Getting Started with "SAP Model Company for Subscription Billing V2" on SAP Cloud Appliance Library

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1   Solution Information

1.1 Overview

1.1.1 General Overview – SAP Model Company

A SAP Model Company is a pre-packaged, ready-to-use, end-to-end reference solution, tailored to an industry or line of business.

It comprises state-of-the-art applications and proven best practices and encapsulates the experience from successful, real-life digital transformation projects.

Embedded in an overall transformation road map and delivered as a service, a model company driven approach enables you to reduce cost, decrease risk, and accelerate adoption during discovery, preparation, exploration, and realization activities.

Accelerators
Configuration and How-to guides, test and demo scripts, implementation tools

Engineered Service
Hand-Over and enablement workshops to jumpstart discovery, exploration and realization

Business Content
End-to-end process models including sample workflows, reports, enhancements and forms

Preconfigured Solution
Available as a ready to run appliance, incl. all applications, configuration, sample data

Foundation

Activate ➕ Industry Reference Architecture ➕ Digital Business Framework

This guide provides information about SAP Model Company for Subscription Billing V2 preconfigured Solution on SAP Cloud Appliance Library and includes:

- o Technical components and business content within the solution.
- o System access information after you create your own solution instance.
- o Evaluation of business content.

This guide focuses on system landscape aspects as well as the steps to get the appliance initially available in SAP Cloud Appliance Library.

1.1.2 SAP Model Company for Subscription Billing V2 - Solution Overview

The SAP Model Company for Subscription Billing V2 provides a fully integrated system landscape of multiple solutions with E2E processes for Cross Industries.
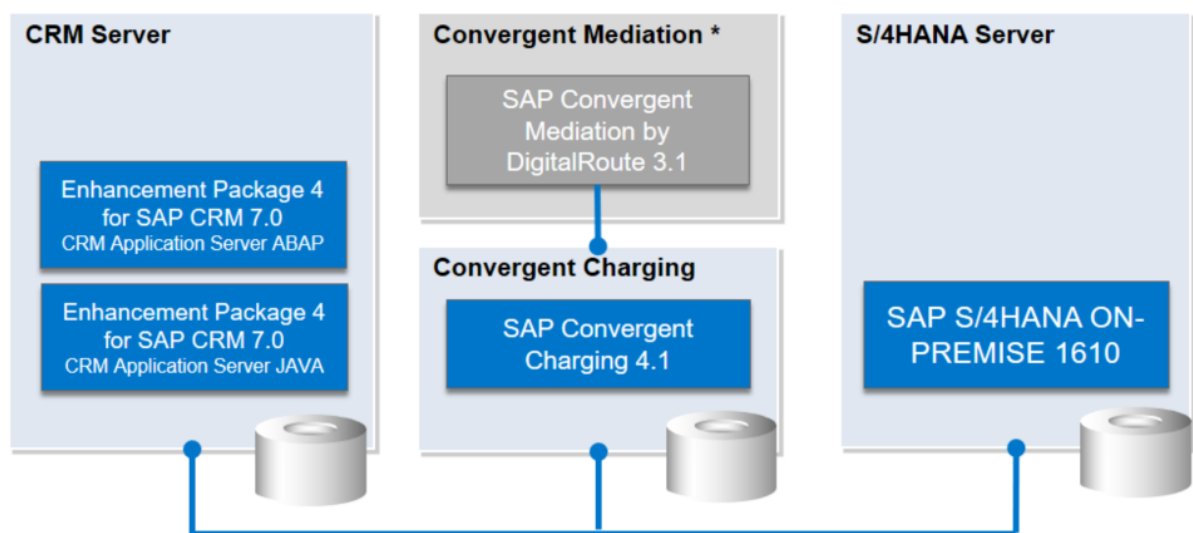
* Convergent Mediation is not part of the Model Company. The Model Company uses the Import Export Connector (IEC) as mediation system. The IEC is part of the SAP Convergent Charging component.

The Scope of the SAP Model Company is mainly focusing on real End-to-End business processes.

1.2 Installed Products

In SAP Cloud Appliance Library, The SAP Model Company for Subscription Billing Landscape on SAP Cloud Appliance Library consists of four virtual machines that are bundled into one solution:

1. SAP S/4HANA On-Premise 1610 with SAP HANA 1.0 (database for the S/4HANA system and Convergent Charging)
2. SAP EHP 4 for SAP CRM 7.0 (SAP ASE 16.0 as database)
3. SAP NetWeaver 7.50 application server JAVA (SAP ASE 16.0 as database) with CRM components installed
4. SAP Convergent Charging 4.1

Please refer to the

Appendix for details about technical software components included in this solution.

1.3 Hardware Requirement

The appliance for SAP Model Company for Subscription Billing V2 consist of four virtual machines

1. SAP S/4HANA On-Premise 1610 FPS 02 with SAP HANA 1.0 (database for the S/4HANA system and Convergent Charging)
2. SAP EHP 4 for SAP CRM 7.0 (SAP ASE 16.0 as database)
3. SAP NetWeaver 7.50 application server JAVA (SAP ASE 16.0 as database) with CRM components installed
4. SAP Convergent Charging 4.1

Minimum hardware requirements for the appliance depends on the installed SAP Products.

The below hardware requirements are showing the minimum hardware requirement for a reference system / sandbox system.

The sizing recommendation is not for productive use,
For productive use, you need to follow the SAP sizing guidelines which considers the expected productive data volume.

SAP Model Company for Subscription Billing V2 Minimum Appliance Hardware Requirements

Virtual Machine	CPU (cores)	RAM (GB)	OS	DB
SAP S/4HANA On-Premise 1610 with SAP HANA 1.0 (database for the S/4HANA system and Convergent Charging)	20	256	Linux x86_64	SAP HANA
SAP EHP 4 for SAP CRM 7.0 (SAP ASE 16.0 as database)	4	32	Linux x86_64	ASE
SAP NetWeaver 7.50 application server JAVA (SAP ASE 16.0 as database) with CRM components installed	4	32	Linux x86_64	ASE
SAP Convergent Charging 4.1 (application server only)	4	8	Linux x86_64	SAP HANA

Depending on your preferred cloud provider (Infrastructure as a Service (IAAS) providers) the packaged sizing might slightly differ.

SAP Model Company for Subscription Billing V2 is available for Amazon Web Services and Microsoft Azure (Classic).

RECOMMENDED VM SIZES

Cloud Provider	Virtual Machine	Size
Amazon Web Services	crm_j2e	r4.xlarge (4 cores, 30.5GB memory, HDD)
	s/4hana	r4.8xlarge (32 cores, 244GB memory, SSD)
	crm_aba	r4.xlarge (4 cores, 30.5GB memory, HDD)
	cc_core	c4.xlarge (4 cores, 7.5GB memory, HDD)
Microsoft Azure	crm_j2e	E4_v3 (4 cores, 32GB memory, HDD)
	s/4hana	E32S_v3 (32 cores, 256GB memory, SSD)
	crm_aba	E4_v3 (4 cores, 32GB memory, HDD)
	cc_core	F4 (4 cores, 8GB memory, HDD)

1.4 About the solution - Scenario Description

The SAP Model Company for Subscription Billing V2 includes following E2E processes:

SAP will provide the SAP Model Company for Subscription Billing V2 herein after referred to as Model Company.

Scope	Business Process Name
End-to-end processes from order to collections and financial customer care	E2E_POS - Postpaid End-to-End processes E2E_PRE - Prepaid End-to-End processes E2E_FCC - Financial Customer Care E2E_B2B - Business-to-Business processes

The following pre-configured business scenarios and processes are part of the Model Company, as shown in the following table:

Scope Item	Scope Details
E2E_POS_F80 Customer and Contract Creation for Postpaid Services	Creation of a new customer and contract in the CRM Interaction Center for postpaid services
E2E_POS_F81 Use Service, Create Invoices and Pay for Postpaid Service	Execution of the whole usage consumption, billing, invoicing, and financials process using the predefined postpaid product and an available customer who has subscribed to that product

| Scope Item	Scope Details
E2E_POS_F88 Daily and Monthly Closing	Daily and monthly closing processes in SAP S/4HANA
E2E_POS_F90 SEPA Payment Scheme	Out-of-the-box integration to SAP Hybris Billing, invoicing and SAP Hybris Billing, customer financials allowing accurate revenue recognition The Single Euro Payments Area (SEPA) is a European-wide initiative to standardize the way we make and process electronic payments in Euro. SEPA enables customers to make payments (direct debits, credit transfers) to anyone located within the SEPA zone using a single bank account and a single set of payment instruments. The Single Euro Payments Area (SEPA) is a European-wide initiative to standardize the way we make and process electronic payments in Euro. SEPA enables customers to make payments (direct debits, credit transfers) to anyone located within the SEPA zone using a single bank account and a single set of payment instruments.
E2E_POS_U98 Customer, Contract Creation and Refill for Allowances	Creation of a new customer and contract in the CRM Interaction Center with allowances being part of the product and creation of an allowance by "manual refill"
E2E_POS_U99 Consume Allowances and Recognize the Revenue	Execute the consumption of allowances, billing, invoicing, and the associated deferred revenue / financial processes for a customer who has subscribed to a product - which contains allowances
E2E_PRE_F82 Contract Change from Prepaid to Postpaid Product	Change of a customer contract from a prepaid to a postpaid product
E2E_PRE_F83 Customer and Contract Creation for Prepaid Services	Creation of a new customer and contract in the CRM Interaction Center for prepaid services
E2E_PRE_F84 Use Service, Manage Balance and Financials for Prepaid Service	Execution of the whole usage consumption, billing, invoicing, and financials process using the predefined postpaid product and an available customer who has subscribed to that product
E2E_PRE_F85 Termination of Prepaid Service and Closing of Prepaid Account	Automatic closing of prepaid accounts which are not used for a specific period of time, including all required follow-up processes in the SAP Best Practices for SAP Hybris Billing solution
E2E_PRE_F86 Refill Prepaid Account via Voucher Activation	Purchase of credit in retail outlets using vouchers or activation codes, handled by an upstream third-party voucher management system

Scope Item	Scope Details
E2E_PRE_F87 Refill Prepaid Account by "One Time Permission"	Refill of the prepaid account through crediting a payment card
E2E_PRE_F88 Daily and Monthly Closing	Daily and monthly closing processes in SAP S/4HANA
E2E_FCC_F77 Financial Customer Care - Financial Inquiries	Inquire about financial data of a customer and initiate follow-up processes in A/R
E2E_FCC_F78 Financial Customer Care - Bill Display and Dispute Management	Access customer bill(s), including the bill detail information to handle dispute and necessary adjustments
E2E_FCC_F79 Financial Customer Care - Collections in CRM Interaction Center	A dunning run creating dunning activities for the CRM collection process has to be executed in SAP S/4HANA.
E2E_FCC_U95 Financial Customer Care - Actions on Prepaid Accounts	Multiple processes and actions on the customers' prepaid credit are made available in the CRM Interaction Center
E2E_B2B_U90 B2B Master Agreement with Counter Sharing	Define and use master agreements for B2B customers, including sharing orders and sharing contracts up to invoice list
E2E_B2B_U91 Revenue Sharing and Partner Settlement	Define partner master data and partner orders/contracts and execute a complete revenue sharing cycle from customer usage creation to partner settlement
E2E_B2B_U92 Data Storage for Consumption Items	Store consumption items in SAP Hybris Billing, Invoicing as basis for rerating and other processes
E2E_B2B_U93 Preliminary Invoice	Creation of a preliminary invoice in SAP Hybris Billing, Invoicing
E2E_B2B_U94 Item Corrections in Convergent Invoicing	Manual creation, changing and excepting of consumption and billable items in SAP Hybris Billing, Invoicing

Scope Item	Scope Details
E2E_B2B_U96 Bulk Ordering and Mass Cancellation of Provider Contracts	Creation and cancellation of provider orders / contracts as mass process with data provided through e.g. file

2   Solution Provisioning in SAP Cloud Appliance Library

There are several delivery options available for the SAP Model Company for Subscription Billing.
The Solution can be delivered via Cloud Appliance Library into your own AWS or Azure Account.

This Getting Started Guide describes how you can access the SAP Model Company for Subscription Billing via Cloud Appliance Library. Prerequisite for this is an own AWS (Amazon Web Service) or Azure (Microsoft Azure) Account.
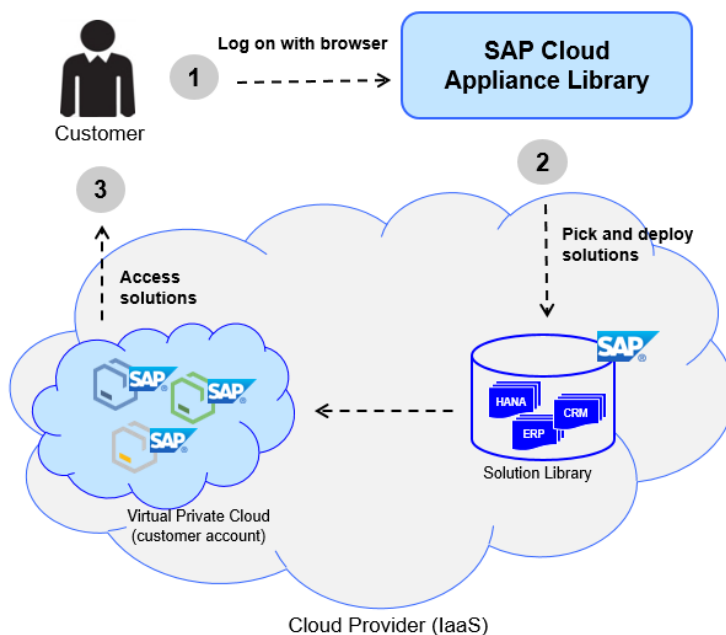
2.1 Prerequisite: Possess a cloud provider account

You need to have a valid account in one of the cloud providers supported by SAP Cloud Appliance Library including the corresponding secret keys for this account.
If you already have an active cloud provider account, you can proceed directly with the next section. Otherwise, navigate to the cloud provider home page and sign up.

For more information about the supported cloud providers, see the FAQ page.

2.2 Access SAP Cloud Appliance Library

Open the SAP Cloud Appliance Library in your Web browser using the following link: https://cal.sap.com.

If you don't have an account in SAP Cloud Appliance Library (this is different from the cloud provider account), please register.
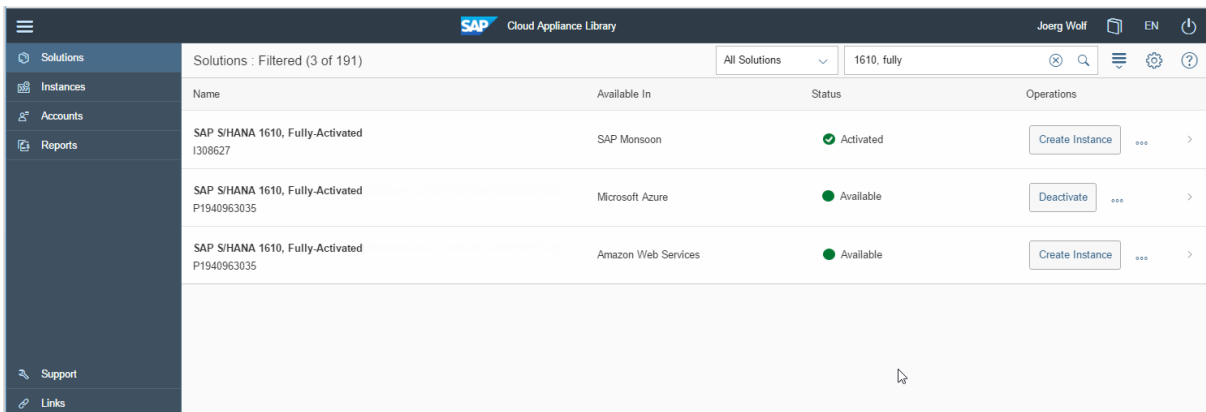This will not raise any additional costs.

2.3 Create your system instance within the SAP CAL console

Once the SAP Cloud Appliance Library console is displayed, go to *Solutions* (list of available system templates) and search for SAP Model Company for Subscription Billing V2. You can see that there is a button to unlock the solution. If it's not possible for you to unlock the solution, then please contact your local SAP sales representative. The requirements for the unlock are that you have bought the Model Company and that you own the relevant product licenses (or Test licenses).

After unlock, click on *Create Instance* (this will become your personal system) and follow the steps on the screen.

As an example, and a 'Quick Start Guide' with step-by-step instructions you could check SAP S/4HANA 1610 trial home page.
Keep in mind this is a general example.

For general information on how to create an instance (i.e. your personal system) from any solution (i.e. a template) in the SAP Cloud Appliance Library, see the official documentation of SAP Cloud Appliance Library (choose the *Support → Documentation* link and select the *Expand All* button ⊞ to see all documents in the structure). You can also use the context help in SAP Cloud Appliance Library by choosing the *Help* panel from the right side.

2.4 Restore integration of system instances

After the deployment of the instances the actual IP addresses have to be reassigned to the symbolic names in the /etc/hosts file of each instance to restore the integration of the multi-instance CAL solution.

Note: These steps are mandatory to enable the integration of the instances.

Perform the following steps to restore the integration:

The private key file which is generated during the instance creation has to be saved locally when following screen pops up:
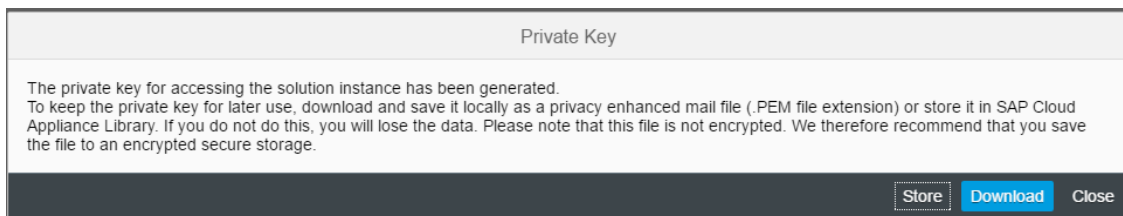
The private key will be used to access the instances on operating system level with SSH to adjust the /etc/hosts files after the instance creation.

If the tool PuTTY will be used to access the system then the private key file has to be be converted with PuTTYgen into another format.
Load the *.pem file with "Load private key":
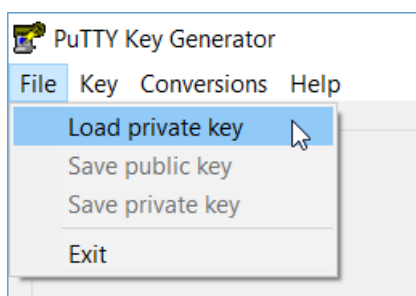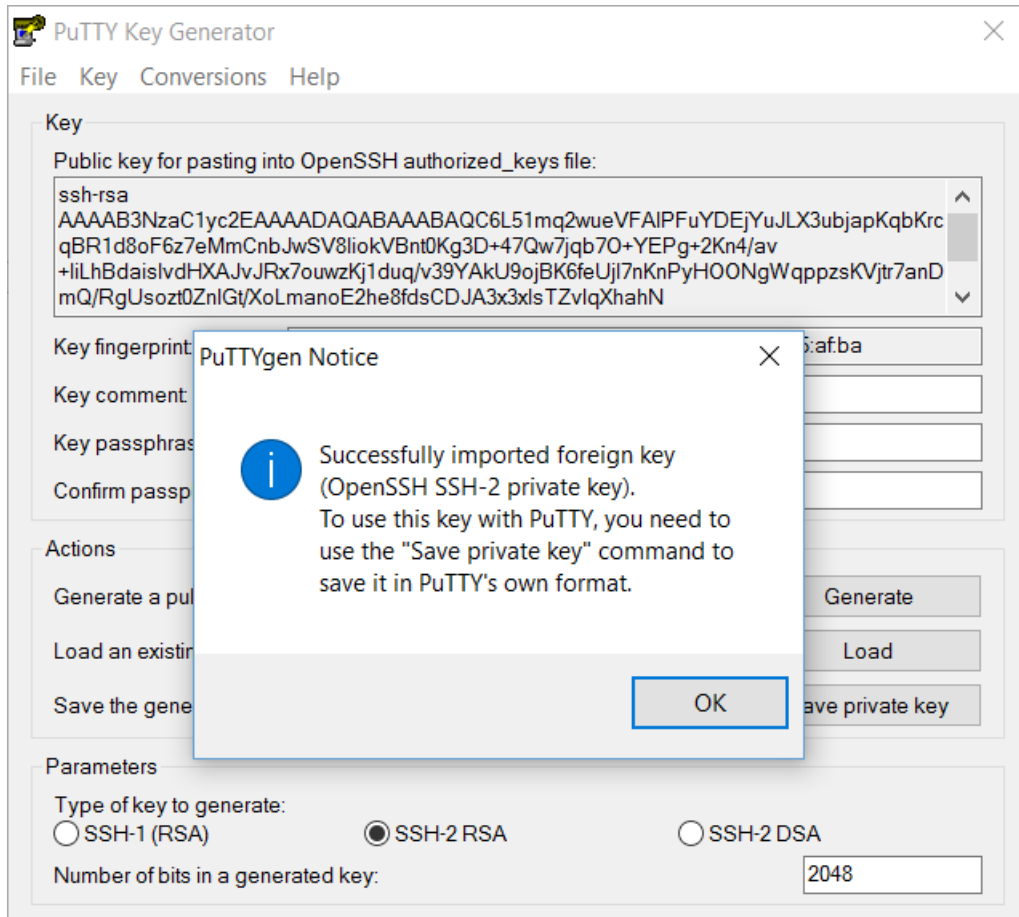
And store it again in PuTTY's own key format:
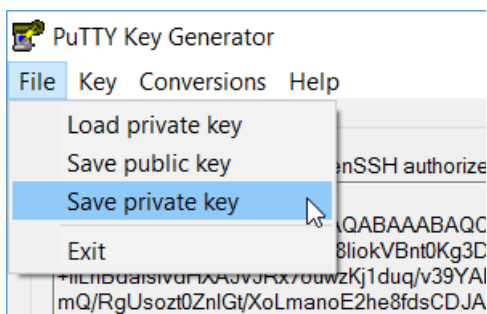
You can configure your PuTTY session for each instance and use the converted private key in the configuration of the session with auto-login username set to "root":
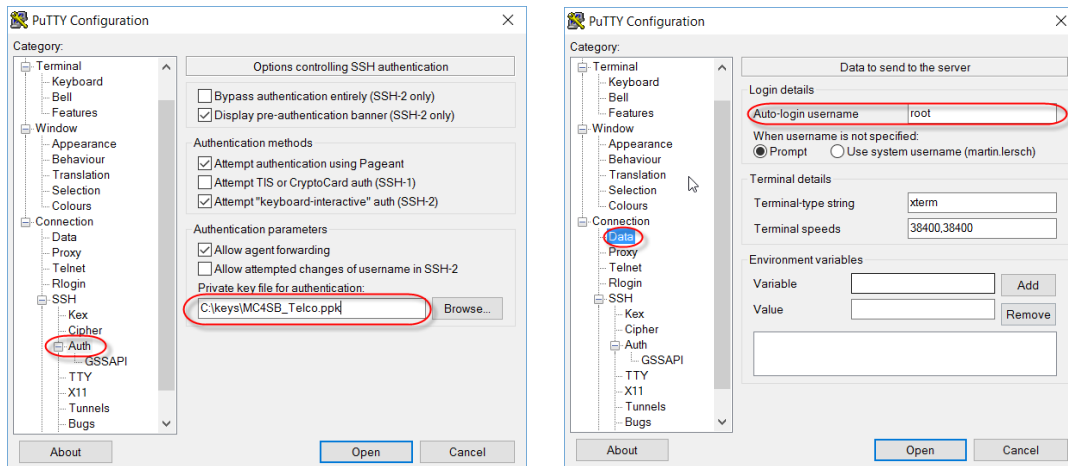
Now you can access the operating system of each instance as "root" and adjust the file /etc/hosts on each instance. Three of the four IP addresses have incorrect values and have to be adjusted to the actual IP address of the deployed instance. The adjusted section of the /etc/hosts files should look like this:

```
<CC4 IP> vhcalcc4ci.dummy.nodomain vhcalcc4ci sid-cc4.dummy.nodomain    sid-cc4

<S4C IP> vhcals4cci.dummy.nodomain vhcals4cci vhcals4ccs.dummy.nodomain vhcals4ccs
vhcalhdbdb.dummy.nodomain vhcalhdbdb

<CRM IP> vhcalcrmci.dummy.nodomain vhcalcrmci vhcalcrmcs.dummy.nodomain vhcalcrmcs
vhcalcrmdb.dummy.nodomain vhcalcrmdb

<J2E IP> vhcalj2eci.dummy.nodomain vhcalj2eci vhcalj2ecs.dummy.nodomain vhcalj2ecs
vhcalj2edb.dummy.nodomain vhcalj2edb
```

Remark. `<CC4 IP>`, `<S4T IP>`, `<CRM IP>` *and* `<J2E IP>` *have to be replaced by the actual IP addresses of the deployed instances.*

3 Accessing solution

After the solution is up and running in our own AWS or Azure Account you must connect your local PC.

3.1 Preparatory activities on your local PC

3.1.1 Mapping local /etc/hosts file

To logon to web access, as for example the Fiori Launchpad from your local PC, you need to ensure that you have mapped the IP address to the Hosts file on your local PC:

1. Open *Notepad* as administrator (search for *Notepad* on your computer, right mouse click, 'Run as administrator'):
2. Click *File → Open* and enter the following path:

   > For Windows operating system: `c:\windows\system32\drivers\etc\hosts`
   > For Linux operating system: `/etc/hosts`

3. Ensure to select *All Files (*.*)*
4. Open the *hosts* file and add the following lines to it (the IP addresses for the servers are displayed in the SAP Cloud Appliance Library console in the instance properties)**:**

   `<CC4 IP> vhcalcc4ci.dummy.nodomain vhcalcc4ci sid-cc4.dummy.nodomain    sid-cc4`

   `<S4C IP> vhcals4cci.dummy.nodomain vhcals4cci vhcals4ccs.dummy.nodomain vhcals4ccs`
   `vhcalhdbdb.dummy.nodomain vhcalhdbdb`

   `<CRM IP> vhcalcrmci.dummy.nodomain vhcalcrmci vhcalcrmcs.dummy.nodomain vhcalcrmcs`
   `vhcalcrmdb.dummy.nodomain vhcalcrmdb`

   `<J2E IP> vhcalj2eci.dummy.nodomain vhcalj2eci vhcalj2ecs.dummy.nodomain vhcalj2ecs`
   `vhcalj2edb.dummy.nodomain vhcalj2edb`

   Remark. `<CC4 IP>, <S4C IP>, <CRM IP>` *and* `<J2E IP>` *have to be replaced by the actual IP addresses of the deployed instances.*

5. Save the *hosts* file and exit.

3.1.2 Configure ";*.dummy.nodomain" for Web Browser

Working with the <dummy.nodomain> might require changes in your web browser, in case there is a web proxy defined (if you are unsure or detect connectivity issues, please contact your network administrator):

1. If you are using Google Chrome as web browser, follow these steps:
    1. *Logon to Chrome → Settings → Show Advanced Settings → Network → Change proxy settings → LAN Settings → Proxy Server → Advanced*
    2. In the *Exceptions*, add **;*.dummy.nodomain** directly at the end of the existing entry.
    3. Click OK.

2. If you are using Internet Explorer as web browser, follow these steps:
    1. *Logon to Internet Explorer → Internet Options → Connections → LAN Settings → Proxy Server → Advanced*
    2. In the *Exceptions*, add **;*.dummy.nodomain** direct at the end of the existing entry.
    3. Click OK.

See an example in the screenshot below:
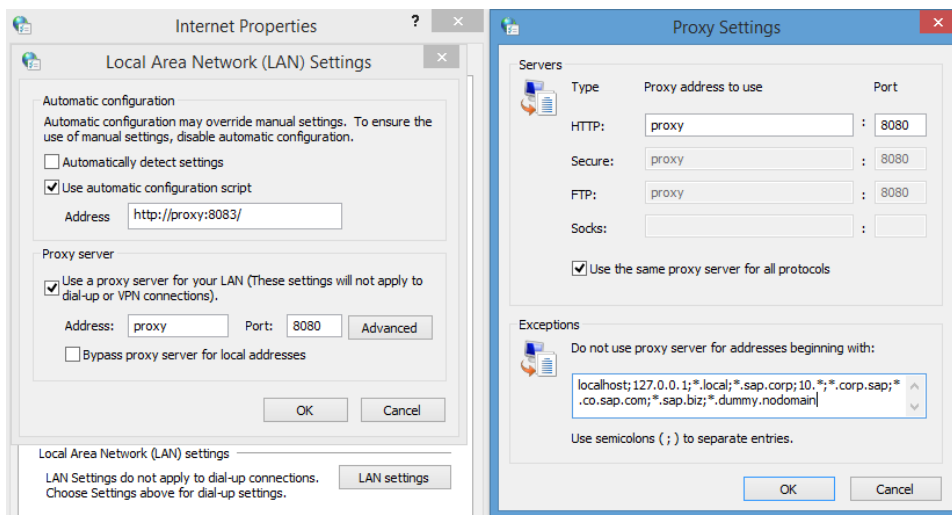
3.1.3 Install SAP Client Software Locally

Note:
The path to download SAP software might change after publication of this document so please search on the SAP support portal also in other places if these paths do not work.

We recommend to have SAP GUI and SAP HANA Studio installed (the latter potentially in combination with the ABAP Development tools).

3.1.3.1   SAP GUI for S/4HANA and CRM

If not already installed on your PC, download SAP GUI 7.40 or higher.
Open the SAP Support Portal Software Download page https://support.sap.com/swdc and search for SAP GUI.

3.1.3.2　SAP Client Tools for Convergent Charging

If not already installed on your PC, download SAP Client Tools for Convergent Charging for the exact version installed on the server instance.

Open the SAP Support Portal Software Download page https://support.sap.com/swdc and search for CONVERGENT CHARGING 4.6 for platform "OS INDEPENDENT".

3.1.3.3　SAP HANA Studio (optional)

Download the SAP HANA Studio for your operating system from the SAP Support Portal or embed into an existing Eclipse installation as mentioned on https://tools.hana.ondemand.com/#hanatools

3.2 Connecting to SAP Model Company for Subscription Billing

3.2.1 Connecting to SAP S/4HANA via SAP GUI

Procedure

1. Start the SAP Logon.
2. Choose *New entry → User defined*.
3. In the System wizard, specify the following parameters:

Parameter ID	Parameter Value	Note
Application Server	<IP Address of SAP S/4HANA ABAP Virtual Machine> or alternatively, a mapped host name from your hosts file e.g. vhcals4cci (see 3.1.1)	The IP address of the S4HANA instance from the SAP Cloud Appliance Library
Instance Number	00	ABAP instance number used by the appliance.
System-ID	S4C	ABAP system id used by the appliance.

4. For details on the used system / client see chapter System Details.
5. Please see chapter Business and Technical User & Roles for users and passwords.

3.2.2 Connecting to SAP CRM via SAP GUI

Procedure

1. Start the SAP Logon.
2. Choose *New entry → User defined*.
3. In the System wizard, specify the following parameters:

Parameter ID	Parameter Value	Note
Application Server	<IP Address of SAP CRM ABAP Virtual Machine> or alternatively, a mapped host name from your hosts file e.g. vhcalcrmci (see 3.1.1)	The IP address of the CRM instance from the SAP Cloud Appliance Library
Instance Number	00	ABAP instance number used by the appliance.
System-ID	CRM	ABAP system id used by the appliance.

4. For details on the used system / client see chapter System Details.
5. Please see chapter Business and Technical User & Roles for users and passwords.

3.2.3 Connecting to Convergent Charging via Client Tools

Procedure

1. Start the Core Tool of the Convergent Charging Client Tools.
2. Please see chapter Business and Technical User & Roles for users and passwords.
3. As server URL enter: http://sid-cc4:9100

3.2.4 Connecting to HANA via SAP HANA Studio

Procedure

1. Start the installed SAP HANA Studio
2. Open the Navigator view and right click on this view. Then choose Add System.
   In the System wizard, specify the following parameters:

Parameter ID	Parameter Value	Note
Hostname	<IP Address of SAP S/4HANA ABAP Virtual Machine> or alternatively, a mapped host name from your hosts file e.g. vhcals4cci (see 3.1.1)	The IP address of the S4C/HANA instance from the SAP Cloud Appliance Library since the SAP HANA DB runs on the same host.
Instance Number	02	HANA instance number used for the appliance.
HANA SYSTEM User Name	SYSTEM	Default administrator user for HANA access to HANA
Password SYSTEM User Name	Appl1ance / <Master Password*>, if OS decoupling checkbox is not ticked.	*The password is the same as the master password provided during instance creation in the SAP Cloud Appliance Library.

The system ID of the database is HDB. It is recognized automatically via the host name.

3.2.5 Connecting to SAP JAVA Administrator Portal

Enter the URL http://vhcalj2eci.dummy.nodomain:50000/ into your browser (this works only if you have maintained your host file).

If you haven't maintained the hosts file yet the URL http://<IP address of NW JAVA / ASE virtual machine>:50000/ will also work.
Administrator user and password are described in the chapter 3.4.

3.3 System Details

The SAP Model Company for Subscription Billing V2 *on SAP Cloud Appliance Library* provides you with a pre-configured SAP S/4HANA, on-premise landscape, including the following business content in dedicated areas within the SAP solution e.g. ABAP clients, tentants.

The following chapter provide an overview about the delivered content setup.

Please see chapter Business and Technical User & Roles 3.4 for users and passwords.

3.3.1 SAP S/4 HANA

The S/4 Hana System with System ID: S4C has following preconfigured clients:

Client	Business Content
000 Standard delivery client	o None (standard customizing only)
274 SAP Best Practices reference client	o pre-activated SAP Best Practices for SAP Hybris Billing content

* Please notice the following important notes:

(1) The US Best Practices localization have been configured without a Vertex account connected (i.e. tax codes etc. were entered manually as described in the attachments of SAP note 2330455).
If you would like to use VERTEX as part of your project, please configure your own Vertex account (see http://help.sap.com/s4hana_op_1610 → Additional Information → Administration Guide for the Implementation of SAP S/4HANA → PREREQUISITE settings → Carrying out technical setup (table section 'Set up VERTEX integration').

 (2) The organizational structure and chart of accounts are activated in client 274 as SAP Best Practices content provided.

3.3.2   SAP CRM (ABAP)

The SAP CRM System with System ID: CRM has following preconfigured clients:

Client	Business Content
000 Standard delivery client	o None (standard customizing only)
001 Standard delivery client	o None (standard customizing only)
274 SAP Best Practices reference client	o pre-activated SAP Best Practices for SAP Hybris Billing content

3.3.3   SAP CRM (Java)

The SAP CRM System with System ID: J2E is a Netweaver Application Server Java with CRM components installed and has pre-activated SAP Best Practices for SAP Hybris Billing content

3.3.4   SAP Convergent Charging

The SAP Convergent Charging System with System ID: CC4 has pre-activated SAP Best Practices for SAP Hybris Billing content.

3.4 Business and Technical User & Roles

3.4.1 System S4C: S/4HANA

System	Type	User	Password	Roles	Description
S4C, client 000	Technical	BPINST	Welcome1	SAP_ALL	Default User
S4C, client 000	Technical	DDIC	Appl1ance / <Master Password*>, if OS decoupling checkbox is not ticked.	SAP_ALL	System User
S4C, client 000	Technical	SAP*	Appl1ance / <Master Password*>, if OS decoupling checkbox is not ticked.	SAP_ALL	System User
S4C, client 000	Technical	SNOTE	<Internal Password>		
S4C, client 000	Technical	TMSADM	<Internal Password>		
S4C, client 274	Technical	SAP*	Appl1ance / <Master	SAP_ALL	System User

System	Type	User	Password	Roles	Description
			Password*>, if OS decoupling checkbox is not ticked.		
S4C, client 274	Technical	DDIC	Appl1ance / <Master Password*>, if OS decoupling checkbox is not ticked.	SAP_ALL	System User
S4C, client 274	Technical	BPINST	Welcome1	SAP_ALL	Default User
S4C, client 274	Technical	RFCSYSUSERCC	<Internal Password>		
S4C, client 274	Technical	RFCUSER	<Internal Password>		
S4C, client 274	Technical	TMSADM	<Internal Password>		
S4C, client 274	Technical	WF-BATCH	<Internal Password>		
S4C, client 274	Business	COLLMANG	Welcome	Collections Manager	Collections Manager
S4C, client 274	Business	ACCOUNTANT	Welcome	Accountant	Accountant
S4C, client 274	Business	BILLINGAGT	Welcome	Billing Agent	Billing Agent
S4C, client 274	Business	SALESEMP_1	Welcome	Sales Empl.	Sales Employee

* The password is the same as the master password provided during instance creation in the SAP Cloud Appliance Library.

3.4.2   System CRM: CRM (ABAP)

System	Type	User	Password	Roles	Description
CRM, client	Technical	SAP*	Appl1ance / <Master Password*>, if OS	SAP_ALL	System User

System	Type	User	Password	Roles	Description
000 / 001			decoupling checkbox is not ticked.		
CRM, client 000 / 001	Technical	DDIC	Appl1ance / <Master Password*>, if OS decoupling checkbox is not ticked.	SAP_ALL	System User
CRM, client 000 / 001	Technical	BPINST	Welcome1	SAP_ALL	Default User
CRM, client 000	Technical	TMSADM	<Internal Password>		
CRM, client 001	Technical	SAPJSF	<Internal Password>	SAP_BC_JSF_COMMU NICATION SAP_BC_JSF_COMMU NICATION_RO	
CRM, client 274	Technical	SAP*	Appl1ance / <Master Password*>, if OS decoupling checkbox is not ticked.	SAP_ALL	System User
CRM, client 274	Technical	DDIC	Appl1ance / <Master Password*>, if OS decoupling checkbox is not ticked.	SAP_ALL	System User
CRM, client 274	Technical	BPINST	Welcome1	SAP_ALL	Default User
CRM, client 274	Technical	RFCSYSUSERCC	<Internal Password>		
CRM, client 274	Technical	RFCUSER	<Internal Password>		

System	Type	User	Password	Roles	Description
CRM, client 274	Technical	TMSADM	<Internal Password>		
CRM, client 274	Business	SALESEMP_1	Welcome	Sales Employee	Business Role: O2C IC Agent Employee BP: Adrian Turner (1300000000)
CRM, client 274	Business	SALESEMP_2	Welcome	Sales Employee	Business Role: Provider Sales and Order Mngmt Employee BP: Bishop Smith (1300000001)
CRM, client 274	Business	SALESEMP_3	Welcome	Sales Employee	Business Role: Fin IC Agent – Prov Ctr in ERP Employee BP: Jerry Cain (1300000010)
CRM, client 274	Business	COLLSPECT	Welcome	Collections Specialist	Business Role: O2C IC Agent Employee BP: Charles Lens (1300000002) Business Role: O2C IC Agent Employee BP: Charles Lens (1300000002)
CRM, client 274	Business	IPCUSER			

* The password is the same as the master password provided during instance creation in the SAP Cloud Appliance Library.

3.4.3   System CRM: CRM (Java)

System	Type	User	Password	Roles	Description
J2E	Technical	Administrator	Appl1ance / <Master Password*>, if OS decoupling checkbox is not ticked.	Netweaver JAVA Administrator	Admin user having admin rights to Netweaver Java system

* The password is the same as the master password provided during instance creation in the SAP Cloud Appliance Library.

3.4.4   System CC4: Convergent Charging

System	Type	User	Password	Roles	Description
CC4	Technical	Admin	Appl1ance / <Master Password*>, if OS decoupling checkbox is not ticked.	Administrator	Server URL for Core Tool: http://sid-cc4.dummy.nodomain:9100
CC4	Technical	BPINST	Welcome1	All Roles	Server URL for Core Tool: http://sid-cc4.dummy.nodomain:9100
CC4	Technical	CC_WebService_User	Sap123	All Roles without Administrator	WebService Communication User for CRM and ERP Integration

* The password is the same as the master password provided during instance creation in the SAP Cloud Appliance Library.

3.4.5　System HDB: HANA Database

System	Type	User	Password	Roles	Description
HDB	Technical	SYSTEM	Appl1ance / <Master Password*>, if OS decoupling checkbox is not ticked.	HANA SYSTEM user	For the connection to HANA DB

* The password is the same as the master password provided during instance creation in the SAP Cloud Appliance Library.

3.4.6　OS Users and Groups

Additional users on operating system level are listed below:

Parameter ID	Parameter Value	Note
<SID>adm User Group	sapsys	Group containing all <SID>adm users (should be a group in a central user storage like LDAP, NIS, or Active Directory)
SAP System Administrator	<SID>adm	
SAP System Administrator password	n/a	If you need OS access, you must use SSH connectivity. Use the default user root and the private key for the instance that is automatically generated while the SAP Cloud Appliance Library activates your instance. You can either store the key file within SAP Cloud Appliance Library as attachment to your instance, or download it to a local secure file share on your computer. Once logged on via SSH with your personal user you can switch to the system users with command: "sudo su – <sid>adm"

Parameter ID	Parameter Value	Note

4   Solution Usage and Licenses

The SAP Model Company for Subscription Billing V2 aim to deploy a complete SAP Reference Solution tailored to a Cross Industry quickly to start any business discussions based on a reference solution landscape. The product example based on a Hight-Tech product.

The SAP Model Company for Subscription Billing V2 is sold as a SAP service and consists of the following:
1. A preconfigured solution combining standard SAP Applications with preconfigured processes and sample data.
2. Business content which consists of end-to-end process models including sample workflows, reports, enhancements and forms, where applicable.
3. Accelerators like configuration and how-to guides, test/demo scripts and implementation tools. The accelerators will be detailed explained in the handover workshop.
4. Engineered service which includes hand-over and enablement workshops to jump-start discovery, exploration and realization.

For consuming the SAP Model Company for Subscription Billing V2 the related service must be bought.

The related SAP product licenses are in general required (see section 4.2). Test licenses might be used ad interim. Please contact your local SAP Sales representative, if service isn't bought right now and test licenses are needed.

4.1 SAP Model Company to accelerate innovation and digital transformation

SAP Model Company will support you during the Discover, Prepare, Explore and Realize Phase of your project. By having access to a preconfigured reference solution, business discussions and decisions can be accelerated and lengthy Blue Print Phases can be reduced to Fit Gap / Delta Designs.

Decisions on Organizational Data setup and Master Data Setup, adaption of Workflows, Reports, Interfaces, Conversions, Enhancements and Forms (WRICEF) are required which can be accelerated by the provided sample implementation.

How to use the SAP Model Company service
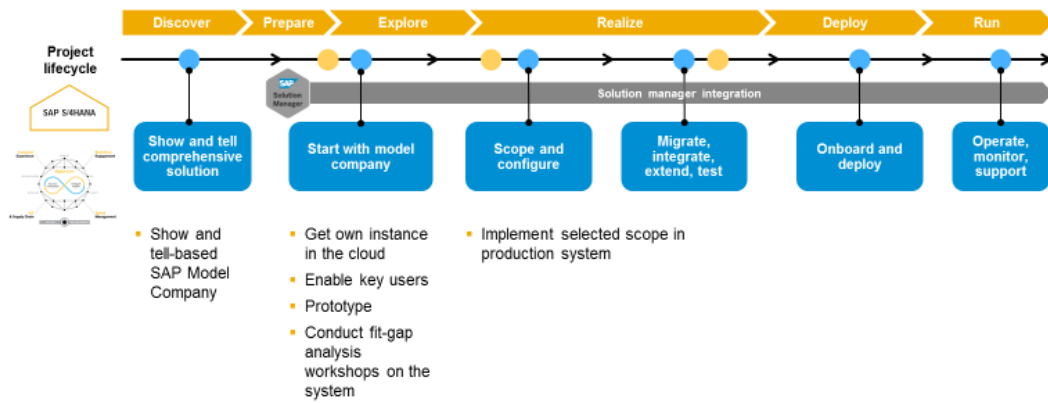
In parallel to the business discussions and activities in the reference or sandbox system, the productive landscape need to be setup. This is highly dependent on the given customer situation e.g.

- Licenses coverage
- Productive Landscape Architecture (Scalability, Performance)
- Operation Guidelines

Business Content delivered with the Model Company or created during a prototyping phase on the reference Sandbox system need to be manual transferred to the productive (development landscape). It could be accelerated by using general transport tools of the different SAP products.

How to use the SAP Model Company service

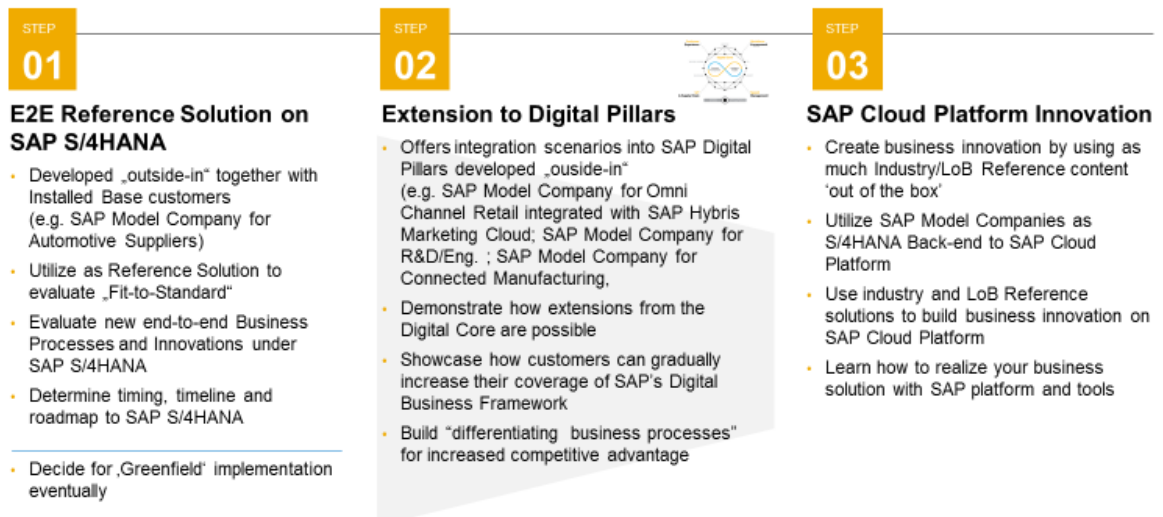| Discover	Prepare	Explore	Realize	Deploy	Run

Project lifecycle

SAP S/4HANA

Solution manager integration

Show and tell comprehensive solution	Start with model company	Scope and configure	Migrate, integrate, extend, test	Onboard and deploy	Operate, monitor, support

- Show and tell-based SAP Model Company

- Get own instance in the cloud
- Enable key users
- Prototype
- Conduct fit-gap analysis workshops on the system

- Implement selected scope in production system
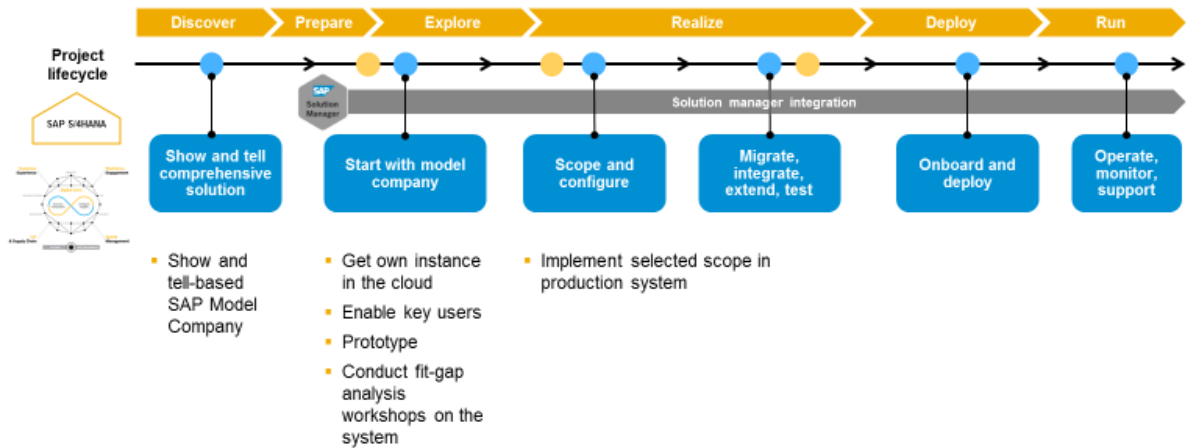
Public   24

Figure 1 How to use the SAP Model Company service in the project lifecyle

SAP Model Company Approach for Installed Base Customers
Three Use Cases for Accelerated Innovation and Simplification of Digital Transformation

STEP 01

E2E Reference Solution on SAP S/4HANA

- Developed „outside-in" together with Installed Base customers (e.g. SAP Model Company for Automotive Suppliers)
- Utilize as Reference Solution to evaluate „Fit-to-Standard"
- Evaluate new end-to-end Business Processes and Innovations under SAP S/4HANA
- Determine timing, timeline and roadmap to SAP S/4HANA

- Decide for ‚Greenfield' implementation eventually

STEP 02

Extension to Digital Pillars

- Offers integration scenarios into SAP Digital Pillars developed „ouside-in" (e.g. SAP Model Company for Omni Channel Retail integrated with SAP Hybris Marketing Cloud; SAP Model Company for R&D/Eng. ; SAP Model Company for Connected Manufacturing,
- Demonstrate how extensions from the Digital Core are possible
- Showcase how customers can gradually increase their coverage of SAP's Digital Business Framework
- Build "differentiating business processes" for increased competitive advantage

STEP 03

SAP Cloud Platform Innovation

- Create business innovation by using as much Industry/LoB Reference content 'out of the box'
- Utilize SAP Model Companies as S/4HANA Back-end to SAP Cloud Platform
- Use industry and LoB Reference solutions to build business innovation on SAP Cloud Platform
- Learn how to realize your business solution with SAP platform and tools

Public   16

Figure 2 Use Cases to accelerate innovation and digital transformation

4.2 SAP Test License Agreement

If you want to start to use this solution within SAP Cloud Appliance Library under an SAP Test License Agreement, your local SAP Sales representative must provide the license in advance (before you unlock the Model Company in SAP Cloud Appliance Library).

In SAP Cloud Appliance Library, there is a security mechanism installed, which checks if the user is allowed to deploy the solution and if there are existing licenses.

4.3 SAP Product License Agreement

The deployment of the SAP Model Company requires SAP product licenses for the following products:

- SAP S/4HANA On-Premise 1610 with SAP HANA 1.0
- SAP EHP 4 for SAP CRM 7.0
- SAP NetWeaver 7.50 application server JAVA with CRM components installed
- SAP Convergent Charging 4.1

4.3.1 SAP Product License Keys Installation

When installing the SAP S/4HANA On-Premise, SAP CRM (ABAP and JAVA) and SAP HANA system, a temporary license key valid for 90 days is created automatically. Also, a temporary license has been installed within your SAP Convergent Charging system, which is only valid for a limited period of time. (Official CC guide)
Please note that certain technical restrictions apply to a temporary license. For the full functionality you should install a valid product license key or a Test/Demo/Trial license key as described in the following.

If you want to use the solution under a SAP Product License Agreement (e.g. beyond the SAP-Test license), you should install the following relevant SAP product license keys:

1. SAP HANA license key, to be installed via SAP HANA Studio / Eclipse

2. SAP S/4HANA 1610 license key, to be installed via SAP Logon (transaction code SLICENSE)

3. SAP NetWeaver 7.5 J2EE, to be installed via SAP NetWeaver Administrator

4. SAP CRM 704 license key to be installed via SAP Logon (transaction code SLICENSE)

5. SAP Convergent Charging permanent license installation consists in the following operations: installing the permanent license and restarting the instances to take the permanent license into account.

Note:

License installation Details for SAP Convergent Charging:

Copy the license file obtained from https://launchpad.support.sap.com/#/licensekey to the Convergent Charging host of your landscape where a dispatcher is installed. Connect to this host and execute the following command as the administrator of your SAP CC system landscape, considering that <LICENSE_FILE_PATH> corresponds to the absolute path of the previously transferred file containing the permanent license:

/usr/sap/CC4/CCD03/script/setup.sh license import <LICENSE_FILE_PATH>

You will be prompted for user and password (Please check B4) Section - Default users and passwords).

Once the permanent license has been successfully installed within your SAP CC system, you need to restart the instances to take the new license into account. Use below commands:

su - cc4adm

sapcontrol -nr 00 -function RestartInstance

sapcontrol -nr 01 -function RestartInstance

sapcontrol -nr 02 -function RestartInstance

sapcontrol -nr 03 -function RestartInstance

sapcontrol -nr 04 -function RestartInstance

Note:

The SAP NetWeaver J2EE engine (JAVA stack) is used as platform for the Adobe Document Services.
The separate licensing of Adobe Document Services / Interactive Forms by Adobe (IFbA) is not mandatory for SAP S/4HANA, however, the following conditions apply.

      a) The use of SAP print forms is always free of charge.

      b) For SAP Interactive Forms, using the pre-delivered interactive forms is free of charge.

      c) Also, if you make cosmetic changes to these forms, it is still free of charge.

      d) However, if you make non-cosmetic changes to the forms or create new forms, you need a separate license for Adobe Document Services / IFbA

Use the link https://launchpad.support.sap.com/#/licensekey to obtain the related license keys for the products mentioned above.

In the license key application, you will be asked for various parameters (see table below).

The hardware key also needs to be provided (depending on the application, it can be obtained via transaction code SLICENSE, HANA Studio or NW Administrator). For Convergent Charging, the hardware key can be obtained from OS level, using the command: */usr/sap/CC4/CCD03/script/setup.sh license hardwarekey*

SID	Product	Version	DB	OS	Comment
HDB	SAP HANA, platform edition	SAP HANA 1.0, platform edition	n/a	Linux	As license type, select 'SAP In-Memory Appliance platform'. Please add at least 152 GB Main memory as quantity
S4C	SAP S/4HANA	SAP S/4HANA 1610	SAP HANA	Linux	N/A
CRM	SAP EHP4 for CRM	SAP CRM 704	Sybase ASE	Linux	As license type, select ' Standard - Web Application

SID	Product	Version	DB	OS	Comment
					Server ABAP or ABAP+JAVA'
J2E	SAP NetWeaver	SAP NetWeaver 7.5 JAVA	Sybase ASE	Linux	As license type, select 'J2EE - Web AS JAVA'
CC4	SAP Convergent Charging	SAP Convergent Charging 4.1	SAP HANA	Linux	N/A

For more information on how to request and install product license keys, see this SCN blog.

5 Security Aspects

By default, some ports are opened for the security group formed by the server components of your solution instance. The access from your local computer to your system instance happens via those ports (see 'Description' what port is used where).

Protocol	Port (open by default)	Virtual Machine*	Description
SSH	22	ABAP, JAVA, CC	Used for SSH connection to Linux-based servers (OS), both for ABAP & JAVA virtual machine
RDP	3389	WIN	Used for access from MS Windows remote desktop connection
SAP GUI	3200	ABAP	Used for access of local SAP GUI to appliance
HTTPS	44300 & 44301	ABAP	Used for access of a local web browser to appliance (Fiori Launchpad of SAP S/4HANA)
HTTP	50000 & 50001	JAVA	Used for access of a local web browser to the SAP NetWeaver Administrator / JAVA admin console
Custom TCP	30215	ABAP	Used for connection of SAP HANA Studio to HANA DB
Custom TCP	3300	ABAP	Used for connection of ABAP Development Tools (Eclipse-based) to SAP S/4HANA ABAP repository
HTTP	9080 & 9180	CC	Used for the Web Service connection to SAP CC Core Server
Custom TCP	9000 & 9100	CC	Used for the HCI protocol to SAP CC Core Server

* ABAP = SAP NetWeaver 7.51 AS ABAP incl. SAP S/4HANA

JAVA = SAP NetWeaver 7.50 AS JAVA incl. ADS

WIN = MS Windows Remote Desktop

CC = SAP Convergent Charging 4.1

You can edit/add/remove ports manually in the instance details (click on the instance link in the SAP Cloud Appliance Library console → Edit → Virtual Machine → Access Points).

Be aware that creating your instances in the public zone of your cloud computing platform is convenient, but less secure. We recommend that in this case, you only open port 22 (SSH) when working with Linux-based solutions, and port 3389 (RDP) when working with Windows based solutions if your business requirements allow for this.

In addition, we also recommend that you limit the access to your instances by defining a specific IP range in the Access Points settings, using CIDR notation. The more complex but secure alternative is to set up a virtual private cloud (VPC) with VPN access, which is described in this tutorial on SCN.

Note that when using HANA-based appliances, HANA systems are not installed individually, but cloned from a template system. Consequently, the existing root keys are cloned. For more information, see this SAP Note 2134846 - HANA encryption key handling during system cloning.

General Security Guidelines

To access the latest version of the SAP system Security Guide, please refer to http://help.sap.com/s4hana_op_1610 → Product Documentation → Security Guide

For more information about security vulnerabilities, see this community page.

6 Pre-configured Business Content

The SAP Model Companies combines SAP Standard Solutions (by LoB or Industry), SAP Activate content, and encapsulates the experience from successful, real-life digital transformation projects.

SAP Model Company Business Documentation is delivered via SAP Solution Manager System 7.2.

The whole documentation (Click-through-documentation, configuration guides …) of a SAP Model Company is stored in a downloaded JSON-File. This file can be imported into your own Solution Manager System 7.2.

The file can be ordered via email: sapmodelcompany@sap.com.

You can easily connect your SAP Solution Manager system to the preconfigured solution. An instruction, how to import JSON file and how to connect SAP Solution Manager system will be provided with the JSON File.

Need support? Please contact us.

If you do not have an own SAP Solution Manager System 7.2 you can deploy the system from SAP Cloud Appliance Library -> Solutions -> *SAP Solution Manger 7.2 for the Design and Build in your S/4 HANA Planning Phase*, in your own AWS or Azure Account.

Detailed enabling and handover of the E2E Processes including documentation is part of the initial service delivery. Have you already schedule the hand-over and enablement workshops? If not, contact us today for an appointment for the workshops in your company.

7 Additional Information

7.1 Integrated User Assistance ('Web Assistant')

You can also explore the integrated user assistance of the SAP Fiori Launchpad that gives users in-context-help for a select number of Fiori apps.

For Fiori apps that are enabled for the Web Assistant, you will find a questions mark in a circle on the upper right corner of your browser. When you click on it, help items will be displayed for this tile.

As an example, open the Manage Customer Line Items app with user S4H_FIN (password Welcome1, language EN, client 100).

Once the page is loaded, click on the question mark icon and hover over the respective topics to see help content.

Notes:

1. The question mark icon will only be displayed on pages where an online help entry has been defined by SAP.

2. If you create your own solution **in public cloud** (i.e. no proxy needed), you can experience the online help function without changing any parameters.
   If you create your own solution **via VPN as extension to your company network** (i.e. the proxy settings of your company are used), you will need to adjust the web dispatcher configuration parameters accordingly by maintaining the parameters "wdisp/system_xx" following the web dispatcher guide on *http://help.sap.com/saphelp_nw75/helpdata/en/48/99d142ee2b73e7e10000000a42189b/frameset.htm* → Tasks → Parameterization/configuration

7.2 Calling a web-based ABAP Transaction

If you call any web based transaction via a transaction from the ABAP layer (for example, transactions NWBC or BRF+), a blank browser page will show up.

The root cause of this behavior are the self-signed certificates and trust relationship between your browser and the server called when running the transaction.

The workaround for eliminating this behavior is to launch the web-based transactions for a second time from SAP GUI while add the certificate to the IE trust root certificates as follows (instead of IE, it can also be another browser called on your pc).

1. Call the transaction that launches the web application (for example, NWBC)
2. A browser window with a certificate warning will pop up (exact message depends on browser version)
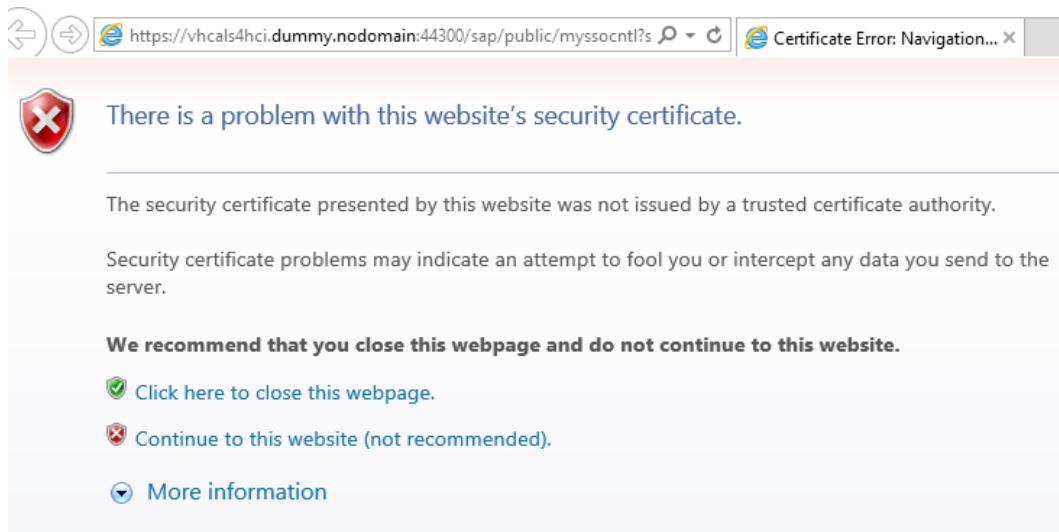
3. Select *Continue to this website* and you will see a message like this and an empty browser page (exact message depends on browser)

4. Leave the browser session open and launch the same transaction again from SAP GUI. This time, the transaction will open in the browser.

8　Appendix

8.1　Installed Technical Component Details

8.1.1 SAP S/4HANA On-Premise 1610 with SAP HANA 1.0

Installed Software Components

Component	Release	SP-Level	Support Package	Short Description of Component
SAP_BASIS	751	0002	SAPK-75102INSAPBASIS	SAP Basis Component
SAP_ABA	75B	0002	SAPK-75B02INSAPABA	Cross-Application Component
SAP_GWFND	751	0002	SAPK-75102INSAPGWFND	SAP Gateway Foundation 7.40
SAP_UI	751	0002	SAPK-75102INSAPUI	User Interface Technology 7.40
ST-PI	740	0004	SAPK-74004INSTPI	SAP Solution Tools Plug-In
SAP_BW	751	0002	SAPK-75102INSAPBW	SAP Business Warehouse
UIBAS001	200	0000	-	UI for Basis Applications 1.0
MDG_FND	801	0002	SAPK-80102INMDGFND	MDG Foundation
WEBCUIF	801	0002	SAPK-80102INWEBCUIF	SAP Web UI Framework
MDG_APPL	801	0002	SAPK-80102INMDGAPPL	MDG Applications
MDG_UX	801	0002	SAPK-80102INMDGUX	MDG Applications
S4CORE	101	0002	SAPK-10102INS4CORE	S4CORE
SAP_HR	608	0040	SAPKE60840	Human Resources
SAP_HRCAE	608	0040	SAPK-60840INSAPHRCAE	Subcomponent SAP_HRCAE of SAP_HR
SAP_HRCAR	608	0040	SAPK-60840INSAPHRCAR	Subcomponent SAP_HRCAR of SAP_HR
SAP_HRCAT	608	0040	SAPK-60840INSAPHRCAT	Subcomponent SAP_HRCAT of SAP_HR
SAP_HRCAU	608	0040	SAPK-60840INSAPHRCAU	Subcomponent SAP_HRCAU of SAP_HR
SAP_HRCBE	608	0040	SAPK-60840INSAPHRCBE	Subcomponent SAP_HRCBE of SAP_HR

Component	Release	SP-Level	Support Package	Short Description of Component
SAP_HRCBG	608	0040	SAPK-60840INSAPHRCBG	Subcomponent SAP_HRCBG of SAP_HR
SAP_HRCBR	608	0040	SAPK-60840INSAPHRCBR	Subcomponent SAP_HRCBR of SAP_HR
SAP_HRCCA	608	0040	SAPK-60840INSAPHRCCA	Subcomponent SAP_HRCCA of SAP_HR
SAP_HRCCH	608	0040	SAPK-60840INSAPHRCCH	Subcomponent SAP_HRCCH of SAP_HR
SAP_HRCCL	608	0040	SAPK-60840INSAPHRCCL	Subcomponent SAP_HRCCL of SAP_HR
SAP_HRCCN	608	0040	SAPK-60840INSAPHRCCN	Subcomponent SAP_HRCCN of SAP_HR
SAP_HRCCO	608	0040	SAPK-60840INSAPHRCCO	Subcomponent SAP_HRCCO of SAP_HR
SAP_HRCCZ	608	0040	SAPK-60840INSAPHRCCZ	Subcomponent SAP_HRCCZ of SAP_HR
SAP_HRCDE	608	0040	SAPK-60840INSAPHRCDE	Subcomponent SAP_HRCDE of SAP_HR
SAP_HRCDK	608	0040	SAPK-60840INSAPHRCDK	Subcomponent SAP_HRCDK of SAP_HR
SAP_HRCEG	608	0040	SAPK-60840INSAPHRCEG	Subcomponent SAP_HRCEG of SAP_HR
SAP_HRCES	608	0040	SAPK-60840INSAPHRCES	Subcomponent SAP_HRCES of SAP_HR
SAP_HRCFI	608	0040	SAPK-60840INSAPHRCFI	Subcomponent SAP_HRCFI of SAP_HR
SAP_HRCFR	608	0040	SAPK-60840INSAPHRCFR	Subcomponent SAP_HRCFR of SAP_HR
SAP_HRCGB	608	0040	SAPK-60840INSAPHRCGB	Subcomponent SAP_HRCGB of SAP_HR
SAP_HRCGR	608	0040	SAPK-60840INSAPHRCGR	Subcomponent SAP_HRCGR of SAP_HR
SAP_HRCHK	608	0040	SAPK-60840INSAPHRCHK	Subcomponent SAP_HRCHK of SAP_HR
SAP_HRCHR	608	0040	SAPK-60840INSAPHRCHR	Subcomponent SAP_HRCHR of SAP_HR
SAP_HRCHU	608	0040	SAPK-60840INSAPHRCHU	Subcomponent SAP_HRCHU of SAP_HR
SAP_HRCID	608	0040	SAPK-60840INSAPHRCID	Subcomponent SAP_HRCID of SAP_HR
SAP_HRCIE	608	0040	SAPK-60840INSAPHRCIE	Subcomponent SAP_HRCIE of SAP_HR

Component	Release	SP-Level	Support Package	Short Description of Component
SAP_HRCIN	608	0040	SAPK-60840INSAPHRCIN	Subcomponent SAP_HRCIN of SAP_HR
SAP_HRCIT	608	0040	SAPK-60840INSAPHRCIT	Subcomponent SAP_HRCIT of SAP_HR
SAP_HRCJP	608	0040	SAPK-60840INSAPHRCJP	Subcomponent SAP_HRCJP of SAP_HR
SAP_HRCKR	608	0040	SAPK-60840INSAPHRCKR	Subcomponent SAP_HRCKR of SAP_HR
SAP_HRCKW	608	0040	SAPK-60840INSAPHRCKW	Subcomponent SAP_HRCKW of SAP_HR
SAP_HRCKZ	608	0040	SAPK-60840INSAPHRCKZ	Subcomponent SAP_HRCKZ of SAP_HR
SAP_HRCMX	608	0040	SAPK-60840INSAPHRCMX	Subcomponent SAP_HRCMX of SAP_HR
SAP_HRCMY	608	0040	SAPK-60840INSAPHRCMY	Subcomponent SAP_HRCMY of SAP_HR
SAP_HRCNL	608	0040	SAPK-60840INSAPHRCNL	Subcomponent SAP_HRCNL of SAP_HR
SAP_HRCNO	608	0040	SAPK-60840INSAPHRCNO	Subcomponent SAP_HRCNO of SAP_HR
SAP_HRCNZ	608	0040	SAPK-60840INSAPHRCNZ	Subcomponent SAP_HRCNZ of SAP_HR
SAP_HRCOM	608	0040	SAPK-60840INSAPHRCOM	Subcomponent SAP_HRCOM of SAP_HR
SAP_HRCPH	608	0040	SAPK-60840INSAPHRCPH	Subcomponent SAP_HRCPH of SAP_HR
SAP_HRCPL	608	0040	SAPK-60840INSAPHRCPL	Subcomponent SAP_HRCPL of SAP_HR
SAP_HRCPT	608	0040	SAPK-60840INSAPHRCPT	Subcomponent SAP_HRCPT of SAP_HR
SAP_HRCQA	608	0040	SAPK-60840INSAPHRCQA	Subcomponent SAP_HRCQA of SAP_HR
SAP_HRCRO	608	0040	SAPK-60840INSAPHRCRO	Subcomponent SAP_HRCRO of SAP_HR
SAP_HRCRU	608	0040	SAPK-60840INSAPHRCRU	Subcomponent SAP_HRCRU of SAP_HR
SAP_HRCSA	608	0040	SAPK-60840INSAPHRCSA	Subcomponent SAP_HRCSA of SAP_HR
SAP_HRCSE	608	0040	SAPK-60840INSAPHRCSE	Subcomponent SAP_HRCSE of SAP_HR
SAP_HRCSG	608	0040	SAPK-60840INSAPHRCSG	Subcomponent SAP_HRCSG of SAP_HR

Component	Release	SP-Level	Support Package	Short Description of Component
SAP_HRCSI	608	0040	SAPK-60840INSAPHRCSI	Subcomponent SAP_HRCSI of SAP_HR
SAP_HRCSK	608	0040	SAPK-60840INSAPHRCSK	Subcomponent SAP_HRCSK of SAP_HR
SAP_HRCTH	608	0040	SAPK-60840INSAPHRCTH	Subcomponent SAP_HRCTH of SAP_HR
SAP_HRCTR	608	0040	SAPK-60840INSAPHRCTR	Subcomponent SAP_HRCTR of SAP_HR
SAP_HRCTW	608	0040	SAPK-60840INSAPHRCTW	Subcomponent SAP_HRCTW of SAP_HR
SAP_HRCUA	608	0040	SAPK-60840INSAPHRCUA	Subcomponent SAP_HRCUA of SAP_HR
SAP_HRCUN	608	0040	SAPK-60840INSAPHRCUN	Subcomponent SAP_HRCUN of SAP_HR
SAP_HRCUS	608	0040	SAPK-60840INSAPHRCUS	Subcomponent SAP_HRCUS of SAP_HR
SAP_HRCVE	608	0040	SAPK-60840INSAPHRCVE	Subcomponent SAP_HRCVE of SAP_HR
SAP_HRCZA	608	0040	SAPK-60840INSAPHRCZA	Subcomponent SAP_HRCZA of SAP_HR
SAP_HRGXX	608	0040	SAPK-60840INSAPHRGXX	Subcomponent SAP_HRGXX of SAP_HR
SAP_HRRXX	608	0040	SAPK-60840INSAPHRRXX	Subcomponent SAP_HRRXX of SAP_HR
EA-DFPS	801	0002	SAPK-80102INEADFPS	SAP Enterprise Extension Defense Forces & Public Security
EA-HR	608	0040	SAPK-60840INEAHR	SAP Enterprise Extension HR
EA-HRCAE	608	0040	SAPK-60840INEAHRCAE	Subcomponent EA-HRCAE of EA-HR
EA-HRCAR	608	0040	SAPK-60840INEAHRCAR	Subcomponent EA-HRCAR of EA-HR
EA-HRCAT	608	0040	SAPK-60840INEAHRCAT	Subcomponent EA-HRCAT of EA-HR
EA-HRCAU	608	0040	SAPK-60840INEAHRCAU	Subcomponent EA-HRCAU of EA-HR
EA-HRCBE	608	0040	SAPK-60840INEAHRCBE	Subcomponent EA-HRCBE of EA-HR
EA-HRCBG	608	0040	SAPK-60840INEAHRCBG	Subcomponent EA-HRCBG of EA-HR
EA-HRCBR	608	0040	SAPK-60840INEAHRCBR	Subcomponent EA-HRCBR of EA-HR
EA-HRCCA	608	0040	SAPK-60840INEAHRCCA	Subcomponent EA-HRCCA of EA-HR
EA-HRCCH	608	0040	SAPK-60840INEAHRCCH	Subcomponent EA-HRCCH of EA-HR
EA-HRCCL	608	0040	SAPK-60840INEAHRCCL	Subcomponent EA-HRCCL of EA-HR

Component	Release	SP-Level	Support Package	Short Description of Component
EA-HRCCN	608	0040	SAPK-60840INEAHRCCN	Subcomponent EA-HRCCN of EA-HR
EA-HRCCO	608	0040	SAPK-60840INEAHRCCO	Subcomponent EA-HRCCO of EA-HR
EA-HRCCZ	608	0040	SAPK-60840INEAHRCCZ	Subcomponent EA-HRCCZ of EA-HR
EA-HRCDE	608	0040	SAPK-60840INEAHRCDE	Subcomponent EA-HRCDE of EA-HR
EA-HRCDK	608	0040	SAPK-60840INEAHRCDK	Subcomponent EA-HRCDK of EA-HR
EA-HRCEG	608	0040	SAPK-60840INEAHRCEG	Sub component EA-HRCEG of EA-HR
EA-HRCES	608	0040	SAPK-60840INEAHRCES	Subcomponent EA-HRCES of EA-HR
EA-HRCFI	608	0040	SAPK-60840INEAHRCFI	Subcomponent EA-HRCFI of EA-HR
EA-HRCFR	608	0040	SAPK-60840INEAHRCFR	Subcomponent EA-HRCFR of EA-HR
EA-HRCGB	608	0040	SAPK-60840INEAHRCGB	Subcomponent EA-HRCGB of EA-HR
EA-HRCGR	608	0040	SAPK-60840INEAHRCGR	Subcomponent EA-HRCGR of EA-HR
EA-HRCHK	608	0040	SAPK-60840INEAHRCHK	Subcomponent EA-HRCHK of EA-HR
EA-HRCHR	608	0040	SAPK-60840INEAHRCHR	Subcomponent EA-HRCHR of EA-HR
EA-HRCHU	608	0040	SAPK-60840INEAHRCHU	Subcomponent EA-HRCHU of EA-HR
EA-HRCID	608	0040	SAPK-60840INEAHRCID	Subcomponent EA-HRCID of EA-HR
EA-HRCIE	608	0040	SAPK-60840INEAHRCIE	Subcomponent EA-HRCIE of EA-HR
EA-HRCIN	608	0040	SAPK-60840INEAHRCIN	Subcomponent EA-HRCIN of EA-HR
EA-HRCIT	608	0040	SAPK-60840INEAHRCIT	Subcomponent EA-HRCIT of EA-HR
EA-HRCJP	608	0040	SAPK-60840INEAHRCJP	Subcomponent EA-HRCJP of EA-HR
EA-HRCKR	608	0040	SAPK-60840INEAHRCKR	Subcomponent EA-HRCKR of EA-HR
EA-HRCKW	608	0040	SAPK-60840INEAHRCKW	Subcomponent EA-HRCKW of EA-HR
EA-HRCKZ	608	0040	SAPK-60840INEAHRCKZ	Subcomponent EA-HRCKZ of EA-HR
EA-HRCMX	608	0040	SAPK-60840INEAHRCMX	Subcomponent EA-HRCMX of EA-HR
EA-HRCMY	608	0040	SAPK-60840INEAHRCMY	Subcomponent EA-HRCMY of EA-HR
EA-HRCNL	608	0040	SAPK-60840INEAHRCNL	Subcomponent EA-HRCNL of EA-HR
EA-HRCNO	608	0040	SAPK-60840INEAHRCNO	Subcomponent EA-HRCNO of EA-HR
EA-HRCNZ	608	0040	SAPK-60840INEAHRCNZ	Subcomponent EA-HRCNZ of EA-HR
EA-HRCOM	608	0040	SAPK-60840INEAHRCOM	Subcomponent EA-HRCOM of EA-HR
EA-HRCPH	608	0040	SAPK-60840INEAHRCPH	Subcomponent EA-HRCPH of EA-HR
EA-HRCPL	608	0040	SAPK-60840INEAHRCPL	Subcomponent EA-HRCPL of EA-HR
EA-HRCPT	608	0040	SAPK-60840INEAHRCPT	Subcomponent EA-HRCPT of EA-HR

Component	Release	SP-Level	Support Package	Short Description of Component
EA-HRCQA	608	0040	SAPK-60840INEAHRCQA	Subcomponent EA-HRCQA of EA-HR
EA-HRCRO	608	0040	SAPK-60840INEAHRCRO	Subcomponent EA-HRCRO of EA-HR
EA-HRCRU	608	0040	SAPK-60840INEAHRCRU	Subcomponent EA-HRCRU of EA-HR
EA-HRCSA	608	0040	SAPK-60840INEAHRCSA	Subcomponent EA-HRCSA of EA-HR
EA-HRCSE	608	0040	SAPK-60840INEAHRCSE	Subcomponent EA-HRCSE of EA-HR
EA-HRCSG	608	0040	SAPK-60840INEAHRCSG	Subcomponent EA-HRCSG of EA-HR
EA-HRCSI	608	0040	SAPK-60840INEAHRCSI	Subcomponent EA-HRCSI of EA-HR
EA-HRCSK	608	0040	SAPK-60840INEAHRCSK	Subcomponent EA-HRCSK of EA-HR
EA-HRCTH	608	0040	SAPK-60840INEAHRCTH	Subcomponent EA-HRCTH of EA-HR
EA-HRCTR	608	0040	SAPK-60840INEAHRCTR	Subcomponent EA-HRCTR of EA-HR
EA-HRCTW	608	0040	SAPK-60840INEAHRCTW	Subcomponent EA-HRCTW of EA-HR
EA-HRCUA	608	0040	SAPK-60840INEAHRCUA	Subcomponent EA-HRCUA of EA-HR
EA-HRCUN	608	0040	SAPK-60840INEAHRCUN	Subcomponent EA-HRCUN of EA-HR
EA-HRCUS	608	0040	SAPK-60840INEAHRCUS	Subcomponent EA-HRCUS of EA-HR
EA-HRCVE	608	0040	SAPK-60840INEAHRCVE	Subcomponent EA-HRCVE of EA-HR
EA-HRCZA	608	0040	SAPK-60840INEAHRCZA	Subcomponent EA-HRCZA of EA-HR
EA-HRGXX	608	0040	SAPK-60840INEAHRGXX	Subcomponent EA-HRGXX of EA-HR
EA-HRRXX	608	0040	SAPK-60840INEAHRRXX	Subcomponent EA-HRRXX of EA-HR
EA-PS	801	0002	SAPK-80102INEAPS	SAP Enterprise Extension Public Services
ECC-SE	801	0002	SAPK-80102INECCSE	ECC-SE
ERECRUIT	801	0001	SAPK-80101INERECRUIT	E-Recruiting
FI-CA	801	0002	SAPK-80102INFICA	FI-CA
FI-CAX	801	0002	SAPK-80102INFICAX	FI-CA Extended
INSURANCE	801	0002	SAPK-80102ININSURANC	SAP Insurance
IS-H	801	0002	SAPK-80102INISH	SAP Healthcare
IS-M	801	0002	SAPK-80102INISM	SAP MEDIA
IS-OIL	801	0002	SAPK-80102INISOIL	IS-OIL
IS-PRA	801	0002	SAPK-80102INISPRA	SAP IS-PRA
IS-PS-CA	801	0002	SAPK-80102INISPSCA	IS-PUBLIC SECTOR CONTRACT ACCOUNTING

Component	Release	SP-Level	Support Package	Short Description of Component
IS-UT	801	0002	SAPK-80102INISUT	SAP Utilities/Telecommunication
LSOFE	801	0001	SAPK-80101INLSOFE	SAP Learning Solution Front-End
GBX01HR	600	0006	SAPK-60006INGBX01HR	FIORI X1 HCM
GBX01HR5	605	0003	SAPK-60503INGBX01HR5	FIORI X1 HCM
SAPUIFT	100	0001	SAPK-10001INSAPUIFT	SAP UI Frontend Implementation Technology
SRA004	600	0009	SAPK-60009INSRA004	Create Travel Request OData Integration
UIAPFI70	400	0002	SAPK-40002INUIAPFI70	UI SFIN
UIS4HOP1	200	0002	SAPK-20002INUIS4HOP1	UI for S/4HANA On Premise
UIX01CA1	200	0004	SAPK-20004INUIX01CA1	UI for Cross-Applications
BSNAGT	200	0002	SAPK-20002INBSNAGT	BSN AGENT
ST-A/PI	01S_731	0001	SAPKITAB9R	Servicetools for SAP Basis 731

8.1.2 SAP EHP 4 for SAP CRM 7.0 (ABAP)

Installed Software Components

Component	Release	SP-Level	Support Package	Short Description of Component
SAP_BASIS	750	0006	SAPK-75006INSAPBASIS	SAP Basiskomponente
SAP_ABA	750	0006	SAPK-75006INSAPABA	Anwendungsübergreifende Komponente
SAP_GWFND	750	0006	SAPK-75006INSAPGWFND	SAP Gateway Foundation
SAP_UI	750	0006	SAPK-75006INSAPUI	User Interface Technology
ST-PI	740	0004	SAPK-74004INSTPI	SAP Solution Tools Plug-In
SAP_BW	750	0006	SAPK-75006INSAPBW	SAP Business Warehouse
MDG_FND	749	0004	SAPK-74904INMDGFND	MDG Foundation
SAP_AP	750	0003	SAPK-75003INSAPAP	SAP Application Platform
SAP_BS_FND	748	0005	SAPK-74805INSAPBSFND	SAP Business Suite Foundation
WEBCUIF	748	0005	SAPK-74805INWEBCUIF	SAP Web UI Framework

Component	Release	SP-Level	Support Package	Short Description of Component
BBPCRM	714	0005	SAPK-71405INBBPCRM	SAP CRM
CRM_PLUS	714	0005	SAPK-71405INCRMPLUS	SAP CRM PLUS
BP-CANW	750V2	0000	-	Tech. Obj. for SAP BP pkg. act. based on BS 7i11 Cross Appl. objects and SAP NW
BP-CRM	714V2	0000	-	SAP BP for CRM 704
BP-SOLBLD	70VA	0000	-	Best Practices Solution Builder on EHP5

8.1.3 SAP EHP 4 for SAP CRM 7.0 (Java)

Product Name	Name	Version	Vendor	Description
SAP NETWAVER J2EE	7.50	04	sap.com	SAP NETWEAVER 7.5: Application Server Java

Installed Software Components

Version	Vendor	Name	Location
1000.7.50.6.0.20161127181600	sap.com	AJAX-RUNTIME	SAP AG
1000.7.50.6.0.20161127181600	sap.com	BASETABLES	SAP AG
1000.7.50.6.0.20161127185600	sap.com	BI-WDALV	SAP AG
1000.7.50.6.0.20161127193500	sap.com	BI_UDI	SAP AG
1000.7.50.6.0.20161127181600	sap.com	CFG_ZA	SAP AG
1000.7.50.6.0.20161127181600	sap.com	CFG_ZA_CE	SAP AG
1000.7.50.6.0.20161127193200	sap.com	COMP_BUILDT	SAP AG
1000.7.50.6.0.20161127181600	sap.com	CORE-TOOLS	SAP AG
1000.7.50.6.0.20161127193500	sap.com	CU-BASE-JAVA	SAP AG
1000.7.50.6.0.20161127200700	sap.com	CU-BASE-WD	SAP AG
1000.7.50.6.0.20161127193500	sap.com	DATA-MAPPING	SAP AG
1000.7.50.6.0.20161127181600	sap.com	DI_CLIENTS	SAP AG
1000.7.50.6.0.20161127185600	sap.com	ECM-CORE	SAP AG

Version	Vendor	Name	Location
1000.7.50.6.0.20161125211500	sap.com	ENGFACADE	SAP AG
1000.7.50.6.0.20161127181600	sap.com	ENGINEAPI	SAP AG
1000.7.50.6.0.20161127193500	sap.com	EP-BASIS	SAP AG
1000.7.50.6.0.20161127193500	sap.com	EP-BASIS-API	SAP AG
1000.7.50.6.0.20161127193200	sap.com	ESCONF_BUILDT	SAP AG
1000.7.50.6.0.20161127200700	sap.com	ESI-UI	SAP AG
1000.7.50.6.0.20161127193500	sap.com	ESMP_BUILDT	SAP AG
1000.7.50.6.0.20161127193300	sap.com	ESP_FRAMEWORK	SAP AG
1000.7.50.6.0.20161127193300	sap.com	ESREG-BASIC	SAP AG
1000.7.50.6.0.20161127193300	sap.com	ESREG-SERVICES	SAP AG
1000.7.50.6.0.20161127181600	sap.com	FRAMEWORK	SAP AG
1000.7.50.6.0.20161127193500	sap.com	FRAMEWORK-EXT	SAP AG
1000.7.50.6.0.20161127181600	sap.com	J2EE-APPS	SAP AG
1000.7.50.6.0.20161127181600	sap.com	J2EE-FRMW	SAP AG
1000.7.50.6.0.20161127181600	sap.com	JSPM	SAP AG
1000.7.50.6.0.20161127193500	sap.com	KM-KW_JIKS	SAP AG
1000.7.50.6.0.20161127181600	sap.com	LM-CORE	SAP AG
1000.7.50.6.0.20161127185600	sap.com	LM-CTS	SAP AG
1000.7.50.6.0.20161127181600	sap.com	LM-CTS-UI	SAP AG
1000.7.50.6.0.20161127185600	sap.com	LM-MODEL-BASE	SAP AG
1000.7.50.6.0.20161127185600	sap.com	LM-MODEL-NW	SAP AG
1000.7.50.6.0.20161127185600	sap.com	LM-SLD	SAP AG
1000.7.50.6.0.20161127200700	sap.com	LM-TOOLS	SAP AG
1000.7.50.6.0.20161127185600	sap.com	LMCFG	SAP AG
1000.7.50.6.0.20161127185600	sap.com	LMCTC	SAP AG
1000.7.50.6.0.20161127185600	sap.com	LMNWABASICAPPS	SAP AG
1000.7.50.6.0.20161127185600	sap.com	LMNWABASICCOMP	SAP AG
1000.7.50.6.0.20161127185600	sap.com	LMNWABASICMBEAN	SAP AG
1000.7.50.6.0.20161127185600	sap.com	LMNWACDP	SAP AG
1000.7.50.6.0.20161127200700	sap.com	LMNWATOOLS	SAP AG
1000.7.50.6.0.20161127185600	sap.com	LMNWAUIFRMRK	SAP AG

Version	Vendor	Name	Location
1000.7.50.6.0.20161127193300	sap.com	MESSAGING	SAP AG
1000.7.50.6.0.20161127193500	sap.com	MMR_SERVER	SAP AG
1000.7.50.6.0.20161127181600	sap.com	MOIN_BUILDT	SAP AG
1000.7.50.6.0.20161127185600	sap.com	NWTEC	SAP AG
1000.7.50.6.0.20161127185600	sap.com	ODATA-CXF-EXT	SAP AG
1000.754.0.1.5.20160419150555	sap.com	SAP-CRMAPP	MAIN_CRM754P_C
1000.754.0.1.0.20151215104006	sap.com	SAP-CRMDIC	MAIN_CRM754V_C
1000.754.0.1.5.20160419150506	sap.com	SAP-SHRAPP	MAIN_CRM754P_C
1000.7.50.0.0.20150911053300	sap.com	SAP-XI3RDPARTY	SAP AG
1000.7.50.6.0.20161127181600	sap.com	SAP_BUILDT	SAP AG
1000.7.50.6.0.20161127181600	sap.com	SECURITY-EXT	SAP AG
1000.7.50.6.0.20161127181600	sap.com	SERVERCORE	SAP AG
1000.7.50.6.0.20161127193500	sap.com	SERVICE-COMP	SAP AG
1000.7.50.6.0.20161127200700	sap.com	SOAMONBASIC	SAP AG
1000.7.50.6.0.20161127200700	sap.com	SR-UI	SAP AG
1000.7.50.6.0.20161127181600	sap.com	SUPPORTTOOLS	SAP AG
1000.7.50.6.0.20161127200700	sap.com	SWLIFECYCL	SAP AG
1000.7.50.6.0.20161127193300	sap.com	UDDI	SAP AG
1000.7.50.7.0.20170309181200	sap.com	UISAPUI5_JAVA	SAP AG
1000.7.50.6.0.20161127200700	sap.com	UKMS_JAVA	SAP AG
1000.7.50.6.0.20161127185600	sap.com	UMEADMIN	SAP AG
1000.7.50.6.0.20161127181500	sap.com	WD-ADOBE	SAP AG
1000.7.50.6.0.20161127193300	sap.com	WD-APPS	SAP AG
1000.7.50.6.0.20161127181500	sap.com	WD-RUNTIME	SAP AG
1000.7.50.6.0.20161127193300	sap.com	WD-RUNTIME-EXT	SAP AG
1000.7.50.6.0.20161127193300	sap.com	WSRM	SAP AG

8.1.4 SAP Convergent Charing

- o SAP CONVERGENT CHARGING 4.1 SP02

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