Oracle Utilities Work and Asset Cloud Service Integration to Oracle Fusion Procurement Cloud

Configuration Guide

Release 21A

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Oracle Utilities Work and Asset Cloud Service Integration to Oracle Fusion Procurement Cloud Configuration Guide, Release 21A

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Preface

Welcome to the Oracle Utilities Work and Asset Cloud Service Integration to Oracle Fusion Procurement Cloud Configuration Guide.

Audience

This document is intended for anyone implementing the integration between Oracle Utilities Work and Asset Cloud Service and Oracle Fusion Procurement Cloud for Vendor/Vendor Location, Purchase Requisition, Purchase Order and Receipt Synchronization.

Documentation and Resources

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

Product Documentation

Topic	Description
Oracle Utilities Work and Asset Cloud Service Integration to Oracle Fusion Procurement Cloud documentation	Refer to the Oracle Utilities applications documentation page: http://docs.oracle.com/cd/E72219_01/documentation.html
Oracle Utilities Work and Asset Cloud Service documentation	
Oracle Fusion Procurement Cloud documentation	https://docs.oracle.com/en/cloud/saas/procurement/21a/index.html

Additional Documentation

Resource	Location
Oracle Support	Visit My Oracle Support at https://support.oracle.com regularly to stay informed about updates and patches.
Oracle Technology Network (OTN) Latest versions of documents	http://www.oracle.com/technetwork/index.html

Resource	Location
Oracle University for training opportunities	http://education.oracle.com/

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
FPRC	Oracle Fusion Procurement Cloud
Oracle UCM	Oracle's Universal Content Management or Oracle Webcenter Content Server
WACS	Oracle Utilities Work and Asset Cloud Service
OIC	Oracle Integration Cloud
PR	Purchase Requisition
PO	Purchase Order

Chapter 1

Introduction

This chapter provides an overview of Oracle Utilities Work and Asset Cloud Service integration with Oracle Fusion Procurement Cloud using Oracle Integration Cloud. It also provides information about software requirements, participating applications and supported business processes by this integration.

The chapter contains the following:

- Overview of the Integration
- Vendor and Vendor Location Integration
- About Oracle Utilities Work and Asset Cloud Service
- About Oracle Integration Cloud
- Software Requirements

Overview of the Integration

Oracle Utilities Work and Asset Cloud Service Integration to Oracle Fusion Procurement Cloud helps to facilitate a hybrid model for the Procurement module. Different business functions that are part of the integration initiate either in Oracle Utilities Work and Asset Cloud Service or Oracle Fusion Procurement Cloud, completing the Procure to Pay end-to-end cycle.

This integration supports four key functionalities:

- Sends Vendor and Vendor Site information to Oracle Utilities Work and Asset Cloud Service.

- Purchase request created in Oracle Utilities Work and Asset Cloud Service is in sync with Oracle Fusion Procurement Cloud to further process the request into a Purchase Order.

- Purchase Order created for the Purchase request within Oracle Fusion Procurement Cloud is sent to Oracle Utilities Work and Asset Cloud Service.

- Receipt for Purchase Order created in Oracle Utilities Work and Asset Cloud Service (the material received within Oracle Utilities Work and Asset Cloud Service) sends the information of receipt to Oracle Fusion Procurement Cloud.

- Oracle Fusion Procurement Cloud is the master for Vendor Sync and Purchase Order integration in this hybrid model.

The following diagram provides a high-level representation of the integration.
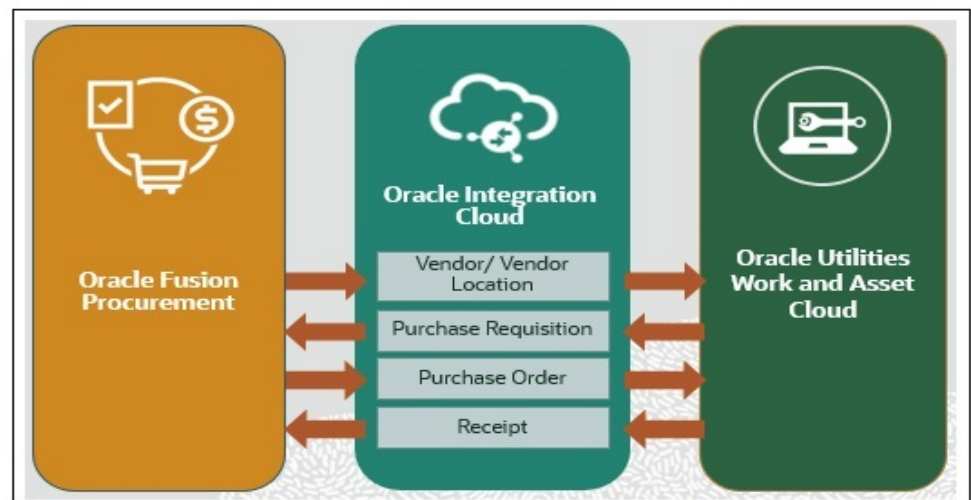
Vendor and Vendor Location Integration

This integration is a one-way integration from Oracle Fusion Procurement Cloud to Oracle Utilities Work and Asset Cloud Service. Oracle Fusion Procurement Cloud will be the master for Vendor and Vendor Location. Vendor and Vendor Sites within Oracle Fusion Procurement Cloud use Business Intelligence Cloud Connector to extract data for the integration.

- Oracle Business Intelligence Cloud Connector facilitates to extract Business Intelligence data from a Fusion Applications Cloud data source into an Oracle Storage Service or UCM server.

- The Oracle BI Cloud Connector data server contains a reference to the object storage used by Oracle BI Cloud Connector to stage the extracted files. The object storage used can be either Oracle Object Storage or Oracle Storage Cloud Service.

- Oracle Integration Cloud transforms the data into Oracle Utilities Work and Asset Cloud Service payload and gets synchronized.

- Invoking REST service is used to synchronize the records in Oracle Utilities Work and Asset Cloud Service.

- The batch job "W1-SIOPE" is run within Oracle Utilities Work and Asset Cloud Service for synchronization with business object W1-OngoingSyncRequestVendorLoc.
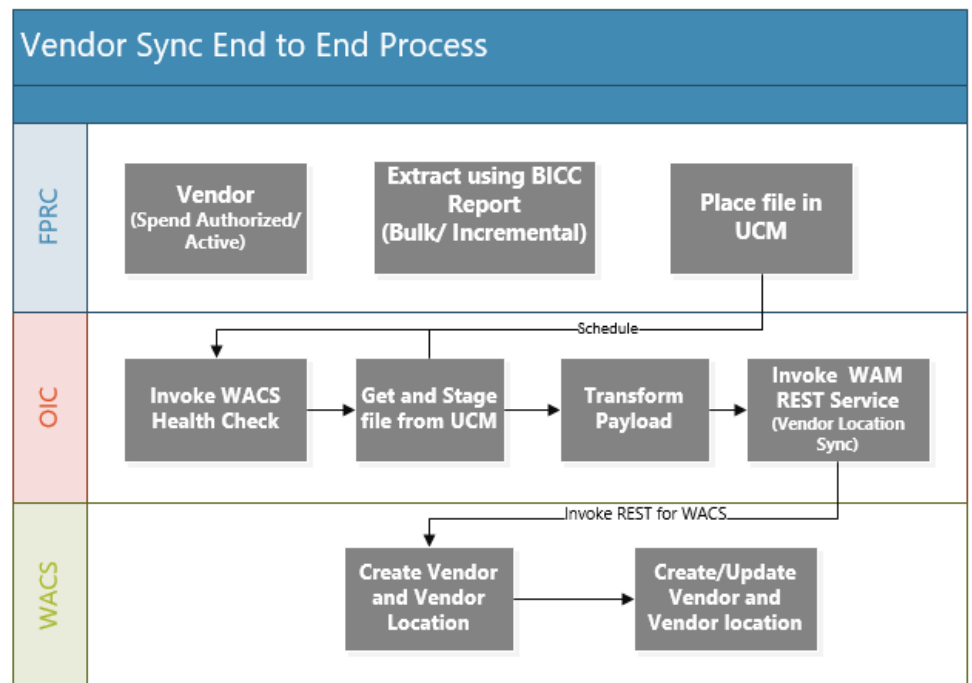
On successful completion of batch job, vendor and vendor sync are created within Oracle Utilities Work and Asset Cloud Service.

The integration follows two modes of sync:

- **Bulk Sync**

   Filters control the selection of the Vendor/Vendor Location in the Procurement module. The business may choose to import all records (Vendor/Vendor Location) from Oracle Fusion Procurement Cloud or based on Organization (Operating Units). The extract file will be based on the filtering criteria and 'Active' status.

   The FILTER used for extract in the integration design are:

   - Supplier Status = "Active" for Bulk

   - Supplier should be enabled for either Purchasing or Pay or could be both.

   - Organization/Legal Entity site assignment

- **Incremental Sync**

    - Filter criteria for incremental is similar to bulk except for Supplier Status that now includes "Active" and "Inactive" statuses.

The field mapping details for Vendor/Vendor Location Integration are available in the *Oracle Utilities Work and Asset Cloud Service Integration to Oracle Fusion Procurement Cloud Data Mapping Guide* included in this release. Additional columns are added to the extract in case a customized value is used for this integration. Mapping value and Oracle Integration Cloud will need to change to allow the additional value to synchronize with Oracle Utilities Work and Asset Cloud Service.

Vendor and Vendor Sync integration is a prerequisite to all the flows for Procurement. The vendor details passed in Oracle Utilities Work and Asset Cloud Service are used to raise a purchase request within Oracle Utilities Work and Asset Cloud Service, and also the Purchase Order once received from Oracle Fusion Procurement Cloud will create a Purchase Order for the vendor mentioned.

Purchase Requisition Integration

This integration synchronizes purchase requisitions created and approved in Oracle Utilities Work and Asset Cloud Service to Oracle Fusion Procurement Cloud. Purchase requisitions are created in Oracle Utilities Work and Asset Cloud Service and Oracle Utilities Work and Asset Cloud Service is the owner of the requisition portal.
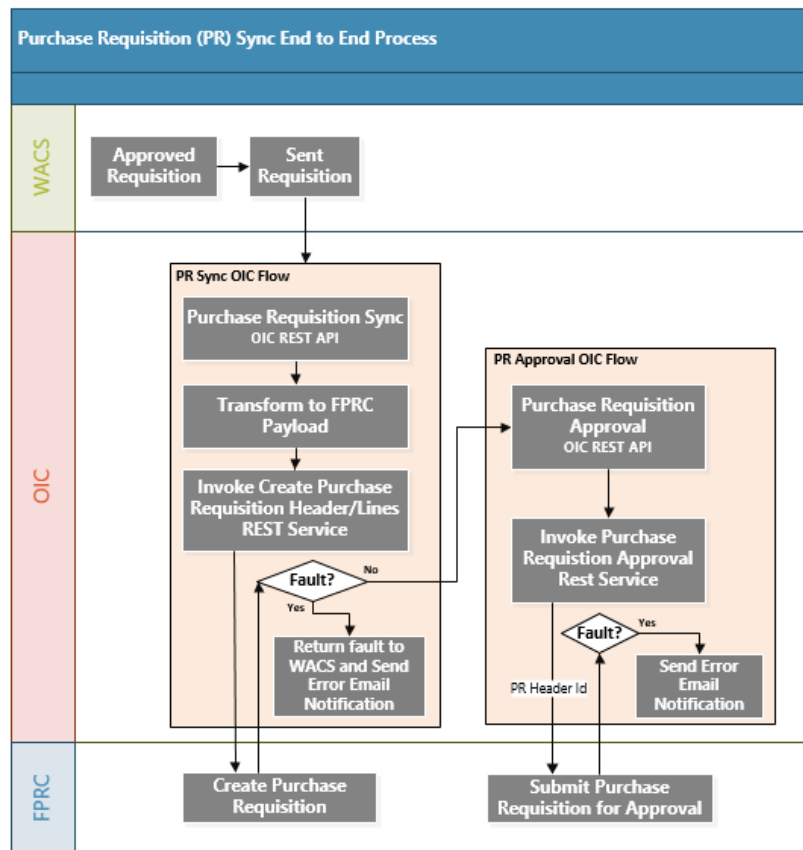
Only approved purchase requisitions are synchronized from Oracle Utilities Work and Asset Cloud Service to Oracle Fusion Procurement Cloud. Once the Purchase requisition

is sent from Oracle Utilities Work and Asset Cloud Service, the purchase requisition status changes to "SENT".

No modifications are allowed on the purchase requisition in the "SENT" status.

Oracle Integration Cloud transforms the message received from Oracle Utilities Work and Asset Cloud Service to the Oracle Fusion Procurement Cloud message format and invokes the Create Purchase Requisition Header/Line rest service.

The purchase requisition created in Oracle Fusion Procurement Cloud is with "External managed flag" = True.

A second REST call (Purchase Requisition Approval) is made to submit the purchase requisition created for approval.

Based on the purchase requisition category/buyer, it will be available on the **Process Requisition** page of the buyer.

The field mapping details for Purchase Requisition Integration are available in the *Oracle Utilities Work and Asset Cloud Service Integration to Oracle Fusion Procurement Cloud Data Mapping Guide* included in this release.

Limitations
- Only Expense Type Purchase Requisition is created in Oracle Fusion Procurement Cloud.

- Cancellation of Purchase Requisition is not supported by the integration. This is manually done in both applications.

Purchase Order Integration

Purchase Order Integration is the next step to the procurement process. As purchase requests are received from Oracle Utilities Work and Asset Cloud Service in the above flow, these requests are converted to purchase orders in Oracle Procurement Cloud to make a seamless integration between Oracle ERP Procurement and Oracle Utilities Work and Asset Cloud Service.

This integration synchronizes purchase orders that are approved, updated, canceled or finally closed in Oracle Fusion Procurement Cloud to Oracle Utilities Work and Asset Cloud. Only Purchase Orders that are based on approved Oracle Utilities Work and Asset Cloud Service purchase requisitions are synchronized over to Oracle Utilities Work and Asset Cloud Service. Any change order/revision of Purchase Order goes as an update to the existing Purchase Order in Oracle Utilities Work and Asset Cloud Service.

Purchase Orders are created in Oracle Fusion Procurement Cloud and Oracle Fusion Procurement Cloud is the master to the Procurement module.
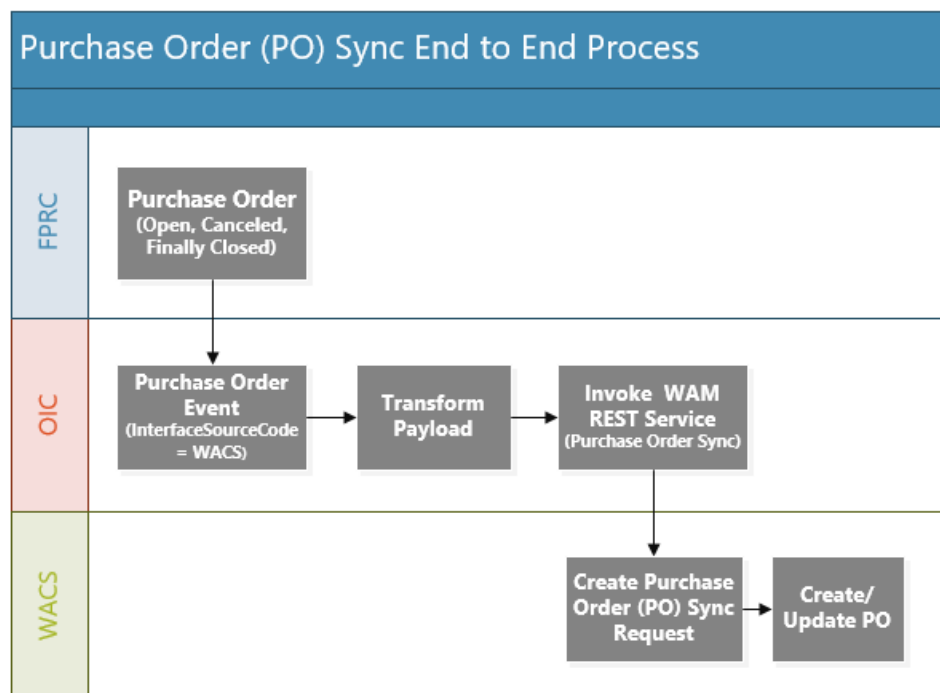
Once a Purchase Order is created and approved in Oracle Fusion Procurement Cloud by a buyer, the Purchase Order status changes to "Open" and triggers a business event to the integration. Any updates to the Purchase Order or when the Purchase Order is "Canceled" or "Finally Closed" in Oracle Fusion Procurement Cloud also triggers an event to the integration.

Oracle Integration Cloud, which subscribes to the business event, receives the message but only process the message with Interface Source Code field equals to value 'WACS'. The Purchase Order created is from an approved Oracle Utilities Work and Asset Cloud Service purchase requisition.

Oracle Integration Cloud transforms the message to Oracle Utilities Work and Asset Cloud Service message and invokes the Purchase Order Sync REST service to create the Purchase Order in Oracle Utilities Work and Asset Cloud Service. The API creates both header and lines for an order.

The field mapping details for Purchase Order Integration are available in the *Oracle Utilities Work and Asset Cloud Service Integration to Oracle Fusion Procurement Cloud Data Mapping Guide* included in this release.

Limitations
- Users cannot combine multiple Purchase Requisitions to one Purchase Order in Oracle Procurement Cloud. However, one Purchase Requisition can be applied to multiple Purchase Orders.

It is recommended to create a mandatory setup from the *Oracle Fusion Procurement Cloud Configurations for Oracle Utilities Work and Asset Cloud Service Integration to Oracle Fusion Procurement Cloud Setup Guide* to run this integration.

Receipt Integration

This integration process synchronizes all Receipts created in Oracle Utilities Work and Asset Cloud Service to Oracle Fusion Procurement Cloud to create Purchase Order Receipts.

Receipts from Oracle Utilities Work and Asset Cloud Service is a one-directional integration sync receipts between Oracle Fusion Procurement Cloud and Oracle Utilities Work and Asset Cloud Service.

Receipts are created in Oracle Utilities Work and Asset Cloud Service as the inventory is part of the Oracle Utilities Work and Asset Cloud Service solution. To close the Purchase Order and create the further processing of Invoice and Invoice Payment, receipt needs to be created/synced in Oracle Fusion Procurement Cloud.
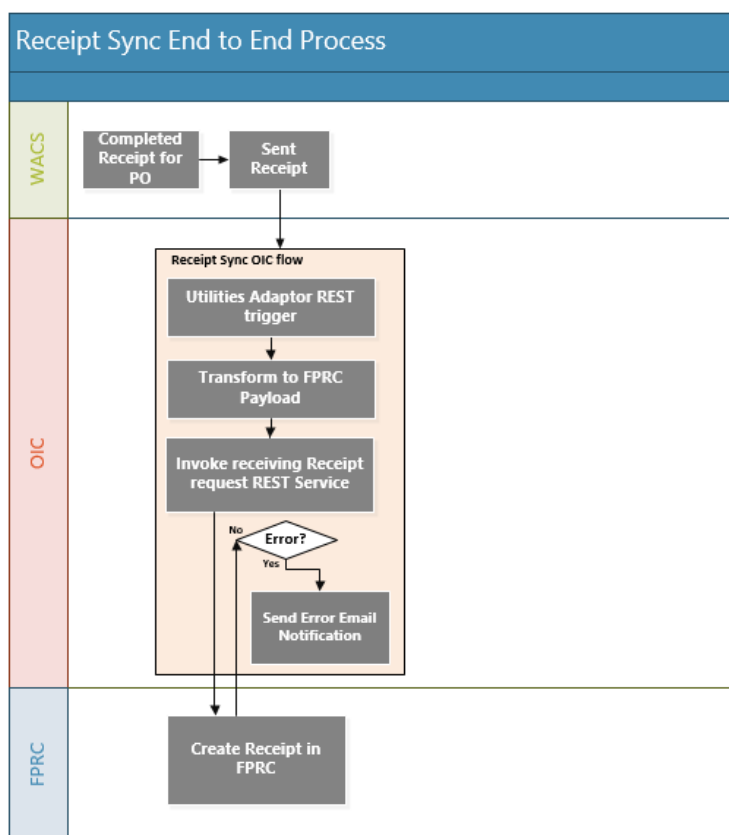
Receipts are created in "Completed" status in Oracle Utilities Work and Asset Cloud Service and outbound sync batch processes the record and triggers the adapter for REST call.

Oracle Integration Cloud transforms payload to the Oracle Fusion Procurement Cloud requirement. Using the REST service for receiving receipt request, Receipt is created in Procurement Cloud.

Limitations
• Only Expense Type Receipt is created in Oracle Fusion Procurement Cloud.

The integration will only support Real-Time Sync Create requests from Oracle Utilities Work and Asset Cloud Service.

• Real-Time Sync for Receipts from Oracle Utilities Work and Asset Cloud Service to Procurement Inventory Cloud.

Only completed receipts from Oracle Utilities Work and Asset Cloud Service will be interfaced with Procurement Cloud. In the current phase of integration, only 3-way match is supported. Hence all Purchase Orders require receipt in Oracle Utilities Work and Asset Cloud Service.

In Oracle Utilities Work and Asset Cloud Service, the receipt function is disabled to receive quantity more than ordered for a Purchase Order. Due to tolerance setup on receiving parameters as per business practice in Procurement Cloud, the quantity received cannot exceed the Purchase Order quantity on Oracle Utilities Work and Asset Cloud Service.

Error handling for this integration needs to be done within Procurement Cloud. All the error in the staging interface table needs to be resolved in Procurement Cloud as Oracle Utilities Work and Asset Cloud Service has already completed the processing.

The implementation user/consultant needs to fetch the error records and correct records manually to reprocess them in Procurement Cloud.

About Oracle Fusion Procurement Cloud

Oracle Fusion Procurement Cloud modernizes procurement by standardizing, streamlining and automating the source-to-settle process through automation and social collaboration, while controlling costs and achieving higher margins.

Oracle Purchasing Cloud

A key component of Oracle Fusion Procurement Cloud, Oracle Purchasing Cloud enables business to streamline and automate the procure-to-pay process while enforcing negotiated pricing and terms and ensuring policy compliance.

- Oracle Purchasing Cloud allows users to automate purchasing transactions and provides buying professionals insight into exceptions, status, and actions required. Users streamline routine tasks, such as creating purchase orders from approved requisitions without intervention, increasing productivity while enforcing compliance at every step. Users can utilize electronic communications with the suppliers to improve the timeliness and accuracy of purchase orders and changes.

- It provides the change management capabilities to help adapt to dynamic business needs. It allows changes to be initiated from requesters and suppliers reducing off-line communication and the chance of miscommunication. Users can leverage tolerances and workflow approvals to make sure about proper review of changes. Users can also differentiate between internal administrative changes versus revisions that should be communicated to a supplier to help eliminate supplier confusion or duplicate orders. Cloud allows to review a comprehensive document history with full visibility of what changes were made, when changes occurred, and who made the changes.

- Procurement Cloud helps organizations to streamline, standardize and automate their source-to-settle process through modern technologies that help to increase influence over spend and procurement practices. It increases user engagement, increases collaboration and simplifies, standardizes and automates routine transactions resulting in lower costs and higher margins.

- The key business benefits are:

- Streamline procurement processes

- Enforce procurement policies

- Create purchase orders from requisition without manual intervention

- Automatically leverage negotiated pricing and terms from supplier agreements

- Efficiently manage document revisions with visual notifications and full change history

- The key features are:

  - Buyer work area

  - Robust change management

  - Center-driven procurement

  - Comprehensive lifecycle visibility

  - Support for centralized, decentralized and hybrid procurement organizations

  - Foreign currencies

  - Multiple languages

  - Global agreements

  - Streamlined order processing

  - Control approvals by amount, business unit, account segment, item, category and location

Oracle Supplier Portal Cloud

Oracle Supplier Portal Cloud is the next generation application to enable smarter supplier interactions. It is a cloud based self-service solution that brings a holistic approach to supplier management by removing communication barriers between buyer and suppliers. Suppliers gain access to a secure, integrated supplier work area that provides full visibility to transactions, offers closed loop collaboration, and enables electronic invoicing. The supplier work area provides a summary of activity and transactions that require attention. Suppliers can access agreements, purchase orders, advance shipment notifications, invoices, and negotiations allowing suppliers to respond to your business needs.

Oracle Fusion Supplier Portal makes it easy to expand self-service to almost any supplier by providing an intuitive, browser-based solution. It also increases the variety of self-service transactions by providing a solution that is integrated across the entire source-to-settle lifecycle.

- The key business benefits are:

  - Improve communications with suppliers

  - Deliver best in class supplier collaboration

  - Easy supplier setup and support

  - Reduce errors and inquiries

  - Faster issue resolution

- The key features are:

  - Web based supplier self-service

  - Supplier profile self-management

- Consolidated supplier work area

- Supplier agreement collaboration

- Supplier change order management

- Electronic invoice presentment

- Embedded learning

- Information driven user experience

About Oracle Utilities Work and Asset Cloud Service

Oracle Utilities Work and Asset Cloud Service maintains information about assets and various features and functions around managing those assets. The solution provides a means of recording asset acquisition, maintenance, procurement, installation and removal.

Oracle Utilities Work and Asset Cloud Service provides functionality to manage the receipt, installation, maintenance, tracking and removal of assets. The application also manages approval processing, tracks purchasing transactions, manages inventory and resources, and tracks costs, accounting and financial transactions.

About Oracle Integration Cloud

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 application supported versions are:

- Oracle Utilities Work and Asset Cloud Service - 21A or higher

- Oracle Integration Cloud - v21.1.2.0.0 or higher

- Oracle Fusion Procurement Cloud - 21A or higher

Chapter 2

Solution Architecture

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

- Solution Overview
- Business Flows

Solution Overview

The technical aspects involved in the integration between Oracle Fusion Procurement Cloud and Oracle Utilities Work and Asset Cloud Service are:

- The integration layer is made up of integration processes deployed on Oracle Integration Cloud.

- The integration processes interact with other applications using the following adapters:

  - Oracle ERP Cloud Adapter to subscribe to business events raised by various modules in Oracle ERP Cloud. This integration subscribes to the PO Event.

    It also invokes the Business (REST) Resource for procurement service application to create, update or query the purchase requisition and receive the receipt request.

  - SOAP Adapter to interact with Oracle UCM Generic Web Service to search, get and rename files in Oracle UCM.

  - Oracle Utilities Adapter interacts with the WACS REST APIs.

- The integration pattern used for the solution is:

  - One-way asynchronous for all flows.

- Email notification is optional in most cases. Configure the property name email.flag in the OUTL-BRT-WACS_FPRC_ConfigProps lookup to 'true' to receive email notification when errors are encountered. By default this is set to 'true'.

- The recipient(s) of the email notification is configured in the OUTL-BRT-WACS_FPRC_Email_ID lookup.

Refer to Business Flows for more information on each integration process.

Business Flows

The integration scope supports the following business processes:

- Vendor and Vendor Location Synchronization Process (Oracle Fusion Procurement Cloud Initiated)

- Purchase Requisition Synchronization Process (Oracle Utilities Work and Asset Cloud Service Initiated)

- Purchase Requisition Approval Process (Oracle Utilities Work and Asset Cloud Service)

- Purchase Order Synchronization Process (Oracle Fusion Procurement Cloud Initiated)

- Receipts Synchronization Process (Oracle Utilities Work and Asset Cloud Service initiated)

Vendor and Vendor Location Synchronization Process (Oracle Fusion Procurement Cloud Initiated)

This integration is used to synchronize vendor and vendor location information from Oracle Fusion Procurement Cloud to Oracle Utilities Work and Asset Cloud Service both for Bulk sync and Incremental sync.

Bulk synchronization is done as a first step to sync all the active vendor and vendor locations. Only active vendors and vendor locations are extracted when the Bulk BICC report is run.

Any updates done on the vendor or vendor location, including changing to active and inactive status, is done using the incremental BICC report.

The following diagram shows a graphical representation of the Vendor/Vendor Location Synchronization integration process.
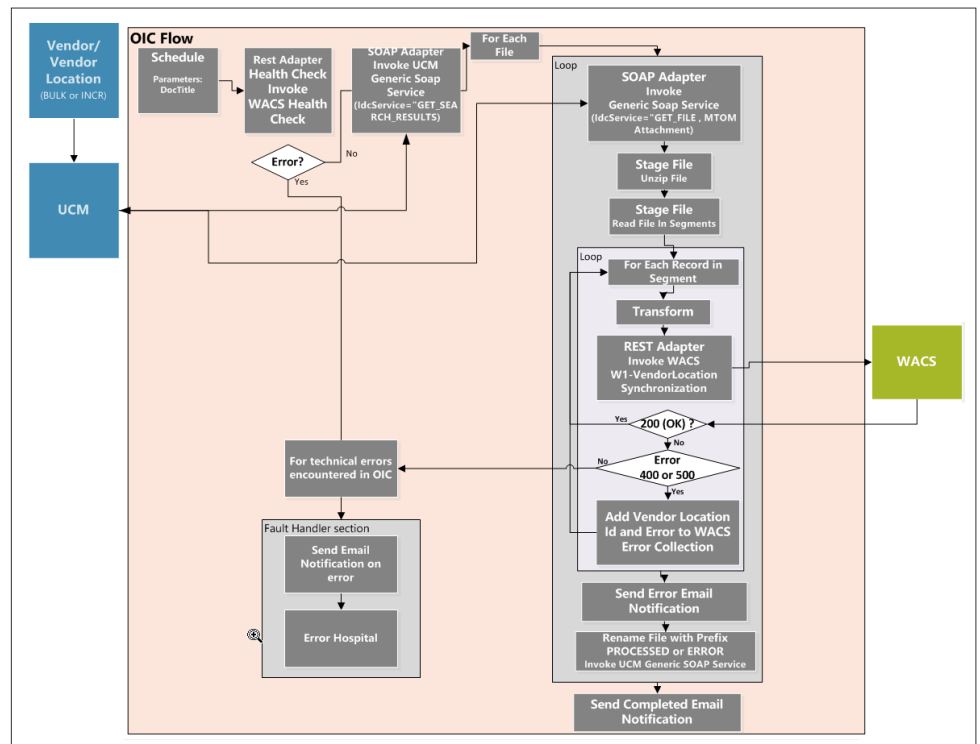
Processing Details

Note the following:

- The BICC report should be run first to make sure that an extract file is run before running this integration process, so that the extract file is available in UCM.

- Define the integration schedule for this process and make sure it coordinates with the BICC report generation in Oracle Fusion Procurement Cloud.

This is an asynchronous scheduled integration process deployed on Oracle Integration Cloud and does the following activities:

1. This process is triggered by a schedule and has one schedule parameter.

Parameter	Description	Initial Value
docTitle	This is the document title of the file in UCM. Once the file is processed without any errors, the file is prefixed with "PROCESSED" and the next unprocessed file with the same docTitle pattern is used. If multiple files with the same docTitle needs to be processed, the partial names for the docTitle (example: file*) should be used.	file*

2. Invoke WACS F1-HealthCheckRest WACS Rest API to check if the Oracle Utilities Work and Asset Cloud Service environment is up and accessible.

3. Invoke the UCM Generic SOAP service to search the file from UCM with the given input docTitle pattern picking the earliest files first. The fields populated in SOAP service payload are as below.

   - webKey : "cs"

   - idcService : "GET_SEARCH_RESULTS"

   - QueryText: dDocTitle <STARTS> `<input file name>`

   - SortOrder: ASC

   - Sort field: dInDate

4. The search result rows with the matched file information are returned in the response as a list element named "ResultSet" with the "SearchResults" name attribute. Iterate over all the "ResultSet" elements to look for one with the "SearchResults" attribute.

5. Each "Row" element under the ResultSet has all file information for the matched vendor location file. Iterate over each "Row" field to process each vendor location file.

6. For each Vendor Location file, invoke the UCM Generic SOAP service to get the file from UCM as a MTOM attachment in the response.

   The following fields are passed during the SOAP service call:

   - webKey : "cs"

   - idcService: "GET_FILE"

   - dID: doc Id

7. Invoke the Stage File operation "Unzip file" to unzip the file. The file is unzipped in a temporary directory named with string "TempCSVFile concatenated with docId".

8. Invoke the Stage File operation "ReadFileinSegments". This action reads the file in segments of 200 records. After all the 200 records are processed, the next segment of the records is read.

9. Iterate over each Vendor Location record of each segment. For each Vendor Location record in the file, do the following:

    - Transform the payload from the csv extract file to the Oracle Utilities Work and Asset Cloud Service payload.

      Refer to the *Oracle Utilities Work and Asset Cloud Service Integration to Oracle Fusion Procurement Cloud Data Mapping Guide* for mapping information from Oracle Fusion Procurement Cloud data columns to Oracle Utilities Work and Asset Cloud Service Rest API fields.

    - Invoke the Oracle Utilities Work and Asset Cloud Service REST API - W1-VendorLocationSynchronization to pass the vendor information to Oracle Utilities Work and Asset Cloud Service.

    - Refer to the **Error Handling** section for information on error scenarios and retry options.

10. On successful completion (Oracle Utilities Work and Asset Cloud Service did not return error on any record) invoke the UCM Generic SOAP service to rename the docTitle of the file to ""PROCESSED-"filename" passing the following parameters.

    If any record in the file being processed by Oracle Utilities Work and Asset Cloud Service returned errors, the docTitle of the file is renamed to "ERROR-"fileName.

    - webKey : cs
    - idcService: "UPDATE_DOCINFO"
    - dID: doc ID
    - dDocName: doc Name
    - "dDocTitle" : Updated actual docTitle with prefix

11. If the records in the file are processed without any errors, the next unprocessed file is picked up from UCM and the processing continues.

12. After all records in the file are processed, an email is sent with a completion message.

    Note: All email notification are optional. By default, this is enabled to 'true' in the Configuration Properties file.

Technical Details

The following table describes the integration processes and the respective artifacts used in this integration process.

Artifacts	Value
Integration Process Name	Oracle Utilities FPRC WACS Vendor Locations Sync
Integration Package Name	outl.ba.wacs_fprc.1_0_0

Artifacts	Value
WACS REST APIs	Web Service Name: W1-VendorLocationSynchronization
	Computed URL: https://host:port/ouaf/rest/apis/asset/ purchasing/vendorLocationSynchronization
	Method: POST URI: /
	Target Connection Name: Oracle Utilities REST WACS for WACS-FPRC
UCM Generic SOAP Service	Actions: Get Search Results Get File Rename File
	Target Connection Name: Oracle Utilities SOAP UCM Gen Svc for WACS-FPRC

Purchase Requisition Synchronization Process (Oracle Utilities Work and Asset Cloud Service Initiated)

This integration process creates an approved purchase requisition (PR) in Oracle Fusion Procurement Cloud for approved purchase requisition sent from Oracle Utilities Work and Asset Cloud Service.

The following diagram shows a graphical representation of the Purchase Requisition Synchronization integration process.
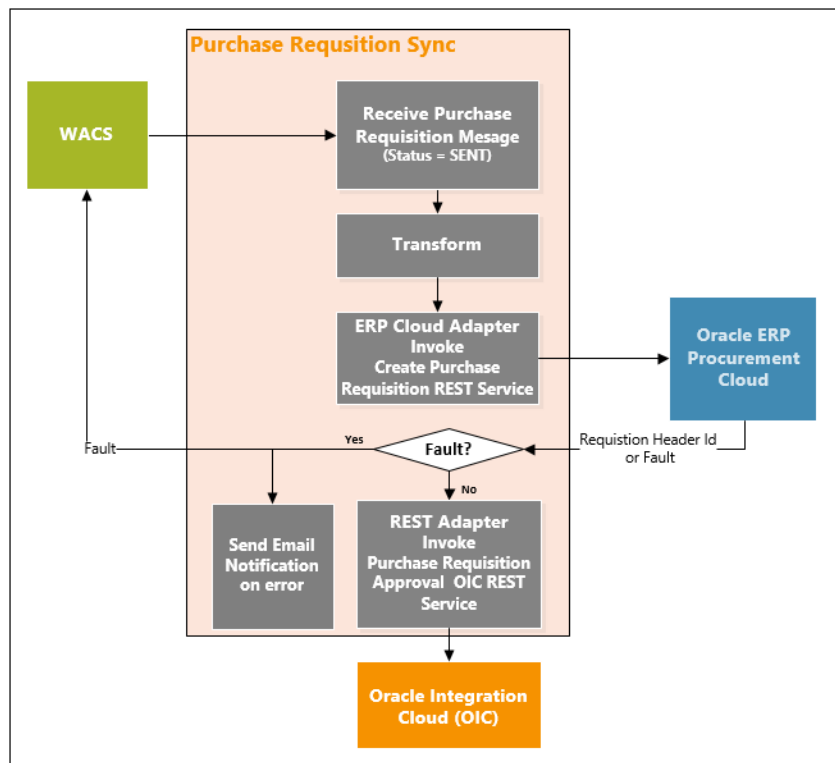
Processing Details

This integration process deployed on Oracle Integration Cloud is exposed as a REST endpoint. It does the following activities:

1. This process is triggered when Oracle Utilities Work and Asset Cloud Service invokes the REST endpoint to send an approved purchase requisition to Oracle Fusion Procurement Cloud.

2. Transforms the Purchase Requisition information received from Oracle Utilities Work and Asset Cloud Service into the Oracle Fusion Procurement Cloud format.

3. Invokes the Create Purchase Requisition REST endpoint using ERP Cloud Adapter.

4. If the REST service returns:

   • Status 200 (OK), invokes Purchase Requisition Approve OIC REST endpoint.

   • Error Status 400 or 500, throws a fault back to Oracle Utilities Work and Asset Cloud Service and send an email notification with the error details to the users configured in the OUTL-BRT-WACS_FPRC_Email_ID lookup.

To retry, resend the purchase requisition from Oracle Utilities Work and Asset Cloud Service by rerunning the F1-SYNRQ batch.

Refer to Chapter 3: Configuring Oracle Utilities Work and Asset Cloud Service for Oracle Utilities Work and Asset Cloud Service related information.

Refer to Chapter 6: Configuring Lookups, Error Handling, and Email Notifications for error handling information on error scenarios and retry options.

Technical Details

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

Artifacts	Value
Integration Process Name	Oracle Utilities WACS FPRC Purchase Requisition Sync
Integration Package Name	outl.ba.wacs_fprc.1_0_0
ERP Cloud Adapter	Action: Query, Create, Update or Delete Information Operation: Browse By: Business (REST) Resources Service Application: fscmRestApp Business Resource: Purchase Requisition Operation to Perform: Create Sub-resources: Lines and DFF

Purchase Requisition Approval Process (Oracle Utilities Work and Asset Cloud Service)

This integration process approves the created purchase requisition (PR) in Oracle Fusion Procurement Cloud.

The diagram shows a graphical representation of the Purchase Requisition Approval integration process.
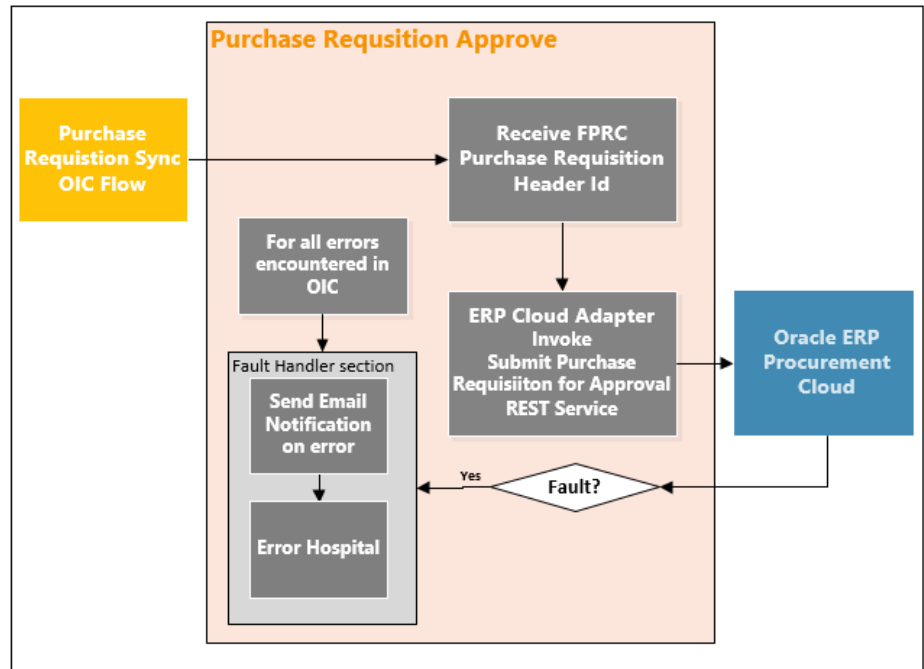
Processing Details

This integration process deployed on Oracle Integration Cloud is exposed as a REST endpoint. It does the following activities:

1. This process is triggered when the Purchase Requisition Sync Oracle Integration Cloud integration process invokes the REST service to approve the purchase requisition created in Oracle Fusion Procurement Cloud.

2. Passes the Oracle Fusion Procurement Cloud Purchase Requisition header ID to the REST service mentioned below.

3. Invokes Submit Purchase Requisition for Approval REST endpoint using ERP Cloud Adapter.

4. If the REST service returns:

    *   Status 200 (OK), end the process.

    *   Error Status 400 or 500, send an email notification with the error details to the users configured in the OUTL-BRT-WACS_FPRC_Email_ID lookup.

To retry, run the Purchase Requisition Approval Process in Oracle Integration Cloud passing the Oracle Fusion Procurement Cloud Requisition Header ID.

Refer to Chapter 6: Configuring Lookups, Error Handling, and Email Notifications for error handling information on error scenarios and retry options.

Technical Details

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

Artifacts	Value
Integration Process Name	Oracle Utilities WACS FPRC Pur Requisition Approve
Integration Package Name	outl.ba.wacs_fprc.1_0_0
ERP Cloud Adapter	Action: Query, Create,Update or Delete Informaion Operation: Browse By: Business (REST) Resources Service Application: fscmRestApp Business Resource: Purchase Requisition Operation to Perform: SubmitRequisition

Purchase Order Synchronization Process (Oracle Fusion Procurement Cloud Initiated)

This synchronization process synchronizes the purchase order that is approved, changed, canceled and finally closed from Oracle Fusion Procurement Cloud to Oracle Utilities Work and Asset Cloud Service.

The following diagram shows a graphical representation of the Purchase Order Synchronization integration process.
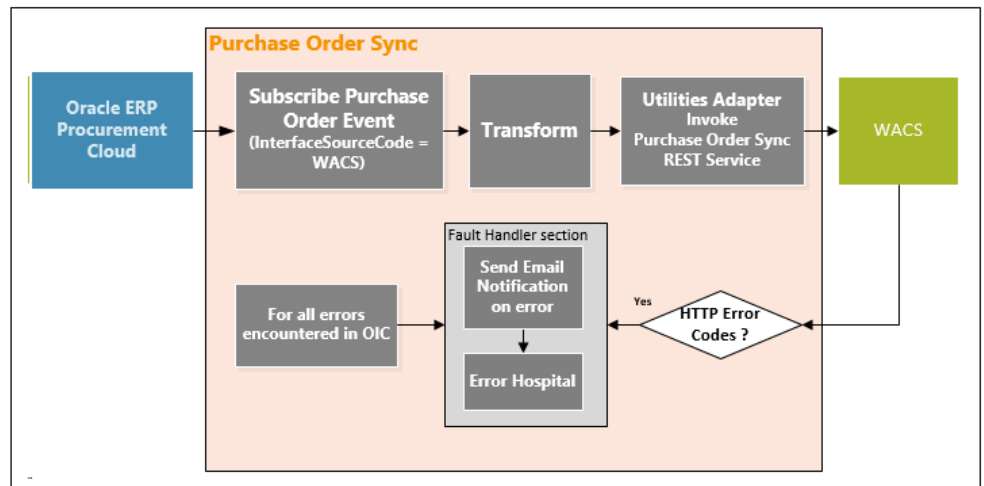
Processing Details

This integration process deployed on Oracle Integration Cloud does the following activities:

1. Subscribes to Purchase Order Event. Oracle Fusion Procurement Cloud publishes an event with a purchase order payload when a purchase order is approved, changed, canceled or finally closed in the application. The integration process only accepts purchase order whose Interface Source Code = 'WACS'.

Note: The filtering criteria for Interface Source Code is hardcoded to 'WACS'. This value is passed to Oracle Fusion Procurement Cloud during Purchase Requisition Sync to indicate the purchase requisition came from Oracle Utilities Work and Asset Cloud Service.

2. Transforms the Purchase Order payload from Oracle Fusion Procurement Cloud to Oracle Utilities Work and Asset Cloud Service format.

3. Invokes the Oracle Utilities Work and Asset Cloud Service REST endpoint for Purchase Order Sync to pass the Purchase Order information to Oracle Utilities Work and Asset Cloud Service.

4. Error Handling for this process.

   If any error occurs in the integration process, an optional email notification is sent with error details to the users configured in the OUTL-BRT-WACS_FPRC_Email_ID lookup.

   Retry Option: Re-run from Oracle Integration Cloud

   Note: When the Purchase Order Sync Request record is successfully created in Oracle Utilities Work and Asset Cloud Service, it means the integration process ended successfully. Running the Oracle Utilities Work and Asset Cloud Service batch process W1-SIOPE processes the sync request records and create/update the item records or it might encounter a business validation error. If an error occurs, the Sync Request Record transitions to error and a To Do is created in Oracle Utilities Work and Asset Cloud Service.

   Most of the time, this will be a data issue. Manually fix the issue in Oracle Utilities Work and Asset Cloud Service and run the Oracle Utilities Work and Asset Cloud Service batch process W1-SIOER to process the sync request records in error. If the fix is in Oracle Fusion Procurement Cloud or in the integration DVM, the Purchase Order has to be updated from Oracle Fusion Procurement Cloud to trigger a Purchase Order event.

   Refer to Chapter 6: Configuring Lookups, Error Handling, and Email Notifications for error handling information on error scenarios and retry options.

Technical Details

The following table describes the integration process and the respective Oracle Fusion Procurement Cloud and Oracle Utilities Work and Asset Management artifacts used in this integration process.

Artifacts	Value
Integration Process Name	Oracle Utilities FPRC WACS Purchase Order Sync
Integration Package Name	outl.ba.wacs_fprc.1_0_0
ERP Cloud Adapter	Subscription Event: Purchase Order Event Filtering Criteria: Browse By: Business (REST) Resources

Artifacts	Value
WACS REST IWS	W1-PurchaseOrderSynchronization
	Purchase Order Synchronization
	Computed URL: https://{host}:{port}/{tenant}/{domain}/wac/rest/apis/asset/purchasing/purchaseOrderSynchronization
	Method: POST URI: /sync

Receipts Synchronization Process (Oracle Utilities Work and Asset Cloud Service initiated)

This integration process is used to synchronize receipts created in Oracle Utilities Work and Asset Cloud Service to Oracle Fusion Procurement Cloud.

The following diagram shows a graphical representation of the Receipts Synchronization integration process.
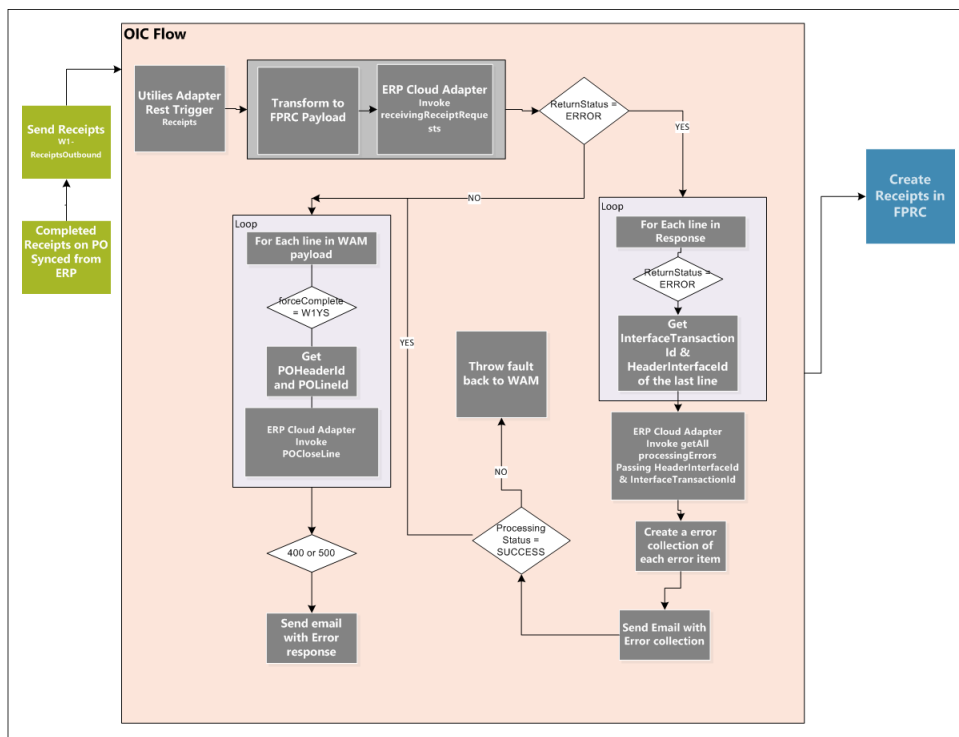
Processing Details

This is an application driven orchestration process deployed on Oracle Integration Cloud. The Oracle Integration Cloud flow is exposed as a REST service for Oracle Utilities Work and Asset Cloud Service to invoke when sending the completed receipts. This is a synchronous flow which returns a response. But the response is not used by WACS in any way.

The process handles the following:

1. Creates Rest Trigger using Oracle Utilities Adapter to receive the Receipts message from Oracle Utilities Work and Asset Cloud Service.

2. Transforms the payload from Oracle Utilities Work and Asset Cloud Service to Oracle Procurement Receipt payload format.

> **Note**: Refer to the *Oracle Utilities Work and Asset Cloud Service Integration to Oracle Fusion Procurement Cloud Data Mapping Guide* for more information about mapping between fields.

3. Invokes Oracle Procurement ReceivingReceiptRequests Rest API through Oracle ERP Cloud Adapter. Select:

   • Service Application: **fscmRestApp**

   • Business Resource: **ReceivingReceiptRequests**

   • Operation: "create"

   • Child resources: **DFF and lines**

4. In the **Response Payload Header** section, select **ReturnStatus**.

5. If the **ReturnStatus** is "ERROR", iterate through lines.

   a. Get the HeaderInterfaceId and InterfaceTransactionId of last errored line of "lines" list.

   b. Invoke Oracle Procurement ProcessingErrors Rest API through Oracle ERP Cloud Adapter.

   c. Select the following:

      • Service Application: fscmRestApp

      • Business Resource: ReceivingReceiptRequests

      • Business Object: ReceivingReceiptRequests:processingErrors

      • Operation: getAll

   d. "HeaderInterfaceId" and "InterfaceTransactionId" are passed as parameters, by mapping to Template Parameter 0 and 1 respectively.

   e. The response contains error information. Concatenate the information under "InterfaceErrorId", "InterfaceHeaderId", "InterfaceLineId", "BatchId", "ErrorMessage", "ErrorMessageName", "ErrorType", "ColumnName", "TableName" into an Error collection.

   f. Send email with the error information.

   > **Note**: An email will be sent in this scenario even if the email.flag configuration property is set to false.

6. If the **ProcessingStatus** is ERROR, invoke a fault Return action with error code as 400. The outbound message sent by Oracle Utilities Work and Asset Cloud Service is rolled back and can be resent from Oracle Utilities Work and Asset Cloud Service.

7. If the **ReturnStatus** is SUCCESS or if the **ProcessingStatus** is SUCCESS:

   a. Iterate through Lines from Oracle Utilities Work and Asset Cloud Service Receipt payload.

b. If **forceComplete** is W1YS on any "Lines", get the POHeaderId and POLineId from the Receipt payload.

c. Invoke Oracle Procurement Close PO Line Rest API through Oracle ERP Cloud Adapter. Select the following:

- Service Application: fscmRestApp

- Business Resource: PurchaseOrders

- Business Object: PurchaseOrders:lines

- Operation: close

- POHeaderId and POLineId are passed as Template Parameter 0 and 1

- closeAction: closeForReceiving

- action: close

8. Refer to the Error Handling section for information on error scenarios and retry options.

Technical Details

The following table describes the integration process and the respective artifacts used in this integration process.

Artifacts	Value
Integration Process Name	Oracle Utilities WACS FPRC Receipts Sync
Integration Package Name	outl.ba.wacs_fprc.1_0_0
Utilities Cloud Adapter	Rest Trigger Target Connection: Oracle Utilities REST WACS for WACS-FPRC
ERP Cloud Adapter	Action: create for ReceivingReceiptRequests BusinessObject Action: getAll for ReceivingReceiptRequests:processingErrors BusinessObject Action: close for PurchaseOrders:lines Business Object Target Connection: Oracle Utilities ERP Cloud for WACS-FPRC

Chapter 3

Configuring Oracle Utilities Work and Asset Cloud Service

This chapter provides details regarding the configuration settings needed in Oracle Utilities Work and Asset Cloud Service for this integration. It includes the following sections:

- One-Time Configuration Setup
- Configuring Admin Data
- Scheduling the Batch Process
- Managing Catalog Services

One-Time Configuration Setup

Certain one-time configuration settings must be coordinated manually to make sure proper flow of data between the two applications.

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.

- Message Senders
- External System
- Inbound Web Service (IWS)
- Master Configuration
- Business Object
- ERP Integration
- Buyer

Message Senders

Create a new or update an existing real-time message sender for each Oracle Utilities Work and Asset Management Outbound Message.

To create a message sender:

1. In the **Admin** menu navigate to **[M or Integration] > Message Sender** > **Add**.

2. Enter a unique message sender and its description.

3. Populate the following values:

   - **Message Sender** - Sender name in Oracle Utilities Work and Asset Management
   - **Description** - Sender's description
   - **Invocation Type** - Real-time
   - **Message Class** - RTJSONSNDR (Sender for real-time HTTP / JSON messages)
   - **Active** - Select the check box
   - **MSG Encoding** - UTF-8 message encoding

4. Select the **Context** tab and set values for the following context types:

   - **HTTP Header** - application/json
   - **HTTP Login User** - User ID to access OIC
   - **HTTP Login Password** - Password to access OIC
   - **HTTP Method (POST/GET)** - POST

- **HTTP Timeout** - 300

- **HTTP Transport Method** - SendReceive

- **HTTP URL 1** - Set the URL to the OIC REST service endpoint. If the URL value is too long, use the additional HTTP URL types to set the complete URL.

External System

Create a new or update an existing external system to support the Enterprise Resource Planning Cloud.

To create an external system:

1. In the **Admin** menu navigate to **[M or Integration] > External System** > **Add**.

2. Enter a unique **External System** and its **Description**.

3. Associate the outbound message types created to the external system. For each outbound message type, set the following:

   - **Outbound Message Type**

      - **Purchase Request** - Use the W1-PREQIMSG (Purchase Request Outbound) outbound message type

      - **Receipt** - Use the W1-RCPTOUTMS (Receipt Outbound) outbound message type

   - **Processing Method** - Real-time

   - **Message Sender** - Set the corresponding message sender for the outbound message

   - **Date/Time Format** - XSD

   - **JSON Conversion Method** - Base JSON conversion

Inbound Web Service (IWS)

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

- W1-PurchaseOrderSynchronization

- W1-VendorLocationSynchronization

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 documentation resources.

Master Configuration

This section describes the master configuration details for the integration. The following Master Configurations can be found from the **Admin menu [M or General] > Master Configuration**.

- Seeder Sync Request Master Configuration

- Master Data Synchronization Master Configuration

- ERP Integration Master Configuration
- Purchasing Master Configuration
- Inventory Master Configuration

Seeder Sync Request Master Configuration

This is used by the Vendor Location and Purchase Order sync integration.

To create a Seeder Sync Request master configuration:

1. Create a row for the Oracle Enterprise Resource Planning External System and Cost Center Maintenance Object (MO): W1- COSTCTR for Cost Center Sync Integration.
   Define the Ongoing Sync Request Business Object that will process the integration record and the Ongoing Sync Key Reference View and Identifier Type to find existing integration records.

2. Create a row for the Oracle Enterprise Resource Planning External System and Employee Maintenance Object (MO): W1-EMP for Employee Sync Integration.

   Define the Ongoing Sync Request Business Object that will process the integration record and the Ongoing Sync Key Reference View and Identifier Type to find existing integration records.

3. Create a row for the Oracle Enterprise Resource Planning External System and Resource Type Maintenance Object (MO): W1- RESRCTYPE for Stock Item Sync Integration.

   Define the Ongoing Sync Request Business Object that will process the integration record and the Ongoing Sync Key Reference View and Identifier Type to find existing integration records.

4. Create a row for the Oracle Enterprise Resource Planning External System and Vendor Location Maintenance Object (MO): W1-VENDORLOC for Vendor Location Sync Integration.

   Define the Ongoing Sync Request Business Object that will process the integration record and the Ongoing Sync Key Reference View and Identifier Type to find existing integration records.

The table below shows a sample reference Business Object, Ongoing Sync Key Reference View and Identifier Type for each Maintenance Object.

Maintenance Object	Business Object	Ongoing Sync Key Reference View	Identifier Type
W1-COSTCTR (Cost Center)	W1-OngoingSyncRequestCostCtr (Cost Center Ongoing Sync Request)	W1_ON_COST_CENTER_VW (Ongoing Sync Key Cost Center View)	W1EI
W1-EMP (Employee)	W1-OngoingSyncRequestEmployee (Employee Ongoing Sync Request)	W1_ON_EMPLOYEE_VW (Ongoing Sync Key Employee View)	W1EI

Maintenance Object	Business Object	Ongoing Sync Key Reference View	Identifier Type
W1-RESRCTYPE (Resource Type)	W1-OngoingSyncRequestStock Item (Stock Item Ongoing Sync Request)	W1_ON_STOCK_ITEM_VW (Ongoing Sync Key Stock Item View)	W1EI
W1-VENDORLOC (Vendor Location)	W1-OngoingSyncRequestVendorLoc (Vendor Location Ongoing Sync Request)	W1_ON_VENDOR_LOC_VW (Ongoing Sync Key Vendor Location View)	W1EI

Master Data Synchronization Master Configuration

This Master Configuration is used to update External IDs with IDs used within Oracle Utilities Work and Asset Cloud Service.

To create a Master Data Synchronization master configuration:

1. Create a row for the Cost Center FK Ref and Oracle Enterprise Resource Planning External System that references the Cost Center Ongoing Key Reference View. This Cost Center row is also used by the Cost Center integration.

2. Create a row for the Employee FK Ref and Oracle Enterprise Resource Planning External System that references the Employee Ongoing Sync Key Reference View.

3. Create a row for the Stock Item (Resource Type) FK Ref and Oracle Enterprise Resource Planning External System that references the Stock Item Ongoing Sync Key Reference View.

The table below shows a sample reference for FK Reference, Ongoing Sync Key Reference View, External System and Identifier Type.

FK Reference	Ongoing Sync Key Reference View	External System	Identifier Type
W1-CSCTR (Cost Center)	W1_ON_COST_CENTER_VW (Ongoing Sync Key Cost Center View)	ERP External System created in Step 2	W1EI
W1-EMP (Employee)	W1_ON_EMPLOYEE_VW (Ongoing Sync Key Employee View)	ERP External System created in Step 2	W1EI
W1-RESTY (Stock Item)	W1_ON_STOCK_ITEM_VW (Ongoing Sync Key Stock Item View)	ERP External System created in Step 2	W1EI

ERP Integration Master Configuration

This is used by the Chart of Accounts, Vendor Location, Purchase Requisition, Purchase Order, and Receipt Synchronization integrations.

To create an ERP Integration master configuration:

1. In the **Main** section, define the Oracle Enterprise Resource Planning External System created in step 2 in the Master Data Synchronization Master Configuration section.

2. In the **Financial Configuration** section, 10 segments must be populated. At least one must be the Cost Center segment and another the Expense Code segment defined. The "Include in Cost Center" flag defines the segments that make up the Cost Center string. The Delimiter will define the separation character sent in the REST Web Service request.

The following table shows a sample reference.

Sequence	Element Name	Account Segment Type	Include in Cost Center
1	cmAccountSegments/company		No
2	cmAccountSegments/lob		No
3	cmAccountSegments/costCenter		Yes
4	cmAccountSegments/expenseCode	Expense Code	No
5	cmAccountSegments/product		No
6	cmAccountSegments/intercompany		No
7	cmAccountSegments/segment7		No
8	cmAccountSegments/segment8		No
9	cmAccountSegments/segment9		No
10	cmAccountSegments/segment10		No

Purchasing Master Configuration

To allow users to receive purchase orders created for services, set the **Require Receipt for Services** parameter to **Yes**.

Inventory Master Configuration

Set the **Receive More Than Ordered Allowed** parameter to **No**.

Business Object

SOA-based ERP integrations required positive/negative acknowledgment messages to be returned to the ERP system. These are not needed for the Oracle Application Cloud - Fusion Procurement integrations.

Vendor Location Ongoing Sync Request BO (W1-OngoingSyncRequestVendorLoc)

Inactivate the following lifecycle algorithms. To inactivate the algorithm, add an option within the **Status** with an **Inactive Algorithm Option Type** and the name of the algorithm within the **Value** field.

- Synchronized (SYNCHRONIZED) Status - Create Positive Acknowledgment for ERP (W1-CPOSAERP)
- Negative Acknowledgment Sent (NEG-ACK-SENT) Status - Create Negative Acknowledgment (W1-CRENEGACK)

Purchase Order Inbound Integration BO (W1-PurchaseOrderIntegInbound)

Inactivate the following lifecycle algorithms. To inactivate the algorithm, add an option within the **Status** with an **Inactive Algorithm Option Type** and the name of the algorithm within the **Value** field.

- Complete (COMPLETE) Status - Send Positive Acknowledgment (W1-SNDPOSACK)
- Complete with Error (COMPLETE-ER) Status - Send Positive Acknowledgment (W1- SNDPOSACK)
- Error (ERROR) Status - Send Negative Acknowledgment (W1-SNDNEGACK)

Outbound Integration BO (W1-OutboundIntegration)

Inactivate the following lifecycle algorithms. To inactivate the algorithm, add an option within the **Status** with an **Inactive Algorithm Option Type** and the name of the algorithm within the **Value** field.

- Awaiting Acknowledgment (AWAIT_ACKNLG) Status - Check for Response Timeout (W1-CHKRESP)

ERP Integration

For integration flows, the ERP Integration Admin records define the owning system of the Maintenance Object between ERP and Oracle Utilities Work and Asset Management. Add records if they do not exist. The ERP admin records can be found from the **Admin menu > [E or Integration] > ERP Integration**.

- Purchase Order Header MO
  - Owning System: Enterprise Resource Planning
  - WAM Business Object: W1-POHeaderIntegration
- Purchase Order Line MO
  - Owning System: Enterprise Resource Planning
  - WAM Business Object: W1-POLineIntegration
- Receipt Header MO
  - Owning System: Work and Asset Management
- Receipt Line MO
  - Owning System: Work and Asset Management

- Accept Line MO
  - Owning System: Work and Asset Management

Buyer

ERP Buyers are referenced on the Purchase Order Inbound as external Employee IDs. These external IDs indicate that the Employee records were synchronized through the Oracle Human Capital Management/Oracle Utilities Work and Asset Management integration. From the Employee External ID, the Purchase Order Synchronization flow will derive the system User ID of the Employee and find the Buyer Code associated with that User ID, if it exists.

Scheduling the Batch Process

The batch process is used to run the sync request. It is a generic batch process that is used for different sync processes. It has a couple of parameters that can be used to control which sync request business objects to process.

Batch Processes for Ongoing and Inbound Integration Sync Requests

Batch Code	Description
W1-SIOPE	The batch process to transition ongoing sync request out of the PENDING state. It is a generic batch process that is used for different sync processes. It has a couple of parameters that can be used to control which sync request business objects to process.
W1-SIOER	The batch process to transition ongoing sync request out of the ERROR state.

Batch Processes for Ongoing Sync Requests

Batch Code	Description
F1-SYNRQ	Sync Request Monitor Process: The batch process to run the sync request. It is a generic batch process that is used for different sync processes. It has a couple of parameters that can be used to control which sync request business objects to process.
	Set the Override Nbr Records To Commit to 1.
	To process sync requests specific to Purchase Requisitions or Receipts only, set the Restrict By Business Object parameter to either W1-PurchaseReqIntegOutbound or W1-ReceiptOutboundSyncRequest.

For more information about the sync request process, the business objects, maintenance objects, and other components used for this process, refer to the **Data Synchronization** section in the *Oracle Utilities Application Framework User Guide*.

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 Work and Asset Cloud Service:

1. Login to Oracle Utilities Work and Asset Cloud Service.

2. Navigate to the **Web Service Catalog** page either from the Admin > [W or Integration] menu or 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-PurchaseOrderSynchronization	Purchase Order Synchronization
Inbound Web Service	W1-VendorLocationSynchronization	Vendor Location Synchronization

For more information about configuration, refer to the Oracle Utilities Work and Asset Cloud Service documentation.

Chapter 4

Configuring Oracle Fusion Procurement Cloud

For Oracle Fusion Procurement Cloud configuration details, refer to the *Setup Guide* at Oracle Utilities Work and Asset Cloud Service Integration to Oracle Fusion Procurement Cloud 21A documentation.

Chapter 5

Importing, Configuring, and Testing Integration Connections

This chapter provides the configuration settings required for the integration, including:

- Importing the Oracle Integration Cloud Package from Oracle Cloud Marketplace
- Verifying the Package Import
- Configuring Connections in Oracle Integration Cloud
- Setting up Certificates for Security

Importing the Oracle Integration Cloud Package from Oracle Cloud Marketplace

All integration points are shipped as part of single package (.par) file.

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

1. Launch the Oracle Cloud Marketplace portal.

2. Click **Applications**.

3. Search for "Oracle Utilities Work and Asset Cloud Service".

4. Browse through the list of applications and select the pre-built integration package to import.

5. Click **GetApp**.

6. Review and accept "Oracle Standard Terms and Restrictions".

7. Click **Next**. MyOracle Support portal opens.

8. Download the integration package from MyOracle Support.

9. When prompted, select the server where the pre-built integration file should be uploaded.

   The pre-built integration is imported as a package file that is visible on the **Packages** page in Oracle Integration Cloud.

10. On the **Integrations** page, the individual integrations of the imported package file that are designated with a BUILT BY ORACLE message are displayed.

Important! This note is applicable only for existing customers. Make sure to take a backup of the existing package and lookups, and perform the cleanup before proceeding with the new package import. The cleanup includes deactivating the existing flows in this package and deleting the package, connections, lookups and libraries used in the integration.

To import a package in Oracle Integration Cloud:

1. Login to Oracle Integration Cloud.

2. Navigate to **Integrations** > **Designer** > **Packages**.

3. Click **Import**.

4. Select the .par file downloaded from Oracle Cloud Marketplace.

5. Verify if the package is imported is successfully.

Verifying the Package Import

To verify the package import was successful:

1. Verify if the following integrations are imported successfully.

   • Oracle Utilities FPRC WACS Vendor Locations Sync

   • Oracle Utilities WACS FPRC Pur Requisition Sync

   • Oracle Utilities WACS FPRC Pur Requisition Approve

- Oracle Utilities FPRC WACS Purchase Order Sync

- Oracle Utilities WACS FPRC Receipts Sync

2. Verify if the following connections are in place.

- Oracle Utilities SOAP UCM Gen Svc for WACS-FPRC

- Oracle Utilities REST WACS for WACS-FPRC

- Oracle Utilities REST for WACS-FPRC

- Oracle Utilities ERP Cloud for WACS-FPRC

3. Make sure that the following lookups are imported successfully.

- OUTL-BRT-WACS_FPRC_Email_ID

- OUTL-BRT-WACS_FPRC_PaymentTerm

- OUTL-BRT-WACS_FPRC_UOM

- OUTL-BRT-WACS_WFPRC_ItemTypeCode

- OUTL-BRT-WACS_FPRC_ConfigProps

- OUTL-BRT-WACS_FPRC_POStatus

- OUTL-BRT-WACS_FPRC_POLineStatus

- OUTL-BRT-WACS_FPRC_DeliverToLocation

- OUTL-BRT-WACS_FPRC_FreightTerms

- OUTL-BRT-WACS_FPRC_Country

- OUTL-BRT-WACS_FPRC_CurrencyCode

- OUTL-BRT-WACS_FPRC_State

- OUTL-BRT-WACS_FPRC_FOB

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 SOAP UCM Gen Svc for WACS-FPRC Connection

- Configuring Oracle Utilities REST WACS for WACS-FPRC Connection

- Configuring Oracle Utilities REST for WACS-FPRC Connection

- Configuring Oracle Utilities ERP Cloud for WACS-FPRC Connection

Configuring Oracle Utilities SOAP UCM Gen Svc for WACS-FPRC Connection

This connection is used to communicate with Oracle Universal Content Management using the SOAP adapter.

To configure the Oracle Utilities SOAP UCM Gen Svc for WACS-FPRC connection:

1. Specify the WSDL URL.

    The Oracle UCM Web Service follows this format: https://{ERP Cloud host}/idcws/GenericSoapPort?WSDL

2. From the **Security Policy** drop-down list, select **Basic Authentication**.

3. Provide **Username** and **Password** to connect to Oracle UCM.

4. Click **Test** at the upper-right corner.

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

Configuring Oracle Utilities REST WACS for WACS-FPRC Connection

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

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

1. Specify the Oracle Utilities Work and Asset Cloud Service REST web catalog in the **catalogURL** section.

    The REST Catalog URL follows this format: https://{host}:{port}/{tenant}/{domain}/{appName}/rest/openapi/iws/catalog

2. In the **Security Policy** drop-down list, select **Basic Authentication**.

3. Provide **Username** and **Password** to connect to Oracle Utilities Work and Asset Cloud Service.

4. Click **Test** at the upper-right corner.

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

Configuring Oracle Utilities REST for WACS-FPRC Connection

This connection is used as a REST trigger.

To configure the REST for WACS-FPRC connection:

1. In the **Security Policy** section, select **OAuth2.0** or **Basic Authentication**.

2. Click **Test**.

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

Configuring Oracle Utilities ERP Cloud for WACS-FPRC Connection

This connection is used to communicate with Oracle ERP Fusion Cloud application using the Oracle ERP Cloud Adapter.

To configure the Oracle Utilities ERP Cloud for WACS-FPRC connection:

1. Enter the ERP Cloud Host URL.

    Example: https://ERP_domain_name.fa.DC.oraclecloud.com

    Note: The Oracle ERP Cloud host name can easily be derived from the Oracle ERP Cloud login URL.

2. In the **Security Policy** section, select **Username Password Token**.

3. Enter the **Username** and **Password** to connect to Oracle ERP Financial Cloud.

4. Click **Test**.

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

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 certificates and upload them to Oracle Integration Cloud to handshake with Oracle Utilities Work and Asset Cloud Service.

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

1. Login to 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 describes the lookup configuration, error handling for faults encountered and email notifications in this integration. It includes the following sections:

- Configuring Lookups
- Configuration Properties
- Error Handling
- Email Notifications

Configuring Lookups

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

DVM Name	Description
OUTL-BRT-WACS_FPRC_ConfigProps	Maps PropertyName column to the respective Value column. Do not change the value in the PropertyName column.
OUTL-BRT-WACS_FPRC_Email_ID	Maps from and to recipient values to the mentioned email IDs. Configure multiple emails using a comma to separate the email IDs.
OUTL-BRT-WACS_FPRC_PaymentTerm	Maps Payment Term values between Oracle Fusion Procurement Cloud to Oracle Utilities Work and Asset Cloud Service. Get WACS values from Admin > P or Purchasing > Payment Terms > Search. Get FPRC values from Financials > Manage Payment Terms
OUTL-BRT-WACS_FPRC_UOM (UOM) or vice versa	Maps Oracle Utilities Work and Asset Cloud Service UOM Code to Oracle Fusion Procurement Cloud UOM. Get WACS values from Admin > U or Inventory > Unit Of Measure -Resource > Search. Get FPRC values from Manage > Unit of Measure
OUTL-BRT-WACS_FPRC_ItemTypeCode	Maps Oracle Fusion Procurement Cloud Line Type Code to Oracle Utilities Work and Asset Cloud Service Item Type Code. Get WACS values from Admin > L or Database > Lookup > Search > Search for ITEM_TYPE_FLG. Get FPRC values from Define > Purchase Order Line Type
OUTL-BRT-WACS_FPRC_POStatus	Maps Oracle Fusion Procurement Cloud Document Status Code to Oracle Utilities Work and Asset Cloud Service PO Status Code. Sample values: FPRC -OPEN WACS - ISSUED
OUTL-BRT-WACS_FPRC_POLineStatus	Maps Oracle Fusion Procurement Cloud Document Status Code to Oracle Utilities Work and Asset Cloud Service PO Status Code. Sample values: FPRC -OPEN WACS - ISSUED

DVM Name	Description
OUTL-BRT-WACS_FPRC_DeliverToLocation	Maps Oracle Fusion Procurement Cloud Deliver To Location Code to Oracle Utilities Work and Asset Cloud Service Ship To Location or vice versa. In Oracle Utilities Work and Asset Cloud Service, Ship To Location is a storeroom. Get WACS values from Admin > [S or Inventory] > Storeroom > Search Get FPRC values from Procurement > Manage Location
OUTL-BRT-WACS_FPRC_CurrencyCode	Maps Currency code between Oracle Fusion Procurement Cloud to Oracle Utilities Work and Asset Cloud Service Get WACS values from Admin > [C or General] > Currency Get FPRC values from Define Currency and Currency Rate > Manage Currency
OUTL-BRT-WACS_FPRC_FOB	Maps FOB values between Oracle Fusion Procurement Cloud and Oracle Utilities Work and Asset Cloud Service Get WACS values from Admin > [F or Purchasing] > Free On Board > Search Get FPRC values from Manage > Freight Terms Lookup
OUTL-BRT-WACS_FPRC_Country	Maps Country values between Oracle Fusion Procurement Cloud to Oracle Utilities Work and Asset Cloud Service Get WACS values from Admin > [C or General] > Country > Search Get FPRC values from Manage > Geography Lookup
OUTL-BRT-WACS_FPRC_State	Maps state values between Oracle Fusion Procurement Cloud to Oracle Utilities Work and Asset Cloud Service Get WACS values from Admin > [C or General] > Country > Search for a Country > State tab Get FPRC values from Manage> Geography Lookup

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

The OUTL-BRT-WACS_FPRC_ConfigProps lookup contains the properties that can be configured and defaulted in the integration.

Property Name	Sample Value	Description
email.flag	true	If this value is set to true, email notification will be sent out.
		Valid values: true/false. Default to true.
wacs.externalsystem	ERP	External system defined in Oracle Utilities Work and Asset Cloud Service for Oracle Fusion Procurement Cloud application
maxerrorcount.per.emailnlagotification	100	This value controls the number of errors to be sent out in an error email notification.
		When the error count (number of records that errored) reaches this value, an error email notification is sent out. The error count is then reset and processing of records continues. An email notification is sent for every iteration of error count reaching this value.
fprc.pr.externally managed.flag	true	Default to true. If true, the requisition is externally managed and cannot be seen in the Purchase Requisitions work area. The requisition information can be seen in the Purchase Orders work area.
fprc.businessunit.id	300000046987	Business Unit ID as defined in Oracle Fusion Procurement Cloud.
fprc.pr.preparer.id	300000047340498	The preparer ID identifies the person who created the requisition. This should be the Employee ID of the signed in user to the ERP application. The preparer and the signed-in user must be the same to create a requisition in ERP.

Property Name	Sample Value	Description
fprc.destination. organization.code	001	This is used in Purchase Requisition (PR) and Receipt. For PR, this identifies the inventory organization where the supplier should deliver the goods. For Receipt, this is the receiving organization.
fprc.default.deliverto location.code	WACS_Seattle	Default Oracle Fusion Procurement Cloud deliver to location. This value is used if Oracle Utilities Work and Asset Cloud Service does not pass a value.
fprc.destinationtype. code	EXPENSE	Destination Type Code as defined in Oracle Fusion Procurement Cloud. Currently only EXPENSE is supported for this integration in Receipts and Purchase Requisition. Customer cannot change this value.
wacs.autopay.value	W1NA	Autopay value of "Not Authorized" is passed to Oracle Utilities Work and Asset Cloud Service as part of all vendor locations in Vendor/Vendor Location Sync.
fprc.receipt.source.doc code	PO	Source Document Code of "PO" is passed in Receipts API call to Oracle Fusion Procurement Cloud. Only value of "PO" is supported for this integration. This value should not be changed.
fprc.receipt.transation type	RECEIVE	Transaction Type of "RECEIVE" is passed in Receipts API call to Oracle Fusion Procurement Cloud. Only value of "RECEIVE" is supported for this integration. This value should not be changed.
fprc.receipt.autotransact code	DELIVER	Auto Transact Code of "DELIVER" is passed in Receipts API call to FPRC. Only value of "DELIVER" is supported for this integration. This value should not be changed.
fprc.receipt.soldtolegal entityidode	300000046973970	ID that uniquely identifies the sold-to legal entity in Oracle Fusion Procurement Cloud. This is passed as part of Receipts API call to Oracle Fusion Procurement Cloud.
fprc.receipt.source.code	VENDOR	Receipt Source Code of "VENDOR" is passed in Receipts API call to Oracle Fusion Procurement Cloud. Only value of "VENDOR" is supported for this integration. This value should not be changed.
fprc.default.uom	Hr	When Oracle Utilities Work and Asset Management passes a PR line with a craft, it does not pass a unit of purchase so the default value of Hr will be obtain here.

Property Name	Sample Value	Description
default.daystoadd. tocurrentdate	10	Defines the Oracle Utilities Work and Asset Cloud Service offset.
fprc.receipt.emp.id	300000067078609	The employee ID of the default employee defined in Oracle Fusion Procurement Cloud that is passed in Receipts API call to Oracle Fusion Procurement Cloud. This value is passed only if the employeeExternalId field in the Oracle Utilities Work and Asset Cloud Service Outbound message for Receipts is empty.

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, all integration flows are asynchronous. This section describes error handling for asynchronous flows.

- Asynchronous/Synchronous Flow Error Handling
- Summary of Integration Error Handling

Asynchronous/Synchronous 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 or not accessible. When this error occurs, the flow immediately goes to global fault handler and an optional email is sent to the respective user.

Business Fault
These faults are application-specific faults that occur when there is a problem with the information being processed in the target application due to invalid data or business error validations.

Vendor/Vendor Location Sync: For processing records in a file

When Oracle Utilities Work and Asset Cloud Service returns HTTP status codes 400 or 500, these are considered business faults by the integration. When these errors occur, the

flow will not stop but continue to process the next record and the errors will be stored in a temporary error collection. Optional emails are sent when error count reaches the value specified for maxerrorcount.per.email.notification, email with error details is sent.

When the file is done processing an optional email is sent with the list of remaining errors to the respective user.

Summary of Integration Error Handling
Integration Process: Vendor VendorLocation Synchronization

Type of error	Action	Notification Type	Retry
Technical or Remote Fault Example: UCM is not accessible	Process Stop	Email	Resubmit Error Instance From OIC
Business Fault (WACS returns Status Not 400 or 500)	Process Stop	Email	Resubmit Error Instance From OIC
Business Fault (WACS returns Status 400 or 500)	Continue Process	Collect errors and send errors in Email	Data Fix in Integration: 1. Rename the file in UCM by removing the "ERROR" prefix in the name. 2. Reprocess the Job file. Data Fix in WACS: 1. Rename the file in UCM by removing the "ERROR" prefix in the name. 2. Reprocess the Job file.
Business Fault Invalid docTitle Name	Process Stop	Email	Retry passing the correct file name
Rename of File Failed	Process Stop	Email	Rename file manually in UCM or retry the OIC flow again for the same docTitle
File is not a zipped file	Process Stop	Email	Retry passing the correct docTitle name

Integration Process: Purchase Requisition Synchronization

Type of error	Action	Notification Type	Retry
Technical Fault	Process Stop	Email	Resubmit Error Instance From OIC
Remote Fault or Business Fault (Invoke FPRC PR Create REST API)	Process Stop	Email	Resubmit From WACS
Remote Fault (Invoke OIC PR Approval REST API)	Process Stop	Email	Invoke OIC PR Approval REST API passing FPRC PR Header ID. The PR in FPRC has been created so only submit it for approval.

Integration Process: Purchase Requisition Approval Process

Type of error	Action	Notification Type	Retry
Technical Fault	Process Stop	Email	Resubmit Error Instance From OIC
Remote Fault or Business Fault (Invoke FPRC Submit PR for Approval REST API)	Process Stop	Email	Invoke OIC PR Approval REST API passing FPRC PR Header ID. The PR in FPRC has been created so only submit it for approval.

Integration Process: Purchase Order Synchronization

Type of error	Action	Notification Type	Retry
Technical Fault	Process Stop	Email	Resubmit Error Instance From OIC
Remote Fault or Business Fault (Invoke WACS REST API)	Process Stop	Email	Resubmit Error Instance From OIC

Integration Process: Receipt Synchronization

Type of error	Action	Notification Type	Retry
Technical or Remote Fault (Example: Oracle Procurement environment is accessible)	Process Stop	Email	Resubmit Error Instance From OIC

Type of error	Action	Notification Type	Retry
Business Fault (Processing error in any receipt line indicated by ReturnStatus = "Error")	Continue Process Receipt is created with partial lines	Collect errors and send errors in Email	Fix the errored lines in Interface Tables for FPRC and upload the fixed receipt lines to the main Receipt
Business Fault (Processing error in ALL the receipt lines indicated by ReturnStatus = "Error" and ProcessingStatus = "ERROR")	Return fault 400 status is sent back to WACS	Collect errors and send errors in Email	Resend the Receipt outbound message from WACS
Business Fault Close PO Line API	Process Stop	Email	If the PO line is not closed in FPRC, close it manually in FPRC.

Resubmitting the Error Instances in Oracle Integration Cloud

In this integration, all processes are asynchronous flows so the resubmit option is available in Oracle Integration Cloud if the process ends in a fault.

To resubmit the error instances in Oracle Integration Cloud:

1. Login to Oracle Integration Cloud.

2. Navigate **Integrations** > **Monitoring** > **Errors**.

3. Select the integration to resubmit.

4. Click the **Resubmit** icon.

Reprocess Vendor/Vendor Location File

To reprocess the Vendor/Vendor Location file:

1. Login to Oracle Integration Cloud.

2. Navigate to **Integrations** > **Integrations**.

    •   For Vendor Sync: Navigate to **Oracle Utilities FPRC WACS Vendor Location Sync** integration and click **Run**.

3. Click **Submit Now** to display the Schedule Parameters.

4. Enter the **docTitle** of the file.

    Note: Enter the complete docTitle of the file to process single file or enter the docTitle with wildcard (like file*) to process multiple files.

5. Click **Submit**.

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-WACS_FPRC_Email_ID** look up.

   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-WACS_FPRC_Email_ID** lookup, do not edit the values provided under the **Recipient** column.

Chapter 7

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

Prerequisites

The prerequisites are:

- Make sure that all lookups/DVMs are setup in Oracle Integration Cloud.

- Mandatory configurations are created in Procurement Cloud and Oracle Utilities Work and Asset Cloud Service.

- Vendor integration is prerequisite for Purchase Requisition, Purchase Order and Receipts.

- Check the roles and responsibilities for the implementation user performing the setups prior to configuration.

Activating Integration Flows

To activate the integration flows:

1. Navigate to the integration to activate.

2. Drag the slider for that integration. 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.

Chapter 8

Monitoring and Troubleshooting

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

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

Oracle Utilities Work and Asset Cloud Service

For more information about errors and notifications, refer to the Oracle Utilities Work and Asset Cloud Service documentation.

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:

- Dashboard
- Cloud Logs

To monitor the integration flows from the Oracle Integration Cloud dashboard:

1. Login to Oracle Integration Cloud.
2. On the **Home** page, click **Monitoring**.
3. Select any of the following as required:

    - **Dashboards** - To monitor the complete dashboard of integration.
    - **Integrations** - To monitor each integration.
    - **Tracking** - To monitor instance and flow trace/activity stream of the integration.
    - **Error** - To monitor the integrations in 'error' state. Re-submit the asynchronous integration flows.

To monitor the integration flows using Oracle Integration Cloud logs:

1. Login to Oracle Integration Cloud.
2. On the **Home** page, click **Monitoring**.
3. On the navigation pane, click **Dashboards** to view the overall success/failure rate of the integration.
4. Navigate to the **Logs** menu.
5. In the right pane, click the link to show options for downloading the Oracle Integration Cloud logs or diagnostics logs.
6. In case of any issues, attach the diagnostic logs to a service request for help.

Troubleshooting

If an activation fails, the Integrations page displays an error message.

To troubleshoot the activation error:

1. Click **Download Diagnostic Logs** to download the logs for diagnosing the issue.

2.   Select **Enable Tracing**.

TRACE ENABLED is displayed next to ACTIVE.

Some of the sample cases are as follows:

- For any connectivity errors while activating the integration, make sure the trigger connection is successful. Test the connection and refresh the metadata, and then activate the integration.