Oracle Communications RODOD Reference Solution Installation Guide

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Contents

Executive Summary

The Oracle Communications Rapid Offer Design and Order Delivery (RODOD) Reference Solution is a set of concept-to-cash reference and sample materials. The RODOD Reference Solution configures the licensed applications and validates key concept-to-cash business processes. The solution is intended to speed up first-time installation and time-to-market for new projects. By defining a standard solution, the up-front installation, configuration, cost, complexity, risk, and overall time-to-market are reduced significantly.

Document Audience

This document outlines the use of our reference materials when deploying applications for the RODOD Concept-to-Cash solution. The topics of this document are focused on:

- Installation and deployment considerations

- Initiating new projects using the RODOD reference materials

- Configuring the Oracle RODOD Reference Solution

This document covers basic operational management and configuration of the RODOD solution stack, component applications, and the underlying technology stack. This document does not cover administrative activities and individual applications in detail.

> **IMPORTANT: This installation of the RODOD solution is NOT secure by default and it should not be used for live customer data until it is configured to be secure. Before using the solution in a production environment, you MUST configure each application according to its secure installation guidelines.**

Getting Started

Runtime Installation Steps

Install the applications manually by following the instructions in their individual installation guides. You may manually install the RODOD reference data after you have installed the applications.

Review Appendix A that outlines the packages you need to acquire for your Linux Target host(s).

Prerequisites

This section lists the prerequisites for the RODOD Reference Solution:

- Hardware
- Licensed Applications
- Set of media for the unattended installation scripts.

Minimum Hardware Requirements for Target Hosts

The following table lists the minimum hardware requirements for target hosts.

Purpose	Operating System	Arch	Memory	Deployments
Siebel CRM host	Oracle Linux 7.4+ version	x86-64	16GB with 350GB storage 64 GB swap	Oracle Database, Siebel CRM
BRM and PDC host	Oracle Linux 7.4+ version	x86-64	16GB with 200GB storage 32 GB swap	Oracle Database, BRM, Oracle Management Agent
Oracle AIA host	Oracle Linux 7.4+ version	x86-64	16GB with 150GB storage 64 GB swap	Oracle Database, FMW, Oracle AIA, pre-built integrations, Oracle Data Integrator(ODI)
OSM host	Oracle Linux 7.4+ version	x86-64	16GB with 150GB storage 64GB swap	Oracle Database, FMW, OSM, Oracle Management Agent
Development desktop	Windows 10	x86-64	8GB	Oracle Database Client, FMW, OSM SDK, Design Studio, Siebel Tools, JDeveloper, SQL Developer

The minimum machine configuration is intended to support only a small scale deployment for solution development, integration test, and demonstration purposes. Larger machines with more memory, processors, and storage will need to be scaled for production deployments.

Application Requirements

By default, the RODOD Reference Solution comprises the following applications:

S. NO	Application
1	**Siebel CRM (+ Database)**
2	**BRM (WebLogic Server + Database)**
3	**OSM (WebLogic Server + Database)**
4	**Oracle AIA Middleware (WebLogic Server + Oracle Service Oriented Architecture (SOA) Suite + Database)**
5	**PDC (WebLogic Server + Database)**
6	**Agent Assisted Billing Care pre-built integration (+ Oracle Data Integrator)**
7	**Order to Cash pre-built integration**
8	**OSM Order to Activate CSO/Typical Cartridge**

You must acquire these applications with a valid license through Oracle Software Delivery Cloud (eDelivery). See the *RODOD Media Map Software Locations* spreadsheet for details on the most up-to-date application versions and where to get them.

Technology Version Requirements

The following technology versions are used by the applications and scripts:

Component	Version	Depends On	Comment
Oracle Database	12cR2, 19c	Linux	Server
Java Development Kit (JDK)	1.8.0_231 or newer	Linux, Windows, Solaris	64-bit
Fusion Middleware (SOA/Fusion Middleware)	12.2.1.4.0	Linux, Oracle Database Server	WebLogic Server 12.2.1.4.0

Versions, Patch Sets, and Certified Lineups

It is critical that you deploy the Oracle Communications solutions using the approved and certified application line-ups. The recommended line-ups are tested, validated, and certified to ensure the lowest risk path.

After a certified lineup is installed, you must apply applicable patch sets and patches as they become available.

Application Patches

Often, applications release critical patch updates (CPU) that are made available on My Oracle Support (MOS). This is true of the Oracle Communication applications as well as the underlying technology lineup. Be sure to acquire the most up-to-date CPU from MOS for all applications, including WebLogic Server and Database components.

To get the most up-to-date CPU from MOS:

1. Login to My Oracle Support: https://support.oracle.com.
2. Click the **Patches & Updates** tab.
3. In the Patch Search section, click the **Product or Family (Advanced)** search link.
4. In the **Product** field, enter the first few characters of a product name and then select one from the propagated list. For example, select Oracle WebLogic Server.
5. From the **Release** list, select the appropriate release. For example, select WLS 12.2.1.4
6. From the **Platform** list, select the appropriate platform. For example, select Linux x86-64.
7. Select the **Show recommended patches only** check box.
8. Select the **Exclude superseded patches** check box.
9. Click **Search**.
   The search result with the highest patch number or the most recently updated is likely the desired patch set update.

Acquiring the License Media and Third Party Components

The *RODOD Media Map Software Locations* spreadsheet provides a list of all necessary media and how to stage them.

Oracle license applications are available through eDelivery and all export compliance and license terms must be agreed. You must license the applications that you are installing.

Follow all Oracle policies for distributing Oracle intellectual property, including RODOD Reference Solution materials as well as the materials of Oracle Communications Consulting.

Third Party Components

Oracle does not have the right to distribute certain third party components. These third party components must be acquired through their respective web sites. A list of the third party components that must be acquired separately is listed for each application in the *RODOD Media Map Software Locations* spreadsheet.

Target Hosts

This section describes the target hosts, which are utilized for hosting the installation of RODOD applications.

- RODOD Reference Solution using individual edge applications.
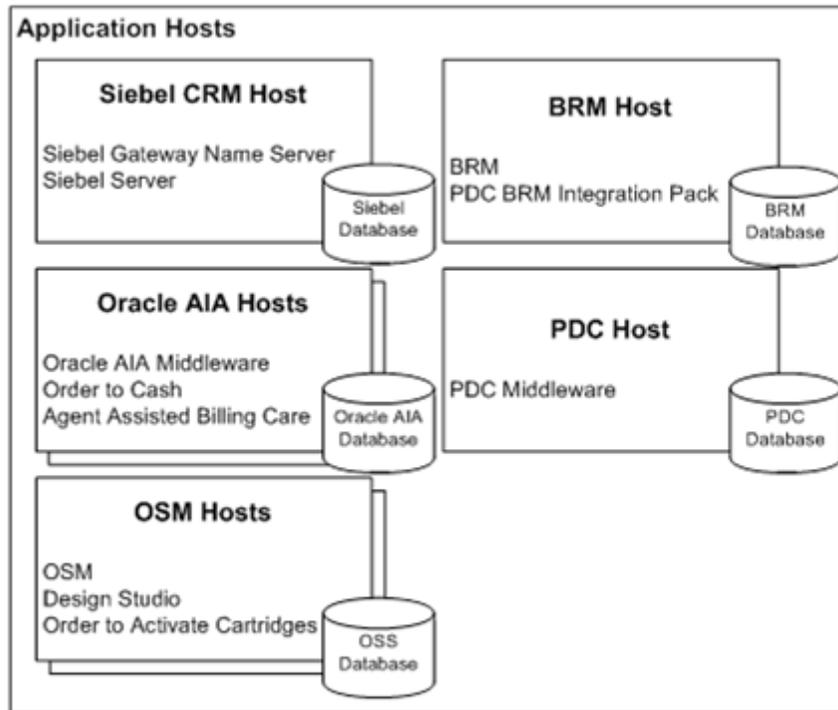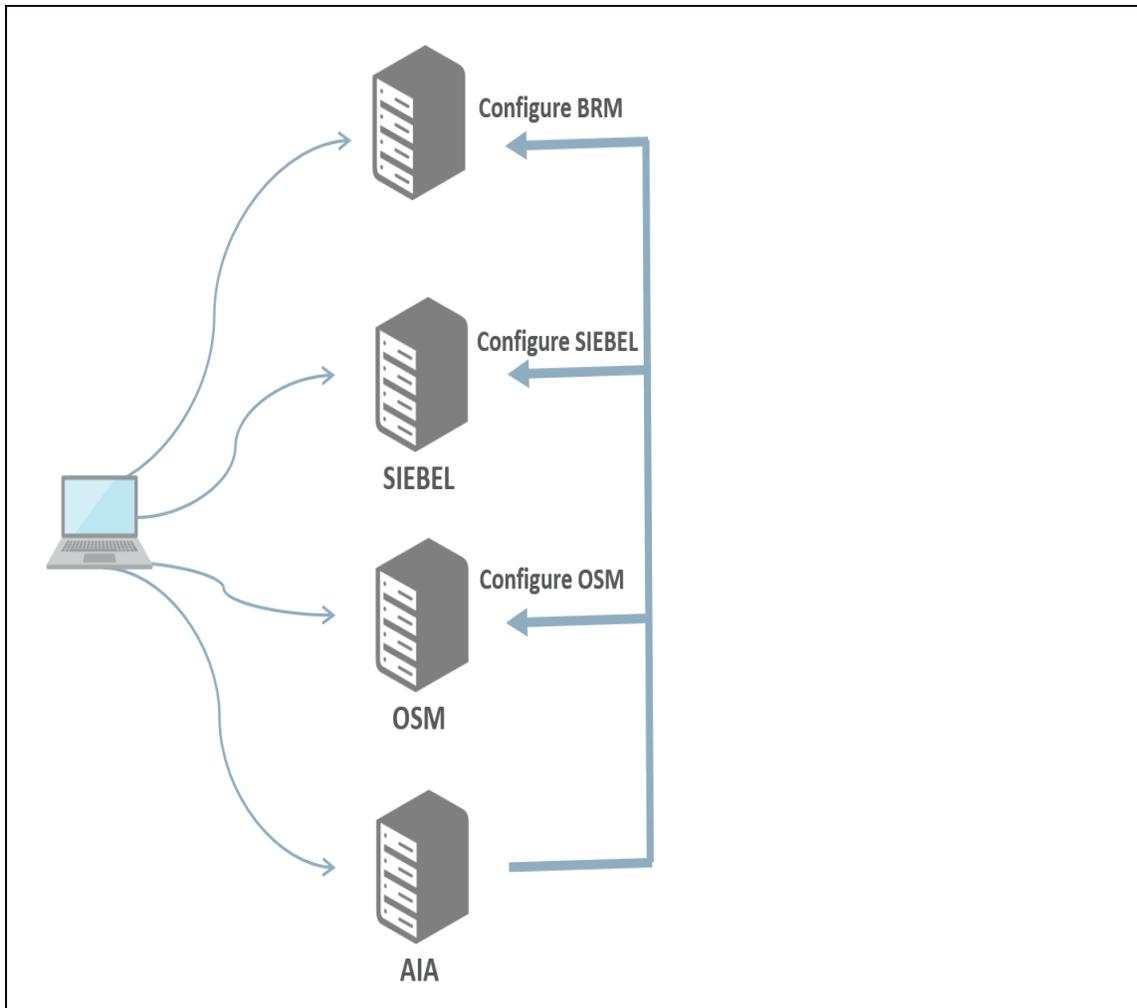
The RODOD application hosts are expected to have the following pre-requisites:

- The minimum required hardware. See Target Hosts Minimum Hardware Requirements
- Super user (for example, **root**) access (through **sudo**) to execute only the specific installation steps that require privileged access to files or operating system packages.
- Command-line terminal (through ssh) with bash shell (for example, **bash**).
- Target host names must be less than 12 alphanumeric characters.

See Appendix A: Target Host Setup for detailed information regarding setting up the target host.

Oracle AIA Hosts

A typical installation of Oracle AIA includes the Oracle Database, one WebLogic Admin Server, one WebLogic Node Manager, ODI, and Oracle AIA pre-built integrations on a single SOA managed server on the same host.

Oracle AIA Middleware Machine
64-bit, Oracle Enterprise Linux

WebLogic Server (domain)
64-bit, Linux

Admin Server

SOA Suite
64-bit, Linux

Oracle Database Client
64-bit, Linux

Oracle Database
64-bit, Linux
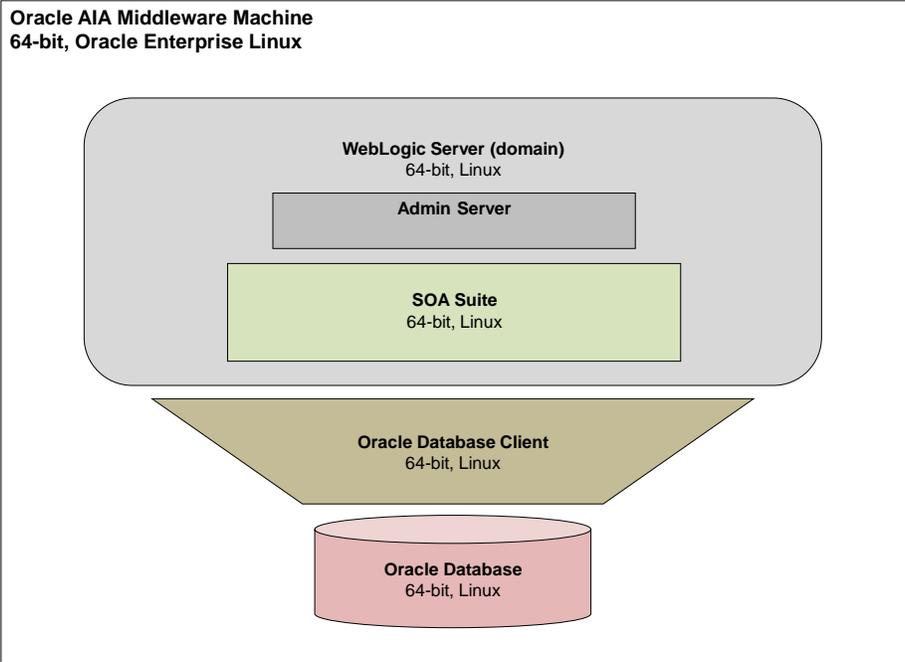
OSM Host(s)

A typical installation of OSM includes the Oracle Database, one WebLogic Admin Server, and an OSM managed server on the same host.

OSM Machine
64-bit, Oracle Enterprise Linux

WebLogic Server (domain)
64-bit, Linux

Admin Server

OSM (managed server)
64-bit, Linux

Oracle Database Client
64-bit, Linux

Oracle Database
64-bit, Linux
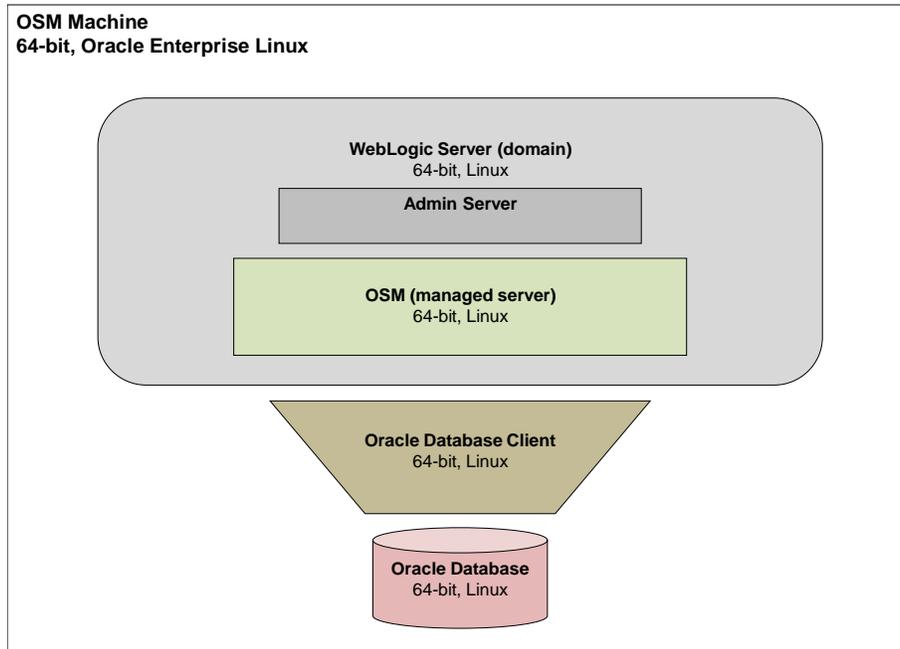
Siebel CRM Host

A typical installation of Siebel CRM includes Oracle Database, one Siebel Gateway Name server and a Siebel server on the same host.
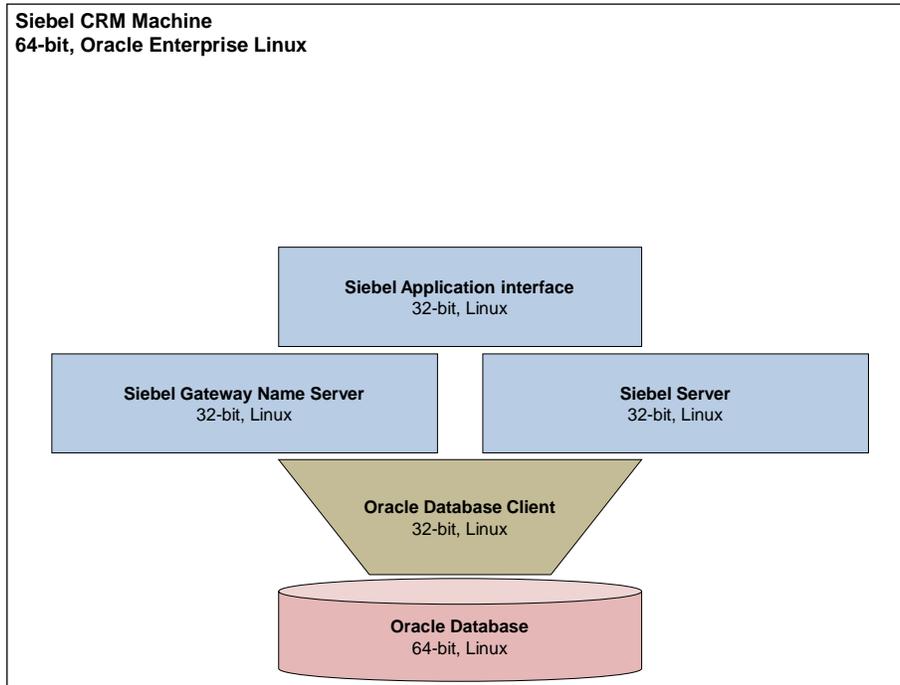
BRM Host

A typical installation of BRM includes Oracle Database and BRM Components on the same host. The PDC BRM Integration Pack is also installed on the BRM host.

| BRM Machine 64-bit, Oracle Enterprise Linux |
|---|
| **BRM** 64-bit, Linux — Third Party, Base, SNMP Third Party Tool, Rated Event Loader, Pipeline, PCM SDK, Portal SDK, Wireless Suite, Account Sync Tool, JCA Adapter, DM AQ, Web Services Manager |
| **PDC BRM Integration Pack** 64-bit, Linux (deployed for BRM interfacing with PDC) |
| **Oracle Database Client** 64-bit, Linux |
| **Oracle Database** 64-bit, Linux |
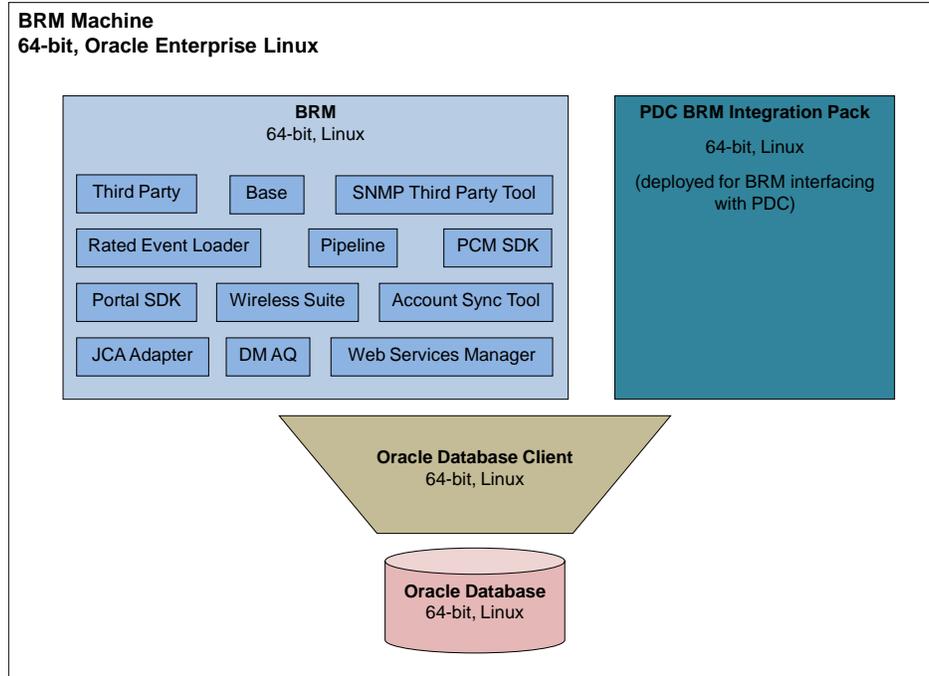
PDC Host

A typical installation of PDC includes Oracle Database, one WebLogic Admin Server, one WebLogic Node Manager, and one PDC Managed server on the same host. You can preconfigure PDC installation to use an existing Oracle database (on a remote host or the local host), instead of installing a new database instance. The PDC BRM Integration Pack gets installed on the BRM host.
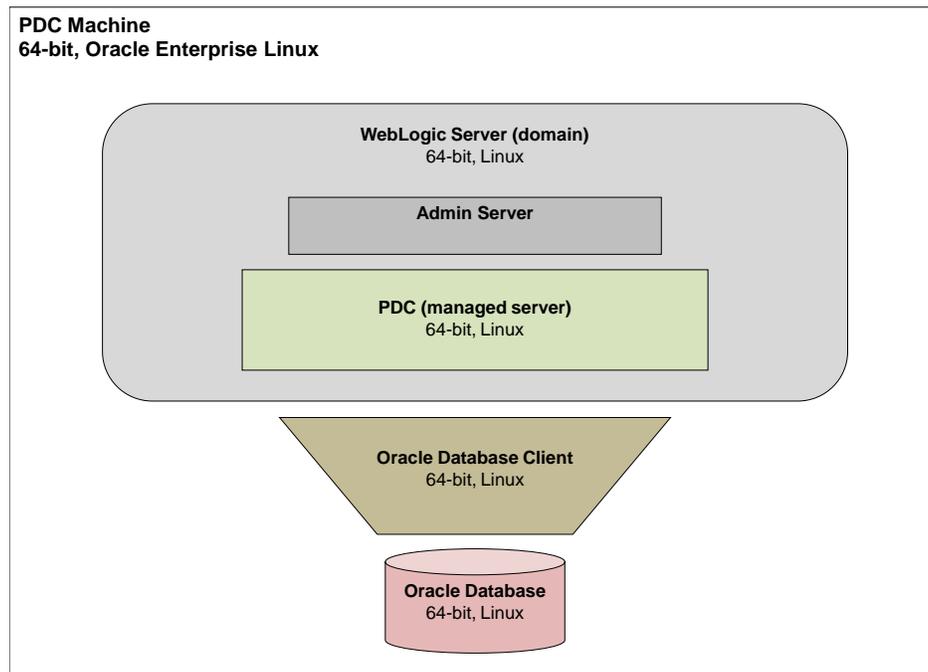
Installing the RODOD Applications

Install the RODOD applications on the target hosts in the recommended sequence. See the following sections for application-specific installation instructions.

Refer to and follow the specific RODOD application installation guide for installing the application.

Refer to the following documents, which can be found on: http://docs.oracle.com

- Oracle Database Quick Installation Guide
- Fusion Middleware Installation Guide for Oracle WebLogic Server
- Siebel Installation Guide for UNIX
- Oracle Communications Billing and Revenue Management Installation Guide
- Oracle Communications Pricing Design Center Installation and System Administration Guide
- Oracle Communications Order and Service Management Installation Guide
- Oracle Communications Order and Service Management Cartridge Guide for Oracle Application Integration Architecture
- Oracle Communications Design Studio Installation Guide
- Oracle Application Integration Architecture Siebel CRM Integration Pack for Oracle Communications Billing and Revenue Management: Agent Assisted Billing Care Implementation Guide
- Oracle Application Integration Architecture Oracle Communications Order to Cash Integration Pack Implementation Guide for Siebel CRM, Oracle Communications Order and Service Management, and Oracle Communications Billing and Revenue Management

Start with installing the applications as follows:

- Installing BRM (Billing and Revenue Management)
- Installing PDC (Pricing Design Center). PDC should be installed only after the BRM installation is completed and the BRM Modules are up and running.

Continue with the following installation steps, which can be performed in parallel with the BRM installation.

- Installing Siebel
- Installing OSM (Order and Service Management)
- Installing FMW for AIA Integration Packs (Application Integration Architecture)

The AIA PIPs (Process Integration Packs) should be installed after all of the above applications are installed and their corresponding processes are up and running. See the following sections for AIA PIP installation instructions, which should be performed sequentially.

- Installing the O2C Integration Pack (Order to Cash Process Integration Pack)
- Installing the AABC Integration Pack (Agent Assisted Billing Care Process Integration Pack)

Installing BRM

Install BRM release 12 by following the instructions in *Oracle Communications Billing and Revenue Management Installation Guide*.

Preparing BRM

Note: These steps come under O2C configurations. Ensure that necessary applications are up and running before running the following steps.

1. Login to host where BRM is installed.
2. Locate `Infranet.properties` in `<DIR>/opt/portal/BRM/sys/eai_js.` Verify that the following lines are present. Add them if they are not present.

```
#defines config file for payload generator
infranet.eai.configFile=./payloadconfig_crm_sync.xml
```

3. Locate aq_queuenames in <DIR>/opt/portal/BRM/sys/dm_aq. This file specifies queues and the events redirection to advance queues. Users need to redirect all events to this AQ. Uncomment the below line:

```
# Queue name without database link -- queue is on database to which DM connects.
AQ_QUEUE
{
  # Uncomment if all events should go to this queue.
   ALL
   …
}
```

4. Verify executable permissions are there for aq_queuenames.
5. Locate `OracleBRMJCA15Adapter.rar` in `<DIR>/opt/portal/BRM/apps/brm_integrations/jca_adapter.`
6. Extract the contents of **OracleBRMJCA15Adapter.rar** to a temporary directory (for example TEMP_DIR).
7. Locate **ra.xml** and find the wallet location mentioned in the SslWalletLocation property.

```
<config-property>
      <config-property-name>SslWalletLocation</config-property-name>
      <config-property-type>java.lang.String</config-property-type>
      <config-property-value>WALLET_LOCATION</config-property-value>
</config-property>
```

8. Locate the wallet in WALLET_LOCATION and copy the wallet contents to AIA host in a different directory (for example AIA_BRM_WALLET_LOC). This directory should be accessible the by AIA WebLogic server.
9. Edit **ra.xml** and verify that the fully qualified host URL of BRM, BRM root password and AIA wallet location are present in the following elements. If they are not present, add them.

```
<config-property>
      <config-property-name>ConnectionString</config-property-name>
```

```
      <config-property-type>java.lang.String</config-property-type>
      <config-property-value>ip BRM_HOST 11960</config-property-value>
</config-property>
```

```
<config-property>
      <config-property-name>FailoverConnectionString</config-property-name>
      <config-property-type>java.lang.String</config-property-type>
      <config-property-
value>root.0.0.0.1:BRM_ROOT_PASSWORD@BRM_HOST:11960,root.0.0.0.1:
BRM_ROOT_PASSWORD@BRM_HOST:11960</config-property-value>
</config-property>
```

```
<config-property>
      <config-property-name>Password</config-property-name>
      <config-property-type>java.lang.String</config-property-type>
      <config-property-value> BRM_ROOT_PASSWORD </config-property-value>
</config-property>
```

```
<config-property>
      <config-property-name>SslWalletLocation</config-property-name>
      <config-property-type>java.lang.String</config-property-type>
      <config-property-value>AIA_BRM_WALLET_LOC</config-property-value>
</config-property>
```

10. Locate **weblogic-ra.xml** and verify that the fully qualified host URL of BRM and root password are present in the below elements. If these are not present, add them.

```
<property>
      <name>ConnectionString</name>
      <value>ip BRM_HOST 11960</value>
</property>
```

```
<property>
      <name>FailoverConnectionString</name>
      <value>root.0.0.0.1: BRM_ROOT_PASSWORD@BRM_HOST:11960,root.0.0.0.1:
BRM_ROOT_PASSWORD@BRM_HOST:11960</value>
</property>
```

```
<property>
      <name>Password</name>
      <value>BRM_ROOT_PASSWORD</value>
</property>
```

```
<property>
      <name>SslWalletLocation</name>
      <value>AIA_BRM_WALLET_LOC</value>
</property>
```

11. Repackage TEMP_DIR contents to `OracleBRMJCA15Adapter.rar`.
12. Deploy `OracleBRMJCA15Adapter.rar` to AIA server.
    12.1. Login to AIA console.
    12.2. Go to Deployments.
    12.3. Install `OracleBRMJCA15Adapter.rar` with default values.

Note: Delete the existing adapter before deploying the BRM adapter.

Installing PDC

Install PDC release 12 by following the instructions in *Oracle Communications Pricing Design Center Installation and System Administration Guide.*

Installing Billing Care

Install Billing Care version 12 by following the instructions in *Oracle Communications Billing Care Installation Guide*.

Installing Siebel

Install Siebel 19.11 by following the instructions in Siebel CRM Installation Guide.

Preparing Siebel

Note: These steps come under O2C configurations. Ensure that necessary applications are up and running before running the following steps and change the paths as per your environment.

1. Create Pricelists in Siebel and update PRICELIST.dvm with the row ids.

/apps/AIAMetaData/dvm/PRICELIST.dvm

COMMON	SEBL_01	BRM_01
DEFAULT Pricelist	<Siebel_pricelist_row_id>	*
Consumer Pricelist	<Siebel_pricelist_row_id>	ConsumerPL
Business Pricelist	<Siebel_pricelist_row_id>	BusinessPL

/apps/AIAMetaData/dvm/PRICETYPE_EVENT.dvm

COMMON	SEBL_01	BRM_01	PRICECHARGETYPE	PRICECHARGETYPEUOM	PDC_01	PRICECHARGETYPE_PDC	PRICINGPROFILE_PDC
PURCHASE	-	/event/billing/product/fee/purchase	ONETIME	EACH	EventBillingProductFeePurchase	ONETIME	Subscription
CFQ	-	/event/billing/product/fee/cycle/cycle_forward_quarterly	RECURRING	PER_QUARTER	EventBillingProductFeeCycleCycle_forward_quarterly	RECURRING	Subscription
CFM	-	/event/billing/product/fee/cycle/cycle_forward_monthly	RECURRING	PER_MONTH	EventBillingProductFeeCycleCycle_forward_monthly	RECURRING	Subscription
CFB	-	/event/billing/product/fee/cycle/cycle_forward_bimonthly	RECURRING	BI_MONTHLY	EventBillingProductFeeCycleCycle_forward_bimonthly	RECURRING	Subscription
CFAR	-	/event/billing/product/fee/cycle/cycle_forward_arrear	RECURRING	PER_MONTH	EventBillingProductFeeCycleCycle_forward_arrear	RECURRING	Subscription

CFA	-	/event/billing/produ ct/fee/cycle/cycle_f orward_annual	RECU RRING	PER_YE AR	EventBillingProduc tFeeCycleCycle_for ward_annual	RECURR ING	Subscri ption
CAR	-	/event/billing/produ ct/fee/cycle/cycle_a rrear	RECU RRING	PER_M ONTH	EventBillingProduc tFeeCycleCycle_arr ear	RECURR ING	Subscri ption
DELA YEDS ESSIO N	-	/event/delayed/sess ion/telco/gsm	-		EventDelayedSessi onTelcoGsm	USAGE	Offline Usage

2. Provide the Siebel price list row id and the Siebel endpoint details of Service Configuration for respective AIA services in **AIAConfigurationsProperties.xml** and update AIAMetaData.

3. On the AIA machine, run the following commands:

```
export JAVA_HOME=<JDK_HOME>/jdk18
cd <MW_HOME>/wlserver/server/lib
$JAVA_HOME/bin/java -jar wljarbuilder.jar
```

4. On the Siebel machine, run the following machine:

```
cd <INSTALL_DIR> #create a folder with name "jms"
mkdir -p jms

# Copy wlthint3client.jar from AIA Machine
(<MW_HOME>/wlserver/server/lib) to the <INSTALL_DIR>/jms location in Siebel
host

#go to  <SIEBEL_HOME>/ses/siebsrvr/classes

#copy Siebel.jar and SiebelJI_enu.jar files to <INSTALL_DIR>/jms

cp Siebel.jar <INSTALL_DIR>/jms
cp SiebelJI_enu.jar <INSTALL_DIR>/jms

#create 'jndi.properties' file in the <INSTALL_DIR>/jms location with the
below details.

    java.naming.factory.initial=weblogic.jndi.WLInitialContextFactory
    java.naming.provider.url=t3://<aia_hostname>:<aia_port>
```

```
    java.naming.security.principal=<weblogic_username>
    java.naming.security.credentials=<weblogic_password>

#Create log directory under "jms"

mkdir   <INSTALL_DIR>/jms/log
```

5. On the Siebel machine, create JAVA subsystem:

   Go to the Siebel server root directory <SIEBEL_HOME>/ses/siebsrvr/bin) and run the below command:

   ```
   srvrmgr /g <siebel_gateway_hostname>:<gateway_port> /e
   <siebel_enterprise_id> /u <siebel_sadmin_username> /p
   <siebel_sadmin_password> /c "create named subsystem JAVA for
   subsystem JVMSubSys with
   DLL=<JAVA_HOME>jdk1.8.0_144/jre/lib/i386/client/libjvm.so,
   CLASSPATH<INSTALL_DIR>/jms<INSTALL_DIR>/jms/Siebel.jar<INSTALL_DI
   R>/jms/SiebelJI_enu.jar<INSTALL_DIR>/jms/wlthint3client.jar:.,
   VMOPTIONS='-Djms.log<INSTALL_DIR>/jms/log/jms.log'"
   ```

Note: Change the locations according to the your environment

6. Updating class path in "setenv.sh" Siebel servers

   Go to below Siebel server path
   `<SIEBEL_HOME>/ses/applicationcontainer/bin`

   ```
   CLASSPATH=$CLASSPATH<INSTALL_DIR>/jms<INSTALL_DIR>/jms/Siebel.jar
   <INSTALL_DIR>/jms/SiebelJI_enu.jar<INSTALL_DIR>/jms/wlthint3clien
   t.jar
   ```

7. Connect to the Siebel database with Siebel admin user credentials and run the following SQL statements:

   Note: Change the siebel_hostname, siebel_port , aia_hostname and aia_port details as per your environment.

```
 UPDATE S_WS_PORT SET
PORT_ADDRESS='jms://jms/aia/AIA_SALESORDERJMSQUEUE@jms/aia/COMMS_S
UBMITORDER_CONSUMER', PORT_TRANSPORT='JMS' WHERE
NAME='SWISubmitOrderPort';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='jms://jms/aia/AIA_SALESORDERJMSQUEUE@jms/aia/COMMS_S
```

```
UBMITORDER_CONSUMER', PORT_TRANSPORT='JMS' WHERE
NAME='SWISubmitOrder_o2cPort';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='jms://jms/aia/AIA_SALESORDERJMSQUEUE@jms/aia/COMMS_S
UBMITORDER_CONSUMER', PORT_TRANSPORT='JMS' WHERE
NAME='SWISubmitQuote_o2cPort';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='jms://jms/aia/AIA_SPECIALRATINGJMSQ@jms/aia/COMMS_SP
ECIALRATINGLIST_CONSUMER', PORT_TRANSPORT='JMS' WHERE
NAME='SWISpecialRatingListPort';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='jms://jms/aia/AIA_CMUREQADJIOJMSQUEUE@jms/aia/COMMS_
ADJUSTMENT_CONSUMER', PORT_TRANSPORT='JMS' WHERE
NAME='SWICreateAdjustmentPort';
UPDATE S_WS_PORT SET
PORT_ADDRESS='http://<aia_hostname>:<aia_port>/soa-
infra/services/default/AccountBalanceSiebelCommsReqABCS/AccountBal
anceSiebelCommsReqABCS_ep' WHERE
NAME='_soap_AccountBalanceSiebelCommsReqABCS_AccountBalanceSiebelC
ommsReqABCS';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='http://<aia_hostname>:<aia_port>/soa-
infra/services/default/AdjustmentSiebelCommsReqABCS/AdjustmentSieb
elCommsReqABCS_ep' WHERE NAME='AdjustmentSiebelCommsReqABCSPort';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='http://<aia_hostname>:<aia_port>/soa-
infra/services/default/InvoiceSiebelCommsReqABCS/InvoiceSiebelComm
sReqABCS_ep' WHERE
NAME='_soap_InvoiceSiebelCommsReqABCS_InvoiceSiebelCommsReqABCS';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='http://<aia_hostname>:<aia_port>/soa-
infra/services/default/PaymentSiebelCommsReqABCS/PaymentSiebelComm
sReqABCS_ep' WHERE NAME='PaymentSiebelCommsReqABCSPort';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='http://<aia_hostname>:<aia_port>/soa-
infra/services/default/UnbilledUsageSiebelCommsReqABCS/UnbilledUsa
geSiebelCommsReqABCS_ep' WHERE
NAME='_soap_UnbilledUsageSiebelCommsReqABCS_UnbilledUsageSiebelCom
msReqABCS';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='http://<aia_hostname>:<aia_port>/soa-
infra/services/default/SyncCustomerSiebelEventAggregator/Client'
WHERE NAME='SyncCustomerSiebelEventAggregatorPort';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='http://<aia_hostname>:<aia_port>/soa-
infra/services/default/UpdateCreditAlertSiebelCommsReqABCSImpl/Upd
ateCreditAlertSiebelCommsReqABCSImpl' WHERE
NAME='UpdateCreditAlertSiebelCommsReqABCSImplServicePort';
SET ESCAPE ON;
     UPDATE S_WS_PORT SET
PORT_ADDRESS='https://<siebel_hostname>:<siebel_port>/siebel/app/e
```

```
ai/enu?SWEExtSource=WebService&amp;SWEExtCmd=Execute&amp;WSSOAP=1'
WHERE NAME='SWIOrderUpsert';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='https://<siebel_hostname>:<siebel_port>/siebel/app/e
ai/enu?SWEExtSource=WebService&amp;SWEExtCmd=Execute&amp;WSSOAP=1'
WHERE NAME='SWI Product Attribute Import';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='https://<siebel_hostname>:<siebel_port>/siebel/app/e
ai/enu?SWEExtSource=WebService&amp;SWEExtCmd=Execute&amp;WSSOAP=1'
WHERE NAME='SWI Product Class Import';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='https://<siebel_hostname>:<siebel_port>/siebel/app/e
ai/enu?SWEExtSource=WebService&amp;SWEExtCmd=Execute&amp;WSSOAP=1'
WHERE NAME='SWIProductImport';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='https://<siebel_hostname>:<siebel_port>/siebel/app/e
ai/enu?SWEExtSource=WebService&amp;SWEExtCmd=Execute&amp;WSSOAP=1'
WHERE NAME='SWIPromotionImport';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='https://<siebel_hostname>:<siebel_port>/siebel/app/e
ai/enu/start.swe?SWEExtSource=SecureWebService\&SWEExtCmd=Execute\
&WSSOAP=1' WHERE NAME='SWIUpsertQuote';


     UPDATE S_WS_PORT SET
PORT_ADDRESS='https://<siebel_hostname>:<siebel_port>/siebel/app/e
ai/enu/start.swe?SWEExtSource=WebService\&SWEExtCmd=Execute\&WSSOA
P=1' WHERE NAME='COMMSCancelOrderPort';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='https://<siebel_hostname>:<siebel_port>/siebel/app/e
ai/enu/start.swe?SWEExtSource=WebService\&SWEExtCmd=Execute\&WSSOA
P=1' WHERE NAME='COMMSCustomServicesPort';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='https://<siebel_hostname>:<siebel_port>/siebel/app/e
ai/enu/start.swe?SWEExtSource=WebService\&SWEExtCmd=Execute\&WSSOA
P=1' WHERE NAME='COMMSOrderUpsert';
     UPDATE S_WS_PORT SET
PORT_ADDRESS='https://<siebel_hostname>:<siebel_port>/siebel/app/e
ai/enu/start.swe?SWEExtSource=WebService\&SWEExtCmd=Execute\&WSSOA
P=1' WHERE NAME='COMMSSubmitBillingOrder';


     UPDATE S_SYS_PREF SET VAL='TRUE' WHERE SYS_PREF_CD='Enable
AIA Comms';
     UPDATE S_SYS_PREF SET VAL='TRUE' WHERE SYS_PREF_CD='Enable
AIA MDM';
     UPDATE S_SYS_PREF SET VAL='TRUE' WHERE SYS_PREF_CD='Enable
AIA Testing';
     UPDATE S_SYS_PREF SET VAL='FALSE' WHERE SYS_PREF_CD='Enable
AIA Utility';
     UPDATE S_SYS_PREF SET VAL='No' WHERE SYS_PREF_CD='Enable
Promotion Group';
```

```
      UPDATE S_SYS_PREF SET
VAL='%%SIEBEL_HOME_DIR%%/siebsrvr/temp/OrderBackup/' WHERE
SYS_PREF_CD='AIA Order Backup Path';
      UPDATE S_SYS_PREF SET
VAL='<SIEBEL_HOME>ses/siebsrvr/temp/OrderBackup/' WHERE
SYS_PREF_CD='AIA Order Backup Path';
      UPDATE S_SYS_PREF SET VAL='Yes' WHERE SYS_PREF_CD='Enable
Promotion Group';
      UPDATE S_SYS_PREF SET VAL='Y' WHERE SYS_PREF_CD='Promotion
Group Compatibility';

#commit the changes to the database.
```

8. Create "OrderBackup" directory in <SIEBEL_HOME>/ses/siebsrvr/temp/ and
    run the following commands from the Siebel server bin path:

```
srvrmgr /g <siebel_hostname>:<gateway_port> /e
<siebel_enterprise_id> /u <siebel_admin_username> /p
<siebel_admin_password> /c "change ent param
EAIFileTransportFolders<SIEBEL_HOME>/ses/siebsrvr/temp/OrderBacku
p"

srvrmgr /g <siebel_hostname>:<gateway_port> /e
<siebel_enterprise_id> /u <siebel_admin_username> /p
<siebel_admin_password> /c "change param
EAIFileTransportFolders<SIEBEL_HOME>/ses/siebsrvr/temp/OrderBacku
p for server <siebel_enterprise_server_id>"
$JAVA_HOME/bin/javac -d
<INSTALL_DIR>/aiapip_o2c/aiapip_o2c/build/classes -classpath
<SIEBEL_HOME>/ses/siebsrvr/classes/Siebel.jar -sourcepath
<INSTALL_DIR>/common/src-apis <INSTALL_DIR>/common/src-
apis/SiebelUtil.java
```

Installing OSM

A running OSM application includes the following major components:

- WebLogic Admin server
- OSM managed server
- Repository database

Install OSM by following the instructions in *Oracle Communications Order and Service Management Installation Guide.*

Installing AIA

A running AIA system includes the following major components:

- WebLogic Server (with an admin domain, managed server and SOA Suite installed)
- Repository database
- SOA Core Extension

Install Fusion Middleware for AIA integration packs using *Fusion Middleware Installation Guide for Oracle WebLogic Server.*

Installing the O2C Integration Pack

Order to Cash (O2C) AIA PIP installation integrates the standalone applications listed in previous sections (AIA Middleware, BRM, Siebel, and OSM) to set up the RODOD reference solution.

Before starting the O2C AIA PIP installation, you must ensure that the AIA Middleware, BRM, Siebel, and OSM applications have been installed successfully and the corresponding processes are up and running.

Refer to *Oracle Application Integration Architecture Installation Guide* for installation and *Application Integration Architecture Oracle Communications Order to Cash Integration Pack Implementation Guide* for implementation details.

O2C AIA PIP configuration requires OSM_O2A configuration which includes cartridge deployment through Design Studio by using *Oracle Communications Order and Service Management Cartridge Guide for Oracle Application Integration Architecture*.

Configure O2C AIA PIP by following the instructions in *Oracle Application Integration Architecture Installation and Upgrade Guide for Pre-Built Integrations.*

Installing the AABC Integration Pack

Agent Assisted Billing Care (AABC () AIA PIP installation connects together the core AIA Middleware, BRM, and Siebel applications listed earlier.

AABC installation also provisions ODI installation along with AABC PIPS deployment.

Before starting the AABC AIA PIP installation, you must ensure that the AIA Middleware, BRM, and Siebel applications have been installed successfully and the corresponding processes are up and running.

Refer to *Oracle Application Integration Architecture Installation Guide* for the installation of AABC AIA PIP and *Application Integration Architecture Agent Assisted Billing Care Integration Pack Implementation Guide* for implementation details.

Testing the RODOD Environment

BRM/PDC	AIA	SIEBEL

PDC submit simple service bundle product through PDC Import Export Tool

Product sync flow is initiated between PDC/BRM to AIA

Verify Product

Enrich Product

Submit Product

Check for order status in Siebel . If status is "Complete", conclude integration test as successful.

Order capture flow is initiated between Siebel – AIA –-OSM – BRM
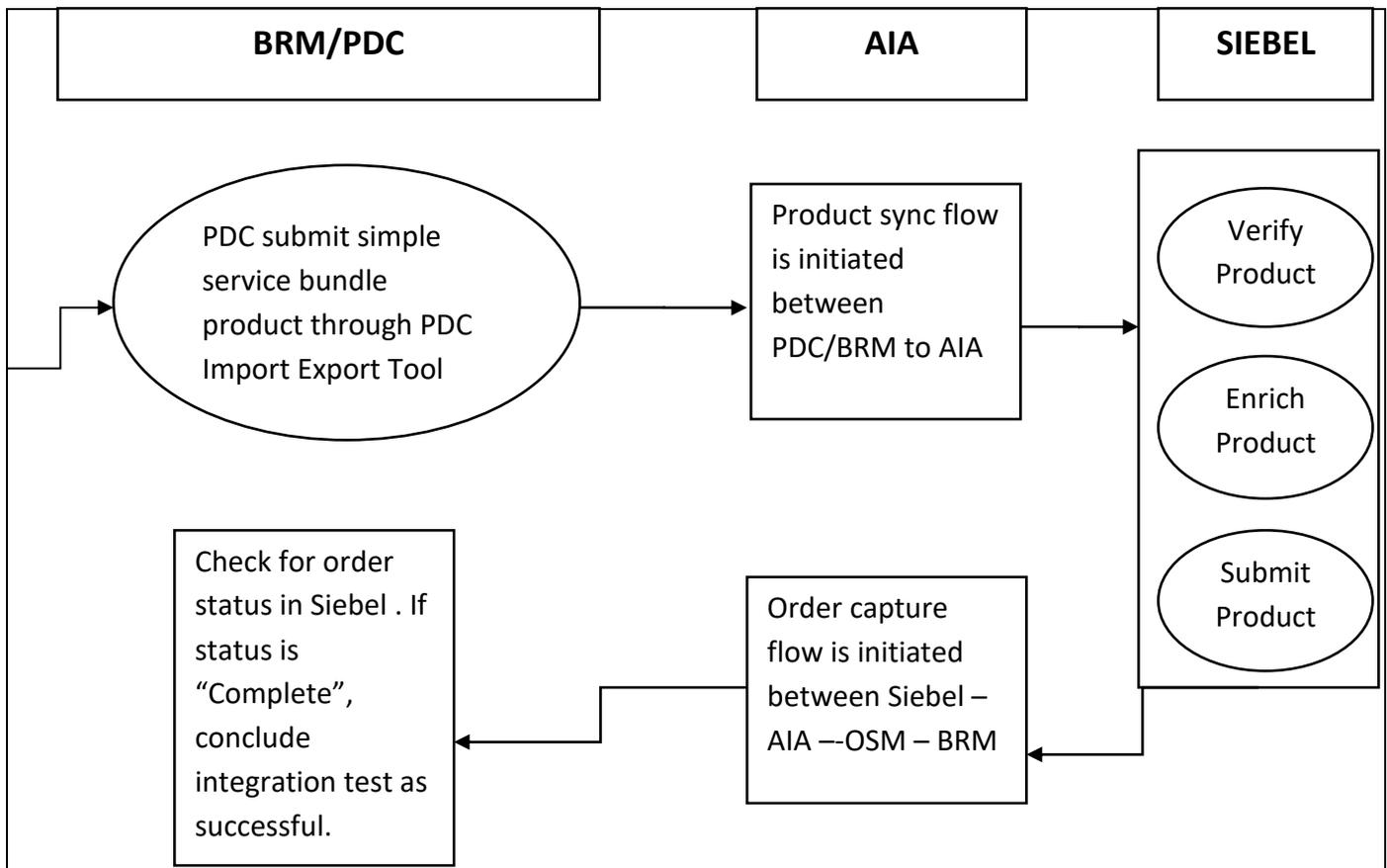
For integration test, sample product can be synchronized from PDC/BRM to SIEBEL through AIA. After a successful synchronization, make necessary product configuration changes in Siebel before submitting the order. After a successful order processing, fulfillment status must be completed in the Siebel system.

Appendix A: Setting Up the Target Hosts

This section provides information regarding setting up the target hosts. You must run this for each target host, which is at least four Linux Virtual Machines.

Updating the Linux Kernel Parameters

To update the Linux Kernel parameters,

1. Run the following commands:

```
# sudo /sbin/sysctl kernel.msgmax=65536
# sudo /sbin/sysctl kernel.msgmnb=65536
# sudo /sbin/sysctl kernel.msgmni=2878
```

2. Make the kernel parameters permanent by editing this configuration file:

```
# sudo vi /etc/sysctl.conf
```

3. Append the following lines to the file:

```
kernel.msgmax=65536
kernel.msgmnb=65536
kernel.msgmni=2878
```

Setting Process Limits

To set process limits:

1. If the **/etc/security/limits.d/90-nproc.conf** file exists, edit the file to set the **nproc** limit to **249664**.

```
sudo vi /etc/security/limits.d/90-nproc.conf
```

2. Change the right-most value of the following line:

```
*       soft     nproc      unlimited
```

Otherwise:

```
sudo vi /etc/security/limits.conf
```

3. Add the following line:

```
* soft nproc 249664
```

Setting Open File Limits

To set up open file limits:

1. Edit the following file:

```
sudo vi /etc/security/limits.conf
```

2. Edit /etc/security/limits.conf file to add the parameters indicated below:

```
*    soft     nofile     131072
*    hard   nofile     131072
*    soft     nproc      131072
*    hard   nproc     131072
*    soft     core     unlimited
*    hard   core     unlimited
*    soft     memlock     50000000
*    hard   memlock     50000000
*    soft     stack      10240
```

3. Edit /etc/sysctl.conf file to set the parameters indicated below:
```
net.core.rmem_default = 4194304
and add the following parameter:
fs.suid_dumpable = 1
```

Setting up Hosts File

To set up hosts file, ensure that the loopback address is set to localhost in **/etc/hosts** as shown below:

```
127.0.0.1 localhost
```

Updating the Target Operating System

It is generally good practice to ensure that the target host operating software is up-to-date (to have the latest bug fixes and security fixes). Linux can be updated from the Oracle Unbreakable Linux Network (Oracle ULN) at: https://linux.oracle.com/.

The yum tool that comes with Linux needs to be configured and operational. The repositories are configured in **/etc/yum.conf** and **/etc/yum.repos.d/*.repo**.
To update the target operating system:
1. Ensure that the configured repositories are accessible through the network. The *http_proxy* and *ftp_proxy* environment variables may need to be set (such as http://www-proxy.mydomain.com:80/) to access the network.

2. If the cached repository on the target host gets corrupted or otherwise broken, it can be reset using the following command:
```
/usr/bin/yum clean all.
```

```
# sudo /bin/bash
```
(You may have to provide your Unix user password as prompted.)

```
# rpm -ivh /private/downloads/uln-internal-setup-
<version>.el6.noarch.rpm
```

3. Download rpm as shown in the following example:

   wget http://kernel.us.oracle.com/uln/uln-internal-setup-3.0.1-0.el6.noarch.rpm

   Note: Update the appropriate version in the above example.

4. Set the http_proxy and ftp_proxy environment variables to access the yum repositories on the public Internet.

   ```
   # export http_proxy=www-proxy.mydomain.com:80
   # export ftp_proxy=www-proxy.mydomain.com:80
   ```

5. Install any prerequisite operating system packages that are missing.

   ```
   # yum -y install elfutils-libelf-devel-static
   ```

   6. Update the Linux operating system to the latest packages available.

   ```
   # yum update
   ```

Setting Up the OS User

Select or create an OS user, who will own the application installations. This user becomes the owner of the files that will be installed and the application processes. This user should be configured to use the bash shell (/bin/bash), by default. This user should be accessible through ssh from remote hosts, such as the Installer Workstation.

To set up the OS user, run the following commands:

```
# sudo /bin/bash
```
(You may have to provide your Unix user password as prompted.)

```
# /usr/sbin/useradd -c "Imaginary Friend" -d /private -m friend
```

```
# echo friend | /usr/bin/passwd --stdin friend
```

Adding a User to the DBA Group

To add user to DBA group:

1. Create the **dba** group on all target hosts using the following command:

```
#sudo groupadd dba
```

2. Add existing friend user to the **dba** group on all target hosts using the following command:

```
#sudo /usr/sbin/usermod -a -G dba friend
```

Granting sudo Access to OS User

The unattended installation scripts run remotely through ssh to various target hosts from the Installer Workstation using the OS user who is designated to be the owner of the applications. Sudo privileges for this OS user are required to perform certain steps of the installation, so the chosen OS user must be granted sudo privileges by editing /etc/sudoers:

```
vi /etc/sudoers
```

For an OS user named **friend**, this file should have a line that looks like the following:

```
friend ALL=(root) ALL
```

sudo privileges are needed to perform the following installation scripts.

1. The Oracle Database client installation scripts perform a post-installation step (called root.sh) to configure the **/etc/oratab** file.

2. The Oracle Database server installation scripts perform a post-installation step (called **root.sh**) to configure the database server (for example, writes to the **/etc/oratab** file to maintain an inventory of database instances).

3. The Siebel CRM installation scripts perform a temporary swap of gcc to enable the installation of the 32-bit Oracle HTTP server, and the original gcc is restored afterwards.

4. The Siebel CRM installation scripts perform some file maintenance of **var/adm/Siebel**.

5. The Order to Activate installation scripts rely on Design Studio operating in a headless mode. However, Design Studio still requires an X-Windows server, so it relies on X-Virtual-Frame-Buffer (xvfb). Root access is needed to run xvfb.

Setting Up the Host Name

The following command returns a fully qualified domain name (for example, slc02pad.us.oracle.com):

```
# hostname -f
```

The following command returns a short host name (e.g., slc02pad). For compatibility with Siebel CRM, the short host name must be 12 characters in length or shorter. It must be at least one character in length. It must contain only alphabetic, numeric, or underscore characters.

```
# hostname
```

Setting Up the File System

Login to the target host as the OS user (with sudo privileges), who will own the application installations. Run the following command to create a directory under which the application installations will be stored:

```
# mkdir /private
```

Alternatively, a different directory can be chosen, and a symbolic link can be created from /private to the preferred storage location:

```
# ln -s /storage/big_fs_01 /private
```

Ensure that the storage location at /private is accessible for read and write access by the OS user, who will own the application installations.

```
# cd /private

# chown <user> .

# chmod a+rx .

# chmod u+w .
```

Installing the Prerequisite Linux Packages

Ensure the following Linux packages are installed on the target host (Note that some are 32-bit):

Package Name	Version (or above)	Architecture
Binutils	2.20.51.0.2	64-bit
compat-libcap1	1.10	64-bit
compat-db	4.6.21	64-bit
compat-libstdc++-33	3.2.3	64-bit
compat-libstdc++-33	3.2.3	32-bit
elfutils-libelf	0.125	64-bit
elfutils-libelf-devel	0.125	64-bit
elfutils-libelf-devel-static	0.125	64-bit
expect	5.44.1.15	64-bit
Gcc	4.4.4	64-bit
gcc-c++	4.4.4	64-bit
Glibc	2.5-24	64-bit

Glibc	2.12	32-bit
glibc-common	2.5	64-bit
glibc-devel	2.5	64-bit
glibc-devel	2.12	32-bit
glibc-headers	2.12	64-bit
Ksh	20100621	64-bit
Libaio	0.3.107	64-bit
Libaio	0.3.107	32-bit
libaio-devel	0.3.107	64-bit
libaio-devel	0.3.107	32-bit
Libgcc	4.4.4	64-bit
Libgcc	4.4.4	32-bit
Libgomp	4.1.2	64-bit
libstdc++	4.4.4	64-bit
libstdc++	4.4.4	32-bit
libstdc++-devel	4.4.4	64-bit
libstdc++-devel	4.4.4	32-bit
libXext	1.3.2	32-bit
libXi	1.7.2	64-bit
libxml2	2.7.6	64-bit
Libxslt	1.1.26	64-bit
libXtst	1.0.1	32-bit
Libuuid		32-bit
Make	3.81	64-bit
ocfs2-tools	1.2.7	64-bit
Perl	5.10.1	64-bit
perl-XML-XPath	1.13	64-bit
Sysstat	9.0.4	64-bit
unixODBC	2.2.11	64-bit
unixODBC-devel	2.2.11	64-bit
Wget	1.12-5	64-bit
Xorg-x11-server-Xvfb	1.15.0	64-bit
Zip	3.0-1	64-bit
Jar		64-bit
Curl	7.19.46	64-bit

Additional Configurations

The following sections describe additional configurations that are needed.

Adding Host Name to /etc/hosts

Add the entry in /etc/hosts file for communication between different hosts, which are being used in the RODOD RI installation process. Add the entry for each host in /etc/hosts file of each host.

For example:

```
10.0.0.245       sblsrv.example.com       sblsrv

10.0.0.246       brmsrv.example.com       brmsrv

10.0.0.247       osmsrv.example.com       osmsrv

10.0.0.248       aiasrv.example.com       aiasrv
```

Appendix B: Example: Configuring a Promotion Group

Note: If you changed the CME prefix on the product names in the data import files, use the new prefix in place of CME anywhere a product with the CME prefix is cited in the following steps.

To configure a promotion group:

1. In Siebel, use the **Site Map** to navigate to **Administration** - **Product** > **Promotion Groups.**

2. In the **Promotion Group Definition** tab, search for the Promotion Group by name; for example, <VoIP 5000 Minutes Plan>.

3. In the lower applet, select **Versions**, and select **Locked** flag. (When editing any Promotion Group, the lock has to be selected and released after editing.)
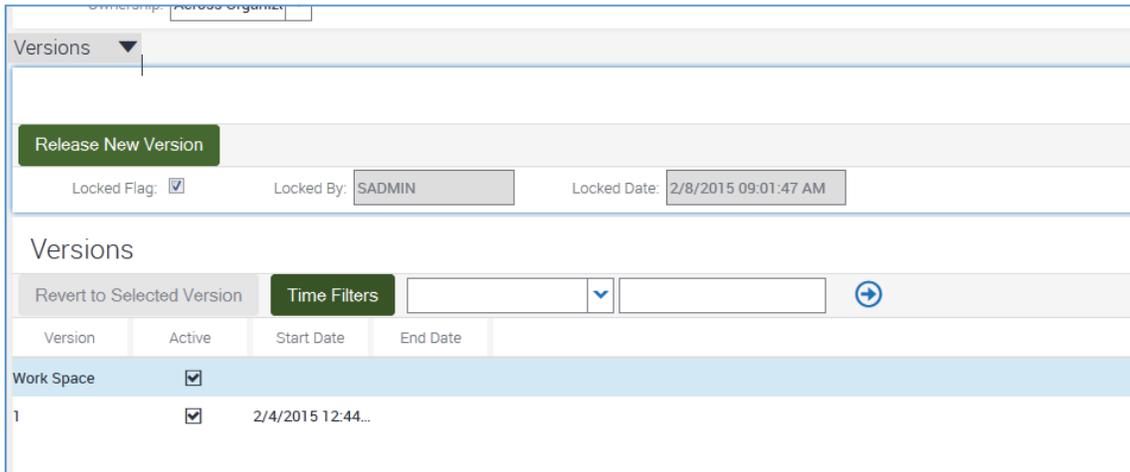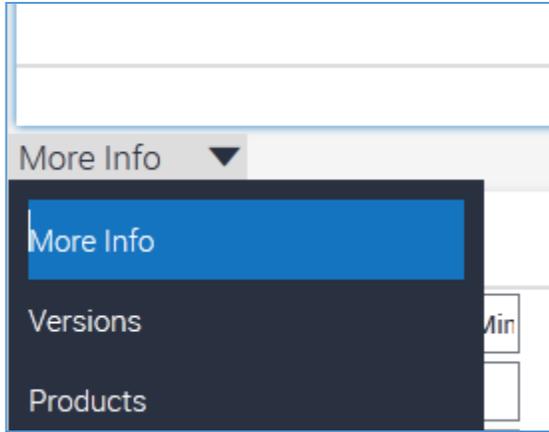
4. In the same applet, select **Products** from the first menu, and select **Memberships** from the second menu.
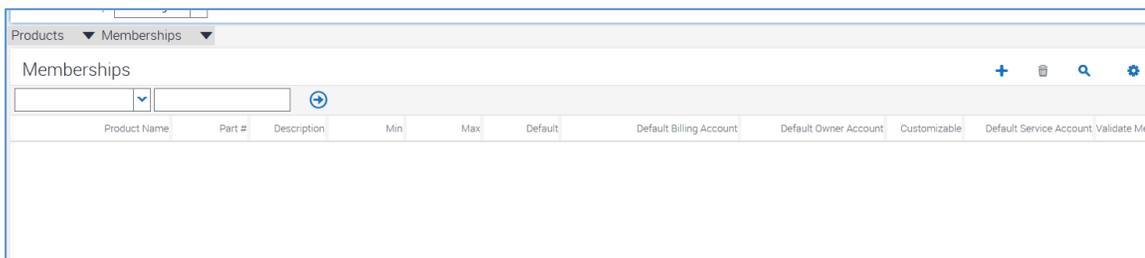
5. Create a new Membership, by clicking the "+" icon.

6. Click the magnifying glass icon in the Product Name field to display a list of products to choose.

7. Select the Promotion Group Members; search for and associate both the Group Owner and Group Member products (by naming convention based on Promotion Group).

8. Select the Group Owner product (for example, CME VoIP Share Owner) and enter the following information:

```
Min=Max=Default=1
Default Billing Account=Group Billing Account
Default Owner Account=Group Owner Account
Default Service Account=Member Service Account
```


9. Similarly, select the Group Member product (for example: CME VoIP Share Member), and enter the following information:

```
Min=1, Max=5, Default=1 fields as defined in Promotions tab
Select Default Billing Account=Group Billing Account
Select Default Owner Account=Group Owner Account
Select Default Service Account=Member Service Account
```


10. In the **Membership Domain** applet, for each of the members in the group, associate the Service that is being shared.

Note: The Billing Service Type of Reward (Sharing Discount) should be the same for the billing Service of the Services Being Shared to Owner and the member.

For example, **VoIP Shared 5000 Minutes Discount** billing Service Type is **/service/telco/VoIP** and services added/shared for both the owner and the member are VoIP Service and VoIP Fax Service is of the same Billing Service Type:

    a) Add members by clicking the "**+**" icon

    b) Click the magnifying glass icon in the Product Name field to display a list of products to choose

    c) Search for and select the required service Products.

For example, select and add VoIP Service and VoIP Fax Service:
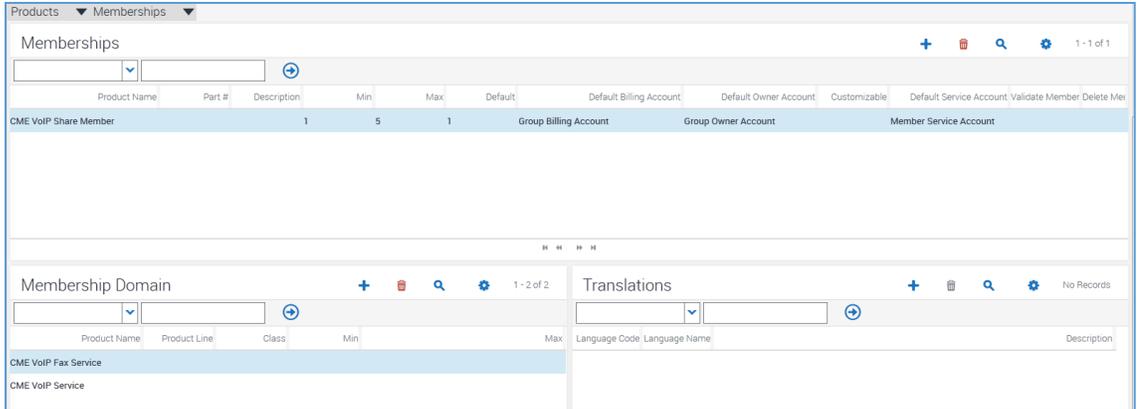
11. Repeat the same steps for the Share Owner also (only owner and member are added in this window).

12. Select **Save Record** or type Ctrl+S to save changes.

13. Associate Rewards to Promotion Group:

    a) In Siebel, use the **Site Map** to navigate to **Administration - Product** > **Promotion Groups.**

    b) In the **Promotion Group Definition** tab, search for the Promotion Group by name; for example, "CME VoIP 5000 Minutes Plan".

    c) Select the Promotion Group of interest.

    d) In the lower applet, select **Products** from the first menu, and select **Group Rewards** from the second menu.
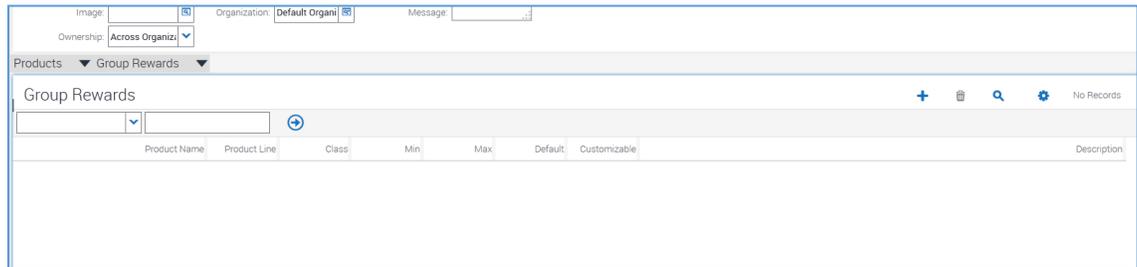
    e) Add Group Rewards by clicking the "**+**" icon.

    f) Click the magnifying glass icon in the Product Name field to display a list of products to choose.

    g) Search for and select the required Product (for example: "CME VoIP Shared 5000 Minutes") and enter a description.

    ```
    Min=1, Max=1, Default=1 fields as defined in Promotions tab
    ```

h) Repeat the above steps to add all the Group Rewards applicable for the Promotion Group.

i) Select **Save Record** or type Ctrl+S to save changes

14. Select the **Products** applet, and select **Versions** from the menu.

15. Click **Release New Version.**

This completes configuring the Promotion Group and it is ready for submitting an order.

Appendix C: RODOD – SNO Integration

This appendix describes steps for integrating RODOD and SNO.

Note: Refer to WebLogic Administration Guide for detailed steps on how to configure WebLogic resources.

To integrate RODOD and SNO:

1) Install SNO:
   a) Follow the instructions in *SNO Reference Implementation Automated Installation Guide* and have the setup ready.
   b) Ensure that the SNO solution is working.

2) Prepare SNO for Integration by doing the following:
   a) Turn on Milestone Updates:
      i) Follow the instructions in *SNO Reference Implementation Manual Installation Guide* and set up the OSM SOM RI workspace. Milestone updates are left ON, by default. Ensure that you do not turn them off.
      ii) Deploy OracleComms_OSM_SOM_Unified_Solution.
   b) Using the WebLogic Administration Console, delete the following AIA queues from the oms_jms_module JMS module. Refer to *Oracle Weblogic Server Administration Guide* for detailed steps on how to configure WebLogic resources.
      i) AIA_UpdateFulfillmentOrderQueue
      ii) AIA_CreateErrorFaultQueue
   c) Configure SAF for integration between RODOD and SNO:
      i) Create a persistent store with the following settings:
         (1) Entity to create: FileStore
         (2) Name: O2A_FileStore
         (3) Target: OSM ManagedServerName
      ii) Create a new JMS Server named oms_jms_server_O2A, targeting it to OSM MS.
      iii) Create a SAF Agent with the following settings:
         (1) Name: O2A_SAFAgent
         (2) Persistent Store: O2A_FileStore
         (3) Target: OSM ManagedServerName
      iv) In the oms_jms_module JMS module, create a subdeployment named O2A_SAFAgent_ManagedSererName that targets O2A_SAFAgent.
      v) Create the following JMS and SAF Resources in the oms_jms_module JMS module:

Resource	Type	Description
O2A_RemoteSAFContext	SAF Remote Context	Provide AIA MS URL and credentials

Resource	Type	Description
O2A_ErrorHandling	SAF Error Handler	Log format: %header%,%properties%,%body%
O2A_SAFImportedDestinations	SAF Imported Destination	Subdeployment: O2A_SAFAgent_ManagedServerName Target: OSM ManagedServerName Remote SAF Context: O2A_RemoteSAFContext SAF Error Handling: O2A_ErrorHandling
AIA_FOPROV_OUT_JMSQ	SAF Queue	Remote JNDI: jms/aia/AIA_FOPROV_OUT_JMSQ Local JNDI: oracle/communications/ordermanagement/ WebServiceUpdateFulfillmentOrderQueue
AIA_LFERROR_JMSQ	SAF Queue	Remote JDNI: jms/aia/AIA_LFERROR_JMSQ Local JNDI: oracle/communications/ordermanagement/ CreateErrorFaultQueue

3) Install RODOD:
   Refer to the Installing the RODOD Applications section and install Siebel, BRM, PDC, AIA, and OSM.
   Ensure that the RODOD solution is working.

4) Set up RODOD Readiness Data:
   a) Create Reference Data in specific RODOD applications.
   b) Ensure that the CRM system's address/postal codes match the Inventory.

5) Prepare OSM COM Solution for Integration:
   a) Undeploy the OSM Order-to-Activate (O2A) COM/SOM solution for Calculate Service Order (CSO), named OracleComms_OSM_O2A_COMSOM_CSO_Solution.
   b) Stop and delete the following emulators:
      i) osm_InventoryOrderEmulator
      ii) osm_TomOrderEmulator
   c) Remove the following queues from oms_jms_module:
      i) OSM_LFAbortOrderPropagationRespQueue

ii) OSM_ServiceProvisioningUpdateQueue
iii) OSM_TomToSomOrderUpdateQueue
iv) OSM_WebServiceCreateTomOrderQueue
v) OSM_WebServiceCreateTomOrderResponseQueue
vi) OSM_WebServiceFalloutLFResponseQueue
vii) OSM_WebServiceResponseQueue
viii) OSM_WebServiceRetryResponseQueue
ix) UIM_inventoryCTOQueue
x) UIM_inventoryCustomWSQueue
xi) UIM_inventoryWSQueue
xii) UIM_inventoryWSQueueAlternate
xiii) UIM_inventoryWSResponseQueue

d) Remove the following queue from O2A_SAFImportedDestinations in the oms_jms_module JMS module:
   i) AIA_FOPROV_OUT_JMSQ
e) Set up a workspace for the O2A COM for CSO, using Typical topology, according to the instructions in *Cartridge Guide for Oracle Application Integration Architecture.*
f) Deploy the O2A COM solution that you configured in the previous step, according to the instructions in *Cartridge Guide for Oracle Application Integration Architecture.*

Supported use cases:

CRM-Down Test Orders		

SNO	Name	Supported
1	Add a Broadband Service [1] - product options (Basic Internet, AAA_Account=?), ServiceAdress1 PC=75024	Yes
2	Change Broadband Service [1] - increase bandwidth (Premium Internet)	Yes
3	Change Broadband Service [1] - decrease bandwidth (Basic Internet)	Yes
4	Change Broadband Service [1] - increase bandwidth (Elite Internet)	Yes
5	Change Broadband Service [1] - increase bandwidth (Super Elite Internet), design fails; no supported technology available;	Yes
6	Cancel change Broadband Service [1] - abandon an infeasible order	Yes
7	Resume Broadband Service [1]	Yes
8	Disconnect Broadband Service [1]	Yes
9	Add a Broadband Bundle - BB Service[2] options (Basic Broadband, AAA_Account=?); Internet Media[1] options (Video on Demand), ServiceAdress6 PC=75013	Yes
10	Add Broadband Service [3] - product options (Premium Broadband, AAA_Account=?), ServiceAdress8 PC=75013; resource exhaustion - fixed - success	Yes