Oracle Utilities Work and Asset Cloud Service Integration to Oracle Supply Chain Management

Configuration Guide

Release 25.4

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Oracle Utilities Work and Asset Cloud Service Integration to Oracle Supply Chain Management Configuration Guide

Contents

Preface

Welcome to the Oracle Utilities Work and Asset Cloud Service Integration to Oracle Supply Chain Management Configuration Guide for release 25.4.

This preface explains how the guide is organized and introduces other sources of information that can help you. It includes the following:

Audience

This document is intended for anyone implementing the integration between Oracle Utilities Work and Asset Cloud Service and Oracle Supply Chain Management.

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 Work and Asset Cloud Service Integration to Oracle Supply Chain Management documentation	https://docs.oracle.com/en/industries/energy-water/integrations-index.html
Oracle Utilities Work and Asset Cloud Service documentation	https://docs.oracle.com/en/industries/energy-water/work-asset-cloud-service/index.html
Oracle Utilities Work and Asset Management documentation	https://docs.oracle.com/en/industries/energy-water/work-asset-management/index.html
Oracle Supply Chain Management documentation	https://docs.oracle.com/en/cloud/saas/supply-chain-and-manufacturing/25b/index.html

Additional Documentation

Resource	Refer to the OIC documentation at: https://docs.oracle.com/en/cloud/paas/integration-cloud/index.html
Oracle Support	Visit My Oracle Support regularly to stay informed about updates and patches. See the Certification Matrix for Oracle Utilities Products (Doc ID 1454143.1) on My Oracle Support to determine if support for newer versions of the listed products is included. For complete product documentation, visit the Oracle Energy and Water Integrations page on Oracle Help Center.
Oracle Technology Network (OTN) Latest versions of documents	http://www.oracle.com/technetwork/index.html
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
ERP	Enterprise Resource Planning
OIC	Oracle Integration Cloud
OUWACS/WACS	Oracle Utilities Work and Asset Cloud Service
OUWAM/WAM	Oracle Utilities Work and Asset Management
SCM	Oracle Supply Chain Management
SID	Stock Item Detail

Chapter 1

Overview

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

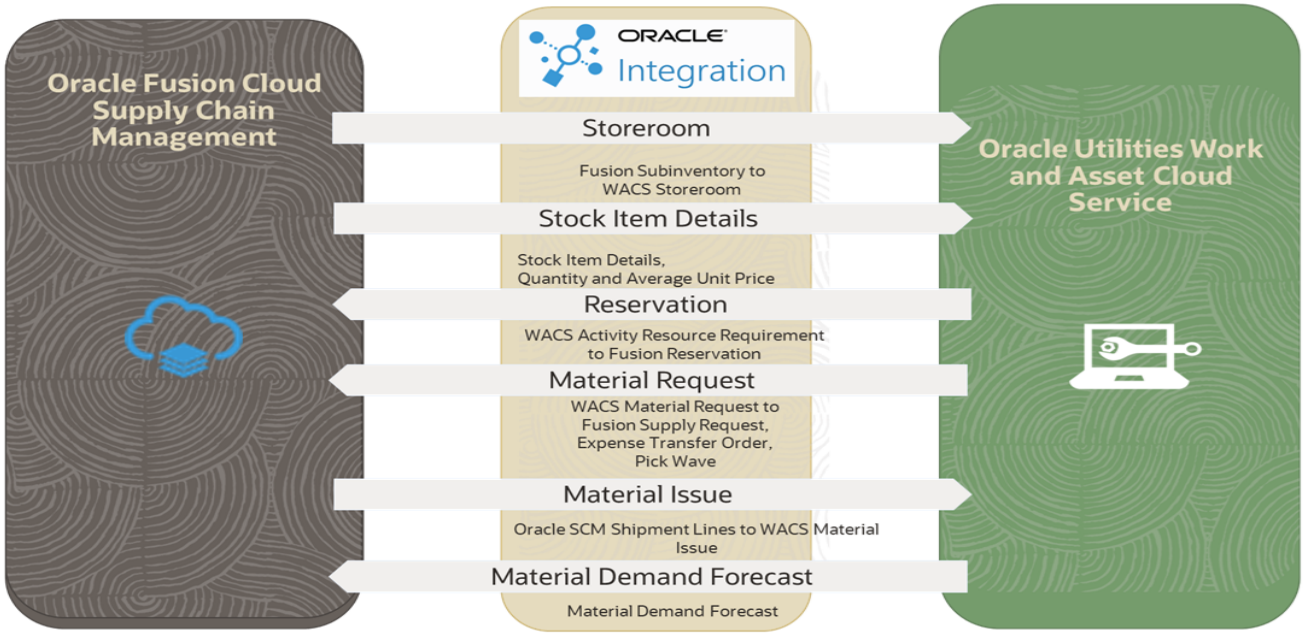
The chapter includes the following:

Overview of the Integration

Utilities around the world are using Oracle Supply Chain Management for their supply chain and inventory management with Oracle Utilities Work and Asset Cloud Service for work and asset management. Oracle Utilities Work and Asset Cloud Service integration to Oracle Supply Chain Management will provide the set of integrations for seamless data flow between the two systems to allow users to carry out the business processes optimally using both the systems. The integration caters to customers who use Oracle Supply Chain Management for inventory management with Oracle Utilities Work and Asset Management being source for the inventory master data and transactions.

The integration supports Storeroom, Stock Item Details, and Material Issue synchronization flows from Oracle Supply Chain Management to Oracle Utilities Work and Asset Cloud Service. It also supports the Reservations, Material Request, and Material Demand flows from Oracle Utilities Work and Asset Cloud Service to Oracle Supply Chain Management.

The following diagram illustrates the high-level features of this integration:



About Oracle Supply Chain Management (SCM)

Oracle Supply Chain Management is a cloud-based solution which helps organizations create a modern, agile, and resilient supply chain that can respond quickly to changing demand, supply, and market conditions. It is part of Oracle Fusion Cloud ERP. Some of the important functions managed by Oracle Supply Chain Management are inventory, supply chain planning, cost management, product development, order management, and many more.

About Oracle Utilities Work and Asset Cloud Service (WACS)

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 (OIC)

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

Using Process Builder, 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.

Supported Source Applications

The integration requires the following applications:

- Oracle Utilities Work and Asset Cloud Service
- Oracle Utilities Work and Asset Management
- Oracle Integration Cloud
- Oracle Supply Chain Management

For the application versions, refer to the *Oracle Utilities Work and Asset Cloud Service Integration to Oracle Supply Chain Management Release Notes* included in this release.

The documentation is available on Oracle Help Center at: https://docs.oracle.com/en/industries/energy-water/integrations-index.html

Prerequisites

All participating applications must be installed, set up, and working properly. It is also required to do all the mandatory setup described in the *Oracle Supply Chain Management Configurations for Oracle Utilities Work and Asset Cloud Service Integration to Oracle Supply Chain Management Setup Guide* to run this integration.

The documentation is available on Oracle Help Center at: https://docs.oracle.com/en/industries/energy-water/integrations-index.html

Chapter 2

Solution Architecture

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

- Solution Overview
- Business Processes
- Integration Flows

Solution Overview

The technical aspects involved in the integration between Oracle Supply Chain Management and Oracle Utilities Work and Asset Cloud Service are:

- The integration layer consists 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 Supply Chain Management. This integration subscribes to the Item Publication, Item Create, and Item Update Events.
  - REST Adapter to invoke ERP SCM UnitOfMeasureConversions REST API to get the UOM Conversion for the Item's PI Ratio.
  - REST Adapter to receive and send item and storeroom records across Oracle Integration Cloud integration flows and used to invoke the Common Error Handler Oracle Integration Cloud integration flow.
  - REST Adapter to invoke ERP SCM Cost API to retrieve cost of item, Item API to retrieve list price of item, and Transfer Order API to retrieve Transfer Order Details.
  - SOAP Adapter to interact with Oracle UCM Generic Web Service to get files in Oracle UCM.
  - SOAP Adapter to invoke the ERP BI Report SOAP service, to fetch the item quantity and price.
  - Oracle Utilities adapter to invoke WACS REST APIs, to synchronize storerooms and stock item details.
  - Oracle Utilities Adapter to invoke WACS Health check SOAP service.
- The integration pattern used for the solution is:
  - One-way Asynchronous
  - Two-way Asynchronous

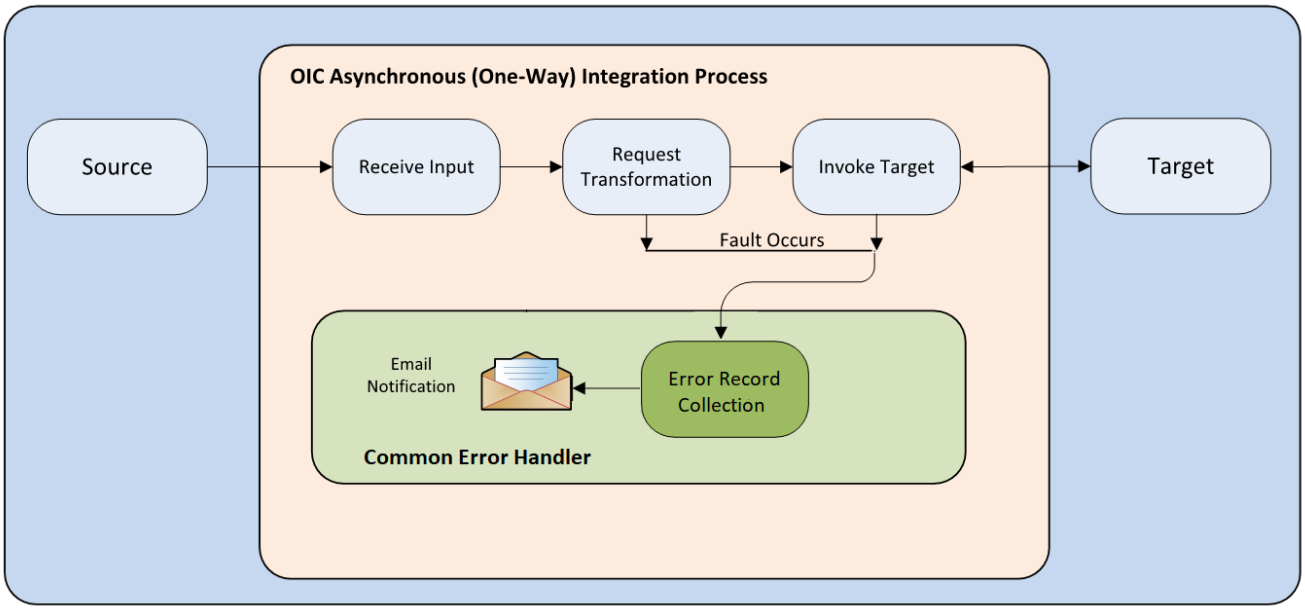
One-way Asynchronous

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 Configuring Lookups, Error Handling, and Email Notifications for more details.
6. The email notification is optional in most cases. Configure the notification.error.flag property name in the OUTL-BRT-WACS_ERPSCM_ConfigProps lookup to 'true'

and notification.type.email property to 'email' to receive email notification when errors are encountered.

7. The recipient(s) of the email notification is/are configured in the OUTL-BRT-WACS_ERPSCM_Email_ID lookup.

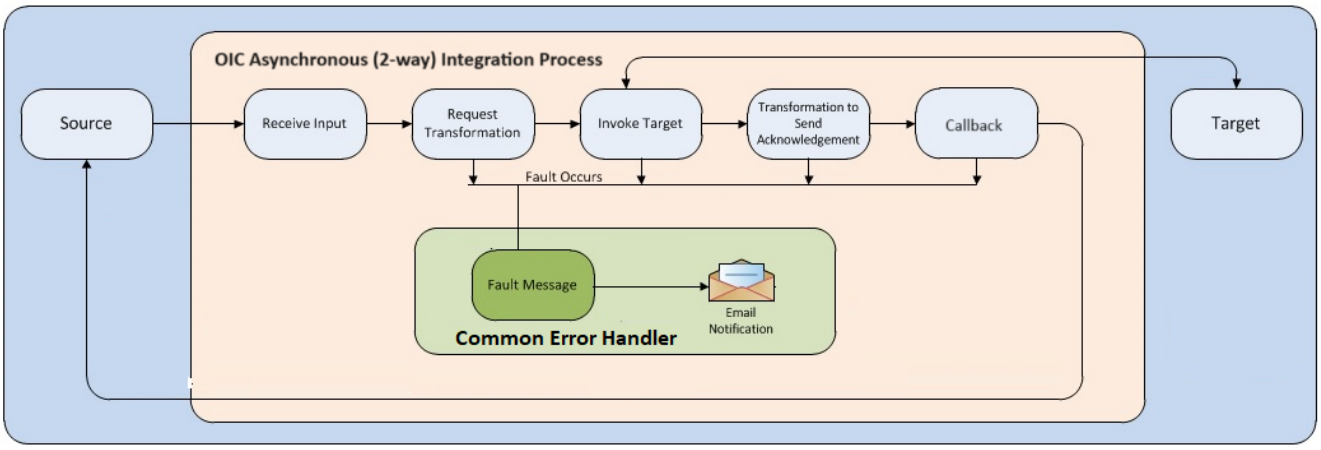


Two-way Asynchronous

The two-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 the target application to send the request message.
4. Transforms the success or error response message.
5. In case of any error, the global fault handler catches them.
6. The error instance can be re-submitted from Oracle Integration Cloud. Refer to the Error Handling section in Configuring Lookups, Error Handling, and Email Notifications for more details.
7. The email notification is optional in most cases. Configure the notification.error.flag property name in the OUTL-BRT-WACS_ERPSCM_ConfigProps lookup to 'true' and notification.type.email property to 'email' to receive email notification when errors are encountered.

8. The recipient(s) of the email notification is/are configured in the OUTL-BRT-WACS_ERPSCM_Email_ID lookup.



Business Processes

The integration scope supports the following business processes:

- Storeroom Sync from ERP SCM to WACS
- Stock Item Details Sync from ERP SCM to WACS
- Material Reservation Integration from WACS to ERP SCM
- Material Request Integration from WACS to ERP SCM
- Material Issue Integration from ERP SCM to WACS
- Material Demand Forecast Integration from WACS to ERP SCM

Storeroom Sync from ERP SCM to WACS

The storeroom integration transfers the sub inventory in Oracle Fusion ERP Cloud as storeroom in Oracle Utilities Work and Asset Cloud Service:

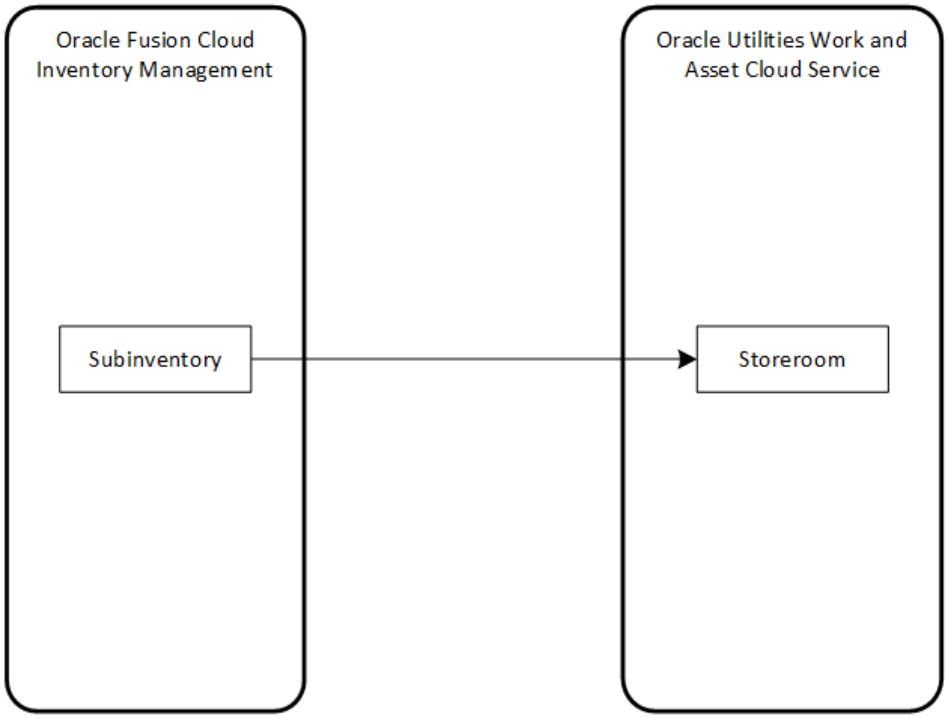
- Active Storeroom Synchronization from Oracle Supply Chain Management to Oracle Utilities Work and Asset Cloud Service
- Inactive Storeroom Synchronization from Oracle Fusion ERP Cloud to Oracle Utilities Work and Asset Cloud Service

Active Storeroom Synchronization

This process synchronizes the "Active" sub inventories from Oracle Supply Chain Management to storerooms in Oracle Utilities Work and Asset Cloud Service in bulk and incremental fashion.

Inactive Storeroom Synchronization

This process synchronizes the sub inventories in "Inactive" status from Oracle Supply Chain Management to storerooms in Oracle Utilities Work and Asset Cloud Service in bulk and incrementally.



Stock Item Details Sync from ERP SCM to WACS

Stock Item Details Integration synchronizes the following data from Fusion Inventory to Oracle Utilities Work and Asset Cloud Service:

- Stock Item Detail Bulk Load from Oracle Fusion ERP Cloud to Oracle Utilities Work and Asset Cloud Service
- Stock Item Detail Incremental Sync from Oracle Fusion ERP Cloud to Oracle Utilities Work and Asset Cloud Service
- Item Quantities and Average Unit Price Sync from Oracle Fusion ERP Cloud to Oracle Utilities Work and Asset Cloud Service

Stock Item Detail Bulk Load

Item assignments in Oracle Fusion ERP Cloud sub inventory will be synchronized as Stock Item Details in Oracle Utilities Work and Asset Cloud Service storerooms. The bulk load will synchronize full item extract from Oracle Fusion ERP Cloud to SID in Oracle Utilities Work and Asset Cloud Service.

This integration release supports leadtime changes (mapping for leadTime as proessingdays+postprocessingdays+preprocssingdays).

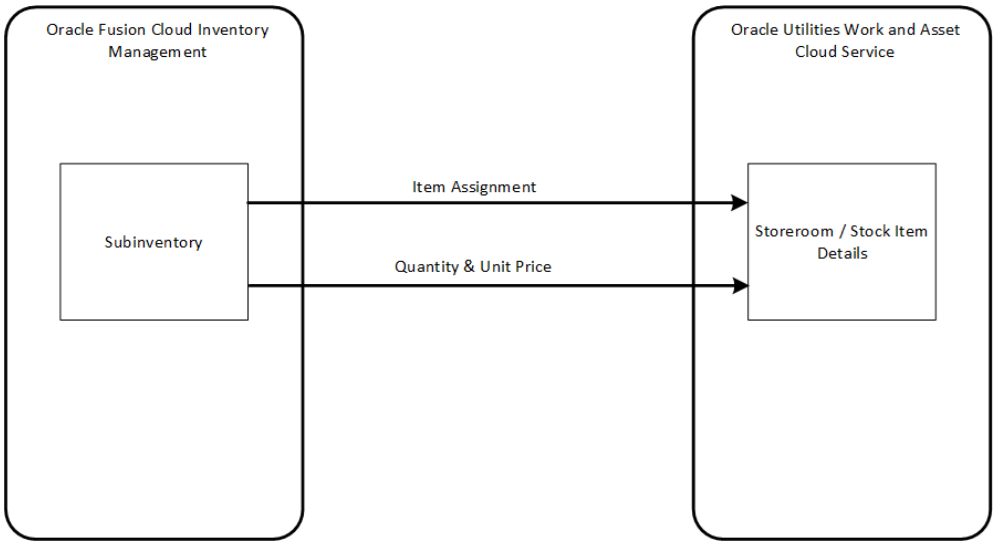
Stock Item Detail Incremental Sync

Incremental synchronization will use create/update item events to synchronize the item to SIDs in Oracle Utilities Work and Asset Cloud Service incrementally.

This integration release supports leadtime changes (mapping for leadTime as proessingdays+postprocessingdays+preprocssingdays).

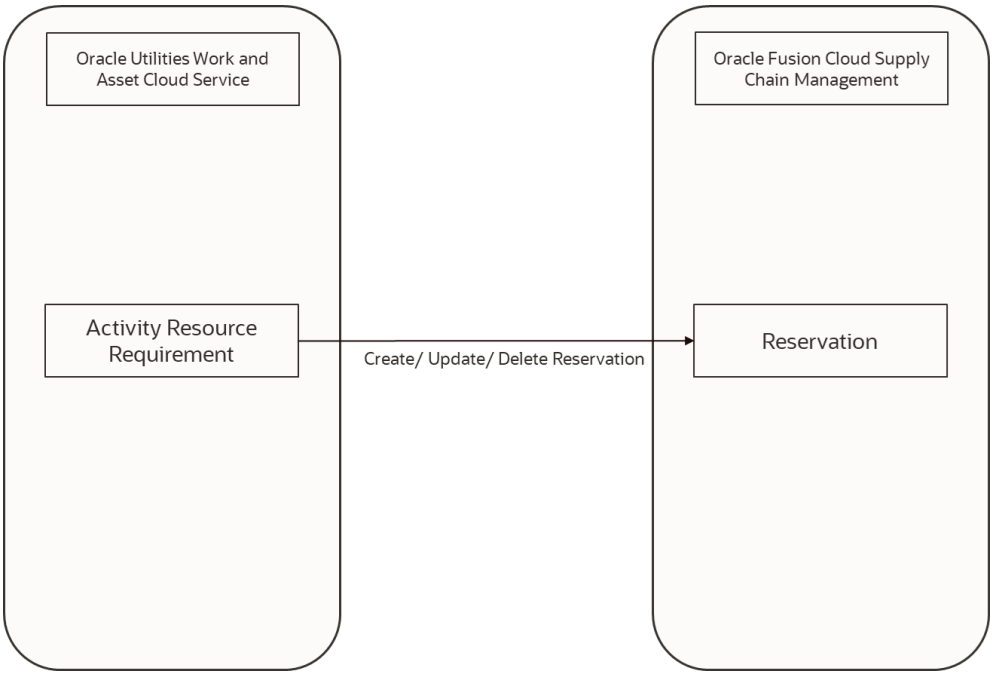
Item Quantities and Average Unit Price Sync

On-hand quantity and average unit price for an item in Oracle Fusion ERP Cloud sub inventory will be synchronized to Item Quantity in Oracle Utilities Work and Asset Cloud Service storeroom.



Material Reservation Integration from WACS to ERP SCM

The Material Reservation integration synchronizes the Material Activity Resource Requirement reservations in Oracle Utilities Work and Asset Cloud Service as User Defined Reservations in Oracle Utilities Work and Asset Management.



Material Request Integration from WACS to ERP SCM

The Material Request integration expense type creates a supply request in Oracle Fusion ERP Cloud after a Material Request is created in Oracle Utilities Work and Asset Cloud Service. This supply request creates an expense type transfer order. The pick wave for the transfer order is also created in Oracle Utilities Work and Asset Management nearer to the required by date.

The integration includes the following flows:

- Supply Request Creation
- Pick Wave Creation

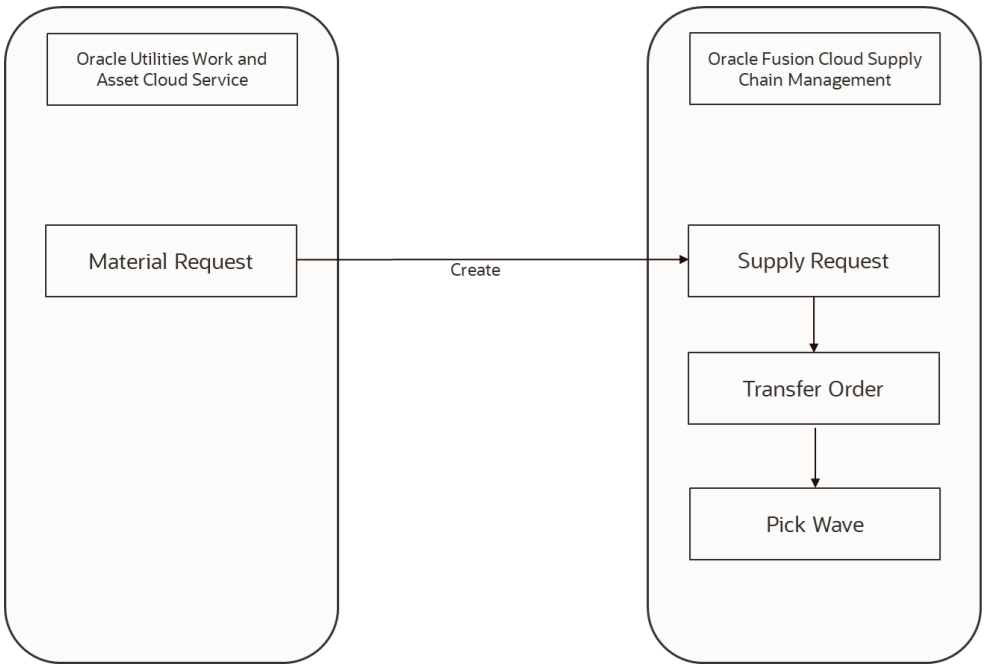
Supply Request Creation

The material request from Oracle Utilities Work and Asset Cloud Service creates an expense type supply request in Oracle Utilities Work and Asset Management. This supply request gets converted to expense type transfer order in Oracle Utilities Work and Asset Management through supply chain orchestration process of Oracle Fusion.

Pick Wave Creation

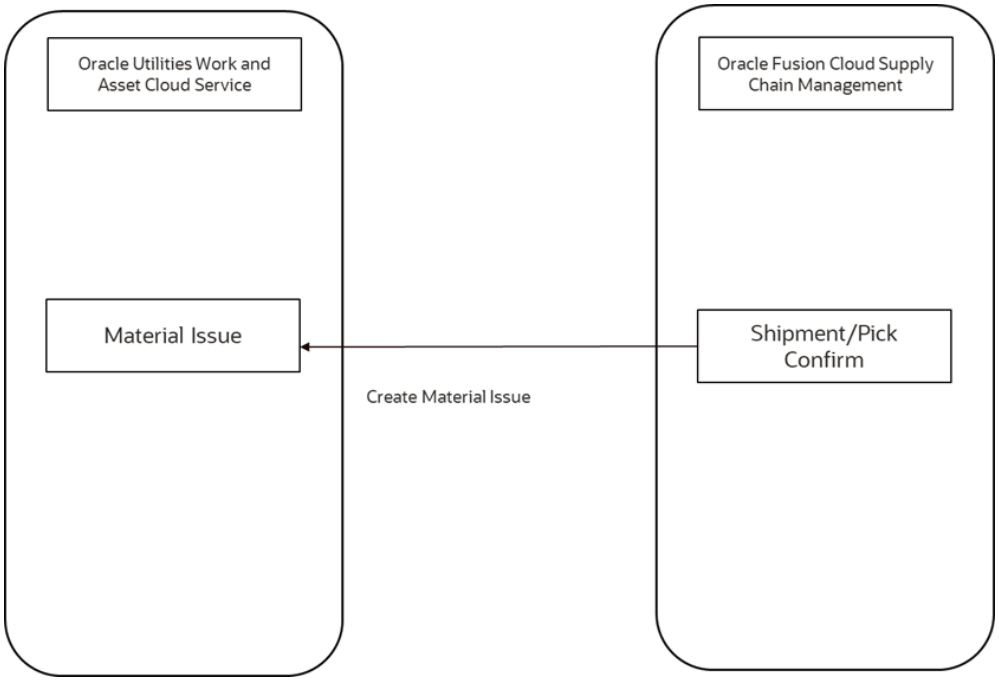
Closer to the transfer order required by date, the integration creates a pick wave for each transfer order. It also reduces the user defined reservation by appropriate quantity if the Oracle Utilities Work and Asset Cloud Service material request line has a material ARR attached to it with reservation.

This functionality is achieved through the integration flows. For more information, refer to the Integration Flows section.



Material Issue Integration from ERP SCM to WACS

The Material Issue integration synchronizes shipment lines from Oracle Fusion Cloud Inventory Management (SCM) as Material Issue lines to Oracle Utilities Work and Asset Cloud Service.



Material Demand Forecast Integration from WACS to ERP SCM

The Material Demand Forecast integration Process Material Demand file from Oracle Utilities Work and Asset Cloud Service to Oracle Supply Chain Management Planning as External Forecast. If there are multiple files, the integration processess the latest batch related files.

The integration includes the following flows:

- Material Demand FTP Forecast Integration
- Material Demand OS Forecast Integration

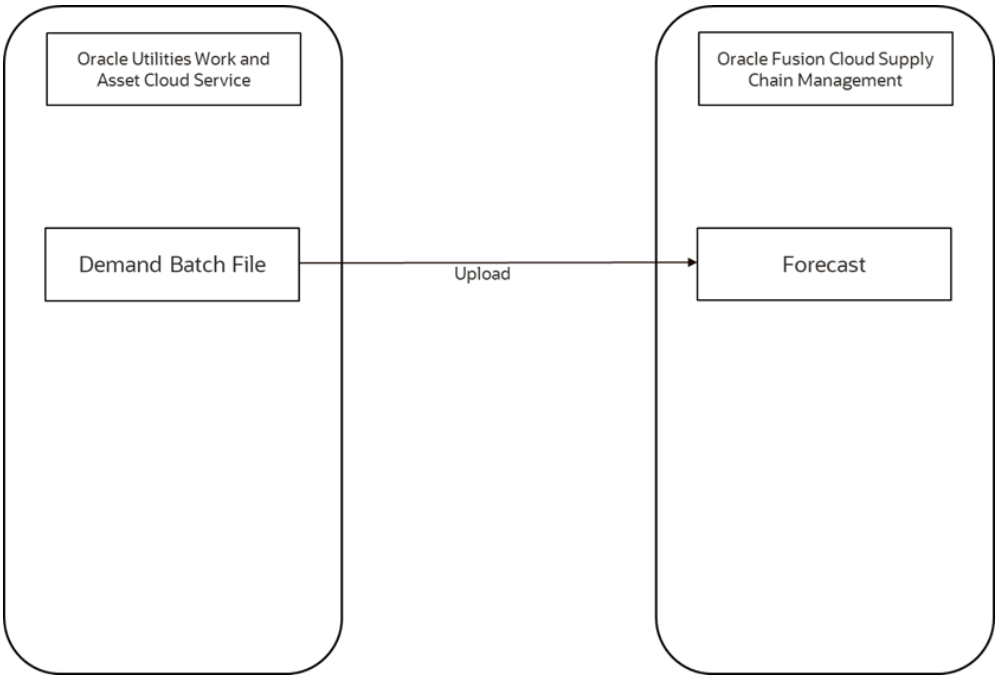
Material Demand FTP Forecast Integration

The integration will read the Oracle Utilities Work and Asset Cloud Service batch file from FTP for Material Demand, transform it to the target schema, and then upload it as external forecast in Oracle Supply Chain Management Planning through external forecast FBDI.

Material Demand OS Forecast Integration

The integration will read the Oracle Utilities Work and Asset Cloud Service batch file from object storage for Material Demand, transform it to the target schema, and then upload it as external forecast in Oracle Supply Chain Management Planning through external forecast FBDI.

This functionality is achieved through the integration flows. For more information, see the Integration Flows section.



Note that the file name must be in the "ERPFORECAST_{BC}_{BN}_{TN}.csv.zip" or "ERPFORECAST_{BC}_{BN}_{TN}.csv" format.

Integration Flows

The integration scope supports the following processes:

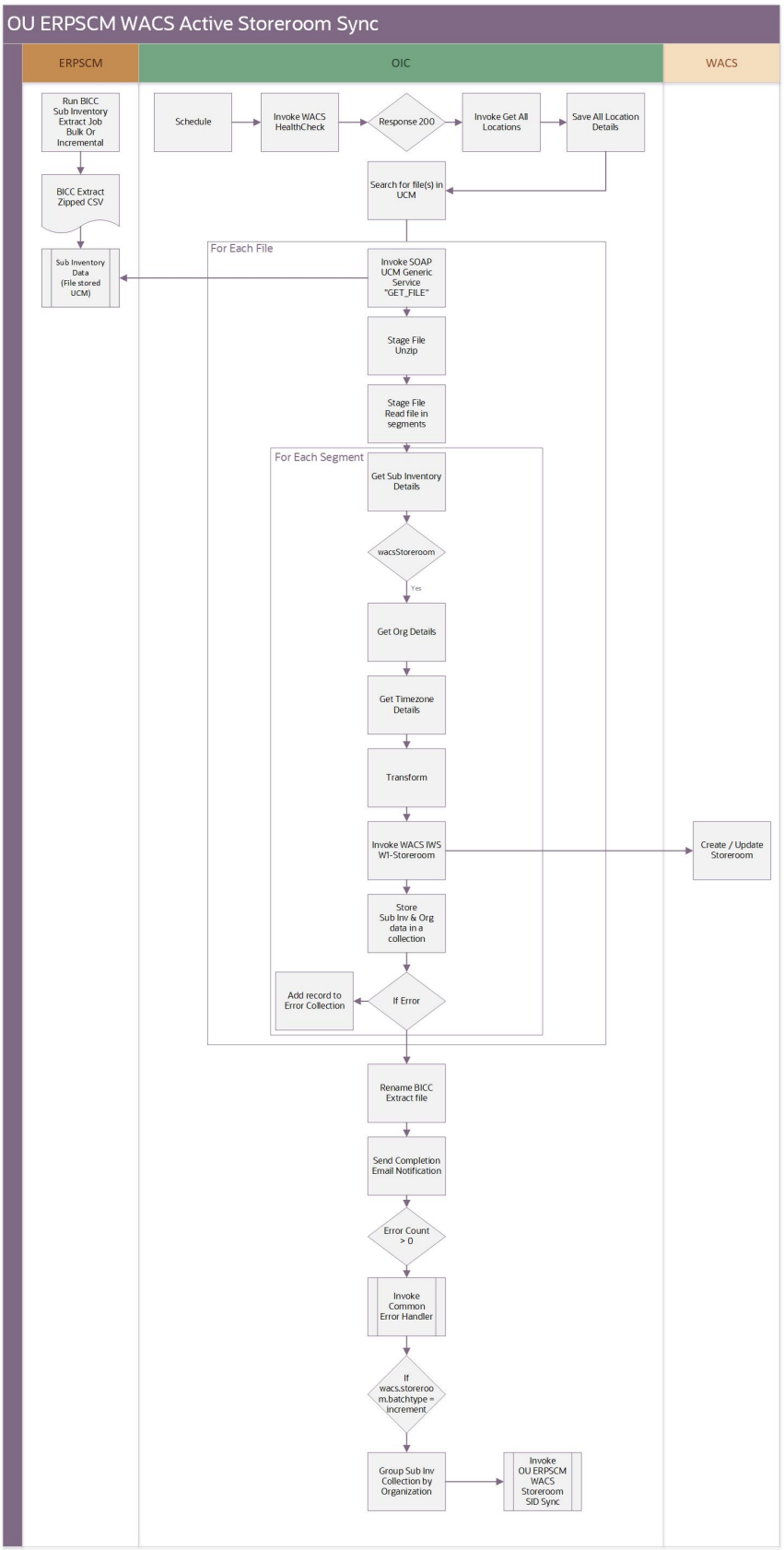
- OU ERPSCM WACS Active Storeroom Sync
- OU ERPSCM WACS Inactive Storeroom Sync
- OU ERPSCM WACS Storeroom SID Sync
- OU ERPSCM WACS Stock Item Detail Bulk Load
- OU ERPSCM WACS Stock Item Detail Incremental Sync
- OU ERPSCM WACS Stock Item Detail Inv Adj Extract
- OU ERPSCM WACS Stock Item Detail Inv Adjustment
- OU ERPSCM WACS Zero Item Balances Scheduler
- OU ERPSCM WACS Process Zero Item Balances
- OU WACS ERPSCM Reservation Process
- OU WACS ERPSCM Material Request Process
- OU ERPSCM WACS Pick Wave Process
- OU WACS ERPSCM Supply Request Monitor
- OU ERPSCM WACS Material Issue Process
- OU WACS ERPSCM Material Demand FTP Forecast
- OU WACS ERPSCM Material Demand OS Forecast
- OU WACS ERPSCM Common Error Handler

All integration flows are Oracle Supply Chain Management initiated.

OU ERPSCM WACS Active Storeroom Sync

This integration synchronizes the active sub inventories in Oracle Supply Chain Management as storeroom in Oracle Utilities Work and Asset Cloud Service.

The following diagram shows a graphical representation of the OU ERPSCM WACS Active Storeroom Sync integration process:



Processing Details

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

1. This process is triggered on a schedule basis with a schedule parameter fileName prefix.

   Note: Ensure the BICC ERPSCM_ActiveSubinvExtBICC_WACS job is scheduled in Oracle Supply Chain Management before this integration process is scheduled.

2. Invoke the WACS IWS F1-HealthCheck SOAP service to check the Oracle Utilities Work and Asset Cloud Service connectivity before proceeding with the flow execution.
3. Invoke the UCM Generic SOAP service to search the file(s) with the matching file name prefix.
4. For each sub inventory extract zip file found:
   a. If count of number of files found is '0':
      a. Send an email notification.

         Note: Sending email notification is optional; this can be configured in the configuration properties lookup by setting the notification.email.process.nofile.flag to 'true'.

   b. Set the error flag to 'false'.
   c. Invoke the UCM Generic SOAP service to get the sub inventories extract zip file from UCM given the DocId obtained from the search above.
   d. Unzip the file using stage operation.
   e. Invoke the "ReadFileinSegments" stage file action. This action reads the file in segments of 200 records. After all the 200 records are processed, the next segment of 200 records is read.
   f. For each subinventory record in the file, do the following:
      a. Transform the payload from Oracle Supply Chain Management to the Oracle Utilities Work and Asset Cloud Service payload. Map the location details by fetching them using the REST API Get all locations.
         a. Use the get all locations REST API given in the references.
         b. Using the locationId received in the extract in the query parameters, fetch the other location details, such as address 1,address 2,address 3,address 4, country, state.
         c. Use the lookup for mapping country and state.
      b. Invoke the WACS REST service - W1-Storeroom to pass the sub inventory information to Oracle Utilities Work and Asset Cloud Service.
      c. In case of any errors, append the record to the error collection.
      d. Set the error flag to 'true'.
      e. Append Sub inv and Org data to a collection.
   g. If the error flag is 'true', invoke the UCM Generic SOAP service to update the file to "Error-" filename passing the required parameters.

h. Else, invoke the UCM Generic SOAP service to update the file to "PROCESSED-" filename passing these required parameters.

5. On successful processing of all the records in the file, an email is sent with the completion message.

   Note: Sending an email notification is optional; this can be configured in the configuration properties lookup by setting the notification.email.process.complete.flag to 'true'.

   a. Also check if the number of records processed is > 0.

   b. If yes, do not send the success email.

6. If the error records collection > 0:

   a. Send an email notification.

      Note: Sending an email notification is optional; this can be configured in the configuration properties lookup by setting the notification.email.process.complete.flag to 'true'.

7. Invoke the OU ERPSCM WACS Storeroom SID Sync child flow and pass the sub inv - Subinv collection grouped by organization.

Technical Details

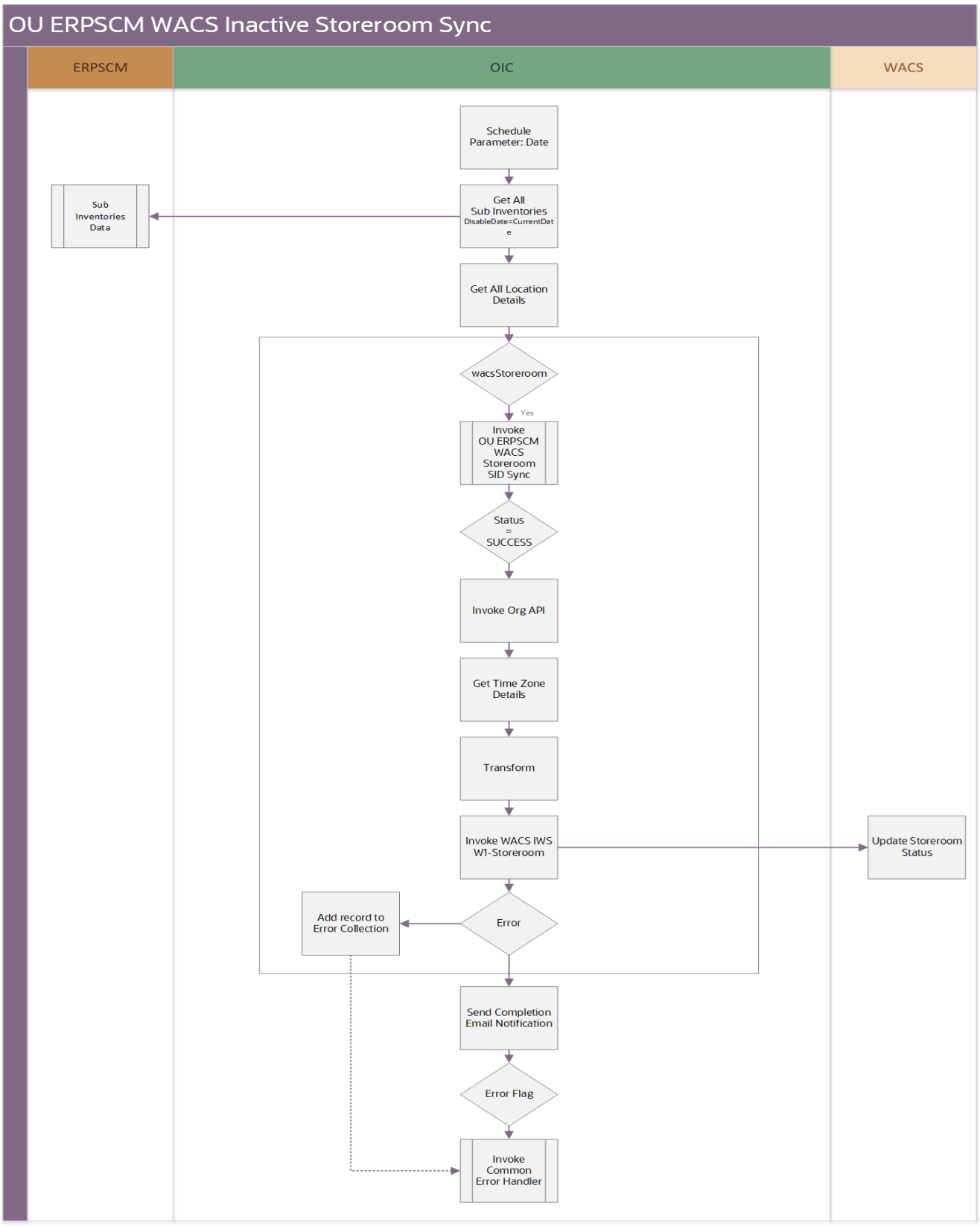
The following table describes the integration processes and the respective artifacts used in this integration process:

Artifacts	Value
Integration Process Name	OU ERPSCM WACS Active Storeroom Sync
Project Name	OU WACS ERPSCM
SOAP Adapter	OU SOAP UCM Generic Service for WACS-ERPSCM
Oracle Utilities adapter (SOAP)	OU SOAP WACS for WACS-ERPSCM
Oracle Utilities adapter (REST)	OU REST WACS for WACS-ERPSCM
REST Adapter	OU REST ERP for WACS-ERPSCM

OU ERPSCM WACS Inactive Storeroom Sync

This Integration synchronizes the disabled sub-inventories status back to Oracle Utilities Work and Asset Cloud Service from Oracle Supply Chain Management. This flow mainly fetches the sub-inventories details which were deactivated after the given date.

The following diagram shows a graphical representation of the OU ERPSCM WACS Inactive Storeroom Sync integration process:



Processing Details

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

1. This process is triggered on a schedule basis.

   Note: Recommended to schedule this integration on a daily basis at the EOD.

2. Fetch all the sub inventories from Oracle Supply Chain Management with the "/fscmRestApi/resources/11.13.18.05/subinventories" REST API with Disable Date = CURRENT DATE.
3. For each sub inventory:
   a. Invoke the WACS IWS W1-Storeroom REST service and map all the fields.
   b. In case of any error, add the record to the error collection and set the error flag.
4. Send a successful completion email with list of all sub inventories that were deactivated.
5. If error flag is 'true', send an error email as well.
6. Send the collection to SID deactivation, invoke the OU ERPSCM WACS Storeroom SID Sync child integration.

Technical Details

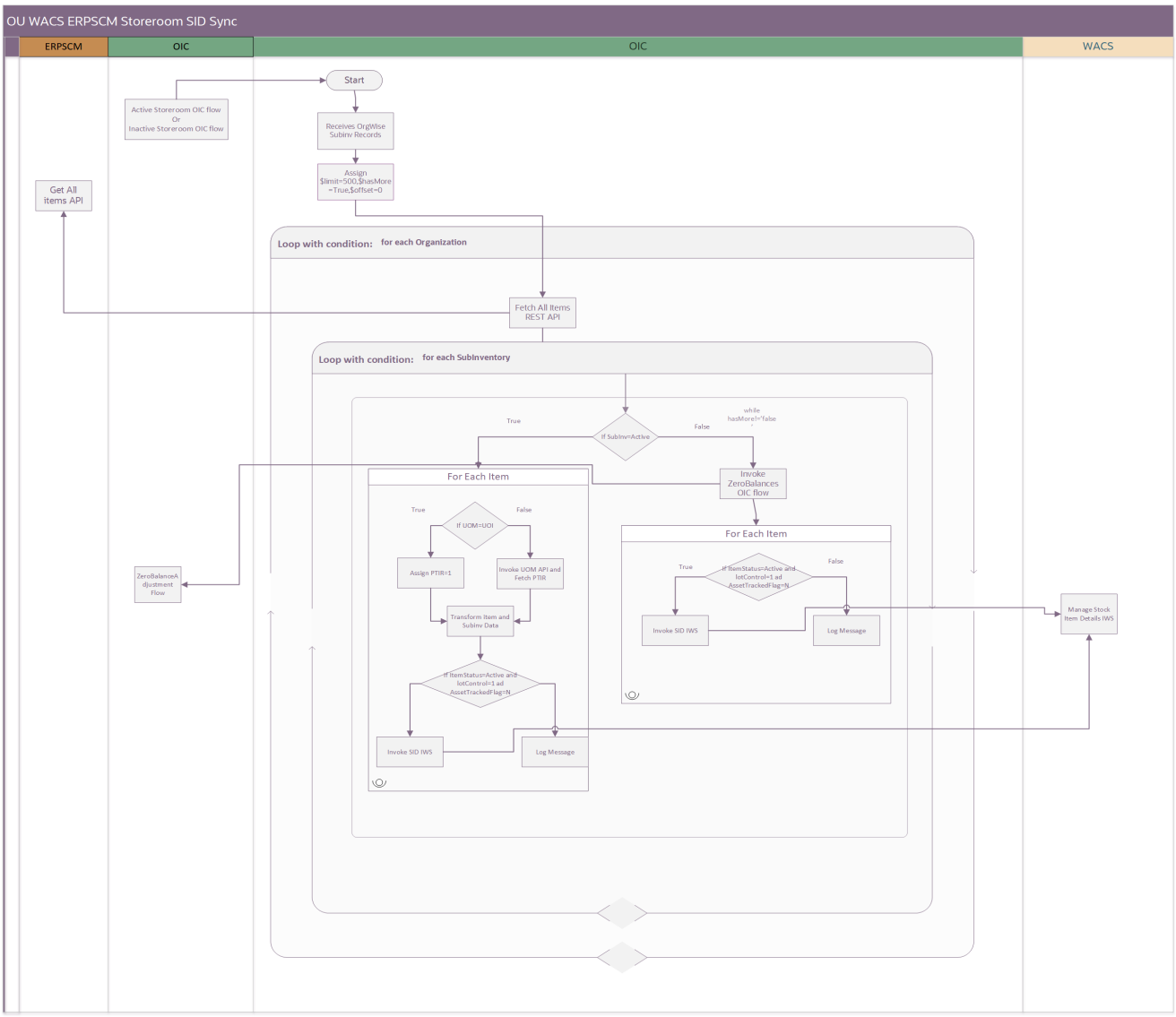
The following table describes the integration processes and the respective artifacts used in this integration process:

Artifacts	Value
Integration Process Name	OU ERPSCM WACS Inactive Storeroom Sync
Project Name	OU WACS ERPSCM
Oracle Utilities adapter (REST)	OU REST WACS for WACS-ERPSCM
REST Adapter	OU REST ERP for WACS-ERPSCM

OU ERPSCM WACS Storeroom SID Sync

This integration creates/disables the SIDs of the respective storerooms, whenever a new storeroom is created or updated in Oracle Supply Chain Management. This flow will be called either by the Active Storeroom Sync or Inactive Storeroom Sync integration flow. It is the common flow for both to create/update the SIDs.

The following diagram shows a graphical representation of the OU ERPSCM WACS Storeroom SID Sync integration process:



Processing Details

This is an asynchronous application driven integration process deployed on Oracle Integration Cloud and performs the following activities:

1. This process receives OrgId and sub inventory collection from parent flows grouped by OrgId.
2. For each organization, gets all items using the "/fscmRestApi/resources/11.13.18.05/itemsV2" REST API.
3. For each sub inventory:
   - If Subinv status is ACTIVE:
     a. Invoke ItemBIPReport to retrieve all items related to Oracle Utilities Work and Asset Cloud Service category for particular organization.

b. For each item, derive the "Purchase To Issue Ratio" value.

c. If asset tracked flag is N, lot_control=1 and inventory items status is Active.

d. Transform item and sub inventory data to Oracle Utilities Work and Asset Cloud Service stock item details format.

e. Map leadTime as proessingdays+postprocessingdays+preprocssingdays.

f. Invoke WACS IWS W1-StockItemDetails.

- If the Subinv status is INACTIVE:
  - Invoke the OU ERPSCM WACS Process Zero Item Balances integration.
  - For each item received from Zero Balance Integration:
    - If the asset tracked flag is N, lot_control=1 and inventory items status is Active.
    - Transform the item and sub inventory data into the Oracle Utilities Work and Asset Cloud Service stock item details format.
    - Invoke WACS IWS W1-StockItemDetails.
- If Oracle Utilities Work and Asset Cloud Service returns a fault, add the Item unique ID/value in error and error details to the error collection. Then, continue with the next Item record.

4. After all the records are processed, check for any Oracle Utilities Work and Asset Cloud Service errors encountered.
5. In case of any errors, send an optional error mail notification based on the "notification.error.flag" configuration property value defined in the OUTL-BRT-WACS_ERPSCM_ConfigProps lookup.

Technical Details

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

Artifacts	Value
Integration Process Name	OU ERPSCM WACS Storeroom SID Sync
Project Name	OU WACS ERPSCM
Oracle ERP Cloud Adapter	OU ERPSCM Cloud for WACS-ERPSCM
REST Adapter	OU REST ERP for WACS-ERPSCM
Oracle Utilities Adapter (REST)	OU REST WACS for WACS-ERPSCM
REST Adapter	OU REST Trigger for WACS-ERPSCM

OU ERPSCM WACS Stock Item Detail Bulk Load

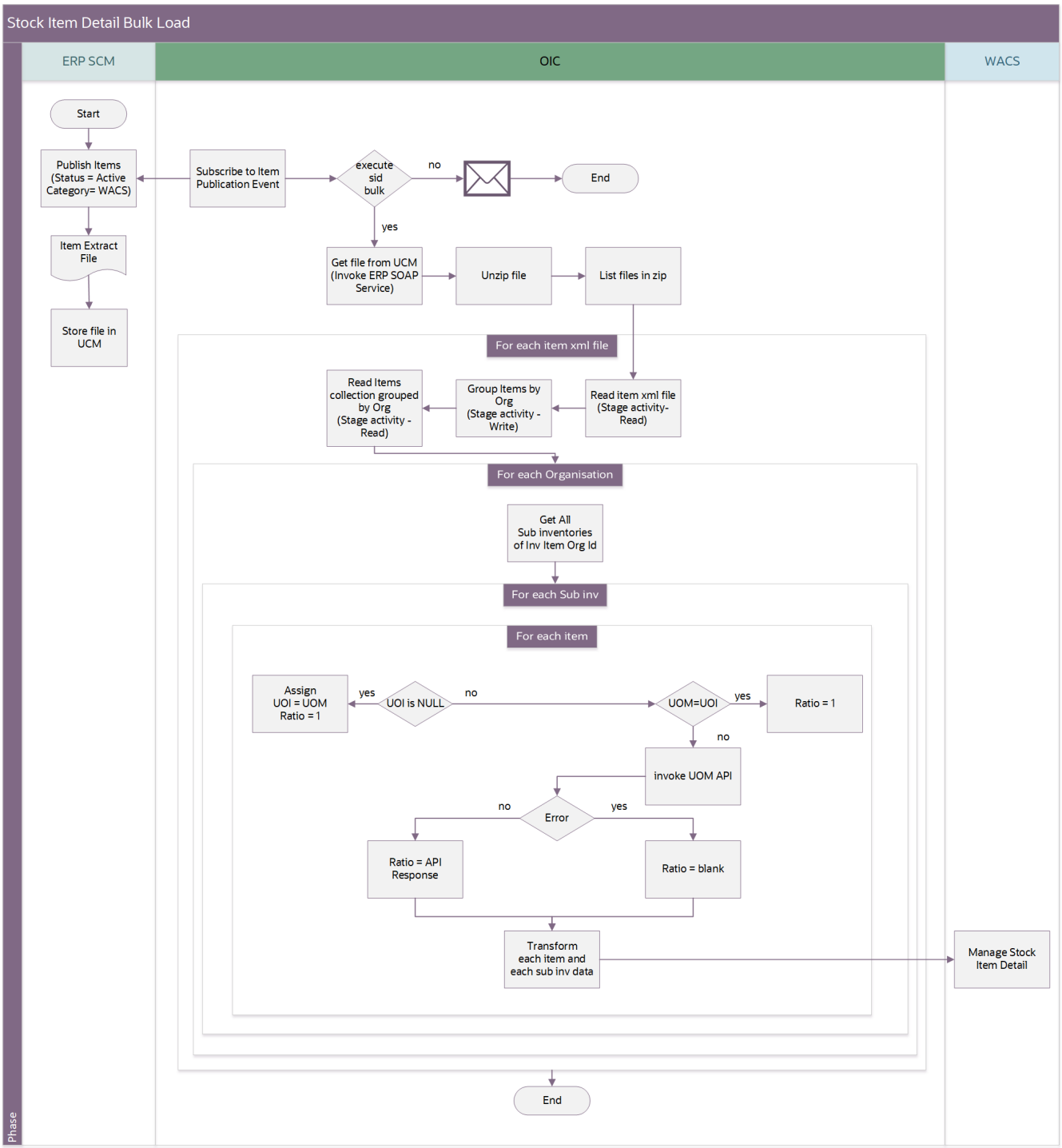
This integration process synchronizes the inventory items extracted in bulk from Oracle Fusion ERP Cloud to Stock Item Details in Oracle Utilities Work and Asset Cloud Service storerooms. The process is usually run after all items from Oracle Supply Chain

Management are synchronized to stock items in Oracle Utilities Work and Asset Cloud Service.

Note that the Item Initial Synchronization process in the Oracle ERP Product Hub Cloud Integration to Oracle Utilities Work and Asset Cloud Service for Stock Item integration solution is a pre-requisite for SID Bulk Load.

For information about this process, refer to the Oracle ERP Product Hub Cloud Integration to Oracle Utilities Work and Asset Cloud Service for Stock Item documentation on Oracle Help Center at: https://docs.oracle.com/en/industries/energy-water/integrations-index.html

The following diagram shows a graphical representation of the OU ERPSCM WACS Stock Item Detail Bulk Load integration process:



Processing Details

This is an asynchronous (one-way) integration process deployed on Oracle Integration Cloud.

The process is triggered by a business event raised within Oracle Fusion ERP Cloud when an Item File is published. This Oracle Integration Cloud process handles the following:

1. Subscribe to an Item Publication Event. Oracle Supply Chain Management publishes an event with a payload containing the Doc ID when an item file is published in the Oracle Fusion ERP Cloud UCM server.
2. Check for "execute.sid.bulk" flag from the OUTL-BRT-WACS_ERPSCM_ConfigProps lookup.

   Note: Make sure that the Oracle Utilities ERPPIM WACS Item Initial Sync flow in the OU WACS ERPPIM Project is executed and successful, which will create Stock items in Oracle Utilities Work and Asset Cloud Service. For stock item PIM flow to process the items records, make sure "execute.stockitem.bulk" flag is enabled. After the items are created successfully, disable the "execute.stockitem.bulk" flag to avoid redundant item creation calls in Oracle Utilities Work and Asset Cloud Service.

   - After the PIM flow is executed, enable the "execute.sid.bulk" flag. The SID bulk flow processes the SID records, only when this flag is enabled.
3. If the "execute.sid.bulk" flag is "no":
   a. Notify the user to synchronize bulk SIDs to Oracle Utilities Work and Asset Cloud Service. Set the "execute.sid.bulk" flag to "yes" in the configuration properties lookup.
   b. Stop the flow.
4. If the flag is set to "yes":
   a. Invoke the Oracle Utilities Work and Asset Management health check IWS, if successful.
      a. Invoke the **UCM Generic SOAP** service to get the Item file from UCM given the doc ID provided by the Item Publication Event.
      b. Unzip the file.
      c. List the files (.xml).
      d. For each file:
         a. Read the file using the stage file activity.
         b. Generate the file with item records grouped by organization (org Id)
      e. Read item collection grouped by Organization.
      f. For each Organization:
         a. Get all active **storage** type sub inventories. Invoke the sub inventories ERP REST API /fscmRestApi/resources/11.13.18.05/subinventories

b. If no sub inventories are returned:

- Send an email and throw the following fault:

  "The Org:<org id> or <org code> doesn't have Sub inventory, hence SID for this item:<item id > or <item code> cannot be created."

c. In each sub inventory, for each item record in the file, do the following:

- Derive the PTIR value.
- Transform the item and sub inventory data to the Oracle Utilities Work and Asset Cloud Service stock item detail format.
- Invoke WACS IWS W1-StockItemDetails.

d. Map 'leadTime' as proessingdays+postprocessingdays+preprocssingdays.

- If Oracle Utilities Work and Asset Cloud Service returns a fault:
  - Add the item unique ID/value in the error and error details to the Oracle Utilities Work and Asset Cloud Service error collection.
  - Then, continue with the next item record.
- After all records are processed, check for any Oracle Utilities Work and Asset Cloud Service errors encountered.
- In case of any errors, invoke the OU WACS ERPSCM Common Error Handler flow.
- This flow sends optional process complete mail notification based on the "notification.email.process.complete.flag" config property value in the OUTL-BRT-WACS_ERPSCM_ConfigProps lookup.

Technical Details

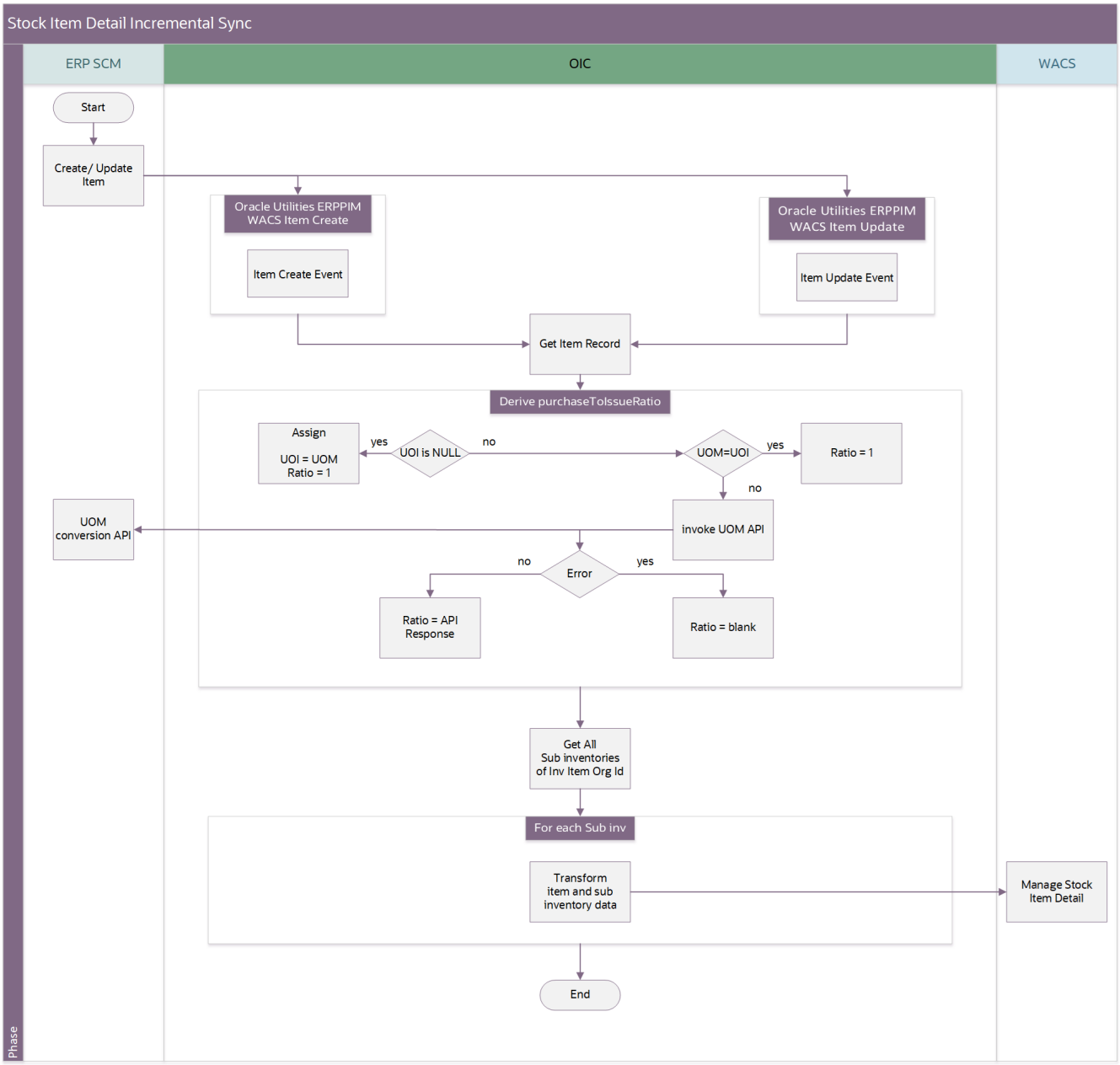
The following table describes the integration processes and the respective artifacts used in this integration process:

Artifacts	Value
Integration Process Name	OU ERPSCM WACS Stock Item Detail Bulk Load
Project Name	OU WACS ERPSCM
Oracle Utilities Adapter (SOAP)	OU SOAP WACS for WACS-ERPSCM
Oracle ERP Cloud Adapter	OU ERPSCM Cloud for WACS-ERPSCM
REST Adapter	OU REST ERP for WACS-ERPSCM
SOAP Adapter	OU SOAP UCM Generic Service for WACS-ERPSCM
Oracle Utilities Adapter (REST)	OU REST WACS for WACS-ERPSCM

OU ERPSCM WACS Stock Item Detail Incremental Sync

This integration process synchronizes the inventory item created/updated in Oracle Fusion ERP Cloud to Stock Item Details in Oracle Utilities Work and Asset Cloud Service storerooms. It is invoked whenever an item is created or updated in Oracle Fusion ERP Cloud.

The following diagram shows a graphical representation of the OU ERPSCM WACS Stock Item Detail Incremental Sync integration process:



Processing Details

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

1. Get the item data from Oracle Utilities ERPPIM WACS Item Create/Oracle Utilities ERPPIM WACS Item Update flows in the OU WACS ERPPIM project.
2. Create the global variables for UOM, UOI, PTIR (purchase to issue ratio) and Org Id.
3. Assign UOM, UOI, and OrgId with the respective values.
4. Derive the PTIR value.
    a. If UOI is 'Null':
        a. Assign UOI = UOM
        b. Assign '1' to PTIR
    b. If UOM = UOI:
        a. Assign '1' to PTIR.
        b. Else, invoke the "UnitOfMeasureConversions" Oracle Fusion ERP Cloud REST service:
        c. If the API returns an error, assign blank value to PTIR.
        d. Else, assign API response > *ConversionFactor* to PTIR.
5. Using OrgId as the input parameter, get all sub inventories. Invoke the "/fscmRestApi/resources/11.13.18.05/subinventories" Oracle Fusion ERP Cloud REST API.
6. For each active and storage type sub inventory:
    a. Transform the item and sub inventory data to the Oracle Utilities Work and Asset Cloud Service stock item detail format.
    b. Map 'leadTime' as proessingdays+postprocessingdays+preprocssingdays.
    c. Invoke the "**W1-StockItemDetail**" Oracle Utilities Work and Asset Cloud Service Inbound Web Service, operation name: manageStockItemDetail.
    d. If Oracle Utilities Work and Asset Cloud Service returns a fault, add the Item unique ID/value in error and error details to the Oracle Utilities Work and Asset Cloud Service error collection.
    e. Then, continue with the next sub inventory record.
7. If error count > 0:
    a. Send the error collection to common error handler.
    b. Transform the "ERROR" response to SI create/update flow accordingly.
8. Else (when all SIDs are processed successfully), transform the "SUCCESS" response to SI create/update flow accordingly.
9. This flow sends an optional process complete mail notification, based on the "notification.email.process.complete.flag" configuration property value.

Technical Details

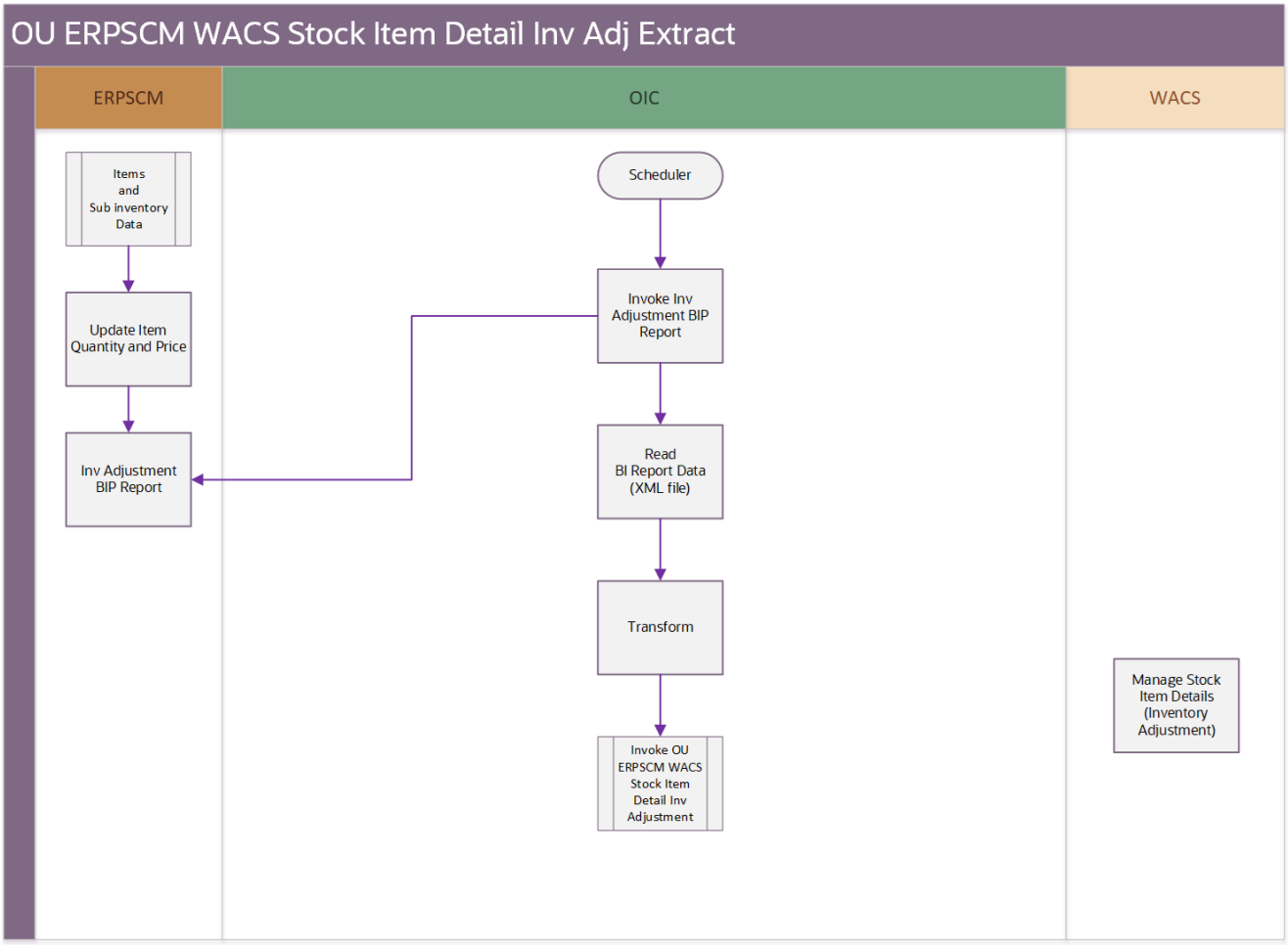
The following table describes the integration processes and the respective artifacts used in this integration process:

Artifacts	Value
Integration Process Name	OU ERPSCM WACS Stock Item Detail Incremental Sync
Project Name	OU WACS ERPSCM
REST Adapter	OU REST Trigger for WACS-ERPSCM
Oracle Utilities Adapter (REST)	OU REST WACS for WACS-ERPSCM
REST Adapter	OU REST ERP for WACS-ERPSCM
Oracle ERP Cloud Adapter	OU ERPSCM Cloud for WACS-ERPSCM

OU ERPSCM WACS Stock Item Detail Inv Adj Extract

This integration process gets the item quantity and unit price for all the sub inventories from Oracle Supply Chain Management and sends it to child to process the same.

The following diagram shows a graphical representation of the OU ERPSCM WACS Stock Item Detail Inv Adj Extract integration process:



Processing Details

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

1. The Oracle Integration Cloud flow is a scheduler driven integration with the schedule parameter as "last run date time".

   Note: Make sure the "LastRunDateTime" scheduled parameter is passed in the "" YYYY-MM-DDTHH:mm:ss.SSS[offset]" format while configuring the scheduler or running the OU ERPSCM WACS Stock Item Detail Inv Adj Extract integration.

   Example: 2024-11-26T10:16:35.000+00:00 ; 01-31-2000 01:01:01 +0000

2. Invokes the ExternalReportWebservice BI report to get the item details from Oracle Fusion ERP Cloud.
3. Reads the BI report data using the stage file activity.
4. Transforms the item records.

5. Invokes the child OU ERPSCM WACS Stock Item Detail Inv Adjustment Oracle Integration Cloud flow.
6. If the child flow response is successful:
   - Update the schedule parameter.
7. Else:
   - Invoke the OU WACS ERPSCM Common Error Handler and throw fault.

Technical Details

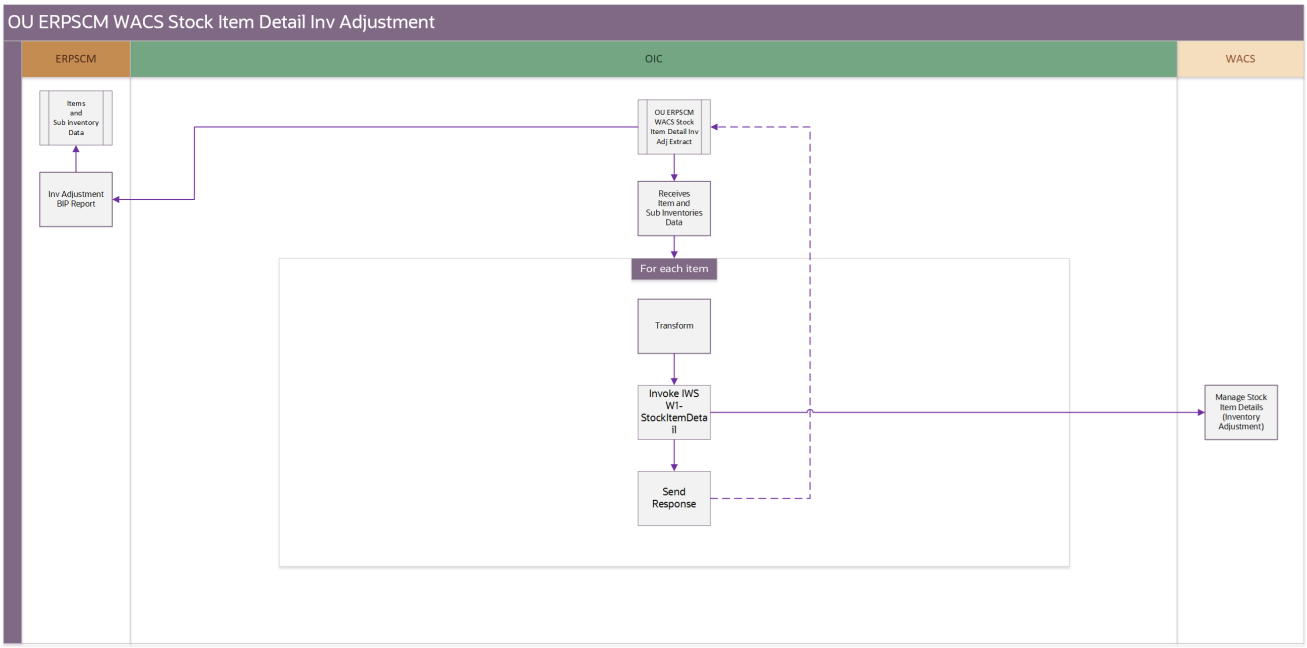
The following table describes the integration processes and the respective artifacts used in this integration process:

Artifacts	Value
Integration Process Name	OU ERPSCM WACS Stock Item Detail Inv Adj Extract
Project Name	OU WACS ERPSCM
SOAP Adapter	OU BI ERP SCM for WACS-ERPSCM

OU ERPSCM WACS Stock Item Detail Inv Adjustment

This integration process gets the item records from Oracle Fusion ERP Cloud, from the parent OU ERPSCM WACS Stock Item Detail Inv Adj Extract, and updates the stock item details in Oracle Utilities Work and Asset Cloud Service with Oracle Fusion ERP Cloud item quantity and price it to Oracle Utilities Work and Asset Cloud Service.

The following diagram shows a graphical representation of the OU ERPSCM WACS Stock Item Detail Inv Adjustment integration process:



Processing Details

This Oracle Integration Cloud flow is an application driven integration. It performs the following activities:

1. Gets item data from the extract flow.
2. For each record:
   a. Transforms the data.
   b. Invokes WAM REST IWS W1-StockItemDetail, operation name: /inventoryAdjustment
   c. If there is no error, increase the processed/success record count
   d. In case of an error, add it to the error collection.
3. Send the completion email with error and success count.
4. If error count > 0, invoke the OU WACS ERPSCM Common Error Handler flow to send an optional email notification.

Technical Details

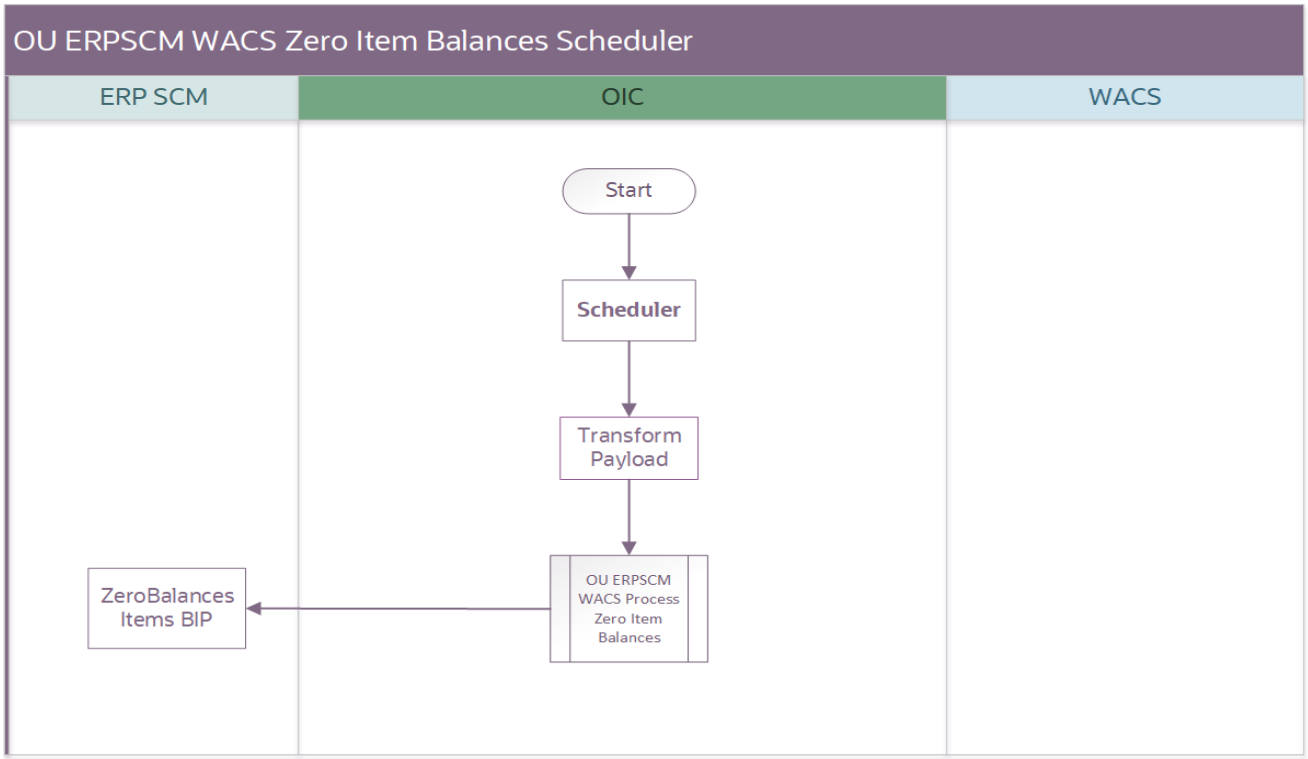
The following table describes the integration processes and the respective artifacts used in this integration process:

Artifacts	Value
Integration Process Name	OU ERPSCM WACS Stock Item Detail Inv Adjustment
Project Name	OU WACS ERPSCM
Oracle Utilities Adapter (REST)	OU REST WACS for WACS-ERPSCM
REST Adapter	OU REST Trigger for WACS-ERPSCM

OU ERPSCM WACS Zero Item Balances Scheduler

This integration invokes the Process Zero Balances Item Adjustment flow.

The following diagram shows a graphical representation of the OU ERPSCM WACS Zero Item Balances Scheduler process:



Processing Details

- This is a scheduler based integration.
- The integration invokes the OU ERPSCM WACS Process Zero Item Balances integration flow.

Technical Details

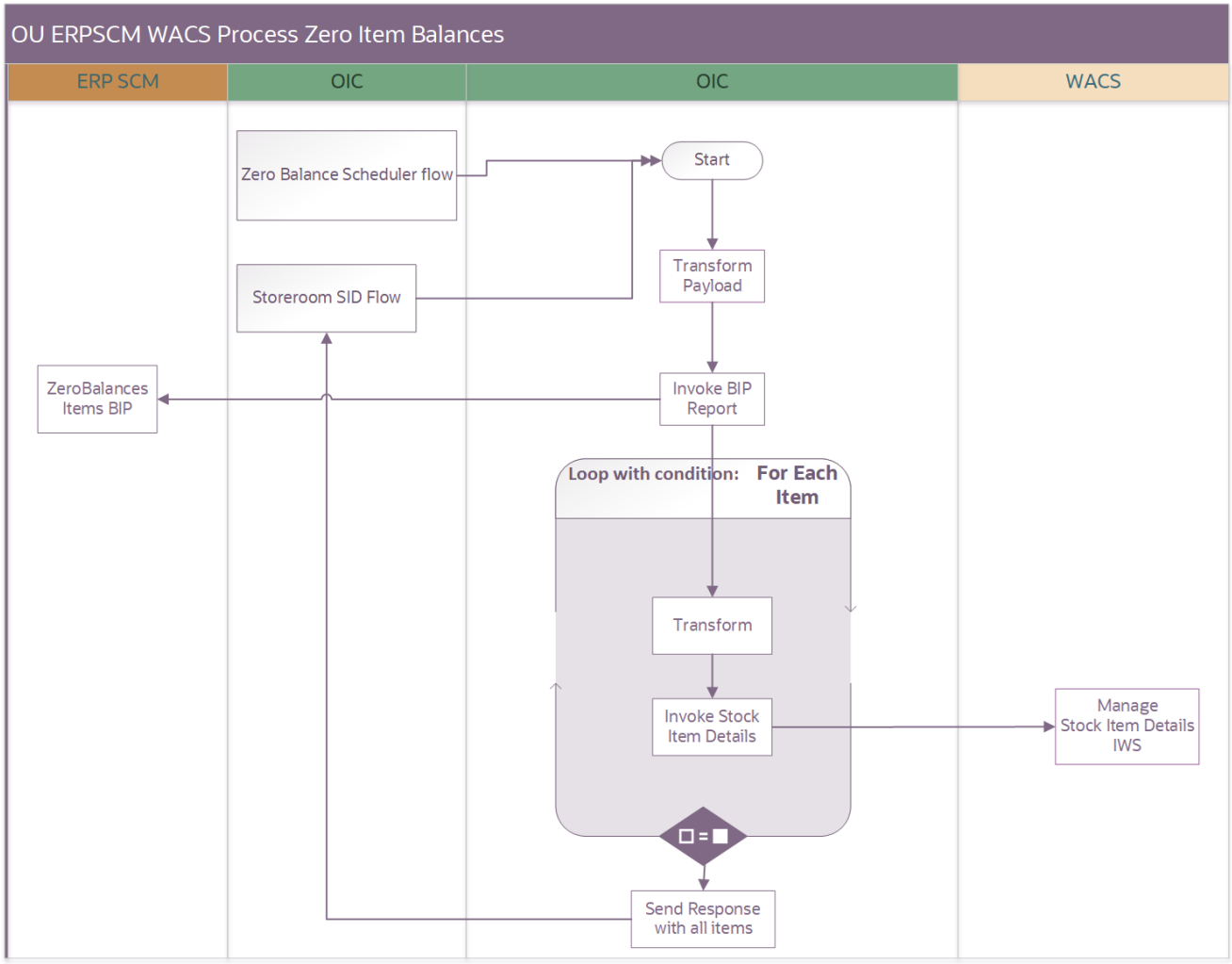
The following table describes the integration processes and the respective artifacts used in this integration process:

Artifacts	Value
REST Adapter	OU REST ERP for WACS-ERPSCM
SOAP Adapter	OU BI ERP SCM for WACS-ERPSCM
Oracle Utilities Adapter (REST)	OU REST WACS for WACS-ERPSCM

OU ERPSCM WACS Process Zero Item Balances

This integration extracts Zero Balance items from Oracle ERP and update the stock item details in Oracle Utilities Work and Asset Cloud Service.

The following diagram shows a graphical representation of the OU ERPSCM WACS Process Zero Item Balances process:



Processing Details

- The integration processes zero balances item details from Oracle Supply Chain Management to Oracle Utilities Work and Asset Management.
- This is an application driven integration.
- This Oracle Integration Cloud integration process performs the following:
  a. The integration triggers when the OU ERPSCM WACS Zero Item Balances Scheduler is run, and also when the OU ERPSCM WACS Storeroom SID Sync is invoked from OU ERPSCM WACS Inactive Storeroom Sync.
  b. Invokes the zero balances BIP report that retrieves all the items which are of "WACS" item category and with quantity zero.

c. Repeats the following steps for each item:

   a. Transforms the payload to Oracle Utilities Work and Asset Management format.

   b. Invokes the Manage Stock Item Details Oracle Utilities Work and Asset Management IWS.

d. Return the response with all items when it invoked from OU ERPSCM WACS Storeroom SID Sync.

e. In case of any errors:

   a. Invokes the OU WACS ERPSCM Common Error Handler flow.

f. In the end, sends a process completion email notification with the success and error details.

g. In Global Fault Handler:

   a. The OU WACS ERPSCM Common Error Handler flow will send an optional email notification based on the notification.error.flag property configured in the OUTL-BRT-WACS_ERPSCM_ConfigProps lookup.

Technical Details

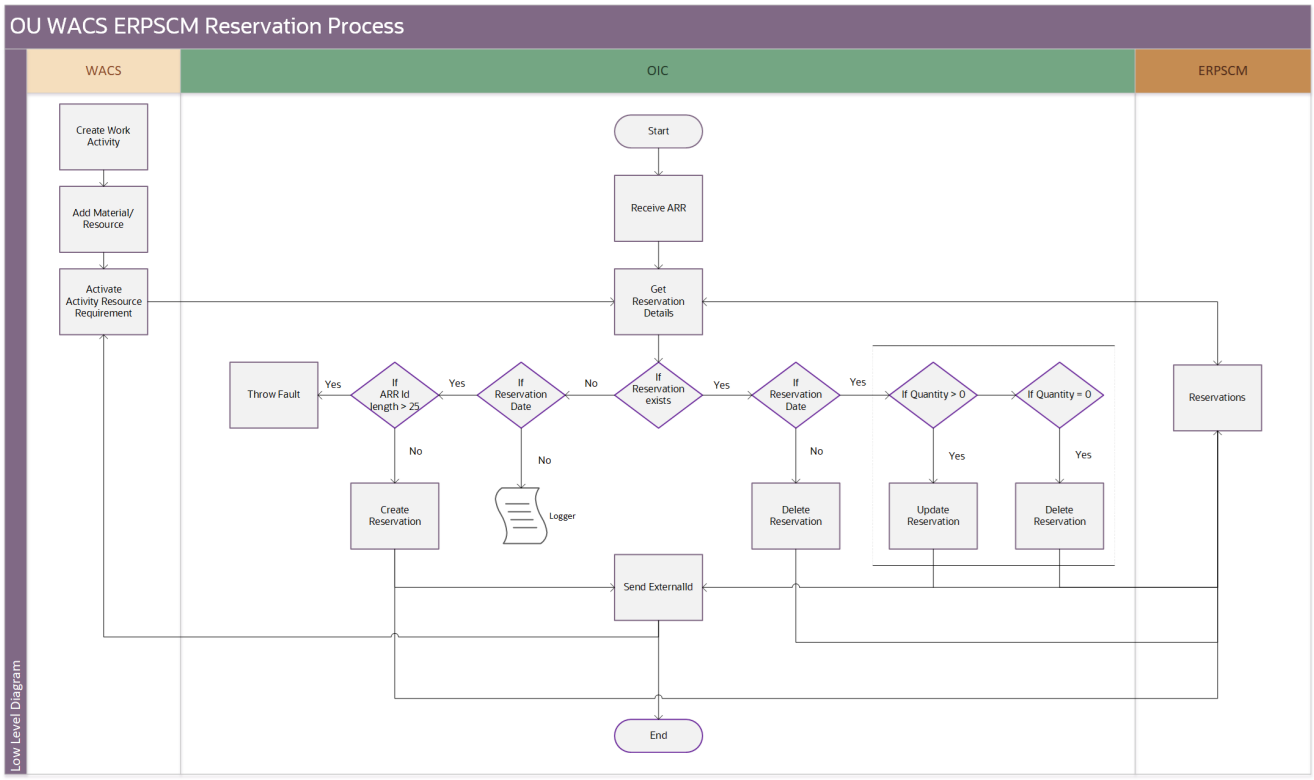
The following table describes the integration processes and the respective artifacts used in this integration process:

Artifacts	Value
REST Adapter	OU REST ERP for WACS-ERPSCM
SOAP Adapter	OU BI ERP SCM for WACS-ERPSCM
Oracle Utilities Adapter (REST)	OU REST WACS for WACS-ERPSCM

OU WACS ERPSCM Reservation Process

This integration sends activity resource requirements from Oracle Utilities Work and Asset Cloud Service to Oracle Supply Chain Management.

The following diagram shows a graphical representation of the OU WACS ERPSCM Reservation Process process:



Processing Details

- The integration process is application driven orchestration.
- The integration will be triggered when the Oracle Utilities Work and Asset Management/ Oracle Utilities Work and Asset Cloud Service activity planner creates an ARR.
- This Oracle Integration Cloud integration process performs the following:
  a. The integration receives the ARR details from Oracle Utilities Work and Asset Cloud Service.
  b. Invokes the Get Reservation ERP rest service with DemandSourceName, and InventoryItemId parameters.
  c. If Reservation exists in ERP:
     - Check for the reservation date.
     - If the reservation date exists, check for the quantity.
       - If the onDemandQuantity >0:
         - Transforms the Oracle Utilities Work and Asset Management/ Oracle Utilities Work and Asset Cloud Service ARR data into the ERP Reservation format.
         - Invokes the "Update Reservation" ERP rest service with ReservationId as the parameter.

- Transforms the response from ERP.
- Sends the response to Oracle Utilities Work and Asset Management/ Oracle Utilities Work and Asset Cloud Service.

- If the quantity = 0:
  - Transforms ReservationId received from the GET Reservation API response.
  - Invokes the "Delete Reservation" ERP rest service.
- Else, do not do anything.

- If there is no reservation date:
  - Transforms the ReservationId received from the GET Reservation API response.
  - Invokes the "Delete Reservation" ERP rest service.
  - If the deletion is successful, sends Reservation ID to Oracle Utilities Work and Asset Management/Oracle Utilities Work and Asset Cloud Service.

d. Else, if the reservation does not exist in ERP:

- If the reservation date exists:
  - If the activityResourceRequirementId length is more than 25, throw fault.
  - Else:
    - Transforms the Oracle Utilities Work and Asset Management/ Oracle Utilities Work and Asset Cloud Service ARR data into the ERP reservation schema format.
    - Invokes the "Create Reservation" ERP rest service.
    - Transforms the response from ERP.
    - Send the Reservation ID to Oracle Utilities Work and Asset Management/Oracle Utilities Work and Asset Cloud Service.
- Else, if the reservation date is not present, the "No reservation date" message is printed in the log.

e. In case of success, the reservation ID is mapped to Oracle Utilities Work and Asset Management/Oracle Utilities Work and Asset Cloud Service.

f. In case of any errors:

- Fault is thrown.
- Invokes the OU WACS ERPSCM Common Error Handler flow in Global Fault Handler.
- OU WACS ERPSCM Common Error Handler flow sends an optional email notification based on the notification.error.flag property configured in the OUTL-BRT-WACS_ERPSCM_ConfigProps lookup.

Technical Details

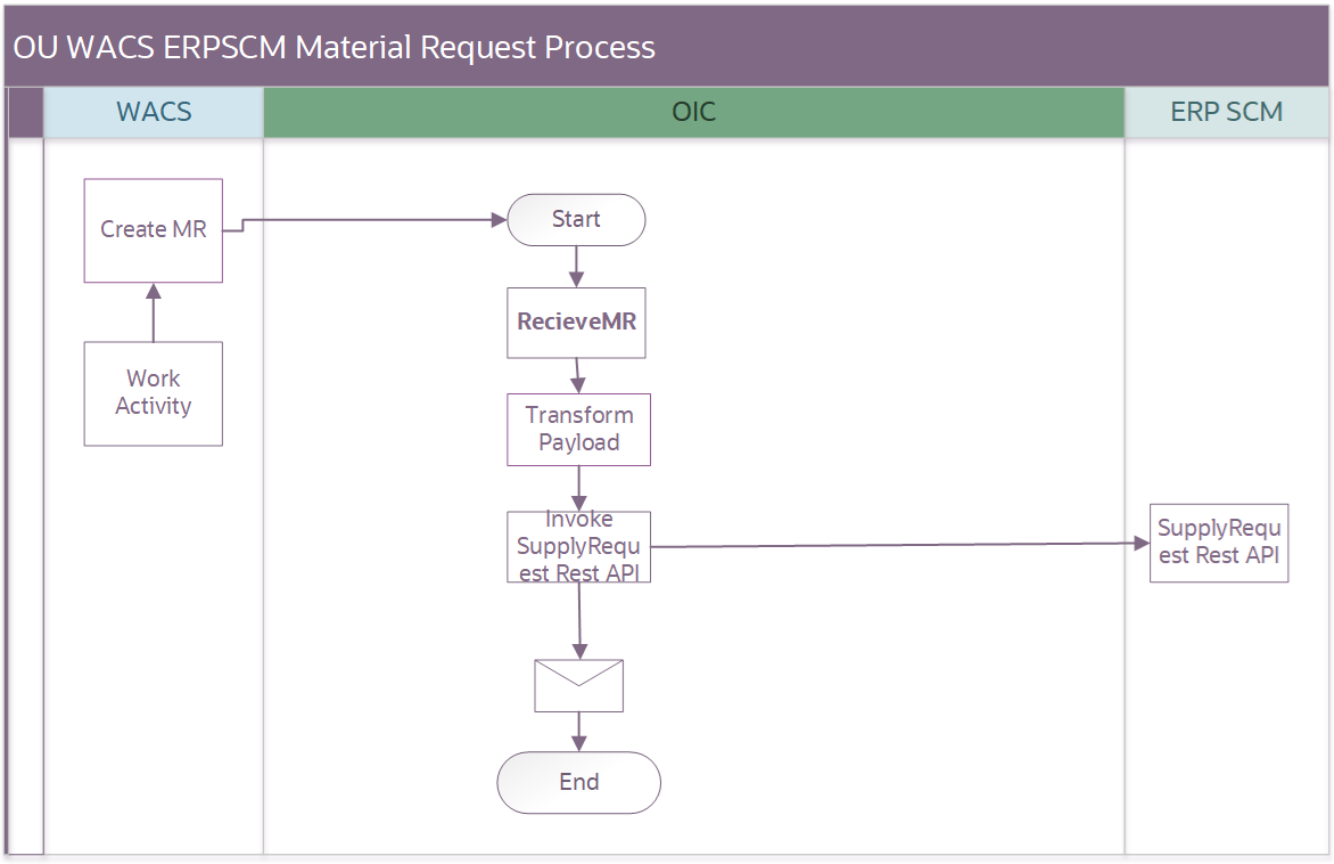
The following table describes the integration processes and the respective artifacts used in this integration process:

Artifacts	Value
REST Adapter	OU REST WACS for WACS-ERPSCM
SOAP Adapter	OU ERPSCM Cloud for WACS-ERPSCM
Oracle Utilities Adapter (REST)	OU REST ERP for WACS-ERPSCM

OU WACS ERPSCM Material Request Process

This integration synchronizes material request from Oracle Utilities Work and Asset Cloud Service to Oracle Supply Chain Management as a supply request.

The following diagram shows a graphical representation of the OU WACS ERPSCM Material Request process:



Processing Details

This Oracle Integration Cloud flow performs the following:

- It will be triggered from Oracle Utilities Work and Asset Cloud Service material request outbound.

- Transforms the Oracle Utilities Work and Asset Cloud Service request to the Oracle Supply Chain Management supply request format.
- Invokes the Supply Request REST API to create a supply request in Oracle Supply Chain Management.
- Sends the process completion email notification with all material line details, if the configuration property is enabled.
- If error records collection > 0, invoke the OU WACS ERPSCM Common Error Handler to send an error email notification.

  Note: Sending the email notification is optional; this can be configured in the configuration properties lookup by setting the notification.email.error.flag to 'true'.

Technical Details

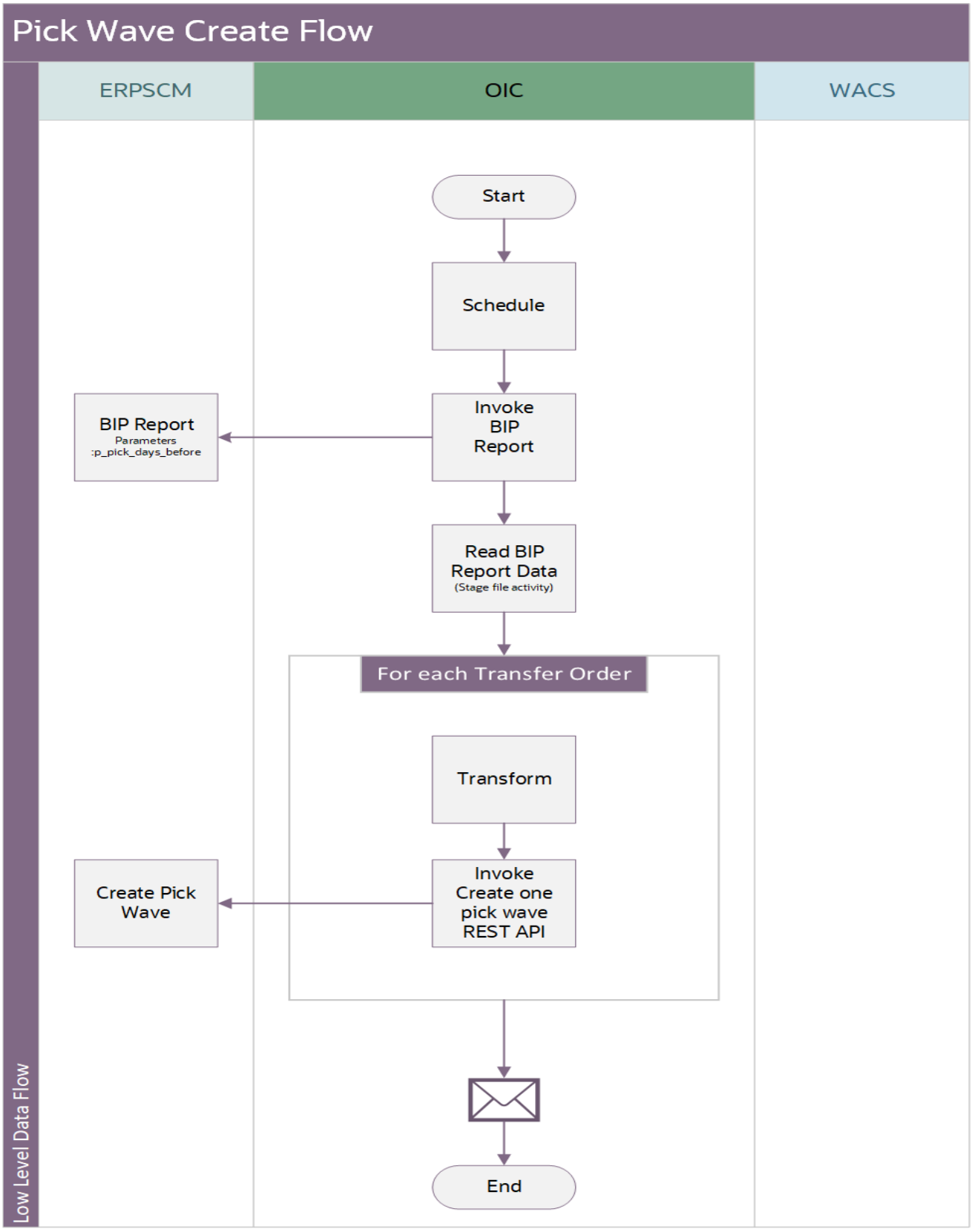
The following table describes the integration processes and the respective artifacts used in this integration process:

Artifacts	Value
Oracle Utilities Adapter (REST)	OU REST WACS for WACS-ERPSCM
REST Adapter	OU REST ERP for WACS-ERPSCM

OU ERPSCM WACS Pick Wave Process

This integration creates Pick Wave transactions for all eligible transfer orders.

The following diagram shows a graphical representation of the OU ERPSCM WACS Pick Wave process:



Processing Details

This Oracle Integration Cloud flow performs the following:

- It is a scheduler driven integration.
- Invokes the BIP report service to get the eligible transfer order details from Oracle Supply Chain Management.
- Read the BI report data that is an XML file (using stage file activity).
- For each transfer order:
  - Invokes the Get All Transfer Orders REST API.
  - For each transfer order line:
    - If wacsArrId in child transferOrderLineDFFs is not null:
      - Invokes Get All Reservations REST API.
      - If count !=0:
        - If Reservation Qty > Requested Qty, update reservation.
        - Else, delete reservation.
  - Transform the record.
  - Invoke the Create One Pick Wave REST API.
- In case of any errors:
  - Append the fault details to the error collection.
  - If error collection is not empty:
    - Invoke OU WACS ERPSCM Common Error Handler.
- Send the completion email with transfer order, pick wave number (PickingBatchName), and return message.

Technical Details

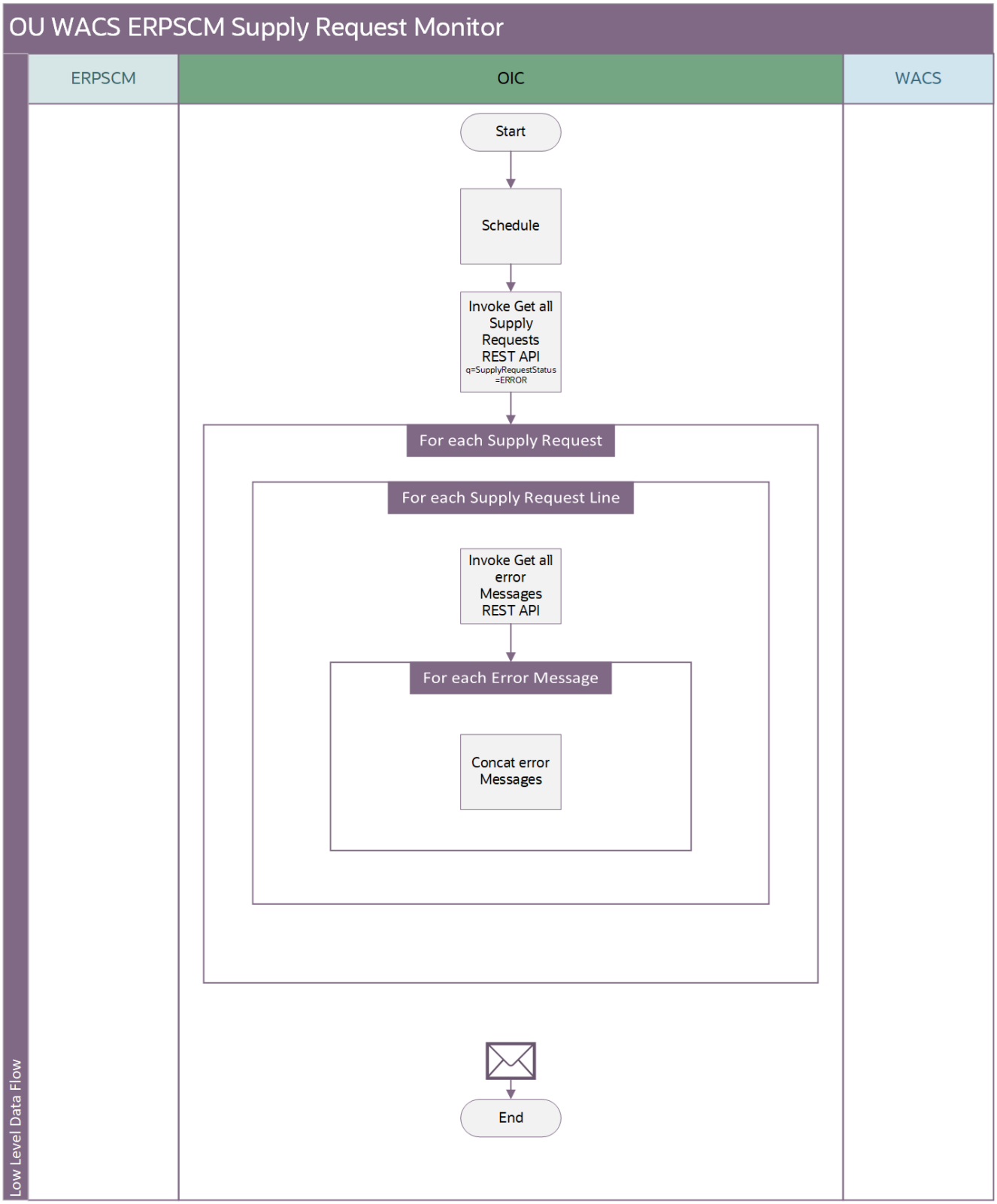
The following table describes the integration processes and the respective artifacts used in this integration process:

Artifacts	Value
SOAP Adapter	OU BI ERP SCM for WACS-ERPSCM
Oracle ERP Cloud Adapter	OU ERPSCM Cloud for WACS-ERPSCM
REST Adapter	OU REST ERP for WACS-ERPSCM

OU WACS ERPSCM Supply Request Monitor

This integration handles failed supply requests by extracting error details and sending email notifications.

The following diagram shows a graphical representation of the OU WACS ERPSCM Supply Request Monitor process:



Processing Details

This Oracle Integration Cloud flow performs the following:

- This is a scheduled orchestration flow.
  - Schedule parameter: no_of_days_before
- Invokes get all Supply Requests API with parameters - SupplyRequestStatus=ERROR & SupplyRequestDate<=current-date() and >=curent-date()-no_of_days_before
- For each supply request, repeats the following steps:
  - Appends the Supply Request Reference Number to tableData.
  - For each supply request line, repeat the following steps:
    - Appends the Supply Request Reference Line Number to tableData.
    - Invokes the get all error messages API.
    - For each error message:
      - Extracts the error from message text and append to table data.
  - If no error supply requests are found:
    - No error supply requests found in the message ID logged.
  - Else:
    - Sends an email with the collected error information.

Technical Details

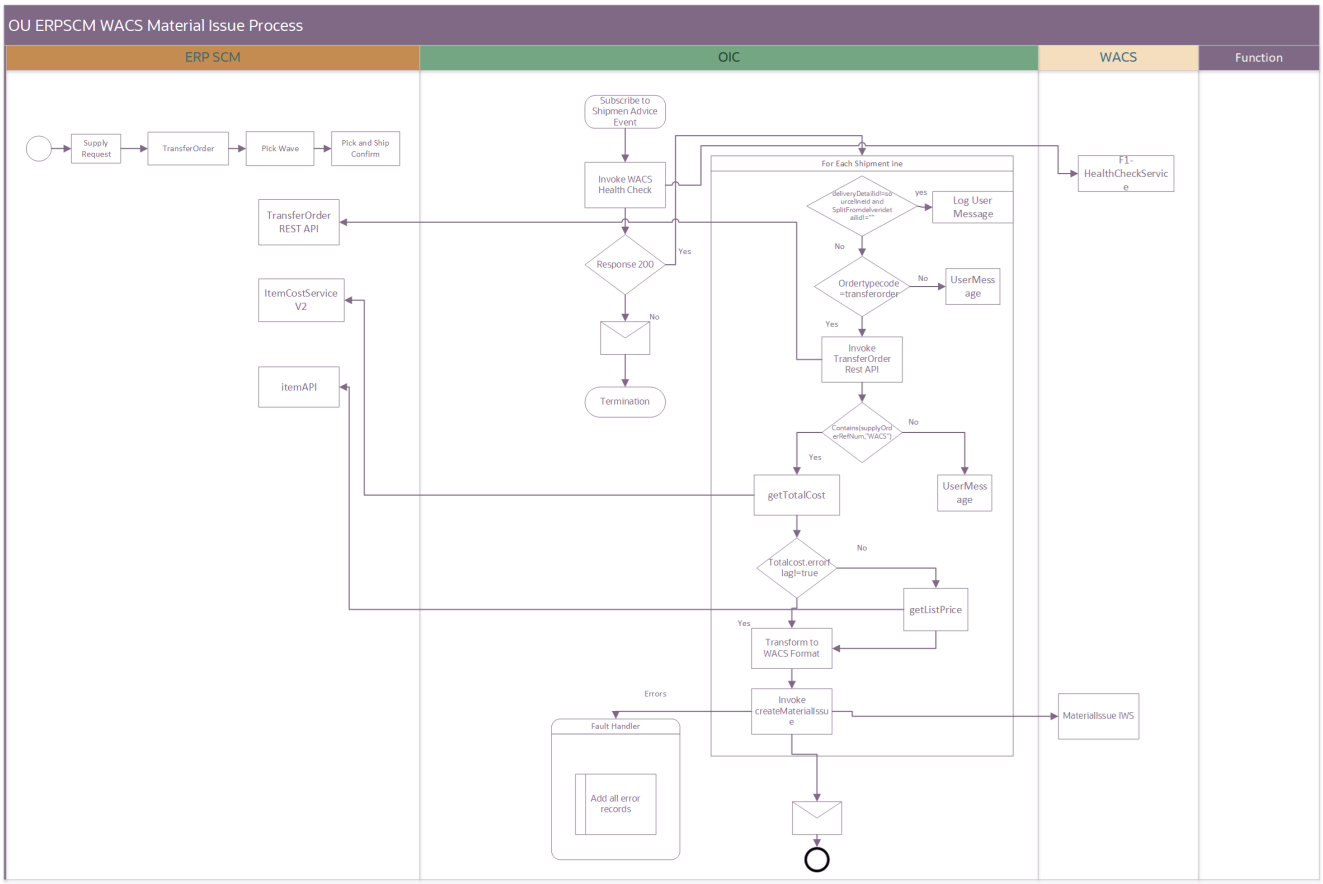
The following table describes the integration processes and the respective artifacts used in this integration process:

Artifacts	Value
REST Adapter	OU REST ERP for WACS-ERPSCM

OU ERPSCM WACS Material Issue Process

This integration creates a materials issue in Oracle Utilities Work and Asset Cloud Service for the confirmed shipment lines from Oracle Supply Chain Management.

The following diagram shows a graphical representation of the OU ERPSCM WACS Material Issue process:



Processing Details

This Oracle Integration Cloud flow performs the following:

- This is an event-based orchestration flow.
- Subscribes the “Shipment Advice Event”.
- For each shipment line, repeats the following steps:
- If Check DeliveryDetailId != SourceLineId and SplitFromDeliveryDetailId != '':
  - Then, log the “This is Back Order Line, hence not processing further.” message.
  - Else:
    - If Check Order Type Code=Transfer_Order:
      - Then, get the transfer order details by invoking the REST API. Extract the transfer order details using stage activity for the corresponding item.
        - If the Supply Order Reference Number contains “WACS”:
          - Retrieve the Item Cost by invoking the Cost REST API.

- If the response from Cost API is success, map the cost of item and transform into the WACS Material Issue Rest API input data format.
- Else, get the List Price from the Item REST API.
- Map the list price of item and transform into the WACS Material Issue Rest API input data format.
- Invoke the Material Issue REST API.

- Else, log the "Transfer Order Not generated from WACS." message.

- Else, log the "It is not Transfer Order." message.

- If the error records created send an email with the collected error information, send a completion email notification.

Note that the Shipment Advice Event should be enabled in Oracle Supply Chain Management.

Technical Details

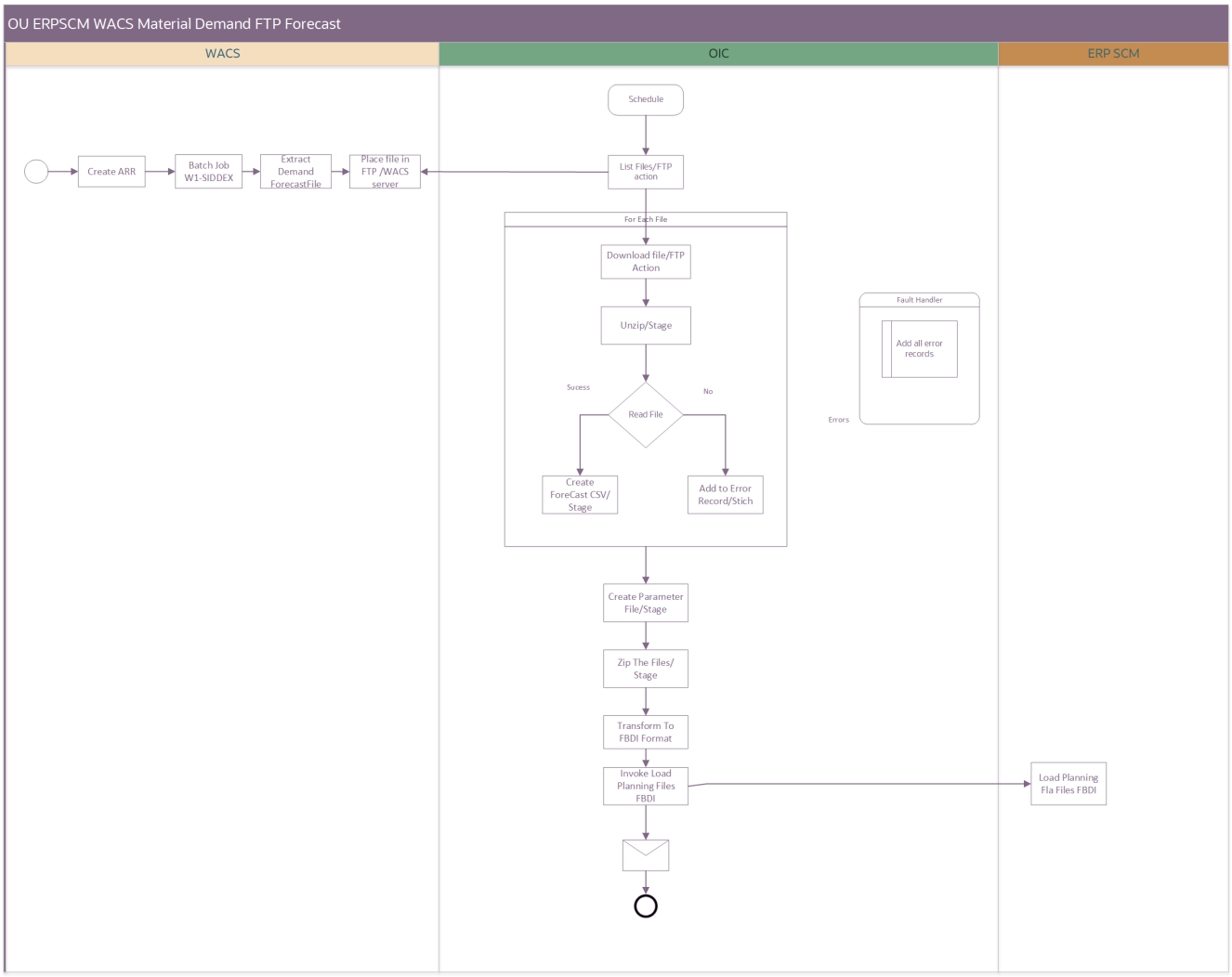
The following table describes the integration processes and the respective artifacts used in this integration process:

Artifacts	Value
REST Adapter	OU REST ERP for WACS-ERPSCM
ERP Cloud Adapter	OU ERPSCM Cloud for WACS-ERPSCM
REST Adapter	OU REST WACS for WACS-ERPSCM
SOAP Adapter	OU SOAP WACS for WACS-ERPSCM

OU WACS ERPSCM Material Demand FTP Forecast

This integration reads the Oracle Utilities Work and Asset Cloud Service batch file from FTP for Material Demand, transform it to the target schema, and upload it as external forecast in Oracle Supply Chain Management Planning through external forecast FBDI.

The following diagram shows a graphical representation of the OU WACS ERPSCM Material Demand FTP Forecast:



Processing Details

This Oracle Integration Cloud flow performs the following:

- This is a scheduled orchestration flow.
- Lists all files with the "ERPFORECAST" prefix by invoking the **List Files** operation of the FTP Adapter Connection.

  Note: Make sure the file name pattern is in the "ERPFORECAST_{BC}_{BN}_{TN}.csv.zip" or "ERPFORECAST_{BC}_{BN}_{TN}.csv" format.
- Extract the latest batch number by using time stamp.
- For each file, repeats the following steps:
  - If the file name contains latest batch number, then it will pick the latest batch files to process and mark the other older files names with the 'Excluded-' prefix.

    - Download the file by invoking the **Download** operation of the FTP Adapter connection.
    - Read the file. Create the ERPFORECAST CSV file and rename it to "ExternalForecast.csv".
    - Append all the file records to the csv file.
- Create the "ScpErpIntegrationServiceParams.csv" parameter file.
- Combine the parameter and csv files and zip them.
- Transform and assign the zip file reference into the "Load Planning Data from Flat Files" FBDI format.
- Invoke the "Load Planning Data from Flat Files" FBDI in Oracle ERP Cloud Adapter.
- If there are multiple files in the same batch and a file fails to process, then:
    - The error notification is sent to the user.
    - The name of the file that failed to process is prefixed with "Error-".
    - Other files in the same batch are maked as "NotProcessed-".

Technical Details

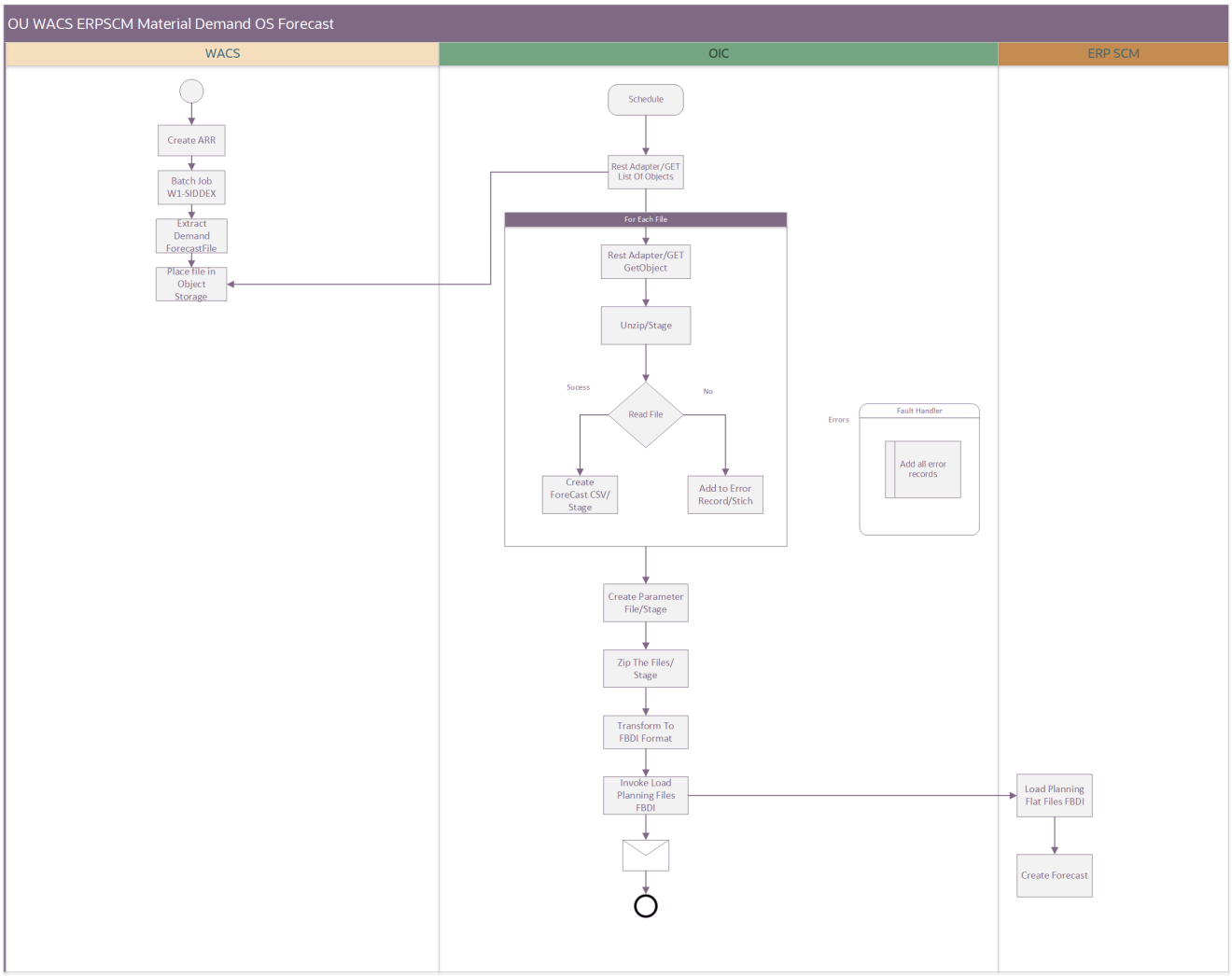
The following table describes the integration processes and the respective artifacts used in this integration process:

Artifacts	Value
ERP Cloud Adapter	OU ERPSCM Cloud for WACS-ERPSCM
FTP Adapter	OU FTP WACS FTP for WACS-ERPSCM

OU WACS ERPSCM Material Demand OS Forecast

The integration reads the Oracle Utilities Work and Asset Cloud Service batch file from Object Storage for Material Demand, transform it to the target schema, and upload it as external forecast in Oracle Supply Chain Management Planning through external forecast FBDI.

The following diagram shows a graphical representation of the OU WACS ERPSCM Material Demand OS Forecast:



Processing Details

This Oracle Integration Cloud flow performs the following:

- This is a scheduled orchestration flow.
- Lists all files with the "ERPFORECAST" prefix by invoking the **Get List Of Objects** operation of the REST Adapter Connection.

  Note: Make sure the file name pattern is in the "ERPFORECAST_{BC}_{BN}_{TN}.csv.zip" or "ERPFORECAST_{BC}_{BN}_{TN}.csv" format.
- Extracts the latest batch number by using time stamp.
- For each file, repeats the following steps:
  - If the file name contains latest batch number, then it will pick the latest batch files to process and mark the other older files names with the "Excluded-" prefix.

- Download the file by invoking the Get Object operation of the REST Adapter connection.
- Read the file. Create the ERPFORECAST CSV file and rename it to "ExternalForecast.csv".
- Append all the file records to the csv file.

- Create the "ScpErpIntegrationServiceParams.csv" parameter file.
- Combine the parameter and csv files and zip them.
- Transform and assign the zip file reference into the "Load Planning Data from Flat Files" FBDI format.
- Invoke the "Load Planning Data from Flat Files" FBDI in Oracle ERP Cloud Adapter.
- If there are multiple files in the same batch and a file fails to process, then:
  - The error notification is sent to the user.
  - The name of the file that failed to process is prefixed with "Error-".
  - Other files in the same batch are maked as "NotProcessed-".

Technical Details

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

Artifacts	Value
ERP Cloud Adapter	OU ERPSCM Cloud for WACS-ERPSCM
FTP Adapter	OU FTP WACS FTP for WACS-ERPSCM

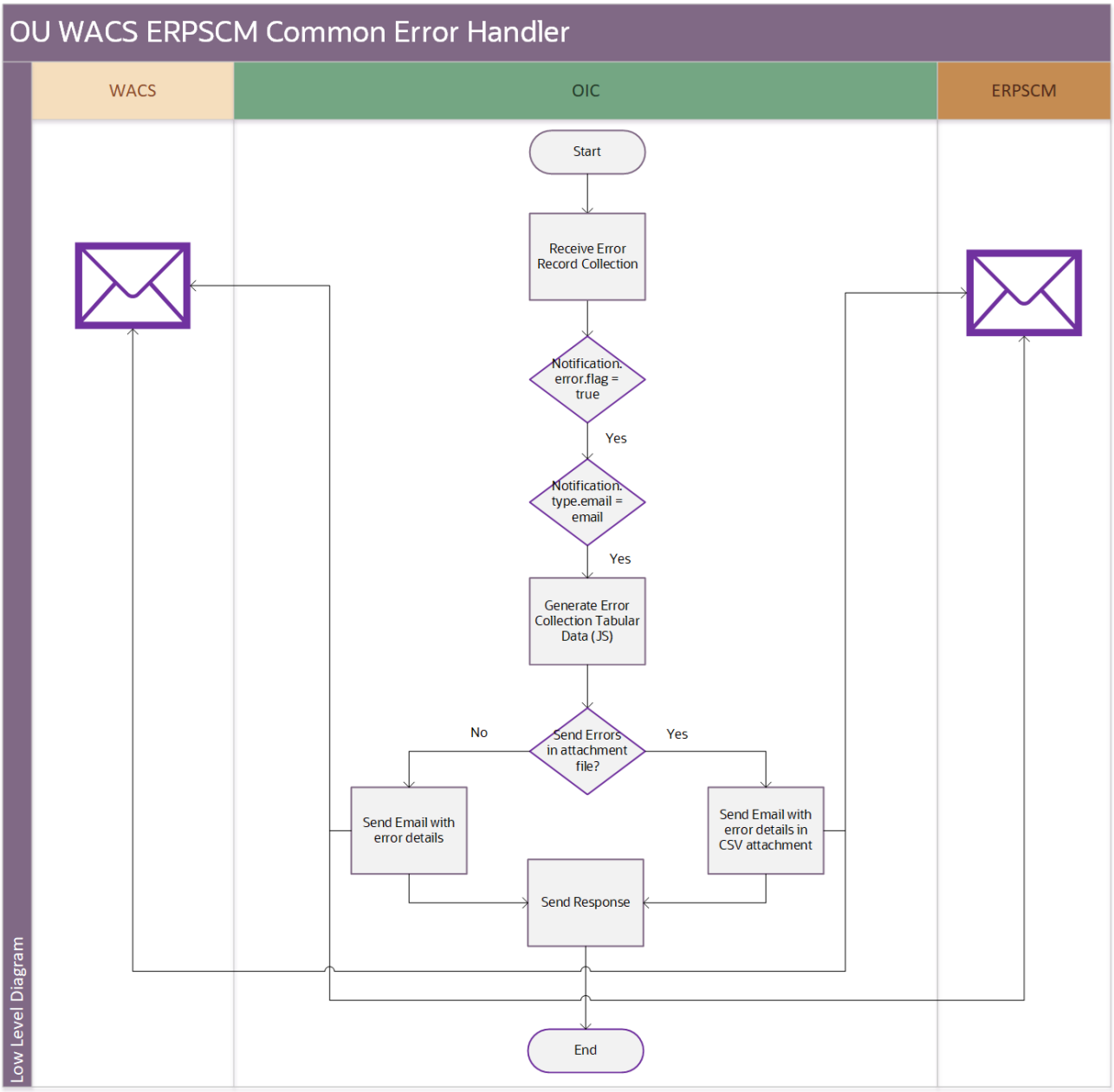
Note that the implementors can decide to use subinventory planning in Oracle Supply Chain Management or not. To use it, set the **Subinventory Planning** flag in OIC to 'yes'. Else, set it to 'no'.

As of this release, the integration supports using the subinventory planning in Oracle Supply Chain Management. Make sure the **Subinventory Planning** flag is set to 'Yes'. Also, make sure to run the Collect Planning Data job in Oracle Supply Chain Management from Oracle Supply Chain Management **Planning** > **Plan Inputs**.

OU WACS ERPSCM Common Error Handler

This application driven integration gets a collection of error records from the other integration processes the integration.

The following diagram shows a graphical representation of the OU WACS ERPSCM Common Error Handler process:



Processing Details

This integration process is an application driven orchestrator deployed on Oracle Integration Cloud. It is initiated when the other integration process throws an error. It is executed as follows:

1. The process gets a collection of error records.
2. Initialize the variables.

3. If the notification flag is set to ‘true’:
    - If the notification type is set to 'email':
        - Send errors as attachment.
        - Write the error records header to a CSV file using the stage file activity.
        - Write the error records to a CSV file using the stage file activity, with 'Append' option selected.
4. Send email notification with the CSV file reference.
5. Else, invoke the getHTMLdata JS extension function to display the error details in a tabular format.
6. Send an email notification.

Technical Details

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

Artifacts	Value
Integration Process Name	OU WACS ERPSCM Common Error Handler
Project Name	OU WACS ERPSCM
REST Adapter	OU REST Trigger for WACS-ERPSCM

Chapter 3

Configuring Oracle Utilities Work and Asset Cloud Service

This chapter provides details about 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
- 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.

- Master Configuration
- ERP Admin Record
- Outbound Integration BO (W1-OutboundIntegration)
- Message Senders
- Outbound Message Types
- External System
- Seasonal Time Shift

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**.

- ERP Integration Master Configuration
- Seeder Sync Request Master Configuration

ERP Integration Master Configuration

To create ERP Integration Master Configuration:

1. Navigate to **Admin Menu** > **M** > **Master Configuration**.
2. Click '+' against the **ERP Integration Master Config** value in the master configuration table.
3. In the **Master Configuration Details** section, select the **ERP Integration Master Config (W1-ERPIntegrationMasterConfig)** business object.
4. Navigate to **Master Configuration** > **ERP Integration Master Config**.
   a. In the **Main** section, define the Oracle ERP External System.

b. In the **Financial Configuration** section, populate the account segments. One must be the Cost Center segment and another the Expense Code segment defined. 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		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

c. In the **Demand Forecasting** section, populate the following values:

- For Additional Demand Calculation, set the following:
  - Include Both
  - Include Pending Demand Quantity
  - Include Reservation Quantity
- Lead Time (mention in days)
- High Value
- High Demand

d. In the **Supply Chain Management Configuration** section, configure the following:

- In the **Storeroom Information** section, the Storeroom Category flag sent by the integration should map to a valid Storeroom Type. This value is configured in the 'wacs.storeroom.category' property in the OUTL-BRT-WACS_ERPSCM_ConfigProps lookup in Oracle Integration Cloud.

  Note: Currently only Standard Storeroom Category is supported in this release.

- In the **Stock Item Detail Information** section, the Stock Item Detail Class flags sent from the integration should map to Oracle Utilities Work and Asset Management Stock Item Detail business objects. This value is configured in the item.assign.stockitemdetail.class property in the OUTL-BRT-WACS_ERPSCM_ConfigProps lookup in Oracle Integration Cloud.
- In the **Accounting Information** section, populate the necessary fields.

e. In the **Key Reference Mappings** section, Stock Item Detail, Material Issue Line, and Node Mappings must be provided.

The following table shows a sample reference.

Maintenance Object	Ongoing Sync Key Reference View	Identifier Type
Material Issue Line	Integration Key Material Issue View	W1-EXTID
Node	Ongoing Sync Key Location View	W1SE
Stock Item Detail	Ongoing Sync Key Stock Item Detail View	W1EX

Seeder Sync Request Master Configuration

To create Seeder Sync Request Master Configuration:

1. Navigate to **Admin Menu** > **M** > **Master Configuration**.
2. Click '+' against the **Seeder Sync Request Master Config** value in the master configuration table.
3. In the **Master Configuration Details** section, select the **Seeder Sync Request Master Config (W1-SeederSyncReqMasterConfig)** business object.
4. Navigate to **Master Configuration** > **Seeder Sync Request Master Configuration**.
    a. Create a row for the ERP External System, add the Cost Center and Resource Type Maintenance Object (MO) request mappings, and define the Ongoing Sync Request Business Objects and Key Reference Views.

    The following table shows a sample reference.

Maintenance Object	Ongoing Sync request BO	Ongoing Sync Key Reference View	Identifier Type
W1-COSTCTR (Cost Center)	W1-OngoingSync RequestCostCtr (Cost Center Ongoing Sync Request)	W1_ON_COST_CE NTER_VW (Ongoing Sync Key Cost Center View)	W1EI
W1-RESRCTYPE (Resource Type)	W1-OngoingSyncRequestStockItem (Stock Item Ongoing Sync Request)	W1_ON_STOCK_ITEM_VW (Ongoing Sync Key Stock Item View)	W1EI

ERP Admin Record

This section describes the Enterprise Resource Planning integration related configurations for the integration.

The Stock Item Detail, Stock Transaction, and Material Issue Line maintenance objects should be owned by Oracle Fusion ERP Cloud.

1. Navigate to **Admin Menu** > **E** > **ERP Integration** > **Add**.
2. Select “Stock Item Detail” as the **Maintenance Object**.
3. Select “Enterprise Resource Planning” as the **Owner**.
4. Repeat the steps 2 and 3 for the “Stock Transaction” and “Material Issue Line” maintenance objects.

Outbound Integration BO (W1-OutboundIntegration)

Make sure the following lifecycle algorithms are inactive:

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

To inactivate the algorithm, add an option in the Status with an Inactive Algorithm Option Type and the name of the algorithm in the **Value** field.

Message Senders

Create a new message sender for each integration service initiated from Oracle Utilities Work and Asset 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 Header: application/json
   - HTTP Login User: User ID to access the Oracle Integration Cloud flow.
   - HTTP Password: Password to access the Oracle Integration Cloud flow.
   - HTTP Method (POST/GET): POST
   - HTTP Timeout: 60
   - HTTP Transport Method: SendReceive
   - HTTP URL 1: Set the Activated Integration end point URL by removing the ?wsdl from the 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	HTTP URL
INT_ARR	Message Sender for ARR/ Reservation ERP Integration	https://OIC_HOST/ic/api/integration/v2/flows/oracleutilities/project/OUTL-BA-WACS_ERPSCM/OU_WACS_ERPSCM_RESERVATION_PROC/1.0/arReq
INT_MR	Message Sender for Material Request ERP Integration	https:// OIC_HOST/ic/api/integration/v2/flows/oracleutilities/project/OUTL-BA-WACS_ERPSCM/OUTL-BA-WACS_ERPSCM_MRREQ_PROCES/1.0/receiveMR

Outbound Message Types

The following outbound message types are provided for each integration process.

On the **Admin** menu, navigate to the **Outbound Message Type** page. You can also navigate from the **Search** menu.

Add the following details to create an outbound message type:

Outbound Message Type	Description	Outbound Message BO	Priority
W1-AMROUTMS	Activity Mat Resource Outbound Message Type	W1-ActMatResrcOutboundMessage	50
W1-MROUTMS	Material Request Outbound Message Type	W1-MatlReqIntegOutMsg	50

External System

Create a new or update an existing external system to support the Oracle ERP 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 Description.
3. Associate the outbound message types and message senders created to the external system.

   For each outbound message type, set the following:

Outbound Message Type	Processing Method	Message Sender	Date/Time Format	JSON Conversion Method
W1-AMROUTMS	Real-time	INT_ARR	XSD	Base JSON Conversion
W1-MROUTMS	Real-time	INT_MR	XSD	Base JSON Conversion

Managing Catalog Services

The catalog service is used by Oracle Integration Cloud to communicate with the respective application. It is used to identify the 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 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 following REST inbound web services to the catalog:

Service Type	Service Name	Description
Inbound Web Service	W1-StockItemDetail	Manage Stock Item Detail

Service Type	Service Name	Description
Inbound Web Service	W1-Storeroom	Manage Storeroom
External System	OUINT_ERP	Oracle ERP Application Integration

For more information about configuration, refer to the Oracle Utilities Work and Asset Cloud Service documentation available on Oracle Help Center at: https://docs.oracle.com/en/industries/energy-water/work-asset-cloud-service/index.html

Seasonal Time Shift

To configure the **Seasonal Time Shift** flag in Oracle Utilities Work and Asset Cloud Service:

1. Login to Oracle Utilities Work and Asset Cloud Service.
2. Navigate to **Admin** > **[W or Integration]** menu > **Install Options**.

   Alternatively, you can search the **Install Options** from the Search menu.
3. Select the **Seasonal Time Shift** flag.

Chapter 4

Configuring Oracle Supply Chain Management

For Oracle Supply Chain Management configuration details, refer to the *Oracle Supply Chain Management Configurations for Oracle Utilities Work and Asset Cloud Service Integration to Oracle Supply Chain Management Setup Guide* included in this release.

The complete documentation for this release is available on the Oracle Energy and Water Integrations page on Oracle Help Center.

Chapter 5

Importing, Configuring, and Testing Integration Connections

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

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

Importing the Oracle Accelerator Project from Oracle Cloud Marketplace

All integration points are shipped as part of single accelerator project (.car) 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 Integration to Supply Chain Management". In the **Region/Country** filter, select the **North America** checkbox.
4. Select the pre-built integration project.
5. Click **GetApp**.
6. Review and accept "Oracle Standard Terms and Restrictions".
7. Click **Next**. My Oracle Support portal opens.
8. From the integration artifacts table, click the link to download the WACS-ERPSCM OIC Accelerator Project .car file.
   - OUTL-BA-WACS_ERPSCM-01.25.0400.car
9. Before importing the new Accelerator Project (.car) file into your Oracle Integration Cloud instance, do the following:
   - Take a backup of the existing customized integrations and lookups.
   - Perform cleanup by deactivating and deleting the existing flows, connections, lookups, libraries used in the integration, and the .par package file.

   If your previous pre-built integration was packaged based (.par file), you will see:
   - The package is visible on the **Design-Packages** page in your Oracle Integration Cloud instance.
   - The individual integration flows are visible on the **Design-Integrations** page. Each integration flow is designated with an accelerator and the BUILT BY ORACLE message is displayed.
10. In the navigation pane, click **Projects** and then click **Add**.
11. 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.
12. 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.

Verifying the Project Import

To verify the OU WACS ERPSCM project import was successful:

1. Verify if the following integrations having version 1.24.3000 are imported successfully as seen in the **Integrations** section of the project:
    - OU ERPSCM WACS Active Storeroom Sync
    - OU ERPSCM WACS Inactive Storeroom Sync
    - OU ERPSCM WACS Storeroom SID Sync
    - OU ERPSCM WACS Stock Item Detail Bulk Load
    - OU ERPSCM WACS Stock Item Detail Incremental Sync
    - OU ERPSCM WACS Stock Item Detail Inv Adj Extract
    - OU ERPSCM WACS Stock Item Detail Inv Adjustment
    - OU ERPSCM WACS Zero Item Balances Scheduler
    - OU ERPSCM WACS Process Zero Item Balances
    - OU WACS ERPSCM Reservation Process
    - OU WACS ERPSCM Material Request Process
    - OU ERPSCM WACS Pick Wave Process
    - OU WACS ERPSCM Supply Request Monitor
    - OU ERPSCM WACS Material Issue Process
    - OU WACS ERPSCM Material Demand OS Forecast
    - OU WACS ERPSCM Material Demand FTP Forecast
    - OU WACS ERPSCM Common Error Handler
2. Verify if the following connections are in place.
    - OU BI ERP SCM for WACS-ERPSCM
    - OU SOAP WACS for WACS-ERPSCM
    - OU ERPSCM Cloud for WACS-ERPSCM
    - OU REST ERP for WACS-ERPSCM
    - OU SOAP UCM Generic Service for WACS-ERPSCM
    - OU REST WACS for WACS-ERPSCM
    - OU REST Trigger for WACS-ERPSCM
    - OU FTP WACS FTP for WACS-ERPSCM
    - OU REST WACS OS for WACS-ERPSCM
3. Make sure that the following lookups are imported successfully.
    - OUTL-BRT-WACS_ERPSCM_ConfigProps
    - OUTL-BRT-WACS_ERPSCM_Country
    - OUTL-BRT-WACS_ERPSCM_Email_ID
    - OUTL-BRT-WACS_ERPSCM_State

- OUTL-BRT-WACS_ERPSCM_Item_UOM
- OUTL-BRT-WACS_ERPSCM_Timezone

Configuring Connections in Oracle Integration Cloud

After the project is imported and verified, the respective connections have to be configured.

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

- OU BI ERP SCM for WACS-ERPSCM
- OU SOAP WACS for WACS-ERPSCM
- OU ERPSCM Cloud for WACS-ERPSCM
- OU REST ERP for WACS-ERPSCM
- OU SOAP UCM Generic Service for WACS-ERPSCM
- OU REST WACS for WACS-ERPSCM
- OU REST Trigger for WACS-ERPSCM
- OU REST WACS OS for WACS-ERPSCM
- OU FTP WACS FTP for WACS-ERPSCM

OU BI ERP SCM for WACS-ERPSCM

This connection is used to invoke the BI Report SOAP service in Oracle Fusion ERP Cloud.

To configure the OU BI ERP SCM for WACS-ERPSCM connection:

1. Login to Oracle Integration Cloud and navigate to the connection.
2. In the **Connection Properties** section, enter the BI Report Service WSDL URL.
3. Click **Test** at the upper-right corner.
4. After the connection is tested successfully, click **Save**.

OU SOAP WACS for WACS-ERPSCM

This connection is used to connect to Oracle Utilities Work and Asset Cloud Service.

To configure the OU SOAP WACS for WACS-ERPSCM connection:

1. Login to Oracle Integration Cloud and navigate to the connection from the **Projects** page.
2. In the **Connection Properties** section, enter the catalog WSDL URL.
3. In the **Security** section:
   a. Select **Basic Authentication Security Policy**.
   b. Enter the ERP **Username** and **Password** to connect to Oracle Assets.
4. Click **Test** at the upper-right corner.

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

OU ERPSCM Cloud for WACS-ERPSCM

This connection is used to invoke Oracle Supply Chain Management cloud for ERPSCM using Oracle ERP Cloud adapter.

To configure the OU ERPSCM Cloud for WACS-ERPSCM connection:

1. Login to Oracle Integration Cloud and navigate to the connection.
2. In the **Connection Properties** section, enter the Oracle Fusion ERP Cloud Host URL.

   Example: https://ERP_domain_name.ds-fa.oraclecloud.com

   Note: The Oracle Fusion ERP Cloud host name can easily be derived from the Oracle Fusion ERP Cloud login URL.
3. In the **Security** section:
   a. Select **Username Password Token Security Policy**.
   b. Enter the ERP **Username** and **Password** to connect to Oracle Supply Chain Management.
4. Click **Test** at the upper-right corner.
5. After the connection is tested successfully, click **Save**.

OU REST ERP for WACS-ERPSCM

This connection is used to invoke the ERPSCM REST APIs to get the Location/ Organization/subinventories using REST adapter.

To configure the OU REST ERP for WACS-ERPSCM connection:

1. Login to Oracle Integration Cloud and navigate to the connection.
2. In the **Connection Properties** section:
   a. Select "restUrl" as the **Connection Type**.
   b. Enter the ERP Cloud Host URL.
3. In the **Security** section:
   a. Select **Basic Authentication Security Policy**.
   b. Enter the **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**.

OU SOAP UCM Generic Service for WACS-ERPSCM

This connection is used to connect to UCM server in Oracle Fusion ERP Cloud.

To configure OU SOAP UCM Generic Service for WACS-ERPSCM connection:

1. Login to Oracle Integration Cloud and navigate to the connection from the **Project** page.
2. In the **Connection Properties** section, enter the WSDL URL.
3. In the **Security** section:
    a. Select **Basic Authentication Security Policy**.
    b. Enter the ERP **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**.

OU REST WACS for WACS-ERPSCM

This connection is used to connect to Oracle Utilities Work and Asset Cloud Service using REST adapter.

To configure OU REST WACS for WACS-ERPSCM connection:

1. Login to Oracle Integration Cloud and navigate to the connection.
2. In the **Connection Properties** section
    a. Select "restUrl" as the **Connection Type**.
    b. Enter the WACS Cloud Host URL.
3. In the **Security** section:
    a. Select **Basic Authentication Security Policy**.
    b. Enter the ERP **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**.

OU REST Trigger for WACS-ERPSCM

This connection is used to receive and send stock item details across the Oracle Integration Cloud integration flows using REST adapter. It is also used to invoke the common error handler Oracle Integration Cloud flow.

To configure the OU REST Trigger for WACS-ERPSCM connection:

1. Login to Oracle Integration Cloud and navigate to the connection.
2. In the **Security** section, select **OAuth2.0 Security Policy**.
3. Click **Test** at the upper-right corner.
4. After the connection is tested successfully, click **Save**.

OU REST WACS OS for WACS-ERPSCM

This connection is used to connect to the Oracle Utilities Work and Asset Cloud Service object storage to poll the asset extract files using REST adapter.

To configure the OU REST WACS OS for WACS-ERPSCM connection:

1. Login to Oracle Integration Cloud and navigate to the connection.
2. In the **Connection Properties** section, enter the object storage API endpoint in the **Connection URL** field.

   The **Connection URL** follows this format: https://objectstorage.{region}.oraclecloud.com

   Visit the API Reference and Endpoints page on the Oracle Cloud Infrastructure Documentation portal for more information on Object Storage Service API and endpoints.
3. In the **Security** section:
   a. Select the **OCI Signature Version 1** security policy.
   b. Provide the following Object Storage information:
      - Tenancy OCID
      - User OCID
      - Upload the private key
      - Fingerprint (obtained from object storage after register the public key for the appropriate user)

      For more information, refer to the Object Storage Setup Guide 20C in the Oracle Utilities Cloud Services 20C documentation library.
4. Click **Test** at the upper-right corner.
5. After the connection is tested successfully, click **Save**.

OU FTP WACS FTP for WACS-ERPSCM

This connection is used to connect to the Oracle Utilities Work and Asset Cloud Service FTP server to poll the asset extract files using the FTP adapter.

To configure OU FTP WACS FTP for WACS-ERPSCM connection:

1. Login to Oracle Integration Cloud and navigate to the connection.
2. In the **Connection Properties** section, set the values for **FTP Server Host Address (xxxx.com)**, **FTP Server Port**, and **SFTP Connection**.
3. In the **Security** section:
   a. Select the "FTP Server Access Policy" as the **Security Policy**.
   b. Enter the **Username** and **Password** of the Oracle Utilities Work and Asset Cloud Service FTP server.
4. Click **Test** at the upper-right corner.
5. After the connection is tested successfully, click **Save**.

Important! Make sure the FTP Server is setup and configured in Oracle Utilities Work and Asset Cloud Service.

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

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

DVM Name	Description
OUTL-BRT-WACS_ERPSCM_ConfigProps	Used to configure the integration properties. Maps the **PropertyName** column to the respective **Value** column. **Note**: Do not change the values under the **PropertyName** column.
OUTL-BRT-WACS_ERPSCM_Country	Used to map ERPSCM **Country** to the WACS **Country** value.
OUTL-BRT-WACS_ERPSCM_Email_ID	Used to configure email IDs to receive notifications. It maps the 'from' and 'to' recipient values to the mentioned email IDs. You can configure multiple emails by including a comma to separate the email IDs.
OUTL-BRT-WACS_ERPSCM_State	Used to map ERPSCM **State** to the WACS **State** value.
OUTL-BRT-WACS_ERPSCM_Item_UOM	Used to map the ERPSCM **UOM** value to the WACS **UOM** value.

Editing Lookups

To edit a lookup:

1. Login to Oracle Integration for Cloud.
2. Navigate to **Projects** > **OU WACS ERPSCM** > **Lookups**.
3. Select the lookup to edit.
4. Make the necessary changes.
5. Click **Save** and **Close**.

Configuration Properties

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

Property Name	Sample Value	Description
wacs.externalsystem	ERP	Fixed value "ERP"
wacs.storeroom.category	W1ST	Storeroom Category fixed value "W1ST"
wacs.storeroom.active.code	W1AC	Storeroom Active Code fixed value "W1AC"
notification.email.process.complete.flag	true/false	Set to "true" to send notification after integration is processed. Else, set to "false".

Property Name	Sample Value	Description
notification.email.process.nofile.flag	false	Set to "true" to send when no file is found. Else, set to "false".
fileprocessed.prefixtag	Sent-	File prefix needs to be updated to Sent-/-/ Processed- when it is processed successfully without errors.
filenotprocessed.prefixtag	Error-	File prefix needs to be updated to Error- when it is processed with errors.
item.assign.stockitemdetail.class	W1IN	Stock item details class fixed value "W1IN"
execute.sid.bulk	yes	Set to "yes" to run SID sync in bulk.
wacs.storeroom.batchtype	increment	Property used to identify bulk or increment storeroom sync to call SID sync process.
item.adjust.bipreport	/Custom/SCMWACS/InvAdj/ERPSCM_InvAdjReport_WACS.xdo	Path of the BI Report Object.
notification.type.email	email	Notification type
notification.error.flag	true	Flag used in error handler to send an email notification.
wacs.sid.active.code	ACTIVE	Active storerom SID Sync fixed value "ACTIVE"
wacs.sid.inactive.code	INACTIVE	Inactive storerom SID Sync fixed value "INACTIVE"
wacs.storeroom.inactive.code	W1IA	Inactive Storeroom code fixed value "W1IA"
wacs.item.category	WACS	WACS item category defined in ERP
wacs.item.bipreport	/Custom/SCMWACS/InvItem/ERPSCM_CategoryItemReport_WACS.xdo	Path of BI report object for Item category
mat.demand.supplysrctype	On hand	Value of Supply Source Type in ERP
mat.demand.demandsrctype	User Defined	Value of demand source type in ERP
pick.source.system	OPS	Name of source application. The name of the predefined Oracle Fusion source system.

Property Name	Sample Value	Description
pick.release.status	Unreleased	Value that determines the release status. A list of accepted values is defined in the lookup type WSH_BACKORDERS_FLAG.
pick.order.type.code	TRANSFER_ORDER	Value that identifies the type of order. A list of accepted values is defined in the lookup type ORA_WSH_ORDER_LINE_TYPE.
pick.release.flag	true	Contains one of the following values: true or false. If true, release the pick wave along with the pick wave creation. If false, do not release the pick wave.
pick.release.mode	ONLINE	Value that determines whether to release pick wave immediately or add it to a release schedule. Valid values are ONLINE and CONCURRENT.
transfer.order.bipreport	/Custom/SCMWACS/Transfer Orders/ERPSCM_TransferOrderReport_WACS.xdo	Path of BI report object for transfer order.
materialrequest.InterfaceSourceCode	EXT	Supply request lines interface source code in ERP SCM.
materialrequest.SupplyRequestStatus	NEW	Supply request status
materialrequest.SupplyOrderSource	INV	Supply request lines supply order source in ERP SCM.
materialrequest.TrustedSource	1	Trusted source constant value.
materialrequest.ProcessRequestFlag	Y	Process request Flag constant value
materialrequest.SupplyType	TRANSFER	Supply request lines supply type
materialrequest.Preparer.Username	CALVIN.ROTH	Username of the resource who raised the request. Refer to the REST API (/hcmRestApi/resources/11.13.18.05/userAccounts).
materialrequest.DeliverToRequester.Username	CALVIN.ROTH	Username of the resource who has requested transfer order.
materialrequest.DestinationTypeCode	EXPENSE	Supply request lines destination type code

Property Name	Sample Value	Description
zeroBalancesItemAdj.BIPReport	/Custom/SCMWACS/InvAdj/ERPSCM_InvZeroQntyAdjReport_WACS.xdo	Path of BI report object for zero balance inventory items.
erp.materialissue.ordertypecode	TRANSFER_ORDER	Material Issue Order Type Code Constant Value
extract.filename.prefix	ERPFORECAST	Material Demand Extract File Prefix Constant
extract.ftp.input.directory	/scratch/sploutput/W2INTPMA/tmp	Material Demand Extract File Input Directory
extract.ftp.output.directory	/scratch/sploutput/W2INTPMA/tmp	Material Demand Extract File Output Directory
materialdemand.forecast.priority	1	Material Demand Fore Cast Priority Constant "1"
materialdemand.forecast.designator	WACS_MDS	Material Demand forecast designator which should not exceed 10 characters
os.namespace	idabowt3caih	Object Storage namespace where the bucket is located
os.bucketname	WACS-ERPSCM_MaterialDemand_Forecast	Name of the bucket used for Material Demand

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 Flow Error Handling
- Summary of Integration Error Handling

Asynchronous Flow Error Handling

Technical Fault
This fault occurs when there is a datatype mismatch or any Xpath related error.

Remote Fault
This fault occurs when the target system is down or not accessible.

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.

When the file completes processing, an optional email is sent with the list of remaining errors to the respective users configured in the OUTL-BRT-WACS_ERPSCM_Email_ID lookup.

Summary of Integration Error Handling

Integration Process: OU ERPSCM WACS Active Storeroom Sync

Type of error	Action	Notification Type	Retry
Technical Example: No files to extract in the UCM	Stop process	Email	
Remote Example: If the Address is missing from ERP	Continue process	Collect errors and send errors in message	

Integration Process: OU ERPSCM WACS Inactive Storeroom Sync

Type of error	Action	Notification Type	Retry
Technical Example: Incorrect BIP report path in the lookup.	Stop process	Email	Resubmit the scheduler correct path
Remote Example: If the Address is missing in the storeroom record from ERP.	Continue process	Collect errors and send errors in message	

Integration Process: OU ERPSCM WACS Storeroom SID Sync

Type of error	Action	Notification Type	Retry
Remote Example: If the WACS service is not accessible.	Stop process	Email	

Integration Process: OU ERPSCM WACS Stock Item Detail Inv Adj Extract

Type of error	Action	Notification Type	Retry
Technical Example: BIP in ERP is not accessible.	Stop process	Email	Resubmit the fixed asset addition error instance from OIC
Remote No adjustments records found.	Stop the flow	Email	
Business	Continue process	Collect errors and send errors in message	

Integration Process: OU ERPSCM WACS Stock Item Detail Inv Adjustment

Type of error	Action	Notification Type	Retry
Remote Example: WACS service is not accessible	Stop Process	Email	
Business	Continue process	Collect errors and send errors in message	

Integration Process: OU ERPSCM WACS Stock Item Detail Bulk Load

Type of error	Action	Notification Type	Retry
Remote Example: WACS is not accessible	Stop process	Email	Resubmit the error instance from OIC.
Technical Example: No file fund	Stop	Email	
Business	Continue process	Collect errors and send errors in message	
Business Example: If UOM is missing	Skip record and continue process	Collect errors and send errors in message	

Integration Process: OU ERPSCM WACS Stock Item Detail Incremental Sync

Type of error	Action	Notification Type	Retry
Remote Example: WACS is not accessible	Stop process	Email	Resubmit the error instance from OIC.
Business	Continue process	Collect errors and send errors in message	

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.

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 **Projects** > **OU WACS ERPSCM** > **Lookups**.
3. Edit the **OUTL-BRT-WACS_ERPSCM_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-WACS_ERPSCM_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
OU WACS ERPSCM Generate Error HTML	generateTable fromXML String	Function to convert the Error handler collection data in XML format to Tabular format	OU WACS ERPSCM Common Error Handler

The same extension libraries can be accessed from the **Projects** > **OU WACS ERPSCM** > **Libraries** page in Oracle Integration Cloud. For more information about extension libraries, refer to the Oracle Integration Cloud documentation.

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.

Refer to the How To Extend Oracle Integration Cloud Gen3 Project (Doc ID 3017378.1) document on My Oracle Support for additional information.

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

Prerequisites

The prerequisites are:

- Make sure that all lookups/DVMs are setup in Oracle Integration Cloud.
- Mandatory configurations are created in Oracle Supply Chain Management and Oracle Utilities Work and Asset Cloud Service.
- 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 **Projects** > **OU WACS ERPSCM** > **Integrations**.
2. Navigate to the respective integration to activate.
3. Click **Activate** for that integartion.
4. Select the tracing level.
5. Click **Activate**.

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

Chapter 10

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 Supply Chain Management
- Oracle Integration Cloud

Oracle Utilities Work and Asset Cloud Service

This section provides information about monitoring Oracle Utilities Work and Asset Cloud Service logs. See **Troubleshooting** in the *Oracle Utilities Cloud Services Implementation Guide* for more information.

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-Premise Application Logs

Application related error logs can be viewed from the WACS_ENV_NAME/logs/ or WACS_ENV_NAME/logs/system folder.

Example: V27_WACS_ORA_WLS/logs/system/

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

Oracle Supply Chain Management

- Scheduled processes can be verified from the scheduled process logs.
- Search for the process ID in the **Scheduled Process** page.
- From the process ID, log can be accessed to check the result.

For more information, refer to Oracle Supply Chain Management 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:

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

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

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 check:
    a. **Integrations** to view the counts of various status of instances created per integration flows.
    b. **Instances** to see instances of integrations of the project.

c. **Future runs** to see 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.

To monitor integration flows outside the project using 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 integration information. 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 how many messages have been received and processed and how many messages are successful, in error or aborted and errors have occurred, and how many messages have been 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 the failed instances, discard the failed instances, view the message recovery status, and view the basic and detailed error messages.

For more information, refer to the Navigate and Explore section in Getting Started with Oracle Integration 3.

Troubleshooting

To troubleshoot the 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.

Some of the sample cases are as follows:

- For any connectivity errors while activating the integration, make sure the trigger connection is working. Test the connection and refresh the metadata, and then activate the integration.
- For Oracle Utilities Work and Asset Cloud Service initiated integration flows activated for the first time, make sure that 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.