud for Customer Inbound Processing

Business Object Mapping

As described in **Data Model in SAP Cloud for Customer**.

ID Handling

The Installation Point ID is used in the cloud solution as the leading ID for registered products and installation points. Inbound processing will create ID mapping entries, based on the ID types provided in the interfaces. The current default ID Mappings are:

- Registered Products: Cloud ID type = 185 Installation Point ID; ERP ID type = 451 ERP Individual Material ID
- Installation Points: Cloud ID type = 185 185 Installation Point ID; ERP ID type = 450 ERP Installation Point ID

To provide maximum flexibility of the Cloud interfaces, the ID types of the referenced objects (for example, material and partners) are part of the message as well. Additionally, default ID types based on the ERP integration scenario are used in case they are not provided in the message.

Code Mapping

The delivered code mapping entries are available in BC set A1S_BCC_FND_CLM_IPOINT. For functional locations, we only transfer LTXT, because there is only LTXT available in ERP. For equipment, both LTXT and INTV are transferred. Hence, you have to maintain the following code list mapping:

- 1006 – INTV (to cover the equipment use case)
- 1024 – LTXT (to cover both, equipment and functional location use case)

There is no need to create a new code list mapping group.

Service Interfaces

The inbound service interfaces are:

- II_APFO_REG_PRODUCT_REPL_IN: RegisteredProductReplicationInitiatedByExternalIn
- II_IPOINT_REPLICATION_EXT_IN: InstallationPointReplicationInitiatedByExternalIn

Especially for the Installation Point, inbound several interfaces are available. However we decided to create new and not to reuse existing interfaces, in order to be independent from industry solution and migration scenarios and to follow the A2A integration guide principles. Further modelling and implementation details are available in MDRS.

Business Configuration

Scope the business option in Business Configuration, to enable replication of installation points and/or registered products.

The screenshot shows the SAP Business Configuration interface. On the left, the 'Scoping Element' pane is visible, with 'Integration of Master Data' selected and highlighted in yellow. On the right, the 'Questions for Integration of Master Data' pane is displayed, showing a table of questions for replication. The 'Installation Points, Registered Products' group is highlighted in yellow.

Business Option	Review Sta...	In Scope	Conflict
Group: Employees (1)			
Do you want to replicate employee data from an external application or solution to your cloud solution?	Reviewed	<input checked="" type="checkbox"/>	
Group: Exchange Rates (1)			
Do you want to replicate exchange rates from an external application or solution to your cloud solution?	Reviewed	<input checked="" type="checkbox"/>	
Group: Sales Territories (1)			
Do you want to replicate sales territory data from an external application or solution to your cloud solution?	Reviewed	<input type="checkbox"/>	
Group: Installation Points, Registered Products (1)			
Do you want to replicate installation point or registered product data from an external application or solution to your cloud solution?	Reviewed	<input checked="" type="checkbox"/>	

Also, make sure that the Registered Products and Installed Base of Entitlement Management are selected. In addition, add the views Registered Products and/or Functional Locations to the relevant users.

Special Inbound Processing for Hierarchy Information

The message types of the inbound service interfaces support mass data instances (bulking). Additionally, the hierarchy information of the parent instance is included in the message types. So in case there is a bulk message received, containing a non-existing parent instance and a not yet existing child instance referring to this parent, the inbound processing of the child instance will fail unless the parent instance is processed successfully. To solve this issue, the inbound agents will take care, that the parent instance is processed before the child instance (sequential processing). The implementation for that can be found in the MBF exit and the redefined process agent method MODIFY_BO.

- Registered Products: CL_REG_PROD_REPLREQ_MBF_EXIT → MAP_HIERACHY_RELATIONSHIP, CL_APFO_REG_PRODUCT_REPL_IPA → MODIFY_BO
- Installation Points: CL_IPOINT_REPL_EXT_IN_MBF → MAP_HIERACHY_RELATIONSHIP, CL_REPLICATE_IPOINT_IPA → MODIFY_BO

4.3.1.7 SAP Cloud for Customer Outbound Processing

Business Configuration

Navigate to ► [Business Configuration](#) ► [Edit Project Scope](#) ► [Scoping](#) ► [Communication and Information Exchange](#) ► [Integration with External Applications and Solutions](#) ► [Integration of Master Data](#) ► [Group: Installation Points, Registered Products, Measurement Points/Docs](#) ►, and then select the appropriate scoping question:

- *Do you want to replicate measurement point or measurement document data from your cloud solution to an external application or solution?*
- *Do you want to replicate installation point or registered product data from your cloud solution to an external application or solution?*

Configure the communication arrangements:

- Measurement Point and Measurement Document Replication to SAP Business Suite
- Registered Product and Installation Point Replication to External System

Settings in ERP

To consume the interface, and replicate data between SAP Cloud for Customer and ERP, you must take care of the following:

1. Create IDoc/web service in ERP.
2. Expose/model the ERP service, and do the PI mapping.

4.3.2 Warranty ID Available in Registered Product Interface

i Note

This feature is available for integration with SAP ERP as well as integration with SAP S/4HANA. While the example illustrated here is from SAP S/4HANA, the integration works similarly in SAP ERP.

Warranty IDs in SAP S/4HANA can be translated to SAP Cloud for Customer with a custom mapping, for instance, on Cloud Platform Integration. The Warranty ID is added to a SAP Cloud for Customer inbound service interface for registered products. This integration is not end-to-end owing to differing data models between warranty master records in SAP S/4HANA and in SAP Cloud for Customer.

Technical Information

This feature is offered as an update to the inbound SOAP service for registered products in SAP Cloud for Customer.

4.3.3 Material replication includes Global Trade Item Number (GTIN)

i Note

This feature is available for integration with SAP ERP as well as integration with SAP S/4HANA. While the example illustrated here is from SAP S/4HANA, the integration works similarly in SAP ERP.

Material replication from SAP S/4HANA to SAP Cloud for Customer is enhanced to transfer the following standard product IDs:

- Global Trade Item Number (GTIN)
- European Article Number (EAN)
- Universal Product Code (UPC)

In SAP S/4HANA these product IDs are maintained in [▶ Additional Data ▶ Additional EANs ▾](#). Here, you can assign a standard product ID per unit of measure.

Due to differences in data models between SAP S/4HANA and SAP Cloud for Customer, the following behavior of this feature is expected.

- Only one product ID per unit of measure (the main EAN) is transferred to SAP Cloud for Customer. Additional product IDs per unit of measure are ignored.
- In the middleware content (PI/CPI), zeros are prefixed to have a 14 digit number.
- The EAN category is not transferred to SAP Cloud for Customer.

See here an SAP S/4HANA material. You can see the standard product number for the basic unit of measure.

The screenshot shows the SAP Display Material interface for material HD-WEB-SERVER-L. The material description is 'Cloud web server - large version'. The 'General Data' section includes fields for Base Unit of Measure (EA, each), Material Group, Old Material Number, Ext. Matl Group, Division, Lab/Office, Product allocation, Prod. Hierarchy, X-plant matl status, Valid from, Assign effect. vals, and GenItemCatGroup (NORM, Standard item). The 'Material authorization group' section shows the Authorization Group. The 'Dimensions/EANs' section includes Gross Weight (0,000), Net Weight (0,000), Volume (0,000), Unit of Weight, Volume Unit, Size/dimensions, EAN/UPC (9876543210128), and EAN Category (HE). The EAN/UPC and EAN Category fields are highlighted with a red box.

Go to ► [Additional Data](#) ► [Additional EANs](#) ► to see all standard product codes maintained for this product.

SAP Display Material HD-WEB-SERVER-L (Finished Product)

Other Material Main Data More

Units of Measure **Additional EANs** Document Data Basic Data Text Inspection Text

Material: HD-WEB-SERVER-L
 Descr.: Cloud web server - large version

Additional EANs/units of measure

Alt. Unit	Unit text	Main EAN	EAN/UPC	EAN Cat.	Au	Segment
EA	each	<input type="checkbox"/>	123456789012	UC	<input type="checkbox"/>	
EA		<input checked="" type="checkbox"/>	9876543210128	HE	<input type="checkbox"/>	
CAR	Carton	<input checked="" type="checkbox"/>	12345600012	UC	<input type="checkbox"/>	
CAR		<input type="checkbox"/>	12345678905	UC	<input type="checkbox"/>	

Here, there are four standard product numbers for two unit of measures and only the main EANs are transferred to SAP Cloud for Customer. You can also see the zeros that are prefixed to the number.

Products Cloud web server - lar...

Cloud web server - large version

OVERVIEW SALES ATTACHMENTS FEED SAVO **GTIN**

GTIN (2)

GTIN Unit Of Me	GTIN Quantity Ty	GTIN
EA - Each	EA - each	09876543210128
XCT - Carton	XCT - Carton	00012345600012

Technical Information

This feature is an update to the existing material integration.

4.3.4 Registered Product Replication: Business Add-In

A Business Add-In is introduced in SAP ERP and in SAP S/4HANA that you can use to adjust the data replicated to SAP Cloud for Customer.

For example, if you have added extension fields to your registered product, you can use this feature to replicate this field to SAP Cloud for Customer. To use this feature, implement the following business add-ins for these objects.

Registered Product: COD_SLS_SE_EQUIPMENT_REPL

Functional Location: COD_SLS_SE_FUNLOC_REPL

Measurement Point: COD_SLS_SE_MPOINT_REPL

Measurement Document: COD_SLS_SE_MDOC_REPL

Product Categories: COD_SLS_SE_PROCAT_REPL

Contract: COD_CONTR_REPLIC_OUTBOUND_DATA

4.4 Business Partner Replication

Business Scenario Overview

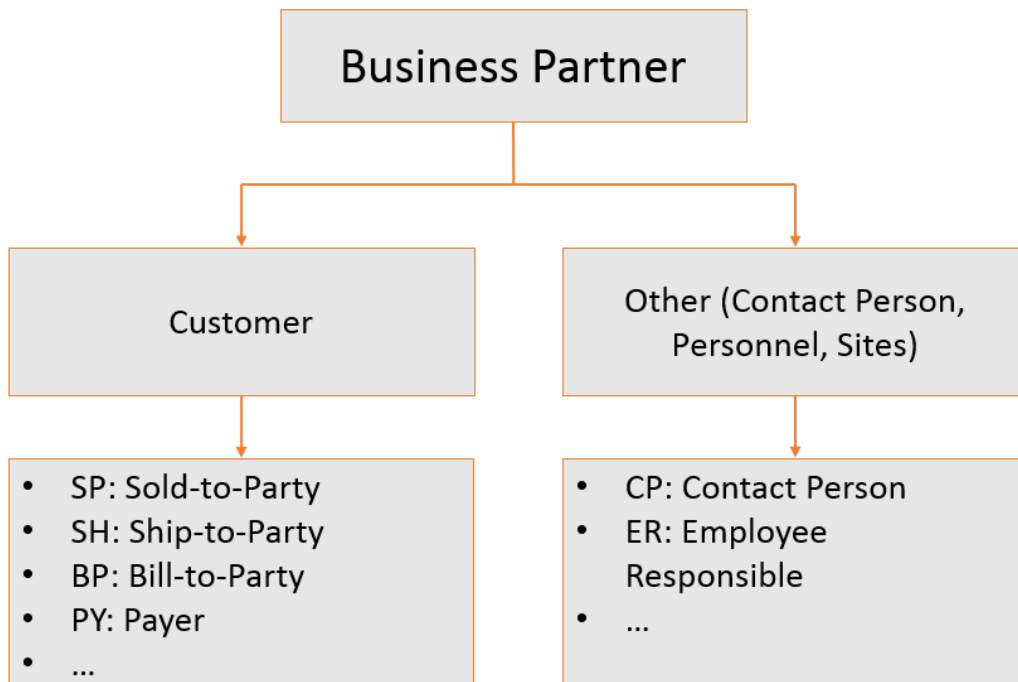
For integration between SAP ERP and SAP Cloud for Customer, it is essential to understand the data model differences between the two systems. In principle, as SAP Cloud for Customer, is only catering to Customer Engagement and Commerce, only a subset of the capabilities offered in SAP ERP is required to be mapped to SAP Cloud for Customer. This chapter elaborates such differences and highlights the mapping of key SAP ERP attributes to SAP Cloud for Customer.

Technical Scenario Overview

For integration between SAP ERP and SAP Cloud for Customer, only highlighted business partner types and corresponding partner functions from SAP ECC are supported out of the box.

Business Partners in SAP ERP are divided into the following categories:

- **Customers:** a business partner to whom you are providing goods or services. Customers can be external or internal, and if that customer is also providing you with goods and services, you can link the customer master record to a vendor master. Individual customer master records can be defined for specific partner functions and can be linked together.
- **Other Partners:** Includes a mix of things such as site data, contact person, sales personnel, individual customers and competitors.



Scenario Assumptions and Prerequisites

Assumptions

The business partner replication is bi-directional from SAP ERP to SAP Cloud for Customer. Vendor master is not in scope of the integration.

Prerequisites

- You have the latest support package for the Add-on installed
- Organization structure is replicated from SAP ERP to SAP Cloud for Customer

Limitation

You cannot delete a party type during replication.

Some partner types are determined in SAP ERP, but not replicated to SAP Cloud for Customer. In such a case, complete transmission of partners from SAP Cloud for Customer to SAP ERP will lead to deletion of parties which are not replicated to SAP Cloud for Customer.

Any change in partner value will still be replicated to SAP ERP, though.

4.4.1 Integration Scope

For integration between SAP ERP and SAP Cloud for Customer, the following business roles are supported out of the box:

- Sold-To-Party
- Prospect
- Contact
- Competitor

Customer Master

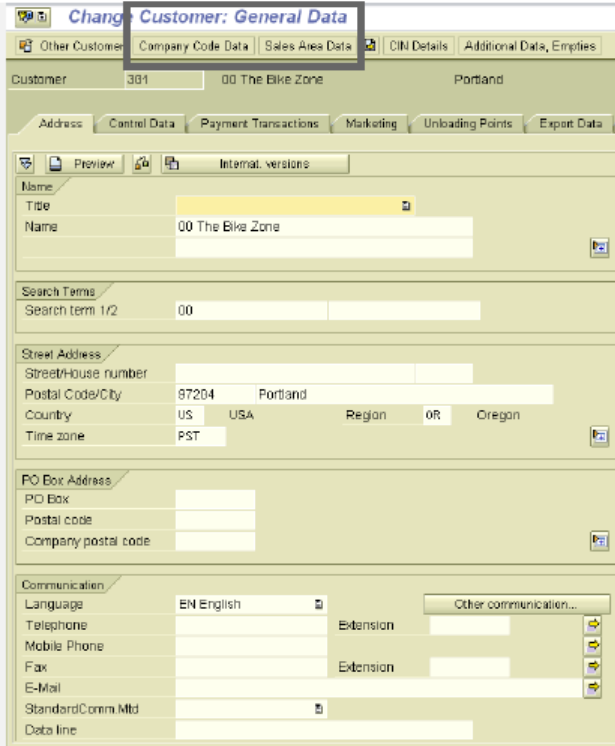
SAP ERP

Customer Master Data

- Customer Master
 - Contains all of the information necessary for processing orders, deliveries, invoices and customer payment
 - Every customer MUST have a master record
- Created by Sales Area
 - Sales Organization
 - Distribution Channel
 - Division

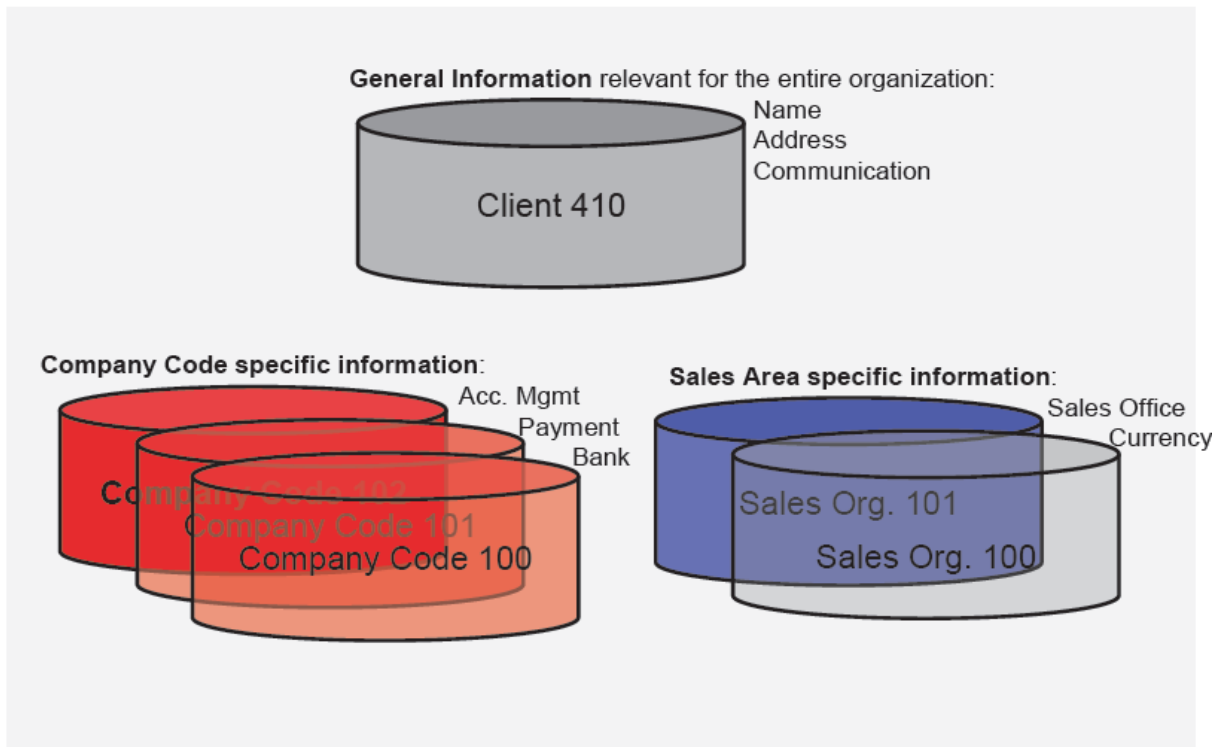
The screenshot shows the 'Change Customer: General Data' form in SAP ERP. The form is divided into several sections: 'Name', 'Search Terms', 'Street Address', 'PO Box Address', and 'Communication'. The 'Name' section includes fields for 'Title' and 'Name', with '00 The Bike Zone' entered in the 'Name' field. The 'Search Terms' section has a 'Search term 1/2' field with '00' entered. The 'Street Address' section includes fields for 'Street/house number', 'Postal Code/City' (97204 Portland), 'Country' (US USA), 'Region' (OR Oregon), and 'Time zone' (PST). The 'PO Box Address' section has fields for 'PO Box', 'Postal code', and 'Company postal code'. The 'Communication' section includes fields for 'Language' (EN English), 'Telephone', 'Mobile Phone', 'Fax', 'E-Mail', 'StandardComm Mtd', and 'Data line'. There are also buttons for 'Preview', 'Infomat. versions', and 'Other communication...'.

- The customer master information is divided into 3 areas:
 - General Data
 - Company Code Data
 - Sales Area Data



The screenshot shows the SAP Customer Master Data interface for 'Customer: General Data'. The customer is identified as '00 The Bike Zone' in 'Portland'. The interface is divided into several sections:

- Name:** Title and Name fields, both containing '00 The Bike Zone'.
- Search Terms:** Search term 1/2 is '00'.
- Street Address:** Street/House number, Postal Code/City (97204 Portland), Country (US USA), Region (OR Oregon), and Time zone (PST).
- PO Box Address:** PO Box, Postal code, and Company postal code fields.
- Communication:** Language (EN English), Telephone, Mobile Phone, Fax, E-Mail, StandardComm Mtd, and Data line fields.



General Data: This section contains common information such as the Address tab, which includes name and contact information details, control data (such as industry, transportation zone and tax information), payment transaction (bank details and payment card details), marketing (Nielsen ID and other classification) and other tabs based on the type of business.

Sales Data: This section contains Sales information (such as the Sales Groups and pricing classification), Shipping data (such as delivery priority shipping conditions), Billing (tax classification, incoterms details) and Partner Functions.

Account Groups

SAP comes with a set of standard account groups that should meet most of your company's business requirements. Account groups are used to segregate groups of customers based on size, geography or nature of business relationship (for example, one-time, premium). Using account groups lets you customize screen layout, number ranges, sequence, mandatory fields, partner functions, and partner function combinations.

Account Group	Name
0001	Sold-To Party
0002	Ship-To Party
0003	Payer
0004	Bill-To
CPDA	One-Time Customer
0012	Hierarchy Nodes

The Account group field in the IDoc segment can be seen in the following example:

Field	Value
FISKN	
KNRZA	
KONZS	
KTOKD	0001
KUKLA	01
LAND1	DE
LIFNR	
LIFSD	
LOCCO	
LOEVM	
NAME1	Motomarkt Stuttgart GmbH

Partner Functions

Partner functions are used to define the rights and responsibilities of each business partner in a business transaction. You assign partner functions when you create a master record for a business partner.



The following are examples of partner functions that are defined in the standard R/3 System for Business partner type customer:

- Sold-to Party: Contains data on sales, such as the assignment to a sales office or a valid price list
- Ship-to Party: Contains data for shipping, such as unloading point and goods receiving hours
- Bill-to Party: Contains the address and data on document printing and electronic communication
- Payer: Contains data on billing schedules and bank details

See the following example:

The screenshot shows the 'Change Customer: Sales Area Data' interface. At the top, there are tabs for 'Other Customer', 'General Data', and 'Additional Data, Empties'. Below these, customer details are displayed: Customer 1174 (Motomarkt Stuttgart GmbH, Stuttgart), Sales Org. 1000 (Germany Frankfurt), Distr. Channel 12 (Sold for resale), and Division 00 (Cross-division). The 'Partner Functions' tab is active, showing a table with the following data:

PF	Partner Function	Number	Name	Partner description	D...
SP	Sold-to party	1174	Motomarkt Stuttgart GmbH		<input type="checkbox"/>
DF	Bill-to party	1174	Motomarkt Stuttgart GmbH		<input type="checkbox"/>
RP	Payer	1174	Motomarkt Stuttgart GmbH		<input type="checkbox"/>
SH	Ship-to party	1174	Motomarkt Stuttgart GmbH		<input type="checkbox"/>

In the above example, the customer has the same sold-to, bill-to, payer and ship-to. In other cases, there could be multiple ship-tos associated with the same ship-to. These partner functions are shown in the relationships facet in SAP Cloud for Customer.



In addition to these partner functions, there are also partner functions such as employees, employee responsible, and account team members. The employee relationships are stored in the account team facet.



The value mapping determines where the partner function from SAP ERP is stored in SAP Cloud for Customer.

Partner functions are replicated only for SAP ERP to SAP Cloud for Customer and not vice versa.

Sales-area-dependent partner functions are now replicated from ERP to SAP Cloud for Customer. In the Customer view, you can now add partner functions that are specific to a sales area.

To enable this the following settings in business configuration fine tuning activity must be done:

1. Go to the **General Business Partners > Relationships** fine tuning activity.
2. Select the **Sales Area Dependent** check box for all the partner functions that you want to allow in SAP Cloud for Customer.

Partner Determination

The component Partner Determination in Sales and Distribution enables you to display the partners involved in the business transaction, their functions and their business relationships in the R/3 system. When creating or processing sales documents, the system can determine the partners automatically.

Partners appear in the system at different levels. You can define your own partner determination procedure for customer master.

Access the partner determination procedure assignment for customer master using the below transaction and menu path.

Transaction code	SPRO
IMG menu	Sales and Distribution > Basic Function > Partner Determination > Set up Partner determination > Set up Partner determination for customer master



Example of how partner procedure assignment is invoked for customer master.



4.4.2 Mapping SAP ERP Data Model Entities to SAP Cloud for Customer

The following table shows the ERP account groups mapped to the Cloud business roles.

ERP Account Group	Description	Cloud BP Role	Cloud UI
0001	Sold-To-Party	CRM000	Account/Individual Thing Inspector
0002	Ship-To-Party	CRM000	Account/Individual Thing Inspector
0003	Payer	CRM000	Account/Individual Thing Inspector
0004	Bill-To-Party	CRM000	Account/Individual Thing Inspector
0005	Prospect	BUP002	Account/Individual Thing Inspector
	Contact	BUP001	
0006	Competitor	CRM005	Account/Individual Thing Inspector

Since there are no standard fields in SAP Cloud for Customer to capture the Account group, it's recommended to Use a Field Extension to map Account Groups in SAP Cloud for Customer, if you need that information in SAP Cloud for Customer.

Additionally, it's possible to create your own custom SAP Cloud for Customer BR Roles, for example, ZCRM000. This is only possible for the basis role CRM000 and BUP002. In this way, you could also reflect your account groups in SAP Cloud for Customer. For example, by creating a role Z0001 for "Sold-To-Party" and mapping it in the code list mapping to the ERP code 0001.

4.4.3 Prospect Management

SAP Cloud for Customer includes accounts and prospects. A prospect turns into an account, when you remove the prospect flag.

When integrating with SAP ERP, it is important to consider the overall prospect to account business process.

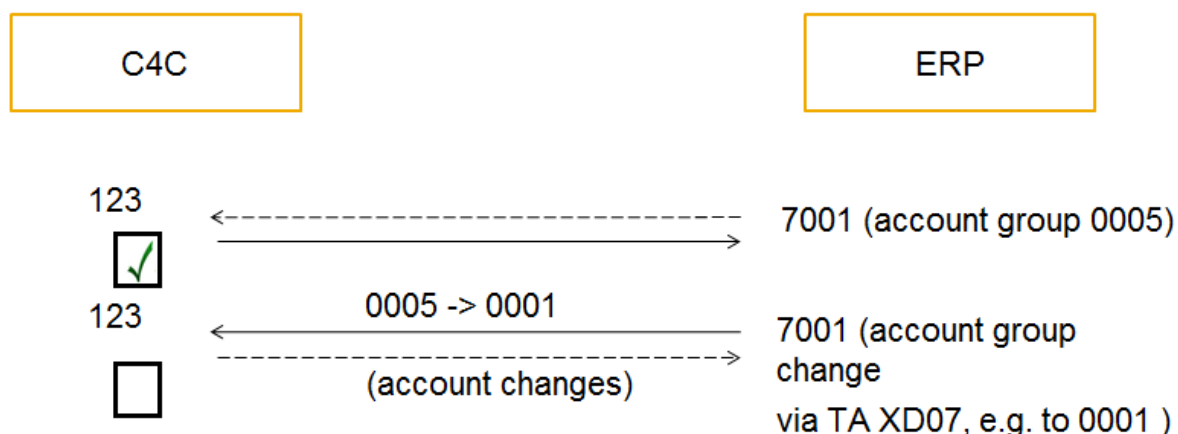
Consider the following questions:

- Do you want to create prospect for new accounts?
- How do you convert prospects to accounts, what is the process flow?
- Can sales reps create accounts today? Is this managed by a data governance team?

There are several options on how you can handle this process in SAP Cloud for Customer.

Prospecting in SAP ERP

In this scenario, prospects are replicated from Cloud to SAP ERP.



Prospect 123 is created in Cloud. This is replicated to ERP and creates prospective account 7001 in account group 0005. When the prospect flag is removed in Cloud, a manual change is done to the account group in ERP using transaction code XD07. The account group changes from 0005 to 0001.

Considerations

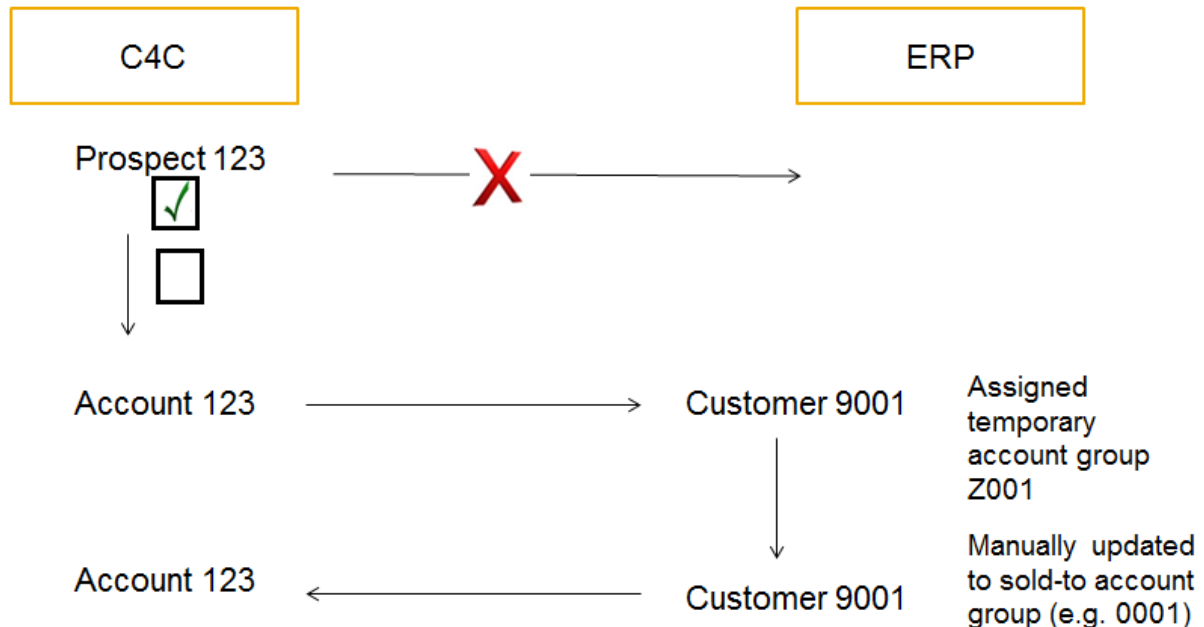
The customer master number range depends on the account groups. Even if the prospect is changed to a real customer in ERP by changing the account group, the number remains still the same and corresponds to the original 'prospect' account group.

Technical Info

You have to map the business partner roles (in standard CRM000 and BUP002) to the corresponding SAP ERP account groups using the code list mapping in SAP Cloud for Customer.

Prospecting Only in Cloud

This scenario blocks the replication of prospects from Cloud. The account is only replicated to ERP once the user removes the prospect flag in Cloud.



Prospect 123 is created in Cloud and all prospects are blocked so no data is replicated to ERP. In this case, the transactional data created locally in SAP Cloud for Customer for the prospect, like opportunities, quotes etc. are also blocked from being sent to ERP. Later the prospect flag is removed creating account 123. Account 123 is replicated to ERP and creates customer 9001. Customer 9001 is temporarily assigned account group Z001. The customer data management team then completes the update of the new account, adding all data required in Cloud for full customer data. When the account is ready, account group is manually updated to the sold-to account group 0001. The account changes are replicated back to Cloud.

Considerations

The users in Cloud for Customer can create and update customer master data in ERP. This is not always wanted. Often customer master data can be maintained in ERP only by a special master data governance team.

Technical Info

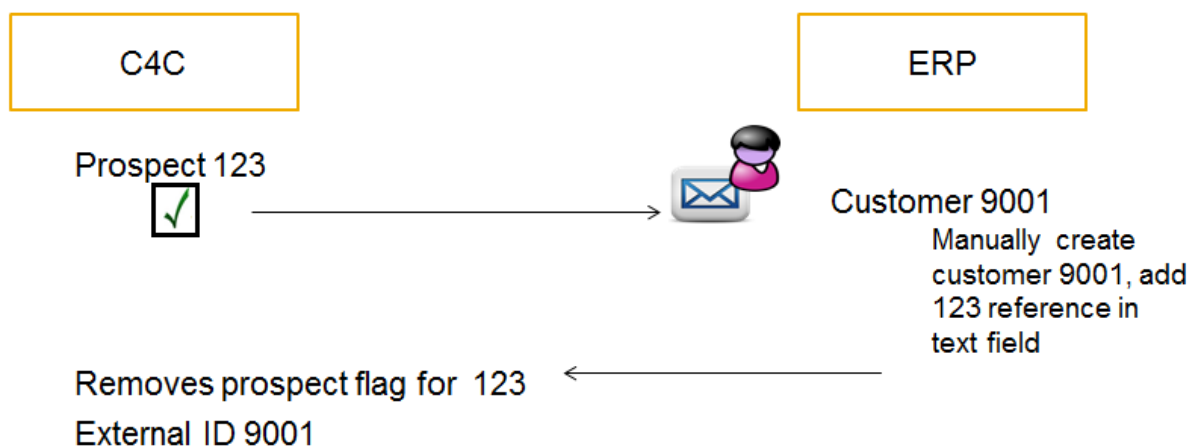
To block the replication of prospects, use the following scoping:

► [Business Configuration](#) ► [Edit Project Scope](#) ► [Scoping](#) ► [Communication and Information Exchange](#) ► [Integration with External Applications and Solutions](#) ► [Integration with SAP ERP](#) ▾.

Answer the question *Do you want to block prospects created in Cloud solution from being replicated to your ERP solution?*

Prospect in Cloud, create customer in SAP ERP manually and link back convert Cloud prospect to account

In this scenario the creation of accounts is not allowed in Cloud. Accounts can only be created in SAP ERP by the master data governance team.



A Cloud user creates the prospect 123. When the Cloud team is ready to convert them to an account, an email is sent to the master data governance team. The master data governance team manually creates customer 9001 and references the Cloud prospect 123 in a text field. By entering (and persisting) the customer ID of Cloud in the ERP customer master, it is guaranteed that the IDoc that is sent out from ERP identifies the corresponding Cloud instance, does not create a duplicate but updates the existing prospect instance and finally remove the prospect flag.

Considerations

Entering the customer ID of SAP Cloud for Customer in the ERP customer master is a mandatory step to avoid duplicates in SAP Cloud for Customer.

The step of the process to send an email to the master data governance team is not provided in the standard. This requires a custom solution.

Technical Info

Enhance your customer master by a 10 character field for the customer ID of Cloud for Customer. The proposed data element is `KUNNR`. See note 577502 for details how to enhance the customer master.

Enhance segment E1KNA1M of DEBMSO6 by the same field. Or identify an existing field in segment E1KNA1M that is not used in your processes and that can be used to carry the customer ID of Cloud for Customer.

Note

If you re-use an existing field, the mapping adjustments in PI will be easier because you won't have to upload the IDoc definition and do the field mappings again.

Create a BAdI implementation for BAdI `CUSTOMER_ADD_DATA_BI`. Implement method `FILL_ALE_SEGMENTS_OWN_DATA` and fill the customer ID of Cloud for Customer in the field that holds the Cloud ID.

Enhance the message mapping `ERP_COD_BusinessPartnerERPBulkReplicateRequest` in the following way: Map the IDoc field that holds the customer ID of Cloud for Customer to the following target field:

BusinessPartnerERPBulkReplicateRequest □ BusinessPartnerERPReplicateRequestMessage □
BusinessPartner □ ReceiverInternalID

4.4.4 Business Partner - DUNS Number and Longitude/Latitude Attributes

Two attributes are added to the SAP Cloud for Customer web services used for Business Partner integration with ERP.

- DUNS number is added to the business partner service.
- Longitude/latitude attributes to store GPS coordinates are added to the organization address service.

In both cases, integration is not end-to-end. SAP Cloud for Customer Business Partner supports these attributes but SAP ERP customer master does not. You can extend these fields in SAP ERP to use this integration.

Technical Information

This integration is an update to SAP Cloud for Customer SOA services used for the SAP ERP business partner integration.

- BusinessPartnerERPBulkReplicateRequest
- BusinessPartnerERPAddressBulkReplicateRequest

4.4.5 External Identifier Node Available in Business Partner

An external identifier node is available in the SAP Cloud for Customer business partner interface for SAP ERP integration.

You can use this feature to map an SAP ERP extension field to an external identifier in SAP Cloud for Customer.

If you're using *DUNS* number in your business partner and would like to add other external identifiers such as *Global Location No.*, *Standard Carrier Alpha Code*, you must do the following:

- Map all external identifiers to the node.
- Maintain mapping of the SAP Cloud for Customer identifiers to the SAP ERP extension fields in your middleware.

4.4.6 Configuration to Replicate International Customer Names and Addresses

Corporate accounts can have international versions of an address. These details of business partners can be replicated between an SAP on-premise backend system and the cloud solution. To use this feature, do the following:

- Maintain the backend table in the SAP on-premise backend system
Navigate to ► [Transaction SPRO](#) ► [SAP NetWeaver](#) ► [Application Server](#) ► [Basic Services](#) ► [Address Management](#) ► [International Setting](#) ► [Activate International Address Version](#) ►
- Scope the option in the cloud solution
Navigate to ► [Built-in Services and Support](#) ► [Business Environment](#) ► [Addresses and Languages](#) ►, and then select the *Do you want to specify textual master data using international address versions?* question.
- Configure the relevant languages in the cloud solution
Business Configuration activity International Address Versions

After an international address is maintained in the cloud solution, the system does not allow you to disable this feature.

4.4.7 Business Partner: Mark Sales Area for Deletion

A new field *Marked for Deletion* is introduced in SAP Cloud for Customer for obsolete sales arrangement data of a business partner. This feature is bi-directionally replicated with both SAP ERP and SAP S/4HANA. If this option is selected in either SAP ERP or SAP S/4HANA, the corresponding sales data for the business partner is marked for deletion in SAP Cloud for Customer. If your existing sales arrangement data for a business partner is obsolete, this data now appears as *Marked for Deletion*.

Integration in SAP ERP

The field *Marked for Deletion* is mapped to *Deletion Flags* in SAP ERP. *Deletion Flags* is marked based on the value of LIFE_CYCLE_STATUS_CODE for sales arrangement in SAP Cloud for Customer. There is no change in PI mappings.

Integration in SAP S/4HANA

The field *Marked for Deletion* is mapped to *Deletion Flag Sales* in SAP S/4HANA. A new field `DeletedIndicator` has been introduced in the SAP Cloud for Customer web service. The older field `LifeCycleStatusCode` is no longer available for sales arrangement data.

i Note

In SAP CRM, there is no standard implementation available for this scenario. However, if you have a custom implementation available for the same, you must adjust the middleware mapping for sales arrangement data from the field `LifeCycleStatusCode` to the field `DeletedIndicator`.

More Information

4.4.8 Flexible Replication of Prospects

Updates to prospects can be replicated to select external systems of your choice.

Any changes to customers that are flagged as prospects in SAP Sales Cloud can be replicated to only to those external systems that you choose. For example, you can replicate updates to a prospect to your SAP Marketing system and block the updates to your SAP S/4HANA system.

To enable this feature, follow these instructions:

1. In SAP Sales Cloud, go to ► [Administrator](#) ► [General Settings](#) ► [Integration](#) ► [Communication Arrangement Filters](#) ▾.
2. Under [Communication Arrangements](#), select a [Communication Partner](#) and a [Communication Scenario Name](#).
3. Under [Filters](#), click [Add Row](#).
4. Select [Block Prospects from being sent](#)

4.4.9 Support for Multiple Business Roles

Understand how multiple business partner roles affect integration with SAP ERP.

SAP Cloud for Customer [supports multiple roles](#) for business partners, while SAP ERP doesn't. Therefore, if a business partner has multiple role assignments, the following is true:

- During the replication of business partners from SAP Cloud for Customer to SAP ERP, only the customer/prospect role is replicated.
- During the replication from SAP ERP to SAP Cloud for Customer, the additional roles aren't deleted.

To use this feature, update your middleware mapping.

4.4.10 Contact integration: International address version

International address versions for contacts are now bi-directionally replicated with SAP ERP.

More Information

4.4.11 Business Partner Tax Code

Tax codes are transferred as part of business partner replication. For some of these tax codes, special data protection policies could apply. To safeguard these tax codes, you must set up a filter mechanism that's available in the middleware mapping for business partners. You must ensure the tax codes that need to be protected are filtered out and only the relevant ones are transferred to SAP Cloud for Customer. The tax codes in SAP ERP, however, are untouched.

Technical Information

SAP Cloud Platform Integration

You must add all tax codes and set *IgnoreTaxCode* to *true* for the ones that you don't want to replicate to SAP Cloud for Customer.

The screenshot displays the SAP Cloud Platform Integration (CPI) configuration page for a 'TaxCode' value mapping. The breadcrumb path is 'Design / Value Mapping - C4CN1 / TaxCode /'. The page title is 'TaxCode'. Below the title, there is a 'Bi-Directional mapping' section with a search bar. The mapping table shows two agencies: 'ERP' with identifier 'TaxCode' and 'ERP' with identifier 'IgnoreTaxCode'. The 'State' column is empty. Below this, there are tabs for 'Value Mappings' and 'Default Values'. The 'Value Mappings' tab is active, showing a table with source and target values. The source values are 'ERP, TaxCode', 'CA5', 'US1', and 'AR2'. The target values are 'ERP, IgnoreTaxCode' and 'true'. To the right of the table, there is a 'Usage' section with the syntax: `ValueMap (Source agency, Source identifier, Source value, Target agency, Target identifier) = Target value;` and an 'Example' section with two examples: `ValueMap (ERP, TaxCode, CA5, ERP, IgnoreTaxCode) = true;` and `ValueMap (ERP, IgnoreTaxCode, true, ERP, TaxCode) = CA5;`

Agency	Identifier		Agency	Identifier	State
ERP	TaxCode	↔	ERP	IgnoreTaxCode	

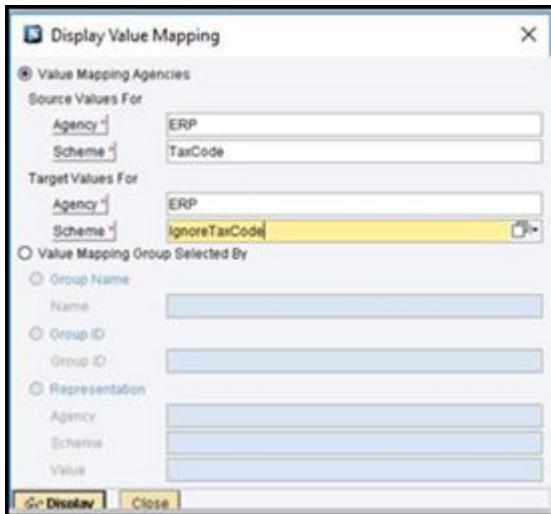
Source	Target
ERP, TaxCode	ERP, IgnoreTaxCode
CA5	true
US1	true
AR2	true

Usage:
`ValueMap (Source agency, Source identifier, Source value, Target agency, Target identifier) = Target value;`

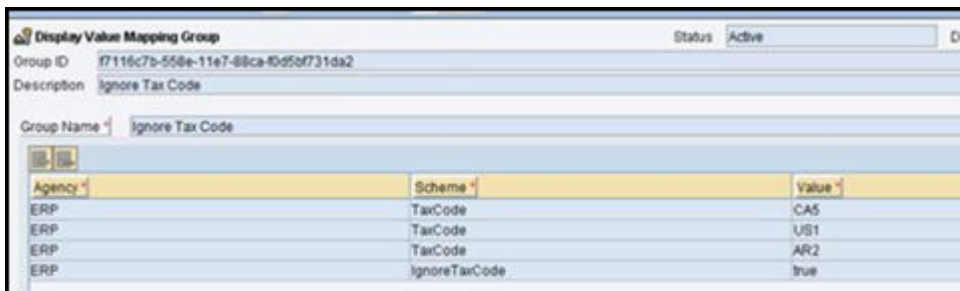
Example:
`ValueMap (ERP, TaxCode, CA5, ERP, IgnoreTaxCode) = true;`
`ValueMap (ERP, IgnoreTaxCode, true, ERP, TaxCode) = CA5;`

Process Integration

Create Value Mapping for the source agency ERP and scheme `TaxCode`, and target agency ERP and scheme `IgnoreTaxCode`.



Enter all tax codes that you want to exclude (such as: CA5, US1, AR2) and the set the IgnoreTaxCode to **true**.



4.5 Print Preview of Price Conditions

SAP Cloud for Customer Contract Preview has access to SAP ERP Price Conditions returned from External Pricing.

The pricing call to SAP ERP and the contract replication from SAP ERP to SAP Cloud for Customer have been extended to include conditions that are relevant for print. These conditions can be used in the SAP Cloud for Customer print form for contracts. The SAP Cloud for Customer standard contract print form does not include specific conditions. Therefore, there is no preview available. The standard contract print form is not updated to be compatible with older releases. You can build your own print forms and use this.

Technical Information

This is an update to the existing contract integration. Only the affected integrations are listed here.

Scoping Entries

► [Communication and Information Exchange](#) ► [Integration with External Applications and Solutions](#) ► [Integration into Sales, Service, and Marketing Processes](#) ► [Contract](#) ►

Do you want to replicate contracts between your cloud solution and external application or solution?

Communication Scenario / Arrangements in Cloud for Customer

Contract Replication from and to SAP Business Suite

- Inbound Communication Services
 - Replicate Contract from SAP Business Suite

Contract with Pricing in SAP Business Suite

- Outbound Communication
 - Request Contract Data from SAP Business Suite

Interfaces / Cloud Integration iFlow / PI operation mapping

Source Interface	PI/Cloud Integration Mapping	Target Interface
C4C ContractSalesDocumentData-Query_sync	COD_ERP_SimulateContract_Request	ERP CodContractSimulate
ERP CodContractSimulateResponse	COD_ERP_SimulateContract_Response	C4C ContractSalesDocumentData-QueryResponse_sync
ERP COD_CONTRACT_CREATE-FROM_DAT01	ERP_COD_ContractReplication	C4C ContractReplicationRequestToExternal

4.6 Sales Contract - Supports Item Pricing Date and Eligible Call-Off Parties

Bi-directional contract integration now supports the following attributes:

- Item pricing date
- Eligible call-off parties (additional parties who can place a call-off order for a contract).

Pricing date in SAP Cloud for Customer Contract *Items*.

Contracts 6383 - HD 2017-12-21...

6383 - HD 2017-12-21 13:56

ERS RELATED CONTRACTS OPPORTUNITIES INVOLVED PARTIES DOCUMENT FLOW CHANGES NOTES ATTACHM

ITEMS (1)

Line	Parent Line	Type	Status	Product ID	Description
10		Quantity - Sales Contract Item	Active	10007054	Cloud server large

General Data Pricing

Description
Cloud server large

Status
Active

Begins On
01.12.2017

Ends On
31.12.2018

Payment Terms
14 days 3% cash discount, 20 days net

Reason for Rejection
-

Pricing Date
10.12.2017

Pricing date in SAP ERP Contract *Item*.

Display Quantity Contract 40002629: Item Data

Sales Document Item: 10 Item category: KMN Qty Contract Item

Material: HD-WEB-SERVER-L Cloud server large

Sales A Sales B Contract data Shipping Billing Document Conditions Account

Order Quantity and Delivery Date

Target quantity: 2,00 EA 1 EA <-> 1 EA

Delivery time: [dropdown]

General Sales Data

Net value: 7.600,00 EUR Exch. Rate: 1,00000

Pricing date: 10.12.2017

Material entered: HD-WEB-SERVER-L

EAN/UPC: [input]

Usage: [dropdown]

Bus.transaction type: [input]

Reason for rejection: [dropdown] Pref. available

Alternative to item: 0

SAP Cloud for Customer Contract with an eligible call-off party with role *Authorized Party*.

6383 - HD 2017-12-21 13:56

OVERVIEW SALES QUOTES SALES ORDERS RELATED CONTRACTS OPPORTUNITIES **INVOLVED PARTIES** DOCUMENT FLOW CHANGES NOTES ATTACH

INVOLVED PARTIES (8)

Role	Name	Address	E-Mail	Mobile	Contact
Account	Cumulus Cloud Operations	4321 El Camino Real / Palo Alto CA 94301 / ...	ytrytyu56u5u756@sap.com	+1 653-753-6753	Heinz Mustermann
Authorized Party	Cumulus Cloud Server Prov ...	Lußheimer Str. 1 / 68799 Rellingen / DE		+49 170 123456	
Bill-To	Cumulus Cloud Operations	4321 El Camino Real / Palo Alto CA 94301 / ...	ytrytyu56u5u756@sap.com	+1 653-753-6753	
Contracting Unit	Almika	3410 Hillview Avenue / Palo Alto CA 94304 ...	info@refsys.sod		
Payer	Cumulus Cloud Operations	4321 El Camino Real / Palo Alto CA 94301 / ...	ytrytyu56u5u756@sap.com	+1 653-753-6753	
Sales Unit	Germany Frankfurt - ERP 1...	Avenue de Gratta-Paille / 1000 Lausanne / CH			
Seller	Almika	3410 Hillview Avenue / Palo Alto CA 94304 ...	info@refsys.sod		
Ship-To	Cumulus Cloud Service	El Camino Real / Sunnyvale PA 94087 / US			

SAP ERP contract with the corresponding partner function *SP Contract rel. ord.*

Display Quantity Contract 40002629: Header Data

Quantity Contract: 40002629 Purchase order no.: HD 2017-12-21 13:56
Sold-to party: HD20140404 Cumulus Cloud Operations / 4321 El Camino Real / Palo Alto ...

Sales Contract data Shipping Billing Document Accounting Conditions Account assignment **Partners** Texts

Display Range: PARALL All partners

Partn.Funct.	Partner	Name	Street	Postal c...	Cty
AA SP Contract rel. ord	HD20150626	Cumulus Cloud Server P...	Lußheimer Str. 1	68799	Reilingen
AG Sold-to party	HD20140404	Cumulus Cloud Operatio...	4321 El Camino Real	94301	Palo Alto
AP Engagement Partner	153217	Heinz Mustermann	Opelstr. 12	68799	St. Leon-Rot
RE Bill-to party	HD20140404	Cumulus Cloud Operatio...	4321 El Camino Real	94301	Palo Alto
RG Payer	HD20140404	Cumulus Cloud Operatio...	4321 El Camino Real	94301	Palo Alto
WE Ship-to party	466	Cumulus Cloud Service	El Camino Real	94087	Sunnyvale

Technical Information

This integration is an update to the existing SAP Cloud for Customer contract integration with SAP ERP.

4.7 Contract Call-Off Statistics

Contracts integration is enhanced to transfer call-off statistics from SAP ERP to SAP Cloud for Customer. This information is important for sales. For example, call-off statistics can be used to trigger the negotiation of a successor contract for items where the contract quantity is close to completely consumed.

Any call-off sales order in SAP ERP is considered for the call-off statistics regardless of whether it originates from SAP Cloud for Customer.

You can see here a contract is created in SAP Cloud for Customer. It has one item with a target quantity of five each.

Contracts

6741 - HD 2018-03-14 15:33

OVERVIEW SALES QUOTES SALES ORDERS RELATED CONTRACTS OPPORTUNITIES INVOLVED PARTIES DOCUMENT FLOW CHANGES NC < >

ITEMS (1)

Line	Parent Line	Type	Status	Product ID	Description	Target Quantity	Begins On	Ends On
10		Quantity - Sales Contract Item	Active	10007054	Cloud server large	5 Each	01.03.2018	31.12.2019

General Data Target Definitions Pricing

Description
Cloud server large

Status
Active

Begins On
01.03.2018

Ends On
31.12.2019

Payment Terms
14 days 3% cash discount, 20 days net

Reason for Rejection
-

Pricing Date
14.03.2018

The contract is replicated to SAP ERP.

Display Quantity Contract 40002815: Overview

Quantity Contract 40002815 Net value 18.000,00 EUR

Sold-To Party HD20140404 Cumulus Cloud Operations / 4321 El Camino Real / Palo Alto C...

Ship-To Party 466 Cumulus Cloud Service / El Camino Real / Sunnyvale PA 94087

Purch. Order No. HD 2018-03-14 15:33 PO date

Sales Item overview Item detail Ordering party Procurement Shipping Configuration Reason for rejection

Description HD 2018-03-14 15:33

Contract start 01.03.2018 Contract end 31.12.2019

Billing block Pricing date 14.03.2018

Order reason

Sales area 1000 / 10 / 00 Germany Frankfurt, Final customer sales, Cross-division

Master contract

Shp.Cond. 02 Standard

Business Area

All items

Item	Material	Target quantity	U...	Description	Customer Material No.	ItCa
10	HD-WEB-SERVER-L	5,00	EA	Cloud server large		EUR

You can see the call-off statistics in the SAP ERP contract in [Environment](#) > [Status Overview](#) . Quantity available is five. SAP Cloud for Customer contract gets replicated to SAP ERP.

Contract: Status Overview

[Display sales document](#) [Document flow](#) [Display document](#) [Expand all](#) [Collapse all](#)

Quantity Contract 40002815
 Sold-to HD20140404 Cumulus Cloud Operations
 Ship-to party 466 Cumulus Cloud Service

Status overview

- Current hdr status** Not referenced Nothing rejected
 - Total processing Open
 - Reference status Not referenced
 - Completeness Complete header data
 - Rejection status Nothing rejected

- Current item status**
 - ItemNo Material
 - 000010 Cloud server large** 5,000 EA Not referenced Nothing rejected
 - Total processing Open
 - Reference status Not referenced 0,000 EA referenced 5,000 EA open
 - Completeness Complete item data
 - Rejection status Nothing rejected

A call-off order is created in SAP ERP that consumes two of five items.

Display Standard Order 42717: Overview

[Sales](#) [Item overview](#) [Item detail](#) [Ordering party](#) [Procurement](#) [Shipping](#) [Configuration](#) [Reason for rejection](#)

Standard Order 42717 Net value 7.200,00 EUR
 Sold-To Party HD20140404 Cumulus Cloud Operations / 4321 El Camino Real / Palo Alto C...
 Ship-To Party 466 Cumulus Cloud Service / El Camino Real / Sunnyvale PA 94087
 Purch. Order No. HD 2018-03-15 11:37 PO date 15.03.2018

General header data

Sales doc. type OR Standard Order Standard Or... Standard Or... Standar...
 Description _____
 Req. deliv.date A 20.03.2018 Deliver.Plant _____
 Complete div. Total Weight 2.000,000 KG
 Delivery block _____ Volume 200 L
 Billing block _____ Pricing date 14.03.2018
 Total amount 7.200,00 Doc. currency EUR / 1,00000

All items

Item	Material	Order quantity	Un	Description	S	Customer Material No.	ItCa	DGIP	H
10	HD-WEB-SERVER-L	2,00	EA	Cloud server large	<input type="checkbox"/>		TAN		

The call-off statistics in SAP ERP are updated.

Contract: Status Overview

[Display sales document](#) Document flow [Display document](#) Expand all Collapse all

Quantity Contract: 40002815
 Sold-to: HD20140404 Cumulus Cloud Operations
 Ship-to party: 466 Cumulus Cloud Service

Status overview

- Current hdr status** Partially referenced Nothing rejected
 - Total processing: Being processed
 - Reference status: Partially referenced
 - Completeness: Complete header data
 - Rejection status: Nothing rejected
- Current item status**
 - ItemNo Material: 000010 Cloud server large 5,000 EA Partially referenced Nothing rejected
 - Total processing: Being processed
 - Reference status: Partially referenced 2,000 EA referenced 3,000 EA open
 - Completeness: Complete item data
 - Rejection status: Nothing rejected

The change to the call-off statistics is sent to SAP Cloud for Customer and it appears in the contract item as well.

Contracts 6741 - HD 2018-03-14...

6741 - HD 2018-03-14 15:33

[RELATED CONTRACTS](#) [OPPORTUNITIES](#) [INVOLVED PARTIES](#) [DOCUMENT FLOW](#) [CHANGES](#) [NOTES](#) [ATTACHMENTS](#)

ITEMS (1)

Line	Parent Line	Type	Status	Product ID	Description	Target Quantity
10		Quantity - Sales Contract Item	Active	10007054	Cloud server large	5 Each

[General Data](#) [Target Definitions](#) [Pricing](#)

Targets and Fulfillment

Target Quantity: 5 Each
 Release Quantity: 2 Each
 Remaining Quantity: 3 Each

Technical Information

Scoping Entries

This feature is offered as an update to the existing scoping entry for contract integration.

Communication Scenario / Arrangements

Contract Replication from and to SAP Business Suite

- Inbound Communication Services
 - Replicate Contract Call-Off Statistics from SAP Business Suite

Interfaces / Cloud Integration iFlow / PI operation mapping

SAP ERP Source Interface	PI/Cloud Integration Mapping	SAP Cloud for CustomerTarget Interface
ContractCallOffStatisticsReplication-Out	ERP_COD_ContractCallOffStatisticsReplication	ContractCallOffStatisticsReplicationIn

4.8 Contract Replication: Add Notes and Parties at Item Level

You can now add notes and parties at item level in a SAP Cloud for Customer Contract.

You can enable the allowed parties in Business Configuration.

More Information

4.9 Sales Order Integration

You can create a new sales order or replicate an existing one in ERP, based on the following in SAP Cloud for Customer:

- Customer quote
- Opportunity

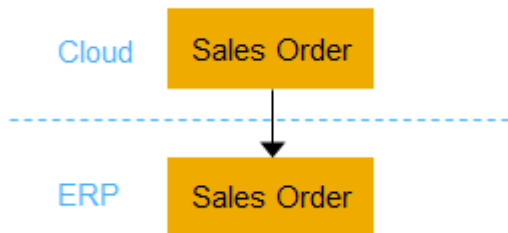
- Sales order

From the cloud solution, you can create a sales order in ERP in one of the following ways:

- **Option 1: Order → Order**

In ERP, replicate a sales order that is created in the cloud solution. To achieve this, follow these steps:

1. In the cloud solution, create a sales order with products, and then click *Simulate*. This retrieves the external pricing information and the free goods determination, credit, and ATP check results from ERP.
2. Click *Transfer* to replicate the sales order in ERP.



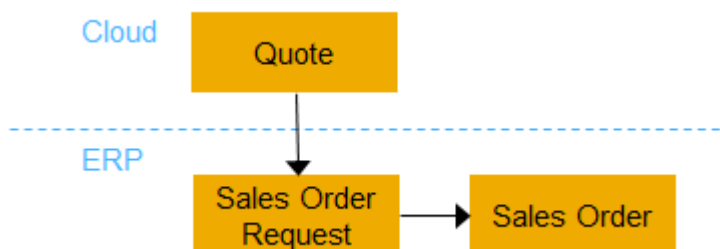
- **Option 2: Quote → Order**

In ERP, create a sales order from a quote in the cloud solution. To achieve this, follow these steps:

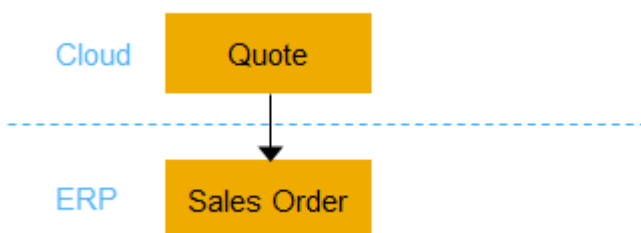
1. In the cloud solution, create a quote with products, and then submit it for approval.
2. After the quote is approved, create a sales order in ERP by clicking *Create External Follow-Up Document*.

Based on the configuration, the system creates one of the following:

- A sales order request in ERP, followed by a sales order in ERP.



- A direct sales order in ERP.



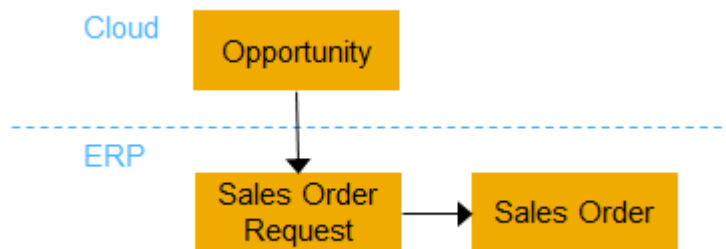
- **Option 3: Opportunity → Order**

In ERP, create a sales order from an opportunity in the cloud solution. To achieve this, follow these steps:

1. In the cloud solution, create an opportunity with products, and then submit it for approval.
2. After the opportunity is approved, create a sales order in ERP by clicking *Create ERP Sales Order*.

Based on the configuration, the system creates one of the following:

- A sales order request in ERP, followed by a sales order in ERP.



- A direct sales order in ERP.



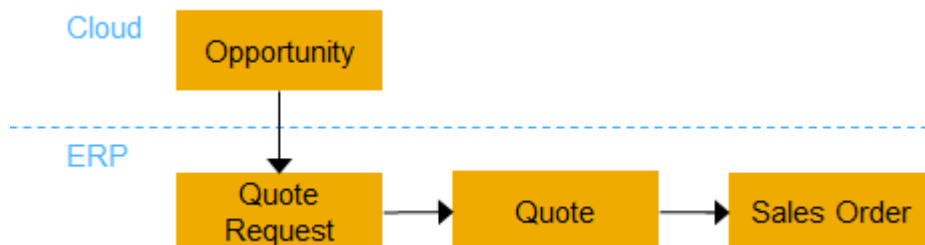
- **Option 4: Opportunity → Quote → Order**

In ERP, request a quote from an opportunity in the cloud solution, and then create a sales order. To achieve this, follow these steps:

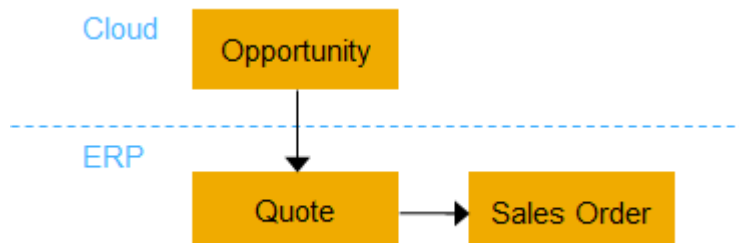
1. In the cloud solution, create an opportunity with products, and then submit it for approval.
2. After the opportunity is approved, create a quote in ERP by clicking *Create ERP Sales Quote*.

Based on the configuration, the system creates one of the following:

- A quote request in ERP, followed by a quote, and then a sales order in ERP.

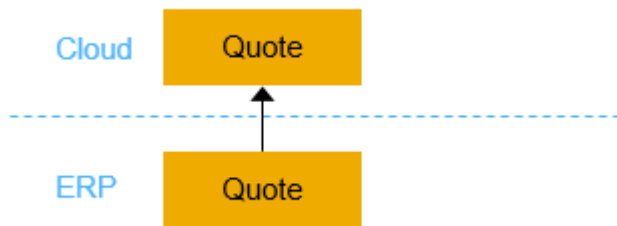


- A quote, followed by a sales order in ERP.



- **Option 5: ERP Quote → Quote**

In the cloud solution, replicate an ERP quote as a read-only quote.



After the follow-on documents for a quote or opportunity have been created in ERP, you can:

- View these follow-on documents in the *Sales Documents* facet of the *Quote* or *Opportunity* view of the SAP Cloud for Customer. On click, you can also view the PDF version of these documents.
- View and update a sales document in ERP.

Display Standard Order 35271: Overview

Standard Order 35271 Net value 2.000,00 EUR

Sold-To Party 322 Airtel ATN Ltd / Glashule Rd 29-31 / 70000 Frankfurt

Ship-To Party 322 Airtel ATN Ltd / Glashule Rd 29-31 / 70000 Frankfurt

PO Number PO date

Sales Item overview Item detail Ordering party Procurement Shipping Configuration Reason for rejection

General header data

Description Nov 21 8:01

Req. deliv.date A 28.11.2014 Deliver.Plant

Contract start 21.11.2014 01 Contract end 20.11.2015 08

Complete div. Total Weight 0,000 KG

Delivery block Volume 0,000

Billing block Pricing date 21.11.2014

Total amount 2.000,00 Doc. currency EUR / 1,00000

Item	Material	Order quantity	Un	Description	S	Customer Material No.	ItCa	DGIP	HL Item	D	First date	Plnt	Batch	CnTy	Amou
	10MDECC-DS01	10,00	EA	Demo #999	<input type="checkbox"/>		TAN			0A	28.11.2014	0001		PR00	

You can replicate attachments created for a quote and an order. The attachments created for a quote in the cloud solution can be replicated to ERP, and the ones created for sales order is bidirectional. All the attachments are displayed in the *Attachments* tab of the *Quote* and *Sales Orders* views in SAP Cloud for Customer. An attachment can be created from a local file, a web link, or a file from the cloud solution library. For more information, see the *Configuring Sales Orders* and *Creating and Processing Sales Quotes* documents.

4.9.1 Configuration in SAP Cloud for Customer

Configuration in SAP Cloud for Customer involves modification in scoping, fine tuning and code list mapping, and communication arrangement and services.

Scoping

Go to **Business Configuration** > **Edit Project Scope** > **Scoping** > **Communication and Information Exchange**, and then scope the following based on your requirements:

- Option 1: Order → Order

Go to **Integration with External Applications and Solutions** > **Integration into Sales, Service, and Marketing Processing**, and then select the following questions:

- Do you want to replicate sales orders from an external application or solution to your cloud solution?
- Do you want to replicate sales orders from your cloud solution to an external application or solution?
- Do you use an external application to determine price, free goods, product availability and credit status for sales order in your cloud solution?

Group: Lean Sales Order (3)			
Do you want to replicate sales orders from an external application or solution to your cloud solution?	Reviewed	<input checked="" type="checkbox"/>	
Do you want to replicate sales orders from your cloud solution to an external application or solution?	Reviewed	<input checked="" type="checkbox"/>	
Do you use an external application to determine prices, free goods, product availability, and credit status for sales order in your cloud solution?	Reviewed	<input checked="" type="checkbox"/>	

- Option 2: Quote → Order

Go to **Integration with External Applications and Solutions** > **Integration into Sales, Service, and Marketing Processing**, and then select *Do you want to create follow-up document for sales quotes from your cloud solution to an external application?*

Group: Opportunities (3)			
Do you want to replicate opportunities from your cloud solution to an external application or solution?	Reviewed	<input type="checkbox"/>	
Do you want to replicate opportunities from an external application or solution to your cloud solution?	Reviewed	<input type="checkbox"/>	
Do you want to create follow-up documents for opportunities from your cloud solution to an external application?	Reviewed	<input checked="" type="checkbox"/>	
Group: Sales Quotes (2)			
Do you want to create follow-up documents for sales quotes from your cloud solution to an external application?	Reviewed	<input checked="" type="checkbox"/>	
Do you use an external application to determine prices, free goods, product availability, and credit status for sales quotes in your cloud solution?	Reviewed	<input checked="" type="checkbox"/>	

- Option 3: Opportunity → Order and Option 4: Opportunity → Quote → Order

Go to **Integration with External Applications and Solutions** > **Integration into Sales, Service, and Marketing Processing**, and then select *Do you want to create follow-up documents for opportunities you're your Cloud solution to an external application?*



- Option 5: ERP Quote → Quote (Read only)

Go to **Integration with External Applications and Solutions** > **Integration into Sales, Service, and Marketing Processing**, and then select *Do you want to replicate sales quotes from an external application or solution to your cloud solution?*

Group: Sales Quotes (3)		
Do you want to create follow-up documents for sales quotes from your cloud solution to an external application?	Reviewed	<input checked="" type="checkbox"/>
Do you use an external application to determine prices, free goods, product availability, and credit status for sales quotes in your cloud solution?	Reviewed	<input checked="" type="checkbox"/>
Do you want to replicate sales quotes from an external application or solution to your cloud solution?	Reviewed	<input checked="" type="checkbox"/>

Fine Tuning and Code List Mapping

You must perform code list mapping to the **Order** → **Order** scenario. Fine tuning or code list mapping is not applicable to the rest of the four scenarios.

Communication Arrangements and Services

The following table describes the modifications required for communication arrangements and services for various scenarios:

Scenario	Communication Arrangement	Service
Option 1: Order → Order	Replicate sales order to SAP Business Suite <div style="border-left: 2px solid #0070C0; padding-left: 5px; background-color: #F0F0F0;"> <p>i Note</p> <p>To replicate attachments, you must enable the service interface.</p> </div>	Outbound Service - Replicate sales order to SAP Business Suite
Option 2: Quote → Order	<ul style="list-style-type: none"> Cloud Solution to ERP: Create the sales quote follow up document in SAP Business Suite ERP to Cloud Solution: Replicate sales order from SAP Business Suite <div style="border-left: 2px solid #0070C0; padding-left: 5px; background-color: #F0F0F0;"> <p>i Note</p> <p>To replicate attachments, you must enable the service interface.</p> </div>	<ul style="list-style-type: none"> Cloud Solution to ERP <ul style="list-style-type: none"> Inbound Service - Notify sales quote about the creation of sales order in SAP Business Suite Outbound Service - Create the sales quote follow up document in SAP Business Suite ERP to Cloud Solution <ul style="list-style-type: none"> Inbound Service - Notify sales quote about the creation of sales order in SAP Business Suite

Scenario	Communication Arrangement	Service
Option 3: Opportunity → Order and Option 4: Opportunity → Quote → Order	Create the opportunity follow up document in SAP Business Suite	<ul style="list-style-type: none"> Inbound Service - Notify opportunity about the follow up document from the SAP Business Suite

4.9.2 Configuration in SAP ERP

Option 1: Order → Order

- Maintain COD4 as output type
- Maintain IDoc partner profile for the message type COD_REPLICATE_SALES_ORDER
- Maintain distribution model for the message type COD_REPLICATE_SALES_ORDER
If required, you can create a filter group on the following fields to distribute only selected orders to the cloud solution:
 - Sales Organization
 - Division
 - Distribution channel
 - Sales Order Type

i Note

For order confirmation to be sent to a quote/opportunity, you must set the COD1 output type in the ERP sales order output procedure.

Options 2 to 5

Not applicable to these scenarios.

Attachments

To replicate attachments in cloud solution and ERP, you must configure the web services in SOA Manager. For more information, see the following chapters in the SAP Cloud for Customer Integration Guide:

- Configuration to send attachments from SAP ERP to SAP Cloud for Customer
- Configuration to send attachments from SAP Cloud for Customer to SAP ERP

To see the attachments icon (services for object) in the *Sales Order* screen in ERP, navigate to **System** **Maintain Own Data**, and then add the **SD_SWU_ACTIVE=X** user parameter.

An order can be edited both in the Cloud solution and ERP system. If changes are made to the same order in both these systems at the same time, it can lead to inconsistencies. Hence, a process is implemented to rectify this problem, and the process depends on the **UPD_Tmstmp** field in ERP. This field is available in the ERP release. If you are on a previous version, check the SAP Notes.

4.9.3 Configuration in Middleware

To configure in middleware, you must adjust the routing conditions, replicate orders, create business documents, and perform value mapping in Integration Builder.

Adjust Routing Conditions

To receive a confirmation from ERP about the created documents, update the COD_OPPT_CONF.ORDER05 routing condition in PI:

- /ORDERS05/IDOC/E1EDK01/ABRVW_BEZ = 'BUS200111'
- /ORDERS05/IDOC/E1EDK01/ABRVW_BEZ = 'BUS2031' and /ORDERS05/IDOC/E1EDK01/ABRVW = 'INQ'
- /ORDERS05/IDOC/E1EDK01/ABRVW_BEZ = 'BUS2031' and /ORDERS05/IDOC/E1EDK01/ABRVW = 'ORD'

Integration Flow

Go to **Integration Flows** (▶ [SAP Help Portal](#) ▶ [Cloud for Customer](#) ▶ [Integration](#) ▶ [Integration Flows](#) ▶), and filter by:

- Business object: Quote, order and opportunity
- Source system: C4C
- Target system: ERP

The ones that are specific to direct document creation are:

- Replicate Order from SAP Business Suite to SAP Cloud for Customer
- Replicate Order from SAP Cloud for Customer to SAP Business Suite
- Create Business Document from Sales Quote
- Create Business Document from Opportunity

Replicate Other Party Information

To replicate other party information in a sales order replication request, you must perform value mapping in the Integration Builder.

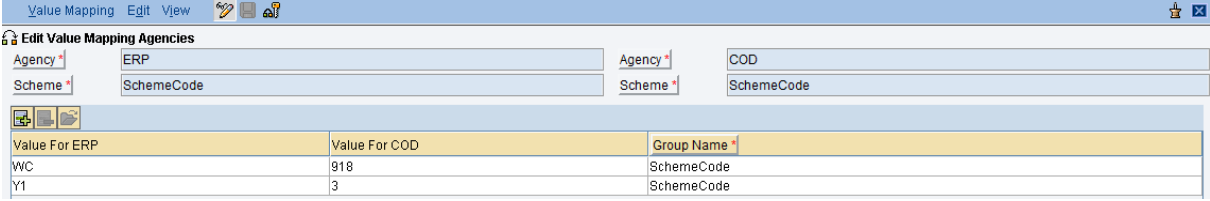
In the following example, you will see the value mapping required to add ZZ, WC, Y1 and ZX as Other Party Partner Role codes. Value mapping is done for ERP and COD agencies and OtherPartyPartnerRole scheme.

Display Value Mapping Agencies

Agency *	ERP	Agency *	COD
Scheme *	OtherPartyPartnerRole	Scheme *	OtherPartyPartnerRole

Value For ERP	Value For COD	Group Name *
ZZ	ZZ	OtherParty
WC	WC	OtherParty
Y1	Y1	OtherParty
ZX	ZX	OtherParty

In this example, you must do the mapping for scheme codes for the corresponding OtherPartyPartnerRole codes added. If you have not maintained any value mapping for scheme codes, then by default, the 918 (ERP Customer Number) scheme code is set for the corresponding OtherPartyPartnerRole(s). For example, in the following image you can see that the Y1 OtherPartyPartnerRole code is mapped to the 3 (ERP employee) Scheme code.



4.9.4 Example

This is an example on creating an order from an opportunity.

SAP Cloud for Customer

In the SAP Cloud for Customer solution, do the following:

1. Create an opportunity.

NEW OPPORTUNITY

*Name:

*Account:

Primary Contact:

Source:

Expected Value:

Start Date:

Close Date:

Sales Cycle:

Sales Phase:

Probability:

Publish to Forecast:

Forecast Category:

Category:

Campaign:

*Owner:

Note:

Calculation failed

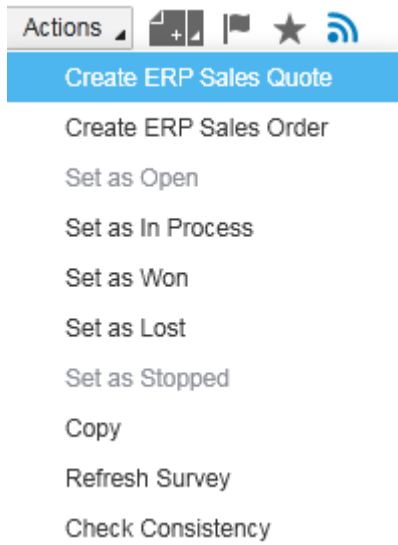
2. Add a product.

OVERVIEW FEED **PRODUCTS** SALES ACTIVITIES COMPETITORS SALES TEAM CONTACTS INVOLVED PARTIES

PRODUCTS Add

Product	Descri...	Produ...	List Price	Unit	Quantity	Proposed V...	Negotiated Value	Notes	Revenue Star...	Revenue End...	A...
MDECC-DS01	MDECC...	Soft..			1 Ea...	0,00 U...	0,00 USD		12.07.2015	12.07.2015	

3. Create a business document based on the requirement. For example, quote or order.



SAP ERP

On the SAP ERP solution, do the following:

1. Check the IDoc in WE05 using the SORDER_CREATEFROMDAT2 message type and the SALESORDER_CREATEFROMDAT202 basic type.

IDoc List

📄 📁

Default Additional EDI

Created At	<input type="text" value="00:00:00"/>	to	<input type="text" value="23:59:59"/>	
Created On	<input type="text" value="13.01.2015"/>	to	<input type="text" value="13.01.2015"/>	
Last Changed at	<input type="text" value="00:00:00"/>	to	<input type="text" value="23:59:59"/>	
Last Changed on	<input type="text"/>	to	<input type="text"/>	
Direction	<input type="text"/>			
IDoc Number	<input type="text"/>	to	<input type="text"/>	
Current Status	<input type="text"/>	to	<input type="text"/>	
Basic Type	<input type="text" value="SALESORDER_CREATE..."/>	to	<input type="text"/>	
Enhancement	<input type="text"/>	to	<input type="text"/>	
Logical Message	<input type="text"/>	to	<input type="text"/>	
Message Variant	<input type="text"/>	to	<input type="text"/>	
Message Function	<input type="text"/>	to	<input type="text"/>	
Partner Port	<input type="text"/>	to	<input type="text"/>	
Partner Number	<input type="text"/>	to	<input type="text"/>	
Partner Type	<input type="text"/>	to	<input type="text"/>	
Partner Role	<input type="text"/>	to	<input type="text"/>	

2. Verify the Opportunity ID with the *REFOBJKEY* IDoc field.

Data records		Total number: 000009
▼ E1SALESORDER_CR	Segment 000001	
• E1BPSDHD1	Segment 000002	
• E1BP_SENDER	Segment 000003	
▶ E1BPSDITM	Segment 000004	
• E1BPPARNR	Segment 000006	
• E1BPPARNR	Segment 000007	
• E1BPSCHDL	Segment 000008	
• E1BPSDTEXT	Segment 000009	
▶ Status records		

Basic type	SALESORDER_CREAT...
Extension	
Message type	SALESORDER_CREAT...
Partner No.	0LO7FQ0
Partn.Type	LS
Port	SAPX9T

Content of selected segment

Fld name	Fld cont.
REFOBJTYPE	BUS200111
REFOBJKEY	995
DOC_TYPE	ZOR6
SALES_ORG	1000
DISTR_CHAN	01
PURCH_NO_C	995
PP_SEARCH	Sample1
REF_DOC	995
REFDOC_CAT	2

3. Note the number of the Debit Memo Request, for example 70000312.

IDoc Display: 0000000001620141	
IDoc display	
<ul style="list-style-type: none"> ▼ IDoc 0000000001620141 <ul style="list-style-type: none"> • Control Rec. ▼ Data records <ul style="list-style-type: none"> ▶ E1SALESORDER_CREATEFROMDAT2 ▼ Status records <ul style="list-style-type: none"> ▶ 53 ▶ 53 ▶ 53 ▶ 53 ▶ 53 ▶ 53 ▶ 53 ▶ 53 ▶ 53 ▼ 53 <ul style="list-style-type: none"> • Standard Order 35860 has been saved ▶ 62 ▶ 64 • 50 	Total number: 000020 Segment 000001 Application document posted Application document posted Application document posted Application document posted Application document posted Application document posted Application document posted Application document posted Application document posted IDoc passed to application IDoc ready to be transferred to app IDoc added

- Review the newly-created Sales Order in transaction VA03. Use the sales order ID provided from the status record of the IDoc.

Display Standard Order 35860: Overview																																																																								
Standard Order	35860	Net value	7.400,00	EUR																																																																				
Sold-To Party	SZ_TEST2	SZ: 10112013 #1 // San Francisco AS 12345																																																																						
Ship-To Party	SZ_TEST2	SZ: 10112013 #1 // San Francisco AS 12345																																																																						
PO Number	SZ 08.01.2015 15:10	PO date																																																																						
<div style="display: flex; justify-content: space-between;"> Sales Item overview Item detail Ordering party Procurement Shipping Configuration Reason for rejection </div>																																																																								
General header data Description: YT20150113 Req. deliv.date: D 15.01.2015 Deliv.Plant: Contract start: 13.01.2015 01 Contract end: 12.01.2016 08 <input type="checkbox"/> Complete div. Total Weight: 35.000,000 KG Delivery block: Volume: 23.100 L Billing block: Pricing date: 08.01.2015 Total amount: 7.918,00 Doc. currency: EUR / 1,00000																																																																								
All items <table border="1"> <thead> <tr> <th>Item</th> <th>Material</th> <th>Order quantity</th> <th>Un</th> <th>Description</th> <th>S</th> <th>Customer Material No.</th> <th>ItCa</th> <th>DGIP</th> <th>HL</th> <th>Item</th> <th>D</th> <th>First date</th> <th>Plnt</th> <th>Batch</th> <th>CnTy</th> <th>Amou</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>MDECC-DS01</td> <td>11,00</td> <td>EA</td> <td>MDECC-DS01</td> <td>✓</td> <td></td> <td>TAN</td> <td></td> <td></td> <td></td> <td>0 D</td> <td>15.01.2015</td> <td>0001</td> <td></td> <td>PR00</td> <td></td> </tr> <tr> <td>20</td> <td>MDECC-DS02</td> <td>22,00</td> <td>EA</td> <td>MDECC-DS02</td> <td>✓</td> <td></td> <td>TAN</td> <td></td> <td></td> <td></td> <td>0 D</td> <td>15.01.2015</td> <td>0001</td> <td></td> <td>PR00</td> <td></td> </tr> <tr> <td>21</td> <td>MDECC-DS03</td> <td>2,00</td> <td>EA</td> <td>MDECC-DS03</td> <td>✓</td> <td></td> <td>TANN</td> <td></td> <td></td> <td></td> <td>20 D</td> <td>15.01.2015</td> <td>0001</td> <td></td> <td>PR00</td> <td></td> </tr> </tbody> </table>					Item	Material	Order quantity	Un	Description	S	Customer Material No.	ItCa	DGIP	HL	Item	D	First date	Plnt	Batch	CnTy	Amou	10	MDECC-DS01	11,00	EA	MDECC-DS01	✓		TAN				0 D	15.01.2015	0001		PR00		20	MDECC-DS02	22,00	EA	MDECC-DS02	✓		TAN				0 D	15.01.2015	0001		PR00		21	MDECC-DS03	2,00	EA	MDECC-DS03	✓		TANN				20 D	15.01.2015	0001		PR00	
Item	Material	Order quantity	Un	Description	S	Customer Material No.	ItCa	DGIP	HL	Item	D	First date	Plnt	Batch	CnTy	Amou																																																								
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In the SAP Cloud for Customer solution, navigate to **Opportunity** > **Sales Documents**, you will see that the Sales Order document number is updated.

SAP ERP SALES DOCUMENTS											
Document ID	Type	Created On	Over...	Deliv...	Reje...	Sale...	Cha...	Divis...	Net Amount	Refe...	
10000485	Cust..										

4.9.5 Quote and Sales Order - Enhanced Support for *Order Reason* in External Pricing and Replication

Order Reason is now considered in all sales document integration. Here are the list of scenarios:

- External Pricing in Order and Quote
- Quote/Sales Order replication SAP Cloud for Customer → SAP ERP
- Quote follow-up scenario SAP Cloud for Customer quote → SAP ERP sales order
- Quote/Sales Order replication SAP ERP → SAP Cloud for Customer

Technical Information

This integration is an update to the existing SAP Cloud for Customer quote and sales order integration with SAP ERP.

4.9.6 Offline Pricing in SAP Cloud for Customer

You can replicate the pricing conditions from SAP ERP to SAP Cloud for Customer. This enables the pricing to work in offline mode. The replicated pricing for each product is displayed in the Prices work center, available in the offline URL.

Configuration in ERP

You must maintain the partner profile settings for outbound parameters for the COND_A message type.

For a detailed information about establishing initial data load and resending of pricing data, see the pricing condition initial load section in the **ERP Initial Load** guide (How to Perform Initial Load of data from SAP ERP to SAP Cloud for Customer). You can also see the Initial Load section in the Integration Guide.

Configuration in SAP Cloud for Customer

Price Condition Replication from the SAP Business Suite must be activated for inbound processing

4.9.6.1 Offline Pricing - New, flexible iFlow to transfer pricing conditions

A new integration flow is available for Offline Pricing which offers greater flexibility. You can transfer custom pricing conditions to SAP Cloud for Customer without adjusting the iFlow. This iFlow also offers the functional enhancements in .

Technical Information

This new iFlow reuses the existing interfaces in SAP ERP and SAP Cloud for Customer.

SAP Cloud for Customer Communication Scenario / Arrangements

- Price Condition Replication from SAP Business Suite
 - Replicate Price Condition from SAP Business Suite

Interfaces / Cloud Integration iFlow / PI Message Mapping

ERP Source Message	PI/Cloud Integration Mapping	C4C Target Message
COND_A.COND_A04	ERP_COD_SalesPriceSpecificationReplicateMassRequest_v1	SalesPriceSpecificationReplicateMassRequest

4.9.7 Follow-up Sales Order in SAP ERP from SAP Cloud for Customer Sales Quote

For sales quotes that bi-directionally integrated with SAP ERP, you can create a follow-up sales order in SAP ERP from a sales quote in SAP Cloud for Customer.

Technical Information

This feature is an update to the existing sales quote integration with SAP ERP.

A new iFlow is introduced for this feature.

Source Message	PI/Cloud Integration Mapping	Target Message
C4C CustomerQuoteFollowUpOrderCreationOut	No Mapping (Pass-through)	ERP CustomerQuoteFollowUpOrderCreationRequestIn
ERP CustomerQuoteFollowUpOrderConfirmationResponse_Out	ERP_COD_CustomerQuoteFollowUpOrderRequestConfirmation	C4C CustomerQuoteProcessingSalesOrderRequestCreationIn

More Information

[Create Follow-up Sales Orders From Sales Quotes Directly in ERP System](#)

4.9.8 BAdI for Follow-Up Sales Order from Sales Quote

A Business Add-in (BAdI) that allows custom processing of incoming data from SAP ERP to SAP Cloud for Customer is available for follow-up sales orders created from a sales quote.

BAdI: COD_SLE_SE_QUOTEFOLLOWUP

4.9.9 Variant Configuration in Sales Order and Sales Quote

For sales orders and sales quotes in SAP ERP that contain Variant Configuration, the configuration can be seen in the replicated sales orders and sales quotes in SAP Cloud for Customer, respectively.

SAP Cloud for Customer accesses this information from SAP ERP in real time.

Technical Information

Scoping Entries

Sales Quote

► [Communication and Information Exchange](#) ► [Integration with External Applications and Solutions](#) ► [Integration into Sales, Service, and Marketing Processes](#) ► [Sales Quotes](#) ◀

Do you want to display in your cloud solution the product configuration from an external application?

Sales Order

► [Communication and Information Exchange](#) ► [Integration with External Applications and Solutions](#) ► [Integration into Sales, Service, and Marketing Processes](#) ► [Sales Orders](#) ◀

Do you want to display in your cloud solution the product configuration from an external application?

Communication Scenario / Arrangements

Outbound Communication: Get Product Configuration Details in SAP Business Suite

Interfaces / Cloud Integration iFlow

SAP Cloud for Customer Source Interface	Cloud Integration Mapping	SAP ERP Target Interface
SalesOrderRequestProductConfigurationOut	Get Configuration from SAP Business Suite	COD_CONFIG

4.9.10 Same Sales Order/Sales Quote/Contract IDs

You can configure sales orders/sales quotes/contracts to have the same IDs in SAP Cloud for Customer and SAP ERP, irrespective of which system they're created in.

By default, these sales documents get different IDs in both systems unless you enable this feature. This feature is available for the following scenarios:

- Bidirectional Sales Order replication
- Bidirectional Sales Quote replication
- Bidirectional Contract replication

See the following blogs for more information:

[Create Contracts with Same ID in SAP Cloud for Customer and in SAP ERP](#) 

[Create Sales Order/Sales Quote with Same ID in SAP Cloud for Customer and in SAP ERP](#) 

4.9.11 Replication of Other Party at Item Level

For Sales Order and Sales Quote, replication of *Other Party* is available at item level.

Technical Information

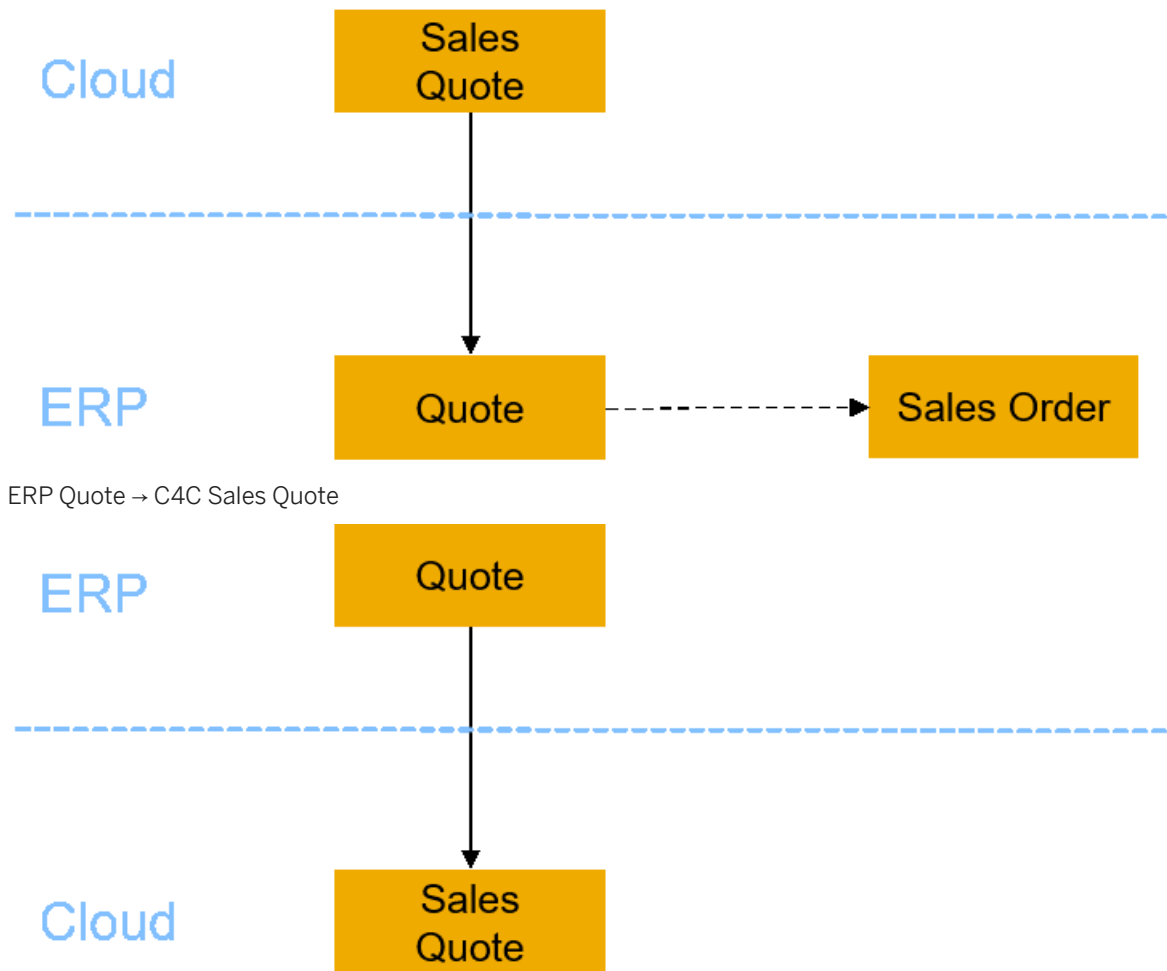
To use this feature, update your middleware message mapping.

4.10 Sales Quote Integration

You can create or update a sales quote in the SAP Cloud for Customer and replicate it to SAP ERP, and vice-versa.

A Sales Quote in SAP Cloud for Customer is bi-directionally replicated with SAP ERP:

- C4C Sales Quote → ERP Quote



- ERP Quote → C4C Sales Quote

When a follow-up order is created in ERP Quote, this follow-on document will be available in *Document Flow* in SAP Cloud for Customer (Sales > Sales Quote > Document Flow).

You can also replicate attachments created for a quote bi-directionally between SAP ERP and SAP Cloud for Customer. All the attachments are displayed in the *Attachments* tab of *Quote* in the cloud solution. An attachment can be created from a local file, a web link, or a file from the cloud library. For more information on how to use each of the options in SAP Cloud and for high-level information on the necessary configuration, see the **Configuring Sales Quote** and **Creating and Processing Sales Quotes** documents.

4.10.1 Configuration in SAP Cloud for Customer

Scoping

Do the following:

1. Go to [Business Configuration](#) > [Implementation Projects](#) > [First Implementation Project](#) > [Edit Project Scope](#).
2. Go to [Integration with External Applications and Solutions](#) > [Integration into Sales, Service, and Marketing Processes](#), and then select the following questions:
 - *Do you use an external application to determine price, free goods, product availability and credit status for sales order in your cloud solution?*
 - *Do you want to replicate sales quotes from an external application or solution to your cloud solution?*
 - *Do you want to replicate sales quotes from your cloud solution to an external application or solution?*

Fine Tuning and Code List Mapping

Fine tuning or code list mapping is not applicable to both the C4C Sales Quote - ERP Quote and ERP Quote - C4C Sales Quote scenarios.

Code List Mapping to Support Item Categories in Quote and Order

Item categories are the same for Quote and Order in SAP Cloud for Customer, but the corresponding codes in ERP are different for both. Due to this it becomes impossible to use the same code list content for quote and order scenarios as we cannot link the same SAP Cloud for Customer code to different ERP codes. So the following separate code list mapping groups has to be created / used for each of the following scenarios:

Scenario	Quote/Order	CL Group	Example Mapping Relevant for the Group
Bi-directional Quote replication from ERP to C4C	Quote	Quote Replication and Pricing	AGN ↔ AGN

If you are using any other custom code list mapping for the above scenarios instead of the SAP On-Premise Integration, then use SAP On Premise as the base group.

As the base group is maintained as the default code list mapping group that is already being used, only the mapping for 'BusinessTransactionDocumentItemProcessingTypeCode' must be maintained inside the new group. The system determines all the code list mappings that are not available in the group from the base group.

The following image shows how the code lists maintained for replication from ERP to C4C are displayed:

CODE LIST MAPPING

Save and Close | Save | Close | Translate | Restore Defaults

You can maintain mappings for configuration values used in data exchange between your on-demand solution and the external system.

Code List Mapping Definition

Add Row | Remove

Mapping Group	Local Data Type Name	External Data Type	External Data Type Description	Description
SAP On Premise Integration	BusinessTransactionDocumentItemProcessingTypeCode			Item Processing Type Code
Test Code List Exchange	BusinessTransactionDocumentItemProcessingTypeCode			
Quote Follow-Up and Pricing	BusinessTransactionDocumentItemProcessingTypeCode			
Quote Replication for ERP to C4C	BusinessTransactionDocumentItemProcessingTypeCode			

Code List Mapping Rule

Add Row | Remove | Missing Code Mappings | Proposals from MWB

Mapping Rule	Local Context	Description
Map Individual Codes		

Code List Mapping

Add Row | Remove

Local Code	Description	External Code	Inbound Default	Outbound Default
ZAG1	Z - Product - Free of Charge	AGN	<input type="checkbox"/>	<input type="checkbox"/>

The new code list mapping group must be maintained in the communication arrangement for the scenarios as shown here:

COMMUNICATION ARRANGEMENT OVERVIEW: SALES QUOTE REPLICATION FROM SAP BUSINESS SUITE

Status: Active | Communication Method: Direct Connection | Predefined: No

Close | Preview | Display Documentation | View All

COMMUNICATION SYSTEM | MY COMMUNICATION DATA

System Instance ID: | My System: |

Communication System ID: |

Code List Mapping: Quote Replication and Pricing

Inbound Communication Services

Communication Arrangements and Services

Option 1: C4C Quote → ERP Quote

- Communication arrangement: Sales Quote Replication to SAP Business Suite
- Outbound service: Replicate Sales Quote to SAP Business Suite

Option 2: ERP Quote → C4C Quote

- Communication arrangement: Sales Quote Replication from SAP Business Suite
- Outbound service: Replicate Sales Quote from SAP Business Suite

Option 3: C4C Quote Pricing → ERP Quote

- Communication arrangement: Sales Quote Replication with Pricing in SAP Business Suite
- Outbound service: Request Sales Document Data from SAP Business Suite

To replicate attachments, enable the service interface in the communication arrangement.

4.10.2 Configuration in SAP ERP

- **Option 1: C4C Quote → ERP Quote**

No specific configuration is required here.

- **Option 2: ERP Quote → C4C Quote**

To send a sales quote to C4C, maintain the following configuration:

- Maintain COD4 as the output type
- Maintain IDoc partner profile for the COD_REPLICATE_SALES_ORDER message type

Partner profiles: Outbound parameters

Partner No. [] []

Partn. Type: LS Logical system

Partner Role: []

Message Type: COD_REPLICATE_SALES_ORDER Replication of Sales Order

Message code: []

Message function: [] Test

Outbound Options | **Message Control** | Post Processing: Permitted Agent | Telephony | EDI Standard

Application: V1 : Sales

Message Type: []

Process Code: COD_SALES_ORDER_REPLICATION : Replication of sales order to Cloud for Custo...

Text	Application	Message type	Process code	Change ...
[]	V1	COD6	COD_SALES_ORDER_REPLICATION	<input type="checkbox"/>
[]	V1	COD6	COD_SALES_ORDER_REPLICATION	<input checked="" type="checkbox"/>

- Maintain distribution model for the COD_REPLICATE_SALES_ORDER message type. If required, you can create a filter group on the following fields to distribute only selected orders to the cloud solution:
 - Sales Organization
 - Division
 - Distribution Channel
 - Sales Order Type

You must configure the web services in SOA Manager, to replicate attachments between Cloud and ERP. For more information, see the following chapters in the **Integration Guide**:

- Configuration to send attachments from SAP ERP to SAP Cloud for Customer
- Configuration to send attachments from SAP Cloud for Customer to SAP ERP

To see the attachments icon (services for object) in the *Sales Order* screen in ERP, do the following:

- Navigate to **System > User profile > Maintain Own Data**, and then add the SD_SWU_ACTIVE=X user parameter.

An order can be edited both in the Cloud and ERP systems. If changes are made to the same order in both these systems at the same time, it can lead to inconsistencies. Therefore, a process is implemented to rectify

this problem, and the process depends on the UPD_Tmstmp field in ERP. This field is available in the ERP release. If you use a lower release, check SAP Notes.

4.10.3 Configuration in Middleware

Replicate Other Party Information

To replicate other party information in a replication request, you must perform value mapping in the Integration Builder

In the following example, you will see the value mapping required to add ZZ, WC, Y1 and ZX as Other Party Partner Role codes. Value mapping is done for ERP and COD agencies and OtherPartyPartnerRole scheme.

Display Value Mapping Agencies

Agency *	ERP	Agency *	COD
Scheme *	OtherPartyPartnerRole	Scheme *	OtherPartyPartnerRole

Value For ERP	Value For COD	Group Name *
ZZ	ZZ	OtherParty
WC	WC	OtherParty
Y1	Y1	OtherParty
ZX	ZX	OtherParty

In this example, you must do the mapping for scheme codes for the corresponding OtherPartyPartnerRole codes added. If you have not maintained any value mapping for scheme codes, then by default, the 918 (ERP Customer Number) scheme code is set for the corresponding OtherPartyPartnerRole(s). For example, in the following image you can see that the Y1 OtherPartyPartnerRole code is mapped to the 3 (ERP employee) Scheme code.

Value Mapping Edit View

Edit Value Mapping Agencies

Agency *	ERP	Agency *	COD
Scheme *	SchemeCode	Scheme *	SchemeCode

Value For ERP	Value For COD	Group Name *
WC	918	SchemeCode
Y1	3	SchemeCode

Integration Flow

If you are using SAP Cloud Integration (CPI) as the middleware, the following iFlows must be maintained. See [Integration Flows](#) (▶ [SAP Help Portal](#) ▶ [Cloud for Customer](#) ▶ [Integration](#) ▶ [Integration Flows](#) ▶) and filter by:

- Business object: Quote, order and opportunity
- Source system: C4C
- Target system: ERP

The ones that are specific to direct document creation are as follows:

- Replicate Sales Quote from the SAP Business Suite
- Replicate Sales Quote to the SAP Business Suite
- Request Sales Document Data from the SAP Business Suite

4.10.4 Alternative Items in Quote Integration

SAP Cloud for Customer supports alternative items in the bi-directional quote integration with SAP ERP

An ERP quote allows you to flag items as *Alternative Items*. Alternative items are visible to the customer but are not considered in the quote totals. Cloud for Customer now supports alternative items and they are synced bi-directionally with ERP.

Example

See this sample quote for a web server hardware. Under *Products*, item 100 has been offered to the customer.

The screenshot displays the SAP Cloud for Customer interface for a sales quote (7068). The 'PRODUCTS' tab is active, showing two product lines. Line 100 is a 'Cloud server large' with a quantity of 1 ea, and line 200 is a 'Cloud server small' with a quantity of 1 ea. Line 100 is marked as an alternative item. Below the products, the 'PRODUCT PRICING' section shows a table with columns for Price Component, Description, Status, Manually Added, Amount, For, Price Component Value, and Action.

Line	Parent Line	Product ID	Description	Quantity	Reason for Reje	Alternative to Lin	Item Type
100		10007054	Cloud server large	1 ea			Product - Quote Item
200		10001590	Cloud server small	1 ea		100	Product - Quote Item

Price Componen	Description	Status	Manually Added	Amount	For	Price Component Value	Action
PR00	Price		<input type="checkbox"/>	4.000,00 EUR	1 ea	4.000,00 EUR	
	Gross Value		<input type="checkbox"/>	4.000,00 EUR	1 ea	4.000,00 EUR	
K007	Customer Discount		<input type="checkbox"/>	-5		-200,00 EUR	
	Discount Amount		<input type="checkbox"/>	-200,00 EUR	1 ea	-200,00 EUR	
	Rebate Basis		<input type="checkbox"/>	3.800,00 EUR	1 ea	3.800,00 EUR	
	Net Value for Item		<input type="checkbox"/>	3.800,00 EUR	1 ea	3.800,00 EUR	

Item 200, a low-priced but less powerful server, is flagged as an alternative to item 100. However, under [Product Pricing > Status](#), in the pricing table this item is ignored.

The screenshot shows the 'PRODUCT PRICING (14)' table for quote 7068. The table lists various price components and their status. Item 200 is highlighted in the 'PRODUCTS (2)' table above, with a status of 'Item Ignored'.

Price Component	Description	Status	Manually Added	Amount	For	Price Component Value	Action
PR00	Price	Item Ignored	<input type="checkbox"/>	3.000,00 EUR	1 ea	3.000,00 EUR	
	Gross Value		<input type="checkbox"/>	3.000,00 EUR	1 ea	3.000,00 EUR	
K007	Customer Discount	Item Ignored	<input type="checkbox"/>	-5		-150,00 EUR	
	Discount Amount		<input type="checkbox"/>	-150,00 EUR	1 ea	-150,00 EUR	
	Rebate Basis		<input type="checkbox"/>	2.850,00 EUR	1 ea	2.850,00 EUR	
	Net Value for Item		<input type="checkbox"/>	2.850,00 EUR	1 ea	2.850,00 EUR	

The quote reflects only the price of item 100.

The screenshot shows the 'OVERVIEW' section of the sales quote. It displays key information such as Progress, Document Type, Account, Primary Contact, Ship-To, Status, Transfer Status, Pricing Status, External Reference, Description, Date, Requested Date, Reason for Rejection, Pricing Date, Pricing Procedure, and Total.

Progress Not Relevant	Document Type Sales Quote with Replication	Account Cumulus Cloud Operations	Primary Contact Schl�mmer
Ship-To Cumulus Cloud Service	Status Open	Transfer Status Not Started	Pricing Status Calculated Successfully
External Reference HD 2017-04-11 11:32	Description -	Date 11.04.2017	Requested Date 19.04.2017
Reason for Rejection -	Pricing Date 11.04.2017	Pricing Procedure RVAA01 - Standard	Total 3.800,00 EUR

Clicking on [Submit](#) replicates the quote to SAP ERP. Item 200 is flagged as an alternative to item 100 in the replicated ERP quote.

Display C4C Quote w/ Replica 20001581: Overview										
C4C Quote w/ Repl...		20001581	Net value		3.800,00	EUR				
Sold-To Party		HD20140404	Cumulus Cloud Operations / 4321 El Camino Real / Palo Alto C...							
Ship-To Party		466	Cumulus Cloud Service / El Camino Real / Sunnyvale PA 94087							
PO Number		HD 2017-04-11 11:32	PO date							
<div style="display: flex; justify-content: space-between;"> Sales Item overview Item detail Ordering party Procurement Shipping Configuration Reason for rejection </div>										
Valid from		11.04.2017	Valid to		15.04.2017					
Req. deliv.date		A 20.04.2017	Expect.ord.val.		2.660,00	EUR				
All items										
Item	Material	Order quantity	SU	AltItm	Description	Customer Material	Ite...	High...	Net value	
	100 HD-WEB-SERVER-L	1,00	EA		0 Cloud server large		AGN	0	3.800,00	
	200 HD-HAWA-01	1,00	EA		100 Cloud server small		AGN	0	2.850,00	

In SAP ERP, under **Header Data** > **Conditions**, the quote reflects only the price of item 100.

Display C4C Quote w/ Replica 20001581: Header Data

C4C Quote w/ Replica: 20001581 Purchase order no.: HD 2017-04-11 11:32
 Sold-to party: HD20140404 Cumulus Cloud Operations / 4321 El Camino Real / Palo Alto ...

Sales Shipping Billing Document Accounting **Conditions** Account assignment Partner

Net	3.800,00	EUR
Tax	266,00	

Pricing Elements									
N..	CnTy	Name	Amount	Crcy	per	U...	Condition value	Curr.	S
■	PR00	Price					4.000,00	EUR	
		Gross Value					4.000,00	EUR	
■	K007	Customer Discount					200,00-	EUR	
		Discount Amount					200,00-	EUR	
		Rebate Basis					3.800,00	EUR	
		Net Value for Item					3.800,00	EUR	
							3.800,00	EUR	
		Net Value 2					3.800,00	EUR	
		Net Value 3					3.800,00	EUR	
■	AZWR	Down Pay./Settlement					0,00	EUR	
■	MWST	Output Tax	7,000	€			266,00	EUR	
		Total					4.066,00	EUR	
■	SKTO	Cash Discount	3,000-	€			121,98-	EUR	
		Profit Margin					3.800,00	EUR	

Technical Information

This is an update to the existing bi-directional quote integration. Only the affected integrations are listed here.

Scoping Entries

► [Communication and Information Exchange](#) ► [Integration with External Applications and Solutions](#) ► [Integration into Sales, Service, and Marketing Processes](#) ► [Sales Quote](#) ►

Do you use an external application to determine prices, free goods, product availability, and credit status for sales quotes in your cloud solution?

Do you want to replicate sales quotes from an external application or solution to your cloud solution?

Do you want to replicate sales quotes from your cloud solution to an external application or solution?

Communication Scenario / Arrangements in Cloud for Customer

Sales Quote Replication to SAP Business Suite

- Outbound Communication
 - Replicate Sales Quote to SAP Business Suite

Sales Quote Replication from SAP Business Suite

- Inbound Communication Services
 - Replicate Sales Quote from SAP Business Suite

Sales Quote Replication with Pricing in SAP Business Suite

- Outbound Communication
 - Request Sales Document Data from SAP Business Suite

Interfaces / Cloud Integration iFlow / PI operation mapping

Source Interface	PI/Cloud Integration Mapping	Target Interface
ERP COD_REPLICATE_SALES_ORDER01	ERP_COD_CustomerOrderReplication	C4C CustomerOrderRequestMassRequest
C4C SalesOrderRequestMassRequest	COD_ERP_CustomerQuoteFollowupBusinessTransactionDocumentReq	ERP SALESORDER_CREATEFROM-DAT202
C4C ExternalSalesDocumentData-Query_sync	COD_ERP_ExternalSalesDocumentDataQuerySync_req	ERP COD_SALESORDER_SIMULATE
ERP COD_SALESORDER_SIMULATOR-Response	COD_ERP_ExternalSalesDocumentDataQuerySync_resp	COD ExternalSalesDocumentDataResponse_sync

4.10.5 Quote and Sales Order - Enhanced Support for *Order Reason* in External Pricing and Replication

Order Reason is now considered in all sales document integration. Here are the list of scenarios:

- External Pricing in Order and Quote
- Quote/Sales Order replication SAP Cloud for Customer → SAP ERP
- Quote follow-up scenario SAP Cloud for Customer quote → SAP ERP sales order
- Quote/Sales Order replication SAP ERP → SAP Cloud for Customer

Technical Information

This integration is an update to the existing SAP Cloud for Customer quote and sales order integration with SAP ERP.

4.10.6 Variant Configuration in Sales Order and Sales Quote

For sales orders and sales quotes in SAP ERP that contain Variant Configuration, the configuration can be seen in the replicated sales orders and sales quotes in SAP Cloud for Customer, respectively.

SAP Cloud for Customer accesses this information from SAP ERP in real time.

Technical Information

Scoping Entries

Sales Quote

► [Communication and Information Exchange](#) ► [Integration with External Applications and Solutions](#) ► [Integration into Sales, Service, and Marketing Processes](#) ► [Sales Quotes](#) ►

Do you want to display in your cloud solution the product configuration from an external application?

Sales Order

► [Communication and Information Exchange](#) ► [Integration with External Applications and Solutions](#) ► [Integration into Sales, Service, and Marketing Processes](#) ► [Sales Orders](#) ►

Do you want to display in your cloud solution the product configuration from an external application?

Communication Scenario / Arrangements

Outbound Communication: Get Product Configuration Details in SAP Business Suite

Interfaces / Cloud Integration iFlow

SAP Cloud for Customer Source Interface	Cloud Integration Mapping	SAP ERP Target Interface
SalesOrderRequestProductConfigurationOut	Get Configuration from SAP Business Suite	COD_CONFIG

4.10.7 Same Sales Order/Sales Quote/Contract IDs

You can configure sales orders/sales quotes/contracts to have the same IDs in SAP Cloud for Customer and SAP ERP, irrespective of which system they're created in.

By default, these sales documents get different IDs in both systems unless you enable this feature. This feature is available for the following scenarios:

- Bidirectional Sales Order replication
- Bidirectional Sales Quote replication
- Bidirectional Contract replication

See the following blogs for more information:

[Create Contracts with Same ID in SAP Cloud for Customer and in SAP ERP](#)

[Create Sales Order/Sales Quote with Same ID in SAP Cloud for Customer and in SAP ERP](#)

4.10.8 Replication of Other Party at Item Level

For Sales Order and Sales Quote, replication of *Other Party* is available at item level.

Technical Information

To use this feature, update your middleware message mapping.

4.11 Service Contract - Header Billing Plan Fields

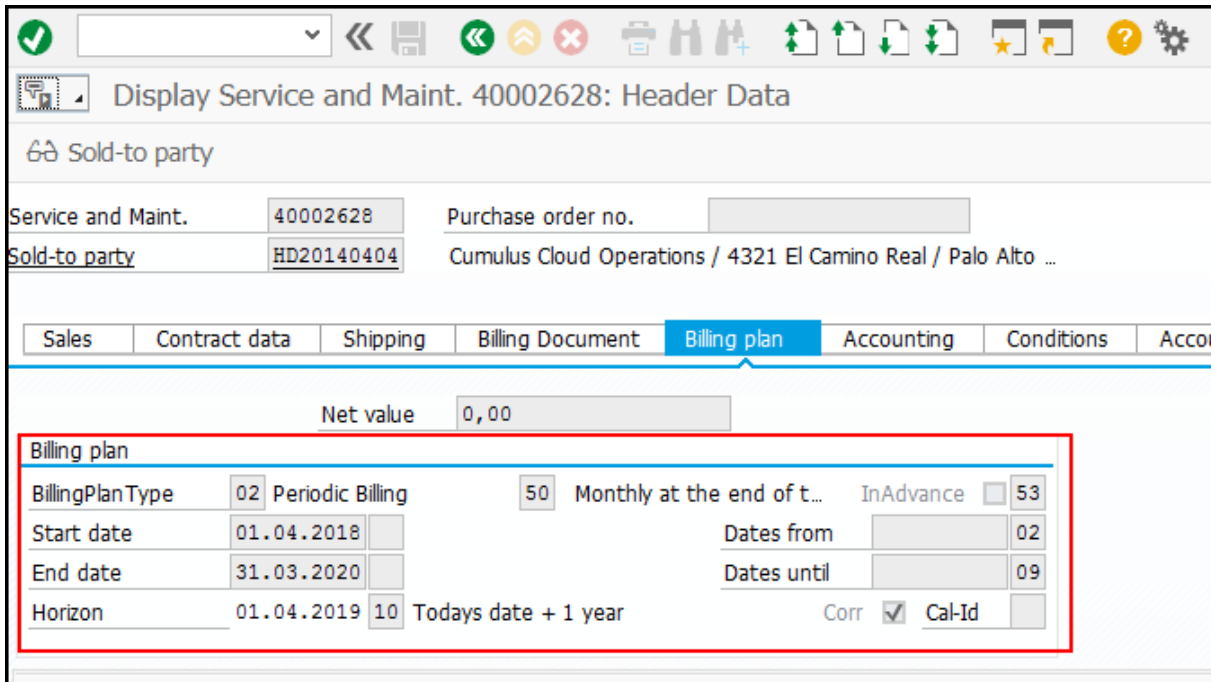
In previous releases, billing plan fields on item level were exchanged with SAP ERP. As of the February 2018 release, billing plan fields maintained on the header are also exchanged bi-directionally.

Here is a SAP Cloud for Customer contract header with billing plan fields.

The screenshot displays the SAP Cloud for Customer interface for a contract header. The contract ID is 6386, and the status is 'Ready'. The contract type is 'Service Contract'. The external ID is 40002628. The consistency status is 'Consistent', and the transfer status is 'Finished'. A 'BILLING PLAN' section is highlighted with a red box, showing the following details:

BILLING PLAN	
Start Date	01.04.2018
End Date	31.03.2020
Advance Billing	No
Billing Interval	Monthly on Last of Month
Horizon	Today's date + 1 year

And here is the corresponding SAP ERP contract.



Technical Information

This integration is an update to the existing SAP Cloud for Customer contract integration with SAP ERP.

4.12 Covered Objects on Item Level in Service Contract Integration

The bi-directional service contract integration now supports covered objects on item level

Until recently, SAP Cloud for Customer Contract allowed covered objects only on header level. Covered objects were sent out of SAP Cloud for Customer, but not integrated end-to-end with SAP ERP because ERP has them on item level. Now, the SAP Cloud for Customer service contract allows you to maintain covered objects on item level. The ERP integration transfers these covered objects in both directions.

Example

The screenshot here shows an SAP Cloud for Customer Contract with two items. Item 100 has a product assigned as a covered object.

Line	Parent Line	Type	Status	Product ID	Description	Coverage	Quantity	Net Value
100		Special Contract Item Type	Ready	10000971	HD service material for contract		1 Each	100,00 EUR
200		Special Contract Item Type	Ready	10000971	HD service material for contract		2 Each	200,00 EUR

Product Category ID	Product Category	Product ID	Product	Serial ID	Registered Product Description	Installation Point ID	Installation Point Description
SOD-01	Metal processing	10001361	HD Service Procurement Part				

Item 200 has a registered product assigned as a covered object.

Line	Parent Line	Type	Status	Product ID	Description	Coverage	Quantity	Net Value	Billing Plan
100		Special Contract Item Type	Ready	10000971	HD service material for contract		1 Each	100,00 EUR	1,00 EUR
200		Special Contract Item Type	Ready	10000971	HD service material for contract		2 Each	200,00 EUR	1,00 EUR

Product Category ID	Product Category	Product ID	Product	Serial ID	Registered Product Description	Installation Point ID	Installation Point Description
125	Hardware	10000795	Coffee machine Java de luxe	1357-8642-XG	Java de luxe at 1000-AAAA-0002	143	Java de luxe at 1000-AAAA-0002

The contract is automatically replicated to SAP ERP.

Display Service and Maint. 40002057: Overview

Contracts

Service and Maint. 40002057 Net value 3.900,00 EUR

Sold-To Party 466 Cumulus Cloud Service / El Camino Real / Sunnyvalue PA 94087

Ship-To Party 466 Cumulus Cloud Service / El Camino Real / Sunnyvalue PA 94087

PO Number PO date

Sales Item overview Item detail Ordering party Procurement Shipping Configuration

Description HD 2017-03-22

Contract start 01.05.2017 Contract end 30.04.2019

Billing block Pricing date 22.03.2017

Order reason

Sales area 1000 / 10 / 00 Germany Frankfurt, Final customer sales, Cross-divisioN

Master contract

Shp.Cond. 02 Standard

Business Area

All items

Item	Material	Target quantity	U...	Description
100	HD-2015-06-26_1019	1,00	EA	HD service material for contract
200	HD-2015-06-26_1019	2,00	EA	HD service material for contract

The terminology in ERP is different from Cloud for Customer. *Object Assignments* is called *Technical Objects*. In SAP ERP, click ► *Extras* ► *Technical Objects* ►.

Material assignment for item 100.

Change Service and Maint. 40002057: Item Data

Equipment selection FunctLoc selection

Object List

Sort	Serial Num...	Material	Material description	Equip
		HD-2016-01-28	HD Service Procurement Part	

Equipment assignment for the item 200

Change Service and Maint. 40002057: Item Data						
Equipment selection		FunctLoc selection				
Object List						
Serial Number	Material	Material description	Equipment	Description	Functional loc.	FunctLocDescrip.
1357-8642-XG	HD-2015-04-15	Coffee machine Java de luxe	HD-2015-04-23-1900	Java de luxe at 1000-AAAA-0002	1000-AAAA-0002	Space Balls Building AAAA Floor 0002

Technical Information

This is an update to the existing bi-directional contract integration. Only the affected integrations are listed here.

Scoping Entries

Enabling Application Feature

The administrator can configure this feature by navigating to [Business Configuration](#) > [Edit Project Scope](#) > [Questions](#) > [Service Entitlement](#) > [Service Contract Management](#) > [Group: Covered Objects on Item Level](#). Select the *Do you want to work with covered objects on an item level?* question.

Enabling Integration

[Communication and Information Exchange](#) > [Integration with External Applications and Solutions](#) > [Integration into Sales, Service, and Marketing Processes](#) > [Contract](#)

Do you want to replicate contracts between your cloud solution and external application or solution?

Communication Scenario / Arrangements in Cloud for Customer

Contract Replication from and to SAP Business Suite

- Inbound Communication Services
 - Replicate Contract from SAP Business Suite
- Outbound Communication
 - Replicate Contract to SAP Business Suite

Interfaces / Cloud Integration iFlow / PI operation mapping

Source Interface	PI/Cloud Integration Mapping	Target Interface
C4C ContractReplicationRequestToExternal	COD_ERP_ContractReplication	ERP COD_CONTRACT_CREATE-FROM_DAT01
ERP COD_CONTRACT_CREATE-FROM_DAT01	ERP_COD_ContractReplication	C4C ContractReplicationRequestToExternal

Upgrade customers may need to redo the contract initial load from SAP ERP

In case you are already replicating contracts from SAP Cloud for Customer to SAP ERP there is a potential data loss when enabling the new feature and using the update SAP PI/Cloud Integration mapping content. This may happen if SAP ERP contracts have technical objects assigned. If such a contract is updated in SAP Cloud for Customer, which doesn't yet have the covered objects assigned, this update would be sent to SAP ERP and delete the technical objects from the SAP ERP contract.

In this case the SAP ERP contracts that have technical objects assigned have to be resent using the initial load report. Before and during the initial load, avoid any changes to these contracts in SAP Cloud for Customer.

4.13 Work Ticket Integration

4.13.1 Work Ticket - Advance Shipment Item Processing

Introduction

There is a minor enhancement in the integration of advance shipment items of a service ticket with SAP ERP. In the consignment pick-up order in SAP ERP, you can see the ERP consignment fill-up order as a direct predecessor document. You can no longer see the SAP Cloud for Customer *Work Ticket*.

The SAP Cloud for Customer work ticket item *Advance Shipment* is relevant in the following case:

- Goods are to be shipped to customer before a service technician arrives on-site.
- Quantity of such goods to be consumed by the service technician on-site is unclear. In such a case, the goods are booked into the customer consignment stock.

Advance Shipment in a Work Ticket

In this section, you can see a typical flow of an advance shipment in *Work Ticket* and also the changes pertaining to this release:

1. **Add the advance shipment item to the SAP Cloud for Customer work ticket.**

Cloud for Customer

Work Tickets 103456 - HD ...

103456 - HD 2017-11-30 15:53 Cumulus Cloud Operations

OVERVIEW ATTACHMENTS NOTES ITEMS PARTS PRICING DOCUMENT FLOW PRODUCTS TRANSFER LOGS

PARTS (1)

Line	Parent Line	Processing	Product	Description	Planned Quantity	Actual Quantity	ERP Rel. Status	Work Progress
40		Part Advance Shipment	10007054	Cloud server large	4		Not Released	Not Relevant

General Data Notes ATP

Planned Quantity 4 Invoicing Method Not Relevant

Last Confirmed On - Coverage -

ERP Rel. Status Not Released Pricing Relevant No

Changed On 30.11.2017 14:54 Net Price -

To trigger the shipment to the customer, release it to ERP.

Cloud for Customer

Work Tickets 103456 - HD ...

103456 - HD 2017-11-30 15:53 Cumulus Cloud Operations

OVERVIEW ATTACHMENTS NOTES ITEMS PARTS PRICING DOCUMENT FLOW PRODUCTS TRANSFER LOGS

PARTS (1)

Line	Parent Line	Processing	Product	Description	Planned Quantity	Actual Quantity	ERP Rel. Status	Work Progress	Invoice
40		Part Advance Shipment	10007054	Cloud server large	4		Not Released	Not Relevant	Not Re

General Data Notes ATP

Planned Quantity 4 Invoicing Method Not Relevant

Last Confirmed On - Coverage -

ERP Rel. Status Not Released Pricing Relevant No

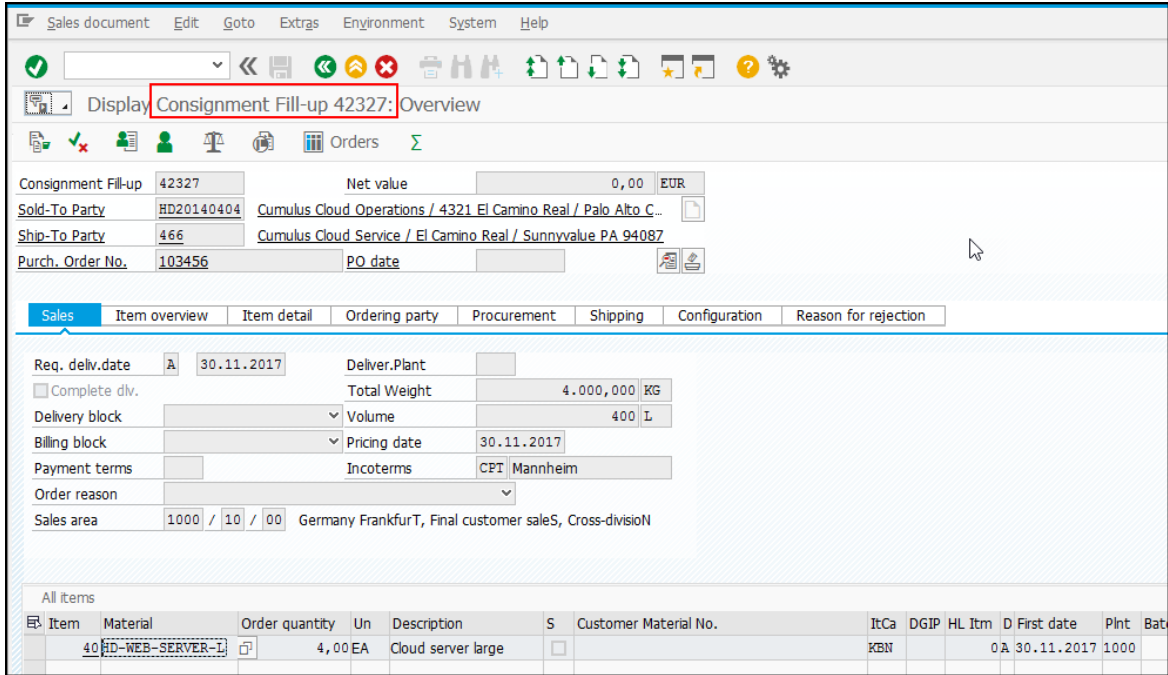
Changed On 30.11.2017 14:54 Net Price -

- Escalate
- Add Internal Note
- Set As Irrelevant
- Assign To Me
- Finish Work
- Release to ERP
- Capture Signature
- Generate Summary
- Submit for Approval
- Withdraw from Approval
- Request External Pricing
- Copy
- hybris Storefront
- Generate Local Summary
- ATP Check

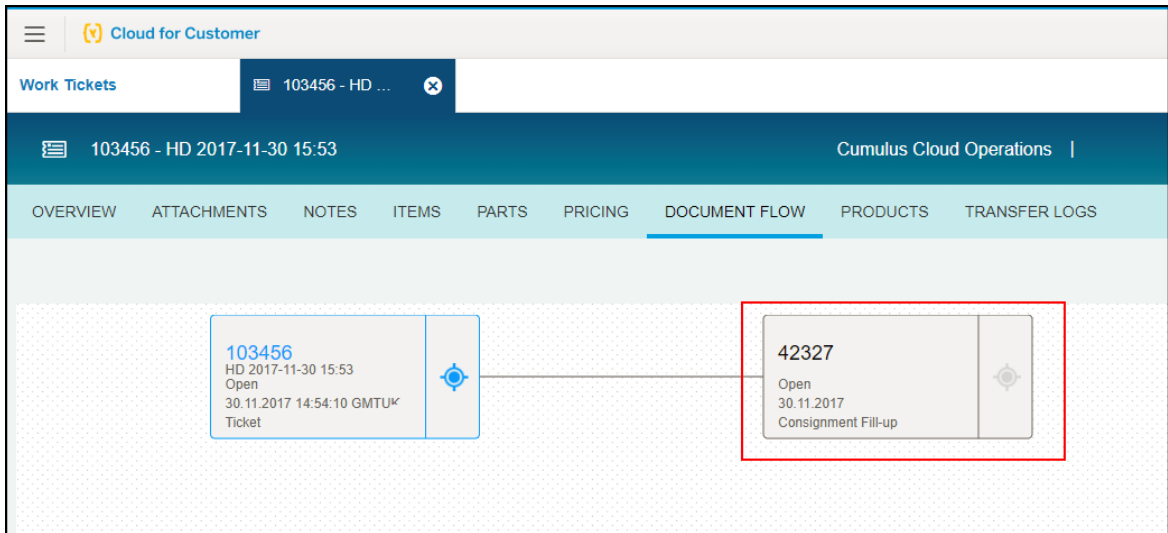
Actions

2. A consignment fill-up order is created in SAP ERP.

This is the consignment fill-up order that is created in SAP ERP. It has a specific order type *CF* and uses the item type *KBN*.



The ERP order also occurs in the SAP Cloud for Customer work ticket document flow.



3. **The goods are delivered to the customer.**
A delivery document is created in SAP ERP, thereafter.

Outbound Delivery 81118963 Display: Overview

Outbound deliv. 81118963 Document Date 30.11.2017
 Ship-to party 466 Cumulus Cloud Service / El Camino Real / Sunnyvale PA 94087

Item Overview Picking Loading Transport Status Overview **Goods Movement Data**

Pl. gds mvmt 30.11.2017 00:0... TotalGdsMvtStat C Completed
 Act. gds mvmt 30.11.2017 16:20

Itm	ItCa	Plnt	SLoc	Material	Deliv. Qty	Un	M...	N Batch	B.. Val.	Type	Cost
10	KBN	1000	0001	HD-WEB-SERVER-L	4,00	EA	631				

The document flow in the work ticket reflects the update.

Cloud for Customer

Work Tickets 103456 - HD ...

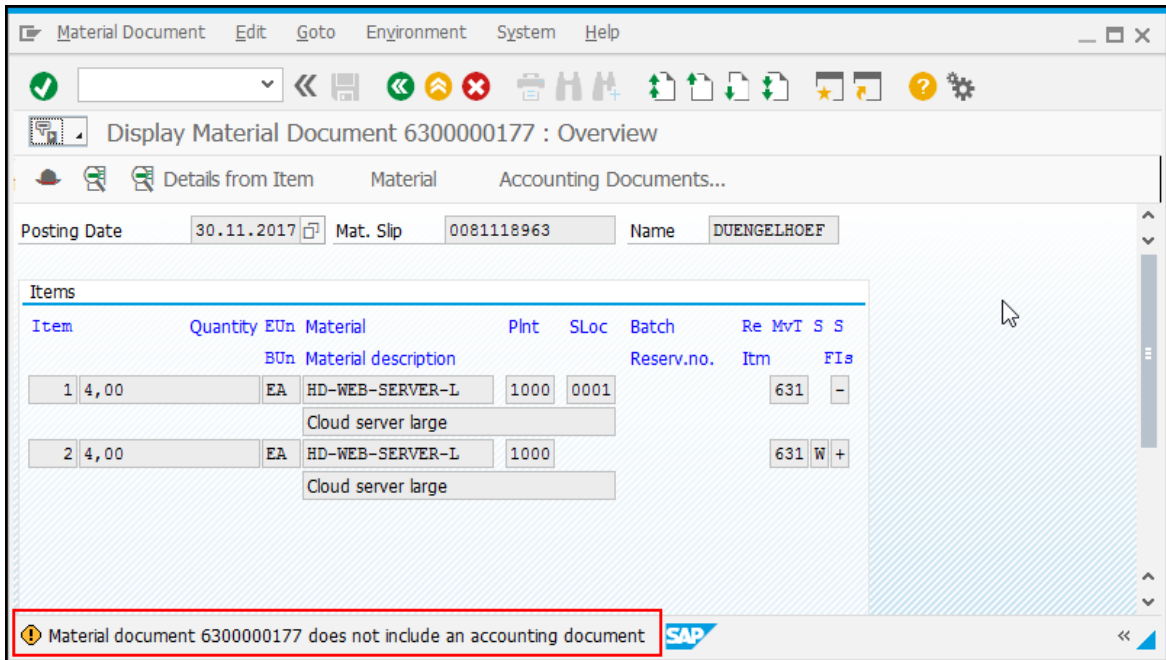
103456 - HD 2017-11-30 15:53 Cumulus Cloud Operations

OVERVIEW ATTACHMENTS NOTES ITEMS PARTS PRICING **DOCUMENT FLOW** PRODUCTS TRANSFER LOGS

```

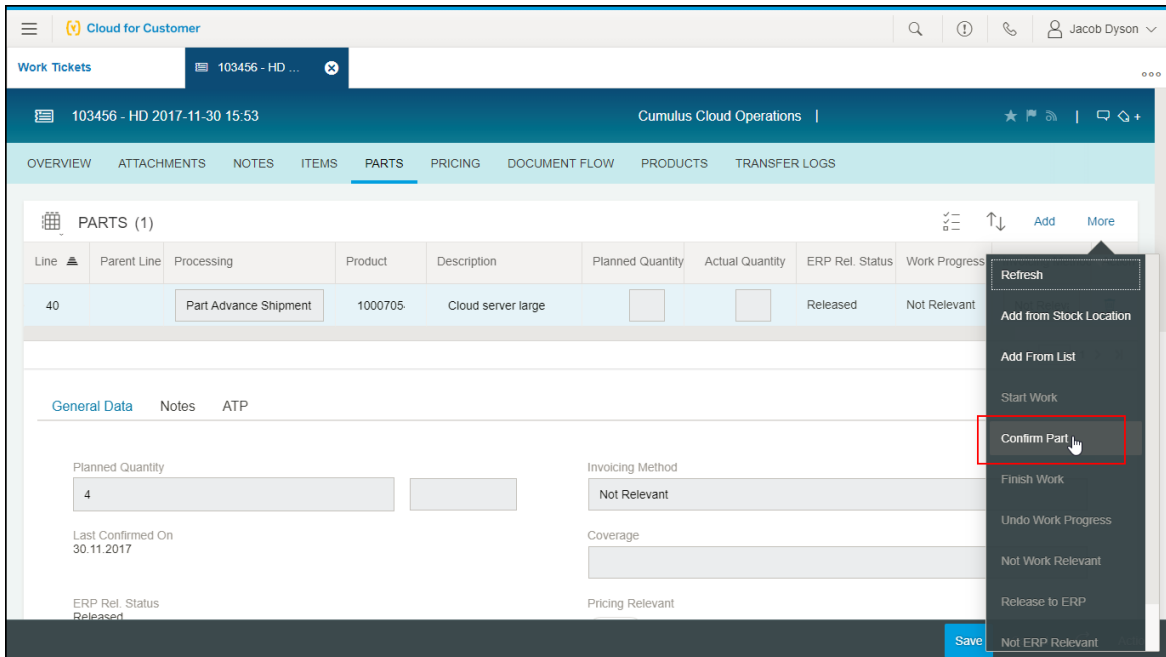
graph LR
    103456[103456  
HD 2017-11-30 15:53  
Open  
30.11.2017 14:54:10 GMT+0  
Ticket] --> 42327[42327  
Completed  
30.11.2017  
Consignment F B up]
    42327 --> 81118963[81118963  
Completed  
30.11.2017  
Delivery]
    81118963 --> 20171130[20171130  
Completed  
30.11.2017  
Picking request]
    81118963 --> 6300000177[6300000177  
Completed  
30.11.2017  
GI consgmt. lending]
  
```

Unlike regular delivery, an accounting document is not required since the goods are part of customer consignment stock and there is no change in financial ownership.

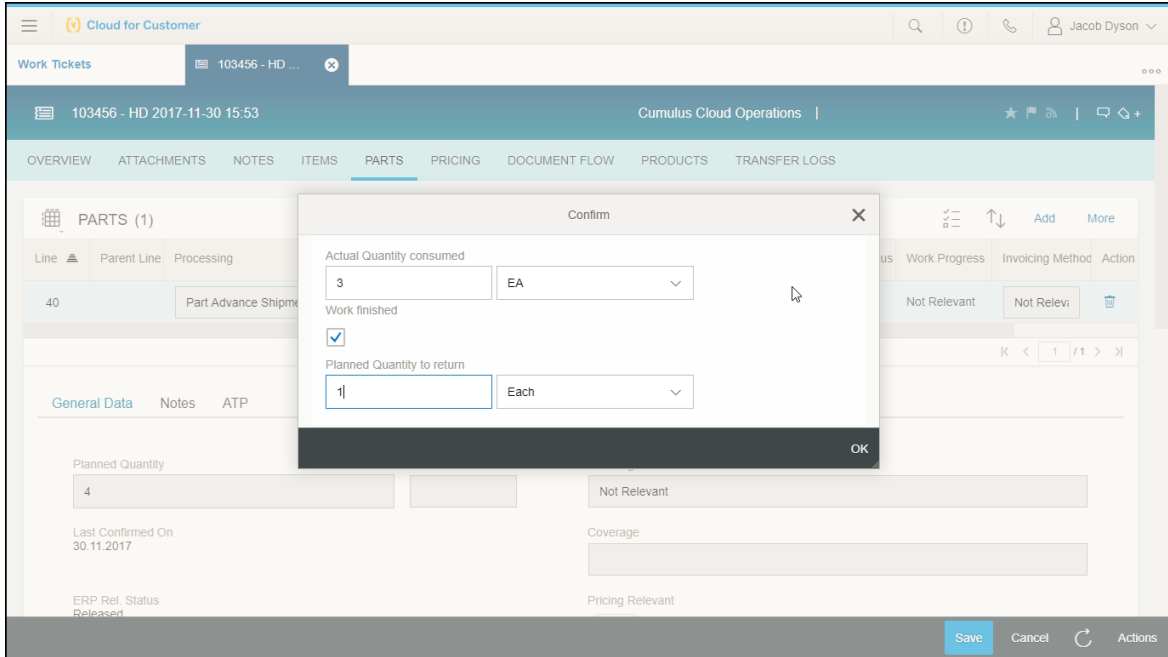


4. **Confirm the actual consumption of goods in SAP Cloud for Customer Work Ticket.**

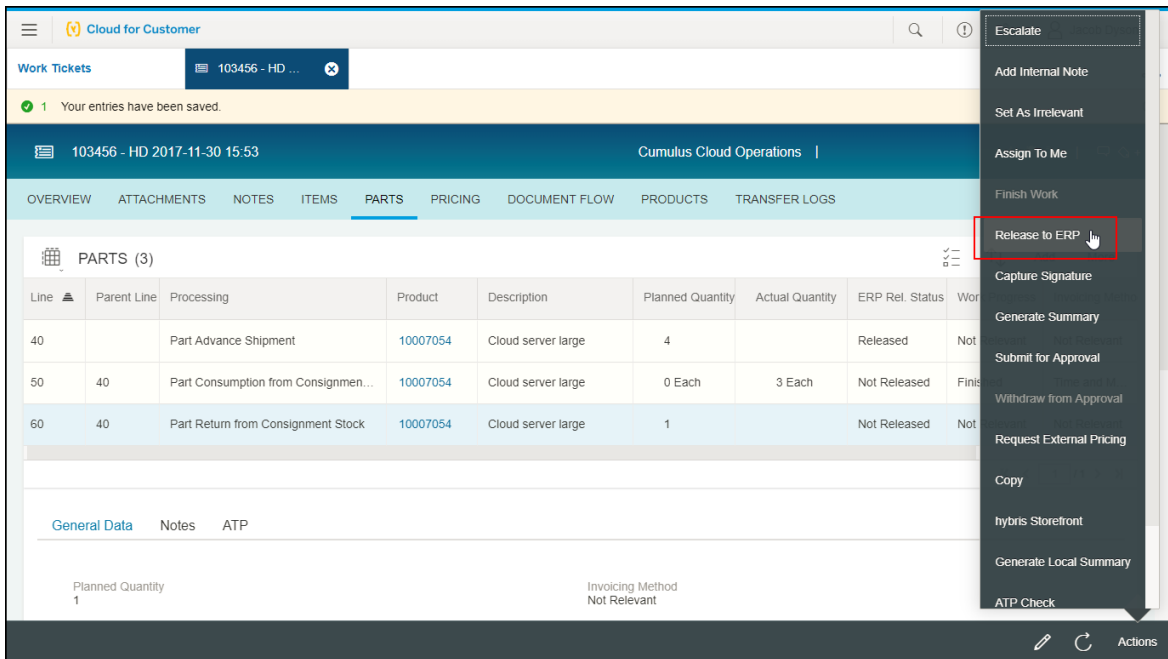
Once the goods have arrived at the customer site, the technician can visit for the repairs. The technician confirms consumption and returns unused goods.



Here, three items are used and one is returned.



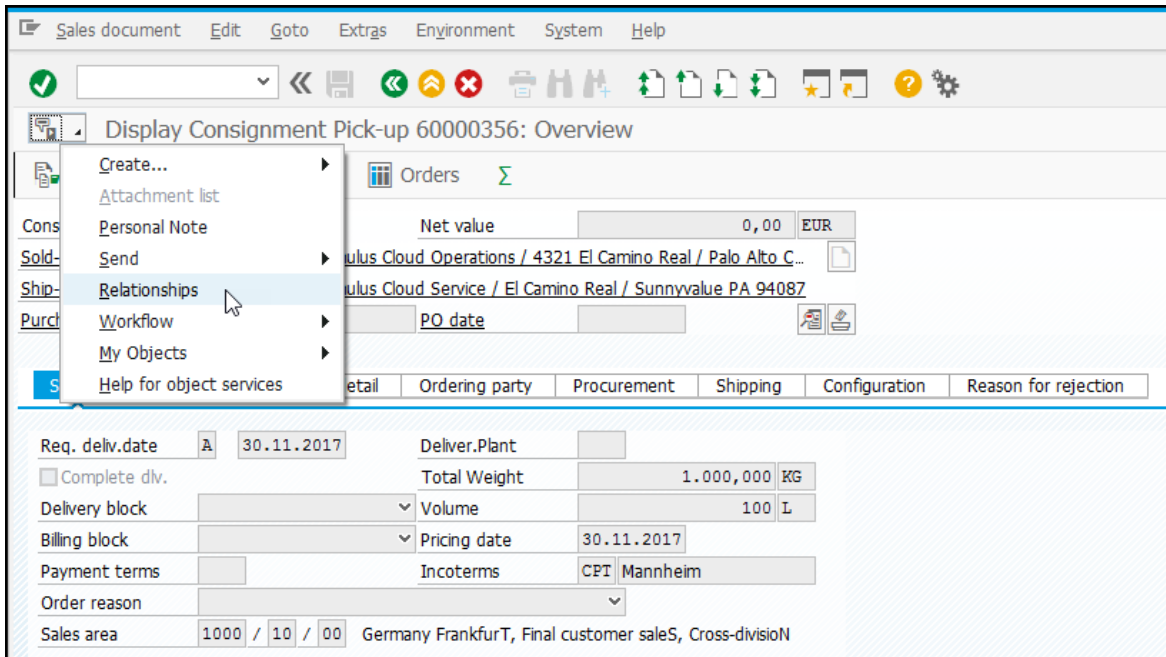
Sub-items are created to reflect consumed and returned items. You can release this to SAP ERP.



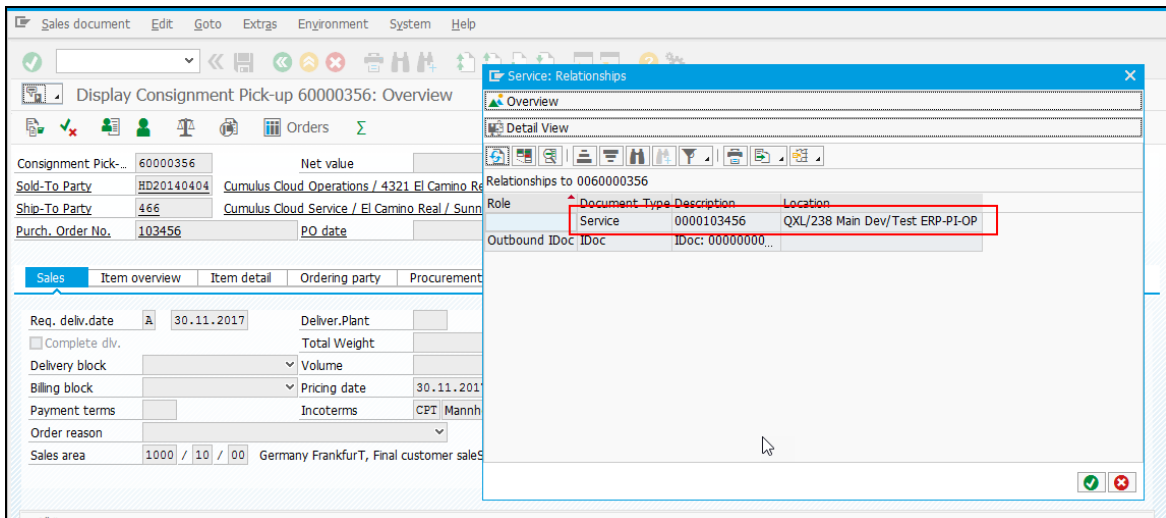
5. Create a consignment pick-up order in SAP ERP for unused goods.

As of the February 2018 release, the consignment pick-up order appears as the successor of the consignment fill-up order.

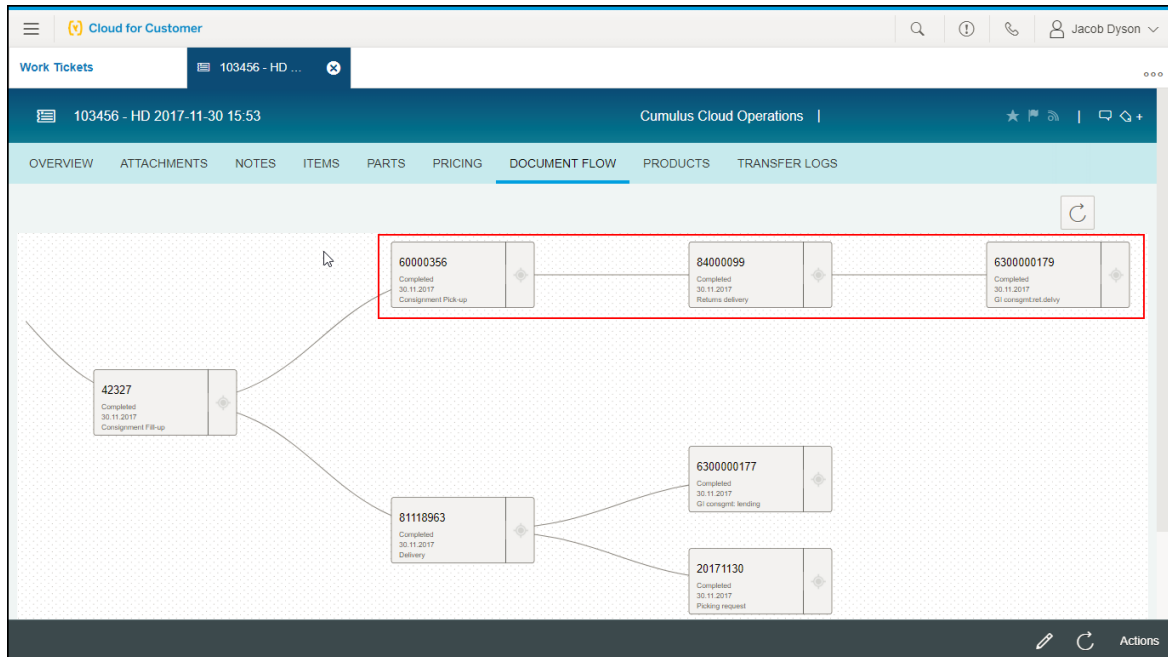
The consignment pick-up still has a direct reference to the SAP Cloud for Customer work ticket. To see this, you can launch the [Relationships](#).



See *Relationships* in the example illustrated here.



The SD follow-up documents in the SAP Cloud for Customer Work Ticket document flow.



6. **Create goods issue and a billing request in SAP ERP for the consumed goods.**

Here are the follow-up documents for consumed items. Consumed goods are added to the billing request for the work ticket to invoice it to the customer.

Sales document Edit Goto Extras Environment System Help

Display **Debit Memo Request** 70001101: Header Data

Debit Memo Request 70001101 Purchase order no. 103456
 Sold-to party HD20140404 Cumulus Cloud Operations / 4321 El Camino Real / Palo Alto ...

Sales Shipping **Billing Document** Accounting Conditions Account assignment Partners Texts

Payer HD20140404 Cumulus Cloud Operations / 4321 El Camino Real / Palo Al...

Terms of Delivery and Payment

Incoterms CPT Mannheim Fixed val.date
 Payment terms Add.value days 0

Billing

Billing block 09 Check debit memo SubInvProcess
 Invoicing dates
 Billing date 30.11.2017 CCode to be billed 1000 IDES AG
 Serv.rendered date Alt.tax classific.
 Tax depart. country Tax dest. country EU triang. deal

Risk Management

Paymt guarant. proc.
 Financial doc. no. Depreciation % 0,00 % Fin. Docs

Also, the issued goods move out of stock and accounting documents created for them.

Material Document Edit Goto Environment System Help

Display Material Document 6300000178 : Overview

Details from Item Material Accounting Documents...

Posting Date 30.11.2017 Mat. Slip 0000000000042327 Name CODINTEG

Item	Quantity	EUn	Material	Plnt	SLoc	Batch	Re	MvT	S	S
			BUn Material description				Reserv.no.	Itm		FI
1	3,00		EA HD-WEB-SERVER-L		1000				633	W -
			Cloud server large							

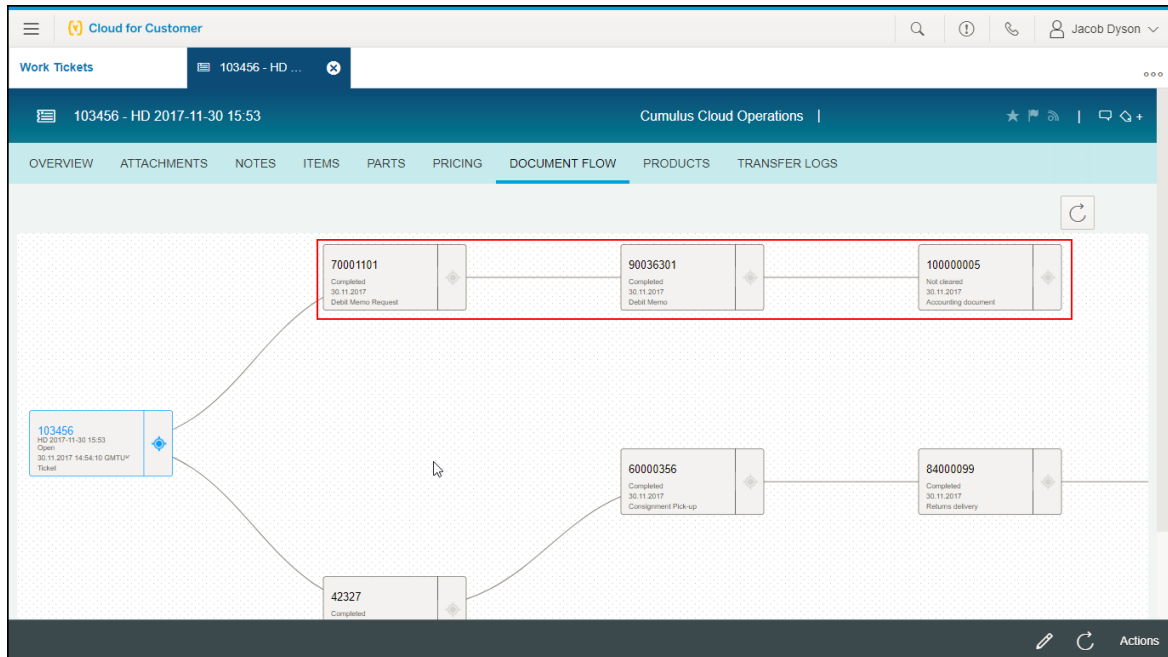
List of Documents in Accounting

Documents in Accounting

Doc. Number	Object type text
4900000010	Accounting document
0000293172	Profit center doc.
1000345519	Spec. purpose ledger
0200178439	Controlling Document

Separate Original document

The document flow in the SAP Cloud for Customer work ticket is updated. In this example it is already invoiced to the customer. The ERP debit memo is also created.



The consignment issue step marginally differs from the standard ERP consignment process. The standard ERP consignment process uses a **consignment issue** order. The process in SAP Cloud for Customer service integration offers maintenance of a single ERP billing request for the work ticket.

Technical Information

This enhancement is an update to the existing SAP Cloud for Customer Work Ticket integration with SAP ERP.

4.13.2 Work Ticket - Supports document address and item notes

Work ticket integration is enhanced to transfer deviating document addresses to SAP ERP. In a work ticket, you initially see the address is maintained in the business partner master data for a certain party. You can change this address to a document-specific address. This address is also transferred as a document-specific address into target sales documents in SAP ERP.

Internal Note and *External Note* of SAP Cloud for Customer work ticket items are now transferred to SAP ERP. They are added to the corresponding sales document items in SAP ERP as long texts.

You can see a work ticket here in SAP Cloud for Customer where item notes are maintained for item 80.

Work Tickets | 104031 - HD ...

104031 - HD 2018-01-25 12:26 | Cumulus Cloud Operations

OVERVIEW ATTACHMENTS NOTES CHANGES ITEMS SERVICES PARTS TIME EXPENSES

ITEMS (1) [Filter] [Sort] Add

Line	Product	Description	Work Progress	ERP Rel. Status	Planned Quantity
80	10001390	HD service material C4C	Ready	Not Released	1 Hour(s)

General Data **Notes** Pricing ATP Skill

Customer Information

Item note C4C customer information

Internal Note

Item note C4C Internal Note

Additionally, a document address is maintained for the Ship-To party. This address is referenced from the master data.

Work Tickets | 104031 - HD ...

104031 - HD 2018-01-25 12:26 | Cumulus Cloud Operat

OVERVIEW | ATTACHMENTS | NOTES | CHANGES | ITEMS | SERVICES | PARTS | TIME | EXPENSES

INVOLVED PARTIES (6)

Role	Name	ID	Address
Bill-To	Cumulus Cloud Operations	1002799	4321 El Camino Real / Palo Alto CA 94301 / US
Account	Cumulus Cloud Operations	1002799	4321 El Camino Real / Palo Alto CA 94301 / US
Ship-To	Cumulus Cloud Service Plant 1	1001459	Hillview Avenue / Palo Alto CA 94087 / US
Reporter	Jacob Dyson	8000000850	No Address Maintained
Service Tec...	Almica Incorporation	1000	Dietmar Hopp Allee 30 / 69190 Walldorf / DE
Service Tec...	Ruby Roy	8000000920	No Address Maintained

Party

Party	Communication
Role Ship-To	Phone -
Party ID Cumulus Cloud Service Plant 1	Fax -
Main Yes	Mobile -
Address	E-Mail -
Address Hillview Avenue / Palo Alto CA 94087 / US	Web Site -
Name Cumulus Cloud Service Plant 1	Preferred Method of Contact -

Here you can see the updated document address. Street, Phone and E-Mail are updated.

1 Your entries have been saved.

OVERVIEW ATTACHMENTS NOTES CHANGES ITEMS SERVICES PARTS TIME EXPENSE

INVOLVED PARTIES (6)

Role	Name	ID	Address
Bill-To	Cumulus Cloud Operations	1002799	4321 El Camino Real / Palo Alto CA 94301 / US
Account	Cumulus Cloud Operations	1002799	4321 El Camino Real / Palo Alto CA 94301 / US
Ship-To	Cumulus Cloud Service Plant 1	1001459	Coyote Hill Road / Palo Alto CA 94087 / US
Reporter	Jacob Dyson	8000000850	No Address Maintained
Service Tec...	Almica Incorporation	1000	Dietmar Hopp Allee 30 / 69190 Walldorf / DE
Service Tec...	Ruby Roy	8000000920	No Address Maintained

Party

Party	Communication
Role Ship-To	Phone +1 650-123-4567
Party ID Cumulus Cloud Service Plant 1	Fax -
Main Yes	Mobile -
Address Address Coyote Hill Road / Palo Alto CA 94087 / US	E-Mail shipments@cumulus.com
Name Cumulus Cloud Service Plant 1	Web Site -
	Preferred Method of Contact -

The item in the SAP Cloud for Customer work ticket is a service item. This results in a billing request in SAP ERP. The customer note is mapped in this example to the item note.

The screenshot shows the SAP interface for displaying a debit memo request. The title is "Display Debit Memo Request 70001168: Item Data". The header includes navigation icons and a search icon. Below the header, the following data is displayed:

Sales Document Item	80	Item category	L2W	Request
Material	HD-DIEN-01	HD service material C4C		

Below this, there are tabs for "Sales A", "Sales B", "Shipping", "Billing Document", "Conditions", and "Account assignment". The main content area is divided into two parts:

Txt ty.	Lang.	
Material sales text		<div style="border: 1px solid gray; padding: 5px;"> Item note C4C customer information </div>
Item note	EN	
Packing note	EN	
test SO		
Delivery text		
Purchase order text		
Production Memo		

Internal Note is mapped to *Packaging Note*.

This screenshot is similar to the previous one, showing the same SAP interface. However, in the "Txt ty." list, "Packing note" is now selected and highlighted with a blue border. The main content area now displays:

Item note C4C Internal Note

Under *Partner*, you can see the updated Street name for the Ship-to party.

Display Debit Memo Request 70001168: Header Data

Debit Memo Request: 70001168 Purchase order no.: 104031

Sold-to party: HD20140404 Cumulus Cloud Operations / 4321 El Camino Real / Palo Alto ...

Sales Shipping Billing Document Accounting Conditions Account assignment **Partners** Texts C

Display Range: PARALL All partners

Partn.Funct.	Partner	Name	Street	Postal c...	Cty
AG Sold-to party	HD20140404	Cumulus Cloud Operations	4321 El Camino Real	94301	Palo Alto
AP Engagement Par...	153218	Schlämmer	4321 El Camino Real	94301	Palo Alto
RE Bill-to party	HD20140404	Cumulus Cloud Operations	4321 El Camino Real	94301	Palo Alto
RG Payer	HD20140404	Cumulus Cloud Operations	4321 El Camino Real	94301	Palo Alto
WE Ship-to party	466	Cumulus Cloud Service Plant 1	Coyote Hill Road	94087	Palo Alto

All changes reflect in SAP ERP.

Doc.address for the Ship-to party (Document header)

Name	
Title	Company
Name	Cumulus Cloud Service Plant 1
Street Address	
Street/House number	Coyote Hill Road
Postal Code/City	94087 Palo Alto
Country	US USA Region CA California
PO Box Address	
PO Box	
Postal code	
Company postal code	
Communication	
Language	EN English
Telephone	650 123-4567
Mobile Phone	
Fax	
E-Mail	shipments@cumulus.com
StandardComm.Mtd	
Data line	
Telebox	
Comments	
Further Attributes	
Unload.Point	
VAT RegNo	

Preview

Technical Information

This feature is an update to the existing SAP Cloud for Customer Work Ticket integration with SAP ERP.

In SAP Cloud for Customer code list mapping you can set the receiving ERP target text types. The SAP Cloud for Customer data type in code list mapping is `ItemTextCollectionTextTypeCode`. The codes that must be mapped are:

- 1001 - Additional external comment
- 1011 - Internal comment

4.13.3 Work Ticket - Create Follow-Up Sales Order

i Note

This feature is available for SAP ERP as well as SAP S/4HANA On-Premise. While the example illustrated here is from SAP ERP, the integration works similarly in SAP S/4HANA On-Premise.

The SAP Cloud for Customer work ticket supports a new item type: Sales Order. With this item type, a follow up sales order is created in SAP ERP from the work ticket. This feature can be used for materials which are to be shipped up-front to the customer.

See here a work ticket in SAP Cloud for Customer with the selected processing item type Sales Order.

The screenshot displays a work ticket interface with the following details:

- TICKET 105978**: Assigned To: PS Agent, Subject: Follow-up Sales Order, Status: Open, Priority: Normal, Initial Review Due: 19.06.2018 14:03, Next Response Due: , Completion Due: 21.06.2018 12:03, Type: Service Request, Team: USA Consumer Care, External Ticket ID: , External Sales Order: .
- ITEMS (3)**:

Description	Line	Product	Planned Quantity	A...	Act...	Work Progr...	Actual E...	Invoicing Meth...	ERP Rel. Status	Ac...
MDECC-DS01	30	MDECC-DS01	2 Each			Not Relevant		Fixed Price	Not Released	
MDECC-DS02	20	MDECC-DSC	1 Each			Open		Time and Materia	Not Released	
MDECC-DS02	10	MDECC-DSC	1 Each			Open		Time and Materia	Not Released	
- General Data**: Processing: Sales Order (highlighted), Product Category: Business software, Requested Start: 21.06.2018 00:00, Requested End: 22.06.2018 00:00, Actual Start: , Actual End: , Pricing Relevant: , Net Price Unit: , Net Price: , Coverage: , Invoicing Method: Fixed Price, ERP Rel. Status: Not Released.

The follow-on process in SAP ERP is the creation of a sales order of type 'OR'.

Display Standard Order 43088: Overview

Standard Order 43088 Net value 5,00- EUR

Sold-To Party 353 Pfizer Ireland Pharmaceutical / 89 TT / GALWAY

Ship-To Party 353 Pfizer Ireland Pharmaceutical / 89 TT / GALWAY

Purch. Order No. 105978 PO date 17.07.2018

Sales Item overview Item detail Ordering party Procurement Shipping Configuration Reason for rejection

General header data

Sales doc. type OR Standard Order Standard Order Standard Order Standard

Description

Req. deliv.date A 19.06.2018 Deliver.Plant

Complete dlv. Total Weight 5.000,000 KG

Delivery block Volume 500 L

Billing block Pricing date 25.05.2018

Total amount 5,00- Doc. currency EUR / 1,00000

All items

Item	Material	Order quantity	Un	Description	S	Customer Material No.
	30MDECC-DS01	5,00	EA	MDECC-DS01	✓	

You can also see the reference to the work ticket from SAP Cloud for Customer.

Display Standard Order 43088: Overview

Standard Order 43088 Net value 5,00- EUR

Sold-To Party 353 Pfizer Ireland Pharmaceutical / 89 TT / GALWAY

Ship-To Party 353 Pfizer Ireland Pharmaceutical / 89 TT / GALWAY

Purch. Order No. 105978 PO date 17.07.2018

Service: Relationships

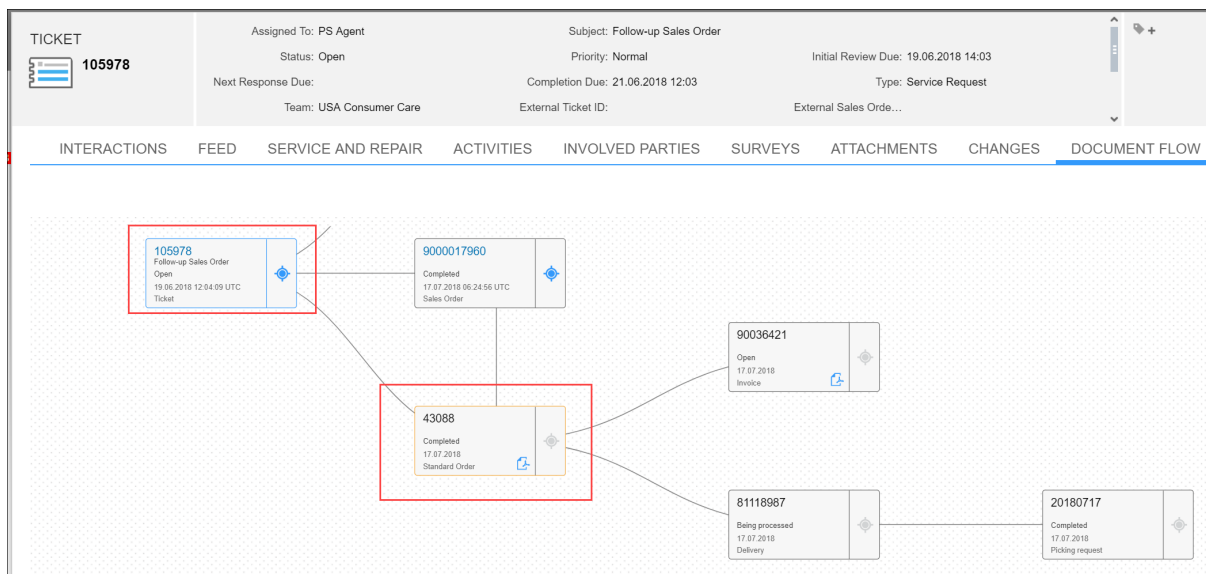
Overview

Detail View

General header Relationships to 0000043088

Req. deliv.date	Role	Document Type	Description	Date	Time
	Service	0000105978		17.07.2018	06:01:31
	Customer Contract	0040002935			
	Outbound IDoc	IDoc	The 0000000000000000 message type C00 SERVICE REQUEST C00		06:01:32
	IDoc	IDoc	The 0000000000000000 message type C00 REPLICATE SALES ORD		
	IDoc	IDoc	The 0000000000000000 message type C00 REPLICATE SALES ORD		
	IDoc	IDoc	The 0000000000000000 message type C00 REPLICATE SALES ORD		
	IDoc	IDoc	The 0000000000000000 message type C00 REPLICATE SALES ORD		
	IDoc	IDoc	The 0000000000000000 message type C00 REPLICATE SALES ORD		
	IDoc	IDoc	The 0000000000000000 message type C00 REPLICATE SALES ORD		

In SAP Cloud for Customer you can see the updates to document flow.



Unlike the item type Advance Shipment, no customer consignment stock is used here.

Technical Information

This feature is offered as an update to the existing sales order integration.

Interfaces / Cloud Integration iFlow / PI operation mapping

SAP Cloud for Customer Source Interface	PI/Cloud Integration Mapping	SAP ERP Target Interface
FollowupDocumentCreationRequest-FromServiceRequestCreationOut	COD_ERP_ServiceRequestConfirmationProcessingRequest	COD_SERVICE_CONFIRMATION01

4.13.4 Work Ticket - Improved Error Handling

On occasion, when a work ticket runs into an error in SAP ERP after being released from SAP Cloud for Customer, an improved approach is available to handle the errors. In such instances, the following is applicable:

- All changes in ERP from this release instance of the work ticket are rolled back.
- The ERP inbound IDoc is discarded and is not processed further.
- A confirmation message is sent back to Cloud for Customer.
- The ERP error messages are sent back to Cloud for Customer and are visible in the work ticket *Integration Log*.
- All items from this release instance of the work ticket items are reopened in Cloud for Customer.
- All items can be corrected and released again.

See here the IDoc monitor (transaction BD87) in ERP.

- IDoc with status *Error - no further processing* is the failed work ticket sent from ERP.
- IDoc with status *Data passed to port OK* is the reply from ERP containing the error messages from the failed update.

Status Monitor for ALE Messages		
IDocs	IDoc Status	Number
<ul style="list-style-type: none"> ▼ IDoc in inbound processing <ul style="list-style-type: none"> ▼ Error - no further processing <ul style="list-style-type: none"> ▼ COD_SERVICE_CONFIRMATION <ul style="list-style-type: none"> ▼ V4(219) : Sales document &1 was not changed <ul style="list-style-type: none"> ▪ Sales document was not changed ▼ IDocs in outbound processing <ul style="list-style-type: none"> ▼ Data passed to port OK <ul style="list-style-type: none"> ▼ COD_CONFIRM_CREATEFROMDAT <ul style="list-style-type: none"> ▪ EA(083) : IDoc sent to SAP system or external program 	68	1
		1
		1
		1
		1
		1
	03	1
		1
		1

Status of the failed items is set to *Release Discarded*.

103916 - HD 2018-01-15 18:48					
Cumulus Cloud Op					
OVERVIEW	ATTACHMENTS	NOTES	CHANGES	ITEMS	SERVICES
ITEMS (2)					
Line	Product	Description	Work Progress	ERP Rel. Status	
80	10001390	HD service material C4C	Finished	Release Discarded	
90	10001182	HD Third Party Material	Not Relevant	Release Discarded	

ERP error messages in the *Integration Log* facet.

Log Message	Severity	DateTime
Fill in all required entry fields	ⓘ	18.01.2018 15:45:28
Error in VBAPKOM 000090	ⓘ	18.01.2018 15:45:28
Sales document was not changed	ⓘ	18.01.2018 15:45:28
Service Organisation is missing	⚠	18.01.2018 15:45:28

Technical Information

This feature is an update to the existing work ticket integration with SAP ERP. The configuration changes in SAP ERP are explained in [SAP Note 0002556045](#) under **Corrections** > **Manual Activities**.

A new iFlow is introduced for the confirmation message from SAP ERP to SAP Cloud for Customer.

ERP Source Message	PI/Cloud Integration Mapping	Cloud for Customer Target Message
COD_CONFIRM_CREATEFROM-DAT.COD_CONFIRM_CREATEFROM-DAT01	ERP_COD_ServiceRequestConfirmationWithIntegrationLogs	ServiceRequestFollowUpDocument-Confirmation

4.13.5 Work Ticket - Credit Check

i Note

This feature is available for SAP ERP as well as SAP S/4HANA On-Premise. While the example illustrated here is from SAP ERP, the integration works similarly in SAP S/4HANA On-Premise.

In a SAP Cloud for Customer work ticket, external pricing integration to SAP ERP on-premise has been extended to include a credit limit check. The result of the credit limit check is visible in the work ticket in SAP Cloud for Customer. The functionality works in the same manner as it does in quote and sales order.

i Note

This feature is only available in Fiori client.

See for more information.

Technical Information

This feature is offered as an update to the existing work ticket integration.

Interfaces / Cloud Integration iFlow / PI operation mapping

SAP ERP Source Interface	PI/Cloud Integration Mapping	SAP Cloud for CustomerTarget Interface
COD_SALESORDER_SIMULATERes- ponse	COD_ERP_ServiceRequestExternalSa- lesDocumentDataQuerySync_resp	ExternalSalesDocumentDataRes- ponse_sync

4.13.6 Work Ticket Description

i Note

This feature is available for integration with SAP ERP as well as integration with SAP S/4HANA. While the example illustrated here is from SAP S/4HANA, the integration works similarly in SAP ERP.

The default item description in a work ticket (short text) is the same as the description in the product master data. You can, however, update it in a work ticket. The updated description is transferred to SAP S/4HANA into follow-up documents such as sales order and billing requests.

You can see here the default item description of a work ticket from product master data.

The screenshot shows the SAP Fiori Work Tickets interface. At the top, there is a header for 'Work Tickets' and a specific ticket identifier '105082 - HD 2018-03-28 11:58'. Below the header, there are tabs for 'OVERVIEW', 'ATTACHMENTS', 'NOTES', 'CHANGES', 'ITEMS', 'SERVICES', and 'PARTS'. The 'ITEMS' tab is selected, showing a table with one item. The table has columns for 'Line', 'Product', 'Description', 'Work Progress', and 'ERP Rel. Status'. The item details are: Line 80, Product 10001390, Description HD service material C4C, Work Progress Ready, and ERP Rel. Status Not Released.

Line	Product	Description	Work Progress	ERP Rel. Status
80	10001390	HD service material C4C	Ready	Not Released

The description is updated and released to SAP S/4HANA.

Line	Product	Description	Work Progress	ERP Rel. Status
80	10001390	Regular machine maintenance	Finished	Released

You can see the updated description here in the target document, a billing request in SAP S/4HANA.

Item	Material	Target quantity	U...	Net value	Doc...	Reason for rejection	Description
80	HD-DIEN-01	1	H	80,00	EUR		Regular machine maintenance

Technical Information

This feature is offered as an update to the existing work ticket integration.

4.13.7 Bulk Mapping in Outbound Work Ticket

i Note

This feature is available for integration with SAP ERP as well as integration with SAP S/4HANA. While the example illustrated here is from SAP S/4HANA, the integration works similarly in SAP ERP.

Work tickets in SAP Cloud for Customer support bulk processing. Previously, work tickets were sent out of SAP Cloud for Customer one at a time. As of May 2018 release, one message contains several work tickets.

Technical Information

This feature is offered as an update to the existing iFlow used to send work tickets to SAP S/4HANA from SAP Cloud for Customer.


4.14 Multi-Resource Scheduling Integration Overview via CPI

See information on integration between SAP Cloud for Customer for MRS and SAP ERP- MRS Add on.

The following communication scenarios are pre delivered for the MRS solution:

- `DemandReplication` (outbound replication from SAP Cloud for Customer to MRS)
- `DemandAssignment` (inbound replication to SAP Cloud for Customer from MRS)
- `AssignmentStatus` (outbound replication from SAP Cloud for Customer to MRS)

Note

- Perform employee replication from MRS to SAP Cloud for Customer using the standard employee replication content which is documented in the *Initial Load* and *Quick Setup* topics in the [Administrator Guide](#):
- Set up organization units in SAP Cloud for Customer corresponding to the organizational unit structure available in MRS as follows:
 - As part of the Org Setup, for those of the Org Units created in SAP Cloud for Customer corresponding to the MRS Org Units, the *Service Organization* and *Customer Service* attributes have to be selected in Org Setup.
 - As part of the Org Setup, the ID mapping has to be performed manually in SAP Cloud for Customer in the administrator work center. The MRS Org Unit IDs have to be mapped against the corresponding SAP Cloud for Customer Org Unit IDs via *CRM Organizations and Units* scheme for the MRS communication system.
 - If a Ticket is assigned to a service technician team which does not have an ID mapping, then such ticket is transferred to MRS by *Releasing for Scheduling* action. Then this outbound message fails and gives a mapping error in SAP Cloud for Customer. This is the desired behavior; and to rectify this issue, the missing ID mapping has to be maintained for the SAP Cloud for Customer Org Unit and the message would be reprocessed in the *Web Service Message Monitor* tool.
- See [2163862](#)  for the MRS SP installation information.
For the technical user created in MRS for communication between SAP ERP Process Integration and MRS, the following roles need to be added:
 - `SAP_BC_LVC_USER`
 - `SAP_BC_WEBSERVICE_CONSUMER`
 - `SAP_BC_WEBSERVICE_PI_CFG_SRV`
 - `SAP_BC_WEBSERVICE_SERVICE_USER`

- SAP_QAP_BC_SHOW
- SAP_QAP_XI_APPL_RWB
- SAP_SLD_GUEST
- SAP_XI_APPL_SERV_USER
- In addition, the following authority object with the mentioned activities must also be configured for the same user:
 - Authority Object - PLOG

Known Issues

After the replication of Demand from SAP Cloud for Customer to MRS, if there is a change on only the ticket subject and no other field, then, this update does not flow to MRS

When a user is on the ticket details screen, and there are assignment update messages for the same ticket from MRS that gets processed in SAP Cloud for Customer, and if the user tries to delete a ticket item, then this error message displays:

Data has been changed in parallel session

In this scenario, the user has to *Refresh* the ticket details screen before proceeding with any further action.

4.14.1 View Prepackaged iFlows using SAP CPI Web UI (MRS)

Procedure

1. Access the web UI URL from the provisioning e-mail. It should be in the format: `https://cpitenant%20.hana.ondemand.com/itspaces`
2. View all pre-packaged iFlows in the Catalog tab.
3. Choose the SAP Cloud for Customer Integration with MRS package.
4. For each iFlow, select the Download option, and Save to view all iFlow relevant metadata.

4.14.2 Demand Replication (Outbound)

This outbound interface replicates service tickets and ticket items, such as: Demands; which are created and marked as *Relevant for Scheduling* from SAP Cloud for Customer to MRS.

iFlow name: Replicate Demand to MRS

Sender Interface: DemandPushOut Namespace: `[[http://sap.com/xi/A1S/Global]]`

Receiver Interface: PushDemand Namespace: `http://sap.com/xi/MRSS_NW`

Operation Mapping: COD_MRS_DemandPush

SOAP receiver Communication Channel Path: `[[unresolved text-ref: https://host:port/ sap/bc/srt/xip/mrss/pushdemand/<client>/mrss_pushdemand/mrss_pushdemand?MessageId]]`

Maintain integration scenario in Communication Arrangement for SAP Cloud for Customer: Demand replication to External System

4.14.3 Demand Assignment (Inbound)

In MRS, employees are assigned to each ticket item or demand. These assignments created in MRS would be replicated to SAP Cloud for Customer using this interface.

iFlow name: Replicate Demand Assignment from MRS

Sender Interface: AssignmentsPublish Namespace: http://sap.com/xi/MRSS_NW

Receiver Interface: DemandAssignmentIn Namespace: <http://sap.com/xi/A1S/Global>

Operation Mapping: MRS_COD_Demand_Assignment

SOAP receiver Communication Channel Path: [[unresolved text-ref: <https://host:port/sap/bc/srt/scs/sap/demandassignmentreplicationin?MessageId>]]

Integration Scenario to be maintained on SAP Cloud for Customer Communication Arrangement: Demand replication to External System

4.14.4 Assignment Status (Outbound)

This pertains to the visits created in Cloud for Customer corresponding to the MRS assignments. Any assignment or visit status changed in SAP Cloud for Customer is sent back to MRS using this interface.

iFlow name: Replicate Assignment Status to MRS

Sender Interface: DemandAssignmentStatusOut Namespace: <http://sap.com/xi/A1S/Global>

Receiver Interface: PushAssignmentStatus Namespace: http://sap.com/xi/MRSS_NW

Operation Mapping: COD_MRS_AssignmentStatus


SOAP receiver Communication Channel Path: [[unresolved text-ref: <https://host:port/sap/bc/srt/xip/mrss/pushassignmentstatus/<client>/pushassignmentstatusfromc4c/pushassignmentstatusfromc4c?MessageId>]]

Integration Scenario to be maintained on SAP Cloud for Customer Communication Arrangement: Demand replication to External System.

5 Perform Data Load

The Data Load Phase defines how to extract data from the SAP ERP system and loads it into the Cloud solution. As a prerequisite for the initial load, you must specify the entire configuration settings for SAP ERP, SAP middleware such as SAP Process Integration or Cloud Platform Integration, and Cloud systems.

The Initial Load section describes the configuration settings necessary to send master data from the SAP ERP system to the cloud solution and to process data in the SAP ERP system that was sent from the cloud solution. When you send and receive IDocs, SAP ERP and the cloud solution expect different sequences for customers and addresses. In order to send and process IDocs in the right sequence, you need to adhere to the sequence of steps as mentioned in the guide while defining background jobs.

For information on how you can plan for optimal performance during high volume data loads into your SAP Cloud for Customer solution from an SAP on-premise system, see [Best Practices for Optimal Performance of Data Loads into SAP Cloud for Customer](#) .

[Initial Load \[page 211\]](#)

For most existing customers already using SAP On-premise systems, implementing a cloud solution means leveraging their existing data (both master data and transaction data). To speed up the process of replicating such data from customers' on-premise SAP ERP system to customer's SAP Cloud for Customer tenant, SAP has provisioned standard ABAP reports. The reports are designed to drastically reduce initial load times of your data into SAP Cloud for Customer.


[Delta Load \[page 236\]](#)

The Delta Load Phase defines the steps required for the delta load of customer hierarchies.

5.1 Initial Load

For most existing customers already using SAP On-premise systems, implementing a cloud solution means leveraging their existing data (both master data and transaction data). To speed up the process of replicating such data from customers' on-premise SAP ERP system to customer's SAP Cloud for Customer tenant, SAP has provisioned standard ABAP reports. The reports are designed to drastically reduce initial load times of your data into SAP Cloud for Customer.

Background Information

This section describes how to perform the initial load from SAP ERP to SAP Cloud for Customer. This guide focuses on the order and how to use the reports. For performance considerations, see the document *Best Practices for Optimal Performance of Data Loads into SAP Cloud for Customer* on [Service Community Network](#) .

This guide focuses on loading the master data from SAP ERP. It centers on options available from the area menu `COD_INT_MENU`. This menu also includes the option to load sales orders: *Load* or *Resend Sales Orders*. Right-click and select *Display Documentation* to view complete documentation on loading sales orders.

Prerequisites

Technical connectivity exists between SAP ERP and SAP Cloud for Customer. Integration Configuration settings specified in the configuration guide for the SAP ERP, SAP middleware such as NetWeaver Process Integration or Cloud Platform Integration, and SAP Cloud for Customer tenant.

[Recommended Sequence of Initial Load for Master Data \[page 212\]](#)

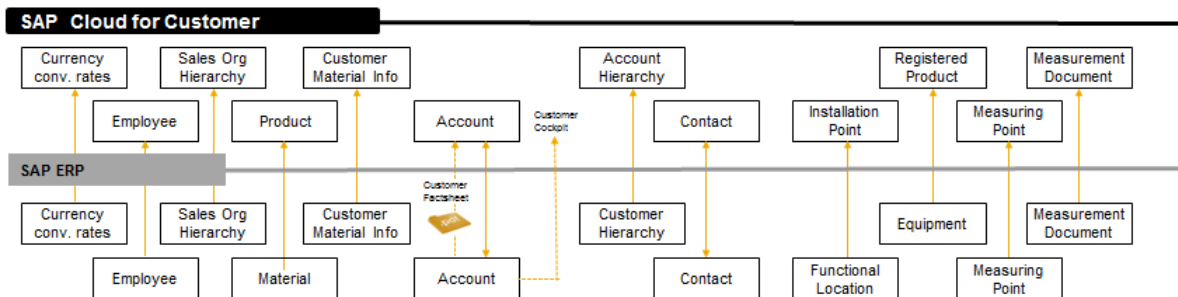
For integrating your SAP ERP system to your SAP Cloud for Customer solution, one of the critical aspects is loading of your master data. The following diagram shows the supported master data objects. First you need to evaluate which objects you need in your SAP Cloud for Customer implementation.

[Instructions for Loading Data \[page 215\]](#)

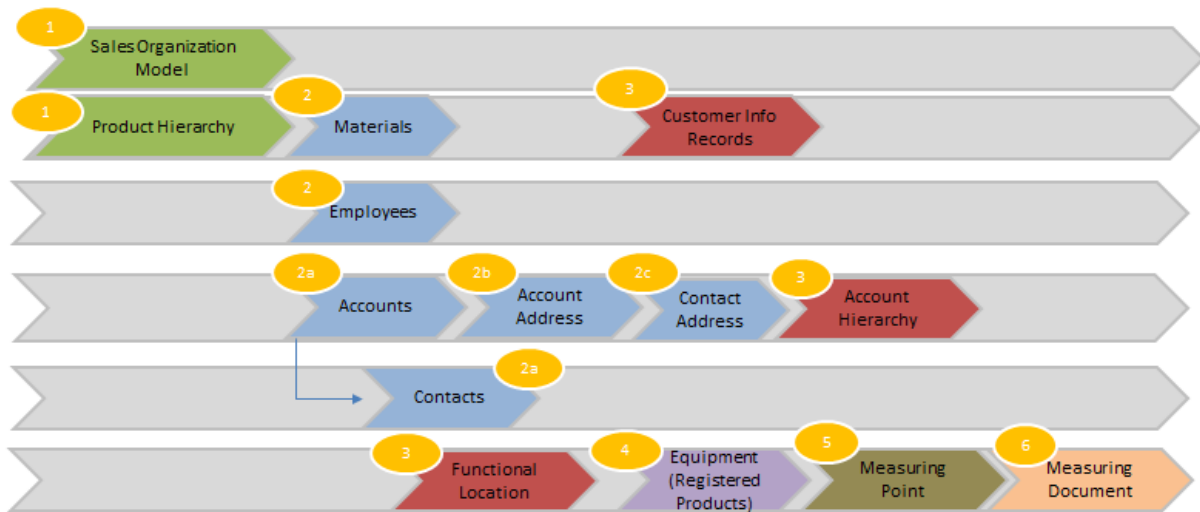
This Chapter provides step-by-step instruction to load the Sales Organization Data, Employees, Product Hierarchy, Product Materials, Accounts/Contacts (Customer Master), Accounts Address and Contact Address, Customer Hierarchy, Currency Conversion Rates, Functional Location, Equipment, Measuring Points and Measuring Documents.

5.1.1 Recommended Sequence of Initial Load for Master Data

For integrating your SAP ERP system to your SAP Cloud for Customer solution, one of the critical aspects is loading of your master data. The following diagram shows the supported master data objects. First you need to evaluate which objects you need in your SAP Cloud for Customer implementation.



The diagram below captures the sequence in which you should perform the initial load.



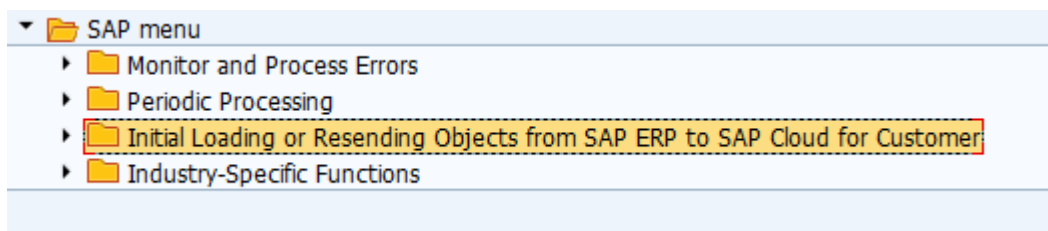
No dependencies on other objects: Conversion Rates

The following table gives the list of reports needed to set up the master data objects. Most objects are loaded using the area menu [COD_INT_MENU](#). The area menu includes documentation on how to execute the initial load report.

Master Data object	Report / Transaction code	Prerequisite Business Object(s)
Sales Organization	COD_INT_MENU	None
Employee	COD_INT_MENU	Sales Organization
Account & Contacts	COD_INT_MENU	Sales Organization
Account Address (generated based on account)	(generated based on account)	Sales Organization
Contact Address	(generated based on account)	Sales Organization
Product Hierarchy	NA (Data Migration Workbench)	None
Product Materials	COD_INT_MENU	Product Hierarchy
Account Hierarchy	COD_INT_MENU	Sales Organization, Account
Currency Conversion	NA (Synchronous WS from SAP Cloud for Customer; path: Administrator work center > Exchange Rate Request > Schedule >)	None
Functional Location	COD_INT_MENU	Sales Organization

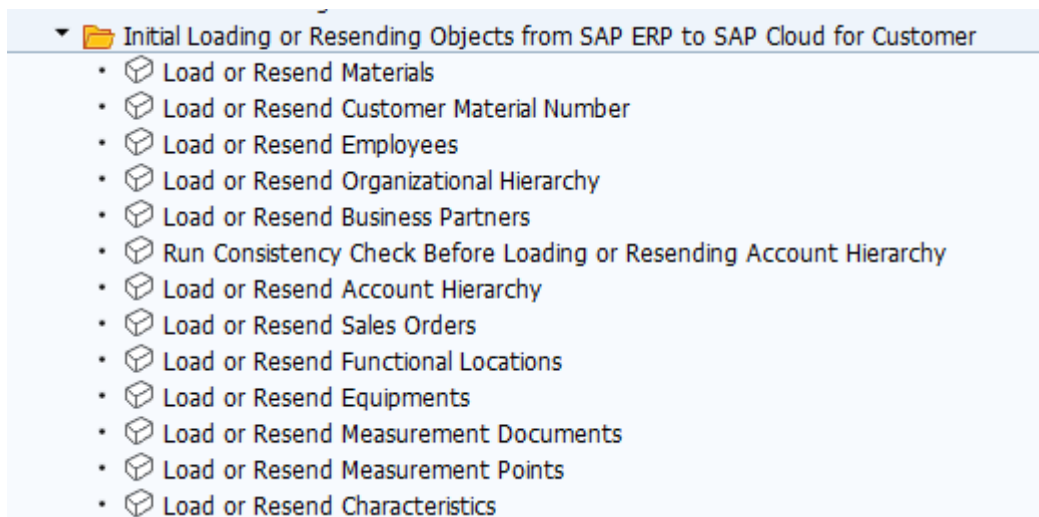
Master Data object	Report / Transaction code	Prerequisite Business Object(s)
Equipment (Registered products in SAP Cloud for Customer)	COD_INT_MENU	Functional Locations, Products, Sales Orgs
Measuring Point	COD_INT_MENU	Functional Location, Equipment
Measuring Documents	COD_INT_MENU	Measuring Point

Area menu [COD_INT_MENU](#) is a central location for monitoring and performing initial loads. All load reports are centralized to the area menu. Documentation is provided for all SAP Cloud for Customer specific loading reports.

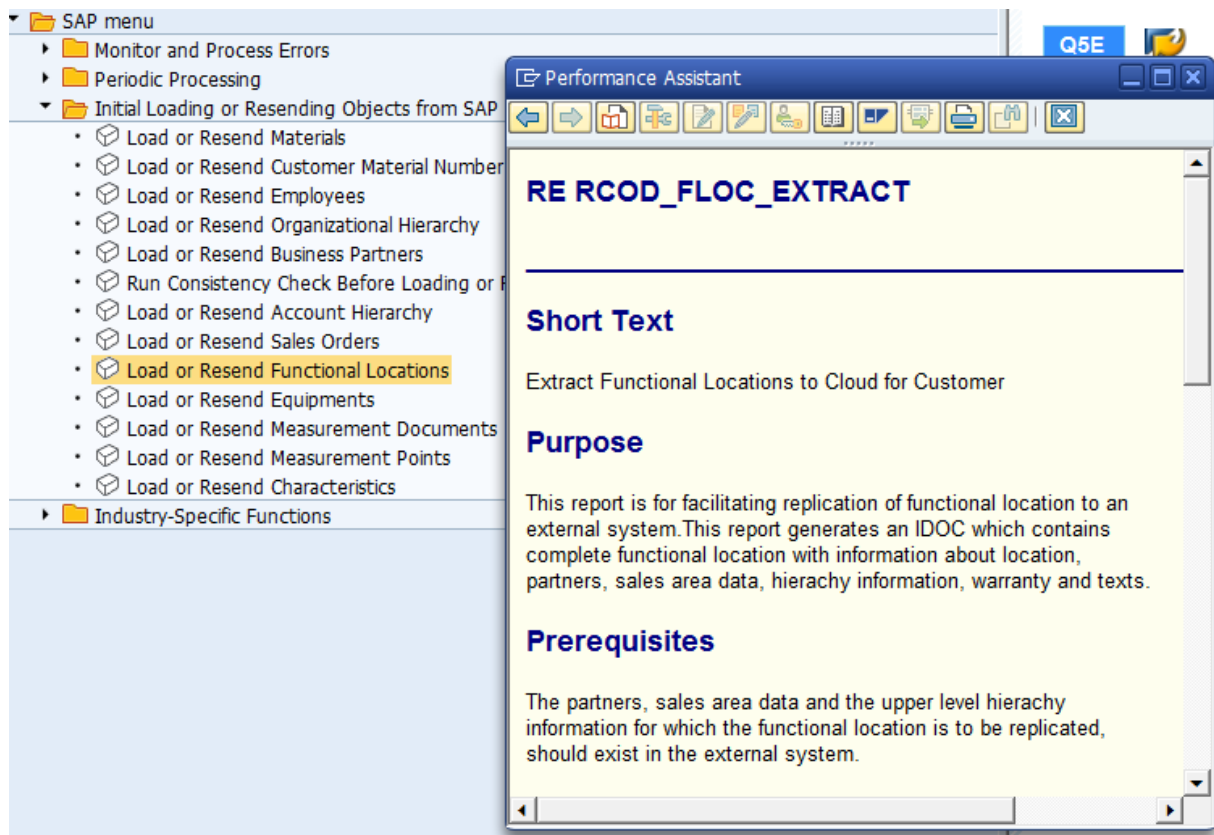


When you expand the menu [Initial Loading or Resending Objects from SAP ERP to SAP Cloud for Customer](#), you will see the supported objects. You will not see product hierarchy or currency conversion rates. This is because these objects must be loaded using the migration workbench.

Where possible, the standard ERP reports are used. For example, [BD10](#) is used to send materials and [BD12](#) to send customers. However, some use programs specific to SAP Cloud for Customer.



You display the documentation for each report. The documentation will include any prerequisites for the initial load. The following example shows the documentation for the functional locations initial load report.



Parent topic: [Initial Load \[page 211\]](#)

Related Information

[Instructions for Loading Data \[page 215\]](#)

5.1.2 Instructions for Loading Data

This Chapter provides step-by-step instruction to load the Sales Organization Data, Employees, Product Hierarchy, Product Materials, Accounts/Contacts (Customer Master), Accounts Address and Contact Address, Customer Hierarchy, Currency Conversion Rates, Functional Location, Equipment, Measuring Points and Measuring Documents.

[Sales Organization Data \[page 216\]](#)

[Material Group or Product Hierarchy \[page 218\]](#)

Procedure for the initial load of material group or product hierarchy from SAP ERP to SAP Cloud for Customer.

[Product Materials \[page 219\]](#)

[Employees \[page 220\]](#)

[Accounts/Contacts \(Customer Master\) \[page 223\]](#)

[Accounts Address and Contact Address \[page 225\]](#)

[Customer Material Number \[page 226\]](#)

Procedure for loading customer material numbers.

[Customer Hierarchy \[page 227\]](#)

[Functional Location \[page 229\]](#)

[Equipment \[page 230\]](#)

Equipment in SAP ERP is replicated as registered products in SAP Cloud for Customer.

[Measuring Points \[page 231\]](#)

[Measurement Documents \[page 232\]](#)

[Currency Conversion Rates \[page 233\]](#)

[Characteristics \[page 234\]](#)

Procedure for exporting Characteristics from SAP ERP and loading into SAP Cloud for Customer.

[Pricing Conditions \[page 234\]](#)

[Stock Location \[page 235\]](#)

Procedure for loading stock location from SAP ERP to SAP Cloud for Customer.

Parent topic: [Initial Load \[page 211\]](#)

Related Information

[Recommended Sequence of Initial Load for Master Data \[page 212\]](#)

5.1.2.1 Sales Organization Data

1. Select the sales organizational structure you want to replicate from SAP ERP
2. Go to transaction code `COD_INT_MENU`. Execute the report Load or Resend Organizational Hierarchy.

- Enter the following details in the report and click *Execute*

Extract Organizational Units to Customer OnDemand

Organisational Data

Sales Organisational unit	0001	to		➔
Distribution Channel	01	to		➔
Division	01	to		➔
Sales Office		to		➔
Sales Group		to		➔
Description language	EN			

Logical System Details

Partner Number of Receiver	0107ESC	to		➔
----------------------------	---------	----	--	---

Test Run
 Make Assignment Unique

- Sales Organization unit
 - Distribution Channel
 - Division
 - Description Language
 - Partner Number of Receiver
 - Disable Test run
- After successfully executing the report go to transaction *WE05* to view the status of the IDocs in the monitor. Alternatively you can use *BD87* to monitor and process IDocs.

IDoc List

IDocs	Num...
Selected IDocs	000035
Outbound IDocs	000035
COD_CUSTHERMAS	000003
COD_ERP_SD_ORGS_SAVE	000001
HRMD_A_CFS	000031
Inbound IDocs	000000

Outbound IDocs COD_ERP_SD_ORGS_SAVE

IDoc Number	Segm...	Sta...	Sta...	Partner	Basic type	Date creat.	Time	Messg...	Direction	Port
00000000014825...	26	03	00	LS/ /0107ESC	COD_ERP...	23.07.2014	03:05:26	COD_E...	Outbox	QXP_2381

- Logon to SAP Cloud for Customer system. Go to work center **Data Integration** **Organizational Structure replication requests**

Note

As the organization entities are first replicated into the Staging Business Object (under **Data Integration work center** **Organization Replication view**), the organization entities need to be activated in the Staging Area for successful replication into SAP Cloud for Customer. Successful organizational mode replication should automatically maintain the ID mapping (under **Application and User Management** **Edit mapping for Integration**)

6. Select “*Failed/Not started*” from the drop-down and select the entry that was replicated form SAP ERP.

ACTIVITIES , ANALYSIS , COMPETITORS , PRODUCTS , LIBRARY , ACCOUNT HIERARCHY , ADMINISTRATOR , CUSTOMER SERVICE , DATA INTEGRATION , < > ≡

ORGANIZATION STRUCTURES REPLICATION REQUESTS: Failed/Not Started Requests (2)

Show Failed/Not Started Requests and Find Go Advanced

Edit Schedule Schedule All Mark as Relevant Mark as Irrelevant

Replication Request ID	Sender Business System	Replication Request Cre...	Application Log ID	Replication Request Status	De...
51	Q5ECLNT004	16.07.2014 05:28:26 UTC	97036	Interrupted	<input type="checkbox"/>
61	Q5ECLNT004	23.07.2014 01:05:51 UTC		Not Started	<input type="checkbox"/>

Organization Units

Mark as Relevant Mark as Irrelevant

Remote Organization Unit ID	Remote ID Type	Name	Start Date	End Date	Update Status	Relevance Status
1	896 - ERP Company ID	Company 0001	01.01.1800	Unlimited	Not Started	Relevant
1	917 - Sales Functional Unit ID	Sales Org. Germany	01.01.1800	Unlimited	Not Started	Relevant
1	950 - ERP Sales Office ID	Sales Office South	01.01.1800	Unlimited	Not Started	Relevant
1	951 - ERP Sales Group ID	Sales group 001	01.01.1800	Unlimited	Not Started	Relevant

7. Click *Schedule All* to trigger the replication.
8. Go to **Work center Administrator** > **Organizational Structure**. Select effective date as current date to view if the Sales Organization structure was successfully replicated from SAP ERP.

5.1.2.2 Material Group or Product Hierarchy

Procedure for the initial load of material group or product hierarchy from SAP ERP to SAP Cloud for Customer.

1. Select *Load or Resend Material groups or Product Hierarchies* from area menu COD_INT_MENU.
2. Enter the below details to execute the report.

You can run the report to replicate either Material Group or Product Hierarchy during a single run of the report. This is decided by selecting the desired radio button 'Material group' or 'Product Hierarchy'. None of the input fields are mandatory except Logical system which should be filled with the logical system of the SAP Cloud for Customer system to which data should be replicated. For IDocs to be triggered and actual replication to happen, the check box 'Test Mode' has to be unchecked. The Maximum objects per IDoc is defaulted as 1000 and can be changed to any non-zero value according to your system capacity.

Extract Material Groups or Product Hierarchies to Cloud for Customer

Data Selection

Material Group

Group to

Language to

Product Hierarchy

Hierarchy to

Level to

Language to

Communication Settings

Logical system

Maximum Objects per IDoc

Complete Transmission

Test Mode

3. After successfully executing the report, go to transaction code WE05 to view the status of the IDocs.
4. Login to the SAP Cloud for Customer system to make sure that all data is successfully replicated from SAP ERP.

ACTIVITIES , ANALYSIS , COMPETITORS , **PRODUCTS** , LIBRARY , ACCOUNT HIERARCHY , ADMINISTRATOR , CUSTOMER SERVICE , DATA INTEGRATION , IW

PRODUCT CATEGORIES: Product Category

Show Product Category Go

Export | Maintain Product Categories | New Hierarchy | Expand All | Collapse All | Find

Product Category ID	Product Category	Product Assignment Allowed
▼ 1	Products	✓
▪ 125	Hardware	✓
▪ 130	Software	✓
▪ SOD-01	Sustainable Products	✓
▪ SOD-02	Computer Hardware	✓
▶ SOD-03	Mobile	✓
▪ SOD-04	Camera	✓
▪ SOD-05	Financial Services	✓
▪ SOD-06	Retail	✓
▶ 50	Commercial heating equipment	✓
▶ 10	Service	✓
▶ 40	Residential heating equipment	✓
▪ 888	Luxury Goods / Basic Necessities	✓

5.1.2.3 Product Materials

Prerequisites

- Maintain code values for Products
- Setting up Product Hierarchy and Product Category Data

Procedure

1. For Product Material replication, first select the products you wish to replicate from SAP ERP to SAP Cloud for Customer.
2. Select *Load* or *Resend Materials* from *COD_INT_MENU*.
3. Enter the below details to execute the report
 - Material Numbers
 - Message Type as MATMAS_CFS
 - Logical System
 - Number of Materials per process

ACTIVITIES , ANALYSIS , COMPETITORS , **PRODUCTS** , LIBRARY , ACCOUNT HIERARCHY , ADMINISTRATOR , CUSTOMER SERVICE , DATA INTEGRATION , IW

PRODUCT CATEGORIES: Product Category

Show Product Category Go

Export | Maintain Product Categories | New Hierarchy | Expand All | Collapse All | Find

Product Category ID	Product Category	Product Assignment Allowed
▼ 1	Products	✓
▪ 125	Hardware	✓
▪ 130	Software	✓
▪ SOD-01	Sustainable Products	✓
▪ SOD-02	Computer Hardware	✓
▶ SOD-03	Mobile	✓
▪ SOD-04	Camera	✓
▪ SOD-05	Financial Services	✓
▪ SOD-06	Retail	✓
▶ 50	Commercial heating equipment	✓
▶ 10	Service	✓
▶ 40	Residential heating equipment	✓
▪ 888	Luxury Goods / Basic Necessities	✓

4. After successfully executing the report, go to transaction code *WE05* to view the status of the IDocs

The screenshot shows the SAP IDoc List transaction. The left pane displays a tree view of IDoc types, with 'MATMAS_CFS 0000031' selected. The main area shows a table of Outbound IDocs for MATMAS_CFS.

IDoc Number	Segm...	Sta...	Sta...	Partner	Basic type	Date creat.	Time	Messg...	Direction	Port
00000000014825...	4	03	OC	LS/ /0LO7ESC	MATMAS05	23.07.2014	03:36:26	MATM...	Outbox	QXL_2381
00000000014825...	10	03	OC	LS/ /0LO7ESC	MATMAS05	23.07.2014	03:36:26	MATM...	Outbox	QXL_2381
00000000014825...	12	03	OC	LS/ /0LO7ESC	MATMAS05	23.07.2014	03:36:26	MATM...	Outbox	QXL_2381

5. Logon to SAP Cloud for Customer system. Go to *work center Products* to view if all the products were successfully replicated from SAP ERP.

The screenshot shows the SAP Cloud for Customer 'PRODUCTS' work center. It displays a list of 5 products with columns for Name, ID, Category, and Unit of Measure.

Name	ID	Category	Unit of Measure
SOD Test Material	10000130	Sustainable Products	Each
SOD Test Material	10000150	Sustainable Products	Each
BC Test Material 1	10000075	Sustainable Products	Each
BC Test Material 1	10000076	Sustainable Products	Each
SOD Test Material	10000120	Sustainable Products	Each

5.1.2.4 Employees

Prerequisites

- Maintain code values for Employee
- Maintain Sales Organization data

Procedure

1. Maintain code values for Employee.

i Note

To maintain code lists in SAP Cloud for Customer, see the [SAP Cloud for Customer Help Portal](#)

► [Integration](#) ► [Code Lists Supported](#) ► Code List Supported on the .

2. Enter *Load* or *Resend Employees* from *COD_INT_MENU*

3. Enter the below details to execute the report.

HR: ALE Distribution of HR Master Data

Refresh Print Help

Objects
 Plan version: 01 Current plan
 Object type: P All existing
 Object ID:
 Search Term:
 Object status: All existing

Reporting period
 Today All
 Current month Past
 Current Year Future

Structure parameters
 Evaluation Path:
 Status vector: Status overlap
 Display depth:

Transfer mode
 Insert (complete distribution: delete in target system, recreate)
 Update (for changes: infotype/subtype records in reporting period)
Update mode
 Infotype:
 Subtype:
 Distribute originals only

Choose receiving system
 Receiver Partner No.: 0107ESC
 Message Type: HRMD_A_CFS

- Plan Version
- Object Type
- Transfer Mode as Insert
- Receiving system details (Receiver partner number and Message Type as HRMD_A_CFS)

- After successfully executing the report, go to transaction code *WE05* to view the status of the IDocs.

IDoc List

Selected IDocs: 000034
 Outbound IDocs: 000034
 COD_CUS_THI: 000003
 HRMD_A_CFS: 000031
 Inbound IDocs: 000000

Outbound IDocs HRMD_A_CFS

IDoc Number	Segm...	Sta...	Sta...	Partner	Basic type	Date creat.	Time	Messg...	Direction	Port
00000000014766...	10894	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	01:55:42	HRMD_...	Outbox	QXL_2381
00000000014766...	8129	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	01:56:03	HRMD_...	Outbox	QXL_2381
00000000014766...	10239	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	01:56:23	HRMD_...	Outbox	QXL_2381
00000000014766...	7424	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	01:57:02	HRMD_...	Outbox	QXL_2381
00000000014766...	5059	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	01:57:20	HRMD_...	Outbox	QXL_2381
00000000014766...	7478	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	01:57:39	HRMD_...	Outbox	QXL_2381
00000000014766...	4058	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	01:57:58	HRMD_...	Outbox	QXL_2381
00000000014766...	4906	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	01:58:18	HRMD_...	Outbox	QXL_2381
00000000014766...	5759	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	01:58:37	HRMD_...	Outbox	QXL_2381
00000000014766...	5241	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	01:58:56	HRMD_...	Outbox	QXL_2381
00000000014766...	5186	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	02:00:36	HRMD_...	Outbox	QXL_2381
00000000014766...	4337	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	02:00:58	HRMD_...	Outbox	QXL_2381
00000000014766...	4407	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	02:01:19	HRMD_...	Outbox	QXL_2381
00000000014766...	5207	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	02:01:43	HRMD_...	Outbox	QXL_2381
00000000014766...	4241	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	02:02:05	HRMD_...	Outbox	QXL_2381
00000000014766...	5469	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	02:02:28	HRMD_...	Outbox	QXL_2381
00000000014766...	5844	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	02:02:51	HRMD_...	Outbox	QXL_2381
00000000014766...	4806	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	02:03:14	HRMD_...	Outbox	QXL_2381
00000000014766...	3730	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	02:03:36	HRMD_...	Outbox	QXL_2381
00000000014766...	4451	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	02:03:59	HRMD_...	Outbox	QXL_2381
00000000014766...	5287	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	02:04:20	HRMD_...	Outbox	QXL_2381
00000000014766...	7964	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	02:04:42	HRMD_...	Outbox	QXL_2381
00000000014766...	3808	03	COO	LS/ /0L07ESC	HRMD_A07	23.07.2014	02:04:55	HRMD_...	Outbox	QXL_2381

- Logon to SAP Cloud for Customer system. Go to work center *Data Integration Complete employee Master Data Replication* and select "Failed/Not Started" in the dropdown box *Show*.

ACTIVITIES, ANALYSIS, COMPETITORS, PRODUCTS, LIBRARY, ACCOUNT HIERARCHY, ADMINISTRATOR, CUSTOMER SERVICE, **DATA INTEGRATION**

COMPLETE EMPLOYEE MASTER DATA REPLICATION: Modified View - Failed/Not Started (103)

You can monitor the replication status of employee data from all replication requests to the respective target business objects. Additionally, you are able to amend the employee data in replication requests still to be processed.

Show: Modified View - Failed/Not Start, and Find: [] Go [Advanced]

Buttons: Edit, Replicate All, Mark as Relevant, Mark as Irrelevant, Actions

Remote Employee ID	First Name	Last Name	Ba...	Remote Org Unit ID	Replication Request Cre...	Re...	Re...
10436228	Mohan	Ram	<input type="checkbox"/>		15.07.2014 10:02 UTC	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10436228	Mohan	Ram	<input type="checkbox"/>		15.07.2014 10:06 UTC	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10436228	Mohan	Ram	<input type="checkbox"/>		15.07.2014 10:14 UTC	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10436228	Mohan	Ram	<input type="checkbox"/>		15.07.2014 10:14 UTC	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10436228	Mohan	Ram	<input type="checkbox"/>		15.07.2014 10:39 UTC	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10436227	John	Paul	<input type="checkbox"/>		15.07.2014 10:39 UTC	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10436227	John	Paul	<input type="checkbox"/>		15.07.2014 10:39 UTC	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10436227	John	Paul	<input type="checkbox"/>		15.07.2014 10:42 UTC	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10436227	John	Paul	<input type="checkbox"/>		15.07.2014 12:48 UTC	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10436227	John	Paul	<input type="checkbox"/>		15.07.2014 14:11 UTC	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- Click *Replicate All*.
- Navigate to the work center *People* to confirm if all Employees have been successfully replicated from SAP ERP.
- Once you have confirmed, the IDoc Status is successful. You can also check the status, in the *work center* *Web Service Message Monitoring view*.

As the Employees are first replicated into the Staging Business Object (under *Data Integration work center* *Complete Employee Master Data Replication*) view the Employee records need to be activated in

the Staging Area for successful replication into SAP Cloud for Customer.

EMPLOYEE IN REPLICATION REQUEST: 50011550

Replication Status: **Not Started** Remote Employee ID: **50011550** Remote Business Partner ID: **0000508880**
 File Name: **CRM20131029214956.0832880**

Save and Close Save Close | **Replicate** Mark as Relevant Mark as Irrelevant

GENERAL PERSONAL DATA ORGANIZATIONAL ASSIGNMENT BUSINE:

PERSONAL DATA

Remote Employee ID: 50011550
 Remote System Instance ID: Q9CCLNT400
 Remote Business Partner ID: 0000508880
 Name at Birth:
 Date of Birth: 30.11.0002
 Place of Birth:

REPLICATION REQUEST

File Name: CRM20131029214956.0832880
 Creation Date: 29.10.2013 21:49 UTC
 Complete Transmission Start Date: 29.10.2013

Successful Organizational mode replication should automatically maintain the ID mapping (under

► [Application and User Management](#) ► [Edit ID mapping for Integration](#) ►)

Show Modified View - All Mappings Basic

*Mapping Of: Business Partners
 ID:
 Description:
 *System Instance ID: Q9CCLNT400
 External ID:

Go Reset Save Query Organize Queries

ID Mapping from Microsoft Excel®

ID	Description	External ID	System Instance ID	Origin
508880	Vaibhav Valecha	0000508880	Q9CCLNT400	Automatic Creation in Inbound

5.1.2.5 Accounts/Contacts (Customer Master)

Prerequisites

- Set up Sales Organization Data
- Maintain Code Values for Business Partner

Procedure

1. For Account Replication, first select the accounts you wish to replicate from SAP ERP to SAP Cloud for Customer.
2. Select *Load* or *Resend Materials* from *COD_INT_MENU*.
3. Enter the below details to execute the report
 - Customer Numbers
 - Message Type as DEBMA_CFS
 - Logical System
 - Number of Materials per process

Send Customers

Customer: 2000 to 3000

Class: to

Output type: DEBMA_CFS

Logical system: 0LO7ESC

Parallel processing

Server group:

No. of customers per process: 20

4. After successfully executing the report, go to transaction code *WE05* to view the status of the IDocs

IDoc List

Outbound IDocs DEBMA_CFS

IDoc Number	Segm.	Sta.	Sta.	Partner	Basic type	Date creat.	Time	Messg.	Direction	Port
00000000014825...	28	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014825...	17	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014825...	9	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014825...	14	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014825...	6	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014825...	22	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014825...	13	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014825...	9	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014826...	14	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014826...	17	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014826...	21	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:23	DEBMA...	Outbox	QXL_2381
00000000014826...	20	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:23	DEBMA...	Outbox	QXL_2381
00000000014826...	18	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:23	DEBMA...	Outbox	QXL_2381
00000000014826...	18	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:23	DEBMA...	Outbox	QXL_2381
00000000014826...	18	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:23	DEBMA...	Outbox	QXL_2381
00000000014826...	12	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:23	DEBMA...	Outbox	QXL_2381
00000000014826...	12	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:23	DEBMA...	Outbox	QXL_2381
00000000014826...	14	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:23	DEBMA...	Outbox	QXL_2381
00000000014826...	14	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:24	DEBMA...	Outbox	QXL_2381
00000000014826...	14	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:24	DEBMA...	Outbox	QXL_2381
00000000014826...	14	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:24	DEBMA...	Outbox	QXL_2381
00000000014826...	14	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:24	DEBMA...	Outbox	QXL_2381
00000000014826...	23	03	OO	LS/ /0LO7ESC	DEBMA06	23.07.2014	06:35:24	DEBMA...	Outbox	QXL_2381

5. Logon to SAP Cloud for Customer system. Go to *work center Products* to view if all the customer accounts were successfully replicated from SAP ERP.

Name	City	State	Country	Primary Contact	Owner	Territory	Status
Almika	Palo Alto	California	United States			California	Active
TC_B2B_CO	Fremont	California	United States	tc_b2b_contact Cheng		California	Active
Intelligent Systems	Mountain View	California	United States	John Lu		California	Active
Kixo	Sunnyvale	California	United States	Thomas Matthews		California	Active
Mygen	San Jose	California	United States	Norman Palmer		California	Active
SAP ServiceOD	Palo Alto	California	United States	Lucy Chernobrod		California	Active
Bludrive	New York	New York	United States	Michael Gomez		New York	Active
Effective Solutions	Chicago	Illinois	United States	Kyle Beckerman		Illinois	Active
FutureVision	Springfield	Illinois	United States	Matthias Brunner		Illinois	Active
Mitri	Chicago	Illinois	United States	Cursty Jackson		Illinois	Active
System Tec	Austin	Texas	United States	Thomas Knight		Texas	Active
Level 3 Communication	Houston	Texas	United States	Rachael Adams		Texas	Active
Ikon Office Solutions	Houston	Texas	United States	Jennifer Bonilla		Texas	Active
Green Mile Inc	Boston	Massachusetts	United States	Simon Limmert		Massachusetts	Active
Green Upgrader	Boston	Massachusetts	United States	Mario Porter		Massachusetts	Active
Primo Sustainable products	Cambridge	Massachusetts	United States	Ashley Frazier		Massachusetts	Active
Rockwell Automation	Augusta	Maine	United States	Sean Fergusun		US - Other States	Active
Symphony Systems	Columbus	Ohio	United States	Timothy Barker		US - Other States	Active

i Note

If you want to replicate sales area data you need to first go to transaction code *BD64* and maintain a sales organization which does not exist in your system, e.g. 9999, in the filter group for *DEBMAS_CFS*. By doing this, you avoid dependency issues during inbound processing in SAP Cloud for Customer. Example: If customer A references customer B via partner functions, customer B has to be replicated successfully before customer A can be replicated.

Once you send all accounts without sales area information, then add your desired sales organizations in the filter and send all accounts again

5.1.2.6 Accounts Address and Contact Address

Prerequisites

- Set up Sales Organization Data
- Maintain Code Values for Business Partner

Procedure

1. Account Addresses are automatically triggered during replication of Account.
2. Select *Load* or *Resend Materials* from *COD_INT_MENU*.
3. Enter the below details to execute the report
 - Customer Numbers
 - Message Type as DEBMAS_CFS
 - Logical System
 - Number of Materials per process

- After successfully executing the report, go to transaction code *WE05* to view the status of the IDocs

IDoc List

Selected IDocs: 000214
Outbound IDocs: 000214

IDoc Number	Segm...	Sta...	Sta...	Partner	Basic type	Date creat.	Time	Messg...	Direction	Port
00000000014825...	28	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014825...	17	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014825...	9	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014825...	14	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014825...	6	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014825...	22	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014825...	13	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014825...	9	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014826...	14	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014826...	17	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:22	DEBMA...	Outbox	QXL_2381
00000000014826...	21	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:23	DEBMA...	Outbox	QXL_2381
00000000014826...	20	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:23	DEBMA...	Outbox	QXL_2381
00000000014826...	18	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:23	DEBMA...	Outbox	QXL_2381
00000000014826...	18	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:23	DEBMA...	Outbox	QXL_2381
00000000014826...	18	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:23	DEBMA...	Outbox	QXL_2381
00000000014826...	19	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:23	DEBMA...	Outbox	QXL_2381
00000000014826...	12	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:23	DEBMA...	Outbox	QXL_2381
00000000014826...	12	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:23	DEBMA...	Outbox	QXL_2381
00000000014826...	14	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:23	DEBMA...	Outbox	QXL_2381
00000000014826...	14	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:24	DEBMA...	Outbox	QXL_2381
00000000014826...	14	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:24	DEBMA...	Outbox	QXL_2381
00000000014826...	14	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:24	DEBMA...	Outbox	QXL_2381
00000000014826...	23	03	OO	LS/ /OLO7ESC	DEBMA506	23.07.2014	06:35:24	DEBMA...	Outbox	QXL_2381

- Logon to SAP Cloud for Customer system. Go to *work center Products* to view if all the customer accounts were successfully replicated from SAP ERP.

5.1.2.7 Customer Material Number

Procedure for loading customer material numbers.

Prerequisites

- Set up products in SAP Cloud for Customer
- Maintain Code Values for Products

Procedure

- Select *Load or Resend Customer Material Number* from area menu *COD_INT_MENU*.

2. Enter the details below in the report selection screen.

Extract Customer Material Info Records to Cloud for Customer

Selection of Material Info Records

Material to

Communication Settings

Logical system

Test Mode

The Materials for which you need to send the Customer Material Number to SAP Cloud for Customer. If left blank, then all available materials will be considered. The *Logical system* field is mandatory. The *Test Mode* checkbox must be unchecked in order for IDocs to generate and actual replication to happen.

3. Log in to your SAP Cloud for Customer system and check that the customer material number has updated correctly for the corresponding product material.

5.1.2.8 Customer Hierarchy

Prerequisites

- Maintain Code Values for Customers
- Execute the consistency check report from [COD_INT_MENU](#)

Procedure

1. Select the Customer Hierarchy you wish to replicate from the SAP ERP system by going to transaction [VDH1N](#). Enter *Customer hierarchy type* and *Customer details* (e.g. see below),

Process Customer Hierarchy

Hierarch.parameters

Customer hierarchy type

Validity date

More selection criteria

Customer	<input type="text" value="*"/>	to	<input type="text"/>	
Sales organization	<input type="text"/>	to	<input type="text"/>	
Distribution channel	<input type="text"/>	to	<input type="text"/>	
Division	<input type="text"/>	to	<input type="text"/>	

Limit display to paths

2. Select the customer hierarchy from the displayed results.

Cust. hierarchy	Customer no.	Loc
Smurfit Kappa Group	348	IE- Dublin
Aldi Headquarter	526	DE-12345 Test
BMW Headquarters	536	DE-12345 Test
Audi Headquarters	549	DE-12345 Test
Top of Texas	576	US-75228 Dallas
Root Node	591	DE- Walldorf
Integrate Today	598	US-75228 Dallas
Integration Germany	599	DE-92834 Heidelbu
ALDI Company	617	DE-78999 Germing
Top of Hierarchy	627	US-12121 San Fran
Cust Hierarchy	638	US-11111 Alaska
C4C_CUST_HIER3	661	DE-11111 Mannhei
RIWA Headquarters	6000	US-90011 LOS ANO
RIWA Headquarters	6000	US-90011 LOS ANO
RIWA Headquarters	6000	US-90011 LOS ANO
TOPCO Buying Group	6200	US-10031 NEW YC
General Manufacturing	20000	US-20001 WASHIN
REMA US Inc.	300010	US-19008 BROOMA
Galaxy Brands	300850	US-20001 WASHIN
Normal Customer/test	CUST-YNR	DE-57878 Walldorf
GG INC. GROUP COMPANY	GGINCRP	US-76880 Dallas
GG INC. US COMPANY	GGINCUS	US-76880 New Yo
virginie vtest7	VLTEST7	FR- biot

3. Once you have identified the customer hierarchy you wish to replicate, select *Load* or *Resend Account Hierarchy* from *COD_INT_MENU*.
4. Maintain all relevant data to execute the initial load report.

Program RCOD_CUSTHIER_EXTRACT

Customer Hierarchy Selection Parameter

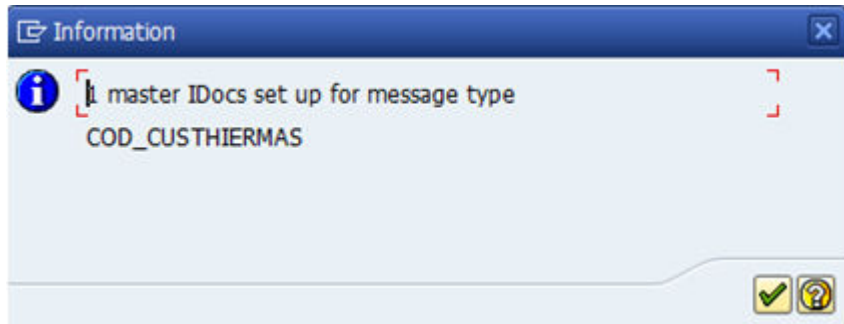
Cust.hierarchy type	A	to		↔
Sales Organization	0001	to		↔
Distribution Channel	01	to		↔
Division	01	to		↔
Customer	GGINCRP	to		↔
Reference Date	23.07.2014			

IDOC Settings

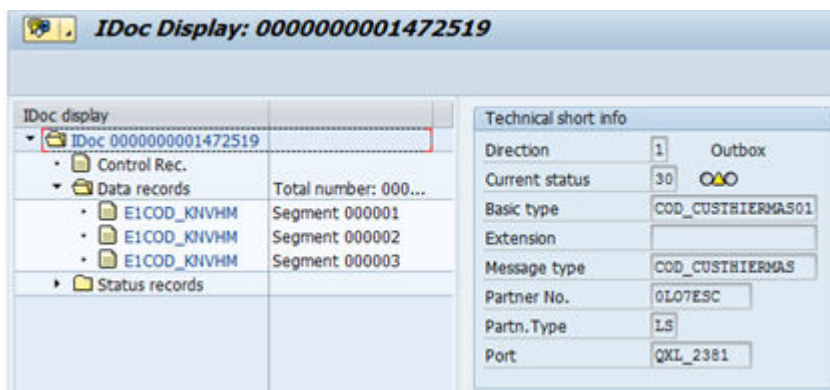
Logical system	
Maximum amount of IDOC entries	500
<input type="checkbox"/> Test Mode	

- Customer Hierarchy type
- Sales Organization
- Distribution Channel
- Division
- Customer
- Reference Date
- IDoc settings (Logical system, maximum number of IDoc entries)

- Disable test mode



5. Now execute the report.
6. After successfully executing the report, go to transaction code *WE05* to view the status of the IDocs (1 IDOC should be created with two entries of *E1COD_KNVHM* segment. Please check in transaction *WE05* for message type *COD_CUSTHIERMAS*)



7. Logon to SAP Cloud for Customer system. Go to **work center Customers** > **View Accounts** > **Search for Account by name** to view if all the customer accounts were successfully replicated from SAP ERP.



5.1.2.9 Functional Location

- Load the sales organization, accounts.
- Configure *WE20* settings for the *IDOC COD_FUNCTIONAL_LOCATION_SAVE01*.

1. Select *Load* or *Resend Functional Locations* from *COD_INT_MENU*. Provide the functional location number and the tenant ID and execute.

Extract Functional Locations to Cloud for Customer

Selection of Functional Locations

Functional Location	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="button" value="→"/>
FuncLocCategory	<input type="text"/>	to	<input type="text"/>	<input type="button" value="→"/>
Object type	<input type="text"/>	to	<input type="text"/>	<input type="button" value="→"/>
Sales Organization	<input type="text"/>	to	<input type="text"/>	<input type="button" value="→"/>
Distribution Channel	<input type="text"/>	to	<input type="text"/>	<input type="button" value="→"/>
Division	<input type="text"/>	to	<input type="text"/>	<input type="button" value="→"/>
Class	<input type="text"/>	to	<input type="text"/>	<input type="button" value="→"/>

Communication Settings

Logical system	<input checked="" type="checkbox"/>
Maximum Objects per IDoc	<input type="text" value="500"/>
<input checked="" type="checkbox"/> Test Mode	

2. In SAP Cloud for Customer navigate to work center ► *Installed Base* ► *Installation Points* ► to search for the functional location.
3. The documentation on the report in *COD_INT_MENU* describes where to find errors in case of issues in the initial load.

5.1.2.10 Equipment

Equipment in SAP ERP is replicated as registered products in SAP Cloud for Customer.

- Load the sales organization, accounts, and functional locations.
- Configure *WE20* for the *IDOC COD_EQUIPMENT_SAVE01*.

1. Select *Load* or *Resend Functional Locations* from *COD_INT_MENU*. Provide the equipment details and the tenant ID and execute.

Extract Equipments to Cloud for Customer

Selection of Equipments

Equipment	<input type="text"/>	to	<input type="text"/>	
Equipment category	<input type="text"/>	to	<input type="text"/>	
Object type	<input type="text"/>	to	<input type="text"/>	
Valid From	<input type="text"/>			
Valid To	<input type="text"/>			
Maintenance plant	<input type="text"/>	to	<input type="text"/>	
Sales Organization	<input type="text"/>	to	<input type="text"/>	
Distribution Channel	<input type="text"/>	to	<input type="text"/>	
Division	<input type="text"/>	to	<input type="text"/>	
Class	<input type="text"/>	to	<input type="text"/>	

Communication Settings

Logical system	<input checked="" type="checkbox"/>
Maximum Objects per IDoc	<input type="text" value="500"/>
<input checked="" type="checkbox"/> Test Mode	

2. In SAP Cloud for Customer navigate to work center ► *Installed Base* ► *Registered Products* ► to search for the functional location.
3. The documentation on the report in *COD_INT_MENU* describes where to find errors in case of issues in the initial load.

5.1.2.11 Measuring Points


- Load functional location and equipment.
- Execute Load or Resend Characteristics from *COD_INT_MENU*. Only characteristics for type NUM are allowed for measuring points. The characteristics to load include:
 - CT04: Creating characteristics
 - CT05: Changing characteristic
 - CT06: Displaying characteristics

Procedure




1. Select *Load* or *Resend Measuring Points* from *COD_INT_MENU*.

2. Give measuring point number, or equipment number.

Extract Measuring Points to Cloud for Customer



Selection of Measuring Points

Measuring point	<input type="text" value=""/>	to	<input type="text" value=""/>	
Equipment	<input type="text" value=""/>	to	<input type="text" value=""/>	
Functional Location	<input type="text" value=""/>	to	<input type="text" value=""/>	

Communication Settings

Logical system	<input checked="" type="checkbox"/>
Maximum Objects per IDoc	<input type="text" value="500"/>
<input checked="" type="checkbox"/> Test Mode	

3. In SAP Cloud for Customer navigate to work center ► *Installed Base* ► *Registered Products* ► to search for the equipment.
4. Select the link the column *Serial ID*. Open the *Measurements* tab to see if the values are the same as in SAP ERP.


5.1.2.12 Measurement Documents

- Load Measuring Points




Procedure

1. Select *Load* or *Resend Measuring Documents* from *COD_INT_MENU*. Provide the measuring point number or equipment details. Enter the tenant ID and execute

Extract Measurement Documents to Cloud for Customer



Selection of Measurement Documents

Measurement document	<input type="text" value=""/>	to	<input type="text" value=""/>	
Equipment	<input type="text" value=""/>	to	<input type="text" value=""/>	
Functional Location	<input type="text" value=""/>	to	<input type="text" value=""/>	

Communication Settings

Logical system	<input checked="" type="checkbox"/>
Maximum Objects per IDoc	<input type="text" value="500"/>
<input checked="" type="checkbox"/> Test Mode	

- In SAP Cloud for Customer navigate to work center ► *Installed Base* ► *Registered Products* ► to search for the equipment.
- Select the link the column *Serial ID*. Open the *Measurements* tab and select *Measuring Logs* in the corresponding Measurement Point.

5.1.2.13 Currency Conversion Rates

Prerequisites

- Excel Add-on installed for Microsoft Excel upload.

Procedure

Import of currency conversion rates can be done either manually or via excel import into SAP Cloud for Customer.

- Add Exchange Rate Manually: Navigate to the *Administrator work center* and select *view Exchange Rate for Foreign Currencies*. Click *Add row* and enter data manually. Click *Schedule*.

EXCHANGE RATES FOR FOREIGN CURRENCIES

Save and Close Save Close

Current Exchange Rates

You can enter current exchange rates by either adding a new row or editing or copying existing exchange rates. By default, new exchange rates are valid from the current date

Show Default Exchange Rate Type Go

Group By Source Curre Add Row Export Copy Remove Import View Exchange Rate History

Basic Unit	Source Currency	Target Currency	Bid Rate	Middle Rate
Source Currency: (1)				
1.00				
Source Currency: AFN - Afghani (1)				
1.00	AFN - Afghani	USD - US Dollar	12 USD	12 USD
Source Currency: EUR - Euro (1)				
1.00	EUR - Euro	USD - US Dollar	55,9175 USD	55,9175 USD
Source Currency: USD - US Dollar (1)				
1.00	USD - US Dollar	EUR - Euro	0,7 EUR	0,7 EUR

- Import via Excel:** Navigate to the *Administrator work center* and select *view Exchange Rate for Foreign Currencies*. Click *Import* and *Microsoft Excel*. Click *Schedule*.

Rate Type	Source Currency	Target Currency	Bid Rate	Middle Rate	Ask Rate	Valid From
001 - Default Exchange Rate Type	EUR - Euro	USD - US Dollar	55.9175	55.9175	55.9175	9/2/2013

5.1.2.14 Characteristics

Procedure for exporting Characteristics from SAP ERP and loading into SAP Cloud for Customer.

Procedure

1. Select *Load or Resend Characteristics* from *COD_INT_MENU*.
2. In the report selection screen, enter the characteristics you want to replicate, and the SAP Cloud for Customer logical system to which you want to replicate, and execute the report.

The screenshot shows the 'Distribute All Characteristics via ALE' report selection screen. It includes the following fields and options:

- Characteristic:** A text input field followed by 'to' and another text input field with a search icon.
- Logical system:** A text input field.
- Ignore distribution lock**
- Validity:**
 - Change number:** A text input field.
 - Valid from:** A date field containing '06.04.2016'.
- Parallel processing:**
 - Server group:** A text input field.
 - No. of charact. per process:** A text input field containing '20'.

For higher data volume please enable parallel processing by selecting the *Server group* and specifying the number of characteristics to be selected per process.

3. Log on to SAP Cloud for Customer and check if all the selected Characteristics are replicated correctly.

5.1.2.15 Pricing Conditions

Prerequisites

- The sales area, materials and customers for which the conditions are to be replicated should be available in SAP Cloud for Customer.
- As SAP Cloud for Customer currently only supports pricing for materials and customer specific material pricing, you should filter the IDoc accordingly in the ALE distribution model.

Procedure

1. Select *Load or Resend Pricing Conditions* from area menu *COD_INT_MENU*.

2. Enter the details below in the report selection screen.
 - Table: Specify the number of the condition table for which the data is to be extracted, for instance A304 or A305.
 - Logical system: Maintain the system to which IDoc should be sent.

In addition, you can filter the data based on other selection criteria like Sales Org, Distribution Channel etc.

The Maximum Objects per IDoc is defaulted to 500, which can be changed if desired based on system capacity.

If IDocs have to be generated and actual replication has to happen, then deselect the checkbox Test Mode.

Extract Conditions to Cloud for Customer

Selection of Conditions

Sales Organization		to		
Distribution Channel		to		
Material		to		
Customer		to		
Valid to		to		
Valid From		to		
Calculation Type	C	to		
Scale basis	C	to		
Check Value	A	to		
Scale Type	A	to		
Table	<input checked="" type="checkbox"/>			

Communication Settings

Logical system	<input checked="" type="checkbox"/>
Maximum Objects per IDoc	500
<input checked="" type="checkbox"/> Test Mode	

5.1.2.16 Stock Location

Procedure for loading stock location from SAP ERP to SAP Cloud for Customer.

Prerequisites

- Service organization, team and employee for which stock location is to be replicated are already available in SAP Cloud for Customer and ID mapping for employee is maintained.
- The products are already replicated to SAP Cloud for Customer and the ID mapping maintained.

Procedure

1. Select *Load or Resend Stock Location* from *COD_INT_MENU*.
2. Enter the details below in the report selection screen, and execute the report. Only logical system to which the replication is to happen is mandatory. The Maximum objects per IDoc is currently set to 10 and can be adjusted based on system capacity if desired.

Extract Stock Locations to SAP Hybris Cloud for Customer			
Selection of Stock Locations			
C4C Service Organization	<input type="text"/>	to	<input type="text"/>
C4C Service Team	<input type="text"/>	to	<input type="text"/>
Service Employee	<input type="text"/>	to	<input type="text"/>
Communication Settings			
Logical system	<input checked="" type="checkbox"/>		
Maximum Objects per IDoc	<input type="text" value="10"/>		
Parallel Processing	<input type="checkbox"/>		
Test Mode	<input checked="" type="checkbox"/>		

Use the selection fields for *Cloud for Customer Service Organization*, *Cloud for Customer Service Team* and *Service Employee* to restrict the data to be replicated. If these fields are left blank all available data will be replicated. The check box 'Test Mode' has to be deselected, if IDocs are to be generated and actual replication has to happen.

5.2 Delta Load

The Delta Load Phase defines the steps required for the delta load of customer hierarchies.



During the initial load, the change pointers created for customer hierarchy takes only the current state into account. Hence, there is a mechanism necessary to also identify the time slice changes. As this is not triggered by any user interaction, there are no change pointers created. For example, an end date for a specific entry is reached, and the customer hierarchy turns invalid. If the change pointers are not created, the hierarchy deletion information is not reflected in the Cloud solution.

To overcome this issue, the report *RCOD_CUSTHIER_TIME_SLICES* must be scheduled as daily background job in transaction *SM36* in your ERP system. It discovers time slice changes and creates change pointers for the same.

6 Extend Prepackaged Integration

If you want additional fields from your on-premise system to be displayed in the Cloud solution, you can extend pre-packaged content delivered by SAP (iFlows). SAP recommends you to use SAP Key User Tool (KUT) for simple extensions, and the SAP Cloud Studio for complex extensions. Once you have extended the source and target interfaces, you should map the extended field(s) in the SAP middleware system.

For more information, see the following:

- Extending SAP Cloud for Customer ([▶ SAP Help Portal](#) > [SAP Cloud for Customer](#) > [Integration](#) > [Extending SAP Cloud for Customer with SAP Cloud Platform](#) .
- [How to Extend SAP Cloud for Customer - SAP On-Premise Pre-Packaged Integration Content](#)  -

7 Deprecated Scenarios

Learn about deprecated functional scenarios. We do not recommend using deprecated scenarios since they are no longer supported.

[\(Deprecated\) Account 360 Integration \[page 238\]](#)

[\(Deprecated\) SAP Cloud for Customer for Retail: Integration Overview \(CPI \) \[page 242\]](#)

This section, in the integration guide, contains integration information specific to the industries solutions in SAP Cloud for Customer. We recommend you reading through the information in the section relevant for each industry solution before setting-up your landscape.

7.1 (Deprecated) Account 360 Integration

Business Scenario Overview

This scenario is used when your company has SAP on-premise systems such as SAP ERP or SAP Business Warehouse (BW), and these systems have additional information about say, accounts or sales orders. You can bring this information into your SAP Cloud for Customer (cloud solution). To set up the 360 overview, administrators must set up a bridge so that the SAP on-premise systems can communicate with the cloud solution. When both halves of the bridge are in place, information from your SAP on-premise system appears in your SAP cloud solution, providing a broader perspective for your users.

Process Flow

Account 360 information in the *Accounts* view, comes from both SAP ERP and SAP BW systems. Once you complete the required configuration, you can view the information that you have retrieved from your on-premise systems in SAP Cloud for Customer accounts:

- ▶ [Accounts > Overview](#) ▶
The data under *Revenue* and *Items Summary* sections is from SAP BW.
- ▶ [Accounts > Recent Orders](#) ▶
The data in this tab is from SAP ERP.

i Note

If these tabs are not visible, you can add them either from *Adaptation* or *Personalization*.

Technical Scenario Overview

The report in the SAP on-premise systems (ERP and/or BW) collects data and sends it to SAP Cloud for Customer. These reports can be scheduled as batch jobs.

- BW Report: SAP provides an example report via SAP Note 1724752 as a basis to implement an own report in the customer namespace.
- ERP Report: With the ERP add-On CODERINT 600 SP14, SAP ships the standard report RCOD_SEND_RECENT_ORDERS. Until SP14 is available, the program is provided as advance development

in the SAP Note 2108612. This report calls the Cloud system twice, and hence two communication arrangements need to be set up.

- First the report queries ID Mapping for all accounts from Cloud. With this list, it can be assured that only recent orders for accounts which exist in Cloud are transferred.
- Then the report collects orders according to the selection parameters of the report. The second call to Cloud is to transfer the recent orders.

Prerequisites

Support package 14 of the CODERINT add-on has been applied.

Configuration in SAP Cloud for Customer

Scoping

► [Business Configuration](#) ► [Edit Project Scope](#) ► [Scoping](#) ► [Communication and Information Exchange](#) ► [Integration with External Applications and Solutions](#) ► [360 Overview - Account](#) ►

Fine-Tuning/Code List Mapping

Not applicable to this scenario.

Communication System

In the communication system that you use for ERP integration, uncheck the flag *SAP Business Suite*.

Communication Arrangements and Services

Configure and activate the following communication arrangements:

- Analytics Integration
- 360 Overview - Account

Use the communication system that you updated as the communication partner.

If you want to send KPI data from your BW system, you also need to download the following WSDLs. On the basis of these WSDLs, you will create consumer proxies in your BW system.

To retrieve ID mapping from Cloud, download the following WSDL:

- Communication Arrangement: Analytics Integration
- Inbound Service: Analytics Integration

To retrieve information from SAP Business Warehouse for 360 degree overview of accounts, download the following WSDL:

- Communication Arrangement: 360 Overview – Account
- Inbound Service: Manage Revenue Data

Expose the Data Source for ID Mapping

The communication arrangement for the *Analytics Subsidiaries Integration* communication scenario that you just created is a data source. Exposing this data source allows the SAP on-premise system to get the ID mapping from SAP Cloud for Customer.

To expose the data source for ID mapping, do the following:

1. Go to ► [Administrator](#) ► [Business Analytics](#) ► [Data Sources](#) ►, and search for [Object ID Mapping](#).
2. Choose the [Object ID Mapping](#) data source and expose it.

i Note

If the [Expose](#) button is not visible, please check whether [Integration with Central Analytics](#) is scoped.

Configuration in SAP ERP

Create Logical Ports with SOAMANAGER in SAP systems

You need to create logical ports in SOAMANAGER in order to send web service calls to your middleware system.

1. Open transaction SOAMANAGER in your ERP system.
2. Choose ► [Service Administration](#) ► [Web Service Configuration](#) ►.
3. Search for consumer proxy **CO_CODERINT_OPERATIONAL_DATA_P**. Click to view the details.
4. Choose ► [Create](#) ► [Manual configuration](#) ►.
5. Enter information based on your middleware configuration. Here are some example values which need to be adjusted according to your configuration. Example URL Path:
 - /XISOAPAdapter/MessageServlet?channel=:ABC_004:ERP_SOAP_QueryIdMapping_Send&sap-client=238
 - /cxf/COD/ERP/queryidmapping_qxl238
6. To confirm that the logical port was created and configured correctly, ping the Web service. If the ping was successful, a confirmation message appears.
7. Repeat these tasks for consumer proxy **CO_CODERINT_MANAGE_EXTERNAL_AG**. Example URL path:
 - • /XISOAPAdapter/MessageServlet?channel=:ABC_004:ERP_SOAP_RecentOrders_Send&sap-client=238
 - • /cxf/ERP/COD/ManageRecentOrderData_QXL238

Test the report and schedule a batch job

You can first test the report **RCOD_SEND_RECENT_ORDERS** by transferring data for one specific account. Once the report was executed successfully you can schedule the report as daily batch job.

i Note

If you want to transfer huge number of accounts or orders, then we recommend the transfer into multiple jobs, by using a selection criterion.

Configuration in BW

For BW there is no standard report. You find an example report which you can use as a template in SAP Note 1724752.

Create consumer proxies

Create consumer proxies on the basis of the WSDL files you have downloaded before.

Create a consumer proxy for *Manage Revenue Data* using transaction SE80.

1. Select a package where you want to create the consumer proxy.
2. Right-click on level *Enterprise Services* and choose *Create*.
A wizard helps you to create the consumer proxy. Choose the following values:
 - Object Type: Service Consumer
 - Generation Source: External WSDL
 - WSDL source: ► *Local File* ► *Select the WSDL file you have downloaded before transport.* ►
 - Package: <your package>
 - Request/Task: Select workbench request.
3. Complete the process and activate the consumer proxy.
4. Repeat these steps with the WSDL for *Analytics Integration*.

Create Logical Ports with SOAMANAGER in SAP systems

You need to create logical ports in SOAMANAGER in order to send web service calls to your middleware system or directly to your Cloud system.

i Note

SAP doesn't provide middleware content for this interface. You would need to create this content. The following steps describe how to create logical ports for a point-to-point connection.

1. Open transaction SOAMANAGER in your ERP system.
2. Choose ► *Service Administration* ► *Web Service Configuration* ►.
3. Search for object **OperationalDataProvisioning** and click to view details.
4. Choose ► *Create* ► *WSDL based configuration* ►.
5. Logical Port Name: **ID_MAP**
WSDL Base: WSDL File from Upload. Choose the WSDL you have downloaded before. To confirm that the logical port was created and configured correctly, ping the Web service. If the ping was successful, a confirmation message appears.
6. Repeat this task for the other interface. Search for object **ManageExternalCustomerKPIViewIn** and use the logical port name **KPI**.

Create a Z-Report to send KPI data to Cloud

1. Open transaction SE38 in your BW system.
2. Create a report by copying and pasting the contents of the sample report template located in SAP Note 1724752.
3. When you perform a syntax check, the system will show some missing objects. These objects are available in your generated consumer proxies. Adjust the report accordingly and use the generated objects.

Configuration in Middleware

Value Mapping

Not applicable to this scenario.

Integration Flow

Go to the Integration Flows excel ([SAP Help Portal](#) > [Cloud for Customer](#) > [Integration](#) > [Integration Flows](#) >), and filter by:

- Business object: Account
- Source system: C4C
- Target system: ERP

The ones that are specific to Account 360 are: Analytics Integration and Manage Recent Order Data.

Integration Builder

SAP provides PI content for sending recent orders from ERP in the following object:

- Process Integration Scenario: COD_ERP_BusinessDataSync
- Namespace: http://sap.com/xi/CODERINT/IC
- Software Component Version: COD_ERP_INT_IC 6.00

7.2 (Deprecated) SAP Cloud for Customer for Retail: Integration Overview (CPI)

This section, in the integration guide, contains integration information specific to the industries solutions in SAP Cloud for Customer. We recommend you reading through the information in the section relevant for each industry solution before setting-up your landscape.

This chapter and the following related topics contain information specific to integration of SAP Cloud for Customer for Retail with the SAP IS-Retail system.

The following communication scenarios are pre delivered for the retail solution:

- Characteristics Replication (inbound to Cloud for Customer)
- Merchandising Category Replication (inbound to Cloud for Customer)
- Article Replication (inbound to Cloud for Customer)

Perform the replication of characteristics, merchandising category, and articles in the following order:

- [Characteristics](#) > [Merchandising Category](#) > [Article](#) >

It is important to follow the order because these master data objects are dependent on each other.

i Note

This standard ERP report RCOD_CREATE_CONNECTIVITY_SIMPL for creating connectivity objects for interfaces is not used for the IS Retail solution. Therefore, the connectivity objects for interfaces for IS Retail objects must be manually defined.

Example

Article replication depends on merchandising category that is already being replicated to Cloud for Customer. Merchandising category replication depends on the associated characteristics which is already being replicated to Cloud for Customer.

7.2.1 View Prepackaged iFlows using SAP CPI Web UI

Procedure

1. Access the web UI URL from the provisioning e-mail. It should be in the format: <https://%20%3Cchcitenant%3E.hana.ondemand.com/itspaces>
2. View all pre-packaged iFlows in the Catalog tab.
3. Choose the *SAP Cloud for Customer Integration with IS Retail* package.
4. For each iFlow, select the *Download* option, and *Save* to view all iFlow relevant metadata.

7.2.2 Characteristics Replication (Inbound)

iFlow name: Replicate Characteristics from SAP IS Retail.

Sender Interface: CHRMAS.CHRMAS04 .

Namespace: [[unresolved text-ref: urn:sapcom:document:sap:idoc:messages]].

Receiver Interface: IS_Retail_BusinessAttributeReplication_In .

Namespace: <http://%20sap.com/xi/AP/FO/BusinessAttribute/Global> ➔

Mapping: ERP_COD_IS_Retail_BusinessAttributeReplicateBulk.

SOAP receiver Communication Channel Path: [[unresolved text-ref: https://host:port/sap/bc/srt/scs/sap/businessattributereplicationre?MessageId]].

→ Recommendation

Use transaction `BD91` to trigger the outbound characteristics IDocs from the SAP IS-Retail system.

7.2.3 Merchandising Category Replication (Inbound)

iFlow name : Replicate Merchandising Category from SAP IS-Retail.

Sender Interface: WMERCAT.WMERCAT01 .

Namespace: [[unresolved text-ref: urn:sapcom:document:sap:idoc:messages]].

Receiver Interface: IS_Retail_Business_AttributeSetReplication_In.

Namespace: <http://%20sap.com/xi/AP/FO/BusinessAttribute/Global> 

Mapping: ERP_COD_IS_Retail_MerchandisingCategory.

SOAP receiver Communication Channel Path: [[unresolved text-ref: https://host:port/sap/bc/srt/scs/sap/businessattributesetreplicatio?MessageId]]

→ Recommendation

Use transaction WAFS to trigger the outbound Merchandising Category IDocs from the SAP IS-Retail system.

7.2.4 Article Replication (Inbound)

iFlow name: Replicate Articles from SAP IS Retail.

Sender Interface: ARTMAS.ARTMAS05.

Namespace: [[unresolved text-ref: urn:sapcom:document:sap:idoc:messages]].

Receiver Interface: IS_Retail_MaterialReplicationBulkIn .

Namespace: <http://sap.com/xi/A1S/Global> .

Mapping: ERP_COD_IS_Retail_ARTMAS.

SOAP receiver Communication Channel Path: [[unresolved text-ref: https://host:port/sap/bc/srt/scs/sap/retailmaterialreplicatein?MessageId]]

Integration Scenario to be maintained on C4C Communication Arrangement: Replicate SAP IS-Retail products from external system.

→ Recommendation

Use transaction BD10 to trigger the outbound Article IDocs from the SAP IS-Retail system.

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