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# Integrating SAP Cloud for Customer with SAP CRM using SAP Process Integration

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# **1 Integrating SAP Hybris Cloud for Customer with SAP CRM using SAP Process Integration**

# 2 Integrating SAP Cloud for Customer with SAP CRM using SAP Process Integration

This document walks you through the steps of integrating SAP Cloud for Customer with SAP CRM via process integration.

## About this Document

This document describes how to integrate SAP Cloud for Customer with an existing on-premise SAP CRM system using on-premise SAP Process Integration or SAP Process Orchestration (SAP PO).

The document is intended only as a guide to help you prepare and apply the steps necessary for successful integration.

This guide covers the configuration information necessary in both dual stack and Java-only PI installations. The sections that are either applicable or not applicable for Java-only installations start with a note indicating the same. The sections marked with the term IDoc AAE Adapter is applicable for Java-only installation, where AAE stands for Advanced Adapter Engine.

## Methodology


When you configure your SAP Cloud solution, for integration with SAP CRM, you must observe dependencies that arise among the activities in different systems. We therefore strongly 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 CRM on-premise system are identified by the prefix **CRM**
- SAP Cloud for Customer are identified by the prefix **Cloud Solution**
- SAP on-premise PI system are identified by the prefix **PI**

This document is based on **SAP NetWeaver PI 7.1**

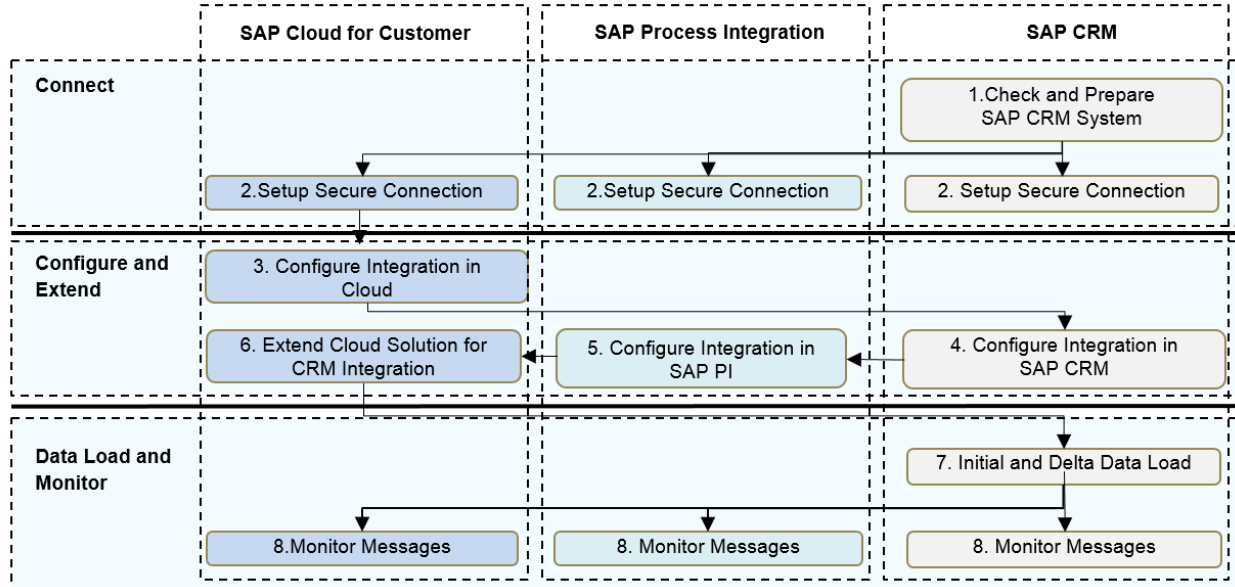
## Target Audience

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 CRM Developer may be required, if additional BADI's or any custom work becomes necessary.

Role	Activity
SAP CRM Consultant	Configuration activities in the SAP CRM system
SAP CRM Middleware Developer	Ensuring BDOCs and destinations are correctly configured.
SAP Process Integration Consultant	Configuration activities in the SAP Process Integration system.
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"><li>• Establishing a secure network connection between the SAP CRM system and SAP Cloud for Customer systems</li><li>• Installing software components from <a href="#">SAP ONE Support Launchpad</a> .</li></ul>

## 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.



## 2.1 SAP CRM Integration Scenario Overview

### Purpose

Integration of SAP Cloud for Customer with SAP CRM 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 CRM 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 Future Reference

#### Useful Information

SCN Blog - [SAP Cloud for Customer Integration with SAP ERP and CRM: How-to Guides and E-Learning](#)

SAP Help portal – [Integration Help for SAP CRM](#)

#### When to read it

Bookmark this blog. It is a compilation of all Cloud for Customer integration collateral - presentations, demos, youtube videos, and how-to guides. It is kept up-to-date.

One pager that contains all information about SAP CRM integration with SAP Cloud for Customer.

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**Useful Information****When to read it**

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How-to guide (HTG) within the Best Practice for Integration Guide on the [SAP Cloud for Customer](#) product page.

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.

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# 3 Connect Phase: Check and Prepare SAP CRM System

## Prerequisites

Your enterprise operates on SAP CRM 7.0 EHP 0 or a higher release. To check the CRM release, go to [System > Status](#) under SAP System Data, check the component version.

- If you operate on SAP CRM 7.0 EHP 0, the minimum support package level to install the add-on is BBPCRM 700 SP6 (SAPKU70006). The other supported releases are SAP CRM 7.01, SAP CRM 7.02, SAP CRM 7.12, and SAP CRM 7.13. In case you need to upgrade your system, we recommend installing the latest support package for BBPCRM.
- If you operate on SAP CRM 7.0 EHP 1 or higher, no support package upgrade for BBPCRM is required to install the add-on.

Also, if you want to:

- Replicate attachments in opportunities and leads, you will need CRM 7.0 EHP 0, SP7 or higher.
- Exchange social media between SAP Cloud for Customer and CRM, you need at minimum CRM 7.0 EHP 3 and SAP\_BS\_FND 747 SP04 installed. Furthermore, to allow end users to access the UI function, enable the business function CRM\_SMI.

## 3.1 CRM Software Components

### Purpose

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

- Missing interfaces for the C4C-CRM integration,
- Convenience functionality to simplify the setup of the integration.

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

Each Cloud release comes with a new support package of the CRM 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 ERP 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 *Software Downloads*.
3. Search for `CRMPCD01 700`.
4. Choose the entry marked for *Installation Software Component*.
5. If you install the add-on for the first time, click *Installation* and install the package.
6. On the `CRMPCD01 700` page, click *Support Packages and Patches*.
7. Select the required packages and click *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 *Download Manager*.
9. Install the add-on in your ERP system, and upgrade to the latest support package.

## 3.2 Important SAP Notes for CRM Core Component

This section points you to the *SAP Notes* you need to refer.

The SAP Note [2302112](#) lists important notes for the CRM 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.

We recommend that you regularly check for *SAP Notes* under software component `CRMPCD01` to receive any subsequent corrections.

## 3.3 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 \(IDOC AAE Adapter\) \[page 11\]](#) 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.

#### ⓘ 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](#).

## 3.4 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 \[page 16\]](#).

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

## 3.5 Create SAP CRM User

This section is only required if you do not have communications user on SAP CRM or need help creating another user.

### Purpose

This section describes how to create a user in SAP CRM that can be used by the Cloud solution for authentication against SAP CRM. You can enter this user when you configure outbound communication arrangements in the Cloud solution.

**Procedure**

1. In the on-premise system, go to transaction [SU01](#).
2. In the *User* field, enter the name of the user you want to create, for example CODINTEG.
3. Select *Create*.
4. On the *Maintain User* screen, enter the data as shown in the table below, and then save your entries.

Maintain User Screen Fields

Address tab page	Last Name	Add a name, for example CODINTEG
Logon data tab page	User type	<b>C</b> Communications Data or <b>B</b> System
	Password	<password>
Profiles	Execute transaction SU22 and determine the authorizations required for business transactions (BP, Material, Opportunity, Lead) Make certain that the technical user has the same authorization objects and values assigned to him or her as that of the dialog user who has access to these business transactions. Additionally, the integration user must be assigned to the authority object SMI_AUTH for create, update and delete operations in social media user profile integration.	

**Note**

Instead of using SU22, you can import the security role required for CRM, by applying the SAP note [1956819](#).

# 4 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.

## 4.1 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](#).

## 4.2 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*.

## 4.3 CRM PI Software Components

Download the listed components and the support packages from SAP ONE Support Launchpad.

1. Go to [SAP ONE Support Launchpad](#).
2. Download the following components.

### Note

Always ensure that you install the latest version and all the available support packages.

Component	Description
<a href="#">XI CONTENT SAP BYD</a> > <a href="#">XI CONTENT SAP_BYD 2.40</a>	PI content that includes the interface definitions from SAP Cloud for Customer
<a href="#">XI CONTENT BBPCRM</a> <ul style="list-style-type: none"> <li>• XI CONTENT SAP CRM ABAP 7.0</li> <li>• XI CONTENT SAP CRM ABAP 7.01</li> <li>• XI CONTENT SAP CRM ABAP 7.02</li> <li>• SAP BBPCRM XI CONTENT SAP CRM ABAP 7.13</li> </ul>	PI content that includes the interface definitions for SAP CRM 7.13 contains the social media user profile information on the business partner IDoc
<a href="#">XI CONTENT CRMPCD01</a> > <a href="#">XI CONTENT CRMPCD01 700</a>	PI content that includes the interface definitions for the Add-On for SAP CRM
<a href="#">XI CONTENT CRMCOD01 IC</a> > <a href="#">XI CONTENT CRMCOD01 IC 700</a>	PI content that includes the mappings between the SAP CRM interfaces and the SAP Cloud for Customer interfaces provided in the Add-On
<a href="#">XI Content SAP Basis</a> <ul style="list-style-type: none"> <li>• XI CONTENT SAP BASIS 7.0</li> <li>• XI CONTENT SAP BASIS 7.11</li> </ul>	PI content that includes communication channel template metadata
<a href="#">XI CONTENT SAP_BS_FOUNDATION</a> > <a href="#">XI CONTENT SAP_BS_FOUNDED 747</a>	PI content that includes the social media user profile IDOC

## 4.4 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 \(IDOC\\_AAE adapter\) \[page 15\]](#)

### 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 [Create SAP CRM User \[page 11\]](#).

## 4.5 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.

### 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.

## 4.6 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.

### 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.

## 4.7 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.

### 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 <a href="#">RFC Destination to SAP On-Premise (IDOC_AAE adapter) [page 15]</a> .
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).

## 4.8 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 [CRM PI Software Components \[page 14\]](#)).
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.

## 4.9 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*.

## 4.10 ALEAUD Check

### ⓘ Note

This section is not applicable in the following cases:

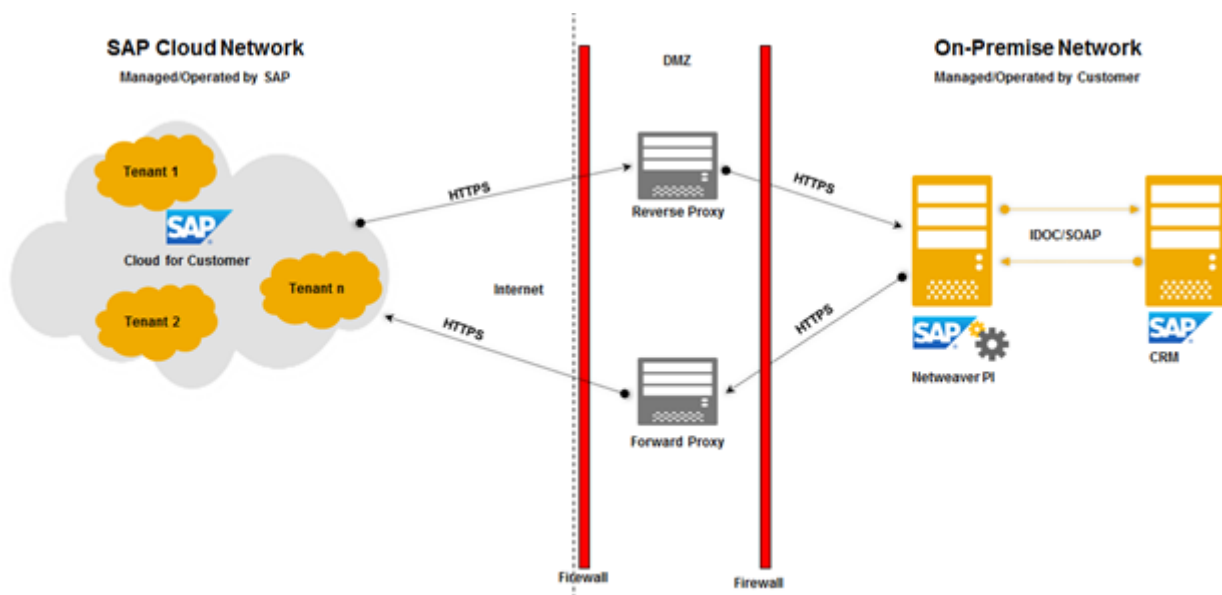
- Java-only installation of PI or IDOC\_AAE adapter.
- IDOC\_AAE adapter is used for receiving IDoc from on-premise system in a dual stack PI installation.

1. Execute transaction [SE38](#), and then go to report `IDX_ALEREQUEST`.
2. Ensure that no entry is selected for request of ALEAUD.

# 5 Connect Phase: Set Up Secure Connection between CRM-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 for generic connectivity issues.

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



## Communication Between SAP CRM and PI

To establish communication between an SAP CRM and PI systems, an RFC (TRFC) connection is configured during the connect phase in the PI and CRM 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 PI, these certificates 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. c. Download the following certificates:

- Cybertrust Sure Server Standard Validation CA
  - GTE Cyber Trust Global Root
2. Import the downloaded certificates into the SAP PI JAVA Keystore.
    1. Open up the SAP Administrator (NWA) on SAP 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 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, see [Network and Community Security](#) in the 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

#### 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 \(PI Integration\) \[page 20\]](#).

## 5.1 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

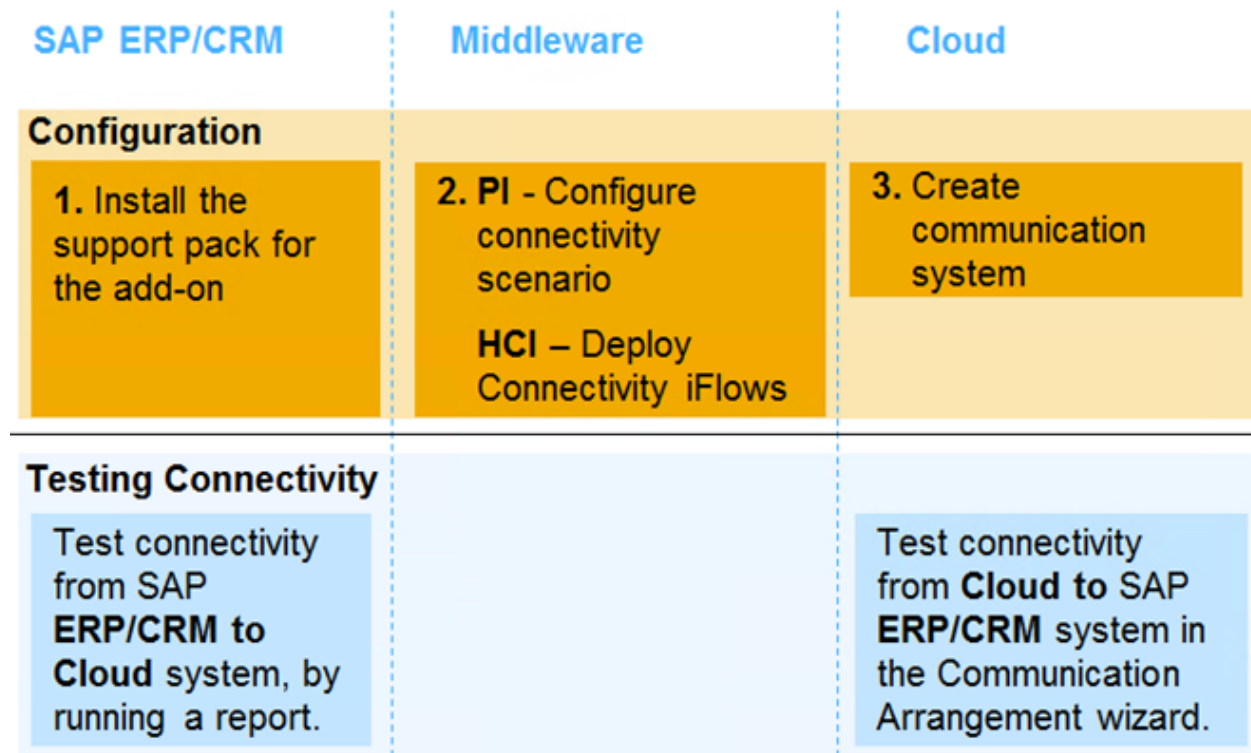
- SAPPassportCA.cer
- TC\_TrustCenter\_Class\_1\_L1\_CA\_VII.cer
- TC\_TrustCenter\_Class\_2\_CA\_II.cer
- TC\_TrustCenter\_Class\_2\_L1\_CA\_XI.cer
- TCTrustcenterClass2.cer
- TelekomOnlinePass.cer
- Thawte\_ServerBasic.cer
- Thawte Premium Server CA Root
- Thawte Primary Intermediate CA
- Thawte Secondary 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

## 5.2 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.

# 6 Configure Integration in SAP Cloud for Customer

## 6.1 Activate SAP CRM Integration in Scoping

### Purpose

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

### Procedure

1. Logon to the Cloud solution 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*.

### Note

Select the node	If you want to
Integration with CRM	Ensure SAP CRM integration is active in your Cloud solution
Integration of Master Data	Enable exchanging master data between your Cloud solution and an external solution such as SAP CRM
Integration into Sales, Service, and Marketing Processes	Enable exchanging transactional data between your Cloud solution and an external solution such as SAP CRM

Select the node	If you want to
<p>▶ <a href="#">Business Process Management</a> ▶ <a href="#">Process- Integrated Input and Output Management</a> ▶</p> <p>Select both the scoping options under Web Service Message Monitor.</p>	<p>Monitor messages in the Web Service Message monitor under Administrator work center.</p> <p>→ <b>Recommendation</b></p> <p>SAP recommended you to activate this function while Scoping, in order to allow administrators to monitor the incoming and outgoing web service messages.</p> <p>For more information, see ▶ <a href="#">Help Center</a> ▶ <a href="#">SAP Cloud for Customer Library</a> ▶ <a href="#">SAP Cloud for Customer Administration Guide</a> ▶ <a href="#">General Settings</a> ▶ <a href="#">System Administration</a> ▶ <a href="#">Web Service Message Monitoring Quick Guide</a> ▶</p>

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 now 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 Configuration view](#) ▶ [Open Activity List](#) ▶.
2. Select [Confirm Milestone: Design Accepted](#).
3. Select [Design Accepted](#) and click [Confirm](#)

## 6.2 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"><li>• If using PI, then enter the reverse proxy of the middleware</li><li>• If using CI, then enter the SAP Cloud Integration worker node host name provided by SAP Cloud Managed Services</li></ul>	PI: <XXX>.SAP.COM CI: 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 system/client	PI: Q5E_004 CI: Q5ECLNT004
<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"><li>• Under <b>System Landscape</b> &gt; <i>System Landscape Directory</i> &gt; <i>Business Systems</i> &gt; <i>Search for the ERP system, say Q5E*</i> &gt; <i>Go</i> &gt; <b>Go</b>. In the <i>Overview</i> tab, you will find Name, which is the business system name</li><li>• Run this function module in the ERP system: LCR_GET_OWN_BUSINESS_SYSTEM If you are using CI, then default it to the same value as the IDoc Logical System ID.</li></ul> <p>If you are using CI, 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 CI: Q5ECLNT004

Field	Entry	Example
<i>IDoc Logical System ID</i>	The IDoc logical system ID of the SAP on-premise client, maintained in ALE. Path.  ▶ <i>SAP Customizing Implementation Guide</i> ▶ <i>SAP NetWeaver</i> ▶ <i>Application Server</i> ▶ <i>IDoc Interface / Application Link Enabling</i> ▶ <i>Basic Settings</i> ▶ <i>Logical Systems</i> ▶ <i>DefineLogical Systems</i> ▶	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*.

## 6.3 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.

#### 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*.

**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.
  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

If you use this authentication method, you need to either:

- 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-CI/ 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.

### To upload a PKCS#12 file:

- Choose [Certificate](#).
- Click and choose the relevant Upload Certificate
- Click [OK](#).

### To create a PKCS#12 key pair file:

- Choose [Certificate](#).
- Click [Create and Download Key Pair](#).
- Enter a name for the PKCS#12 file and save it.
- Define a password for the PKCS#12 file and click [OK](#). The certificate details will be displayed.
- Click [OK](#).

---

## User ID and Password

If you use this authentication method, you need to define a password as follows:

- Choose [Change Password](#).
- Enter a password.

### Note

You need the user ID and password while configuring the receiver communication channel in SAP Middleware.

- Click [OK](#).

- 
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"> <li>In the <i>Certificate</i> field, click <i>Download</i>.</li> <li>Choose a location to save the certificate, enter a file name, and click <i>Save</i>.</li> </ul> <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"> <li>Choose the option <i>Trusted Third-Party Key Pair</i>.</li> <li>In the Certificate field, click <i>Edit Credentials</i>.</li> <li>Click <i>Upload Key Pair</i>, and choose the PKCS#12 file you want to upload.</li> <li>Enter the required password and click <i>OK</i>.</li> </ul>
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"> <li>In the User ID field, click <i>Edit Credentials</i>.</li> <li>Enter the user ID and password.</li> <li>Click <i>OK</i>.</li> </ul>

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.

In case, the chosen middleware is CI, to configure the connectivity, follow the steps outlined in the [Client Certificate Authentication for Integration Flow Processing](#).

## 6.4 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](#).

## 6.5 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*.

## 6.6 Perform Code List Mapping

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

## 6.7 Create CRM ID Mapping

### Purpose

This section describes how to create ID mapping for sales organizations, sales offices, sales groups and product categories. For these business objects, ID mapping is created manually. ID mapping for accounts, contacts, and

materials 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, organizational data and product categories must be maintained in the cloud solution. Moreover, employees 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 CRM system.
4. Click *Go*.
5. In the *External ID* column, enter the ID of the object in the CRM system.
6. Repeat steps 2 to 5 for all the following objects:
  - Business partner
  - Material
  - Organizations and units
  - Product categories
7. Save your entries.

## 6.7.1 ID Mapping using the Microsoft Excel Template

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

### 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*.

### 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

## 6.8 Maintain Default Communication Language

### Purpose

Many texts in SAP Cloud for Customer are language independent, whereas texts are usually language dependent in SAP CRM. You have to enter a default communication language in the Cloud solution. This communication language is used to identify the language dependent text in SAP CRM to be synchronized with the language independent text in the Cloud solution.

### 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 *Communication Language for Data Replication*.
5. Select *Additional Communication Language* and Click button *Add to Project*.
6. Open *Communication Language for Data Replication*.
7. Add row and select the language.
8. Save and close the activity.

If you have already entered a language for internal communication in SAP CRM, we recommend that you use the same language as the communication language in the Cloud solution.

For more information, refer to the activity under **SAP Customizing Implementation Guide > Customer Relationship Management > Basic Functions > Text Management > Define Language for Internal Communications**.



## 6.9 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.

# 7 Configure Phase: Configure Integration in SAP CRM

This chapter covers the configuration required on SAP CRM. This includes business partner customizing and middleware configuration.

## 7.1 SAP Customizing Implementation Guide in the CRM System

All the customization activities necessary to integrate SAP CRM 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 CRM system, go to the transaction *SPRO*, and click *SAP Reference IMG*.
2. Expand Integration with Other mySAP.com Components à 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](#) ►

This activity will run the report CRMPCD\_CREATE\_CON-NECTIVITY\_SIM, and automatically configures the basic settings for establishing a connection between the systems. .  
For example:

- Creates RFC destinations to connect from SAP CRM 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
- Creates IDoc site and subscriptions for a site
- Creates linkage between CRM Middleware and XIF and IDoc
- Activates a service
- Maintains endpoints for services
- Schedules the inbound and outbound jobs for running change pointer reports, processes the collected IDocs, and reprocess the failed IDocs.

### 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

Define Logical System	The CRM system must be configured as client independent Customizing. The communication partner is not the middleware but the Cloud solution.
Define RFC destination	The CRM system must be configured as client independent Customizing. The RFC destination is required for the middleware system.
Maintain Port Definition	The CRM system must be configured as client independent Customizing.
Maintain Distribution Model	Create a distribution model to determine the system to which IDocs should be sent.

## ALE Settings for the HTTP inbound

Activate change pointers - General	In standard SAP delivery, the writing of change pointers is turned off. Ensure that the writing of change pointers is turned on.
Activate change pointers for message types	You must activate change pointers for message types in the SAP CRM system, in order to enable continuous replication of changes to SAP Cloud for Customer system.
Register Service for IDoc Inbound	You need to register the IDoc inbound service if IDocs have to be received by CRM 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"><li>• To generate PDF files of sales orders or quotes in an opportunity</li><li>• To maintain end points for services</li><li>• To send attachments from SAP CRM to SAP Cloud for Customer</li><li>• To send attachments from SAP Cloud for Customer to SAP CRM</li></ul>
Create Communication Users	You need to create a user in SAP CRM, which can be used by the Cloud solution for authentication against SAP CRM. You can enter this user when you configure outbound communication arrangements in the Cloud solution.
Maintain Certificate to User Mapping	The client certificate (public key) of the middleware should be mapped to the communication user in the on-premise system.
Assign Authorization Profiles and Roles to Communication Users	You need to maintain the assignments of authorization required for business transactions to your communication user..
XIF Adapter Setup  <a href="#">Generation of BDoc Services</a> 	Ensure that BDoc Services have been generated, and function as expected. It is an activity not restricted to the integration of SAP CRM with SAP Cloud for Customer. It is an activity carried out during the initial setup of the SAP CRM system.
XIF Adapter Setup  <a href="#">Create Sites and Subscriptions</a> 	You need to create a site of type External Interface for IDocs that represents the Cloud solution. You need to add the subscription for your business objects. The subscription ensures that updates are replicated to the Cloud solution.

## ALE Settings for the HTTP inbound

XIF Adapter Setup ► [Assign Site and BDoc Type to Interface type](#) ► You need to make this assignment, in order to link the CRM middleware BDoc to the XIF IDoc. It must be maintained for each BDoc and IDoc combination..

XIF Adapter Setup ► [Register Middleware Queue](#) ► All replication and realignment queues for the data exchange from SAP CRM system are automatically registered when starting the replication. However, the CSA queues have to be manually registered.

Activate serialization for inbound iDocs When serialization is active, the sequence of inbound iDocs is considered during processing. Therefore, an old iDoc will not be reprocessed if a more recent one for the same object is successfully processed.

:

5. Based on the objects you want to replicate between CRM 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>

► [Business Partners](#) ► [Create Business Partner Identification Type](#) ►

► [Business Partners](#) ► [Number ranges and groupings for business partner](#) ► [Number ranges and groupings for business partner](#) ► To ensure that the account number in the SAP CRM system is the same as in the SAP Cloud for Customer system..

► [Business Partners](#) ► [Number ranges and groupings for business partner](#) ► [Define Groupings and Assign Number Ranges](#) ► Assign the number range to the group that matches the grouping in SAP CRM. The (INTERNALID ↔ GROUPING) will need to match the grouping configured in the IMG for the external number assignment.

► [Business Partners](#) ► [Contact Role Assignments to Contacts](#) ► You need to perform this activity in order to automatically assign the role Contact Person while creating a contact.

► [Business Partners](#) ► [Activate International Address Versions](#) ► You need 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](#) ► You can maintain more than one version of an address at the same time, so an address can be held in various character sets, such as in English alphabets, Kanji characters and Latin letters. SAP delivers many version keys, and you can activate these version keys or create your own..

## ALE Settings for the HTTP inbound

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

▶ [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 CRM system.

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 the available BAdIs for each object under

▶ [Application-Specific Settings](#) ▶ [<business object>](#) ▶ [Badls](#) ▶

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

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

BAdI	Description	Classic Classic BAdI Definition Name	Enhancement Spot
Product Category IDoc: Inbound Mapping	This BAdI when implemented is used to adjust the outbound message data from CRM for product category replication.	CRMPCD_PCH_MAP	
Product Category IDoc: Outbound Filtering	This BAdI when implemented is used to filter unintended product category from being replicated from CRM.	CRMPCD_PCH_VLD	

<b>BAdI</b>	<b>Description</b>	<b>Classic Classic BAdI Definition Name</b>	<b>Enhancement Spot</b>
Product IDoc: Outbound Mapping	This BAdI when implemented is used to adjust the outbound message data from CRM for product replication.	CRMXIF_PROD_MAT_MAP	
Organizational Units IDoc: Outbound Mapping	This BAdI is for adjusting the outbound message data from CRM for Organization replication	CRMPCD_ORG_UNIT_OUTBOUND	
Employee IDoc: Outbound Mapping	This BAdI when implemented is used to adjust the outbound message data from CRM for employee replication	CRMPCD_EMPLOYEE_OUTBOUND	
Employee IDoc: Change Pointer Registration	This BAdI when implemented is used to adjust the change pointer registration in CRM for employee changes.	HRBASOOINFTY	
Business Partner IDoc: Inbound and Outbound Mapping	This BAdI when implemented is used to adjust the inbound and outbound message mapping for business partner replication.	CRMXIF_PARTNER_MAP	
Business Partner Relationship IDoc: Inbound and Outbound Mapping	This BAdI when implemented is used to adjust the inbound and outbound message mapping for business partner relationship replication.	CRMXIF_PARTNER_R_MAP	

<b>BAdI</b>	<b>Description</b>	<b>Classic Classic BAdI Definition Name</b>	<b>Enhancement Spot</b>
Sales Territory IDoc: Change Pointer Registration	This BAdI when implemented is used to adjust the change pointer registration in CRM for sales territory changes.	CRM_TERRMAN_ATTRIB	
Sales Territory IDoc: Outbound Mapping and Filtering	This BAdI when implemented is used to adjust the outbound message mapping for business partner replication as well as to filter out non intended sales territory from replicating.	CRMPCD_TERRITORY_OUTBOUND	
Marketing Campaign IDoc: Outbound Mapping	This BAdI when implemented is used to adjust the outbound message data from CRM for marketing campaign.	CRMPCD_CGFL_MAP	
Marketing Plan IDoc: Outbound Filtering	This BAdI when implemented is used to filter out non intended marketing plan from being replicated.	CRMPCD_CGFL_VLD	
Marketing Plan IDOC: Outbound Mapping	This BAdI when implemented is used to adjust the outbound message data from CRM for marketing plan.	CRMPCD_MKTPLAN_MAP	
Business Transaction IDoc: Outbound Mapping	This BAdI when implemented is used to adjust the outbound message data from CRM for business transaction.	CRMXIF_ORDER_MAP	



BAdI	Description	Classic BAdI Definition Name	Enhancement Spot
Pricing Request Service: Inbound and Outbound Mapping	This BAdI when implemented is used to adjust the inbound and outbound message data for pricing request.	CRMPCD_SE_EXT_DOC_DATA	
CRM Document flow in C4C: Output mapping	The BAdI in this enhancement spot when implemented is used to adjust the output data from CRM for document flow.		
Attachment Service: Register and Send Out		CRM_DOCUMENTS	

#### Note

The BAdI CRMXIF\_PARTNER\_MAP is not enabled for multiple uses. If CRMPCD\_BUPA\_MAP is the only implementation for the classic BAdICRMXIF\_PARTNER\_MAP, then you can simply activate the implementation after the installation of software component CRMPCD01 via transaction SE19. If an implementation already exists for the classic BAdICRMXIF\_PARTNER\_MAP, then you must merge the logic of implementation CRMPCD\_BUPA\_MAP into your existing implementation.

SAP has provided default implementation for the following objects:

#### Campaign

It is only possible to have one NOTE in the Cloud solution. So, by default only SAP Standard 'NOTE' with language 'EN' is replicated from SAP CRM to the Cloud solution.

**Enhancement Spot:** CRMPCD\_CGPL\_REPLICATION

**BAdI Definition:** CRMPCD\_CGPL\_NOTES\_FILTER

**Default Implementation:** CL\_CRMPCD\_EX\_CGPL\_NOTES\_FILTER

#### Lead

**BAdI Definition:** CRMXIF\_ORDER\_MAP

**BAdI Implementation:**

CRMPCD\_SOD\_10\_MAP

#### Product Category Hierarchy

It is only possible to have one product category hierarchy in the Cloud solution. Default implementation replicates only product hierarchy assigned to the "Sales" application.

**Enhancement Spot:** CRMPCD\_PCH\_REPLICATION

**Default Implementation:** CL\_CRMPCD\_PCH\_FILTER

## 7.2 Area Menu in CRM

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

You can access this area menu in the transaction [CRMPCD\\_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 CRM to SAP Cloud for Customer*: Transactions of all reports that can be used to load and send data from SAP CRM to SAP Cloud for Customer system.
- : Transactions relevant for various industry solutions.

# 8 Configure Phase: Configure Integration in PI System

## Purpose

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

### COD\_CRM\_BusinessDataReplication1

- CRM to COD
  - Print Privew
  - Document Flow
  - Opportunity Replication
  - Opportunity Confirmation (▶ [Confirmation for COD](#) ▶ [CRM Replication](#) ▶)
  - Opportunity Attachment Replication
  - Lead Replication
  - Lead Confirmation (Confirmation for COD □ CRM Replication)
  - Campaign Replication
  - Activity Replication (Appointment, Task, Email, Phone Call)
  - Activity Confirmation (Appointment, Task, Email, Phone Call)
- COD to CRM
  - Opportunity Replication
  - Opportunity Confirmation (▶ [Confirmation for CRM](#) ▶ [COD Replication](#) ▶)
  - Opportunity Attachment Replication
  - Lead Replicate Confirmation
  - Lead Status Notification

### COD\_CRM\_BusinessDataReplication2

- CRM to COD
  - CustomerQuote & SalesOrder Notification
  - Customer Quote Request Notification
  - Sales Order Notification
  - Service Request Confirmation/Replication
  - Business Document Attachment
  - Lead Attachment
  - Business Activity Replication
  - Business Activity Confirmation
  - Promotion Replication
  - Service Request Delegation
  - Customer Quote to Sales order

- Customer Fact sheet
- Request Data from External System for Customer Quote
- Business Activity Replication
- Business Activity Confirmation
- COD to CRM
  - Service Request Delegation
  - External Pricing for Opportunities

### **COD\_CRM\_MasterDataReplication**

- CRM to COD
  - Business Partner Replication
  - Business Partner Relationship Replication
  - Material Replication
  - Business Partner Replication Confirmation
  - Product Category Hierarchy Replication
  - Service Product Replication
  - Account Hierarchy Replication
  - Organization Unit Replication
  - Employee Replication
  - Territory Replication
  - Business Attribute Replication
  - Business Attribute Set Replication
  - Marketing Attribute Assignment Replication
  - □ Individual Object replication
- COD to CRM
  - Business Partner Replication
  - Business Partner Relationship Replication
  - Business Partner Replication Confirmation
  - Social Media Profile
  - COD\_CRM\_End2EndConnectivityCheck
    - Check Connectivity between COD to CRM
    - Check Connect Scenario names are as listed below:
  - Business Attribute Assignment Replication

#### **📘 Note**

- COD\_CRM\_MasterDataReplication\_AAE
- COD\_CRM\_BusinessDataReplication1\_AAE
- COD\_CRM\_BusinessDataReplication2\_AAE

All of the above scenarios are included in the software component CRM COD 01 IC 700, which you can download from [SAP ONE Support Launchpad](#). Check Connectivity between CRM to COD

## 8.1 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 \(PI Integration\) \[page 20\]](#).

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.

#### 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*.

## 8.2 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 \[page 30\]](#).

### 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-

## 8.3 Create Configuration Scenarios

### Prerequisites

You have imported the software component CRMCOD01 IC 700 into the **Enterprise Service Repository** (Integration Repository) of your PI system (refer to section [Import TPZ Package in ESR \[page 18\]](#)).

#### 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 as listed below:

- COD\_CRM\_MasterDataReplication\_AAE
- COD\_CRM\_BusinessDataReplication1\_AAE
- COD\_CRM\_BusinessDataReplication2\_AAE

### Procedure

1. On the PI browser page, open **Integration Builder**.
2. Switch to the *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 side of the dialog box, select *Configuration Scenario*, under the section *Administration*.
5. Enter the *Configuration Scenario* as <Prefix>\_COD\_CRM\_MasterDataReplication and select *Type of ES Repository Model as Process Integration Scenarios* (Prefix e.g. C4C\_CRD800\_COD\_CRM\_MasterdataReplication, whereas C4C is the Cloud Solution and CRD800 is the CRM system)
6. In the *ES Repository Model Reference(s)*, use the input help to select the Process Integration Scenario COD\_CRM\_MasterDataReplication. Make sure to select the Process Integration Scenarios from the namespace <http://sap.com/xi/CRMCOD/Global2/IC> and the *Software Component* **CRMCOD01 IC 700**

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 following configuration scenarios.

Configuration Scenario	Process Integration Scenario
<Prefix>COD_CRM_BusinessDataReplication	<Prefix>COD_CRM_BusinessDataReplication
<Prefix>COD_CRM_BusinessDataReplication2	<Prefix>COD_CRM_BusinessDataReplication2

## 8.4 Configure Interfaces for CRM Integration

### Note

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

- COD\_CRM\_MasterDataReplication\_AAE
- COD\_CRM\_BusinessDataReplication1\_AAE
- COD\_CRM\_BusinessDataReplication2\_AAE

1. On the PI browser page, open [Integration Builder](#).
2. Switch to Configuration Scenario View
3. On the left pane double click and open the configuration scenario [<Prefix>\\_COD\\_CRM\\_MasterDataReplication](#) and switch to the edit mode.
4. On the ES Repository Model tab click on the button [Model Configurator](#). The Model Configurator will create all configuration objects that are required to establish the connection between the Cloud solution and SAP CRM.
5. Click on the button Select Component View to list all the available component view and then apply the component view [COD\\_CRM\\_MasterDataReplication](#)

### Note

A component view is a variant of the configuration scenario. You select the component view according to the enhancement package of your SAP CRM release.

6. Select the swim lane [SAP Cloud for Customer <...>](#), or select Assign Component
7. In the lower part of the screen, on the Business System Components for A2A tab, use the input help of the Communication Component field to add the Cloud solution you previously defined (Use the business system you defined while [Create SLD Configuration \[page 13\]](#)).
8. Repeat steps 6 and 7 for the [SAP CRM 7.0](#) swim lane to add SAP CRM system as the Communication Component.
9. Select [Configure Connections](#)
10. In the lower part of the screen, on 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 proposes a name for the Communication Channel and shows the respective Communication Component. To confirm the proposal and create the communication channel click Finish button.
14. A confirmation will be displayed informing the successfully creation of the communication channel, click Close button 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.)

#### 📌 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 CRM system there is only one receiver communication channel is created i.e. CRM\_Idoc\_Receive and will be reused for all the connections where SAP CRM is the receiver).

17. Select Create Configuration Objects
18. In the Create Configuration Objects dialog box, select the Generation radio button, then de-select the Activate Changes checkbox.
19. Select Start.
20. Close the log dialog box.
21. In the Model Configurator, select Apply.  
On the configuration scenario screen select Objects tab to view the list of objects that are generated.
22. Save the configuration scenario.
23. Repeat the steps 3 to 22 for the *COD\_CRM\_BusinessDataReplication1* by opening up the configuration scenario *<Prefix>\_COD\_CRM\_BusinessDataReplication1*.
24. Repeat the steps 3 to 22 for the *COD\_CRM\_BusinessDataReplication2* by opening up the configuration scenario *<Prefix>\_COD\_CRM\_BusinessDataReplication2*.

## 8.5 Maintain Communication Channel for CRM Integration

### Procedure

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.



### Note

The target end points must be maintained the following format:

For Cloud solution `https://<Cloud system host>:<port>/sap/bc/srt/scs/sap/<service>`

For an on-premise system `https://<on-premise system host>:<port>/sap/bc/srt/scs/sap/<service> ? sap-client=<client>`

- To configure either user or certificate authentication, select one of the following checkboxes:
  - Configure User Authentication
  - Configure Certificate Authentication. Maintain the following:
    - Keystore Entry – Select the keypair that was created while [creating the communication arrangement \[page 26\]](#).
    - Keystore View – Select the view that you created in NWA key store [Create a Key Storage View and Load the Certificate \[page 45\]](#).

### 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 proxy select the checkbox **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-hand frame, follow the path **Communication Component without Party** > **Business System** > **<on-premise 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 and open the receiver IDoc communication channel (normally receiver communication channel ends with suffix \_Receive e.g. CRM\_Idoc\_Receive) and switch to the **Edit** mode.
- Maintain the RFC Destination created in section RFC Destination to CRM and the Port (refer to [PI Port Configuration \[page 16\]](#)).
- Save the changes and close the communication channel

Example of Receiver SOAP communication channel configuration and Receiver IDoc communication channel

	User Entry	Example
For connecting to Cloud receiver systems	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_BusinessPartnerReplicationIn_Receive should conform to the following format:  <code>https://&lt;host-name&gt;:&lt;port&gt;/sap/bc/srt/scs/sap/businesspartnerreplicationin?MessageId</code>

	User Entry	Example
For SAP CRM receiver systems	For the SAP CRM system, include the target RFC destination and the port name of the corresponding receiver SAP CRM system.	For communication channel CRM_Idoc_Receive – for example, for system Q2C and client 400 – specify RFC destination Q2CCLNT400 and port SAPQ2C
For SAP CRM receiver in case of IDOC_AAE adapter	For the SAP CRM system, include the target RFC destination.	For System CRM - specify the destination name as XI_IDOC_DEFAULT_DESTINATION_CRM

## 8.6 Adjust Routing Conditions for CRM Integration

### Note

This section is not applicable for Java-only installation of PI or IDOC\_AAE adapter.

As a single IDoc (e.g. CRMXIF\_ORDER\_SAVE\_M.CRMXIF\_ORDER\_SAVE\_U01) is used for multiple interfaces, routing conditions are required to identify the receiver interface corresponding to this sender interface. For **CRM > COD**, routing conditions must be adjusted when the sender interface is CRMXIF\_ORDER\_SAVE\_M.CRMXIF\_ORDER\_SAVE\_U01, CRMXIF\_PARTNER\_REL\_SAVE\_M.CRMXIF\_PARTNER\_REL\_SAVE\_M02 and CRMXIF\_PARTNER\_SAVE\_M.CRMXIF\_PARTNER\_SAVE\_M03.

The following routing conditions must be added in the Interface Determination object of the configuration scenario CRM\_COD\_MasterDataReplication.

### Note

For information about how to add a 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>\_CRM\_COD\_BusinessDataReplication > Interface Determination** to list the interface determination for the sender IDOC interface CRMXIF\_ORDER\_SAVE\_M.CRMXIF\_ORDER\_SAVE\_U01
4. Double click and open the interface determination for CRMXIF\_ORDER\_SAVE\_M.CRMXIF\_ORDER\_SAVE\_U01 and switch to edit mode
5. Maintain the routing condition using the condition editor. For a selected source and target system, you will find a list of routing conditions and the corresponding operation mapping and receiver interface in the Integration Flows spreadsheet.
6. Repeat the steps 3 – 5 for the IDOCs CRMXIF\_PARTNER\_REL\_SAVE\_M.CRMXIF\_PARTNER\_REL\_SAVE\_M02 and CRMXIF\_PARTNER\_SAVE\_M.CRMXIF\_PARTNER\_SAVE\_M03 that are configured in the Configuration Scenario <Prefix>\_CRM\_COD\_MasterDataReplication
7. For CRMXIF\_PARTNER\_SAVE\_M.CRMXIF\_PARTNER\_SAVE\_M03 the *BusinessPartnerReplicationIn* receiver interface needs to be added with the operation mapping *CRM\_COD\_BusinessPartner\_Replicate*.

### Note

The Process Type referred in the routing condition /CRMXIF\_ORDER\_SAVE\_U01/IDOC/E101CRMXIF\_BUSTRANS/PROCESS\_TYPE should match the transaction types maintained in the SAP CRM System. The Transaction Types are maintained in the transaction SPRO and in the path ► [SAP Customizing Implementation Guide](#) ► [Customer Relationship Management](#) ► [Transactions](#) ► [Basic Settings](#) ► [Define Transaction Types](#) ►.

## 8.7 Maintain Value Mapping between Cloud and CRM PI

The value mappings listed in the table below needs to be created in the Integration Builder of the PI system to enable integration between SAP Cloud for Customer and SAP CRM 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](#) and the [Value Mapping](#) maintenance screen appears.
5. Switch to the [Edit](#) mode to maintain the [Value Mapping](#). (refer to PI Value Mapping section in the Appendix for more details).
6. For information on the values that needs to be mapped between the systems, see PI Value Mapping.
7. Save the value mapping
8. Repeat the steps 2 – 6 for all the Agency and Schemas given in the table above.

## 8.8 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](#).

### 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.

## 9 Extend Phase: Extend Cloud Solution for CRM 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:

- SAP Cloud for Customer Extension Guide on the [SAP Cloud for Customer](#) product page.
- [How to Extend SAP Cloud for Customer - SAP On-Premise Pre-Packaged Integration Content](#) -

### Business Partner Extensibility

Extension fields created for a business partner address in Cloud, can now be replicated between CRM and Cloud.

### Disclaimer

The business partner UI in SAP Cloud for Customer will be delivered in a 2015 release. Prerequisites to use the feature:

- In the Adapt mode, add extension fields to a business partner address
- Make the fields available to the following service interfaces via the link *Further Usages*: [BusinessPartnerReplicationIn](#) and [BusinessPartnerReplicationSelfInitiatedOut](#)
- Make the fields visible and publish your changes

# 10 Data Load Phase: Perform CRM Initial Data Load

This section describes how to extract data from the SAP CRM system and load it into the Cloud solution. As a prerequisite for the initial load, you must have made the entire configuration settings specified in the previous sections of this document for the SAP CRM, 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 CRM system to the Cloud solution, and to process data in the SAP CRM system that was sent from the Cloud solution. When you send and receive IDocs, SAP CRM and the cloud solution expect different sequences for various objects. 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](#).

## 10.1 Template Reports

SAP provides ABAP template reports (listed in the Initial Load guide) that can be used for initial load scenarios.

Copy these template reports and adapt them to meet your business requirements.

1. To access the template reports, execute transaction **SE38**.
2. Adapt the templates according to modifications made in your SAP CRM system.

### Note

If you have not made modifications in your SAP CRM system, you can use the templates as delivered.

If you have made modifications in your SAP CRM system, refer to the SAP Help Portal for more information about adapting the templates.

## 10.2 Replication of Job IDs

Job IDs must be extracted and loaded into the Cloud solution via the Migration Workbench. This is required for loading the employees into the Cloud solution. Ensure that the ID is created in the Cloud solution in the same format as in SAP CRM. The jobs can be displayed in CRM using the transaction PPOMW. The job IDs can be extracted from table HRP1000 using the object type 'C'.

## 10.3 Executing Initial Load Reports

Assuming you have completed the necessary pre-requisites such as code list mapping, job ID load, you can now proceed with executing the initial load reports that are mentioned above. It is recommended to load small numbers of instances first and increase the package size incrementally if the previous run was successful.

### 10.3.1 Replication of Organization

Replication messages of organization units are processed by the background job “Organization Replication Request Processing Run” in the Cloud solution. If the organization units don't appear in the Cloud solution after you performed the load, you might check whether the background job for the organization replication already ran or when the next job is scheduled. To do this, choose the [Background Jobs](#) view in the [Administrator](#) work center and check the run type “Organization Replication Request Processing Run”.

### 10.3.2 Replication of Product Category Hierarchy

It is possible to have only one product hierarchy modeled in the Cloud solution. For this reason, we recommend to transfer only the hierarchy that is assigned to the Sales application in SAP CRM. You can check which hierarchy is assigned to the Sales application under

▶ [SAP Customizing Implementation Guide](#) ▶ [Cross-Application Components](#) ▶ [SAP Product](#) ▶ [Product Category](#)  
▶ [Assign Category Hierarchies to Applications](#) ▶

Per default only the hierarchy that is assigned to the application Sales is replicated from SAP CRM to the Cloud solution. This is the fallback implementation for the Business Add-In (BAI) CRMPCD\_PCH\_FILTER of enhancement spot CRMPCD\_PCH\_REPLICATION. If you want to change this behavior, you have to create a BAI implementation for the mentioned BAI. For more information, review the section CRM: Customer Enhancements (BAI Definitions).

### 10.3.3 Product Material Replication

It is only possible to replicate materials that are assigned to valid product categories, as this is a mandatory requirement in the Cloud solution. Therefore we recommend that you filter out materials that are not assigned to a product category of the hierarchy that is assigned to the Sales application. You can achieve this by implementing method CHANGE\_MAPPED\_DATA\_OUT of the BAI CRMXIF\_PROD\_MAT\_MAP.

## 10.3.4 Business Partner Replication

When you load business partners into the Cloud solution, only the following roles are supported in the Cloud solution.

- Account (CRM000)
- Competitor (CRM005)
- Contact Person (BUP001)
- Prospect (BUP002)
- Sales and service partner (CRM011)

All other roles are filtered out. For persons, the system supports data records without a role. For organizations, at least one valid role is mandatory.

Make sure that the business partner roles codes of SAP CRM are mapped to the corresponding business partner roles codes of the Cloud solution using code list mapping in the Cloud solution.

Only the business partner categories Person and Organization are transferred to the Cloud solution. The business partner category Group is ignored during data load. (This is true for both initial download as well as delta replication.)

If time-dependent data (such as different time-dependent addresses) is maintained in SAP CRM, only the data that is currently valid is transferred to the Cloud solution.

If the business partner has multiple addresses in SAP CRM, only the default, ship-to, bill-to and payer addresses are transferred. Make sure that the address usage codes of SAP CRM are mapped to the corresponding address usage codes of the Cloud solution using code list mapping in the Cloud solution.

If a business partner address in SAP CRM contains multiple communication data (such as multiple telephone or fax numbers), only the default communication data is transferred to the Cloud solution.

In the Cloud solution only one industry classification system 0005 is supported. Make sure that your main industry classification system of SAP CRM is mapped to the industry classification system 0005 of the Cloud solution using code list mapping the Cloud solution.

## 10.3.5 Employee Replication

Employee data must be replicated from SAP CRM to SAP Hybris Cloud for Customer using the dedicated Employee web service.

### ⓘ Note

If you have chosen the employee replication in the Business Adaptation Catalog, the employee role is not supported via the business partner replication service. All other roles are filtered out. For employees, the system supports data records without a role. For organizations, a role is mandatory. Only the business partner categories *Person* and *Organization* are transferred to the Cloud solution. The business partner category Group is ignored during data load. (This is true for both initial download as well as data replication.)

### ⓘ Note

You can now assign multiple organizations to an employee in SAP Hybris Cloud for Customer. In SAP CRM, you need to implement the BADI `CRMPCD_EMPLOYEE_OUTBOUND` and write a custom logic to determine the



primary and secondary organization assignments for an employee. You will see a new field, *Role Code*, that has been added under *Organizational Assignment* node that determines primary and secondary organization assignments. You need to upgrade your integration content for SAP CRM Employee Replication to use this feature.

If the configuration in the SAP middleware is done accordingly, the employees will be replicated via a dedicated service. To support this scenario end to end, the employee replication has to be activated in BC Scoping in SAP Hybris Cloud for Customer. Remarks on using the web service:

- The business role is not filled by default; it can be filled by means of a BAdI implementation in the employee IDoc.
- If the user ID is not maintained in the Business Partner, then the user ID of the employee is defaulted to his or her e-mail address.
- The validity period of the employee is set to the validity period of his/her role assignment in SAP CRM.
- The business user can be activated immediately during replication. This is the default behavior.
- The replicated business object is not directly saved in the target business object but the saving needs to be triggered by the business user in the Data Integration work center or an automatic batch job.

If you cannot see the employees in the Cloud solution, you can find out when the job is scheduled to run. To do this, choose the *Background Jobs* view in the *Administrator* work center.

#### Note

Replication messages of employees are processed by a background job (scheduled job). Employees are not visible in the Cloud solution immediately but are available after the next scheduled run of the job.

## 10.3.6 Business Partner Relationship Replication

To load relationships from SAP CRM to SAP Cloud for Customer, first execute report CRMPCD\_BUPA\_REL\_EXTRACT in transaction SE38.

Additional steps are outlined in [2103505](#) which you need to perform to complete replication from SAP CRM to SAP Cloud for Customer.

Once you load business partner relations into the Cloud solution, only the following relationship categories are supported.

- Has/Is Contact Person (BUR001)
- Has/Is the Employee Responsible For (BUR011)
- Parent/Child Relationship
- Custom Relationships

#### Note

Business partner replication from SAP Cloud for Customer to SAP CRM requires custom development in SAP CRM.

## 10.3.7 Business Attribute Assignment Replication

This step is only relevant if you want to replicate business attribute assignment to business partners from a Cloud system to a CRM system.

1. Ensure successful processing of the inbound IDoc CLFMAS.
2. To assign business partner GUID to the business attribute assignments replicated from Cloud to CRM, execute report CRM\_MKTBP\_ASSIGN\_GUID in transaction SE38, with the following input parameters:
  - **ANZ\_AUSP**: Number of rows to be modified during each update. Recommended value is 10,000.
  - **M\_COUNT**: A number equal to or greater than the number of entries in table 'INOB' in CRM system. Normal value is 200,000.

## 10.3.8 Steps to consider for Bulking

Accounts/contacts and employees must be loaded separately. If the SAP CRM system is sending employee and account messages separately, the routing condition assigns employee messages to employee mapping and account messages to business partner account mapping. For example, if you send three IDocs in a package for accounts only, then these three IDocs will be bundled according to the business partner routing condition. The business partner mapping will be carried out, which supports bulking.


We recommend that you do not send bulk messages for employees because employee mapping does currently not support bulking. If a bulk message is sent from SAP CRM to SAP middleware, it does not produce expected result. For employees, the mapping must be adjusted.

### Note

For Bulking scenarios, ensure that each of the objects are grouped separately. Otherwise you could have, for example, leads and opportunities alike collected in the same bulk message.

### Procedure

Prepare the reports for the initial load.

1. In the SAP CRM system, execute transaction **WE20**.
2. In the *Outbound Parameters* field, expand the message type for the partner profile and select the object that you created while setting up the Outbound IDoc.  
For more information, see the IMG document in the on-premise system. Path: [Integration with SAP Cloud for Customer](#) > [Integration with Other SAP Components](#) > [Communication Setup](#) > [Manually Adjust Integration Settings for Data Exchange](#) > [Maintain Port Definition and](#) > [Maintain IDoc Partner Profile](#) 
3. In the *Output Mode* section of the screen, select Collect IDocs, then select *Details*.
4. Enter a suitable package size.

### Note

The package size must be greater than or equal to the maximum number of relationships available for the accounts in the SAP CRM system. This is due to the technical limitation in the Cloud solution. We recommend that you send all relationships of an account in a single package if possible.

5. Click [Save](#).
6. Repeat steps 1 through 5 for each object.
7. Start the initial load and execute the transaction **SE38**.
8. Create a variant according to the number of products that you want to send
9. Enter report RSEOUT00.
10. Select [Start with Variant](#), and specify the variant you created.
11. When the initial load is finished, you must change the settings in the partner profile. To do this, repeat steps 1 through 3, and chose the option [Transfer IDoc Immediately](#) for each object.

## 10.4 Attachment Replication

The following are the two initial load reports for replicating attachments:

- [CRMPCD\\_BUPA\\_ATTACH\\_EXTRACT](#) for business partners
- [CRMPCD\\_ORDER\\_ATTACH\\_EXTRACT](#) for transactions

### 📌 Note

Execute the load of the host object instances before loading the attachments. Packaging can be up to 500-800MB per package. If no receiver is provided, the attachments are sent to the same system as the host object instance.

# 11 Data Load Phase: Perform CRM Delta Load

This section describes the steps needed for objects, for example, territories, organization units and employees. Reports with delta load option must be scheduled as periodic background jobs (via transaction **SM37**) in your SAP CRM system. The frequency depends on the business process and the frequency of the changes in that system.

For information about the delta load report, see the report documentation in the system and refer to the CRM Initial Load guide.

# 12 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

# 13 Deprecated Scenarios

Learn about deprecated functional scenarios. We do not recommend using deprecated scenarios since they are no longer supported.

## 13.1 PI Value Mappings for CRM Integration

The screenshots shown in this appendix are the standard mappings from PI.

### Note

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

## 13.1.1 Mapping COD||OpptResultReasonCode ↔ CRM||OpptResultReasonCode

### COD||OpptResultReasonCode

The following values are contained in the global data type (GDT)CustomerTransactionDocumentResultReasonCode:

Code	Description
001	Lost to competitor
002	Lost due to product
003	Lost due to price
004	Lost due to service
005	Won due to product
006	Won due to price
007	Won due to service
008	Accepted Because of High Revenue Potential
009	Accepted Because of High Chance of Success
010	Accepted for Strategic Reasons
011	Rejected Because of Low Revenue Potential
012	Rejected Because of Low Chance of Success
013	Rejected Because of Wrong Target Segment
014	Won Against Competitor
015	Currently No Interest in Buying

### CRM||OpptResultReasonCode

The SAP CRM values are a concatenation of Code Group and Code. For more information, review the following activity:

▶ [SAP Customizing Implementation Guide](#)

▶ [Customer Relationship Management](#) ▶ [Transactions](#) ▶ [Settings](#)

▶ [for Opportunities](#) ▶ [Maintain Status Reason and Status Profile](#)

▶ [for Opportunities](#) ▶ [Define Code Groups and Codes for](#)

[Catalogs](#) ▶

**Display Value Mapping Agencies**

Agency	COD_OpptResultReasonCode	Agency	CRM_OpptResultReasonCode
Scheme	OpptResultReasonCode	Scheme	OpptResultReasonCode

Value For COD_OpptResultReasonCode	Value For CRM_OpptResultReasonCode	Group Name
002	OPT000020002	LeadResultReasonCode
001	OPT000010001	OpptResultReasonCode
003	OPT000020001	OpptResultReasonCode
004	OPT000030003	OpptResultReasonCode

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

- COD\_CRM\_Opportunity\_Replicate
- CRM\_COD\_Opportunity\_Replicate\_Bulk

## 13.1.2 Mapping COD||PartyRoleCode ↔ CRM||PartyRoleCode

### COD||PartyRoleCode

The values in the following table represent concatenations of the SAP CRM business object types and party role codes. They are contained in the GDT PartyRoleCode.

Code	Description
1001	Account
1005	Ship-To
2	Seller
28	Service and Support Team
40	Processor
44	Sales Unit
213	Partner Contact
29	Sales Partner
30	Competitor
31	Account
39	Employee Responsible
46	Sales Employee
73	Marketing Unit
35	Organizer
36	Attendee
41	Activity Contact
32	Recipient
33	Sender
50	Organizational Unit
40	Processor
45	Call Participant
59	Contact

### CRM||PartyRoleCode

The following values are a concatenation of the SAP CRM business object types and partner functions. You can find the partner functions in the activity under [SAP Customizing Implementation Guide](#) > [Customer Relationship Management](#) > [Basic Functions](#) > [Partner Processing](#) > [Define Partner Functions](#) >

In the SAP CRM system, you can execute transaction SWO1 to find the following SAP CRM object types:

SAP CRM Object Type	Description
BUS2000223	Service Request
BUS2010020	Marketing Project Campaign
BUS2000111	CRM Opportunity
BUS2000125	CRM Task
BUS2000108	CRM Lead
BUS2000115	CRM Sales Transaction
BUS2000126	CRM Business Activity



**Display Value Mapping Agencies**

Agency \* CRM\_PartyRoleCode Agency \* COD\_PartyRoleCode  
 Scheme \* RoleCode Scheme \* RoleCode

Value For CRM_PartyRoleCode	Value For COD_PartyRoleCode	Group Name *
BUS2000111  00000012	BUS2000111  46	RoleCode
BUS2000125  00000022	BUS2000125  39	RoleCode
BUS2000111  00000021	BUS2000111  31	RoleCode
BUS2000108  00000021	BUS2000108  31	RoleCode
BUS2000126  00000015	BUS2000126  #	RoleCode
BUS2000126  00000032	BUS2000126  36	RoleCode
BUS2000126  00000022	BUS2000126  39	RoleCode
BUS2000111  00000022	BUS2000111  39	RoleCode
BUS2000126  00000009	BUS2000126  34	RoleCode
BUS2000125  00000009	BUS2000125  34	RoleCode
BUS2000126  00000806	BUS2000126  26	RoleCode
BUS2000108  00000012	BUS2000108  46	RoleCode
BUS2000126  00000807	BUS2000126  33	RoleCode
BUS2000126  00000805	BUS2000126  25	RoleCode
BUS2000111  00000024	BUS2000111  29	RoleCode
BUS2000111  00000023	BUS2000111  30	RoleCode
BUS2000108  00000022	BUS2000108  39	RoleCode
BUS2000126  00000804	BUS2000126  32	RoleCode

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

- COD\_CRM\_Opportunity\_Replicate
- COD\_CRM\_Service\_Request\_Delegation
- CRM\_COD\_Opportunity\_Replicate\_Bulk
- CRM\_COD\_Lead\_Replicate\_Bulk
- CRM\_COD\_BusinessActivityReplicate\_Bulk
- CRM\_COD\_Business\_Activity\_Replicate\_Bulk
- CRM\_COD\_Opportunity\_Replicate\_Bulk

### 13.1.3 Mapping COD||ReceiverParty ↔ CRM||ReceiverPort

**COD||ReceiverParty**

**CRM||ReceiverPort**

<SID>CLNT<client\_number>, where SID is the system ID of the connecting CRM system.

Example: SAPCRM

**Display Value Mapping Agencies**

Agency COD\_ReceiverParty Agency CRM\_ReceiverPort  
 Scheme ReceiverParty Scheme ReceiverPort

Value For COD_ReceiverParty	Value For CRM_ReceiverPort	Group Name
Q9CCLNT400	SAPCRM	ReceiverSystem

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

- COD\_CRM\_BusinessPartner\_Confirmation
- COD\_CRM\_BusinessPartner\_Replicate
- COD\_CRM\_BusinessPartnerRelationship\_Replicate
- COD\_CRM\_Lead\_Replicate\_Confirmation
- COD\_CRM\_Lead\_Status\_Notification
- COD\_CRM\_Opportunity\_Confirmation
- COD\_CRM\_Opportunity\_Replicate
- COD\_CRM\_Service\_Request\_Delegation
- COD\_CRM\_BusinessActivityReplicate\_Bulk
- CRM\_COD\_Business\_Activity\_Replicate\_Bulk

## 13.1.4 Mapping COD||SenderParty ↔ CRM||SenderPort

### COD||SenderParty

The short tenant ID of the cloud system. For information on how to get this ID, see [Determine Short Tenant ID \[page 30\]](#).

### CRM||SenderPort

SAP<SID>, where SID is the system ID of the connecting Cloud system.

Value For COD_SenderParty	Value For CRM_SenderPort	Group Name
0HS6LU5	SAPCOD	SenderSystem

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

- COD\_CRM\_BusinessPartner\_Confirmation
- COD\_CRM\_BusinessPartner\_Replicate
- COD\_CRM\_BusinessPartnerRelationship\_Replicate
- COD\_CRM\_Lead\_Replicate\_Confirmation
- COD\_CRM\_Lead\_Status\_Notification
- COD\_CRM\_Opportunity\_Confirmation
- COD\_CRM\_Opportunity\_Replicate
- COD\_CRM\_Service\_Request\_Delegation
- COD\_CRM\_BusinessActivityReplicate\_Bulk
- CRM\_COD\_Business\_Activity\_Replicate\_Bulk

## 13.1.5 Mapping COD||OBJTYPE ↔ CRM||OBJTYPE

### COD||OBJTYPE

The following values are contained in the GDT BusinessTransactionDocumentTypeCode:

30	Sales Quote
72	Opportunity
64	Lead
542	Activity Task
114	Sales Order
118	Ticket
12	Appointment
39	E-Mail
764	Campaign
86	Phone Call

### CRM||OBJTYPE

In the SAP CRM system, you can execute transaction **SW01** to find the following SAP CRM object types:

SAP CRM Object Type	Description
BUS2000223	Service Request
BUS2010020	Marketing Project Campaign
BUS2000111	CRM Opportunity
BUS2000125	CRM Task
BUS2000108	CRM Lead
BUS2000115	CRM Sales Transaction
BUS2000126	CRM Business Activity

Value Mapping Edit View

Display Value Mapping Agencies

Agency: CRM\_OBJTYPE Agency: COD\_OBJTYPE  
Scheme: OBJTYPE Scheme: OBJTYPE

Value For CRM_OBJTYPE	Value For COD_OBJTYPE	Group Name
BUS2000223	118	TypeCode
BUS2010020	764	TypeCode
BUS2000111	72	TypeCode
BUS2000126	447	TypeCode
BUS2000125	542	TypeCode
BUS2000108	64	TypeCode

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

- CRM\_COD\_Opportunity\_Replicate\_Bulk
- COD\_CRM\_Opportunity\_Replicate

## 13.1.6 Mapping COD||ResultReasonCode ↔ CRM||ResultReasonCode

### COD||ResultReasonCode

The following values are contained in the GDT CustomerTransactionDocumentResultReasonCode:

Code	Description
001	Lost to competitor
002	Lost due to product
003	Lost due to price
004	Lost due to service
005	Won due to product
006	Won due to price
007	Won due to service
008	Accepted Because of High Revenue Potential
009	Accepted Because of High Chance of Success
010	Accepted for Strategic Reasons
011	Rejected Because of Low Revenue Potential
012	Rejected Because of Low Chance of Success
013	Rejected Because of Wrong Target Segment
014	Won Against Competitor
015	Currently No Interest in Buying

### CRM||ResultReasonCode

The SAP CRM codes are a concatenation of code group and code. For more information, review the activity under [SAP Customizing Implementation Guide Customer Relationship Management Transactions Settings for Leads Reason for Status: Leads Define Code Group Profiles](#).

The screenshot shows the 'Display Value Mapping Agencies' window. The 'Agency' field is set to 'CRM\_ResultReasonCode' and the 'Scheme' is 'ResultReasonCode'. On the right, the 'Agency' field is set to 'COD\_ResultReasonCode' and the 'Scheme' is 'ResultReasonCode'. Below this, a table lists the mappings:

Value For CRM_ResultReasonCode	Value For COD_ResultReasonCode	Group Name *
LEAD00020002	002	LeadResultReasonCode
LEAD00010001	001	LeadResultReasonCode
LEAD00030003	004	LeadResultReasonCode
LEAD00060006	007	LeadResultReasonCode
LEAD00050005	005	LeadResultReasonCode

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

## Message Mappings

COD\_CRM\_Lead\_Status\_Notification

CRM\_COD\_Lead\_Replicate\_Bulk

## 13.1.7 Mapping COD||OpptLifeCycleStatusCodeInbound ↔ CRM||OpptLifeCycleStatusCodeInbound

### COD||OpptLifeCycleStatusCodeInbound

The following values are contained in the GDT OpportunityLifeCycleStatusCode:

Code	Description
1	Open
2	In Process
3	Stopped
4	Won
5	Lost

### CRM||OpptLifeCycleStatusCodeInbound

The values contained in CRM\_OpptLifeCycleStatusCodeInbound correspond to the user status of the opportunity in SAP CRM. Check which user status profile is assigned to your opportunity process type. Then check table TJ30.

The screenshot shows the SAP Value Mapping tool interface. At the top, there are menu options: Value Mapping, Edit, View, and icons for help and search. Below the menu is a section titled "Display Value Mapping Agencies". It contains two rows of input fields:

- Agency \* CRM\_OpptLifeCycleStatusCodeInbound
- Agency \* COD\_OpptLifeCycleStatusCodeInbound
- Scheme \* OpptLifeCycleStatusCodeInbound
- Scheme \* OpptLifeCycleStatusCodeInbound

Below the input fields is a table with the following data:

Value For CRM_OpptLifeCycleStatusCodeInbound	Value For COD_OpptLifeCycleStatusCodeInbound	Group Name *
E0002	2	OpptLifeCycleStatusCodeInbound
E0001	1	OpptLifeCycleStatusCodeInbound
E0008	3	OpptLifeCycleStatusCodeInbound
E0004	5	OpptLifeCycleStatusCodeInbound
E0003	4	OpptLifeCycleStatusCodeInbound

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

## Message Mappings

COD\_CRM\_Oppportunity\_Replicate

CRM\_COD\_Oppportunity\_Replicate\_Bulk

## 13.1.8 Mapping COD||CmpnLifeCycleStatusCode ↔ CRM||CmpnLifeCycleStatusCode

COD||CmpnLifeCycleStatusCode

CRM||CmpnLifeCycleStatusCode

The following values are contained in the GDT CampaignLifeCycleStatusCode:

Code	Description
1	Planned
2	Active
3	Finished
4	Cancelled

Value For CRM_CmpnLifeCycleStatusCode	Value For COD_CmpnLifeCycleStatusCode	Group Name
H1008	3	CmpnLifeCycleStatusCode
H1004	2	CmpnLifeCycleStatusCode
H1124	4	CmpnLifeCycleStatusCode

The value of this mapping is used in the CRM\_COD\_Campaign\_Replication PI message mapping.

## 13.1.9 Mapping CRM\_ProcesType ↔ CRM\_AppType

CRM\_ProcesType

CRM\_AppType

You can find the process type of the activity in table CRMC\_PROC\_TYPE in SAP CRM. For more information, review the activity under [▶ SAP Customizing Implementation Guide ▶ Customer Relationship Management ▶ Transactions ▶ Basic Settings ▶ Define Transaction Types ▶](#)

You can find the date types of the appointments in table SCAPPTTYPE in SAP CRM. For more information, review the activity under [▶ SAP Customizing Implementation Guide ▶ Customer Relationship Management ▶ Basic Functions ▶ Date Management ▶](#)

Value Mapping Agencies			
Agency	CRM_ProcessType	Agency	CRM_AppType
Scheme	TimeStamp	Scheme	TimeStamp
Value For CRM_ProcessType	Value For CRM_AppType	Group Name	
0002	ORDERACTUAL	TimeStamp	
CX02	ORDERPLANNED	TimeStamp	

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

### Message Mappings

- COD\_CRM\_AppointmentActivity\_Replicate\_Bulk
- COD\_CRM\_EmailActivity\_Replicate\_Bulk
- COD\_CRM\_PhoneCallActivity\_Replicate\_Bulk
- COD\_CRM\_TaskActivity\_Replicate\_Bulk
- CRM\_COD\_AppointmentActivity\_Replicate
- CRM\_COD\_EmailActivity\_Replicate\_Bulk
- CRM\_COD\_PhoneCallActivity\_Replication\_Bulk
- CRM\_COD\_TaskActivity\_Replicate\_Bulk

## 13.1.10 Mapping COD||ActivityLifeCycleStatusCode ↔ CRM||ActivityLifeCycleStatusCode

### COD||ActivityLifeCycleStatusCode

The following values are contained in the GDT ActivityLifeCycleStatusCode

Code	Description
1	Open
2	In Process
3	Completed
4	Cancelled

### CRM||ActivityLifeCycleStatusCode

The value of CRM\_ActivityLifeCycleStatusCode corresponds to the user status of the activity in SAP CRM. Check which user status profile is assigned to your activity process type. Then check table TJ30.

The screenshot shows the 'Display Value Mapping Agencies' window. The Agency is 'COD\_ActivityLifeCycleStatusCode' and the Scheme is 'ActivityLifeCycleStatusCode'. The mapped Agency is 'CRM\_ActivityLifeCycleStatusCode' and the Scheme is 'ActivityLifeCycleStatusCode'. The table below shows the mapping values:

Value For COD_ActivityLifeCycleStatusCode	Value For CRM_ActivityLifeCycleStatusCode	Group Name
3	E0003	LifeCycleStatusCode
2	E0002	LifeCycleStatusCode
4	E0007	LifeCycleStatusCode
1	E0001	LifeCycleStatusCode

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

- COD\_CRM\_BusinessActivityReplicate\_BulkMessage Mappings
- CRM\_COD\_Business\_Activity\_Replicate\_Bulk

### 13.1.11 Mapping COD||INTERNALID ↔ CRM||GROUPING

With this mapping you control whether an internal or an external number range should be considered when replicating business partners from SAP Cloud for Customer to SAP CRM.

**COD||INTERNALID**

**CRM||GROUPING**

The value of the INTERNALID is the logical system of the SAP CRM system.

See data element BU\_GROUP in table TB001 in SAP CRM.

The screenshot shows the 'Display Value Mapping Agencies' window. The Agency is 'INTERNALID' and the Scheme is 'GROUPING'. The mapped Agency is 'GROUPING' and the Scheme is 'GROUPING'. The table below shows the mapping values:

Value For INTERNALID	Value For GROUPING	Group Name
Q9CCLNT400	0001	GROUPING

The value of this mapping is used in the COD\_CRM\_BusinessPartner\_Replicate PI message mapping.

### 13.1.12 Mapping COD\_ActivityStatusCode ↔ CRM\_ActivityStatusCode



## 13.1.13 Mapping COD\_PhoneCallActivityLifeCycleStatusCode ↔ CRM\_PhoneCallActivityLifeCycleStatusCode

### COD\_PhoneCallActivityLifeCycleStatusCode

The following values are contained in the GDT ActivityLifeCycleStatusCode:

Code	Description
1	Open
2	In Process
3	Completed
4	Cancelled

### CRM\_PhoneCallActivityLifeCycleStatusCode

The value of CRM\_PhoneCallActivityLifeCycleStatusCode corresponds to the user status of the activity in SAP CRM. Check which user status profile is assigned to your activity process type. Then check table TJ30.

The screenshot shows the SAP Value Mapping tool interface. At the top, there are menu options: Value Mapping, Edit, View, and several icons. Below the menu, the title is 'Display Value Mapping Agencies'. There are two rows of input fields for Agency and Scheme. The Agency field is set to 'COD\_PhoneCallActivityLifeCycleStatusCode' and the Scheme field is 'PhoneCallActivityLifeCycleStatusCode'. On the right side, the Agency field is set to 'CRM\_PhoneCallActivityLifeCycleStatusCode' and the Scheme field is 'PhoneCallActivityLifeCycleStatusCode'. Below the input fields, there is a table with the following data:

Value For COD_PhoneCallActivityLifeCycleStatusCode	Value For CRM_PhoneCallActivityLifeCycleStatusCode	Group Name
2	E0002	PhoneCallActivityLifeCycleStatusCode
1	E0001	PhoneCallActivityLifeCycleStatusCode
4	E0007	PhoneCallActivityLifeCycleStatusCode
3	E0003	PhoneCallActivityLifeCycleStatusCode

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

### Message Mappings

COD\_CRM\_PhoneCallActivity\_Replicate\_Bulk

CRM\_COD\_PhoneCallActivity\_Replication\_Bulk

## 13.1.14 Mapping COD\_TaskActivityStatusCode ↔ CRM\_TaskActivityStatusCode

### COD\_TaskActivityStatusCode

The following values are contained in the GDT ActivityLifeCycleStatusCode:

Code	Description
1	Open
2	In Process
3	Completed
4	Cancelled

### CRM\_TaskActivityStatusCode

The value of the GDT CRM\_TaskActivityStatusCode corresponds to the user status of the activity in SAP CRM. Check which user status profile is assigned to your activity process type. Then check table TJ30.

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

### Message Mappings

COD\_CRM\_TaskActivity\_Replicate\_Bulk

CRM\_COD\_TaskActivity\_Replicate\_Bulk

## 13.1.15 Mapping COD||ActivityTypeCode ↔ CRM||ActivityTypeCode

## COD||ActivityTypeCode

The values of the COD\_ActivityTypeCode are a concatenation of values of the GDT TextCollectionTextTypeCode and the values of the processing type code of the activity, separated by ||

The following values are contained in the GDT TextCollection-TextTypeCode:

Code	Description
10002	Body Text
10011	Internal Comment

## CRM||ActivityTypeCode

The values are a concatenation of the SAP CRM text IDs and values of the processing type code of the activity separated by ||.

The SAP CRM text IDs can be derived as follows:

1. Obtain the text determination procedure that is assigned to your activity transaction type by performing the activity under [SAP Customizing Implementation Guide > Customer Relationship Management > Transactions > Basic Settings > Define Transaction Types](#).
2. b) Obtain the text IDs that are used in the text determination procedure by performing the activity under [SAP Customizing Implementation Guide > Customer Relationship Management > Basic Functions > Define Text Determination Procedure](#).

The screenshot shows the 'Display Value Mapping Agencies' configuration screen. It features two input fields for Agency and Scheme. The Agency field is set to 'COD\_ActivityTypeCode' and the Scheme field is 'ActivityTypeCode'. On the right, the Agency field is set to 'CRM\_ActivityTypeCode' and the Scheme field is 'ActivityTypeCode'. Below these fields is a table with three columns: 'Value For COD\_ActivityTypeCode', 'Value For CRM\_ActivityTypeCode', and 'Group Name'. The table contains six rows of data.

Value For COD_ActivityTypeCode	Value For CRM_ActivityTypeCode	Group Name
10002  0000	A002  0000	TypeCode
10002  0005	A002  0005	TypeCode
10002  0002	A002  0002	TypeCode
10002  CX03	A002  CX03	TypeCode
10002  ZM01	A002  ZM01	TypeCode
10002  CX02	A002  CX02	TypeCode

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

- COD\_CRM\_BusinessActivityReplicate\_Bulk
- CRM\_COD\_Business\_Activity\_Replicate\_Bulk

## 13.1.16 Mapping COD||HIERARCHYID ↔ CRM||SNDPRN

### COD||HIERARCHYID

The value of HIERARCHYID corresponds to the product hierarchy that is assigned to the application Sales in SAP CRM. For more information, review the activity under [▶ SAP Customizing Implementation Guide ▶ Cross-Application Components ▶ SAP Product ▶ Product Category ▶ Assign Category Hierarchies to Applications ▶](#).

### CRM||SNDPRN

The value of SNDPRN corresponds to the logical system of the SAP CRM system.

Value For SNDPRN	Value For HIERARCHYID	Group Name
Q9CCLNT400	R3PRODHIER	HIERARCHYID

The value of this mapping is used in the CRM\_COD\_Material\_Replicate\_Bulk PI message mapping.

## 13.1.17 Mapping COD||SRLifeCycleStatusCode ↔ CRM||SRLifeCycleStatusCode

### COD||SRLifeCycleStatusCode

The following values are contained in the GDT ServiceRequestLifeCycleStatusCode:

Code	Description
1	Open
2	In Process
3	Completed
4	Closed

### CRM||SRLifeCycleStatusCode

The value of CRM\_SRLifeCycleStatusCode corresponds to the user status of the service request in SAP CRM. Check which user status profile is assigned to your service request process type. Then check table TJ30.

Value For COD_SRLifeCycleStatusCode	Value For CRM_SRLifeCycleStatusCode	Group Name
3	E0006	Completed and Cancelled
2	E0003	In Process
1	E0001	Open
4	E0007	Closed

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

**Message Mappings**

- COD\_CRM\_Service\_Request\_Delegation
- CRM\_COD\_Service\_Request\_Delegation\_Confirmation

## 13.1.18 Mapping COD||LeadLifeCycleStatusCode ↔ CRM||LeadLifeCycleStatusCode

**COD||LeadLifeCycleStatusCode**

The following values are contained in the GDT LeadLifeCycleS-tatusCode:

Code	Description
1	Open
2	Qualified
3	Handed Over
4	Accepted
5	Declined
6	Converted

**CRM||LeadLifeCycleStatusCode**

The value of CRM\_LeadLifeCycleStatusCode corresponds to the user status of the lead in SAP CRM. Check which user status profile is assigned to your lead process type. Then check table TJ30.

Value For COD_LeadLifeCycleStatusCode	Value For CRM_LeadLifeCycleStatusCode	Group Name *
2		LeadLifeCycleStatusCode
1	E0001	LeadLifeCycleStatusCode
6	E0003	LeadLifeCycleStatusCode
5	E0006	LeadLifeCycleStatusCode
4	E0005	LeadLifeCycleStatusCode
3	E0002	LeadLifeCycleStatusCode

The value of this mapping is used in the COD\_CRM\_Lead\_Status\_Notification PI message mapping.

### 13.1.19 Mapping COD||ResultStatusCode ↔ CRM||Status

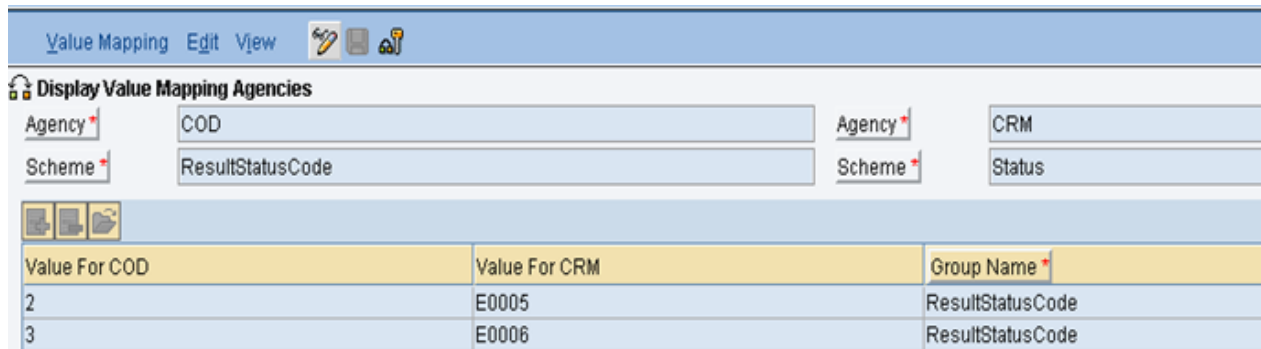
#### COD||ResultStatusCode

The following values are contained in the LeadResultStatus-Code GDT

Code	Description
1	Pending
2	Accepted
3	Declined
4	Not Relevant

#### CRM||Status

The value of the CRM-Status is the user status of the lead in SAP CRM. Check which user status profile is assigned to your lead process type. Then check table TJ30..



The value of this mapping is used in the CRM\_COD\_Lead\_Replicate\_Bulk PI message mapping.

### 13.1.20 Mapping COD||BusinessSystemID ↔ CRM||LogicalSystemID

In the work center ADMINISTRATOR go to the work center view "Communication Systems". Choose the communication system that represents your SAP CRM system. If the "Business System ID" and the "IDoc Logical System ID" are the same for this communication system, the PI value mapping is not required. If the IDs are not the same, then the "Business System ID" is the COD-BusinessSystemID and the "IDoc Logical System ID" is the CRM-LogicalSystemID in the value mapping in PI.

## COMMUNICATION SYSTEM OVERVIEW: Q2CCLNT400

Status: **Active**

[Edit](#) [Close](#) | [Print](#)

### COMMUNICATION SYSTEM

ID: Q2CCLNT400

SAP Business Suite:

Hostname:

System Access Type: Internet

### INTERNAL COMMENT

### CONTACT INFORMATION

First Name:

Last Name:

Email:

Phone:

Fax:

### ADDITIONAL DATA

Created By:

Created On: 19.06.2013 22:24

Changed By:

Changed On: 21.11.2013 13:49

### Business Instances

System Instance ID	Business System ID	IDoc Logical System ID	SAP Client	Pr
Q2CCLNT400	Q2C_400	Q2CCLNT400	400	5

[Value Mapping](#) [Edit](#) [View](#)

**Display Value Mapping Agencies**

Agency *	COD	Agency *	CRM
Scheme *	BusinessSystemID	Scheme *	LogicalSystemID

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

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

- COD\_CRM\_Activity\_Confirmation
- COD\_CRM\_BusinessPartner\_Confirmation
- COD\_CRM\_BusinessPartner\_Replicate
- COD\_CRM\_BusinessPartnerRelationship\_Replicate
- COD\_CRM\_Lead\_Replicate
- COD\_CRM\_Lead\_Replicate\_Confirmation
- COD\_CRM\_Lead\_Status\_Notification
- COD\_CRM\_Opportunity\_Confirmation
- COD\_CRM\_Opportunity\_Replicate
- COD\_CRM\_Quote2SalesOrderRequest
- COD\_CRM\_Service\_Request\_Delegation
- COD\_CRM\_TaskActivity\_Confirmation
- COD\_CRM\_TaskActivity\_Replicate\_Bulk

## 13.1.21 Mapping COD||SocialMediaChannel ↔ CRM|| SocialMediaChannel

### COD||SocialMediaChannel

The following values are contained in the GDT SocialMedia-ChannelCode

001	Facebook
002	Twitter
003	SAP Social Media Analytics

### CRM||SocialMediaChannel

See data element SMI\_SOCIALMEDIACHANNEL in table SMI\_CHNLDEF in CRM. For more information, review the activity under SAP Customizing Implementation Guide > Customer Relationship Management > Master Data > Business Partner > Define Social Media Channels and User Accounts.



The value of this mapping is used in the:

- COD\_CRM\_SocialMediaUserProfile\_BusinessPartner\_Replicate
- COD\_CRM\_SocialMediaUserProfile\_Replicate message mapping.

## 13.1.22 Mapping COD||CODPricingRequest ↔ CRM|| CRMDocumentTypeCode

### COD||CODPricingRequest

Specify the constant PricingRequest

### CRM||CRMDocumentTypeCode

This is the CRM transaction type you must use for the pricing simulation.

This is defined in the IMG under [Customer Relationship Management > Transactions > Basic Settings > Define Transaction Types](#)

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

- COD\_CRM\_Opportunity\_Pricing\_Request



## 13.2 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.

### 13.2.1 SAP Cloud for Customer for Utilities: Integration Overview

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

The following communication scenarios are predelivered for the Utilities solution:

- Service Product Replication (inbound)
- Utility Quotes Replication (outbound)
- Quote PDF (outbound synchronous)
- Business Agreement Replication from External System
- Business Agreement Replication to External System
- IBase replication from External System
- IBase replication to External System
- Individual Objects Replication from External System
- Individual Objects Replication to External System
- Initial and Delta Load Replication

#### ⓘ Note

The interfaces for replication of Business Partner, Organization Unit and Employee MUST be set up in order to enable Utilities specific integration scenarios for Business Agreement and Utility Quote.

#### ⓘ Note

This standard CRM report CRMPCD\_CREATE\_CONNECTIVITY for creating connectivity objects for interfaces is NOT used for the Utilities solution. Therefore, the connectivity objects for interfaces for Utilities objects must be manually defined.

#### 13.2.1.1 Service Product Replication (Inbound)

The SAP Cloud for Customer for Utilities solution uses the standard material web service in the cloud system to fetch service products for Utilities. Note the following details regarding web services for product replication (only uni-directional, from CRM to cloud solution) from CRM:

1. Bdoc type to be configured on CRM: `PRODUCT_SRV`

#### ⓘ Note

For bdoc related configurations, refer to section 12.4: **SAP CRM Configuration**.

2. Process Integration Scenario in PI: `COD_CRM_MasterDataReplication`.
3. Sender Interface: `CRMXIF_PRODUCT_SERVICE_SAVE.CRMXIF_PRODUCT_SERVICE_SAVE01` (namespace: `urn:sap-com:document:sap:idoc:messages`).
4. Receiver Interface: `MaterialReplicationBulkIn` (namespace: `http://sap.com/xi/AP/FO/Product/Global`).
5. Operation Mapping: `CRM_COD_ServiceProduct_Replicate_Bulk`.
6. SOAP receiver Communication Channel Path: `https://host:port/sap/bc/srt/scs/sap/materialreplicationinitiatedby?MessageId`
7. Integration Scenario to be maintained on C4C Communication Arrangement: `Product Replication with Sales Data from External System`.
8. Code list mappings: `UtilitiesDivisionCode`.

#### ⓘ Note

Only a one-way replication is allowed for products (from CRM to cloud system).

## 13.2.1.2 Quotes Replication (Outbound)

The following are details for quotes replication (only outbound, from CRM to cloud solution).

1. Bdoc type to be configured on CRM: `BUS_TRANS_MSG`.

#### ⓘ Note

For bdoc related configurations, refer to section 12.4: **SAP CRM: Configuration**.

2. Process Integration Scenario in PI: `NA`.
3. Sender Interface: `CustomerQuoteProcessingSalesOrderRequestOut` (Namespace: `http://sap.com/xi/AP/CRM/Global`).
4. Receiver Interface: `CRMXIF_ORDER_SAVE_M.CRMXIF_ORDER_SAVE_U04` (Namespace: `urn:sap-com:document:sap:idoc:messages`).
5. Operation Mapping: `COD_CRM_Quote2SalesOrderRequest2k`.
6. Integration Scenario to be maintained on C4C Communication Arrangement: `Sales Quote with Sales Order Processing in an External System`.
7. Code list mappings: `NA`.

The replication of Utility Quote from C4C to CRM will trigger an outbound confirmation IDoc in SAP CRM. The following configurations must be maintained for this confirmation message:

1. Bdoc type to be configured on CRM: `BUS_TRANS_MSG`.

#### ⓘ Note

For bdoc related configurations, refer to section 12.4: **SAP CRM: Configuration**.

2. Process Integration Scenario in PI: NA.
3. Sender Interface: CRMXIF\_ORDER\_SAVE\_M.CRMXIF\_ORDER\_SAVE\_U04 (Namespace: urn:sap-com:document:sap:idoc:messages).
4. Receiver Interface: CustomerQuoteProcessingUpdatingSalesQuoteWithSalesOrderIn (Namepace: http://sap.com/xi/AP/CRM/Global).
5. Operation Mapping: CRM\_COD\_CustomerQuote\_SalesOrder\_Notification2.
6. SOAP receiver Communication Channel Path: *https://host:port/sap/bc/srt/scs/sap/customerquoteprocessingupdati1?MessageId*
7. Integration Scenario to be maintained on C4C Communication Arrangement: Sales Quote with Sales Order Processing in an External System.
8. Code list mappings: NA.

### 📘 Note

The Utility quote scenario uses the IDoc type: CRMXIF\_ORDER\_SAVE\_U04. This interface is specifically for utility customers. Only two Operational mappings are provided: one for replication and another for confirmation. The Integration scenario must be configured.

### 📘 Note

After the creation of an Utility quote, the Replication is triggered on C4C through the action Submit and Create External Followup Document.

## 13.2.1.3 Quote PDF (Outbound Synchronous)

When a user clicks on the external document ID on the “Sales Documents” tab of an utility Quote, a request message is triggered from SAP Cloud for Customer, which contains the invoice number. The response from SAP CRM contains the Quote PDF in binary format.

There is no operation mapping required in the Quote PDF interface on SAP PI as the source and target structures are same for request and Response. Therefore a point to point connection can be configured for Quote PDF interface in the Integration Directory of PI system using dummy sender and receiver interfaces. On the SAP CRM system a binding must be created in the transaction SOAMANAGER for the service:

Follow the below steps to do the same:

- Execute transaction SOAMANAGER
- Click on Webservice Configuration
- Search for the Object name: UTILITIESSALESQUOTEPDFPREVIEW
- Click on Create Service
- Give a Service Name, Binding name and click Next
- Provide the transport and authentication settings and click Next
- Click Next
- Click Finish

Create a SOAP receiver channel in SAP PI to connect to the service exposed with the above binding.

- Integration Scenario to be maintained on C4C Communication Arrangement: Utilities Print Preview of PDF Quotation in CRM.

### Note

A standard SAP CRM BADI implementation – CRMPCD\_SALES\_QUOTE is provided to implement account integration. The method CRMPCD\_SALES\_QUOTE\_PDF\_GET takes Quotation ID as input and sends quotation pricing and billing details as a Pdf attachment. The call in this BAdI is made at runtime and details are sent back to SAP Cloud for Customer on the fly.

- Name: CRMPCD\_SALES\_QUOTE
- Method: CRMPCD\_SALES\_QUOTE\_PDF\_GET
- Input Parameters: IV\_QUOTATION\_ID (CRM Quotation Id)
- Output Parameters: CV\_BINARYCONTENT (PDF Binary Content as a Base64 String) CT\_RETURN\_MSG (Any Return/Error Message)

## 13.2.1.4 Business Agreement Replication from External System

The following are details for Business Agreement Replication from External System.

1. Bdoc type to be configured on CRM: BUAG\_MAIN.

### Note

For bdoc related configurations, refer to section 12.4: **SAP CRM: Configuration**.

2. Process Integration Scenario in PI: COD\_CRM\_MasterDataReplication.
3. Sender Interface: : CRMXIF\_IST\_BUAG\_SAVE.CRMXIF\_IST\_BUAG\_SAVE01 (Namespace: urn:sap-com:document:sap:idoc:messages).
4. Receiver Interface: BusinessAgreementReplicationIn (Namespace: http://sap.com/xi/A1S/Global).
5. Operation Mapping: CRM\_COD\_BusinessAgreement\_Replicate\_Bulk.
6. SOAP receiver Communication Channel Path: *https://host:port/sap/bc/srt/scs/sap/businessagreementreplicationin?MessageId*
7. Integration Scenario to be maintained on C4C Communication Arrangement: Business Agreement Replication from External System.

### Note

The Idoc CRMXIF\_IST\_BUAG\_SAVE.CRMXIF\_IST\_BUAG\_SAVE01 is also triggered with the confirmation variant when a business agreement is replicated from C4C to CRM. To distinguish between the replication IDoc and the confirmation IDoc, a xpath condition must be maintained in the Interface Determination as follows: / CRMXIF\_IST\_BUAG\_SAVE01/IDOC/EDI\_DC40/MESCOD ≠ CNF

## 13.2.1.5 Business Agreement Replication to External System

The following are details for Business Agreement Replication to External System.

1. Bdoc type to be configured on CRM: BUAG\_MAIN.

### Note

For bdoc related configurations, refer to section 12.4: **SAP CRM: Configuration**.

2. Process Integration Scenario in PI: `COD_CRM_MasterDataReplication`.
3. Sender Interface: `BusinessAgreementReplicationOut` (Namespace: `http://sap.com/xi/A1S/Global`).
4. Receiver Interface: `CRMXIF_IST_BUAG_SAVE.CRMXIF_IST_BUAG_SAVE01` (Namespace: `urn:sap-com:document:sap:idoc:messages`).
5. Operation Mapping: `COD_CRM_BusinessAgreement_Replicate`.
6. SOAP receiver Communication Channel Path: NA
7. Integration Scenario to be maintained on C4C Communication Arrangement: `Business Agreement Replication to External System`.
8. Code list mappings: `BusinessAgreementClass Code`, `PaymentTerms Code` and `PaymentMethod Code`.

When Business Agreement is replicated from C4C to CRM, an outbound confirmation IDoc is triggered in SAP CRM.

The following configurations must be maintained for the same:

1. Bdoc type to be configured on CRM: `BUAG_MAIN` .

### Note

For bdoc related configurations, refer to section 12.4: **SAP CRM: Configuration**.

2. Process Integration Scenario in PI: `COD_CRM_MasterDataReplication`.
3. Sender Interface: `CRMXIF_IST_BUAG_SAVE.CRMXIF_IST_BUAG_SAVE01`(Namespace: `urn:sap-com:document:sap:idoc:messages`).
4. Receiver Interface: `BusinessAgreementReplicationConfirmationIn`(Namespace: `http://sap.com/xi/A1S/Global`).
5. Operation Mapping: `CRM_COD_BusinessAgreement_Confirmation`.
6. SOAP receiver Communication Channel Path: `https://host:port/sap/bc/srt/scs/sap/businessagreementreplicationse?MessageId`
7. Integration Scenario to be maintained on C4C Communication Arrangement: `Business Agreement Replication to External System`.
8. Code list mappings: `BusinessAgreementClass Code`, `PaymentTerms Code` and `PaymentMethod Code`.

### Note

In the partner profile for the inbound idoc message type `CRMXIF_IST_BUAG_SAVE` in SAP CRM, the process code `CRMPCD_BUAG_I` must be selected. This process code is available in the SP10 of `CRMPCD01 SWCV` onwards.

### Note

The Idoc `CRMXIF_IST_BUAG_SAVE.CRMXIF_IST_BUAG_SAVE01` is also triggered for the replication of Business Agreement from CRM to C4C. To distinguish between the replication IDoc and the confirmation IDoc, a xpath condition must be maintained in the Interface Determination like this: `/CRMXIF_IST_BUAG_SAVE01/IDOC/EDI_DC40/MESCOD = CNF`.

## 13.2.1.6 IBase Replication from External System

The following are details for IBase Replication from External System.

1. Bdoc type to be configured on CRM: CRM\_IBASE\_MESS.

### Note

For bdoc related configurations, refer to section 12.4: **SAP CRM: Configuration**.

2. Process Integration Scenario in PI: COD\_CRM\_MasterDataReplication.
3. Sender Interface: CRMXIF\_IBASE\_SAVE\_M.CRMXIF\_IBASE\_SAVE01(Namespace: urn:sap-com:document:sap:idoc:messages).
4. Receiver Interface: InstalledBaseReplicationIn (Namespace: http://sap.com/xi/A1S/Global).
5. Operation Mapping: CRM\_COD\_InstalledBase\_Replication\_In.
6. SOAP receiver Communication Channel Path: *https://host:port/sap/bc/srt/scs/sap/installedbasereplicationin?MessageId*
7. Receiver Interface: ConnectionObjectReplicationIn (Namespace: http://sap.com/xi/A1S/Global).
8. Operation Mapping: CRM\_COD\_ConnectionObject\_Replication\_In.
9. SOAP receiver Communication Channel Path: *https://host:port/sap/bc/srt/scs/sap/connectionobjectreplicationin?MessageId*
10. Receiver Interface: PointOfDeliveryReplicationIn (Namespace: http://sap.com/xi/A1S/Global).
11. Operation Mapping: CRM\_COD\_PointOfDelivery\_Replication\_In.
12. SOAP receiver Communication Channel Path: *https://host:port/sap/bc/srt/scs/sap/pointofdeliveryreplicationin?MessageId*
13. Receiver Interface: InstallationPointReplicationIn (Namespace: http://sap.com/xi/A1S/Global).
14. Operation Mapping: CRM\_COD\_InstallPoint\_Replication\_In.
15. SOAP receiver Communication Channel Path: *https://host:port/sap/bc/srt/scs/sap/installedbasedatamanagementin1?MessageId*
16. Receiver Interface: UpdateHierarchyInstallPointReplicationIn (Namespace: http://sap.com/xi/A1S/Global).
17. Operation Mapping: CRM\_COD\_UpdateHierarchyInstallPoint\_Replication\_In.
18. SOAP receiver Communication Channel Path: *https://host:port/sap/bc/srt/scs/sap/installpointhierarchyreplicati?MessageId*
19. Integration Scenario to be maintained on C4C Communication Arrangement: Utility Objects Replication.
20. Code list mappings: NA.

### Note

The outbound IDoc for IBase replication CRMXIF\_IBASE\_SAVE01 triggers five different services on the C4C system.

## 13.2.1.7 IBase Replication to External System

The following are details for IBase Replication to External System.

1. Bdoc type to be configured on CRM: CRM\_IBASE\_MESS

### Note

For bdoc related configurations, refer to section 12.4: **SAP CRM: Configuration**.

2. Process Integration Scenario in PI: `COD_CRM_MasterDataReplication`.
3. Sender Interface: `InstalledBaseReplicationOut` (Namespace: `http://sap.com/xi/A1S/Global`).
4. Receiver Interface: `CRMXIF_IBASE_SAVE_M.CRMXIF_IBASE_SAVE01` (Namespace: `urn:sap-com:document:sap:idoc:messages`).
5. Operation Mapping: `COD_CRM_InstalledBase_Replication_Out`.
6. SOAP receiver Communication Channel Path: NA.
7. Sender Interface: `InstallationPointReplicationOut` (Namespace: `http://sap.com/xi/A1S/Global`).
8. Receiver Interface: `CRMXIF_IBASE_SAVE_M.CRMXIF_IBASE_SAVE01` (Namespace: `urn:sap-com:document:sap:idoc:messages`).
9. Operation Mapping: `COD_CRM_InstallPoint_Replication_Out`.
10. SOAP receiver Communication Channel Path: NA.
11. Integration Scenario to be maintained on C4C Communication Arrangement: Utility Objects Replication.
12. Code list mappings: NA.

### Note

In the partner profile for the inbound idoc message type `CRMXIF_IBASE_SAVE_M` in SAP CRM, the process code `CRMPCD_ISU_IBASE` must be selected. This process code is available in the SP10 of `CRMPCD01 SWCV` onwards.

## 13.2.1.8 Individual Objects Replication from External System

The following are details for Individual Objects Replication from External System.

1. Bdoc type to be configured on CRM: `PRODUCT_INDOBJ`.

### Note

For bdoc related configurations, refer to section 12.4: **SAP CRM: Configuration**.

2. Process Integration Scenario in PI: `COD_CRM_MasterDataReplication`.
3. Sender Interface: `CRMXIF_PRODUCT_INDOBJ_SAVE.CRMXIF_PRODUCT_INDOBJ_SAVE01` (Namespace: `urn:sap-com:document:sap:idoc:messages`).
4. Receiver Interface: `PointOfDeliveryReplicationIn` (Namespace: `http://sap.com/xi/A1S/Global`).
5. Operation Mapping: `CRM_COD_IndividualObjectReplication`.
6. SOAP receiver Communication Channel Path: `https://host:port/sap/bc/srt/scs/sap/pointofdeliveryreplicationin?MessageId`
7. Integration Scenario to be maintained on C4C Communication Arrangement: Utility Objects Replication .

### Note

In the partner profile for the outbound idoc message type `CRMXIF_PRODUCT_INDOBJ_SAVE` in SAP CRM, the output mode "Collect Idocs" must be selected.

## 13.2.1.9 Individual Objects Replication to External System

The following are details for Individual Objects Replication to External System.

1. Bdoc type to be configured on CRM: `PRODUCT_INDOBJ`.

### ⓘ Note

For bdoc related configurations, refer to section 12.4: **SAP CRM: Configuration**.

2. Process Integration Scenario in PI: `COD_CRM_MasterDataReplication`.
3. Sender Interface: `ConnectionObjectReplicationOut` (Namespace: `http://sap.com/xi/A1S/Global`).
4. Receiver Interface: `CRMXIF_PRODUCT_INDOBJ_SAVE.CRMXIF_PRODUCT_INDOBJ_SAVE01` (Namespace: `urn:sap-com:document:sap:idoc:messages`).
5. Operation Mapping: `COD_CRM_ConnectionObject_Replication`.
6. SOAP receiver Communication Channel Path: NA.
7. Sender Interface: `PointOfDeliveryReplicationOut` (Namespace: `http://sap.com/xi/A1S/Global`).
8. Receiver Interface: `CRMXIF_PRODUCT_INDOBJ_SAVE.CRMXIF_PRODUCT_INDOBJ_SAVE01` (Namespace: `urn:sap-com:document:sap:idoc:messages`).
9. Operation Mapping: `COD_CRM_PointOfDelivery_Replication`.
10. SOAP receiver Communication Channel Path: NA.
11. Integration Scenario to be maintained on C4C Communication Arrangement: Utility Objects Replication.
12. Code list mappings: NA.

## 13.2.1.10 Initial and Delta Load Replication

The automatic replication of master data supports the initial replication of master data objects, as well as the delta upload of changed objects.

### ⓘ Note

Always trigger the complete initial replication run before scheduling the job for delta run.

SAP provides the following reports for transferring master data from SAP CRM to your SAP Cloud for Customer for Utilities. Note that the same reports will be also be used for delta replication of master data.



Selection Report	Description
<p>CRMPCD_PRODUCT_EXTRACT</p>	<p>This standard CRM report for initial data replication has been enhanced to include Utilities service types. The <code>Product Type</code> in the report represents the Utilities service types. <b>SITE : MANDATORY.</b></p> <p>The method <code>L_CRMPCD_PRODUCT_INIT_LOAD=&gt;SEND_PRODUCT_BATCH_JOB</code> in this report has been added to this standard report to differentiate the material product or service product to be replicated. Note that the Utilities solution requires the service product (Utilities product type) for product master data.</p> <div data-bbox="820 653 1425 873" style="border: 1px solid #ccc; padding: 5px; background-color: #f9f9f9;"> <p><b>Note</b></p> <p>This report also calls the background report - <code>CRMPCD_PRODUCT_EXTRACT_WORKER</code>. Note that this report is called in the above initial load report and need not be scheduled separately.</p> </div>
<p>CRMPCD_BUAG_EXTRACT</p>	<p>Use this report for initial data replication of business agreements. This report also calls the background report - <code>CRMPCD_BUAG_EXTRACT_WORKER</code>. Note that this report is called in the above initial load report and need not be scheduled separately for a job run.</p>
<p>CRMPCD_IBASE_EXTRACT</p>	<p>This report can be used for initial data replication of IBASE master data. The type - 'IU' in the report represents the Utilities technical master data such as the connection object.</p> <p>This report also calls the background report - <code>CRMPCD_IBASE_EXTRACT_WORKER</code>. Note that this report is called in the above initial load report and need not be scheduled separately for a job run.</p> <div data-bbox="820 1329 1425 1514" style="border: 1px solid #ccc; padding: 5px; background-color: #f9f9f9;"> <p><b>Note</b></p> <p>Each IBASE object needs separate IDoc trigger for including separate individual products. The IBASE ID as filter ensures that all IBASE objects are retrieved for replication.</p> </div>
<p>RSEOUT00</p>	<p>This report is to reprocess the IDocs for Individual Objects. In partner profile configuration we are holding the IDoc for individual objects and re-triggering again by scheduling this report.</p> <div data-bbox="820 1644 1425 1808" style="border: 1px solid #ccc; padding: 5px; background-color: #f9f9f9;"> <p><b>Note</b></p> <p>Scheduling of this report is Mandatory as we are processing <code>PROD_IND_OBJ</code> idocs with the standard flow. Otherwise, data inconsistency will occur.</p> </div>

## 13.2.1.11 360 Overview and Account Information

To set up the Customer 360 overview, administrators must set up the communication system and communication arrangement so that the SAP on-premise system can communicate with the SAP cloud solution. When communication arrangements are in place, the information from your SAP on-premise system appears in your SAP cloud solution, providing a broader perspective for your users.

### 13.2.1.11.1 Tasks

The following are main tasks you have to perform to set up the customer 360 overview.

#### Procedure

1. Set up the communication system and arrangements in SAP Cloud for Customer system.
2. Configure the logical port and ERP RFC connection in SAP CRM on-premise system.

### 13.2.1.11.2 Scoping

To set up the SAP Cloud for Customer system, do the following:

- Add the Utilities scoping element to your implementation project.

#### ⓘ Note

For more information, see *Activate SAP CRM Integration Using Cloud Scoping*.

### 13.2.1.11.3 Communication System

First set up the communication system for SAP CRM system. For information, see [Set Up Communication Arrangements \[page 91\]](#).

## 13.2.1.11.4 Set Up Communication Arrangements

### Context

To retrieve information from SAP CRM for Customer 360 overview for accounts, download the following WSDLs from 'Utilities 360 Info-Account' Communication Scenario:

### Procedure

1. To retrieve information from SAP CRM for Customer 360 overview for accounts, download the following WSDLs from 'Utilities 360 Info-Account' Communication Scenario:
  - a. Manage Account info
  - b. Query Account info
2. Next, create a communication arrangement with communication scenario Analytics Integration. For information, see [Configure Communication Arrangements \[page 26\]](#).

## 13.2.1.11.5 Expose Data Source for ID Mapping

The communication arrangement for the Analytics Subsidiaries Integration communication scenario is a data source which allows the SAP on-premise system to get the ID mapping from SAP Cloud for Customer.

### Context

To expose the data source for ID mapping, do the following:

### Procedure

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.

## 13.2.1.11.6 Create Consumer Proxies in SAP Systems

To build the SAP on-premise CRM system, do the following:

- Use the *Create Enterprise Service* option, in transaction *SE80* to create consumer proxies in the SAP CRM system.

- Use the downloaded WSDL files of the inbound services for this.

## 13.2.1.11.6.1 Create Logical Ports with SOA MANAGER in SAP systems

### Procedure

1. Log on to the SAP CRM system and go to transaction *SOAMANAGER*.
2. . Choose *Service Administration Web Service Configuration*.
3. Copy the technical names of the consumer proxies set up in the previous step and search for consumer proxies. The technical names of the consumer proxies are as follows:
  - a. CO\_CRMPCDOPERATIONAL\_DATA\_PROV
  - b. CO\_CRMPCDMANAGE\_ACCOUNT\_BUNDLE
  - c. CO\_CRMPCDQUERY\_UTILITIES\_AGGRE
4. Select one of the consumer proxies that you created and choose *Apply Selection*.
5. Choose *Configurations Create*.
6. . Enter the following information, along with any other appropriate information and choose *Apply Settings*:

Field	Select
Configuration Type	WSDL Based Configuration
WSDL Base	Via File
File with WSDL Document	Navigate to the appropriate file

7. Configure the consumer security settings for this logical port by doing the following:
  - a. Enter the user name and password. The user name and password are the same as the ones specified for the communication arrangement in SAP Cloud for Customer.
  - b. . Under *Transport Settings*, enter the appropriate proxy access information and save your entries.
8. To confirm if the logical port was created and configured correctly, ping the web service. If the ping was successful, then a confirmation message appears.
9. Repeat this task for the remaining consumer proxies. Note, that the same logical port name should be used for all the consumer proxies.

## 13.2.1.11.6.2 Configure SAP ERP RFC Connection

The RFC connection to SAP ERP IS-U System should be setup from SAP CRM on-premise system to fetch the financial data such as Invoice and payments.

## 13.2.1.11.7 Objects Displayed in SAP Cloud for Customer

### Context

The following objects information are fetched from SAP on-premise CRM / ERP systems and displayed on SAP Cloud for Customer:

### Procedure

1. Contract Header and Items
2. Service locations
3. . Interaction records
4. Financial information (recent payments and invoices)

## 13.2.1.11.8 Replication Report

The standard report CRMPCD\_CUSTOMER360\_EXTRACT is built to extract and send above customer 360 information to the SAP Cloud for Customer.

### Context

We recommended running the report as a background job, as it might run for a long time depending on the number of customers present in the Cloud for Customer system.

To schedule the report,

### Procedure

1. Choose the appropriate logical port configured for the SAP Cloud for Customersystem.
2. Select the background job check box and enter the size of batch processing to process the background job,

# Output

## Context

If there are some errors in the report execution, the logs are stored in the system application log. The following object and sub-object have been created to view the Customer 360 logs.

## Procedure



- Object: CRMPCD
- Sub-object: FACTSHEET

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