

# Integration of SAP Cloud Platform Master Data for Business Partners with SAP Mar- keting Cloud

## Table of Contents

1	Purpose	2
2	Prerequisites	3
2.1	Required Information	3
2.2	Onboarding to SAP Cloud Platform Master Data for Business Partners	4
2.3	Establishing Trust	4
2.4	User Management	4
3	Connectivity	5
3.1	Destination Configuration for the Distribution Service	5
3.1.1	Provider Destination	5
3.1.2	Consumer Destination	6
3.2	Distribution Model Maintenance	7
3.3	Set Up Communication Management in SAP Marketing Cloud	7
3.3.1	Preparation	7
3.3.2	Set Up Communication Management in SAP Marketing Cloud	8
3.3.2.1	Create Technical Communication User - Certificate-Based Authentication	8
3.3.2.2	Create Communication System	8
3.3.2.3	Create Communication Arrangements	9
4	Configuration in SAP Cloud Platform Integration	11
4.1	Copy Integration Package to Customer Workspace	11
4.2	Configure Integration Flows	11
4.2.1	Configure Replicate Business Partner to SAP Marketing Cloud Integration Flow	11
4.2.2	Configure Business Partner Relationship Replication Integration Flow	14
4.2.3	Configure SAP MDM Business Partner Confirmation Flow	17
4.2.4	Configure SAP MDM Business Partner Relationship Confirmation Flow	17
4.2.5	Configure Key Mapping Flow	18
4.3	Deploy Integration Flows	19

---

# 1 Purpose

SAP Cloud Platform Master Data for Business Partners provides reusable master data services on SAP Cloud Platform as a source of access to business partner master data. This document describes the integration to the consuming application SAP Marketing Cloud.

For the administration of the SAP Cloud Platform Master Data for Business Partners please refer to:

<https://help.sap.com/viewer/DRAFT/246fb358c1c7413289c03b8c72734209/1.4/en-US/07f73db944194f9fbf19c5a148b62597.html>

# 2 Prerequisites

In the following sections, we describe about required information and prerequisites.

## 2.1 Required Information

To use SAP Cloud Platform Master Data for business partners, you need the following:

A global account in SAP Cloud Platform for the Cloud Foundry environment in the following regions to get access to SAP Cloud Platform Cockpit:

Europe (Rot) region on AWS-EU 10 Live

Also see: <https://help.sap.com/viewer/index> SAP Cloud Platform What is SAP Cloud Platform Tools SAP Cloud Platform Cockpit.

Create a subaccount in case you do not have an existing one. Refer to Accounts in

<https://help.sap.com/viewer/index> What is SAP Cloud Platform Accounts.

Once you have a subaccount, you must create a Cloud Foundry organization and a space:

Choose Enable Cloud Foundry, and enter a meaningful name for your organization.

To create a space, navigate to Spaces and choose New Space.

A tenant in the SAP Cloud Platform Identity Authentication Service or your own identity provider. If you already have a tenant in the SAP Cloud Platform Identity Authentication Service from SAP S/4HANA Cloud edition, you may reuse it.

Also see:

<https://help.sap.com/viewer/index> SAP Cloud Platform Identity Authentication Service

<https://help.sap.com/viewer/index> SAP Cloud Platform What is SAP Cloud Platform Security Platform Identity Provider

<https://help.sap.com/viewer/index> SAP Cloud Platform Account Administration and Application Operations Account Administration in the Cockpit Managing Quotas Using the Cockpit Add Quotas to Subaccounts .

The entitlement is only visible in the SAP Cloud Platform Cockpit if you have a license for SAP Cloud Platform Master Data for business partners.

You should have purchased SAP Cloud Platform Master Data for business partners from an SAP account executive

You should have created users and user groups in your identity provider (IdP). This could be an SAP IdP or a different IdP.

Note

Please check the information on Harmonized and Non-Harmonized Number Scenarios before setting this value.

### Further Information Required:

SAP CPI tenant details

SAP Marketing Cloud tenant details

---

## 2.2 Onboarding to SAP Cloud Platform Master Data for Business Partners

For the onboarding you have to follow the steps.

<https://help.sap.com/viewer/DRAFT/246fb358c1c7413289c03b8c72734209/1.4/en-US/2dab577a494341bc8ff95c2490491c86.html>

## 2.3 Establishing Trust

Next you have to set up the SAP Cloud Platform Identity Authentication Service

<https://help.sap.com/viewer/DRAFT/246fb358c1c7413289c03b8c72734209/1.4/en-US/120be076f5e54a07a7729d5d593bd38a.html>

## 2.4 User Management

This section describes the method to configure user management for your app.

<https://help.sap.com/viewer/DRAFT/246fb358c1c7413289c03b8c72734209/1.4/en-US/a63d0f2d9fb94f188448dead07ae654b.html>

---

# 3 Connectivity

## 3.1 Destination Configuration for the Distribution Service

### 3.1.1 Provider Destination

Provider destination is an endpoint of a provider application. Provider applications can be all applications delivering data to the consumer applications using the models provided by the distribution service. Provider destination must be configured from a tenant which has subscribed to the distribution service.

Follow the steps below for configuration in SAP Cloud Platform:

1. Navigate to the subaccount in SAP Cloud Platform Cockpit.
2. Navigate to **Connectivity Destinations**.
3. Choose **New Destination** and enter the details as follows:
  - a. Name: <Name for the new destination>. For example, MDO\_PROVIDER.
  - b. Type: HTTP
  - c. URL: `https://mdmbp-production-distribution-service.cfapps.{region}.hana.ondemand.com/odata/v2/mdo.orchestrationAdmin`
  - d. Proxy Type: Internet  
  
Authentication: OAuth2ClientCredentials
  - e. Please use the tenant specific client id and client secret, and token service URL.
  - f. Choose **New Property** from **Additional Properties**. Enter the **MDOProvider** property with value **true**.

---

## 3.1.2 Consumer Destination

Consumer destinations are the destinations to which the provider applications distribute data. Example of consumer destination includes SAP Marketing Cloud. Follow the steps below for configuration in SAP Cloud Platform:

1. Navigate to the subaccount in SAP Cloud Platform Cockpit.
2. Navigate to **Connectivity Destinations**.
3. Choose **New Destination** and enter the details as follows:
  - a. Name: <Business\_System\_ID>\_BPOUTBOUND. For example, <SMCSYSTEMID>\_BPOUTBOUND.
  - b. Type: HTTP
  - c. URL: <CPI\_Runtime\_URL><Service Endpoint in SAP CPI>
  - d. Proxy Type: Internet
  - e. Authentication: <Select Authentication Method>. For example, OAuth2/Basic/Client Certificate Authentication.
  - f. Choose **New Property** from **Additional Properties**. In the field enter the **MDOConsumer** property with value true.

Follow the below steps for Client Certificate Authentication:

- 1) Proxy Type: Internet
- 2) Authentication: ClientCertificateAuthentication
- 3) Upload and Delete Certificate: Upload **.jks keystore file**
- 4) Select Key Store Location: Select **.jks keystore filename** from the dropdown.
- 5) Key Store Password: Choose the same password given while generating .jks keystore file.
- 6) Additional Properties: Choose **Use default JDK truststore**
- 7) Save

Generally, keystore .jks file must contain below information:

- 1) Private key and Certificate chain of end user system. Arrange certificate chain in the order of root, intermediate, and end user certificate.
- 2) Destination system root certificate.

### Note

For other interfaces, give the following values:

Service Name	Corresponding Destination in SCP
Business Partner	<SMCSYSTEMID>_BPOUTBOUND
Business Partner Relationship Replicate	<SMCSYSTEMID>_BPRELOUTBOUND
Key Mapping	<SMCSYSTEMID>_KMOUTBOUND

## 3.2 Distribution Model Maintenance

You need to set up the distribution model for the Business Partner. Please maintain filters for Business Partner Role and Business Partner Relationship Category as required in your scenario.

<https://help.sap.com/viewer/DRAFT/246fb358c1c7413289c03b8c72734209/1.4/en-US/d84eeb4889b94a0cb8091ff9162768be.html>

## 3.3 Set Up Communication Management in SAP Marketing Cloud

### 3.3.1 Preparation

You need to assign User Authorizations to Access SAP Cloud Platform Integration in SAP Cloud Platform Cockpit - Basic Authentication

<https://help.sap.com/viewer/6af9bc1f7b26494c9ec190022d14e7fb/2008.500/en-US/05be086a595946e2903613d24c4895ea.html>

Then you need to download Client Certificate in SAP Cloud Platform Integration - Certificate-Based Authentication

<https://help.sap.com/viewer/6af9bc1f7b26494c9ec190022d14e7fb/2008.500/en-US/7d19370ff9564c5e8b200d83389b57f4.html>

---

## 3.3.2 Set Up Communication Management in SAP Marketing Cloud

### 3.3.2.1 Create Technical Communication User - Certificate-Based Authentication

#### Note

*Certificate-based authentication is used*

#### Procedure

1. Log on as a *SAP Marketing Cloud Administrator* on your *SAP Marketing Cloud Tenant*.
2. On the SAP Fiori launchpad, select the **Maintain Communication Users** tile.
3. Choose **New** to create a new user.
4. Enter a **User Name** (for example, <MKT\_COM\_USR>) and a **Description**.
5. Assign the SAP Cloud Platform Integration public client certificate to the user for certificate-based authentication.
6. Choose **Upload Certificate** exported from SAP Cloud Platform Integration Keystore (see the section "Preparation- Download Client Certificate in SAP Cloud Platform Integration" for details).
7. Choose **Save**.
8. Make a note of the user data for further steps.

### 3.3.2.2 Create Communication System

#### Procedure

1. Log on as a *SAP Marketing Cloud Administrator* on your *SAP Marketing Cloud Tenant*.



- 
2. On the SAP Fiori launchpad, select the **Communication Systems** tile.
  3. Choose **New** to create a new system.
  4. Enter a **System ID** and a **System Name**.

#### Note

The System ID and the System Name should represent the SAP Cloud Platform Master Data for Business Partners Service.

5. Choose **Create**.
6. In the **Technical Data** section, enter the details of your SAP Cloud Platform Integration tenant in the **Host Name** and **HTTPS Port** fields (see SAP Cloud Platform Integration tenant provisioning mail).
7. Enter the MDM tenant ID as Business System and Logical System.
8. In the **User for Inbound Communication** section, add the technical user that was created earlier.
9. In the **User for Outbound Communication** section, choose **SSL Client Certificate** under **authentication and Trusted Third-Party Key Pair** under **Certificate Type**. In **Third-Party Key Pair** chose the **downloaded CPI Client Certificate** and the **Password** specified during download
10. Choose **Save**.

### 3.3.2.3 Create Communication Arrangements

#### Procedure

1. Log on as a *SAP Marketing Cloud Administrator* on your *SAP Marketing Cloud Tenant*.
2. On the SAP Fiori launchpad, select the **Communication Arrangements** tile.
3. Choose **New** to create a new communication arrangement.
4. Select `SAP_COM_0475` (Marketing - SAP Business Partner Integration).

- 
5. Choose **Create**.
  6. In the **Common Data** section, select the **Communication System** via value help which was created earlier for the CPI. See [Create Communication System for CPI](#).
  7. In the **Inbound Communication** section, the technical user which was created earlier should be added automatically.
  8. In the **Outbound Communication** section, enter the user which is used for the communication to the CPI.
  9. Choose **Save**.
  10. Create additional Communication arrangement for the Key Mapping SAP\_COM\_0539 (Key Mapping Hub Integration)
    1. Follow the same steps as above
    2. In step 4 chose Communication Scenario SAP\_COM\_0539
    3. You can skip step 8 Outbound Communication

---

# 4 Configuration in SAP Cloud Platform Integration

## 4.1 Copy Integration Package to Customer Workspace

1. Log on as an *SAP Cloud Platform Integration Developer* on your *SAP Cloud Platform Integration Tenant*.  
  
(for example, **https://<your SAP Cloud Platform Integration tenant URL>/itspaces**).
2. On the tenant menu, choose **Discover**.
3. Select **All** to see all published integration packages.
4. Enter *SAP Marketing Cloud Integration with SAP Cloud Platform Master Data for business partners* in the **Search** field.
5. To copy the integration package from the catalog to your customer workspace, select the package to open it and choose **Copy** on the top right section of the screen.

## 4.2 Configure Integration Flows

### 4.2.1 Configure Replicate Business Partner to SAP Marketing Cloud Integration Flow

1. Log on as a *SAP Cloud Platform Integration Developer* on your *SAP Cloud Platform Integration Tenant*.  
  
(for example, **https://<your SAP Cloud Platform Integration tenant URL>/itspaces**).
2. On the tenant menu, choose **Design**.
3. On the **Design** tab page, select the package which contains the integration scenario.
4. An overview of the artifacts available in the selected integration package is shown in the **Artifacts** tab.

- To configure the **Replicate Business Partner to SAP Marketing Cloud** artifact, choose **Configure** in the **Actions** column for this artifact (each artifact has two configuration parts, one for the Sender and one for the Receiver).
- For the **Replicate Business Partner to SAP Marketing Cloud** artifact, provide the relevant details on the **Sender** tab page:

Field Name	Entry Value
Sender:	MDM
Adapter Type:	SOAP
<b>CONNECTION</b>	
Address:	/MDM/MKT/BusinessPartnerReplicateRequest_Out (This address must be unique on SAP Cloud Platform Integration tenant. If this scenario has to be deployed twice on same tenant, this address must be changed).
Authorization:	User Role or Client Certificate
For Certificate-based Authentication:	Choose <b>Browse</b> and select the certificate stored using the section "Set-Up Communication Management in SAP S/4HANA Cloud - Export Client Certificate"
<b>CONDITIONS</b>	
Body Size (in MB):	Keep default
Attachment Size (in MB):	Keep default

- Provide the relevant details on the **Receiver** tab page for receiver SAP Marketing Cloud:

Field Name	Entry Value
Receiver:	MKT

Field Name	Entry Value
Adapter Type:	SOAP
Protocol-Host-name-Port	<p>https://&lt;s4_yMkt_host&gt;:&lt;s4_yMkt_port&gt;/sap/bc/srt/scs_ext/sap/businesspartnersuitebulkreplic</p> <p>To retrieve the SOAP Service URL, check the communication arrangement created in the section "Set Up Communication Management in SAP Marketing Cloud - Create Communication Arrangement for CPI" under <b>Inbound Services – Service URL</b>.</p>
Proxy Type:	Internet
Authentication	Client Certificate
Private Key Alias (for Client Certificate-based Authentication)	<p>&lt;cpi_private_key_alias&gt;</p> <p>Alias for SSL keypair in SAP Cloud Platform Integration keystore.</p> <p>By default, <b>cpicertificate</b> (provided by SAP)</p>
Timeout (in min)	120000 (can be changed)

8. Provide the relevant details on the **Receiver** tab page for SAP HANA Cloud Platform Integration Extensibility Post-Exit:

Field Name	Entry Value
Receiver:	CPI_Ext_Post_Process
Adapter Type:	ProcessDirect
Address:	/postexit_flow

9. Provide the relevant parameter details on the **More** tab page:

Field Name	Entry Value
Type:	All Parameters
Extensibility	<p>Default value is: <code>false</code>. If you want to enable extensibility, set this value to <code>true</code>. For general information about integration flow extension concept and some examples, see <a href="#">Integration Flow Extension - Concepts</a>.</p> <p>NOTE: If extensibility is set to <code>&lt;true&gt;</code> you have to deploy also the extensibility IflowsBusiness Partner Replication PostExit</p> <p>You can find more information about CPI extensibility under:</p> <p><a href="https://help.sap.com/viewer/368c481cd6954bd5d0435479fd4eaf/Cloud/en-US/41b238c5331a4b1fbd3a0ccd342b7147.html">https://help.sap.com/viewer/368c481cd6954bd5d0435479fd4eaf/Cloud/en-US/41b238c5331a4b1fbd3a0ccd342b7147.html</a></p>

10. Choose **Save**.

## 4.2.2 Configure Business Partner Relationship Replication Integration Flow

1. Log on as a *SAP Cloud Platform Integration Developer* on your *SAP Cloud Platform Integration Tenant* SAP Cloud Platform Integration Tenant (for example, **`https://<your SAP Cloud Platform Integration tenant URL>/itspaces`**).
2. On the tenant menu, choose **Design**.
3. On the **Design** tab page, select the package which contains the integration scenarios.
4. An overview of the artifacts available in the selected integration package is shown in the **Artifacts** tab.

- To configure the **Replicate Business Partner Relationships to SAP Marketing Cloud** artifact, choose **Configure** in the **Actions** column for this artifact (each artifact has two configuration parts, one for the Sender and one for the Receiver).
- For the **Replicate Business Partner Relationships to SAP Marketing Cloud** artifact, provide the relevant details on the **Sender** tab page:

Field Name	Entry Value
Sender:	MDM
Adapter Type:	SOAP
<b>CONNECTION</b>	
Protocol-Hostname-Port	/MDM/MKT/BusinessPartnerRelationshipReplicateRequest_Out  (This address must be unique on SAP Cloud Platform Integration tenant. If this scenario has to be deployed twice on same tenant, this address needs to be changed).
Authorization:	Client Certificate.
For Certificate-based Authentication:	Choose <b>Browse</b> and select the certificate stored using the section "Set Up Communication Management in SAP S/4HANA Cloud - Export Client Certificate".
<b>CONDITIONS</b>	
Body Size (in MB):	Keep default
Attachment Size (in MB):	Keep default

- Provide the relevant details on the **Receiver** tab page for receiver SAP Marketing Cloud:

Field Name	Entry Value
Receiver	MKT

Field Name	Entry Value
Adapter Type	SOAP
Address	<p>https://&lt;s4_yMkt_host&gt;:&lt;s4_yMkt_port&gt;/sap/bc/srt/scs_ext/sap/businesspartnerrelationshipsui</p> <p>To retrieve the SOAP Service URL, check the Communication Arrangement created in in "Set-Up Communication Arrangement" in the section "SAP Marketing Cloud - Create Communication Arrangement for CPI" under <b>.Inbound Services – Service URL</b>.</p>
Proxy Type	Internet
Authentication	Client Certificate
Private Key Alias (for Client Certificate-based Authentication)	<p>&lt;api_private_key_alias&gt;</p> <p>Alias for SSL keypair in SAP Cloud Platform Integration keystore.</p> <p>By default, <b>epicertificate</b> (provided by SAP)</p>
Timeout (in min)	60000 (can be changed)

8. Provide the relevant parameter details on the **More** tab page:

Field Name	Entry Value
Type:	All Parameters
Extensibility	<p>Default value is: <code>false</code>. If you want to enable extensibility, set this value to <code>true</code>. For general information about integration flow extension concept and some examples, see <a href="#">Integration Flow Extension - Concepts</a>.</p> <p>NOTE: If extensibility is set to &lt;true&gt; you have to deploy also the extensibility IflowsBusiness Partner Relationship Replication PostExit</p>



Field Name	Entry Value
	<p>You can find more information about CPI extensibility under:</p> <p><a href="https://help.sap.com/viewer/368c481cd6954bd5a5d0435479fd4eaf/Cloud/en-US/41b238c5331a4b1fbd3a0ccd342b7147.html">https://help.sap.com/viewer/368c481cd6954bd5a5d0435479fd4eaf/Cloud/en-US/41b238c5331a4b1fbd3a0ccd342b7147.html</a></p>

9. Choose **Save**.

### 4.2.3 Configure SAP MDM Business Partner Confirmation Flow

Business Partner Confirmation	<SOAP_endpoint>/BusinessPartnerBulkReplicateRequestConfIn?tenantId=<subdomain_name>
-------------------------------	---

In the above URL, the following information can be fetched from the Service Keys:

- **SOAP\_endpoint**: Value for **SOAP endpoint** from Service key
- **Subdomain\_name**: Value for **identityzone** from Service key

### 4.2.4 Configure SAP MDM Business Partner Relationship Confirmation Flow

Business Partner Relationship Confirmation	<SOAP_endpoint>/BusinessPartnerRelationshipBulkReplicateRequestConfIn?tenantId=<subdomain_name>
--	---

In the above URL, the following information can be fetched from the Service Keys:

- **SOAP\_endpoint**: Value for **SOAP endpoint** from Service key

- **Subdomain\_name:** Value for **identityzone** from Service key

## 4.2.5 Configure Key Mapping Flow

- To configure the **Replicate Key Mapping to SAP Marketing Cloud** artifact, choose **Configure** in the **Actions** column for this artifact (each artifact has two configuration parts, one for the Sender and one for the Receiver).
- Provide the relevant details on the **Sender** tab page:

Field Name	Entry Value
Sender:	MDM
Adapter Type:	SOAP
<b>CONNECTION</b>	
Address:	/MDM/MKT/KeyMappingReplicateRequest_Out  (This address must be unique on SAP Cloud Platform Integration tenant. If this scenario has to be deployed twice on same tenant, this address needs to be changed).
Authorization:	Client Certificate.
For Certificate-based Authentication:	Choose <b>Browse</b> and select the certificate stored using the section "Set Up Communication Management in SAP S/4HANA Cloud - Export Client Certificate".
<b>CONDITIONS</b>	
Body Size (in MB):	Keep default
Attachment Size (in MB)	Keep default

- Provide the relevant details on the **Receiver** tab page for receiver SAP Marketing Cloud:

Field Name	Entry Value
Receiver	MKT
Adapter Type	SOAP
Protocol-Hostname-Port	https://<s4_Mkt_host>:<s4_Mkt_port> To retrieve the SOAP Service URL, check the Communication Arrangement created in in "Set-Up Communication Arrangement" in the section "SAP Marketing Cloud - Create Communication Arrangement for CPI" under <b>.Inbound Services – Service URL</b> .
Proxy Type	Internet
Authentication	Client Certificate
Private Key Alias (for Client Certificate-based Authentication)	<api_private_key_alias>  Alias for SSL keypair in SAP Cloud Platform Integration keystore.  By default, <b>cpicertificate</b> (provided by SAP)
Timeout (in min)	60000 (can be changed)

## 4.3 Deploy Integration Flows

1. Log on as a *SAP Cloud Platform Integration Administrator* on your *SAP Cloud Platform Integration Tenant*.
2. Select the icon on the top left and select the **Design** section from the dropdown menu. You'll see all available integration packages for the tenant. Search for the package you would like to deploy.
3. Select the integration package and the package content list will appear.
4. Select **Artifacts**. All artifacts will be listed at the bottom of the page.
5. Select **Deploy** in the **Actions** menu for the following iFlows

- 
1. **Replicate Business Partner to SAP Marketing Cloud** Integration Flow.
  2. **Replicate Business Partner Relationshipsto SAP Marketing Cloud Integration Flow**
  3. Confirm Business Partner Replication from SAP Marketing CloudIntegration Flow
  4. Confirm Business Partner Relationship Replication from SAP Marketing Cloud Integration Flow
  5. Replicate Key Mapping to SAP Marketing Cloud Integration Flow

# Typographic Conventions

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

[www.sap.com/contactsap](http://www.sap.com/contactsap)

© 2020 SAP SE or an SAP affiliate company. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP SE or an SAP affiliate company.

The information contained herein may be changed without prior notice. Some software products marketed by SAP SE and its distributors contain proprietary software components of other software vendors. National product specifications may vary.

These materials are provided by SAP SE or an SAP affiliate company for informational purposes only, without representation or warranty of any kind, and SAP or its affiliated companies shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP or SAP affiliate company products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

In particular, SAP SE or its affiliated companies have no obligation to pursue any course of business outlined in this document or any related presentation, or to develop or release any functionality mentioned therein. This document, or any related presentation, and SAP SE's or its affiliated companies' strategy and possible future developments, products, and/or platforms, directions, and functionality are all subject to change and may be changed by SAP SE or its affiliated companies at any time for any reason without notice. The information in this document is not a commitment, promise, or legal obligation to deliver any material, code, or functionality. All forward-looking statements are subject to various risks and uncertainties that could cause actual results to differ materially from expectations. Readers are cautioned not to place undue reliance on these forward-looking statements, and they should not be relied upon in making purchasing decisions.

SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP SE (or an SAP affiliate company) in Germany and other countries. All other product and service names mentioned are the trademarks of their respective companies.

See [www.sap.com/copyright](http://www.sap.com/copyright) for additional trademark information and notices.

