Oracle Utilities Customer Cloud Service Integration to Oracle Utilities Work and Asset Cloud Service for Service Requests

(Also applicable to:
Oracle Utilities Customer to Meter
Oracle Utilities Work and Asset Management)

Configuration Guide
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Oracle Utilities Customer Cloud Service Integration to Oracle Utilities Work and Asset Cloud Service for Service Requests Configuration Guide

Contents

Preface

Welcome to the Oracle Utilities Customer Cloud Service Integration to Oracle Utilities Work and Asset Cloud Service for Service Requests Configuration Guide.

The preface includes the following:

Audience

This document is intended for anyone implementing the integration of the following products with Oracle Field Service:

- Oracle Utilities Customer Cloud Service
- Oracle Utilities Work and Asset Cloud Service

Documentation and Resources

For more information regarding this integration, foundation technology and the edge applications, refer to the following documents:

Product Documentation

Resource	Location
Oracle Utilities Customer Cloud Service Integration to Oracle Utilities Work and Asset Cloud Service for Service Requests documentation	https://docs.oracle.com/en/industries/utilities/integrations-index.html
Oracle Utilities Customer Cloud Service documentation	https://docs.oracle.com/en/industries/utilities/customer-cloud-service/
Oracle Utilities Work and Asset Cloud Service documentation	https://docs.oracle.com/en/industries/energy-water/work-asset-cloud-service/index.html

Additional Documentation

Resource	Location
Oracle Integration Cloud Service documentation	Refer to the OIC documentation at: https://docs.oracle.com/en/cloud/paas/integration-cloud/index.html
Oracle Support	Visit My Oracle Support at https://support.oracle.com regularly to stay informed about updates and patches. Access the support site for the Edge Application Certification Matrix for Oracle Utilities products (Doc ID 1454143.1).
Oracle Technology Network (OTN) Latest versions of documents	http://www.oracle.com/technetwork/index.html
Oracle University for training opportunities	http://education.oracle.com/

Updates to Documentation

The complete Oracle Utilities Customer Cloud Service Integration to Oracle Utilities Work and Asset Cloud Service for Service Requests documentation set is available from Oracle Help Center at https://docs.oracle.com/en/industries/energy-water/index.html.

Visit My Oracle Support for additional and updated information about the product.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

Oracle customers have access to electronic support for the hearing impaired. Visit: http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Acronyms

The following terms are used in this document:

Term	Expanded Form
OIC	Oracle Integration Cloud
DVM	Domain Value Map (Lookup)
CCS	Oracle Utilities Customer Cloud Service
C2M	Oracle Utilities Customer to Meter
WACS	Oracle Utilities Work and Asset Cloud Service
SP	Service Point

Chapter 1

Introduction

Important! This integration is applicable to the following:

- Oracle Utilities Customer to Meter (C2M) and Oracle Utilities Customer Cloud Service (CCS)
- Oracle Utilities Work and Asset Management (WAM) and Oracle Utilities Work and Asset Cloud Service (WACS)

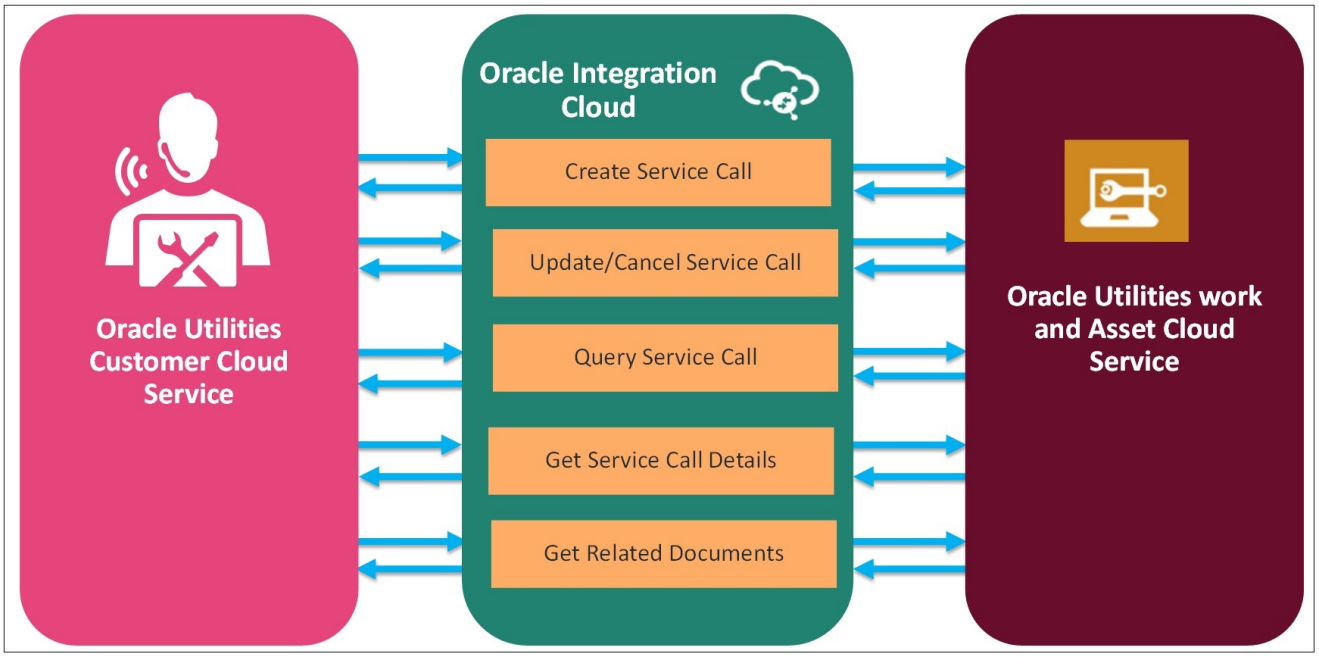
Oracle Utilities Customer Cloud Service is used to reference the product in the document.

This chapter provides an overview about the integration between Oracle Utilities Customer Cloud Service and Oracle Utilities Work and Asset Cloud Service using Oracle Integration Cloud. It focuses on software requirements, Oracle Integration Cloud, and business standpoint of the integration.

The following topics are included:

Overview of the Integration

Oracle Utilities Customer Cloud Service Integration to Oracle Utilities Work and Asset Cloud Service for Service Requests helps to manage a service call originated in the Oracle Utilities Customer Cloud Service solution in Oracle Utilities Work and Asset Cloud Service. The integration can be leveraged to create/update/cancel service calls. Additional flows include querying the service call, retrieving the service call information and related documents.



About Oracle Utilities Customer Cloud Service (CCS)

It is a customer information system (CIS) combined with Oracle Utilities Meter Data Management System and Oracle Utilities Operational Device Management as one single solution. It has pre-built integration with head-end and AMI systems and captures data from multiple sources and has multi-channel communication. With smart meters, this solution is capable of managing any size of smart programs with varying maturity levels. Various flows such as meter, person, service agreement, service points, meter reading, meter configuration are performed in a single application.

About Oracle Utilities Work and Asset Cloud Service (WACS)

Oracle Utilities Work and Asset Cloud Service efficiently manages asset lifecycles, streamlines maintenance operations, maximizes supply chain performance, enhances safety, and improves regulatory compliance.

About Oracle Integration Cloud (OIC)

Oracle Integration Cloud is a unified platform to integrate the applications, automate processes, and create applications.

Using the Process Builder the business processes can be rapidly designed, automated, and managed in the cloud. Using integrations connect the applications into a continuous business flow. The integrations can be quickly developed and activated between both the applications that live in the cloud; and the applications still live on premises. The lookups help to match application specific codes between the two applications.

Integration Insights and Stream Analytics helps to simplify and extract business metrics and create custom dashboards.

Software Requirements

The following software is required for the integration to work:

- Oracle Utilities Customer to Meter
- Oracle Utilities Customer Cloud Service
- Oracle Integration Cloud
- Oracle Utilities Work and Asset Cloud Service
- Oracle Utilities Work and Asset Management

For specific application versions, refer to the *Oracle Utilities Customer Cloud Service Integration to Oracle Utilities Work and Asset Cloud Service for Service Requests Release Notes* included in this release. The documentation is available on Oracle Help Center at:

https://docs.oracle.com/en/industries/utilities/integrations-index.html

Chapter 2

Solution Architecture

This chapter provides an overview of the application architecture used by the integration, including:

- Solution Diagram
- Business Flows

Solution Diagram

The technical aspects involved in Oracle Utilities Customer Cloud Service Integration to Oracle Utilities Work and Asset Cloud Service for Service Requests are:

- The integration layer is made up of integration processes deployed on Oracle Integration Cloud.
- It uses REST APIs to facilitate communication between the two applications.
- In the Oracle Utilities Customer Cloud Service initiated processes, outbound messages are sent and Oracle Utilities Work and Asset Cloud Service uses REST API to receive the messages.

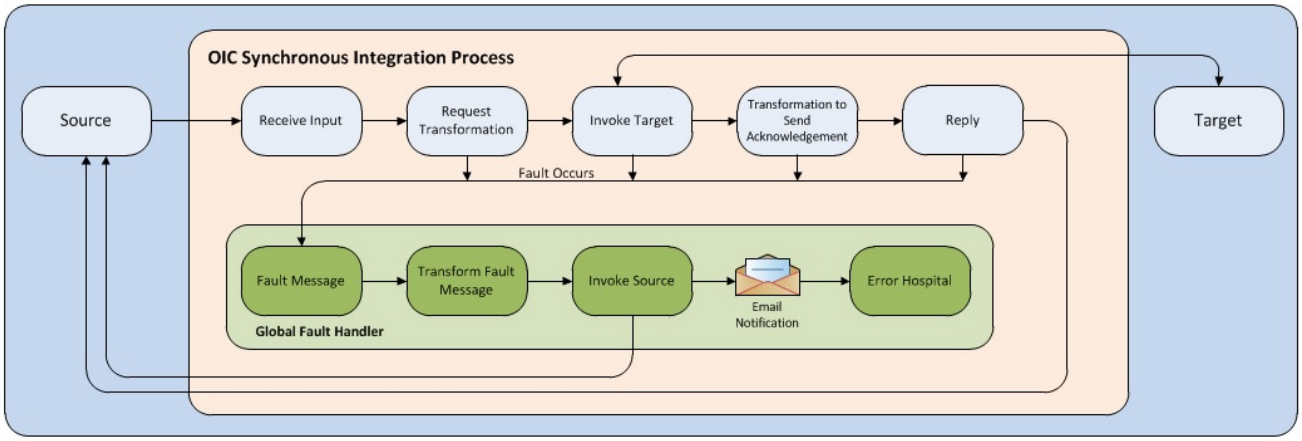
The integration patterns used in this solution are:

- Synchronous
- One-way Asynchronous

Synchronous

The synchronous integration process:

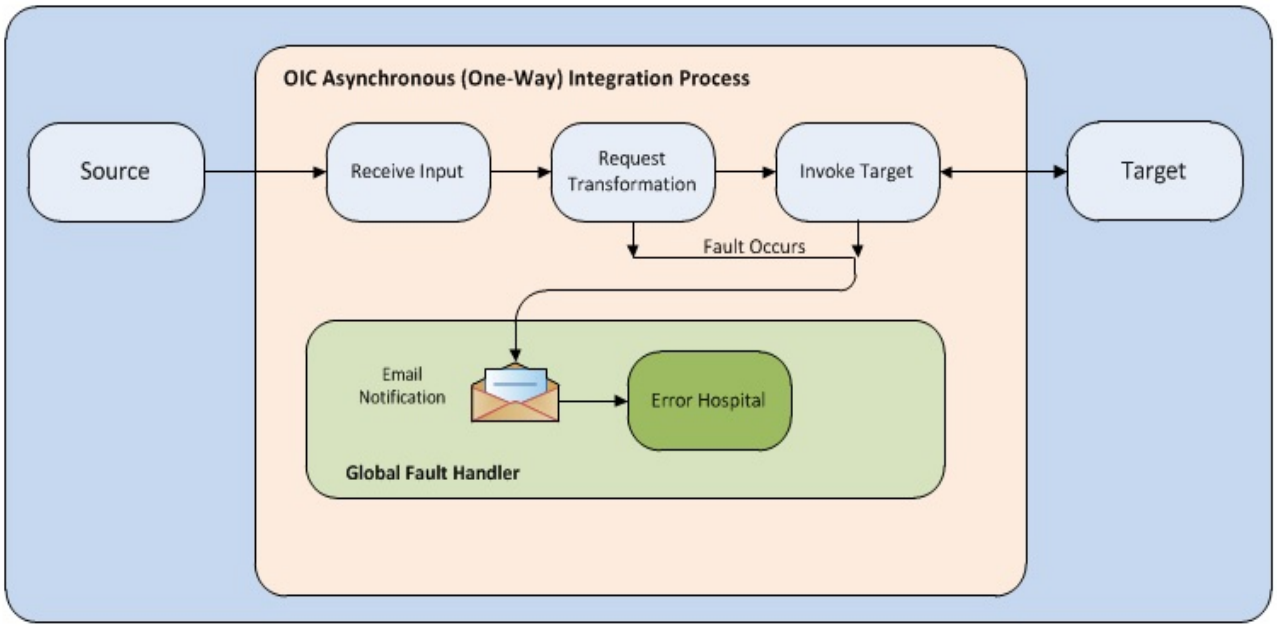
1. Receives request message from the source application.
2. Transforms the message from source format to the target format. Lookups are used for data translations.
3. Invokes the target application.
4. Transforms the message (after invoking the target application) from the target format back to the source format. It sends back an acknowledgment/synchronous response.
5. In case of any error, the global fault handler catches them and sends the transformed error message to the source application.
6. An optional email notification is sent to the respective users as configured.



One-way Asynchronous

The one-way asynchronous integration process:

1. Receives request message from the source application.
2. Transforms message from the source to the target format. Lookups are used for data translations.
3. Invokes target application to send the request message.
4. In case of any error, the global fault handler catches them.
5. The error instance can be re-submitted from Oracle Integration Cloud. Refer to the Error Handling section in Chapter 6: Configuring Lookups, Error Handling, and Email Notifications for more details.



Business Flows

The integration scope supports the following business processes:

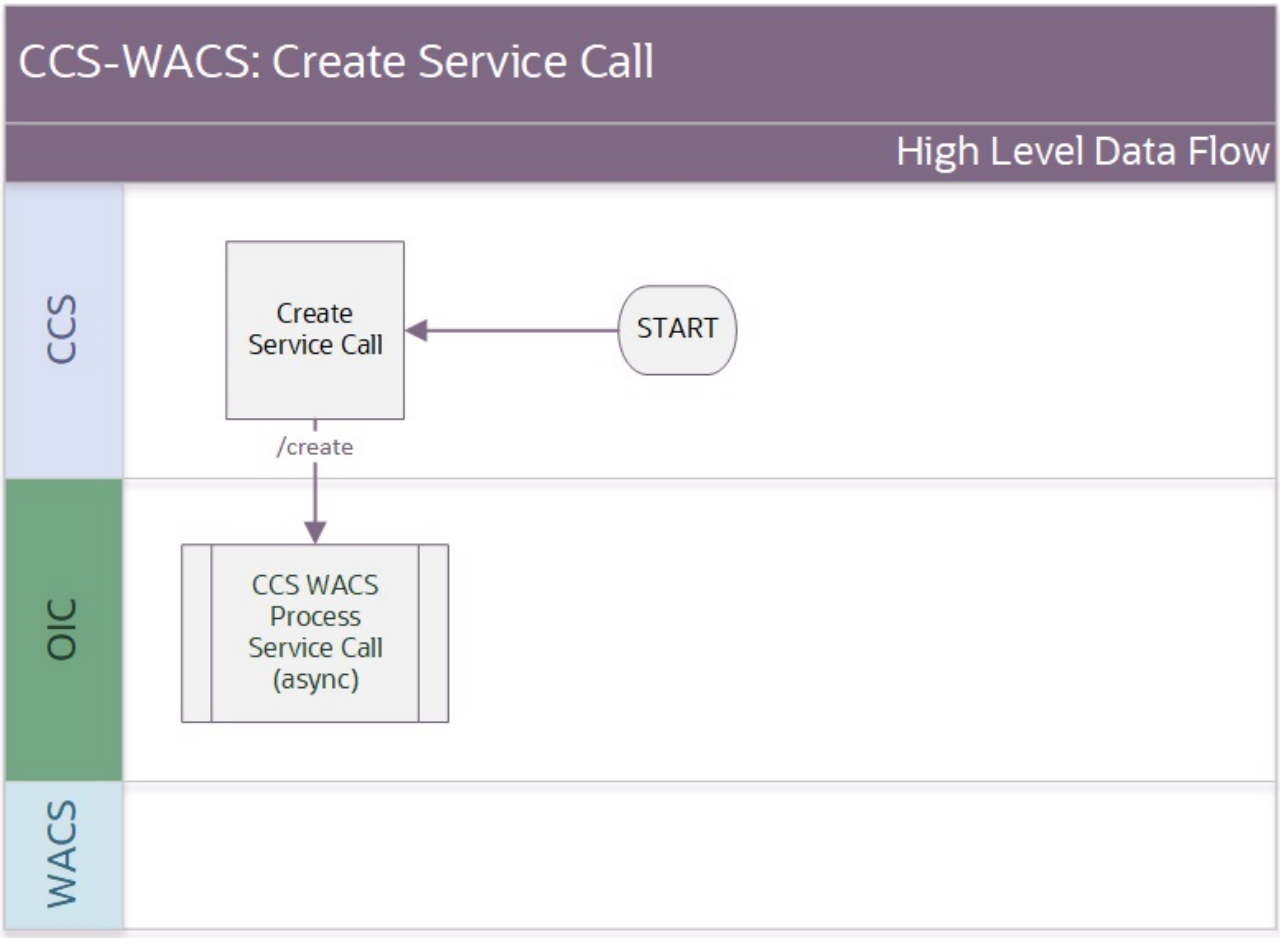
- Create Service Call (Oracle Utilities Customer Cloud Service Initiated)
- Update/Cancel Service Call (Oracle Utilities Customer Cloud Service Initiated)
- Query Service Call (Oracle Utilities Customer Cloud Service Initiated)
- Get Service Call Details (Oracle Utilities Customer Cloud Service Initiated)
- Get Related Documents (Oracle Utilities Customer Cloud Service Initiated)

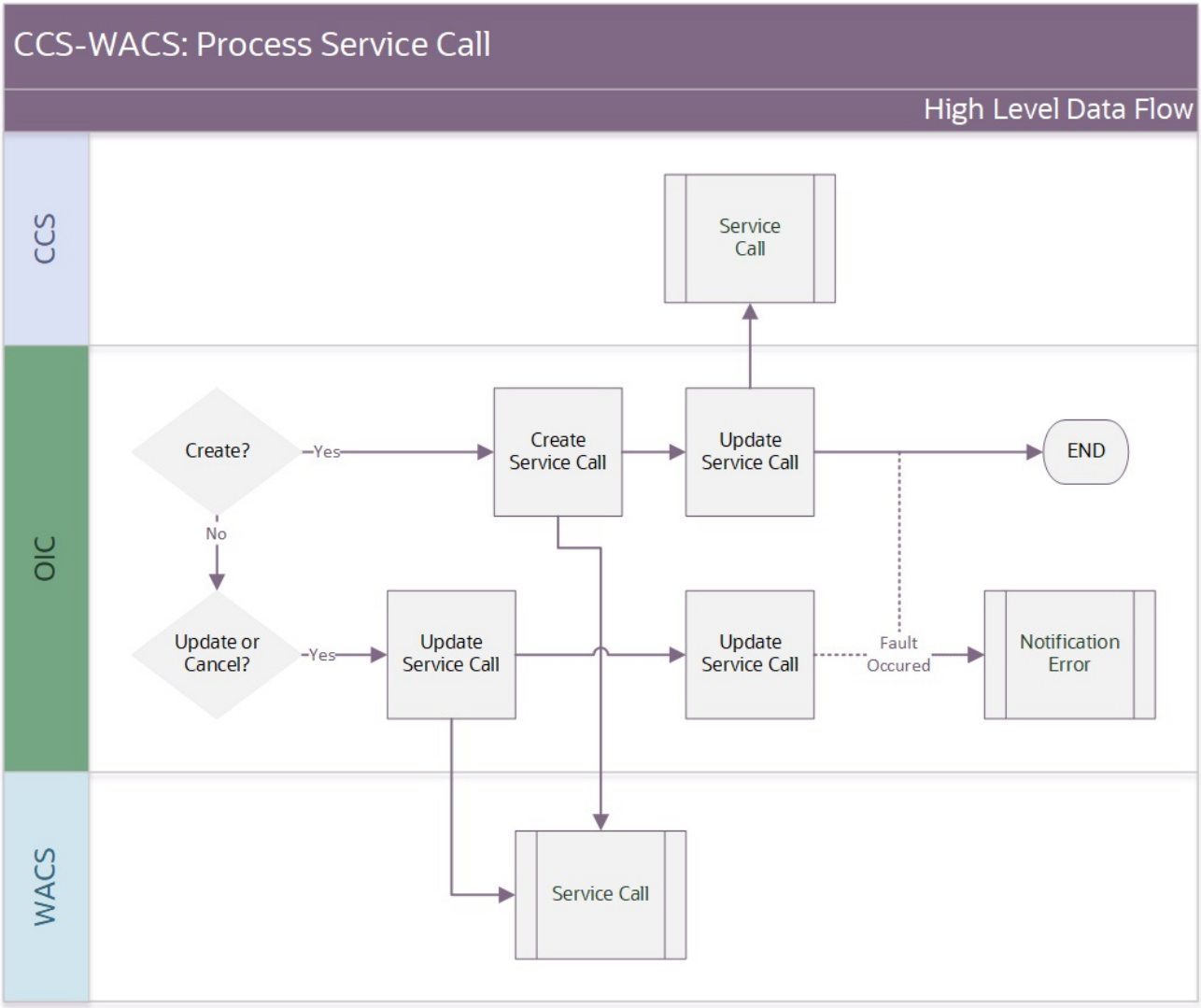
Create Service Call (Oracle Utilities Customer Cloud Service Initiated)

This integration process receives service call create request from Oracle Utilities Customer Cloud Service. The information is sent synchronously from Oracle Utilities Customer Cloud Service and Oracle Utilities Work and Asset Cloud Service processes the

message and sends back response using the acknowledgment service in Oracle Utilities Customer Cloud Service.

The following diagram shows a graphical representation of the Service Call integration flow:





Business Processing

The integration process includes the following activities:

1. Oracle Utilities Customer Cloud Service sends the create service call request to the "Oracle Utilities CCS WACS Create Service Call" flow deployed on Oracle Integration Cloud.
2. The Oracle Utilities CCS WACS Create Service Call flow transforms the create request message from Oracle Utilities Customer Cloud Service to the request message format in Oracle Utilities CCS WACS Process Service Call flow for service call creation.
3. The Oracle Utilities CCS WACS Process Service Call flow transforms the create message from Oracle Utilities Customer Cloud Service to the request message format in Oracle Utilities CCS WACS for service call creation.
4. Oracle Utilities Work and Asset Cloud Service sends the success or failure response to the integration transformed and sent to Oracle Utilities Customer Cloud Service.

5. Any errors are reported back to Oracle Utilities Customer Cloud Service through the global fault handler.
6. An optional email notification with error details is sent to the users configured in the OUTL-BRT-CCS_WACS_Email_ID lookup.

Technical Details

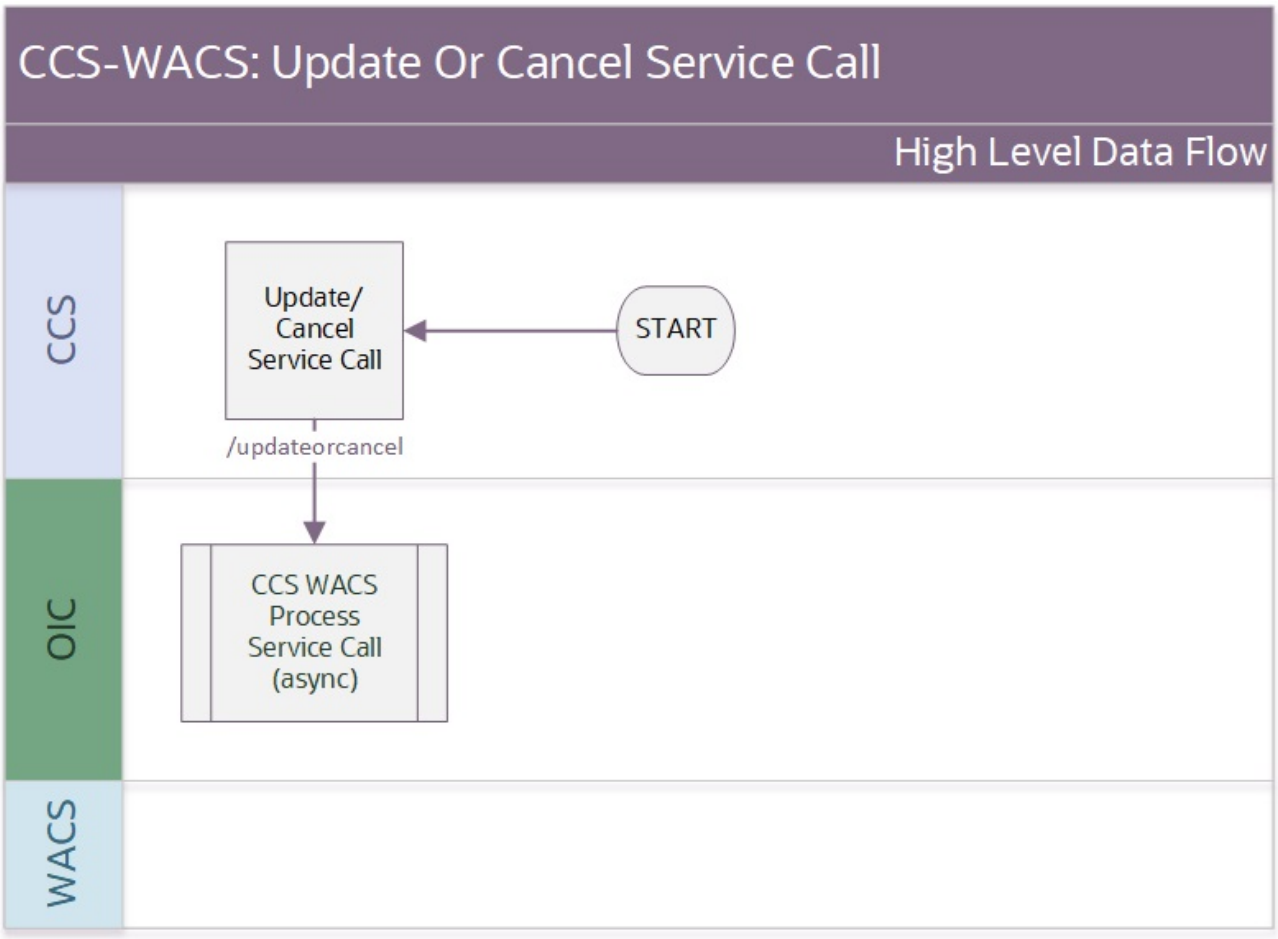
The following table describes the integration processes and the respective Oracle Utilities Customer Cloud Service and Oracle Utilities Work and Asset Cloud Service artifacts used in this integration process.

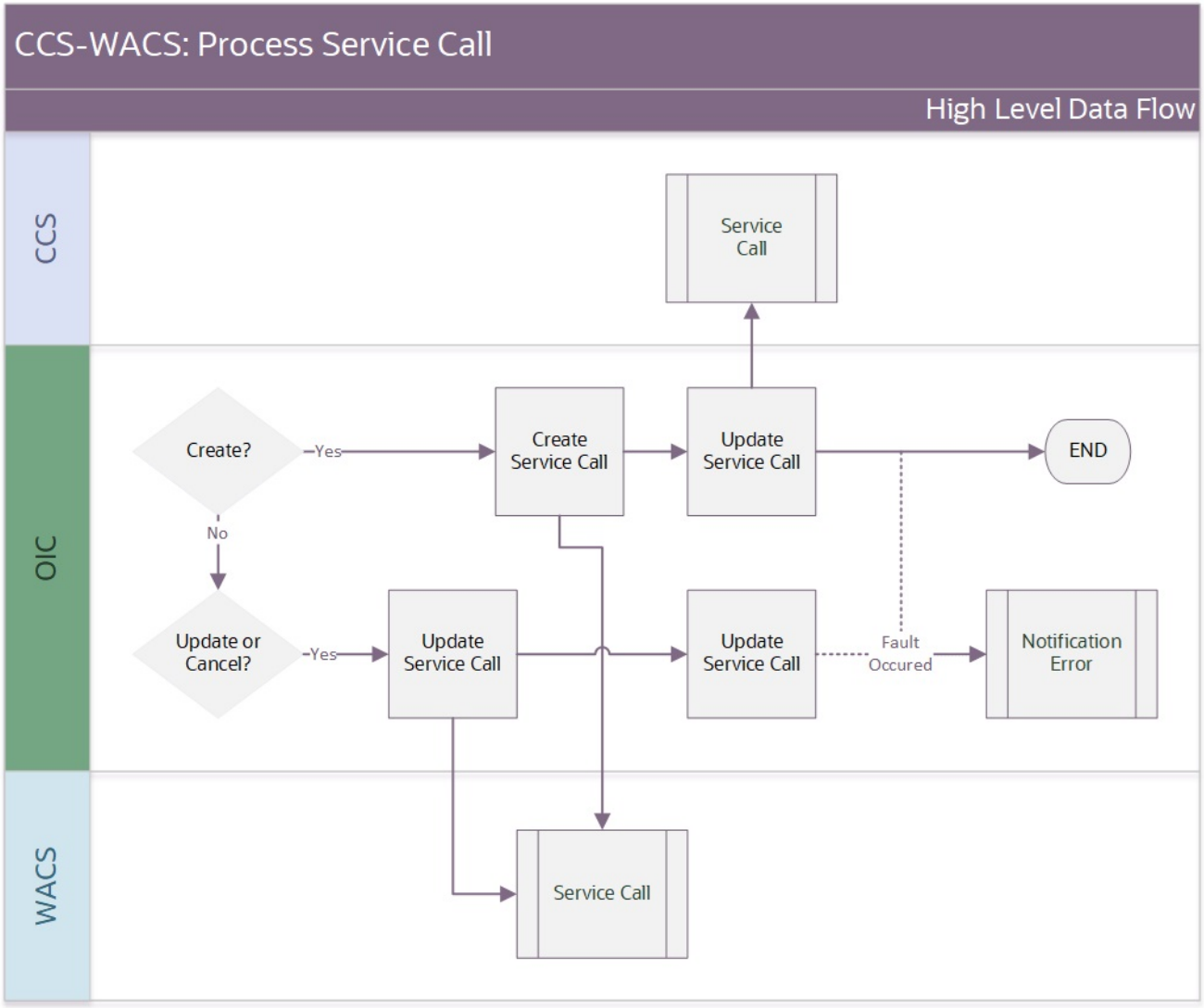
Artifacts	Value
Integration Process Name	Oracle Utilities CCS WACS Create Service Call
Integration Project Name	OU CCS WACS
WACS API	W1-ServiceCall
API Operation	createServiceCall
CCS BO	C1-ServiceCallNewOutMsg

Update/Cancel Service Call (Oracle Utilities Customer Cloud Service Initiated)

This integration process receives service call update/cancel request from Oracle Utilities Customer Cloud Service. The information is sent synchronously from Oracle Utilities Customer Cloud Service and Oracle Utilities Work and Asset Cloud Service processes the message sends back as response using the acknowledgment service in Oracle Utilities Customer Cloud Service.

The following diagram shows a graphical representation of the Service Call update/ cancel integration flow:





Business Processing

The integration process includes the following activities:

1. Oracle Utilities Customer Cloud Service sends the update/cancel service call request to the "Oracle Utilities CCSWACS UpdateOrCancel ServiceCal" flow deployed on Oracle Integration Cloud.
2. “Oracle Utilities CCSWACS UpdateOrCancel ServiceCal” flow transforms the update/cancel request message from Oracle Utilities Customer Cloud Service to the request message format in Oracle Utilities CCS WACS Process Service Call flow for service update/cancel.
3. “Oracle Utilities CCS WACS Process Service Call” flow transforms the update/cancel message from Oracle Utilities Customer Cloud Service to the request message format in Oracle Utilities CCS WACS for service call update/cancel.
4. Oracle Utilities Work and Asset Cloud Service sends the success or failure response to the integration transformed and sent to Oracle Utilities Customer Cloud Service.

5. Any errors are reported back to Oracle Utilities Customer Cloud Service through the global fault handler.
6. An optional email notification with error details is sent to the users configured in the OUTL-BRT-CCS_WACS_Email_ID lookup.

Technical Details

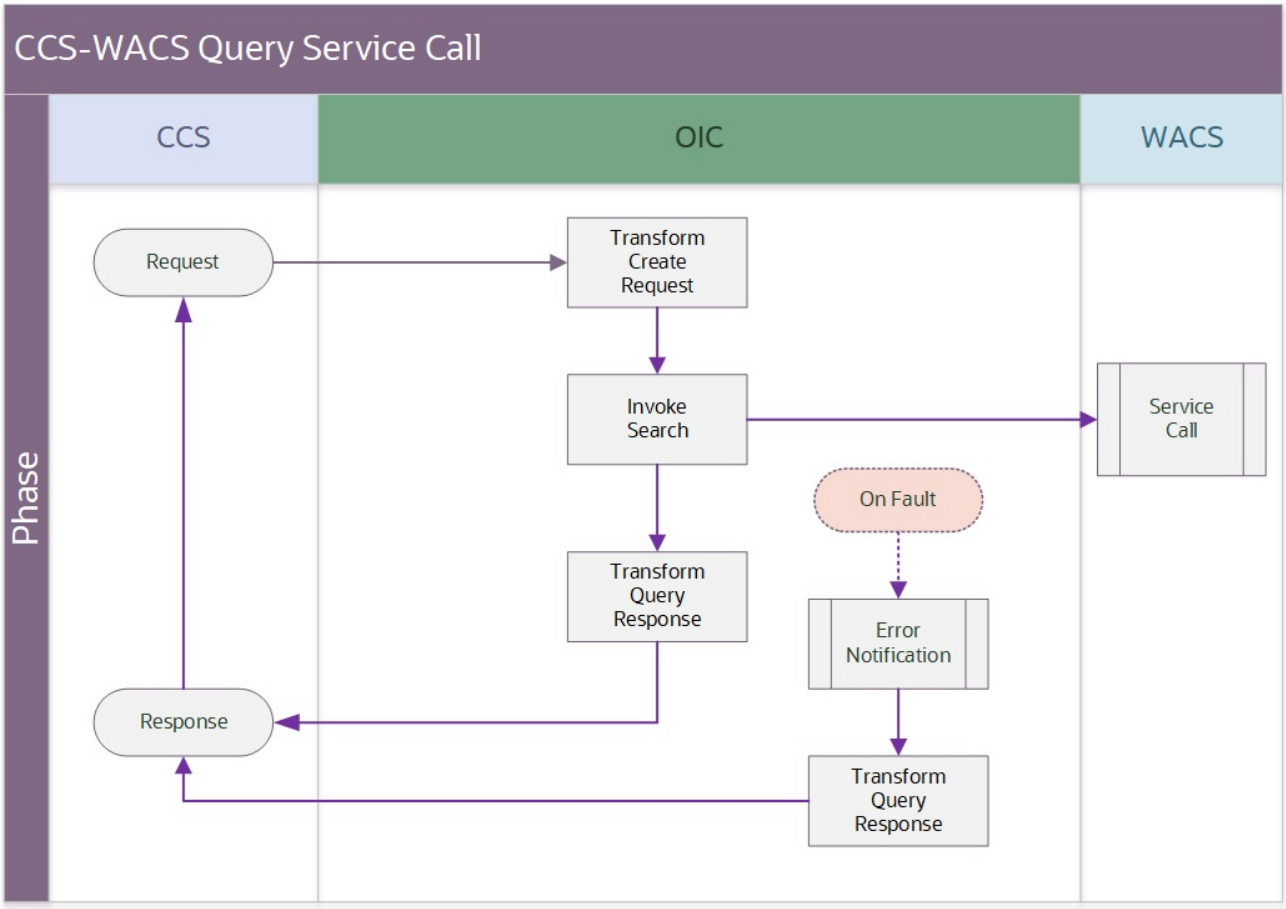
The following table describes the integration processes and the respective Oracle Utilities Customer Cloud Service and Oracle Utilities Work and Asset Cloud Service artifacts used in this integration process.

Artifacts	Value
Integration Process Name	Oracle Utilities CCSWACS UpdateOrCancel ServiceCal
Integration Project Name	OU CCS WACS
WACS API Operation	Update : createCommunication Cancel : cancelServiceCall
WACS API	Update : W1-Communication Cancel : W1-ServiceCall
CCS BO	C1-ServiceCallUpdOutMsg

Query Service Call (Oracle Utilities Customer Cloud Service Initiated)

This integration process receives the Query Service Call request from Oracle Utilities Customer Cloud Service to query the service call from Oracle Utilities Work and Asset Cloud Service. The information is sent synchronously from Oracle Utilities Customer Cloud Service. Oracle Utilities Work and Asset Cloud Service processes the message and sends it back synchronously.

The following diagram shows a graphical representation of the Query Service Call integration flow:



Business Processing

The integration process includes the following activities:

1. Oracle Utilities Customer Cloud Service sends the query service call request to the "Oracle Utilities CCS WACS Query Service Call" flow deployed on Oracle Integration Cloud.
2. "Oracle Utilities CCS WACS Query Service Call" flow transforms the message from Oracle Utilities Customer Cloud Service to the request message format in Oracle Utilities CCS WACS for service call query.
3. Oracle Utilities Work and Asset Cloud Service sends the success or failure response to the integration transformed and sent to Oracle Utilities Customer Cloud Service.
4. Any errors are reported back to Oracle Utilities Customer Cloud Service through the global fault handler.
5. An optional email notification with error details is sent to the users configured in the OUTL-BRT-CCS_WACS_Email_ID lookup.

Technical Details

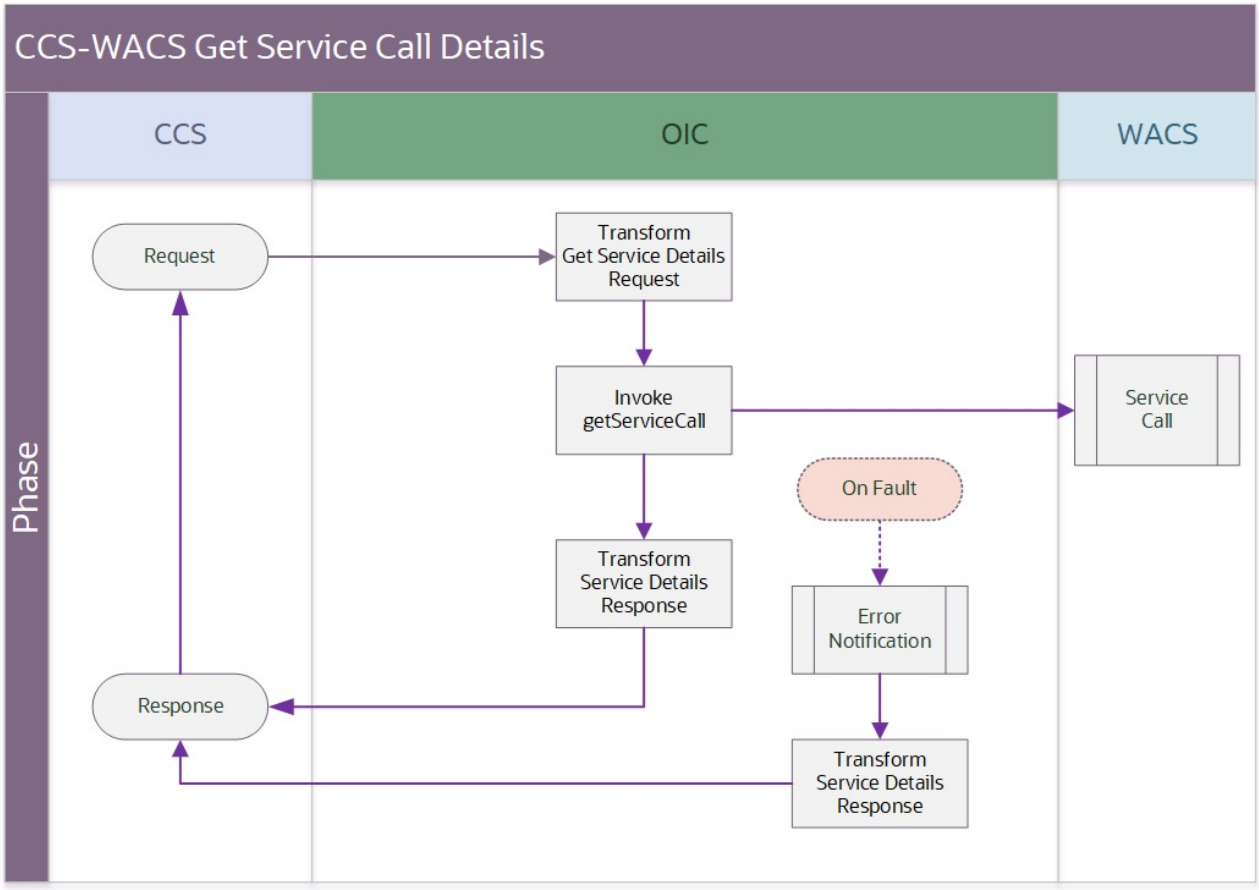
The following table describes the integration processes and the respective Oracle Utilities Customer Cloud Service and Oracle Utilities Work and Asset Cloud Service artifacts used in this integration process.

Artifacts	Value
Integration Process Name	Oracle Utilities CCS WACS Query Service Call
Integration Project Name	OU CCS WACS
WACS API Operation	searchServiceCall
WACS API	W1-ServiceCall
CCS BO	C1-ServiceCallSearchOutMsg

Get Service Call Details (Oracle Utilities Customer Cloud Service Initiated)

This integration process is used to accept request from Oracle Utilities Customer Cloud Service to get the Service call details from Oracle Utilities Work and Asset Cloud Service. The information is sent synchronously from Oracle Utilities Customer Cloud Service and Oracle Utilities Work and Asset Cloud Service processes the message sends back synchronously.

The following diagram shows a graphical representation of the Get Service Call details integration flow:



Business Processing

The integration process includes the following activities:

1. Oracle Utilities Customer Cloud Service sends the query service call request to the "Oracle Utilities CCS WACS Get Service Call Details" flow deployed on Oracle Integration Cloud.
2. The "Oracle Utilities CCS WACS Get Service Call Details" flow transforms the message from Oracle Utilities Customer Cloud Service to the request message format in Oracle Utilities CCS WACS for getting service call details.
3. Oracle Utilities Work and Asset Cloud Service sends the success or failure response to the integration, transforms and sends to Oracle Utilities Customer Cloud Service.
4. Any errors are reported back to Oracle Utilities Customer Cloud Service through the global fault handler.
5. An optional email notification with error details is sent to the users configured in the OUTL-BRT-CCS_WACS_Email_ID lookup.

Technical Details

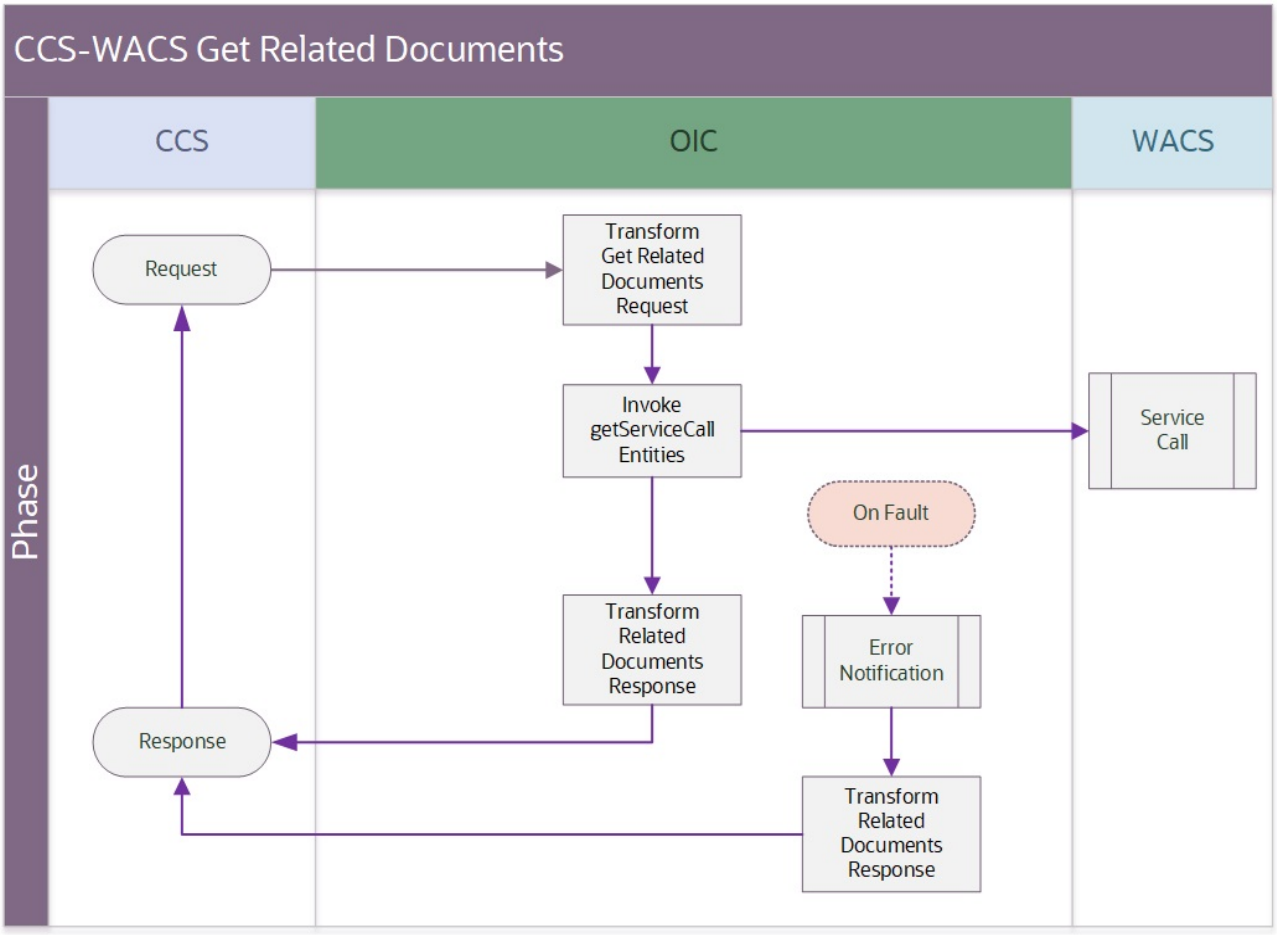
The following table describes the integration processes and the respective Oracle Utilities Customer Cloud Service and Oracle Utilities Work and Asset Cloud Service artifacts used in this integration process.

Artifacts	Value
Integration Process Name	Oracle Utilities CCS WACS Get Service Call Details
Integration Project Name	OU CCS WACS
WACS API Operation	getServiceCall
WACS API	W1-ServiceCall
CCS BO	C1-ServiceCallDetailsOutMsg

Get Related Documents (Oracle Utilities Customer Cloud Service Initiated)

This integration process is used to accept requests from Oracle Utilities Customer Cloud Service to get the related documents from Oracle Utilities Work and Asset Cloud Service. Information is sent synchronously from Oracle Utilities Customer Cloud Service, and Oracle Utilities Work and Asset Cloud Service processes the message and sends it back synchronously.

The following diagram shows a graphical representation of the Get Related Documents integration flow:



Business Processing

The integration process includes the following activities:

1. Oracle Utilities Customer Cloud Service sends the related documents fetch request to the "Oracle Utilities CCS WACS Get Related Documents" flow deployed on Oracle Integration Cloud.
2. The "Oracle Utilities CCS WACS Get Related Documents" flow transforms the message from Oracle Utilities Customer Cloud Service to the request message format in Oracle Utilities CCS WACS for getting the related documents available.
3. Oracle Utilities Work and Asset Cloud Service sends the success or failure response to the integration, transforms and sends to Oracle Utilities Customer Cloud Service.
4. Any errors are reported back to Oracle Utilities Customer Cloud Service through the global fault handler.
5. An optional email notification with error details is sent to the users configured in the OUTL-BRT-CCS_WACS_Email_ID lookup.

Technical Details

The following table describes the integration processes and the respective Oracle Utilities Customer Cloud Service and Oracle Utilities Work and Asset Cloud Service artifacts used in this integration process.

Artifacts	Value
Integration Process Name	Oracle Utilities CCS WACS Get Service Call Details
Integration Project Name	OU CCS WACS
WACS API Operation	getServiceCallEntities
WACS API	W1-ServiceCall
CCS BO	C1-RetrieveWorkDocumentsOutMsg

Chapter 3

Configuring Oracle Utilities Customer Cloud Service

This chapter elaborates about the configuration of about various data, messages and catalog for the integration used by Oracle Utilities Customer Cloud Service. It includes the following sections:

- Configuring Admin Data
- Adding Oracle Integration Cloud Certificates
- Managing Catalog Services

Configuring Admin Data

To configure the Oracle Utilities Customer Cloud Service setup for the integration:

1. Login to Oracle Utilities Customer Cloud Service.
2. Create message senders. Refer to the Message Senders section for details.
3. Create outbound message types. Refer to the Outbound Message Types section for details.
4. Create an external system. Refer to the External System section for details.
5. Create an external application. Refer to the Master Configuration section for details.
6. Complete the master configuration. Refer to the Master Configuration section for details.
7. Generate certificates. Refer to the Adding Oracle Integration Cloud Certificates section for more details.

Message Senders

This section provides the message sender configuration details in Oracle Utilities Work and Asset Cloud Service and Oracle Utilities Customer Cloud Service.

- Configuring Message Sender in Oracle Utilities Customer Care and Billing On-premises
- Configuring Message Sender in Oracle Utilities Customer Cloud Service

Configuring Message Sender in Oracle Utilities Customer Care and Billing On-premises

Create a new message sender for each integration service initiated from Oracle Utilities Customer Care and Billing.

To create a message sender:

1. Navigate to the **Message Sender** page from the **Admin** menu or from the **Search** menu.
2. Enter a unique message sender and its description.
3. Populate the following values:
   - Invocation Type: Real-time
   - Message Class: RTJSONSNDR
   - Active: Select the checkbox.
   - MSG Encoding: UTF-8 message encoding
4. Select the **Context** tab and set values for the following context types:
   - HTTP Login User: User ID to access the Oracle Integration for Cloud (OIC) flow
   - HTTP Password: Password to access the OIC flow
   - HTTP Method (POST/GET): POST
   - HTTP Timeout: 60

- HTTP URL 1: Set the Activated Integration end point URL.

  If the URL value does not fit, use the additional HTTP URL types to set the complete URL.

Message sender configuration for integration services

Message Sender	Description	Message Namespace URI	HTTP Header	HTTP URL
Create Service Call INT_SC_CREAT	INT_Message Sender for Create Service Call_C2M-WAM		https://<oichostname:port>/ic/api/integration/v1/flows/oracleutilities/project/OUTL-BA-CCS_WACS/OUTL-BA-CCS_WACS_CREATE_SERV_CAL/1.0/create	
Create/Update Service Call INT_SC_UP_CL	INT_Message Sender for Update-Cancel Service Call_C2M-WAM			https://<oichostname:port>/ic/api/integration/v1/flows/oracleutilities/project/OUTL-BA-CCS_WACS/OUTL-BA-CCS_WACS_UPDATECANCL_SER/1.0/updateorcancel
Query Service Call INT_SC_SRCH	INT_Message Sender for Service Call Search_C2M-WAM			https://<oichostname:port>/ic/api/integration/v1/flows/oracleutilities/project/OUTL-BA-CCS_WACS/OUTL-BA-CCS_WACS_SEARCH_SERV_CAL/1.0/ccs-wacs/searchServiceCall

Message Sender	Description	Message Namespace URI	HTTP Header	HTTP URL
Get Service Call Details INT_SC_DTLS	INT_Message Sender for Service Call Details_C2M-WAM			https://<oichostname:port>/ic/api/integration/v1/flows/oracleutilities/project/OUTL-BA-CCS_WACS/OUTL-BA-CCS_WACS_GET_SERV_CAL/1.0/ccs-wacs/getServiceCallDetaiLs
Get Related Documents INT_SC_DOC	INT_Message Sender for Retrive Work Documents_C2M-WAM			https://<oichostname:port>/ic/api/integration/v1/flows/oracleutilities/project/OUTL-BA-CCS_WACS/OUTL-BA-CCS_WACS_GET_REL_DOCS/1.0/getRelatedDocs

Configuring Message Sender in Oracle Utilities Customer Cloud Service

Create a new message sender for each integration service initiated from Oracle Utilities Customer Cloud Service.

To create a message sender:

1. Navigate to the **Message Sender** page from the **Admin** menu or from the **Search** menu.
2. Enter a unique message sender and its description.
3. Populate the following values:
   - Invocation Type: Real-time
   - Message Class: RTJSONSNDR
   - Active: Select the checkbox.
   - MSG Encoding: UTF-8 message encoding
4. Select the **Context** tab and set values for the following context types:
   - HTTP Login User: User ID to access the Oracle Integration for Cloud (OIC) flow
   - HTTP Password: Password to access the OIC flow

- HTTP Method (POST/GET): POST
- For message sender INT_SC_CREAT and INT_SC_UP_CL: HTTP Transport Method: Send
- HTTP Timeout: 60
- HTTP URL 1: Set the Activated Integration end point URL.

  If the URL value does not fit, use the additional HTTP URL types to set the complete URL.
- Sender Security Type: Basic

Message sender configuration for integration services

Message Sender	Description	HTTP Header	HTTP URL
Create Service Call			
INT_SC_CREAT	INT_Message Sender for Create Service Call_C2M-WAM		@EXT_PUB@OIC_Host:OIC_Port /ic/api/integration/v1/flows/oracleutilities/project/OUTL-BA-CCS_WACS/OUTL-BA-CCS_WACS_CREATE_SERV_CAL/1.0/create
Update/Cancel Service Call			
INT_SC_UP_CL	INT_Message Sender for Update-Cancel Service Call_C2M-WAM		@EXT_PUB@OIC_Host:OIC_Port /ic/api/integration/v1/flows/oracleutilities/project/OUTL-BA-CCS_WACS/OUTL-BA-CCS_WACS_UPDATECANCL_SER/1.0/updateorcancel
Query Service Call			
INT_SC_SRCH	INT_Message Sender for Service Call Search_C2M-WAM		@EXT_PUB@OIC_Host:OIC_Port/ic/api/integration/v1/flows/oracleutilities/project/OUTL-BA-CCS_WACS/OUTL-BA-CCS_WACS_SEARCH_SERV_CAL/1.0/ccs-wacs/searchServiceCall
Get Service Call Details			
INT_SC_DTLS	INT_Message Sender for Service Call Details_C2M-WAM		@EXT_PUB@OIC_Host:OIC_Port/ic/api/integration/v1/flows/oracleutilities/project/OUTL-BA-CCS_WACS/OUTL-BA-CCS_WACS_GET_SERV_CAL/1.0/ccs-wacs/getServiceCallDetails

Get Related Documents		
INT_SC_DOC	INT_Message Sender for Retrive Work Documents_C2M-WAM	@EXT_PUB@OIC_Host:OIC_Port/ic/api/integration/v1/flows/oracleutilities/project/OUTL-BA-CCS_WACS/OUTL-BA-CCS_WACS_GET_REL_DOCS/1.0/getRelatedDocs

Outbound Message Types

Outbound message types are deliverable as per of Oracle Utilities Customer Cloud Service product.

Outbound message types for integration services

Integration Service	Outbound Message Type	Description	Business Object
Create Service Call	C1-SVCCALNEW	New Service Call Communication Request Outbound Message	C1-ServiceCallNewOutMsg
Create/Update Service Call	C1-SVCCALUPD	Update Service Call Communication Request Outbound Message	C1-ServiceCallUpdOutMsg
Query Service Call	C1-SVCCLSRCH	Service Call Search	C1-ServiceCallSearchOutMsg
Get Service Call Details	C1-SVCCALDTL	Service Call Details	C1-ServiceCallDetailsOutMsg
Get Related Documents	C1-RETWRKDOC	Retrieve Work Documents	C1-RetrieveWorkDocumentsOutMsg

External System

To create a new external system to support the integration:

1. Navigate to the **External System** page from the **Admin** menu or from the **Search** menu.
2. Enter a unique external system and description.

   For example: Name = INT_SERVICE_CALL_ES, Description = C2M WAM Service Call Integration
3. Set the **Our Name in Their System** field to CCS.
4. Associate the outbound message types and message senders created to the external system.

   For each outbound message type, set the following:

   - Outbound Message Type: Outbound message type created for the respective integration service

- Processing Method: Real-time
- Message Sender: Set the message sender created for the integration service
- Date/Time Format: XSD

For more information about message senders and outbound message type for each integration service, refer to the Message Senders and Outbound Message Types sections respectively.

External system configuration for integration services

Example External System: INT_SERVICE_CALL_ES

Integration Service	Outbound Message Type	Message Sender
Create Service Call	C1-SVCCALNEW	INT_SC_CREAT
Update/Cancel Service Call	C1-SVCCALUPD	INT_SC_UP_CL
Query Service Call	C1-SVCCLSRCH	INT_SC_SRCH
Get Service Call Details	C1-SVCCALDTL	INT_SC_DTLS
Get Related Documents	C1-RETWRKDOC	INT_SC_DOC

Master Configuration

The master configuration has the necessary information to support this integration.

1. Navigate to the **Master Configuration** page from the **Admin** menu or from the **Search** menu.
2. Select **CC&B WAM Integration**.
3. Click **Edit** next to **CC&B WAM Integration**.
4. In the **External Communication to WAM** section, configure the following values:
    a. In the **Main** section:
        a. External System: Refer to the external system created in the External System section. <External system name>

            For example: INT_SERVICE_CALL_ES
        b. WAM URL =<configure WAM url >

            Example format: https://<hostname:port>/ouaf/cis.jsp
    b. In the Service Call Maintenance section:
        a. New Service Call Outbound Message Type: Select **New Service Call Communication Request Outbound Message** from the drop-down list.
        b. Update Service Call Outbound Message Type: Select the **Update Service Call Communication Request Outbound Message** from drop-down list.
    c. In the **Service Call Query** section:
        a. Service Call Query Outbound Message Type: Select **Service Call Search** from the drop-down list.

b. Service Call Details Outbound Message Type: Select **Service Call Details** from the drop-down list.

c. Related Documents Outbound Message Type: Select **Retrieve Work Documents** from the drop-down list.

Service Call Communication Type

Setup the service call communication type. System is delivered with C1-ServiceCallCommTaskType BO that can be used for it. Service Call Communication BO can be set to the delivered C1-ServiceCallCommunication BO.

Action Method

Setup the action method for Service Call Communication action method.

Process Flow Type can be set to the delivered C1-SERVICECALL (Service Call Process). Set Service Call Communication Type to the created service call communication type.

Insight Type

Associate the service call insight type to the Customer Insights insight group.

Application Service

Grant ability to navigate to Oracle Utilities Work and Asset Management. Associate application service C1-GOTOWAM (Go To WAM) to the applicable user group.

Service Category

Service categories represent a broad category of services. Service categories to be used in the service call can be found from the **Admin** menu > **Field Work** > **Service Category - CCB**. Service category codes should match those in Oracle Utilities Work and Asset Cloud Service.

Service Code

Service codes are used to create the appropriate work record from the service call. Service codes to be used in the service call can be found from the **Admin** menu > **Field Work** > **Service Code - CCB**. Service codes should match those in Oracle Utilities Work and Asset Cloud Service.

Question

Questions used to capture information related to a service code. Questions can be found from the **Admin** menu > **General** > **Question - CCB**.

Adding Oracle Integration Cloud Certificates

Add the Oracle Integration for Cloud (OIC) certificate to the Oracle Utilities Customer Cloud Service stores wherever applicable to send transactions to the OIC layer.

Managing Catalog Services

The catalog service is used by Oracle Integration Cloud to communicate with the respective application. It is configured in Catalog URL in the Oracle Integration Cloud connection.

To configure the catalog service in Oracle Utilities Customer Cloud Service:

1. Login to Oracle Utilities Customer Cloud Service.
2. Navigate to the **Web Service Catalog** page either from the **Admin** menu or the **Search** menu.

   The external system and inbound web services mentioned in the table in step 3 are added to the catalog.
3. To get the catalog URL, append "/ouaf/rest/ouaf/openapi/iws/catalog" to the on-premises application.

   Example: http(s)://<C2M_HOST>:<C2M_PORT>/<ContextRoot>/ouaf/rest/ouaf/openapi/iws/catalog

   If using Oracle Utilities Customer Cloud Service, the format should be: https://{host}:{port}/{tenant}/{domain}/{appName}/rest/ouaf/openapi/iws/catalog

   Following is the list of artifacts to be included in web service catalog:

Service Type	Service Name	Device Verification
External System	INT_SERVICE_CALL_ES	C2M WAM Service Call Integration
Inbound Web Service	C1-UpdateServiceCall Communication	Update Service Call Communication

For more information about configuration, refer to the Oracle Utilities Customer Cloud Service documentation available on Oracle Help Center at: https://docs.oracle.com/en/industries/utilities/integrations-index.html

Chapter 4

Configuring Oracle Utilities Work and Asset Cloud Service

This chapter elaborates about the configuration of about various data, messages and catalog for the integration used by Oracle Utilities Customer Cloud Service Integration to Oracle Utilities Work and Asset Cloud Service for Service Requests. It includes the following sections:

- Configuring Admin Data
- Managing Catalog Services

Configuring Admin Data

This section describes the admin data setup in Oracle Utilities Work and Asset Cloud Service related to the integration. The **Admin** menus can be configured to be grouped alphabetically or by functional groups. The descriptions that follow will include both groupings.

Inbound Web Service (IWS)

The following REST inbound web services are delivered in this integration:

- W1-ServiceCall
- W1-Communication

The full URI component for the REST inbound web service is configurable.

The Oracle Utilities Work and Asset Cloud Service documentation provides instructions about the one-time setup. Refer to the Documentation and Resources section in Preface for information about documentation resources.

Master Configuration

This section describes the master configuration details for the integration. Master configurations are available in the **Admin** menu **[M or General]** > **Master Configuration**.

CCB Integration Master Config

1. Navigate to Master configuration.
2. Edit **CCB Integration Master Configuration**.
3. Configure the following values in the **Work Management Parameters** section:
   - **Service Call Business Object**: Select **Service Call** from the drop-down list.
   - **Communication Log Business Object**: Select **Communication** from the drop-down list.
   - **Default Service Category**: Select the default service category from the drop-down list.
   - **Default Service Code**: Select the default service code from the drop-down list.
4. Configure the following values in the **Manual Resolution Information** section:
   - **To Do Type**: Select "W1-SCTD".
   - **To Do Role**: Select **System Default Role** from the drop-down list.

Service Category

Service categories represent a broad category of services. Service categories used in the service call are available in **Admin** menu **[S or Work Management]** > **Service Category**.

Service Code

Service codes are used to create an appropriate work record from service call. Service codes used in the service call are available in **Admin** menu **[S or Work Management]** > **Service Code**.

Managing Catalog Services

The web service catalog is used by Oracle Integration Cloud to communicate with the respective application. It is used to identify services that should be retrieved by the Oracle Utilities Adapter. It is configured in **Catalog URL** in the Oracle Integration Cloud connection.

To configure the catalog in Oracle Utilities Work and Asset Cloud Service:

1. Login to Oracle Utilities Work and Asset Cloud Service.
2. Navigate to **Admin** menu > **[W or Integration]** > **Web Service Catalog** page. Alternatively, you can find the page from the **Search** menu.
3. Select **REST Web Service Class**.
4. Add the REST inbound web services mentioned below to the catalog.

Service Type	Service Name	Description
Inbound Web Service	W1-ServiceCall	Service Call Maintenance
Inbound Web Service	W1-Communication	Communication Maintenance

Chapter 5

Importing, Configuring, and Testing Integration Connections

This chapter explains the process for importing the connections, lookups, and libraries needed for the integration and the configuration of these connections imported through a project accelerator. After a successful import and configuration, the chapter lists out steps to help test the connections. It includes the following sections:

- Importing the Oracle Integration Cloud Project Based Accelerator Package from Oracle Cloud Marketplace
- Verifying the Project Import
- Configuring Connections in Oracle Integration Cloud
- Configuring Agent (if applicable)
- Setting up Certificates for Security

Importing the Oracle Integration Cloud Project Based Accelerator Package from Oracle Cloud Marketplace

All integration artifacts are shipped into single package (.car) file.

To import a pre-built integration from Oracle Cloud Marketplace:

1. Launch the Oracle Cloud Marketplace portal.

   https://cloudmarketplace.oracle.com/marketplace/en_US/homePage.jspx

2. Click **Applications**.
3. Search for "Utilities Customer Cloud Service & Work and Asset Cloud Service".
4. Browse through the list of applications and select the pre-built integration project to import.
5. Click **GetApp**.
6. Review and accept "Oracle Standard Terms and Restrictions".
7. Click **Next**. MyOracle Support portal opens.
8. From the integration artifacts table, download the Integration OIC accelerator project (.car) file.
9. Perform the following steps before importing the new project based accelerator project (.car) file into your Oracle Integration Cloud instance.
   a. Take the backup of the existing customized integrations and lookups.
   b. Perform cleanup by deactivating and deleting the existing flows, connections, lookups, libraries used in the integration, and the .par package file.

      Note: If your previous pre-built integration was packaged based (.par file), you will see that:

      - The package is visible on the **Design-Packages** page in the Oracle Integration Cloud instance.
      - The individual integration flows are visible on the Design-Integrations Each integration flow are designated with an accelerator, and "BUILT BY ORACLE" message is displayed.

10. Navigate to **Integrations** > **Projects**.
11. Click **Add**.
12. Select **Import Project** and drag-and-drop the .car file downloaded from Oracle Cloud Marketplace.

    Note: Make sure to select the **Anyone can edit, view, and monitor** checkbox.

    The new project will show up in the list, but with the "Configured" status due to the connections not being completed yet.

13. Click **Project Edit** and follow the verification and configuration steps documented in the following sections.

14. If all configurations are complete, activate the integration by:
    - Clicking **Activate** in the Design section.
    - Or, activate the latest deployment plan in the Deploy section.
15. Verify if the project is imported is successfully.

Verifying the Project Import

To verify the project import was successful:

1. Verify that the following integrations are imported successfully as seen in the **Integrations** section of the project.
    - Oracle Utilities CCS WACS Create Service Call
    - Oracle Utilities CCS WACS Get Related Documents
    - Oracle Utilities CCS WACS Get Service Call Details
    - Oracle Utilities CCS WACS Process Service Call
    - Oracle Utilities CCS WACS Query Service Call
    - Oracle Utilities CCSWACS UpdateOrCancel ServiceCal
2. Verify if the connections are imported successfully as seen in the **Connections** section of the project.
    - Oracle Utilities REST CCS for CCS-WACS
    - Oracle Utilities REST WACS for CCS-WACS
    - Oracle Utilities REST Outbound for CCS-WACS
3. Make sure that the following lookups are imported successfully as seen in the **Lookups** section of the project.
    - OUTL-BRT-CCS_WACS_ConfigProps
    - OUTL-BRT-CCS_WACS_EntityType
    - OUTL-BRT-CCS_WACS_Email_ID
    - OUTL-BRT-CCS_WACS_HouseType
    - OUTL-BRT-CCS_WACS_CallBackCode
    - OUTL-BRT-CCS_WACS_ServiceCategory
    - OUTL-BRT-CCS_WACS_ServiceCode
    - OUTL-BRT-CCS_WACS_CommunicationType
4. Make sure the following library is imported successfully as seen in the **Libraries** section of the project.
    - CCSWACS_ExtractErrorDetails

Configuring Connections in Oracle Integration Cloud

After the packages are imported and verified, the respective connections have to be configured.

This section describes the procedure to set up the following connections:

- Configuring Oracle Utilities REST CCS for CCS-WACS
- Configuring Oracle Utilities REST WACS for CCS-WACS
- Configuring Oracle Utilities REST Outbound for CCS-WACS

Configuring Oracle Utilities REST CCS for CCS-WACS

This connection is used to communicate with Oracle Utilities Customer Cloud Service/ Oracle Utilities Customer to Meter using the Oracle Utilities adapter.

To configure the Oracle Utilities REST CCS for CCS-WACS connection:

1. Add the Oracle Utilities Customer Cloud Service/Oracle Utilities Customer to Meter catalog to the **catalogURL** section.

   Note:

   For the on-premises application, the catalog format is:

   http(s)://<C2M_HOST>:<C2M_PORT>/<ContextRoot>/rest/ouaf/openapi/iws/catalog

   For Oracle Utilities Customer Cloud Service, the catalog format is: https://{host}:{port}/{tenant}/{domain}/{appName}/rest/openapi/iws/catalog

2. On the **Security policy** tab, select the applicable security policy to access the application.

   Refer to the Oracle Utilities Adapter documentation for more information on the supported security policies at: https://docs.oracle.com/en/cloud/paas/application-integration/utilities-adapters/understand-oracle-utilities-adapter.html

3. For Oracle Utilities Customer to Meter on-premises, configure the agent in the connection.

   a. In the **Agent Group** section, click **Configure Agents**.

   b. Select the agent group from the list created in Creating an Agent Group.

4. On the **Connection** page, enter the user name and password. Click **Test** at the upper-right corner.

5. After the connection is tested successfully, click **Save**.

Configuring Oracle Utilities REST WACS for CCS-WACS

This connection is used to communicate with Oracle Utilities Work and Asset Cloud Service/Oracle Utilities Work and Asset Management using the Oracle Utilities adapter.

To configure the Oracle Utilities REST WACS for CCS-WACS connection:

1. Add the Oracle Utilities Work and Asset Cloud Service/Oracle Utilities Work and Asset Management catalog to the **catalogURL** section.

Note:

For the on-premises application, the catalog format is:

http(s)://<WAM_HOST>:<WAM_PORT>/<ContextRoot>/rest/ouaf/openapi/iws/catalog

For Oracle Utilities Work and Asset Cloud Service, the catalog format is:

https://{host}:{port}/{tenant}/{domain}/{appName}/rest/openapi/iws/catalog

2. On the **Security policy** tab, select the applicable security policy to access the application.

   Refer to the Oracle Utilities Adapter documentation for more information on the supported security policies at: https://docs.oracle.com/en/cloud/paas/application-integration/utilities-adapters/create-oracle-utilities-adapter-connection.html

3. For Oracle Utilities Customer to Meter on-premises, configure the agent in the connection:

   a. In the **Agent Group** section, click **Configure Agents**.

   b. Select the agent group from the list created in Creating an Agent Group.

4. On the **Connection** page, enter the user name and password. Click **Test** at the upper-right corner.

5. After the connection is tested successfully, click **Save**.

Configuring Oracle Utilities REST Outbound for CCS-WACS

This connection is used to communicate with Oracle Utilities Customer Cloud Service using the REST adapter. It is used in the Process Call integration triggered by Oracle Utilities Customer Cloud Service.

Edit the Oracle Utilities REST Outbound for CCS-WACS connection and test it to make sure it is successful. Click **Save**.

Configuring Agent (if applicable)

Create an agent group in Oracle Integration Cloud and install agent on the on-premises server before creating/activating an integration in which messages are exchanged between the on-premises applications and Oracle Integration Cloud. The agent related configurations are needed only if the server points to an on-premises application.

This section includes:

- Possible Combinations
- Creating an Agent Group
- Downloading Agent Installer
- Installing On-Premises Agent

Possible Combinations

The possible combination of an agent group is:

- Oracle Utilities Customer to Meter on-premises and Oracle Utilities Work and Asset Cloud Service
- Oracle Utilities Customer Cloud Service and Oracle Utilities Work and Asset Management on-premises

Creating an Agent Group

Create an agent group in Oracle Integration Cloud before running the agent installer. When the on-premises agent is installed in the environment, the on-premises agent is associated with the agent group identifier. Only one on-premises agent can be associated with an agent group.

For a single Oracle Integration Cloud instance, you can create up to five agent groups. Creating the agent group also creates the necessary queues required for message exchange.

To create an agent group:

1. Login to Oracle Integration Cloud.
2. On the **Home** page, click **Agents**.
3. Click **Create Agent Group**.
4. Enter the following information:
   - Agent Group Name
   - Identifier

     Note: The agent group name and identifier must be same.
   - Agent Type: "Connectivity Agent"
   - Description
5. Click **Create**.

Downloading Agent Installer

Download the agent installer from Oracle Integration Cloud and run the installer to install the on-premises agent in your local environment. During the installation, associate the agent with the Agent Group Identifier generated when creating an agent group in Oracle Integration Cloud.

For more information on agent installer, see https://docs.oracle.com/en/cloud/paas/integration-cloud/integrations-user/downloading-and-running-premises-agent-installer.html

Installing On-Premises Agent

To install an on-premises agent:

1. Login to Oracle Integration Cloud.
2. On the **Home** page, click **Agents**.

3. Click **Download**.
4. Select **Connectivity Agent**.
5. Select **Save File** when prompted to save the file to a directory location on your on-on-premises host.
6. Navigate to that directory and unzip **oic_connectivity_agent.zip**.
7. Change the file permissions to be executable.
8. Download the Oracle Utilities Customer Care and Billing certificate and upload by running the below command from agent home directory.

   ```
   keytool -import -file directoryPath/sample.crt -alias
   SampleCert -keystore <Agent_Home>/agenthome/agent/cert/
   keystore.jks
   ```

9. Modify **InstallerProfile.cfg** to include the following information.
   a. Provide the oic_URL value with the OIC SSL host name.

      For example: https://OIC_host:OIC_port

   b. Provide the agent_GROUP_IDENTIFIER. It should be the agent group created in Oracle Integration Cloud.

   c. Set the proxy parameters if the connectivity agent is used with a proxy in the on-premises environment.

   d. Set the JAVA_HOME property to the directory/folder where JDK is installed.

      Note: Before running the connectivity agent installer, perform the steps listed on the following page:

      https://docs.oracle.com/en/cloud/paas/integration-cloud/utilities-adapters/you-begin-setting-oracle-utilities-adapter.html#GUID-7F770AD1-5B87-4C62-968A-3AB30D043835

   e. Run the connectivity agent installer from the command prompt.

      ```
      java -jar connectivityagent.jar
      ```

   f. Provide the Oracle Integration Cloud credentials when prompted.

   g. Wait for a successful installation message to appear.

After the installation is complete, an agent instance is created to interact with Oracle Integration Cloud.

To verify if the agent instance was created:

1. Navigate to the **Agents** page in Oracle Integration Cloud.
2. Check if the agent count for your **Agent Group** is increased by one.
3. Click the number to view the agent details.

For more details, refer to Oracle Integration Cloud documentation at https://docs.oracle.com/en/cloud/paas/integration-cloud-service/index.html.

Setting up Certificates for Security

Important! Skip this section if there are valid CA certificates for the integration.

If there no valid certificates for this integration, download the Oracle Utilities Work and Asset Cloud Service/Oracle Utilities Customer Cloud Service certificates and upload them to Oracle Integration Cloud to handshake with Oracle Utilities Work and Asset Cloud Service/Oracle Utilities Customer Cloud Service.

To download the Oracle Utilities Work and Asset Cloud Service/Oracle Utilities Customer Cloud Service certificate:

1. Login to Oracle Utilities Customer Cloud Service/Oracle Utilities Work and Asset Cloud Service.
2. Click the URL on the top-left corner.
3. On the **Security** tab, click **View Certificate**.
4. On the **Details** tab, click **Export**.
5. Save the certificate.

To upload the certificate to Oracle Integration Cloud:

1. Login to Oracle Integration Cloud with Admin credentials.
2. Navigate to **Settings** > **Certificates**.
3. On the **Certificate** window, click **Upload**.
4. Select **Certificate Type** as **Trust Certificate**.
5. Provide the **Certificate Alias Name**.
6. Select the certificate to upload.
7. Click **Upload**.

Chapter 6

Configuring Lookups, Error Handling, and Email Notifications

This chapter focuses on the lookups configuration, handling business and technical errors, sending email notifications, and customizations in this integration. It includes the following sections:

- Configuring Lookups
- Error Handling
- Email Notifications

Configuring Lookups

The following table lists the lookups that are part of this integration.

Lookup Name	Integration Name	Purpose
OUTL-BRT-CCS_WACS_ ConfigProps	Oracle Utilities CCS WACS Get Related Documents Oracle Utilities CCS WACS Get Service Call Details Oracle Utilities CCS WACS Process Service Call Oracle Utilities CCS WACS Query Service Call	Mainly used to set/not set config properties.
OUTL-BRT-CCS_WACS_EntityType	Oracle Utilities CCS WACS Get Related Documents Oracle Utilities CCS WACS Process Service Call	Used to transform “ccs” entity type to “wacs” entity type and vice versa.
OUTL-BRT-CCS_WACS_Email_ID	Oracle Utilities CCS WACS Get Related Documents Oracle Utilities CCS WACS Get Service Call Details Oracle Utilities CCS WACS Process Service Call Oracle Utilities CCS WACS Query Service Call	Used to configure email IDs.
OUTL-BRT-CCS_WACS_HouseType	Oracle Utilities CCS WACS Process Service Call Oracle Utilities CCS WACS Query Service Call	Used to transform “ccs house type” to “wacs house type” and vice versa.
OUTL-BRT-CCS_WACS_ CallBackCode	Oracle Utilities CCS WACS Get Service Call Details Oracle Utilities CCS WACS Process Service Call Oracle Utilities CCS WACS Query Service	Used to transform “ccs call back” to “wacs call back” and vice versa.

Lookup Name	Integration Name	Purpose
OUTL-BRT-CCS_WACS_ ServiceCategory	Oracle Utilities CCS WACS Get Service Call Details Oracle Utilities CCS WACS Process Service Call Oracle Utilities CCS WACS Query Service Call	This look up is used to transform ccs service category to wacs service category and vice versa.
OUTL-BRT-CCS_WACS_ServiceCode	Oracle Utilities CCS WACS Get Service Call Details Oracle Utilities CCS WACS Process Service Call Oracle Utilities CCS WACS Query Service Call	Used to transform "ccs service code" to "wacs service code" and vice versa.
OUTL-BRT-CCS_WACS_CommunicationType	Oracle Utilities CCS WACS Process Service Call	Used to transform "ccs communication type" to "wacs communication type" and vice versa.

Editing Lookups

To edit a lookup:

1. Login to Oracle Integration for Cloud.
2. Navigate to **Integrations** > **Designer** > **Lookups**.
3. Select the look up to edit.
4. Make the necessary changes.
5. Click **Save** and **Close**.

Configuration Properties

OUTL-BRT-CCS_WACS_ConfigProps contains the properties that can be defaulted in the integration. It also contains a flag to enable email notifications.

Property Name	Sample Value	Description	Used in Integration Process Name
email.flag	true	Used for enabling the email notifications.	Oracle Utilities CCS WACS Get Service Call Details Oracle Utilities CCS WACS Query Service Call Oracle Utilities CCS WACS Process Service Call Oracle Utilities CCS WACS Get Service Call Details
ccs.remote.fault.messagecategory	Numeric value	Used to configure default message category value.	Oracle Utilities CCS WACS Process Service Call
ccs.remote.fault.messagenumber	Numeric value	Used to configure default message number	Oracle Utilities CCS WACS Process Service Call

Error Handling

This section provides information about the different ways used to handle errors in the integration and also resubmitting the instances after rectifying the errors.

- Error Handling Ways
- Resubmitting the Error Instances in Oracle Integration Cloud

Error Handling Ways

In this integration, the errors are handled in different ways due to the limitation of Oracle Integration Cloud.

- Synchronous Flow Error Handling
- Asynchronous Flow Error Handling

Synchronous Flow Error Handling

As part this error handler the errors are sent back to the respective system in the same flow.

Technical Fault

This fault occurs when there is a data mismatch or any Xpath related error. On this error, the flow immediately goes to global fault handler and the fault is sent back to the respective system.

Remote Fault

This fault occurs when the target system is down. When this error occurs the flow immediately goes to global fault handler and the fault is sent back to the respective system.

Business Fault

This fault occurs only when the business fault occurs in the target system due to invalid data. When this error occurs the fault is sent back to the respective system as part of immediate response.

Asynchronous Flow Error Handling

Technical Fault

This fault occurs when there is a data mismatch or any Xpath related error. When this error occurs, the flow immediately goes to global fault handler and an optional email to the respective user is sent.

Remote Fault

This fault occurs when the target system is down. When this error occurs, the flow immediately goes to global fault handler and an optional email is sent to the respective user.

Business Fault

This fault occurs only when the business fault occurs in the target system due to invalid data. When this error occurs the flow immediately goes to global fault handler and an optional email is sent to the respective user.

Resubmitting the Error Instances in Oracle Integration Cloud

In this integration, the flows initiated by Oracle Field Service are asynchronous flows, and the resubmit option is available only for asynchronous flows.

To resubmit the error instances in Oracle Field Service:

1. Login to Oracle Field Service.
2. Navigate **Integrations** > **Monitoring** > **Errors**.
3. Select the integration to resubmit.
4. Click the **Resubmit** icon.

Email Notifications

This pre-built integration includes a configurable email notification.

To receive an email notification:

1. Login to Oracle Integration Cloud.
2. Navigate to **Integrations** > **Designer** > **Lookups**.
3. Edit the **OUTL-BRT-CCS_WACS_ConfigProps** lookup.

   Change the **email.flag** property value to 'true'.

4. Edit the **OUTL-BRT-CCS_WACS_Email_ID** lookup.
   a. In the **from** field, enter the email ID to receive an email from.
   b. In the **to** field, enter the email ID to send the email to.
   c. In the **Email_Id** field, provide the comma separated email IDs.

      Note: In the OUTL-BRT-CCS_WACS_Email_ID lookup, do not edit the values provided under the **Recipient** column.

Chapter 7

Extension Libraries in Oracle Integration Cloud

The extension libraries provide a means to register and organize JavaScript for use in integrations. Library functions are automatically available for you to drag from the **Actions** palette to your orchestration integrations.

This integration includes the following extension libraries:

Extension Library	Function	Description	Used in Integration Process
CCSWACS_ ExtractErrorDetails	CCSWACS_ ExtractErrorDetails	Used to extract the error information	Oracle Utilities CCS WACS Process Service Call

The same extension libraries can be accessed from the **Libraries** page in Oracle Integration Cloud.

For more information regarding extension libraries, refer to the Oracle Integration Cloud documentation at https://docs.oracle.com/en/cloud/paas/integration-cloud-service/icsug/using-libraries-manage-functions-integrations.html.

Chapter 8

Customizations

In Oracle Integration Generation 3, you can extend (customize) an integration in an accelerator project by adding and configuring an extension group. An extension group enables you to extend your integration by adding invoke connections; stitch, for-each, switch, map, and integration actions; and global variables to the integrations in your accelerator project.

For more details on how to perform these changes, refer to the **Manage a Project** section in **Using Integrations in Oracle Integration 3** at: https://docs.oracle.com/en/cloud/paas/application-integration/integrations-user/manage-project.html#GUID-A840E945-3F4E-4917-8DAF-5234840CF8F4

In addition, a knowledge base article is available at: https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=407954934694303&id=3017378.1&_adf.ctrl-state=611abf54g_77

Chapter 9

Activating and Testing the Integration Flows

This section provides an overview of how integration flows are activated and tested. It includes the following sections:

- Prerequisites
- Activating Integration Flows
- Testing the Integration Flows

Prerequisites

Make sure the catalogs in Oracle Utilities Customer Cloud Service and Oracle Utilities Work and Asset Cloud Service are configured completely to activate integration flows.

Activating Integration Flows

To activate the integration flows:

1. Navigate to the integration to activate.
2. Click **Activate**. When prompted to enable tracing, click **Yes** to view the instances.
3. Click **Activate**.

The integration takes time to get activated. The activated integration appears at the top of the integrations list.

Testing the Integration Flows

The following table lists the end point URLs for respective applications in which these endpoints need to be configured. Configure the same and perform an end-to-end testing.

Integration Name	End Point URL to be Configured	Application to be Configured
Oracle Utilities CCS WACS Create Service Call	https://<HostName : Port>/ic/api/integration/v1/flows/oracleutilities/project/OUTL-BA-CCS_WACS/OUTL-BA-CCS_WACS_CREATE_SERV_CAL/1.0/create	C2M/CCS
Oracle Utilities CCS WACS Get Related Documents	https://<HostName : Port>/ic/api/integration/v1/flows/oracleutilities/project/OUTL-BA-CCS_WACS/OUTL-BA-CCS_WACS_GET_REL_DOCS/1.0/getRelatedDocs	C2M/CCS
Oracle Utilities CCS WACS Get Service Call Details	https://<HostName : Port>/ic/api/integration/v1/flows/oracleutilities/project/OUTL-BA-CCS_WACS/OUTL-BA-CCS_WACS_GET_SERV_CAL/1.0/ccs-wacs/getServiceCallDetails	C2M/CCS
Oracle Utilities CCS WACS Query Service Call	https://<HostName : Port>/ic/api/integration/v1/flows/oracleutilities/project/OUTL-BA-CCS_WACS/OUTL-BA-CCS_WACS_SEARCH_SERV_CAL/1.0/ccs-wacs/searchServiceCall	C2M/CCS
Oracle Utilities CCSWACS UpdateOrCancel ServiceCal	https://<HostName : Port>/ic/api/integration/v1/flows/oracleutilities/project/OUTL-BA-CCS_WACS/OUTL-BA-CCS_WACS_UPDATECANCL_SER/1.0/updateorcancel	C2M/CCS

Chapter 10

Monitoring and Troubleshooting

This section provides information about monitoring and troubleshooting the integration. It includes the following:

- Oracle Utilities Customer Cloud Service
- Oracle Utilities Work and Asset Cloud Service
- Oracle Integration Cloud

Oracle Utilities Customer Cloud Service

This section provides information about monitoring Oracle Utilities Customer Cloud Service logs.

For more information, refer to the **Troubleshooting** section in the *Oracle Utilities Cloud Services Implementation Guide* at https://docs.oracle.com/en/industries/energy-water/shared/24b/cs-implementation-guide/index.html

Cloud Service Logs

The customer or system integrator can request access logs from cloud environments. Every Access Log request will require a service request to be logged in My Oracle Support.

On-premises Application Logs

Application related error logs can be viewed from:

- Errors related to the online integration invocation from Oracle Utilities Customer Cloud Service are stored in the CCS_ENVIRONMENT_NAME/logs/ or C2M_ENVIRONMENT_NAME/logs/system folder.

  Example: V27_C2M_ORA_WLS/logs/system\

For more information about errors and notifications, see the Oracle Utilities Customer to Meter documentation on Oracle Help Center.

Oracle Utilities Work and Asset Cloud Service

This section provides information about monitoring Oracle Utilities Work and Asset Cloud Service logs.

Cloud Service Logs

The customer or system integrator can request access logs from cloud environments. Every Access Log request will require a service request to be logged in My Oracle Support.

On-premises Application Logs

Application related error logs can be viewed from:

- Errors related to the online integration invocation from Oracle Utilities Work and Asset Management are stored in the WAM_ENVIRONMENT_NAME/logs/ or WAM_ENVIRONMENT_NAME/logs/system folder.

  Example: WAM_ORA_WLS/logs/system\

For more information about errors and notifications, see the Oracle Utilities Work and Asset Management documentation on Oracle Help Center.

Oracle Integration Cloud

This section focuses on the monitoring Oracle Integration Cloud and troubleshooting any issues that occur during the integration activation.

Monitoring Integration Flows

Integration flows are monitored using the following:

- Project (for project based instances)
- Observability (for non project based instances)

To monitor the integration flows within a project:

1. Login to Oracle Integration Cloud.
2. Click **Projects**. On the navigation pane, click the relevant project.
3. Navigate to the **Observe** menu.
4. You can review:
    a. **Integrations** to view the count of various statuses of instances created per integration flows.
    b. **Instances** to view instances of integrations of the project.
    c. **Future runs** to view all the runs scheduled or started for scheduled integrations.
    d. **Audit** to view and download design-time audit logs.

For more information, refer to the **Monitor Integrations in a Project** section in **Using Integrations in Oracle Integration 3** at: https://docs.oracle.com/en/cloud/paas/application-integration/integrations-user/monitor-integrations-project.html#GUID-8377A7D5-E5A6-4F67-82D0-D122C55C32FA

To monitor integration flows from the Oracle Integration Cloud **Observability** menu option:

1. Login to Oracle Integration Cloud.
2. Click **Observability** on the menu.
3. Select any of the following as required:
    - **Dashboards**: To monitor the complete dashboard of integration. Get at-a-glance information about the number and status of your projects, integrations, connections and more.
    - **Integrations**: The **Monitor integrations** page lets you view the message processing status of your running integrations. It shows the number of messages that are:
        - Received and processed
        - Successful, in error, or aborted, and errors have occurred
        - Aborted

- **Instances**: To filter and track the status of integration instances and show the flow trace/activity stream of the integration.
- **Error**: To manage errors in Oracle Integrations. Resubmit failed instances, discard failed instances, view message recovery status, and view basic and detailed error messages.

For more information, refer to the **Explore the Navigation Pane** section at: https://docs.oracle.com/en/cloud/paas/application-integration/int-get-started/navigate-oracle-integration.html#GUID-BD4DA10C-D7DB-4F69-BFF3-937C9C3827DB

Troubleshooting

To troubleshoot errors in the workflow through the generated instances, you can set tracing level to DEBUG to generate detailed logs.

To enable DEBUG:

1. Select **Configure Activation** and then select the **Tracing Level** to be 'DEBUG'.
2. Run the integration and check the activity stream which now will include the runtime log details of the flow.
3. If an activation fails, the **Integrations** page displays an error.

   Sample cases:

   - While activating the integration, if there are any connectivity errors, make sure to trigger the connection, test it, refresh the metadata, and then activate the integration.
   - For Oracle Utilities Customer Cloud Service initiated integration flows activated for the first time, make sure that the Oracle Utilities Work and Asset Cloud Service catalog is configured accurately. All external systems and inbound web services used by the integration are defined in the catalog.