Agile Product Lifecycle Management Integration Pack for Oracle E-Business Suite: Design to Release

Implementation Guide

Release 2.5

E15773-04

February 2012

ORACLE

Agile Product Lifecycle Management Integration Pack for Oracle E-Business Suite: Design to Release Implementation Guide, Release 2.5

E15773-04

Primary Author: Oracle Corporation

Contents

Preface

Welcome to Agile Product Lifecycle Management Integration Pack for Oracle E-Business Suite: Design to Release 2.5 - Implementation Guide.

Oracle Application Integration Architecture (AIA) provides the following guides and resources for this release:

- Oracle Application Integration Architecture Concepts and Technologies
- Oracle Application Integration Architecture Core Components
- Oracle Application Integration Architecture Developer's Guide
- Oracle Application Integration Architecture Process Integration Packs
- Additional resources

Oracle Application Integration Architecture Concepts and Technologies

Oracle Application Integration Architecture Concepts and Technologies is a companion volume to Oracle Application Integration Architecture Core Components and Oracle Application Integration Architecture Developer's Guide.

Oracle Application Integration Architecture Concepts and Technologies discusses:

- Enterprise business objects and enterprise business messages.
- Enterprise business services.
- Application business connector services.
- Interaction patterns.
- Extensibility.
- Versioning.
- Business processes.
- Batch processing.
- Infrastructure services.
- Security.

Oracle Application Integration Architecture Concepts and Technologies contains a glossary of terms relevant to Oracle AIA.

Oracle Application Integration Architecture Core Components

Oracle Application Integration Architecture Core Components is a companion volume to Oracle Application Integration Architecture Concepts and Technologies and Oracle Application Integration Architecture Developer's Guide.

Oracle Application Integration Architecture Core Components discusses how to:

- Work with the Composite Application Validation System (CAVS).
- Work with the Business Service Repository (BSR).
- Set up and use error handling and logging.
- Work with the diagnostics framework.
- Oracle Application Integration Architecture Core Components

Oracle Application Integration Architecture Developer's Guide

Oracle Application Integration Architecture Developer's Guide is a companion volume to Oracle Application Integration Architecture Concepts and Technologies and Oracle Application Integration Architecture Core Components.

The Oracle Application Integration Architecture Developer's Guide discusses how to:

- Create an integration scenario.
- Define business service patterns.
- Design and develop enterprise business flows.
- Design and construct application business connector services.
- Work with message transformation, enrichment, and configuration.
- Develop custom xPath functions.
- Design and construct JMS Adapter services.
- Work with enterprise message headers.
- Work with message routing.
- Work with transactions.
- Develop Oracle AIA services to work with the Composite Application Validation System

(CAVS).

- Configure Oracle AIA processes to be eligible for error handling and logging.
- Extend enterprise business objects.

In addition, this book provides:

- Application Integration Architecture naming standards.
- Sample and template WSDLs for use with Oracle AIA.

Oracle Application Integration Architecture Process Integration Packs

A process integration pack (PIP) is a prebuilt set of integrated orchestration flows, application integration logic, and extensible enterprise business objects and services that are required to manage the state and execution of a defined set of activities or tasks between specific Oracle applications associated with a given process. A PIP provides everything, you need to deploy a selected integrated business process area. The PIP product offering is suited to those customers seeking to rapidly implement a discreet business process.

Additional Resources

Resource	Location
Installation Guide	My Oracle Support: https://metalink.oracle.com https://metalink.oracle.com
User's Guide	Oracle Technology Network http://www.oracle.com/technology http://www.oracle.com/technology/documentation/agile.html
Documentation updates	My Oracle Support: https://metalink.oracle.com https://metalink.oracle.com
Release Notes	Oracle Technology Network http://www.oracle.com/technology http://www.oracle.com/technology/documentation/agile.html
Known issues, workarounds, and most current list of patches	My Oracle Support: https://metalink.oracle.com https://metalink.oracle.com

Chapter 1: Agile PLM Integration for Oracle E-Business Suite

This chapter discusses:

- Architecture of Agile PLM Integration
- Agile PLM to Oracle EBS Processes
- Oracle EBS to Agile PLM Processes
- Solution Design Assumptions and Constraints
- Components of Agile PLM PIP
- Environment

The integration between Agile Product Lifecycle Managemtent (PLM) and Oracle E-Business Suite, also known as Oracle EBS, is designed to address the synchronization of product content information between Agile Product Collaboration and Oracle Manufacturing.

The Agile to Oracle EBS Process Integration Pack (PIP) is designed to enable and integrate the product development process between Agile PLM and Oracle E-Business Suite. The PIP enables the rapid implementation of Oracle's next generation of integrated enterprise PLM processes that help customers reduce costs and reduce any risks associated with typical third-party and custom integrations.

This objectives of this integration are:

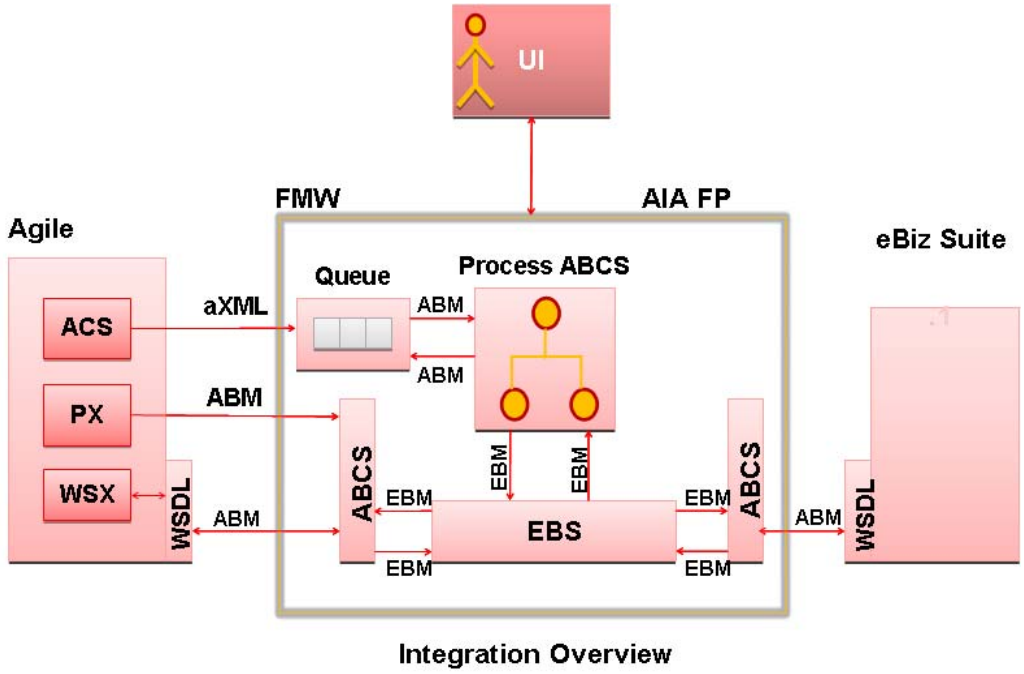
- The integration follows a business process flow.
- Data accuracy and integrity are maintained in both systems.
- The business process flow, data field mappings and transformations, such as, rules, lookups and user exits, are easy to configure using tools.
- Robust exception handling is built-in. This includes ease of understanding for the user, strong notification configurability and ease of troubleshooting.

Features

- Manufacturing Release of new product definition and product launch.
- Change management of previously launched products.
- Bidirectional synchronization of engineering change status and material attribute information from Oracle Manufacturing to Agile PLM.
- Monitoring and control of the change processing and validation queues.

Architecture of Agile PLM Integration

Agile PLM to Oracle EBS Integration is requester-provider type, as shown in the following diagram:



Agile PLM to Oracle EBS Processes

This release of PIP supports the following Agile PLM to Oracle EBS processes:

- Change order release
- New part request
- Change order validation
- Item synchronization

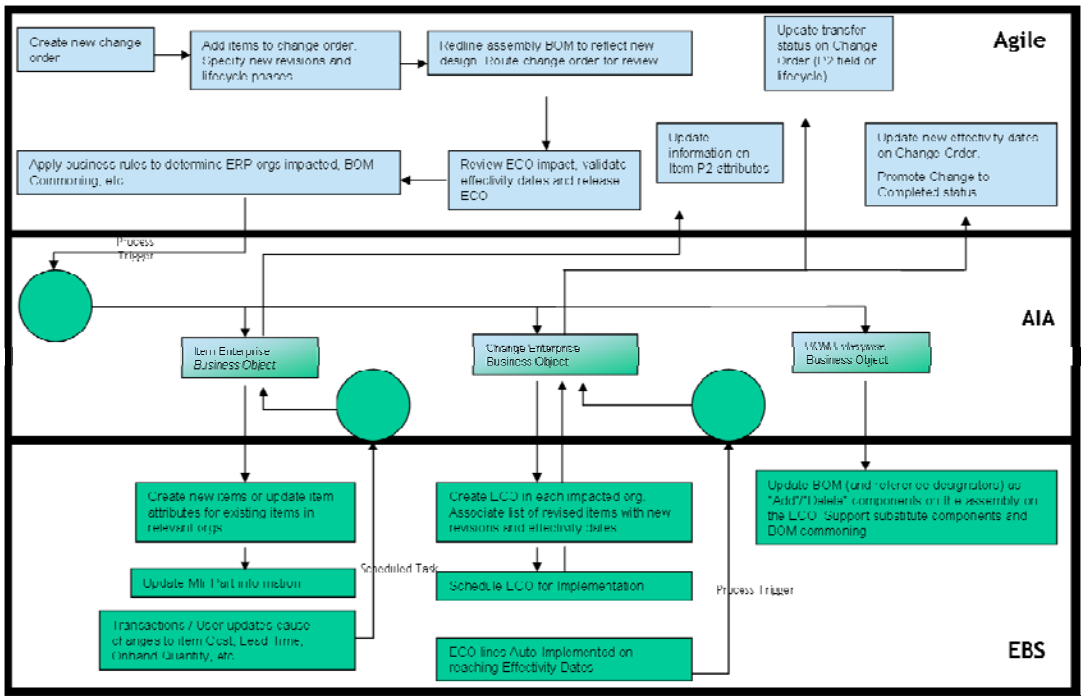
Change Order Release

During the product design phase, new products/parts are introduced and/or existing parts may undergo design changes. When the authoring of a part's attributes and design information is complete and is ready for publishing to the manufacturing system, it is released by change orders. The change order release process consists of new part/product release (PREL) and product design modification flows of Agile PLM.

While Agile PLM is the system of record for item description, design, specifications and many other pieces of information that were discussed earlier in this topic, the Enterprise Resource Planning (ERP) system typically has many more attributes and placeholders for information than the Agile PLM system. Therefore, the change order release must be updated in the ERP system.

The release of a change order in an Agile PLM system acts as a trigger for the synchronization of product design information with the ERP system. Beacause Agile PLM is a system of records for product design data the synchronization process typically involves the transfer of the released revision of the product design from Agile PLM to the manufacturing system.

Both of these processes use the same integration sequence. The process integration for change order release contains the integration information for both.



New Part Request

A new part request (NPR) process is triggered from Agile PLM to obtain a part number from Oracle PIM using Agile's process extensions. It is a synchronous process.

For complete information, see Process Integration for New Part Request on page 79.

Change Order Validation

Before an Enginering Change Order (ECO) is routed for approval in Agile PLM, you can check whether it will be implemented successfully in the ERP system. Potential errors must be caught early. This is executed by simulating the ECO processing at any stage before the Release state (preferably, the Submit state).

For complete information, see Process Integration for Change Order Validation on page 37.

Item Synchronization

An engineer creating a new part in Agile must be able to synchronize the same with EBS/PIM. This action is triggered on the action menu for the item. If the item does not exist on the ERP/PIM, it will be created. Otherwise, it will be updated. When a part already exists in Agile PLM and Oracle EBS/PIM and is not 'released' yet, any changes in its attributes in the Agile PLM system must be updated in EBS/PIM.

For complete information, see Process Integration for Item Synchronization on page 91

Oracle EBS to Agile PLM Processes

This PIP release supports the following Oracle EBS to Agile PLM processes:

- Oracle change order implementation information to Agile PLM (Batch based, optionally Event based)
- Oracle item operational attributes and unit cost information to Agile PLM (Batch operation)
- Oracle item balance information to Agile PLM (Batch operation)

Change Order Implementation Information to Agile PLM

The change order update from Oracle EBS to Agile PLM is a communication of change in status of the change order in the EBS/PIM system (also part of the Manufacturing Update business flow). It forms a key requirement for keeping users in Agile PLM apprised of the lifecycle of a change order. This involves communicating the change order status in the EBS/PIM system to a configurable field on the change order in the Agile PLM system, or changing the status of the change order in the Agile PLM system.

For complete information, see Process Integration for Change Order Update on page 47.

Item Operational Attributes and Unit Cost Information to Agile PLM

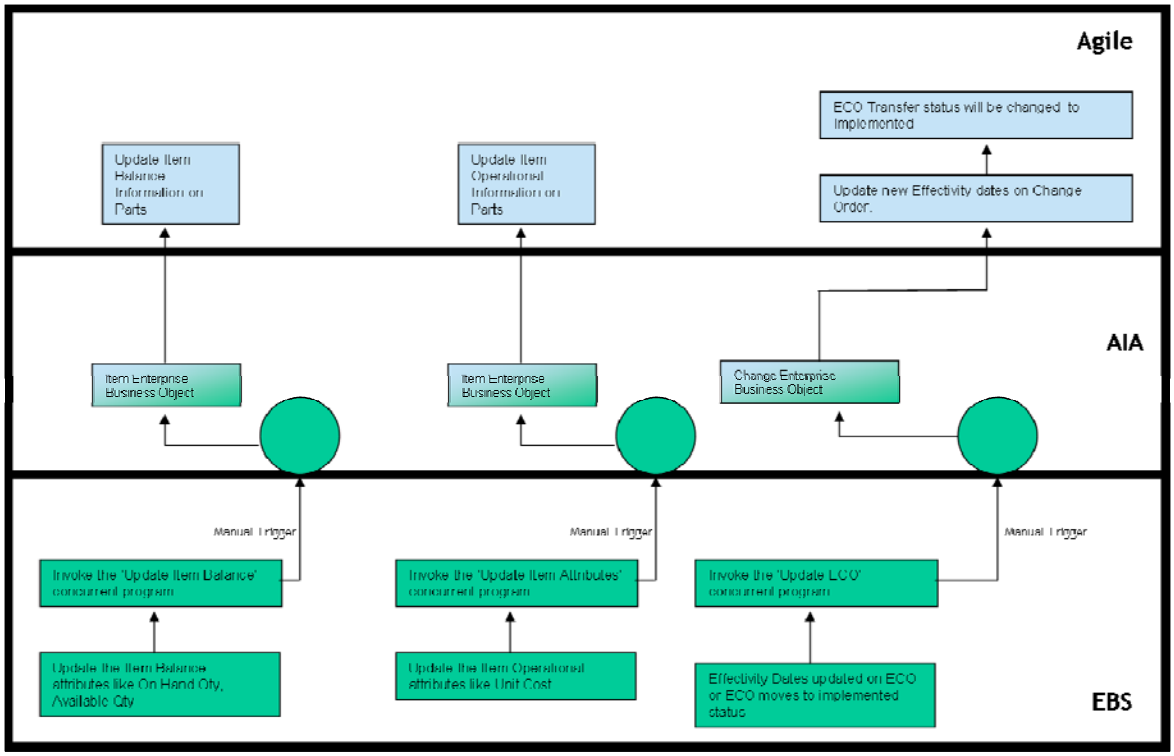
As a necessary part of the manufacturing effective process, the ability to update a change order line in Agile PLM with updates on effectivity date and implementation status from the EBS/PIM system is a key component of the bidirectional synchronization capability of the integration.

For complete information, see Process Integration for Item Attributes Update on page 61.

Item Balance Information to Agile PLM

The item balance information in Oracle EBS/PIM system is stored under reserved quantity, available quantity and on-hand quantity. Additionally, an item in EBS/PIM can exist in more than one organization. Change to any of the three types of quantities can happen in one or all organizations. These changes are updated in Agile PLM. Similarly, when change is performed in the attributes, for example, cost of an item in the EBS/PIM system, it requests a corresponding update in Agile PLM.

For complete information, see Process Integration for Item Balance Update. on page 69



Solution Design Assumptions and Constraints

Design Assumptions

- Agile content server is used for events to trigger the payload from Agile PLM to the integration layer.
- This design assumes that the following statements are true:
  - Predefined blank templates for custom fields are made available.
  - Transformation logic for classification elements is pre-coded in the out of the box (OOTB) XSL. However, you may have to modify it based on your Agile PLM implementation requirements.
- This design takes advantage of the Application Integration Architecture (AIA) error handling framework.

Design Constraints

- In some cases, configuration driven XSLT may not reflect the changes immediately. . Therefore, it will require a restart because the main XSL sheet is cached after a successful

compilation.

- ACS limits the events to be triggered from workflow only for the change status action that can be used for this integration.
- Error handling capabilities of this integration are constrained by the capabilities of the AIA framework.

Components of Agile PLM PIP

The components of Agile PIP are:

Agile Content Service (ACS)

Agile Content Service (ACS) is an event-driven XML-based publishing service that makes the product record available to many business applications and users, both internally and across the global manufacturing network. In addition to enabling employees and supply chain partners to publish the product record on demand, Agile Content Service can be configured to automatically publish the item master, BOM, and AML changes during any phase of the product lifecycle to multiple destinations. This ensures that everyone is working with up-to-the-minute information.

The output generated by an ACS module is an aXML file or a PDX package.

Web Service Extensions

Web Service Extensions (WSX) is a web service engine enabling communication between Agile PLM and disparate systems both internal and external. These include enterprise resource planning (ERP) systems. They can be used to provide content to exchanges, reports, and custom applications and import product content data from the ERP systems and other supply chain applications. WSX can simplify the process for aggregating raw product content and making important product content readily available in real time to other core systems.

For more information about Agile PLM components, see Agile Product Lifecycle Management Administrator Guide and SDK Developer Guide.

Oracle Fusion Middleware

Oracle Fusion Middleware is a portfolio of software products. This portfolio includes J2EE and developer tools, integration services, business intelligence, collaboration, and content management.

Oracle Fusion Middleware supports development, deployment, and management of service-oriented architecture (SOA). It includes what Oracle calls hot-pluggable architecture that enables users to take advantage of existing applications and systems from other software vendors such as IBM, Microsoft, and SAP.

Business Process Execution Language (BPEL)

Business Process Execution Language (BPEL) is the technology that integrates and assembles the web services. BPEL is an XML-based workflow definition language that enables businesses to describe inter or intra enterprise business processes, which are connected through web services. BPEL is a way to develop mainstream business applications that enables a programmer to describe a business process that operates across the Internet.

BPEL provides an XML-based grammar to describe the logic that controls and coordinates web services participating in a process flow.

Oracle Enterprise Service Bus

Oracle enterprise service bus is software architecture for middleware that provides fundamental services for more complex architectures and can be thought of as a mechanism that manages access to applications and services.

Oracle Service Registry (OSR)

Oracle service repository (OSR) is a web services registry and repository for building your service-oriented architectures (SOA). It provides a UDDI v3-compliant platform for publishing, categorizing and discovering web services and related resources across the enterprise. OSR enables the service providers to expose and advertise service offerings, enales service consumers to find access, and/or invoke services that meet defined criteria and provides critical features for SOA governance.

Oracle Application Integration Architecture (AIA)

Oracle Application Integration Architecture provides an open standards-based framework for creating cross-application business processes that support the way you run your business today, while planning for your long term, strategic, business transformation. Its application independent-framework enables you to utilize the applications of your choice to create composite business processes unique to your business, on a flexible service-oriented architecture.

Oracle E-Business Suite

Oracle Integration Repository

An important part of Oracle E-Business Suite, Oracle Integration Repository is a compilation of information about many interface endpoints exposed by Oracle applications. It provides a complete catalog of Oracle E-Business Suite's business interfaces and a comprehensive view of the interface mechanisms available. It can be used to easily discover and deploy the appropriate business interface from the catalog for integration with any system, application, or business partner.

Business Event System

Business event system is an application service that uses the Oracle Advanced Queuing (AQ) infrastructure to communicate business events among systems. It consists of the event manager, which lets you register subscriptions to significant events, and event activities, which let you model business events within workflow processes. When a local event occurs, the subscribing code is executed in the same transaction as the code that raised the event. Subscription processing can include executing custom code on the event information, sending event information to a workflow process, and sending event information to other queues or systems.

Concurrent Programs/Manager

Concurrent processing is an Oracle Applications feature that allows non interactive and potentially long-running functions that can involve large numbers of data-intensive computations to be executed efficiently alongside interactive operations. It uses operating system facilities to facilitate background scheduling of data-intensive or resource-intensive jobs, through a set of programs and forms. To enure that resource-intensive concurrent processing operations do not interfere with interactive operations, they are run on a specialized server, the concurrent processing server.

Generic Configurator User Interface

A Generic configurator user interface can be accessed by Agile PLM 9.3 Variant Management to configure a model option BOM.

Generic configurator UIs are not user interfaces that are created in Oracle Configurator Developer. These UIs display only BOM model items and enforce only implicit BOM rules. In other words, any model structure nodes, rules, or UI elements that are defined in configurator developer are not available in a generic configurator UI. This is because generic configurator UIs access model option BOM data directly from the bills of material (BOM) database tables, not from the CZ schema.

All process integrations described in this manual support the Agile PLM 9.3 Variant Management sub-items model and option class, and their attributes minimum, maximum, optional, and mutually exclusive with the generic configurator user interface.

BillOfMaterialsConfiguration EBO

The following enterprise business messages (EBMs) are designed for Agile PLM 9.3 Variant Management to work with the Oracle Generic Configurator User Interface.

- GetConfiguratorURLEBM
- GetConfiguratorURLResponseEBM
- SyncBillOfMaterialsConfigurationListEBM

These EBMs are required to do the UI integration to Oracle EBS Configurator with AIA. Details such as the configured BOM, connection information, or response information for Agile PLM 9.3 Variant Management have to be transferred through AIA.

The BillOfMaterialsConfiguration EBO is newly created for the Variant Management Configurator Integration. It carries only the configuration of the bill of materials, which was configured in Oracle E-Business Suite configurator.

For Agile PLM 9.3 Variant Management, the following two flows are used:

EBM	Description
GetConfiguratorURL	Uses GetConfiguratorURLEBM and GetConfiguratorURLResponseEBM
GetConfiguratorURLEBM	Carries the return URL, the Model ID, and the organization code combination.
GetConfiguratorURLResponseEBM	Carries the Configurator URL and the Init XML message.
SyncBillOfMaterialsConfigurationList	Uses SyncBillofMaterialsConfigurationListEBM
SyncBillOfMaterialsConfigurationListEBM	Carries the Instance BOM information configuration using Oracle EBS Configurator

Environment

Agile PLM	9.2.2.x, where 'x' can be either 6 or 7 on Oracle Fusion Middleware 10.1.3.4 9.3.x, where 'x' in this release is 0.0 on Oracle Fusion Middleware 10.1.3.4 9.3.x with VM, where 'x' in this release is 0.0 on Oracle Fusion Middleware 10.1.3.4
Oracle Manufacturing	11.5.10.2 12.1.1. 12.1.1. with PIM For complete details on applicable patches, if any, see the first section of the chapter, 'Implementing the PIP.'
Oracle SOA Suite	10.1.3.4 MLR#8 + 8533397
Oracle AIA Foundation Pack	2.5
Oracle Database	Oracle Database 10g Enterprise Edition Release 10.2.0.1.0 DB upgrade patch 10.2.0.3
Oracle Service Registry	10.1.3.1

Java 2 Platform Standard Edition (J2SE) Development Kit (JDK)	5.0, Update 16

For more information about infrastructure requirements, see Capacity Planning Guide.

Chapter 2: Process Integration for Change Order Release

This chapter discusses:

- Change Order Release Process
- Change Order Release Process Integration Solution Assumptions
- Change Order Release Integration Sequence
- AIA Services for Change Order Release
- Change Order Release Integration Customization Points
- Essential DVMs for Change Order Release

Integration of Change Order Release, namely the Engineering Change Order (ECO) and New Part/Product Release (PREL) from Agile to Oracle EBS is about introducing a new product, components & structure, and manufacturer information into Oracle EBS upon release of design from Agile, or updating existing design metadata, structure or manufacturer information in Oracle EBS.

Note. The Integration flow is similar for both ECO and PREL use cases.

Change Order Release Process

The process of Change Order Release, which consists of New Part Introduction and Manufacturing Update, is the flow of Item, Manufacturer Part and BOM Information from Agile to Oracle EBS. This information is pushed from Agile, triggered by an Event tied to the change in Status of a Change Order (CO) object. The information is then parsed in an Integration Object format and sent to Oracle EBS for implementation. A confirmation of its implementation status is sent back to Agile.

This integration process flows as follows:

1. Release of Change Order in Agile
2. aXML generation by Agile Content Server
3. Parsing and transformation of aXML Data
4. Posting Changer Order Data to Oracle EBS
5. Communicating Order Processing Status to Agile

Release of Change Order in Agile

When a Change Analyst approves the Change Order (CO) in Agile, it is marked as Released. This makes all the changes specified in CO take effect in Agile.

Before the release of a CO, it is subjected to pre-validation at its approval stage. This involves validation of certain business rules to verify that the flow of CO from Agile to Oracle EBS would meet all the conditions set in the destination system.

aXML Generation by Agile Content Server

The Agile Content Server generates an aXML (Agile XML) file from the CO data. As per the filters configured in the ACS, this file contains the information about Items, BOM, Manufacturers, and the CO itself.

In Agile PLM to Oracle EBS Integration Process, the ACS is configured to ensure the following:

1. The aXML file is configured to carry the following elements from a CO:
    - Change Order Data: Cover Page, Page Two, Page Three, Affected Items tab attributes.
    - Revised Item Data: Title Block, Page Two, Page Three, Sites tab.
    - BOM Data: BOM tab of Items (including reference designators) with delta BOMs only for the revision on CO.
    - AML Data: AML tab of Items with delta AMLs only.

Note. It is assumed that the Manufacturer already exists in Oracle EBS.

2. Upon release of a CO, the aXML file goes to a JMS Queue or a File Folder.

Parsing and Transformation of aXML Data

The data that is contained in an aXML file generated by Agile PLM is not in the format that is understood by Enterprise Business Objects. . Therefore,, this data has to be parsed and transformed.

The parsing and transformation of aXML data involves the following:

Segregation of Business Objects

1. Sequencing and Queuing of Change Orders
2. Translating Agile ‘Site’ specific objects into Oracle EBS’s ‘Organization’ specific objects
3. Translating Agile CO Types into Oracle EBS’s CO Type
4. Mapping Agile CO Attributes to corresponding attributes in Oracle EBS
5. Ascertaining existence of an Item in Oracle EBS

6. Defining User Exit Points for custom transformations

Segregation of Business Objects

The aXML file contains collective information about the business objects – CO, Item Attributes, Revised Item Lines, BOM Redlines, Reference designators, and so on This information is broken down into individual components and mapped, one to one, with corresponding EBOs, namely Item, Change and Structure.

In order to maintain referential integrity, the Change Number is associated with each business individual object.

In Agile PLM, ensure that the same item is not contained multiple times in a given BOM. Also, ensure that the same Find number is not assigned to more than one item in a given BOM.

Sequencing and Queuing of Change Orders

The CO release process starts with queuing of CO Number in Process Queue Controller, which sequences the COs for transfer of parsed data to Oracle EBS. After the data is processed by Oracle EBS, and its implementation status received, the CO is removed from the Process Queue.

For complete details on sequencing and queuing of change orders, refer to Queue Manager in this chapter.

Translating Site Objects

The data coming from Agile is split into individual Oracle EBS Organization specific business objects. This is because the data in Agile can be:

- Centralized – all design locations share the same product design information; or
- De-centralized – the site specific Item Attributes, change control, and so on are implemented to multiple sites.

However, the Data in Oracle EBS is segregated by Organizations. For more information about Attribute Mapping, see Appendix A.

Translating CO Types

In Agile, a Change Order is categorized into one of the following change type:

- Engineering Change Order (ECO)
- Manufacturing Change Order (MCO)
- Site Change Order (SCO)

These categories are called as Classes in Agile. A Class may have one or more sub-classes.

Oracle EBS does not have separate categories for each of these change types, and hence, cannot be differentiated. . Therefore, while parsing and processing of these change types in Agile, they are translated in Oracle EBS with the following characteristics:

Feature	ECO	MCO	SCO
Customer adoption	All installations	All installations	---
New Revisions for revised items	Mandatory	Not supported	Not supported
Tables redlined	BOMs and AML; Global and site-specific	AML only; Global and site-specific	Site-specific BOMs and AML only
Effectivity Date	At line level; Global when multi-site is not enabled; Separate for each site when multi-site is enabled	Not specified on Change Order	At line level; site-specific only
Other line-level attributes	Global when multi-site is not enabled; Separate for each site when multi-site is enabled	Global when multi-site is not enabled; Separate for each site when multi-site is enabled	Site-specific only
New Item Release	Supported	Supported	Only item updates are supported

Ascertaining Item Existence in Oracle EBS

An Item is created in the Master Org of Oracle EBS in two ways:

1. Agile releases New Part Introduction information to Oracle EBS through a CO, as a First Time release.
2. The Item information is loaded in Oracle EBS by an external system, other than Oracle EBS and Agile.

If the Item already exists in the Master Org, and Agile releases CO to create the same Item, the system would error it out. Since Agile does not explicitly pass information about first time, or subsequent releases, of an Item, a lookup table is employed to determine the existence of the Item in Oracle EBS.

This lookup table maintains unique identifiers for the Items received from Agile and corresponding Items created in Oracle EBS. It also maintains the unique identifiers for the Items created in Oracle EBS by an external application. These unique identifiers help in ascertaining the existence of an Item in Oracle EBS, thus eliminating any duplication errors.

Defining User Exit Points

User Exits are provided in the integration to allow custom transformations or filtration routines that a customer may want to add in the process without affecting the main integration flow.

The User Exit points for each process are listed in their respective chapters. Also, see Loading Cross Reference Data.

Posting CO Data to Oracle EBS

The processing of Change Order data into the Oracle EBS system is the backbone of this integration. As part of this step, the following activities are required to be performed:

1. Item Master synchronization: For all the items pushed to the Oracle EBS system, it is verified whether the items already exist, and have the same revision number as the old item from the Agile system. If the item does not exist in Oracle EBS and is being released for the first time from Agile PLM, it is created in Oracle EBS. If the item already exists in Oracle EBS and the two systems are in sync with item revision, the existing item is updated with new attribute data from Agile PLM.

   If the two systems are not in sync with the earlier revision of the revised item (that is, as per the data from Agile PLM, the old revision of the item does not match the current revision of the item in Oracle EBS), an error is raised.

   Alternatively, the integration may also be configured to ignore the matching of earlier revisions. If the item does not exist in Oracle EBS, it is created, only in Oracle EBS. If the item already exists in Oracle EBS, it is updated and the incoming transaction type from Agile PLM is updated.
2. Item Organization assignment: Items are assigned to organizations based on criteria defined for distributed manufacturing.

   Sites, Orgs assigned on P2 Multilist01 field in the item and Default Master Org are considered in the following order:

   a. Sites (highest priority).

   b. P2 Multilist.

   c. Default master Org (lowest priority).

   - Site or Orgs should be assigned at the beginning of the First time release of an item.
   - If the sites or Organizations need to be added to the items in subsequent release of an Item, the redlining of BOM or AML and the organization extension cannot be done at the same time, as only the delta changes are completed. Therefore, the item may not be created correctly in the extended organizations.
   - If the organization extension needs to be done at the subsequent release of item with more complex use cases, the COPY BOM or COMMON BOM customization can be used or designed to support the use cases.

Note: Affected Items must be provided with the Life-Cycle status. The life-cycle status is used to determine the first time or the subsequent release of an item.

1. AML update: New Approved Manufacturer List information from Agile PLM replaces the existing item AML. AML information is supported at the master item level, only in Oracle EBS.
2. BOM update (including reference designator): The XML data from Agile PLM contains only the changes that are made to Bills of Material and not the complete Bills of Material. Therefore, BOM data must be in sync between Agile PLM and Oracle EBS for the older revision for the new revision of BOM data to be posted successfully.

3. Create Change Order: The actual Change Order is created as an object in the ERP system. At the end of the post, the Change Order is set to a status of Scheduled for implementation by the Oracle's Auto-Implement Manager. The Auto-Implement Manager implements the Change Order's lines as and when their scheduled Effectivity Date arrives. The complete Change Order is moved to the Implemented status when all the lines are successfully implemented.

   Lots of business rule validations are run by the Oracle EBS APIs as part of this step, especially when you create Item and BOM data.

   Some actions involved in the earlier steps (such as item creation, BOM update, etc) may involve different ways of handling exceptions from implementation to customer.

   For example, if a component is being added to a BOM in a given organization in Oracle EBS, but it does not exist as an item in Oracle EBS, two types of actions can be set:

   - Stop the BOM processing if an item does not exist in Oracle EBS. However, if the item exists in Master Org and the context Org is the Child Org, then it is configurable.
   - Create the component by using information fed by Agile PLM (or if it already exists in the master Org in Oracle EBS, extend it to the child Org), and resume processing of the BOM. However, if a workflow is associated for the Change Order Type, then the incoming ECO is created in the initial stage itself.

Different customers may have different preferences on which action to perform. The choice of such actions is therefore exposed to the integration administrator who uses configurable parameters.

Communicating Change Order (CO) Implementation status to Agile

When the process of posting CO data into the Oracle EBS system is complete (successfully or with errors), the following step is taken:

- On receiving the status from ERP, a PLM Change Order update process is initiated with the Change Order number, and a value of Errored or Transferred is passed for the field specified in the *Transfer and Implementation Status Field* parameter of Oracle EBS.

Change Order Release Process Integration Solution Assumptions

- If the part already exists in the Oracle EBS system because it was created through the ECO (Engineering Change Order) process, the part is updated with information from Agile PLM.
- If the part does not already exist in the Oracle EBS system, it is created by using the part creation tools, such as Oracle Templates.
- If the part already exists in the Oracle EBS system, it is updated.
- The ECO is used to associate new revision, effectivity date, Bills of Material and Reference Designator information with the new item.

- The ECO is used to transfer the new part or part update information from Agile PLM to the Oracle EBS system.
- Every ECO process is monitored for its status.
- The user can prioritize the ECO processes.
- A new process can start its execution only after the execution of first process is completed.

Configuration Parameters

1. If the customer uses Agile multi-sites, the Administrator may assign organization names to sites to indicate the destination ERP organization set for an item.
2. A parameter called ERP Operations for Redline Update shall determine whether a modifed operation on a BOM row in Agile is treated as a Delete and Add or a Modify operation on the ERP system.
3. A parameter called ERP Transfer and Implementation Status Field (type Text) shall be provided. The value of this parameter, when provided, would indicate the Change Order field to which the integration would post the status of the ERP post transaction.

   In Agile, we recommend that this field be:

   a. A Page Two field on the Change Orders, Manufacturer Orders and Site Change Orders classes. You must consider that the field should have the same display name on all three classes.

   b. Have a default value of Not Processed.

   c. Be editable only by the user id used by the integration to log on to Agile, and be editable for all statuses (just in case the Change is unreleased after its initial release)

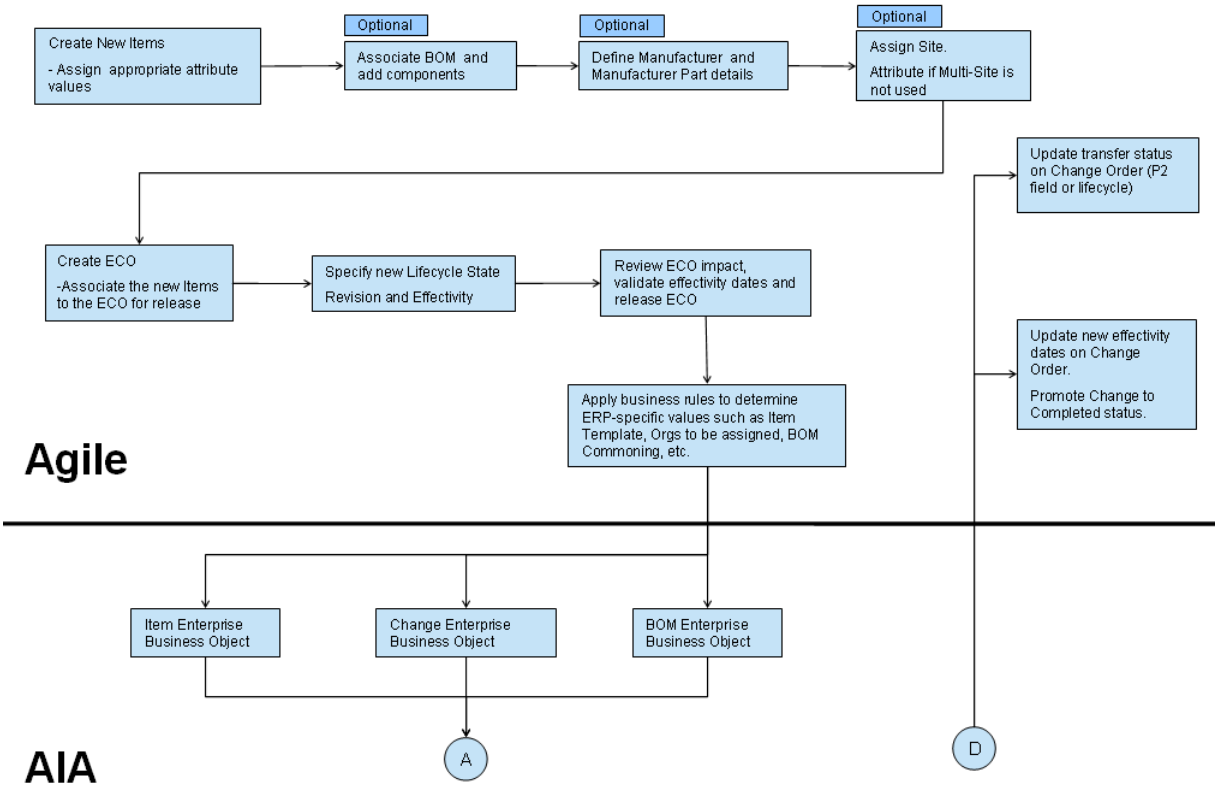
If a value is not specified for this parameter, it implies that a status update back to a CO flexfield in Agile is not required.

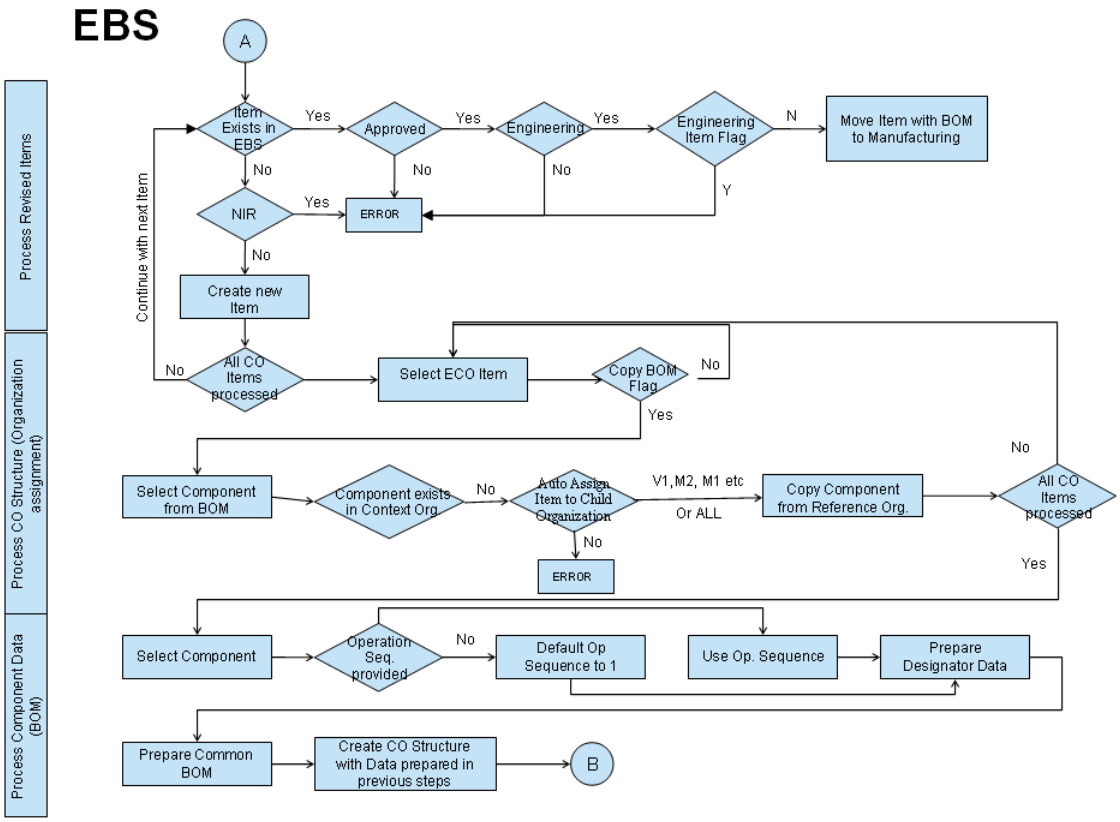
The field that is identified by this parameter will also be used by the integration to update the Change Implementation status back into Agile.

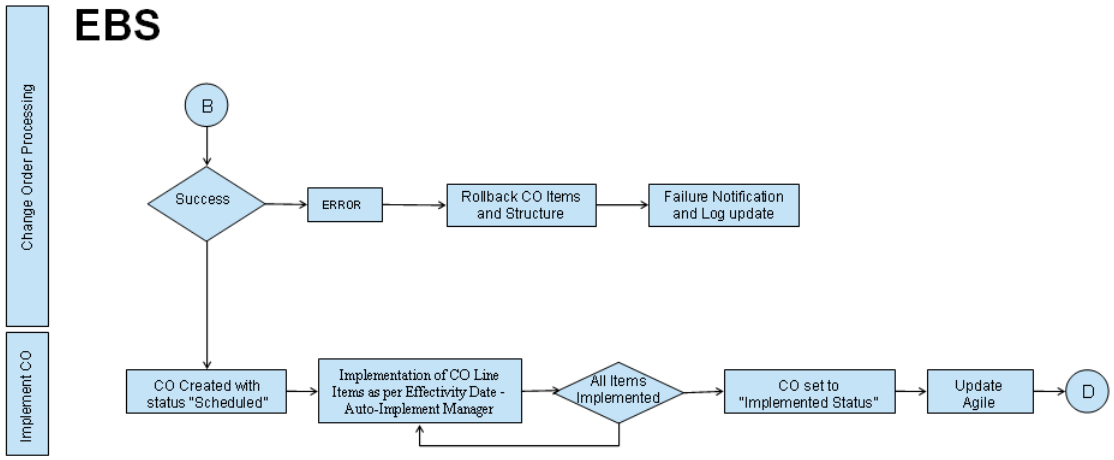
A parameter called Integration Name (type Text) identifies the name that the customer wants to give to this integration. This integration name would be used in naming log files, among other things. The default value for this parameter should be Agile-EBS.

Change Order Release Integration Sequence

The Integration flow is same for both ECO and PREL use cases.

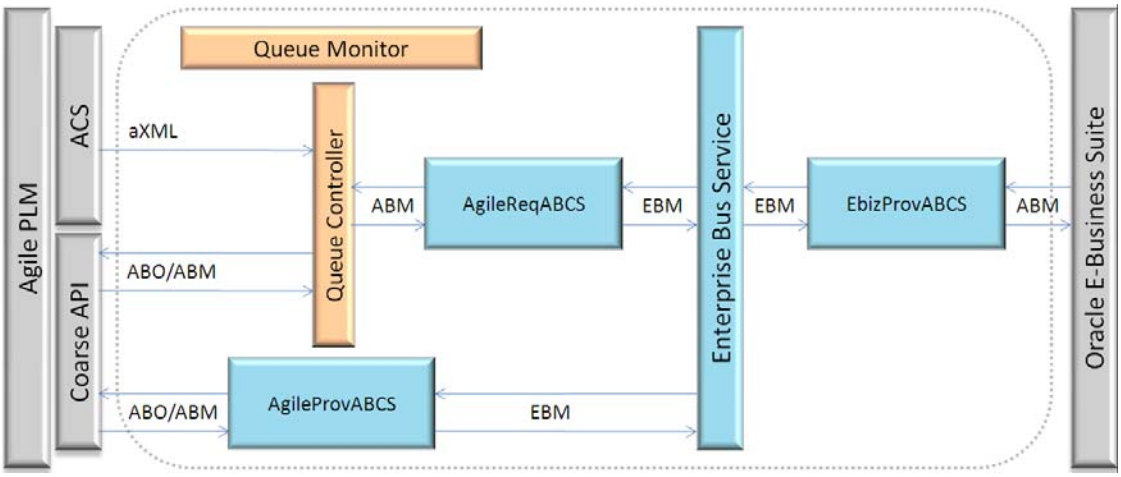






CO Release Process Flow

An Engineering Change Order is created with items in AI tab with new revisions and life-cycle phases specified.

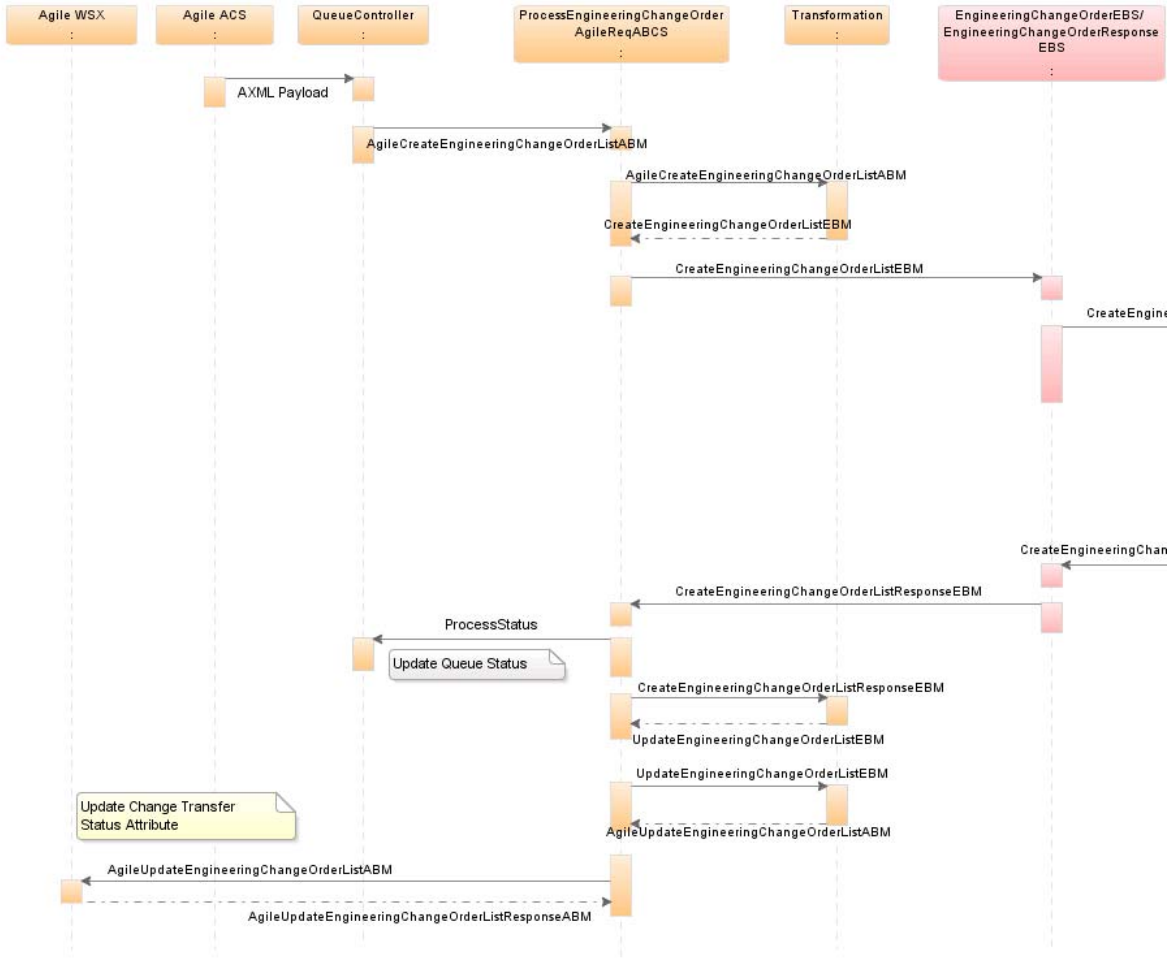


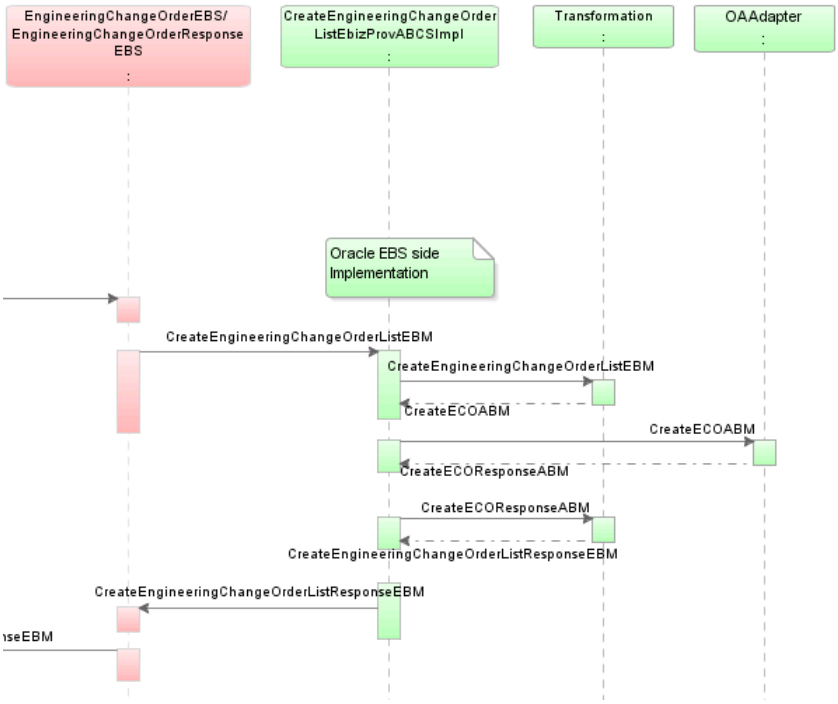
1. The ECO is routed for Approval (workflow step).
2. To trigger the ECO process flow, an ACS Workflow Event is generated on Approval of the ECO in Agile.
3. The Queue framework captures the ACS payload (aXML) generated for the event and adds it to the integration Queue.
4. The Queue framework identifies the highest priority Queue Message, processes it to create an ECO ABM and triggers the Requestor ABCS.
5. The Requestor ABCS transforms the ECO ABM to ECO EBM and triggers an operation on the EBS which routes the EBM to the ECO business flow with ECO EBM as the input.
6. The ECO Business Flow:
   - Creates new items in PIM/ERP
   - Creates an Engineering Change Order in Oracle EBS.
   - Associates list of revised items with new revisions and effectivity dates, and Schedules the ECO for implementation.
   - Creates new BOM.
   - Updates the Transfer Status in Agile.
1. The status of Queue Message is updated in the Integration Queue, for monitoring.
2. When the ECO lines are Implemented on reaching effectivity dates, a process trigger starts the following flows:
   - Update the Effectivity date and Implementation status for each Affected Item on ECO in

Agile.

- Change Status of ECO to Implemented if all the AI items are implemented.

CO Release Integration Services Orchestration





#	Activity	Remarks
1	Agile ACS transmits Agile Engineering Change Order Data in payload in the form of predefined XML format known as aXML. This file will be queued up for the further processing.	Agile ACS acts as a trigger for ECO Use case.
2	The QueueController Framework reads the highest priority Queue Message and transforms the payload (aXML) to AgileCreateEngineeringChangeOrderListABM.	QueueController processes the payload.
3	QueueController invokes the ProcessEngineeringChangeOrderAgileReqABCS with AgileCreateEngineeringChangeOrderListABM as input.	
4	AgileCreateEngineeringChangeOrderListABM is transformed into CreateEngineeringChangeOrderListEBM.	EBM is created
5	ProcessEngineeringChangeOrderAgileReqABCS invokes the CreateEngineeringChangeOrder operation on EngineeringChangeOrderEBS with CreateEngineeringChangeOrderListEBM as input	

#	Activity	Remarks
6	EngineeringChangeOrderEBS routes CreateEngineeringChangeOrderListEBM to CreateEngineeringChangeOrderListEbizProvABCSImpl	
7	CreateEngineeringChangeOrderListEbizProvABCSImpl transforms CreateEngineeringChangeOrderListEBM into the input of Oracle EBS Service and calls that service.	Creates Items in PIM/ERP, creates an ECO, associates revised items to this ECO and creates BOM.
8	CreateEngineeringChangeOrderListEbizProvABCSImpl invokes CreateEngineeringChangeOrderResponse operation on EngineeringChangeOrderResponseEBS with CreateEngineeringChangeOrderListResponseEBM as input.	
9	The EngineeringChangeOrderResponseEBS routes CreateEngineeringChangeOrderListResponseEBM to ProcessEngineeringChangeOrderAgileReqABCS	Response message routing
10	ProcessEngineeringChangeOrderAgileReqABCS sends the status back to the Queue Controller to update the queue.	This status is updated against the Queue message in the database by the QueueController
11	ProcessEngineeringChangeOrderAgileReqABCS transforms CreateEngineeringChangeOrderResponseEBM into AgileUpdateEngineeringChangeOrderListABM AgileUpdateEngineeringChangeOrderListABM is sent as an input to the Agile Web Service. AgileUpdateEngineeringChangeOrderListResponseABM is sent back to ProcessEngineeringChangeOrderAgileReqABCS	The web services update the transfer status of the Change Order in Agile, which will be predefined P2 or P3 attributes on Change Order object in Agile PLM.

AIA Services for Change Order Release

Core AIA Components for CO Release

The Process Integration for ECO/PREL uses the following industry components:

EBOs	• EngineeringChangeOrderEBO
EBMs	• CreateEngineeringChangeOrderListEBM • CreateEngineeringChangeOrderListResponseEBM

	• UpdateEngineeringChangeOrderListEBM • UpdateEngineeringChangeOrderListResponseEBM
EBSs	• EngineeringChangeOrderEBS (CreateEngineeringChangeOrderListResponseEBM)

Core Components Locations

EBO & EBM XSD files	http://[HOST:PORT]/AIAComponents/EnterpriseObjectLibrary/Core/EBO/
WSDL files	http://[HOST:PORT]/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/

For detailed documentation of individual EBOs, click the EBO Name link on the Integration Scenario Summary page in the Oracle AIA Console. You can also use the Integration Scenario Summary page to search for and view integration scenarios that use a particular EBO or EBS.

For more information, see Oracle Application Integration Architecture - Foundation Pack: Core Infrastructure Components Guide, "Using the BSR," Using the BSR UI to View Integration Scenarios.

EBOs can be extended, for example, to add new data elements. These extensions are protected, and will remain intact after a patch or an upgrade.

For more information, see Oracle Application Integration Architecture – Foundation Pack: Integration Developer's Guide, "Extensibility for AIA Artifacts."

Agile & Oracle EBS Components for CO Release

Services	Agile (Requester)	Oracle EBS (Provider)
ABMs	• AgileCreateEngineeringChangeOrderListABM • CreateEngineeringChangeOrderListResponseABM • AgileUpdateEngineeringChangeOrderListABM • AgileUpdateEngineeringChangeOrderListResponseABM	• CreateECOABM • CreateECOResponseABM
ABCS	ProcessEngineeringChangeOrderAgileReqABCS	CreateEngineeringChangeOrderListEbizProvABCSImpl
EBS	EngineeringChangeOrderEBS (CreateEngineeringChangeOrderList Operation)	EngineeringChangeOrderResponseEBS (CreateEngineeringChangeOrderListResponse Operation)

Services	Agile (Requester)	Oracle EBS (Provider)
BPEL	• CreateQueueService • QueueProcessorServiceImpl	---
ESB Service	• ACSAXMLJMSConsumer • ACSAXMLFileConsumer • CreateQueueControlService • QueueProcessorService	• EngineeringChangeOrderService • EngineeringChangeOrderESB

Component Locations

ABO, ABM & Common XSD files	http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Agile/V1/schemas http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Ebiz/V1/schemas
WSDL files	http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Agile/V1/wsdls http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Ebiz/wsdls

Integration Services for Change Order Release

The Integration Services for Change Order Release process are as follows:

- EngineeringChangeOrderEBS
- ProcessEngineeringChangeOrderAgileReqABCS
- CreateEngineeringChangeOrderListEbizProvABCSImpl

EngineeringChangeOrderEBS

EngineeringChangeOrderEBS is the Enterprise Business Service, which exposes the operations related to the Engineering Change Order Integration on the *EngineeringChangeOrder EBO*.

The following are the routing rules:

EngineeringChangeOrderEBS ESB service

- *CreateEngineeringChangeOrderList*: Routes CreateEngineeringChangeOrderListEBM to CreateEngineeringChageOrderListEbizProvABCSImpl

EngineeringChangeOrderResponseEBS ESB service

- *CreateEngineeringChangeOrderListResponse*: Routes CreateEngineeringChangeOrderListResponseEBM to ProcessEngineeringChangeOrderAgileReqABCS

ProcessEngineeringChangeOrderAgileReqABCS

ProcessEngineeringChangeOrderAgileReqABCS is used for transforming *AgileCreateEngineeringChangeOrderListABM* into *CreateEngineeringChangeOrderListEBM*. This service invokes the *CreateEngineeringChangeOrder* operation on *EngineeringChangeOrderEBS* for creation of an ECO in Oracle EBS. Based on the status of ECO creation in Oracle EBS, this service updates the Queue Status. Also, this service updates the Transfer status attribute in the Change Order.

This service is implemented as *Asynchronous* BPEL Process

1. The *QueueController* creates *AgileCreateEngineeringChangeOrderListABM* and invokes *ProcessEngineeringChangeOrderAgileReqABCS*.
2. Transforms *AgileCreateEngineeringChangeOrderListABM* to *CreateEngineeringChangeOrderListEBM* and invokes the *CreateEngineeringChangeOrder* operation on *EngineeringChangeOrderEBS* with *CreateEngineeringChangeOrderListEBM* as input. This is routed for creation of ECO in Oracle EBS.
3. *CreateEngineeringChangeOrderListResponseEBM* is received from *EngineeringChangeOrderEBS* and based on the status of ECO creation in Oracle EBS, the *QueueController* is invoked to update the status of the Queue Message.
4. *ProcessEngineeringChangeOrderAgileReqABCS* transforms *CreateEngineeringChangeOrderListResponseEBM* into *AgileUpdateEngineeringChangeOrderListABM*, which is sent as an input to the Agile PLM Web Service.
5. The web services update the *transfer status* of the Change Order in Agile, which are predefined P2 or P3 attributes on the changer order object in Agile PLM. *AgileUpdateEngineeringChangeOrderListResponseABM* is sent back to *ProcessEngineeringChangeOrderAgileReqABCS*.

Transformations

- AgileCreateEngineeringChangeOrderListABM_to_CreateEngineeringChangeOrderListEBM.xsl

  Transforms AgileCreateEngineeringChangeOrderListABM to CreateEngineeringChangeOrderListEBM
- CreateEngineeringChangeOrderListResponseEBM_to_AgileUpdateEngineeringChangeOrderListABM.xsl

  Transforms CreateEngineeringChangeOrderListResponseEBM to AgileUpdateEngineeringChangeOrderListABM

CreateEngineeringChangeOrderListEbizProvABCSImpl

This is a single operation service. This accepts an ECO containing Item and BOM information message as a request and returns a response.

In Agile PLM to Oracle EBS flow, *CreateEngineeringChangeOrderListEbizProvABCSImpl* is used for transforming *CreateEngineeringChangeOrderListEBM* into *CreateECOABM*, which invokes the *CreateEngineeringChangeOrder* operation in Oracle EBS.

In the return flow, OA Adapter sends *CreateECOResponseABM*, which is transformed by *CreateEngineeringChangeOrderListEbizProvABCSImpl* into *CreateEngineeringChangeOrderListResponseEBM*.

This service is implemented as *Asynchronous* BPEL Process.

Change Order Release Integration Customization Points

Agile

ProcessEngineeringChangeOrderAgileReqABCS (Agile Process ECO requestor flow)	AgileCreateEngineeringChangeOrderListABM_to_CreateEngineeringChangeOrderListEBM_Custom.xsl	ReqABM to ReqEBM (custom)
	AgileCreateEngineeringChangeOrderListABM_to_CreateEngineeringChangeOrderListEBM_Impl.xsl	ReqABM to ReqEBM (main)
	CreateEngineeringChangeOrderListEBM_EBMHeader_Custom.xsl	EBM to EBMHeader (custom elements)
	CreateEngineeringChangeOrderListEBM_EBMHeader_Impl.xsl	EBM to EBMHeader (main)
	CreateEngineeringChangeOrderListResponseEBM_to_UpdateEngineeringChangeOrderListEBM_Impl.xsl	RespEBM to ReqEBM (main)
	UpdateEngineeringChangeOrderListEBM_to_AgileUpdateEngineeringChangeOrderListABM_Impl.xsl	ReqEBM to ReqABM (main)

Oracle E-Business Suite

CreateEngineeringChangeOrderListEbizProvABCSImpl	ECOInputEBMtoABM_Custom.xsl	Custom transformations for Engineering Change Order Request EBM to Request ABM

	ECOResponseABMtoECOResponseEBM_Custom.xsl	Custom transformations for Engineering Change Order Response ABM to Response EBM

Essential DVMs for Change Order Release

The following mandatory DVMs should be set for the CO Release process to flow successfully:

DVM

- AGILE_SITE_TARGET_MAPPING
- ECO_REASON_CODE
- ECO_TYPECODE
- ECO_STATUS_CODE
- ITEM_PRIMARYCLASSIFICATIONCODE
- ITEM_STATUS_CODE
- ITEM_UOM_CODE
- ECO_STATUS_CODE

Chapter 3: Process Integration for Change Order Validation

This chapter discusses:

- Change Order Validation Process
- Configuration Parameters for CO Validation
- CO Validation Integration Sequence
- AIA Services for CO Validation
- Integration Services for CO Validation
- CO Validation Integration Customization points.

The Process Integration for Change Order Validation is same as the Process Integration for Change Order Release. However, the difference is that the Change Order Release process applies only to the changes in the 'Released' state of workflow, while Change Order Validation applies to all other workflow states.

This is possible as long as the Part in Agile has not been 'Released' yet, that is, it is in any Workflow state other than the Released state. Preferred workflow state for Change Order Validation is 'Submitted'.

Change Order Validation Process

Before a Change Order is routed for approval in Agile PLM, you can check whether it will be implemented successfully in the Oracle EBS system or not. Any potential errors must be caught early.

This can be carried out at any status of Change Order prior to its Release, preferably at Submit state. This process involves the following steps:

1. When a creator submits a Change Order to the Change Analyst, generate an aXML file of the CO through an ATO and push it through the interface, just as if it would be done at the time of CO release. The stage in the CO's life-cycle at which the CO is pushed for prerelease audit is configured by using Agile ACS.
2. The integration reads the CO's status. If it is in any state other than Release, the integration interprets that the ACS file is being pushed only for the prerelease audit.

3. If the CO errors out, Validate CO's aXML files are not queued and not stopped in case of erroring out of the COs released earlier. Validated COs appear in a separate tab called *Validate ECO*. Validated COs are processed parallely. The number of parallely processed COs is governed by the parameter "ECO_QUEUE_STATUS" in the row for where ECO_QUEUE_STATUS_ID having value 3 in the table ECO_QUEUE_STATUS
4. The integration runs the process of posting data to Oracle EBS. However, after you process the whole CO, it does not commit the data. The transfer result, Success or Error with error message, is captured. This is followed by rollback of the transaction, and the code is returned to the integration.
   - If the result is a Success, the value Validated is updated in the *ERP Transfer and Implementation Status* field of the CO in Agile PLM.
   - If the result is a Failure, the value Failed Validation is updated in the *ERP Transfer and Implementation Status* field of the CO in Agile PLM.

   If the CO validation fails, E-Mail notification is sent out to the User-Defined in the property NotifyToPerson in the AIAConfigurationProperties.xml file. The default User is AIAIntegrationAdminUser. If you want to send notification to any other User, you need to create this User and update the NotifyToPerson property with new user name. E-mail ID of the specific user is captured and Notificationservice is invoked to send an E-Mail, which contains the error list.

Configuration Parameters for Change Order Validation

1. If the customer uses Agile multi-sites, the Administrator may assign organization names to sites to indicate the destination ERP organization set for an item.
2. A parameter called ERP Operations for Redline Update determines whether a modify operation on a BOM row in Agile is treated as a Delete and Add or a Modify operation on the ERP system.
3. A parameter called ERP Transfer and Implementation Status Field (type Text) is provided. The value of this parameter, when provided, indicates the Change Order field to which the integration would post the status of the ERP post transaction.

   In Agile, the following are recommended for this field:
   a. A Page Two field on the Change Orders, Manufacturer Orders and Site Change Orders classes. Make sure that the field has the same display name on all the three classes.
   b. It has a default value of Not Processed.
   c. It is editable only by the user ID used by the integration to log on to the Agile system, and is editable for all statuses (in case the Change is unreleased after its initial release).

If a value is not specified for this parameter, it implies that a status update back to a CO flexfield in Agile is not required.

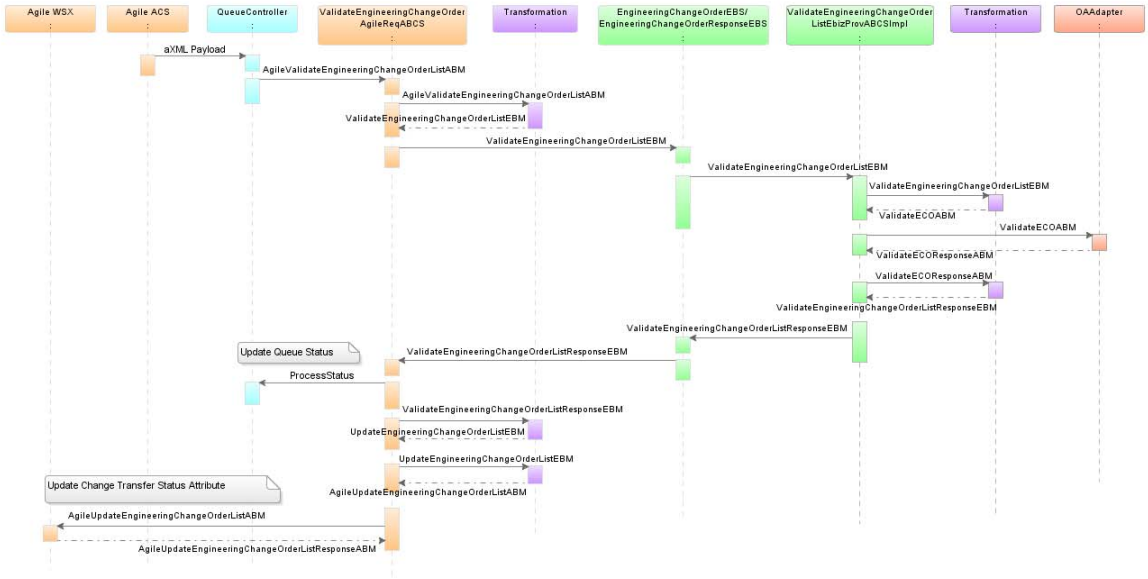
The field identified by this parameter is also used by the integration to update the Change Implementation status back into Agile.

A parameter called Integration Name (Text type) identifies the name that you want to specify to this integration. This integration name is used in naming the log files. The default value for this parameter is Agile-EBS.

Change Order Validation Integration Sequence

Refer CO Release Integration Sequence.

Change Order (CO) Validation Integration Services Orchestration



#	Activity	Remarks
1	Agile ACS transmits Agile Engineering Change Order Data in payload in the form of predefined XML format known as aXML. This file will get queued up for the further processing.	Agile ACS acts as a trigger for ECO Use case.
2	The QueueController Framework reads the highest priority Queue Message and transforms the payload (aXML) to AgileValidateEngineeringChangeOrderListABM.	QueueController processes the payload
3	QueueController invokes the ValidateEngineeringChangeOrderAgileReqABCS with AgileValidateEngineeringChangeOrderListABM as	

#	Activity	Remarks
	input.	
4	AgileValidateEngineeringChangeOrderListABM is transformed into ValidateEngineeringChangeOrderListEBM.	EBM is generated.
5	ValidateEngineeringChangeOrderAgileReqABCS invokes the ValidateEngineeringChangeOrder operation on EngineeringChangeOrderEBS with ValidateEngineeringChangeOrderListEBM as input	
6	EngineeringChangeOrderEBS routes ValidateEngineeringChangeOrderListEBM to ValidateEngineeringChangeOrderListEbizProvABCSImpl	
7	ValidateEngineeringChangeOrderListEbizProvABCSImpl transforms ValidateEngineeringChangeOrderListEBM into the input of Oracle EBS Service and calls that service.	The ABCS validates the ECO creation by creating the ECO, related items and BOM to check for any errors. In an event of failure, the error messages are sent back to Agile PLM. In an event of either Success or Failure, the transaction is rolled back.
8	ValidateEngineeringChangeOrderListEbizProvABCSImpl invokes ValidateEngineeringChangeOrderResponse operation on EngineeringChangeOrderResponseEBS with ValidateEngineeringChangeOrderListResponseEBM as input.	
9	The EngineeringChangeOrderResponseEBS routes ValidateEngineeringChangeOrderListResponseEBM to ValidateEngineeringChangeOrderAgileReqABCS	Response message routing
10	ValidateEngineeringChangeOrderAgileReqABCS sends the status back to the Queue Controller to update the queue.	This status is updated against the Queue message in the database by the QueueController
11	ValidateEngineeringChangeOrderAgileReqABCS transforms ValidateEngineeringChangeOrderListResponseEBM into AgileUpdateEngineeringChangeOrderListABM AgileUpdateEngineeringChangeOrderListABM is sent as an input to the Agile Web Service. AgileUpdateEngineeringChangeOrderListRespon	The web services update the transfer status on the Change Order in Agile which will be predefined P2 or P3 attributes on ECO object in Agile.

#	Activity	Remarks
	seABM is sent back to ValidateEngineeringChangeOrderAgileReqABCS	

AIA Services for Change Order Validation

Core AIA Components for Change Order (CO) Validation

The Process Integration for ECO/PREL uses the following industry components:

EBOs	EngineeringChangeOrderListEBO
EBMs	ValidateEngineeringChangeOrderListEBM ValidateEngineeringChangeOrderListResponseEBM
EBSs	• EngineeringChangeOrderEBS • EngineeringChangeOrderResponseEBS

Core Components Locations

EBO & EBM XSD files	http://[HOST:PORT]/AIAComponents/EnterpriseObjectLibrary/Core/EBO/
WSDL files	http://[HOST:PORT]/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/

For detailed documentation of individual EBOs, click the EBO Name link on the *Integration Scenario Summary* page in the Oracle AIA Console. You can also use the *Integration Scenario Summary* page to search for and view integration scenarios that use a particular EBO or EBS.

For more information, see Oracle Application Integration Architecture - Foundation Pack: Core Infrastructure Components Guide, "Using the BSR," Using the BSR UI to View Integration Scenarios.

EBOs can be extended, for example, to add new data elements. These extensions are protected, and will remain intact after a patch or an upgrade.

For more information, see Oracle Application Integration Architecture – Foundation Pack: Integration Developer's Guide, "Extensibility for AIA Artifacts."

Agile & Oracle EBS Components for CO Validation

Services	Agile (Requester)	Oracle EBS (Provider)
ABMs	• AgileValidateEngineeringChangeOrderListABM • ValidateEngineeringChangeOrderListResponseABM • AgileUpdateEngineeringChangeOrderListABM • AgileUpdateEngineeringChangeOrderListResponseABM	• ValidateECOABM • ValidateECOResponseABM
ABCS	ValidateEngineeringChangeOrderAgileReqABCS	ValidateEngineeringChangeOrderListEbizProvABCSImpl
BPEL	• CreateQueueService • QueueProcessorServiceImpl	---
ESB Service	• ACSAXMLJMSConsumer • ACSAXMLFileConsumer • CreateQueueControlService • QueueProcessorService • EngineeringChangeOrderService	ValidateEngineeringChangeOrderServiceESB

Component Locations

ABO, ABM & Common XSD files	http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Agile/V1/schemas http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Ebiz/V1/schemas
WSDL files	http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Agile/V1/wsdls http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Ebiz/wsdls

Integration Services for Change Order Validation

The Integration Services for Change Order (CO) Validation process are as follows:

- EngineeringChangeOrderEBS
- ValidateEngineeringChangeOrderAgileReqABCS

- ValidateEngineeringChangeOrderListEbizProvABCSImpl

EngineeringChangeOrderEBS

EngineeringChangeOrderEBS is the Enterprise Business Service, which exposes the operations related to the Engineering Change Order Integration on the *EngineeringChangeOrder EBO*.

The following are the routing rules:

EngineeringChangeOrderEBS ESB service

- *ValidateEngineeringChangeOrderList*: Routes ValidateEngineeringChangeOrderListEBM to ValidateEngineeringChageOrderListEbizProvABCSImpl

EngineeringChangeOrderResponseEBS ESB service

- *ValidateEngineeringChangeOrderListResponse*: Routes ValidateEngineeringChangeOrderListResponseEBM to ValidateEngineeringChangeOrderAgileReqABCS

ValidateEngineeringChangeOrderAgileReqABCS

This service is implemented as Asynchronous BPEL Process.

ValidateEngineeringChangeOrderAgileReqABCS is used for transforming *AgileValidateEngineeringChangeOrderListABM* into *ValidateEngineeringChangeOrderListEBM*. This service invokes the *ValidateEngineeringChangeOrder* operation on *EngineeringChangeOrderEBS* with *ValidateEngineeringChangeOrderListEBM* as input for validation of ECO in Oracle EBS.

ValidateEngineeringChangeOrderListResponseEBM is received from *EngineeringChangeOrderEBS* and based on the status of ECO validation in Oracle EBS, the *QueueController* is invoked to update the status of the Queue Message. Also, the Transfer status attribute in Change Order is updated by this service.

1. The *QueueController* creates the *AgileValidateEngineeringChangeOrderListABM* and invokes the *ValidateEngineeringChangeOrderAgileReqABCS.*
2. *ValidateEngineeringChangeOrderAgileReqABCS* transforms *ValidateEngineeringChangeOrderListResponseEBM* into *AgileUpdateEngineeringChangeOrderListABM*, which is sent as an input to the Agile Web Service.
3. ECO validation status is updated back to Agile. *AgileUpdateEngineeringChangeOrderListResponseABM* is sent back to *ValidateEngineeringChangeOrderAgileReqABCS*.

Transformations

- AgileValidateEngineeringChangeOrderListABM_to_ValidateEngineeringChangeOrderEBM.xsl

  Transforms AgileValidateEngineeringChangeOrderListABM to ValidateEngineeringChangeOrderListEBM
- ValidateEngineeringChangeOrderResponseEBM_to_AgileUpdateEngineeringChangeOrderListABM.xsl

Transforms ValidateEngineeringChangeOrderResponseEBM to AgileUpdateEngineeringChangeOrderListABM

ValidateEngineeringChangeOrderListEbizProvABCSImpl

This service is implemented as *Asynchronous* BPEL Process.

This is a single operation service. This accepts an Engineering Change Order containing Item and BOMs information message as a request and returns a response.

In Agile to Oracle EBS flow, *ValidateEngineeringChangeOrderListEbizProvABCSImpl* is used for transforming *ValidateEngineeringChangeOrderListEBM* into *ValidateECOABM*, which invokes the *ValidateEngineeringChangeOrder* operation in Oracle EBS.

In return flow, EBS Adapter Service sends *ValidateECOResponseABM*, which is transformed by *ValidateEngineeringChangeOrderListEbizProvABCSImpl* into *ValidateEngineeringChangeOrderListResponseEBM*.

Change Order Validation Integration Customization Points

Agile

ValidateEngineeringChangeOrderAgileReqABCS (Agile ECO validation requestor flow)	AgileValidateEngineeringChangeOrderListABM_to_ValidateEngineeringChangeOrderListEBM_Custom.xsl	ReqABM to ReqEBM (custom)
	AgileValidateEngineeringChangeOrderListABM_to_ValidateEngineeringChangeOrderListEBM_Impl.xsl	ReqABM to ReqEBM (main)
	ValidateEngineeringChangeOrderListEBM_EBMHeader_Custom.xsl	EBM to EBMHeader (custom elements)
	ValidateEngineeringChangeOrderListEBM_EBMHeader_Impl.xsl	EBM to EBMHeader (main)

	ValidateEngineeringChangeOrderListResponseEBM_to_UpdateEngineeringChangeOrderListEBM_Impl.xsl	RespEBM to ReqEBM (main)
	AgileValidateEngineeringChangeOrderListABM_to_AgileUpdateEngineeringChangeOrderListABM_Impl.xsl (under folder named 'eh')	
	UpdateEngineeringChangeOrderListEBM_to_AgileUpdateEngineeringChangeOrderListABM_Impl.xsl	ReqEBM to ReqABM (main)

Oracle E-Business Suite

ValidateEngineeringChangeOrderListEbizProvABCSImpl	XformValidateECOInputEBM_To_ValidateECOInputABM_Custom.xsl	Custom transformations for Engineering Change Order Request EBM to Request ABM
	XformValidateECORespABM_To_ValidateECORespEBM_Custom.xsl	Custom transformations for Engineering Change Order Response ABM to Response EBM

Essential DVMs for Change Order Validation

The following mandatory DVMs should be set for the CO Validation process to flow successfully:

DVM

- AGILE_SITE_TARGET_MAPPING
- ECO_REASON_CODE
- ECO_TYPECODE
- ECO_STATUS_CODE
- ITEM_PRIMARYCLASSIFICATIONCODE
- ITEM_STATUS_CODE
- ITEM_UOM_CODE
- ECO_STATUS_CODE

Chapter 4: Process Integration for Change Order Update

This chapter discusses:

- Change Order Update Process in Oracle EBS
- Change Order Update Process in Agile
- Change Order Update Process Integration Solution Assumptions
- Change Order Update Integration Sequence
- AIA Services for Change Order Update
- Change Order Update Integration Customization Points

This process is triggered by Oracle EBS.

There are two cases when Change Order information needs to flow from Oracle EBS system to the PLM system. Two of these cases have restrictions in a multi-org environment, because of the centralized (Agile) to decentralized (Oracle EBS) nature of the interface.

1. Change Order is completely implemented in the Oracle EBS system. This step may be configured to trigger a Change Order status change in the PLM system, and/or to trigger a Change Order Page Two or Page Three field update in the PLM system. Since a Change Order may be created in multiple organizations in e-Business Suite, and can have different statuses in each organization, this operation is performed only when the Change Order is completely implemented in all the organizations that it is created in the ERP system.
2. Change Order line status or effectivity date changes in the ERP system. In either case, the effectivity date of the Change Order line in ERP system is reflected on the corresponding line in Agile. This update can only be performed if the Change Order is created in only one organization in the ERP system, or if there is a one-to-one correspondence between ERP organizations and Agile sites for posting Change Order data.

Change Order Update Process in Oracle EBS

There are two types of events which can cause a Change Order (CO) Update

1. A modification of the scheduled Effectivity Date of a Change line.
2. An update to a Change line's implementation status.

While the effectivity dates and implementation statuses in the Oracle EBS are tracked at a BOM line level, these are tracked at a Change Line level in Agile. When a business need requires update of any of the supported ECO attributes in Agile from Oracle EBS, you do it by providing a valid mapping to those attributes from values in the Enterprise Business Object.

Change Order Update Process in Agile

The term Change refers to all objects of the base class Change in Agile PLM that are supported in the New Product Introduction and Manufacturing Update processes, namely ECOs, MCOs, SCOs.

Inputs

The following parameters are required as inputs for the Change Order (CO) Update process in Agile PLM:

Mandatory

- Change Number, which will uniquely identify the Change object.
- Field to be updated with the transfer or implementation status of the Change in the ERP system.
- ERP Transfer and Implementation status value (such as Transferred, Implemented, Canceled etc).
    - When an ECO is first transferred to the ERP system, its status in the ERP may be "Open" or "Scheduled." Upon successful transfer, the ECO Transfer Process updates the "ERP Transfer and Implementation Status" attribute with a value of "Transferred."
    - The organization or site information is not an input to this operation. That is because Agile PLM contains only a single instance of the Change Order, and not site-specific ones. It becomes relevant to the status update flow when Agile data is posted to multiple organizations in the ERP system. ERP Implementation Status update in Agile shall therefore follow these rules pertaining to multiple organizations:
- The ERP Transfer and Implementation Status field in PLM reflects the status of "Transferred" until the change order is fully implemented in all the ERP organizations that it is posted to.
- When the Change is successfully implemented in all the organizations that it has been posted to, the ERP Transfer and Implementation Status field in PLM is modified to "Implemented"
- If the Change errors implementation in one or more orgs, but is awaiting implementation in other orgs or has been successfully implemented in other orgs, the status will remain "Transferred."
- If the Change errors implementation in all orgs, the status will be changed to "Errored." If the Change is canceled in all orgs, the status will be changed to "Canceled"

Processing

The following steps are performed as part of this process:

1. The Change number and the specific affected item record is queried for modification

2. New Effectivity date for the Change line is updated on to the mapped column in Agile PLM.

   The following variations are also possible, and must be achieved by mappings and transformations done before this step:

   a. Update a configured column with the incoming Effectivity date only if the incoming status is "Implemented." In such a case, the action specified earlier in this topic remains the same, except that the mapped Effectivity date column is updated only if the status is Implemented

   b. Update a configured column with a configured value, depending on the incoming status.

   The following is an example of sample rules:

   - If the ECO status in ERP is "Scheduled", update the "Affected Items.Status" (an Affected Items tab list-validated flexfield) with the value "Not Implemented."
   - If the ECO status in ERP is "Implemented", update the "Affected Items.Status" field with the value "Implemented", and update the "Affected Items.ERP Implementation Date" (an Affected Items tab date flexfield) with the Effective Date from the ERP system

3. Another variation of this process may require the ECO status to be changed to the next status (say, Complete or Implemented) if all the rows on the ECO are implemented.

   Change line update may be done in a batch mode using a scheduled process. This means that the effectivity information is read for many Change lines in the ERP system and sent through the interface. This process may also be triggered by the event of a Change line getting implemented in the ERP system.

   The update step may process all the Change lines in the batch before committing, or it may commit each Change line individually before you move on to the next one. This decision should be taken purely from a technical efficiency perspective.

   When you process a batch of Change lines, if the update for one record errors out, this step should continue to process other records in the batch. A list of all errors encountered when processing the batch should be accumulated and logged.

Note: Effectivity Date for the Affected Items is not updated if the multisite is enabled but the sites are not assigned to that particular AI.

Change Status Operation

The Change Status operation in Agile for CO Update process from Oracle EBS to Agile PLM considers the status of ECOs in all the Orgs in Oracle EBS.

The CO Update Provider Service in Agile system handles the following:

1. When there is change in the status change on any ECO in any Org in Oracle EBS, the Oracle EBS sends all the ECOs from its Orgs to the Agile PLM system.
2. *UpdateEngineeringChangeOrderListAgileProvImpl* service checks the status on each ECO sent by Oracle EBS. If the status is same on ECOs across all Orgs in Oracle EBS, it is updated in the *Transfer Status* field on the ECO in the Agile PLM system.

3. If all the ECOs in all the Orgs in Oracle EBS have the status as *Implemented*, the change in the Agile PLM system for the ECO needs to be pushed to the *Implemented* status, in addition to updating the *Transfer Status* field on ECO in the Agile PLM system.
4. For this, the entry in the CHANGE_STATUS table is used. If there is no entry that correspond to the event *Change Implemented,* and the *change type (*ECO, MCO or SCO) is same as the change type of ECO in Agile PLM, only then the change is pushed to the next status. Otherwise, the change will not be pushed to the next status.
5. The *CHANGE_STATUS* table is located in the AIA Schema created on the SOA Server. The default *User ID/ Password* are plmpip / plmpip. The DB details, such as URL, port, SID, and so on can be found in the properties file at *<AIA_HOME>/config/deploy.properties*.

Sample Use Case

1. Release an ECO, C0001, from Agile PLM to Oracle EBS.
2. In the Oracle EBS system, create this ECO in three orgs, say Org1, Org2, Org3.
3. Change the status of this ECO in Org1 to 'Implemented'.
4. Oracle EBS triggers an event to send the ECO list to Agile. This list has C0001 in Org1, C0001 in Org2 and C0001 in Org3. Only C0001 of Org1 carries the complete data, including the AI data, while C0001 in the other Orgs carries only the header information.
5. When it is received by the Agile PLM system, the ECO data is updated and workflow status of ECO is changed.

   The change of workflow status is based on the following rules:
   - Only when the status of ECO is 'Implemented' in 'all' the Orgs in Oracle EBS, move the ECO in Agile PLM to the 'Implemented' status.
   - The ERP transfer status field in Agile is updated only when the status of ECO is same across all the Orgs in Oracle EBS.
6. Hence, if the Status is 'Implemented' across all the C0001 ECOs in all Orgs, ERP Transfer status field on ECO in Agile PLM is updated as 'Implemented'
7. If there is an entry in the CHANGE_STATUS table corresponding to the event 'Change Implemented' & SubClass 'ECO', and the workflow is mentioned on ECO C0001 in Agile PLM, read the next status and push it to the next status mentioned.
8. If there is no entry in the CHANGE_STATUS table for the data that was mentioned earlier, no ECO C0001 is not pushed to the next status.

CHANGE_STATUS Sample Data

EVENT	OUTCOME	SUBCLASS	WORKFLOW	NEXT_STATUS
Change Implemented	SUCCESS	ECO	Default Change Orders	Implemented

- The EVENT column key is 'Change Implemented'.

- The OUTCOME column key is 'SUCCESS'.
- In the SUBCLASS column, set up the change order subclass as ECO, MCO, and so on
- In the WORKFLOW column, set up the workflows. For example, if you are using Default Change Order workflow for ECO, then enter *Default Change Order* in this column. These values can be picked up from Agile PLM Java client.
- In the NEXT_STATUS column, enter the status of the workflow you want it to move to when the conditions are met. For example, when a Change is implemented (identified by event - this is a key. do not change it) and the OUTCOME is SUCCESS (identified by outcome, gets checked while changing status here), and the WORKFLOW chosen is Default Change Orders, the set up requesting the *Change* to be moved to the *Implemented* status (NEXT_STATUS).

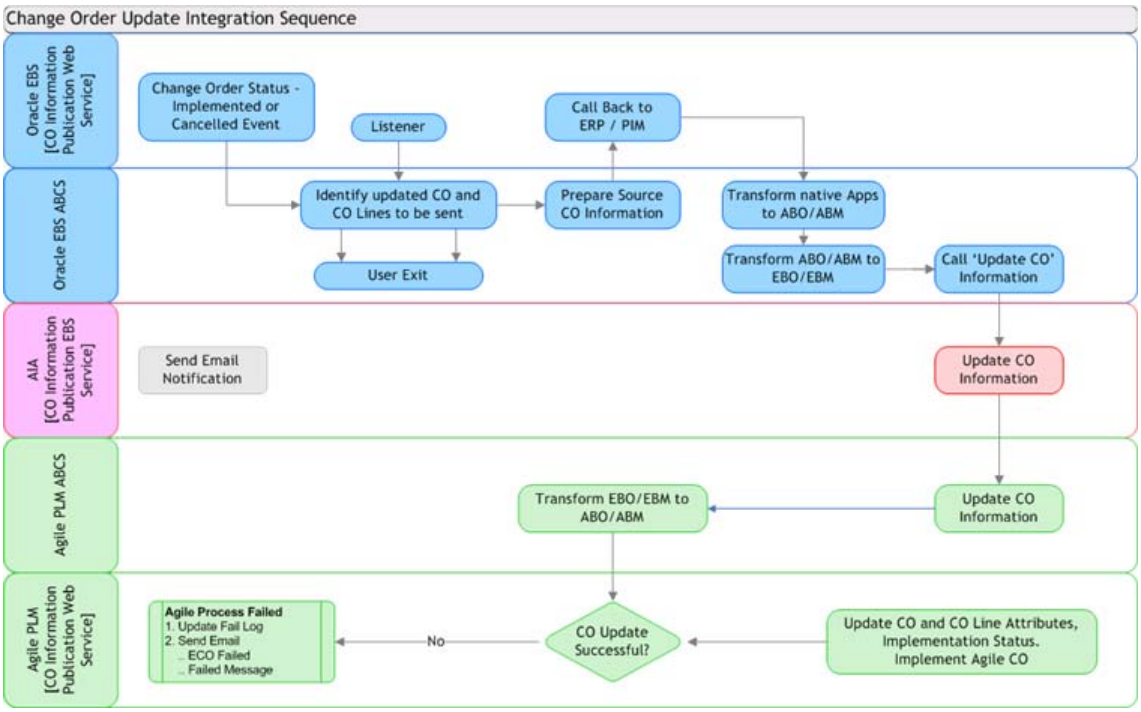
Change Order Update Process Integration Solution Assumptions

This release of the integration intends to resolve a use case in which any given Change is interfaced to only one destination system.

It is assumed that the log information about the end-to-end process of transferring a Change object from Agile to Oracle EBS is available as a file to this operation.

Change Order Update Integration Sequence

The following is the Integration Sequence for Change Order (CO) Update from Oracle E-Business Suite to Agile PLM system.



CO Update Integration Flow

Change Order Update Process flows as follows:

1. The requester ABCS, which is defined as a "synchronous" process, receives a list of Change IDs from the Oracle EBS concurrent program. The list of IDs is those that have "last_update_date" greater than the "last run date" of the concurrent program.
2. The requester BPEL process filters the list of IDs to a list of IDs that are present in the XREF tables in the FMW layer. This provides a list of change orders that were actually from the Agile system alone. The original list of Change IDs may be those that are from non-Agile sources also.
3. The BPEL process then makes an ESB call out for endpoint virtualization. This ESB layer has an OA Adapter which calls the PL/SQL API that provides the Change Order details that is needed to be sent out. This is the Change Order ABM.
4. A transformation converts the ABM to an EBM.
5. An asynchronous request-delayed response call is made to the EngineeringChangeOrderEBS with the EngineeringChangeOrderListEBM. This will route to the appropriate provider.

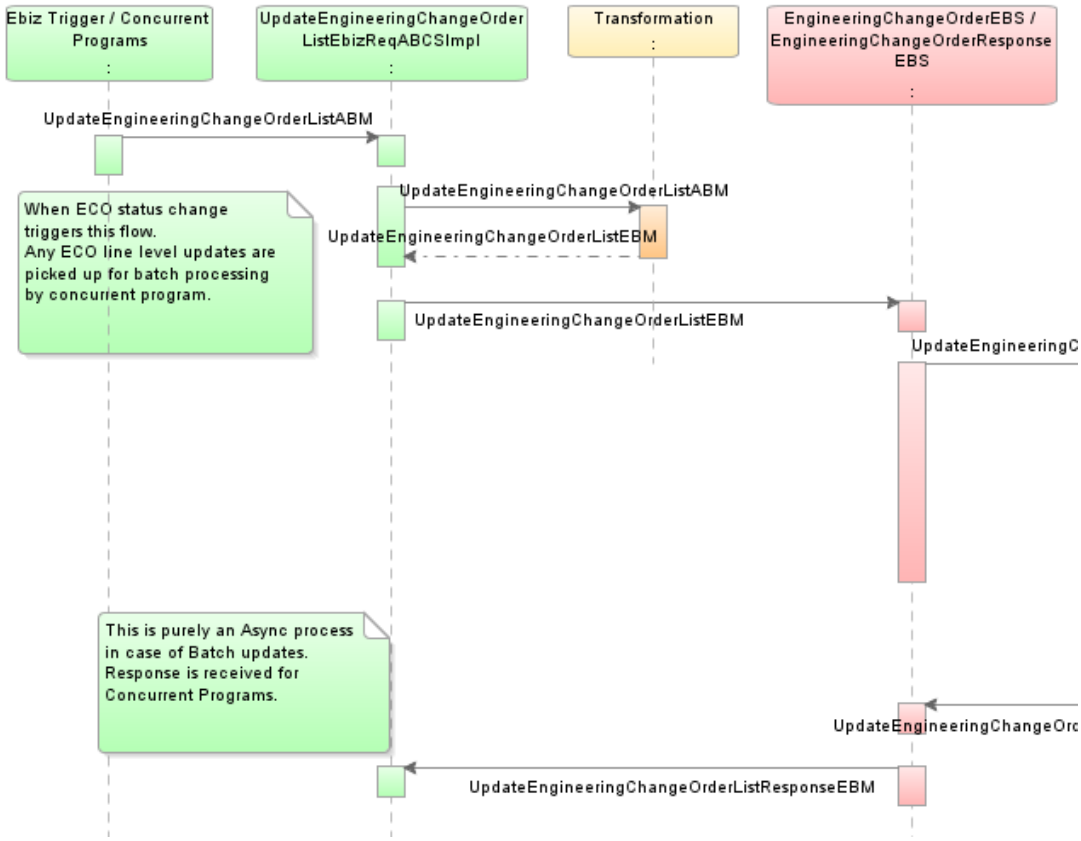
6. The BPEL instance is invoked when the asynchronous call gets back from the provider and provides the status of the transaction back to the caller concurrent program (since that is a synchronous call).

   There is no impact on performance since it is a scheduled call and is invoked from back-end and not a UI invoke.

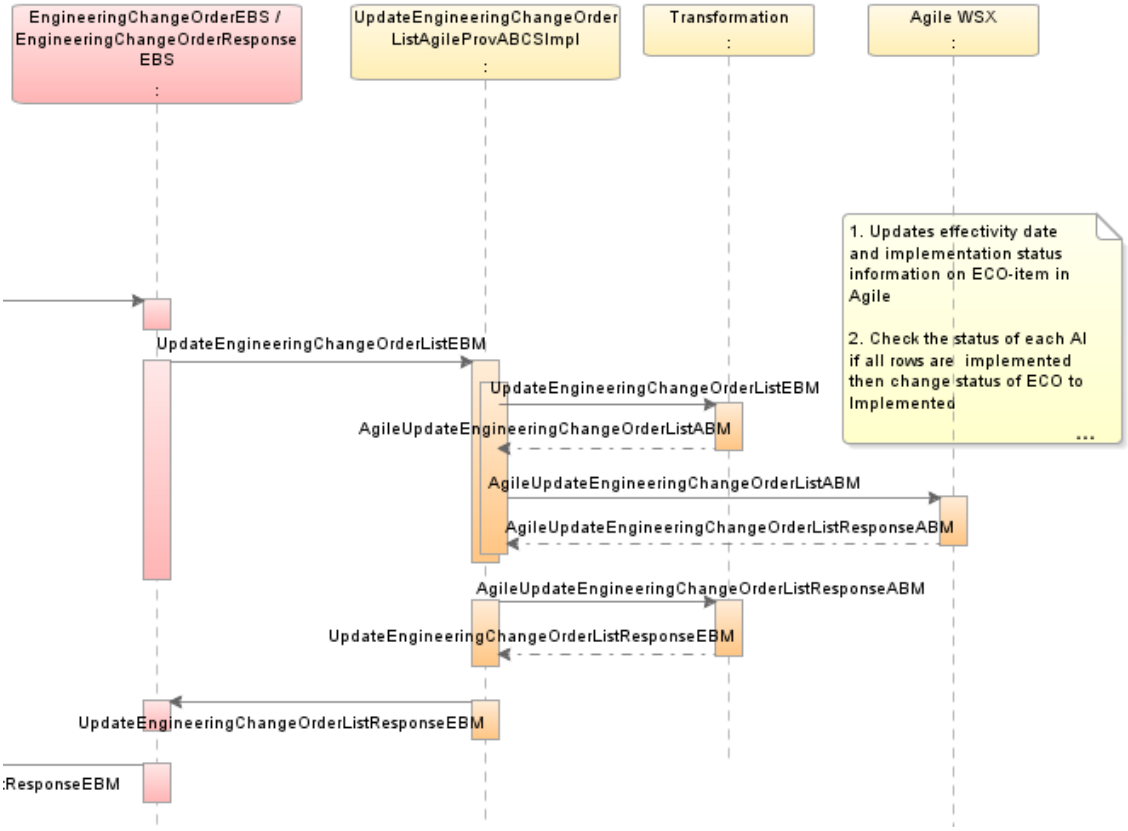
7. The concurrent program logs the status of this call.

Chage Order (CO) Update Integration Services Orchestration

Oracle E-Business Suite Side



Agile Side



#	Activity	Remarks
1.	Invoke UpdateEngineeringChangeOrderListEbizReqABCSImpl process	When ECO lines are Auto Implemented on reaching Effectivity Dates, UpdateEngineeringChangeOrderListEbizReqABCSImpl is triggered. UpdateEngineeringChangeOrderEBM is created inside UpdateEngineeringChangeOrderListEbizReqABCSImpl.
2.	UpdateEngineeringChangeOrderListEbizReqABCSImpl invokes the EngineeringChangeOrderEBS with UpdateEngineeringChangeOrderList operation	An invoke activity in UpdateEngineeringChangeOrderListEbizReqABCSImpl invokes the UpdateEngineeringChangeOrderList operation on EngineeringChangeOrderEBS with UpdateEngineeringChangeOrderListEBM as the input.
3	EngineeringChangeOrderEBS routes UpdateEngineeringChangeOrderListEBM to UpdateEngineeringChangeOrderListAgileProv	EngineeringChangeOrderEBS routes UpdateEngineeringChangeOrderListEBM to UpdateEngineeringChangeOrderListAgileProvABCSImpl

#	Activity	Remarks
	ABCSImpl	
4	UpdateEngineeringChangeOrderListAgileProv ABCSImpl does the transformation	UpdateEngineeringChangeOrderListAgileProvABCSImpl transforms UpdateEngineeringChangeOrderListEBM into AgileUpdateEngineeringChangeOrderListABM
5	UpdateEngineeringChangeOrderListAgileProv ABCSImpl invokes Agile Web Services	Agile Web Services are invoked with *AgileUpdateEngineeringChangeOrderListABM* as input. The Effectivity dates and implementation status of ECO is updated in agile. A check is made to see whether all affected item rows are moved into implemented status. The ECO status will be moved to Implemented when all affected items are implemented. *AgileUpdateEngineeringChangeOrderListResponseABM* is sent back to the *UpdateEngineeringCUpdateEngineeringChangeOrderListAgileProvABCSImpl*

AIA Services for Change Order Update

Core AIA Components for Change Order (CO) Update

The Process Integration for Change Order (CO) Update uses the following industry components:

EBOs	EngineeringChangeOrderEBO
EBMs	UpdateEngineeringChangeOrderListEBM UpdateEngineeringChangeOrderLisResponeEBM
EBSs	EngineeringChangeOrderEBS EngineeringChangeOrderResponeEBS

Core Components Locations

EBO & EBM XSD files	http://[HOST:PORT]/AIAComponents/EnterpriseObjectLibrary/Core/EBO/

WSDL files	http://[HOST:PORT]/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/

For detailed documentation of individual EBOs, click the EBO Name link on the Integration Scenario Summary page in the Oracle AIA Console. You can also use the Integration Scenario Summary page to search for and view integration scenarios that use a particular EBO or EBS.

For more information, see Oracle Application Integration Architecture - Foundation Pack: Core Infrastructure Components Guide, "Using the BSR," Using the BSR UI to View Integration Scenarios.

EBOs can be extended, for example, to add new data elements. These extensions are protected, and will remain intact after a patch or an upgrade.

For more information, see Oracle Application Integration Architecture – Foundation Pack: Integration Developer's Guide, "Extensibility for AIA Artifacts".

Oracle EBS & Agile Components for CO Update

Services	Oracle EBS (Requester)	Agile (Provider)
ABMs	EngineeringChangeOrderABM	AgileUpdateEngineeringChangeOrderListABM AgileUpdateEngineeringChangeOrderListResponseABM
ABCS	UpdateEngineeringChangeOrderListEbizReqABCSImpl	UpdateEngineeringChangeOrderListAgileProvABCSImpl
EBS	EngineeringChangeOrderEBS EngineeringChangeOrderResponseEBS	

Component Locations

ABO, ABM & Common XSD files	http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Agile/V1/schemas http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Ebiz/V1/schemas
WSDL files	http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Agile/V1/wsdls http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Ebiz/wsdls

Integration Services for Change Order Update

The Integration Services for the Change Order (CO) Update process are as follows:

- EngineeringChangeOrderEBS

- UpdateEngineeringChangeOrderListEbizReqABCSImpl
- UpdateEngineeringChangeOrderListAgileProvABCSImpl

EngineeringChangeOrderEBS

EngineeringChangeOrderEBS is the Enterprise Business Services which exposes the following operations related to the Engineering Change Order Integration on the *EngineeringChangeOrder EBO*.

The following are the routing rules:

EngineeringChangeOrderEBS ESB service

- *UpdateEngineeringChangeOrderList*: Routes UpdateEngineeringChangeOrderListEBM to UpdateEngineeringChangeOrderListAgileProvABCSImpl

EngineeringChangeOrderResponseEBS ESB service

- *UpdateEngineeringChangeOrderListResponse*: Routes UpdateEngineeringChangeOrderListResponseEBM to UpdateEngineeringChangeOrderListEbizReqABCSImpl

UpdateEngineeringChangeOrderListEbizReqABCSImpl

- The requester ABCS, which is defined as a *Synchronous* process, receives a list of Change IDs from the Oracle EBS concurrent program. The list of IDs are those that have *last_update_date* greater than the *last run date* of the concurrent program.
- The requester BPEL process filters the list of IDs to a list of IDs that are present in the XREF tables in the FMW layer. This provides a list of change orders that were actually from the Agile PLM System alone. The original list of Change IDs may be those that are from non-Agile PLM sources as well.
- The BPEL process then makes an ESB call for endpoint virtualization. This ESB layer has an OA Adapter, which calls the PL/SQL API. This PL/SQL API provides the Change Order details that are required to be sent out from the Oracle EBS system. This is the Change Order ABM.
- A transformation converts the ABM to an EBM.
- An asynchronous request-delayed response call is made to *EngineeringChangeOrderEBS* with *EngineeringChangeOrderListEBM*. This routes to the appropriate provider.
- The BPEL instance is invoked when the asynchronous call gets back from the provider and provides the status of the transaction back to the caller concurrent program (since that is a synchronous call).

- The concurrent program logs the status of this call.

UpdateEngineeringChangeOrderListAgileProvABCSImpl

The *UpdateEngineeringChangeOrderListAgileProvABCSImpl* updates an Engineering Change Order in Agile. In the Integration, the *UpdateEngineeringChangeOrderListAgileProvABCSImpl* is used to update the *Transfer Status* related fields.

It is implemented as an *Asynchronous* Process.

- *UpdateEngineeringChangeOrderListAgileProvABCSImpl* is invoked by *EngineeringChangeOrderEBS* with *UpdateEngineeringChangeOrderListReqMsg,* which contains *UpdateEngineeringChangeOrderListEBM* as input.
- Transform operation is called to convert *UpdateEngineeringChangeOrderListEBM* into *AgileUpdateEngineeringChangeOrderListABM*.
- *AgileUpdateEngineeringChangeOrderListABM* is passed as an input to the Web Service operation, which performs the following:
  - Updates the Transfer Status related attributes on ECO (For Agile to Oracle EBS flow).
  - Updates Effectivity Dates and Implementation status. If all AI statuses are Implemented change Status of ECO to Implemented. (For Oracle EBS to Agile PLM flow)
- *AgileUpdateEngineeringChangeOrderListResponseABM* is received on successful execution of Coarse Grained API *UpdateChange*.
- If the UpdateChange service operation fails in the Agile PLM system, a new Fault is generated and sent across with appropriate error message.

Change Order Update Integration Customization Points

Oracle E-Business Suite

UpdateEngineeringChangeOrderListEbizReqABCSImpl	XformECOABM_To_ECOEBM_Custom.xsl	Custom transformations for Engineering Change Order Request ABM to Request EBM

Agile

UpdateEngineeringChangeOrderListAgileProvABCSImpl (Agile Update ECO provider flow)	AgileUpdateEngineeringChangeOrderListResponseABM_to_UpdateEngineeringChangeOrderListResponseEBM_Custom.xsl	RespABM to RespEBM (custom element)

	AgileUpdateEngineeringChangeOrderListResponseABM_to_UpdateEngineeringChangeOrderListResponseEBM_Impl.xsl	RespABM to RespEBM (main)
	UpdateEngineeringChangeOrderListEBM_to_AgileUpdateEngineeringChangeOrderListABM_Impl.xsl	ReqEBM to ReqABM (main)

Essential DVMs for Change Order Update

The following mandatory DVMs should be set for the Change order (CO) Update process to flow successfully:

DVM

- AGILE_SITE_TARGET_MAPPING
- AGILE_SITE_TARGET_MAPPING
- ECO_STATUS_CODE
- ECO_CLASSIFICATION_CODE
- ECO_TYPECODE
- ECO_REASON_CODE
- ECO_STATUS_CODE
- ITEM_PRIMARYCLASSIFICATIONCODE
- ITEM_STATUS_CODE

Chapter 5: Process Integration for Item Attribute Update

This chapter discusses the following:

- Item Attribute Update Process
- Item Attribute Update Process Integration Solution Assumptions
- Item Attribute Update Integration Sequence
- AIA Services for Item Attribute Update
- Item Attribute Update Integration Customization Points
- Integration Services for Item Attribute Update

Required as part of the Manufacturing Update process for product information synchronization, the Item Attributes information from Oracle EBS is required to be updated in Agile. The term Item applies to both Parts and Documents in Agile.

Since item attribute information can exist in multiple organizations in the Oracle EBS, it is supported only for cases in which the system can accurately determine which Org(s) in ERP to obtain item attribute information from.

Item Attribute Update Process

The update of Item Attribute (IA) information from Oracle EBS to PLM is performed as a batch process.

The following steps are followed:

1. The batch process starts at a scheduled frequency, which is configurable.
2. Retrieve the last date and time as of which the item information update process completed successfully.
3. Retrieve the list of items whose attributes have changed since the last successful run. Also retrieve the list of mapped attribute values for these items. This data is retrieved from one or more organizations as per site-org mappings or from the configured single organization as described earlier in this section.
4. Update the information into Agile. If the complete update is processed successfully, update the date and time of last successful run.

The input consists of a batch of items whose attribute values need to be updated in Agile. Unique identifiers for the items, along with values for all the attributes mapped for transfer from Oracle EBS to Agile are provided as input.

Processing

Item attribute update is done in a batch mode using a scheduled process. This means that mapped attribute information is read for many items in the Oracle EBS and sent through the interface. Since this process does not use specific event triggers, it is not easy to identify from the source system which of the mapped item attributes really changed in the elapsed period. The update process, therefore, updates all the mapped attributes every time that an item is updated with information from the Oracle EBS.

The update step may process all the items in the batch before committing, or it may commit each item individually before you move on to the next one.

When processing a batch of items, if the update for an item errors out, this step continues to process other items in the batch. All errors encountered when processing the batch are logged.

A status code that indicates whether all the items in the batch were updated successfully is returned, along with an error message, if an exception was encountered. The error message contains a cumulative log of all the exceptions encountered when processing the items.

Exceptions

In every case, the exception message displayed to the user must contain the item number that was being updated along with other supporting information as indicated.

- Insufficient privilege to discover, read or update the item
- Invalid field value
  - Invalid list value
  - Invalid data format for text, money or date fields
- Item does not exist

Item Attribute Update Process Integration Solution Assumptions

If item information needs to be retrieved from multiple organizations in Oracle EBS, the following constraints must be met in order to support this process:

1. Agile PLM multi-sites is configured
2. There is a one-to-one mapping between Agile PLM sites and Oracle EBS organizations
3. The attribute(s) to be updated with Oracle EBS data is on the Sites tab of the item

   Alternatively, customers may designate, as a part of configuration parameters, a single Oracle EBS organization from which all Item Attributes and on-hand quantity information is always retrieved. In such a case, you do not have to have Agile multi-sites. Any Title Block or Page Two attribute may be updated with ERP data in such a case.

   This release of the integration intends to resolve a use case in which any given Change is

interfaced to only one destination system.

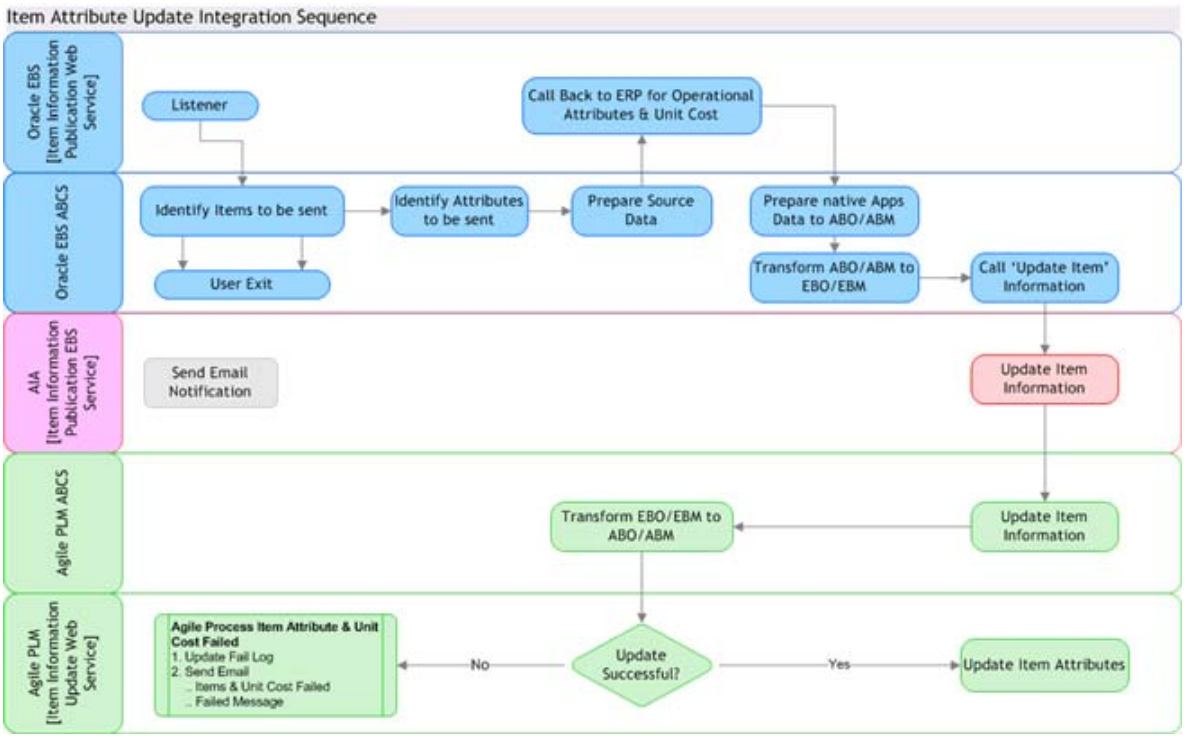
The following exception conditions are tested to make sure that they return user-friendly error messages. In every case, the exception message displayed to the user must contain the Change number that was being updated and the step at which the error occurred, along with other supporting information as needed.

- Insufficient privilege to discover, read, add attachment to or update attributes on the Change object
- Invalid field value (indicate the field for which the value is incorrect, and the value that is being passed on to the field)
- Change object does not exist
- Error when you add an attachment

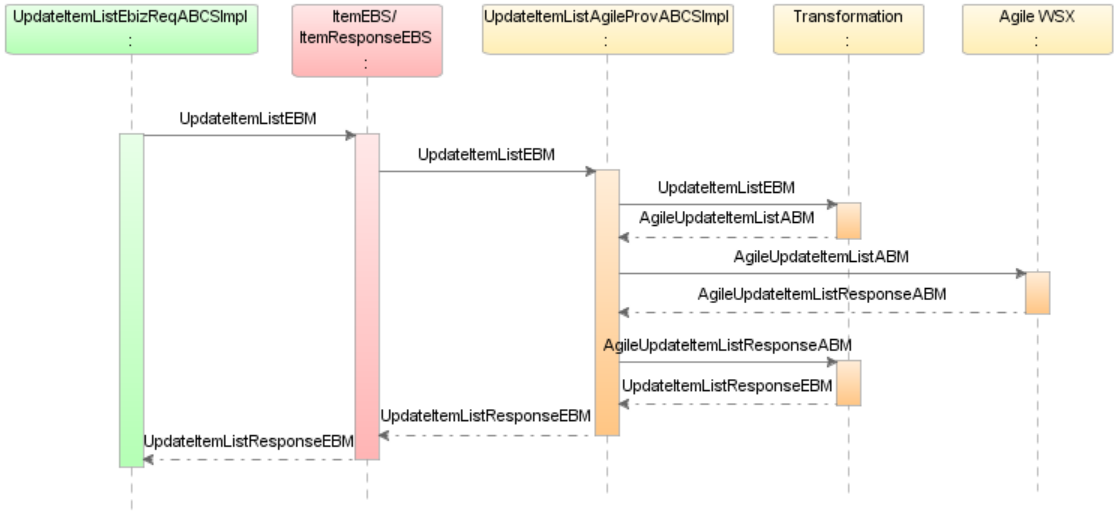
Note. New Item Creation is not part of the scope for this activity. It is assumed that the item exists in both Agile and Oracle EBS, by a prior New Part Introduction or independent offline load processes.

Item Attribute Update Integration Sequence

The following is the Integration Sequence for Item Attribute (IA) Update from Oracle E-Business Suite to Agile PLM system.



IA Update Integration Services Orchestration



#	Activity	Remarks
1	Publish Item Attributes concurrent program is initiated.	The Publish Item Attributes concurrent program in Oracle EBS Invokes the *UpdateItemListEbizReqABCSImpl*.
2	UpdateItemListEbizReqABCSImpl invokes ItemEBS	An invoke activity in *UpdateItemListEbizReqABCSImpl* invokes the *UpdateItemList* operation on *ItemEBS* with *UpdateItemListEBM* as input
3	ItemEBS routes the UpdateItemListEBM to UpdateItemListAgileProvABCSImpl	*ItemEBS* routes UpdateItemListEBM as input to UpdateItemListAgileProvABCSImpl
4	UpdateItemListAgileProvABCSImpl invokes Agile's Item Operational Attribute Update Web Service	*UpdateItemListAgileProvABCSImpl* transforms the *UpdateItemListEBM* to *AgileUpdateItemListABM* and invokes *UpdateItem* service operation on Agile Web Service to update Item cost related attribute information for from Oracle to Agile. The *AgileUpdateItemListResponseABM* is returned back to *UpdateItemListAgileProvABCSImpl*
5	UpdateItemListAgileProvABCSImpl sends response back to the ItemResponseEBS	*UpdateItemListAgileProvABCSImpl* transforms the *AgileUpdateItemListResponseABM* to *UpdateItemListListResponseEBM* sends back

#	Activity	Remarks
		this to *ItemResponseEBS*
6	ItemResponseEBS sends the UpdateItemListListResponseEBM to UpdateItemListEbizReqABCSImpl	*ItemResponseEBS* sends the *UpdateItemListListResponseEBM* to *UpdateItemListEbizReqABCSImpl*

AIA Services for Item Attribute Update

Core AIA Components for Item Attribute (IA) Update

The Process Integration for ECO/PREL uses the following industry components:

EBOs	ItemEBO
EBMs	• UpdateItemListEBM • UpdateItemListResponseEBM
EBSs	• ItemEBS • ItemResponseEBS

Core Components Locations

EBO & EBM XSD files	http://[HOST:PORT]/AIAComponents/EnterpriseObjectLibrary/Core/EBO/
WSDL files	http://[HOST:PORT]/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/

For detailed documentation of individual EBOs, click the EBO Name link on the Integration Scenario Summary page in the Oracle AIA Console. You can also use the Integration Scenario Summary page to search for and view integration scenarios that use a particular EBO or EBS.

For more information, see Oracle Application Integration Architecture - Foundation Pack: Core Infrastructure Components Guide, "Using the BSR," Using the BSR UI to View Integration Scenarios.

EBOs can be extended, for example, to add new data elements. These extensions are protected, and will remain intact after a patch or an upgrade.

For more information, see Oracle Application Integration Architecture – Foundation Pack: Integration Developer's Guide, "Extensibility for AIA Artifacts".

Oracle EBS & Agile Components for IA Update

Services	Oracle EBS (Requester)	Agile (Provider)
ABMs	UpdateItemListABM	• AgileUpdateListABM • AgileUpdateListResponseABM
ABCS	UpdateItemListEbizReqABCSImpl	UpdateItemListAgileProvABCSImpl
EBS	ItemEBS	ItemResponseEBS
ESB Service	GetItemAttributeService	---

Component Locations

ABO, ABM & Common XSD files	http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Agile/V1/schemas http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Ebiz/V1/schemas
WSDL files	http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Agile/V1/wsdls http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Ebiz/wsdls

Integration Services for Item Attribute Update

The integration services for the Item Attribute (IA) Update process are as follows:

- ItemEBS
- UpdateItemListEbizReqABCSImpl
- UpdateItemListAgileProvABCSImpl

ItemEBS

ItemEBS is the Enterprise Business Services which exposes the following operations related to the Item Attribute Update Integration on the *ItemEBO*.

The following are the routing rules:

ItemEBS ESB service

- *UpdateItemList*: Routes UpdateItemListEBM to UpdateItemListAgileProvABCSImpl

ItemResponseEBS ESB service

- *UpdateItemListResponse*: Routes UpdateItemListResponseEBM to UpdateItemListEbizReqABCSImpl

UpdateItemListEbizReqABCSImpl

This service is called when you have to update multiple items in Agile with all the operational attributes and the attributes from Oracle EBS, such as, unit cost. This is a push from Oracle EBS to the Agile PLM.

- The requester ABCS, which is defined as a *Synchronous* process, receives a list of Item IDs from the Oracle EBS concurrent program. The list of IDs are those, which have *last_update_date* greater than the *last run date* of the concurrent program.
- The requester BPEL process filters the list of IDs to a list of IDs that are present in the *XREF* tables in the FMW layer. This provides a list of Items that were actually from the Agile PLM system alone. The original list of Item IDs may be those that are from non-Agile PLM sources as well.
- The BPEL process then makes an ESB call out for endpoint virtualization. This ESB layer has an OA Adapter that calls the PL/SQL API, which provides the Item details that is needed to be sent out. This is the Item ABM.
- A transformation converts the ABM to an EBM.
- An Asynchronous request-delayed response call is made to the *ItemEBS* with the *ItemListEBM*. This routes to the appropriate provider.
- The BPEL instance gets invoked when the asynchronous call returns from the provider and provides the status of the transaction back to the caller concurrent program (since that is a synchronous call).
- The concurrent program logs the status of this call.

UpdateItemListAgileProvABCSImpl

UpdateItemListAgileProvABCSImpl is used to facilitate the communication between *ItemEBS* and Agile Web Service used to update the Item cost information in a batch mode in the Agile PLM system.

- Receives *UpdateItemListReqMsg* that contains *UpdateItemListEBM*
- Transform operation is called to convert the *UpdateItemListEBM* into *AgileUpdateItemListABM*.
- *AgileUpdateItemListABM* is sent as input to the Web Service operation *UpdateItems* (coarse grained APIs in Agile PLM) to update Items in the Agile system.
- *AgileUpdateItemListResponseABM* is received on successful execution of coarse grained API.

- Transform operation is called to convert the *AgileUpdateItemListABM* to *UpdateItemListResponseEBM*, which is returned as an output of this BEPL process.
- If the *UpdateItems* service operation fails on the Agile side, a new Fault is generated and is sent across with appropriate error message.

Item Attribute Update Integration Customization Points

Oracle E-Business Suite

UpdateItemListEbizReqABCSImpl	UpdateItemListABMToEBM_Custom.xsl	Custom transformations for Item Request ABM to Request EBM

Agile

UpdateItemListAgileProvABCSImpl (Agile update item attributes provider flow)	AgileUpdateItemListResponseABM_to_UpdateItemListResponseEBM_Custom.xsl	RespABM to RespEBM (custom element)
	AgileUpdateItemListResponseABM_to_UpdateItemListResponseEBM_Impl.xsl	RespABM to RespEBM (main)
	UpdateItemListEBM_to_AgileUpdateItemListABM_Impl.xsl	ReqEBM to ReqABM (main)

Essential DVMs for Item Attribute Update

The following mandatory DVMs should be set for the Item Attribute (IA) Update process to flow successfully:

DVM

- AGILE_SITE_TARGET_MAPPING
- AGILE_SITE_TARGET_MAPPING
- ITEM_PRIMARYCLASSIFICATIONCODE
- ITEM_STATUS_CODE
- ITEM_UOM_CODE
- ITEM_PRIMARYCLASSIFICATIONCODE
- ITEM_STATUS_CODE

- ITEM_UOM_CODE

Chapter 6: Process Integration for Item Balance Update

This chapter discusses the following:

- Item Balance Update Process
- Item Balance Update Process Integration Solution Assumptions
- Item Balance Update Integration Sequence
- AIA Services for Item Balance Update
- Item Balance Update Integration Customization Points

Required as part of the Manufacturing Update process for product information synchronization, the Item Availability, that is the Item Balance, information from Oracle EBS is required to be updated in Agile PLM. The term Item applies to both Parts and Documents in Agile PLM.

Since item balance information can exist in multiple organizations in the Oracle EBS, it is supported only for cases in which the system can accurately determine which Org(s) in Oracle EBS to obtain item balance information from.

Item Balance Update Process

The Item Balance information in ERP system is stored in three heads -

- Reserved Quantity
- Available Quantity
- On-hand Quantity

These three heads/attributes are not available in Agile's Out-of-the-Box application. To update the item balance information from these three attributes, Agile's Flex-Fields are configured and mapped. This configuration information is given in AIAConfigProperties.xml file (Multisite_Enabled property).

Further, an Item in ERP can exist in more than one Org. Any change in any of the three types of quantities may happen in just one or in a few or in all the orgs. For the ERP system to determine, which org corresponds (maps) to which flex-field in Agile, the DVM AGILE_TARGET_SITE_MAPPING is used.

Configurations

- When Multisite_Enabled property in AIAConfigProperties.xml is set to FALSE, the Page2 or Page3 flexfields in Agile are updated.
- When Multisite_Enabled property in AIAConfigProperties.xml is set to TRUE, the flexfields on Site Tab in Agile are updated.

The Update Process

The update of Item Balance information from Oracle EBS to PLM is performed as a batch process.

The following steps are followed:

1. The batch process starts at a scheduled frequency, which is configurable.
2. Retrieve the last date and time as of which the item information update process completed successfully.
3. Retrieve the list of items whose attributes have changed since the last successful run. Also retrieve the list of mapped attribute values for these items. This data is retrieved from one or more organizations as per site-org mappings or from the configured single organization as described earlier in this section.
4. Update the information into Agile. If the complete update is processed successfully, update the date and time of last successful run.

The input consists of a batch of items whose quantity values must be updated in Agile. Unique identifiers for the items, along with values for all the quantities mapped for transfer from Oracle EBS to Agile are provided as input.

Item Balance Update Process Integration Solution Assumptions

If item balance information needs to be retrieved from multiple organizations in Oracle EBS, the following constraints must be met to for an end-to-end process integration:

- Agile multi-sites is not configured, the attributes to be updated are on the Page2 or Page3 as configured in AIAConfigProperties.xml file.
- There is a one-to-one mapping between Agile sites and ERP organizations. This is derived from the AGILE_TARGET_SITE_MAPPING DVM.
- The attribute(s) to be updated with Oracle EBS data is on the Sites tab of the item. If the Agile MultiSites are configured.

  Alternatively, customers may designate, as a part of configuration parameters, a single ERP organization from which onhand quantity information is always retrieved. In such a case, you do not have to have Agile multi-sites. Any Title Block or Page Two attribute may be updated with ERP data in such a case.

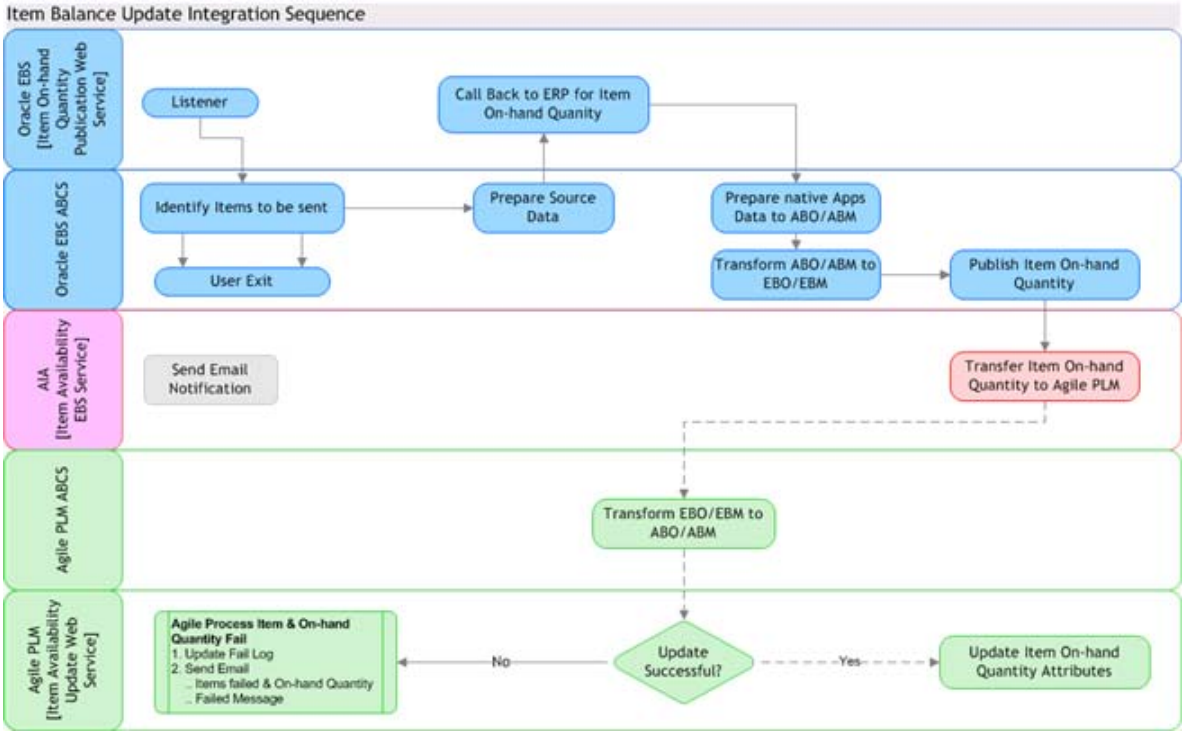
  The following exception conditions are considered for return of user-friendly error messages. In

every case, the exception message displayed to the user contains the Change number that was being updated and the step at which the error occurred, along with other supporting information as needed.

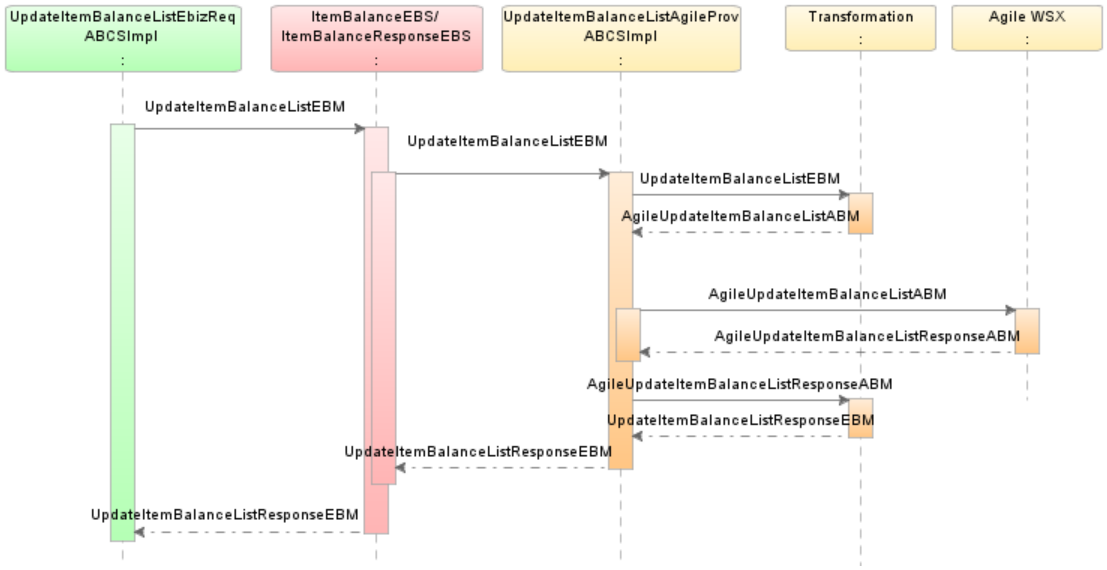
- Insufficient privilege to discover, read, add attachment to or update attributes on the Change object.
- Invalid field value (indicate the field for which the value is incorrect, and the value that is being passed on to the field).

Item Balance Update Integration Sequence

The following is the Integration Sequence for Item Balance Update from Oracle E-Business Suite to Agile PLM system.



IB Update Integration Services Orchestration



#	Activity	Remarks
1	Publish Item Balance concurrent program is initiated.	The Publish Item Balance concurrent program in Oracle EBS invokes the *UpdateItemBalanceListEbizReqABCS.*
2	UpdateItemBalanceListEbizReqABCSImpl invokes ItemBalanceEBS	An invoke activity in *UpdateItemBalanceListEbizReqABCSImpl* invokes the *UpdateItemBalanceList* operation on *ItemBalanceEBS* with *UpdateItemBalanceList* EBM as input.
3	ItemBalanceEBS invokes the UpdateItemBalanceListAgileProvABCSImpl	*ItemBalanceEBS* sends *UpdateItemBalanceListEBM* as input to *UpdateItemBalanceListAgileProvABCSImpl*
4	UpdateItemBalanceListAgileProvABCSImpl invokes Agile's Item Balance Web Service	*UpdateItemBalanceListAgileProvABCSImpl* transforms the *UpdateItemBalanceListEBM* to *AgileUpdateItemBalanceListABM* and invokes the *updateItem* service operation on Agile Web Service to update Item On-Hand Quantity information from Oracle to Agile. The *AgileUpdateItemBalanceListResponseABM* is returned back to *UpdateItemBalanceListAgileProvABCSImpl*
5	UpdateItemBalanceListAgileProvABCSImpl sends response back to the ItemBalanceResponseEBS	*UpdateItemBalanceListAgileProvABCSImpl* transforms *AgileUpdateItemBalanceListResponseABM* to

#	Activity	Remarks
		UpdateItemBalanceListResponseEBM and returns it to *ItemBalanceResponseEBS*.
6	ItemBalanceResponseEBS sends the UpdateItemBalanceListResponseEBM to UpdateItemBalanceListEbizReqABCSImpl	*ItemBalanceResponseEBS* sends the *UpdateItemBalanceListResponseEBM* to *UpdateItemBalanceListEbizReqABCSImpl*

AIA Services for Item Balance Update

Core AIA Components for IB Update

The Process Integration for Item Balance Update uses the following industry components:

EBOs	ItemBalanceEBO
EBMs	• UpdateItemBalanceListEBM • UpdateItemBalanceListResponseEBM
EBSs	• ItemBalanceEBS • ItemBalanceResponseEBS

Core Components Locations

EBO & EBM XSD files	http://[HOST:PORT]/AIAComponents/EnterpriseObjectLibrary/Core/EBO/
WSDL files	http://[HOST:PORT]/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/

For detailed documentation of individual EBOs, click the EBO Name link on the Integration Scenario Summary page in the Oracle AIA Console. You can also use the Integration Scenario Summary page to search for and view integration scenarios that use a particular EBO or EBS.

For more information, see Oracle Application Integration Architecture - Foundation Pack: Core Infrastructure Components Guide, "Using the BSR," Using the BSR UI to View Integration Scenarios.

EBOs can be extended, for example, to add new data elements. These extensions are protected, and will remain intact after a patch or an upgrade.

For more information, see Oracle Application Integration Architecture – Foundation Pack: Integration Developer's Guide, "Extensibility for AIA Artifacts."

Oracle EBS & Agile Components for IB Update

Services	Oracle EBS (Requester)	Agile (Provider)
ABMs	---	• AgileUpdateItemBalanceListABM • AgileUpdateItemBalanceListResponseABM
ABCS	UpdateItemBalanceListEbizReqABCSImpl	UpdateItemBalanceListAgileProvABCS
EBS	ItemBalanceEBS	ItemBalanceResponseEBS
ESB Service	ItemBalanceService	---

Component Locations

ABO, ABM & Common XSD files	http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Agile/V1/schemas http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Ebiz/V1/schemas
WSDL files	http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Agile/V1/wsdls http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Ebiz/wsdls

Integration Services for Item Balance Update

The integration services for the Item Balance Update process are as follows:

- ItemBalanceEBS
- UpdateItemBalanceListEbizReqABCSImpl
- UpdateItemBalanceListAgileProvABCSImpl

ItemBalanceEBS

ItemBalanceEBS is the Enterprise Business Services which exposes the following operations related to the Item Availability Attributes Update Integration on the *ItemBalanceEBO*.

The following are the routing rules:

ItemBalanceEBS ESB service

- *UpdateItemBalanceList*: Routes UpdateItemBalanceListEBM to

UpdateItemBalanceListAgileProvABCSImpl

ItemBalanceResponseEBS ESB service

- *UpdateItemBalanceListResponse*: Routes UpdateItemBalanceListResponseEBM to UpdateItemBalanceListEbizReqABCSImpl

UpdateItemBalanceListEbizReqABCSImpl

This is called when you need a participating application to update multiple item balance attributes on their system such as on-hand quantity from Oracle EBS. This is a push from Oracle EBS to the other participating application.

- The requester ABCS defined as a "synchronous" process, receives a list of Item IDs from the Oracle EBS concurrent program. The list of IDs are those which have "last_update_date" greater the "last run date" of the concurrent program.
- The requester BPEL process filters the list of IDs to a list of IDs that are present in the *XREF* tables in the FMW layer. This provides a list of Items that were actually from the Agile PLM system alone. The original list of Item IDs may be those which are from non-Agile PLM sources as well.
- The BPEL process then makes an ESB call out for endpoint virtualization. This ESB layer has an OA Adapter that calls the PL/SQL API that provides the Item Balance details that is needed to be sent out. This is the ItemBalance ABM.
- A transformation converts the ABM to an EBM.
- An asynchronous request-delayed response call is made to the *ItemBalanceEBS* with the *ItemBalanceListEBM*. This routes to the appropriate provider.
- The BPEL instance is invoked when the asynchronous call gets back from the provider and provides the status of the transaction back to the caller concurrent program (since that is a synchronous call). This does not impact the performance since it is a scheduled call and is invoked from the back end, not from the UI.
- The concurrent program logs the status of this call.

UpdateItemBalanceListAgileProvABCSImpl

UpdateItemBalanceListAgileProvABCSImpl is used to facilitate the communication between *ItemBalanceEBS* and Agile web service used for updating the Item Quantity information in batch mode in Agile PLM.

- Receives *UpdateItemBalanceListReqMsg*, which contains *UpdateItemBalanceListEBM*.
- Transform operation is called to convert the *UpdateItemBalanceListEBM* into *AgileUpdateItemBalanceListABM*.

- *AgileUpdateItemBalanceListABM* is passed as input to the web service operation *UpdateItems* (Coarse Grained APIs in Agile PLM) to update Items in Agile PLM.
- *AgileUpdateItemBalanceListResponseABM* is received on successful execution of Coarse Grained API.
- Transforms *AgileUpdateItemBalanceListResponseABM* to *UpdateItemBalanceListResponseEBM*, which is returned as output of this BEPL process.
- If the *UpdateItems* service operation fails on the Agile side, a new Fault is generated and will be sent across with appropriate error message.

Item Balance Update Integration Customization Points

Oracle E-Business Suite

UpdateItemBalanceListEbizReqABCSImpl	ItemBalanceABMToEBM_Custom.xsl	Custom transformations for Item Balance Request ABM to Request EBM

Agile

UpdateItemBalanceListAgileProvABCSImpl (Agile update item balance provider flow)	AgileUpdateItemListResponseABM_to_UpdateItemBalanceListResponseEBM_Custom.xsl	RespABM to RespEBM (custom element)
	AgileUpdateItemListResponseABM_to_UpdateItemBalanceListResponseEBM_Impl.xsl	RespABM to RespEBM (main)
	UpdateItemBalanceListEBM_to_AgileUpdateItemListABM_Impl.xsl	ReqEBM to ReqABM (main)

Essential DVMs for Item Balance Update

The following mandatory DVMs should be set for the Item Balance Update process to flow successfully.

DVM

- AGILE_SITE_TARGET_MAPPING

Chapter 7: Process Integration for New Part Request

This chapter discusses:

- New Part Request Process in Agile PLM
- New Part Request Process Integration Solution Assumptions
- New Part Request Integration Sequence
- AIA Services for New Part Request
- Integration Services for New Part Request
- New Part Request Integration Customization Points
- Essential DVMs for New Part Request

Agile PLM system record for product design and part information, new part numbers themselves may originate in a system outside Agile. This can easily be understood when looking at the interactions of various roles that can be involved in the process of generating new part numbers.

For an instance, an engineer designing an electronic assembly (say, a board) requires a part (say, a new resistor) that does not exit in the system. He raises a new part request to doc control, which then routes it to materials manager (Buyer) for review. The buyer looks into catalogs offered by approved manufacturers and finds some parts that meet the requirements. Buyer contacts the manufacturers, confirms availability, procures specifications, and then approves the new part request, assigning & attaching a new manufacturer part numbers with it. Doc control compiles the information and assigns an internal part number corresponding to the manufacturer parts and intimates the engineer.

New Part Request Process in Agile PLM

The Synchronous New Part Request (NPR) process serves the following:

A User in Agile PLM requires a new part number to be used on a design. In Agile PLM, user clicks on New Object creation Menu Item to create a new item for a given subclass, such as Part or Document. The user has two options:

1. Use the Agile Process Extension that triggers Automatic Part Number generation, that is AutoNumber PX. In this case, the AutoNumber PX sends a request to Oracle EBS, which generates a part number and delivers to the Part Number field in Agile PLM.
2. The user fills in a dummy part number in Agile PLM, however, this part would not exist in Oracle EBS. At a later stage, the user can open this part in Agile and trigger an Action PX, which sends a request to Oracle EBS to generate a part number and deliver to the Part Number field in Agile PLM.

Hence, the NPR process is triggered using either the AutoNumber PX or Action PX. The BPEL services orchestration sequence is same for both cases.

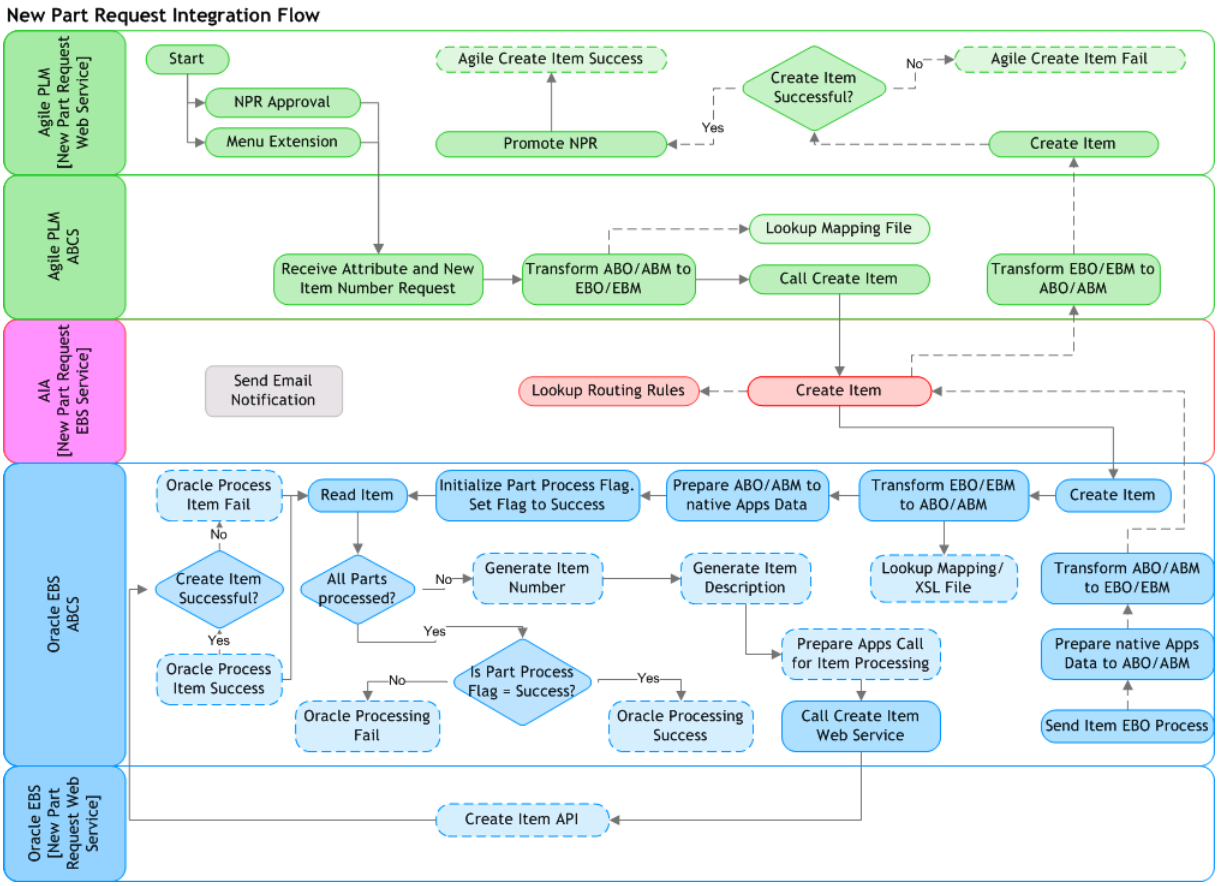
Since NPR is an asynchronous process, user will not experience the Oracle EBS processes at all as they run in the background to return the Oracle EBS assigned numbers.

New Part Request Process Integration Solution Assumptions

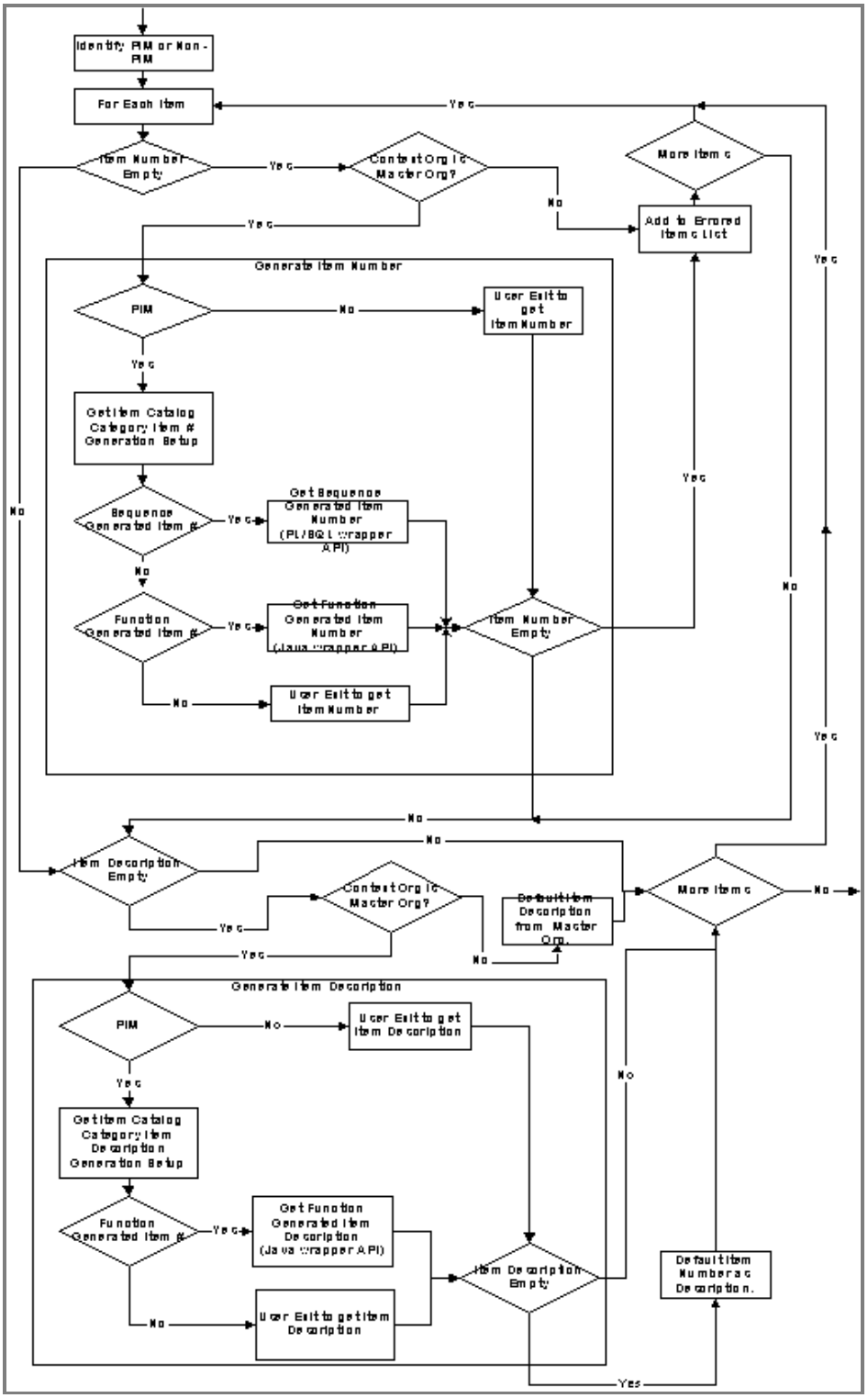
- Item Catalog Category is set up with the necessary Item Number/Generation setup in Oracle E-Business Suite. If the Item Catalog Category is set up with NIR (New Item Request), then the Item Created will be Engineering Item and have to undergo the NIR process in the Oracle E-Business Suite.
- The INV: Default Primary Unit of Measure and INV: Default Item Status must be set up in order to create the item successfully.
- Action PX is designed in such a way that any attribute for item could be passed in the payload. Also, any additional information from Oracle E-Business Suite could be updated on the item other than Part Number.
- While creating Autonumber PX, a unique autonumber is created for every subclass.
- Dynamic invocation interface (DII) is used in the PX for triggering the integration so that no stubs are generated for the ABMs and are packaged in the PX jar; any changes to the payload have minimum impact.

New Part Request Integration Sequence

The following is the Integration Sequence for New Part Request (NPR) from Agile PLM to Oracle E-Business Suite.



Logic for Generate Item Number and Description in Oracle E-Business Suite



NPR Integration Flow

The New Part Request process is triggered from a PX and is a synchronous process.

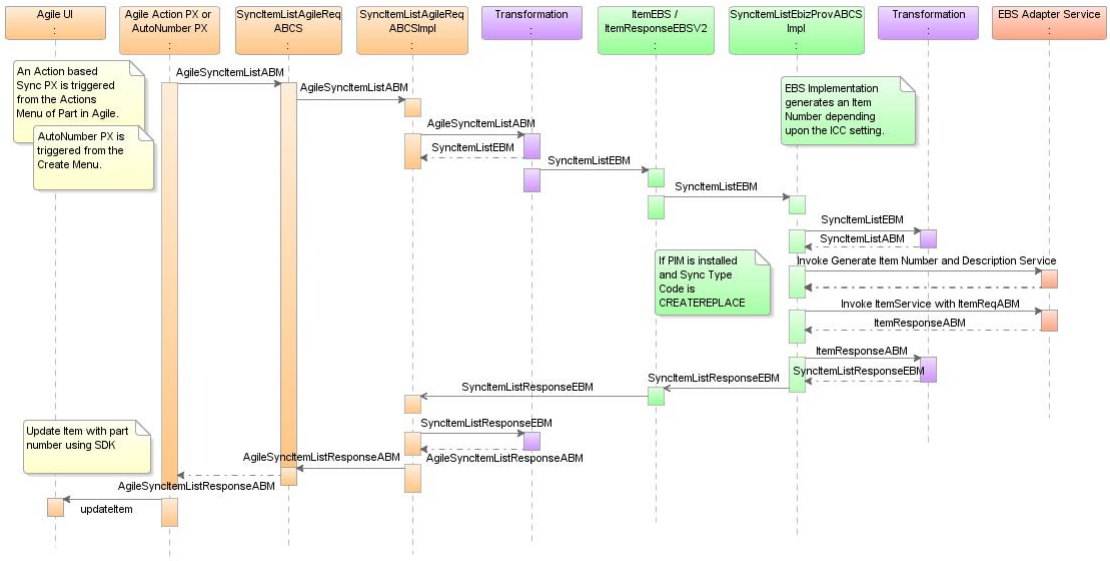
1. The PX creates, and invokes, the Agile request ABM (*AgileSyncItemListABM*) for the *SyncItemListAgileReqABCS*.
2. The request *AgileSyncItemListABM* is transformed to the *SyncItemListEBM* for NPR process.
3. Using the Asynchronous Message Pattern, NPR Process is invoked on the *ItemEBS* by the *SyncItemListAgileReqABCSImpl* with the *SyncItemListEBM* as input.
4. The *SyncItemListEBM* is routed to the *SyncItemListEbizProvABCSImpl* with the *SyncItemListEBM* as input.
5. The *SyncItemListEbizProvABCSImpl* implements the business logic for generating the New Part number in Oracle EBS.
6. A response *SyncItemListResponseEBM* with New Part Number is returned to the *ItemResponseEBSV2* and routed back to the *SyncItemListAgileReqABCSImpl*.
7. The *SyncItemListAgileReqABCSImpl* transforms the response *SyncItemListResponseEBM* to Agile response *AgileSyncItemListResponseABM*.
8. *SyncItemListAgileReqABCS* receives *AgileSyncItemListResponseABM from SyncItemListAgileReqABCSImpl* and returns it to the PX.
9. Depending on the type of PX, one of the following events occur:
    - If the PX is AutoNumber, the Part Number from the response ABM (*AgileSyncItemListResponseABM*) is returned to the web client and displayed in the Number field in the Create Item screen.
    - If the PX is Action, the response ABM (*AgileSyncItemListResponseABM*) is updated on the Part.

NPR Integration Services Orchestration

NPR Process is an Asynchronous process, however PX expects the response synchronously. There might be a delayed response from the provider, hence, the *SyncItemAgileListReqABCSImpl* is implemented as an Asynchronous BPEL process. To facilitate this Synchronous BPEL process, *SyncItemListAgileReqABCS* is used for invoking the *SyncItemListAgileReqABCSImpl* and receiving the response. *SyncItemListAgileReqABCS* is invoked by the PX, synchronously.

The Asynchronous Message pattern, *Request-Delayed Response Pattern* with one-way calls in Enterprise Bus Services is used here with EBMID as the Correlation ID.

Between the *SyncItemListAgileReqABCS* and *SyncItemAgileListReqABCSImpl*, the ABMHeaderId is used as the Correlation ID.



#	Activity	Remarks
1	Agile NPRAutonumber PX or UpdateNPRNumber PX is triggered.	One of these is triggered by an Agile user from the Agile Web client as part of New Part creation in Agile.
2	Invoke SyncItemListAgileReqABCS with AgileSyncItemListABM as input	*NPRAutonumberPX* or *UpdateNPRNumberPX* process invokes the *SyncItemListAgileReqABCS* with *AgileSyncItemListABM* as input.
3	Invoke SyncItemListAgileReqABCSImpl with AgileSyncItemListABM as input	NPRAutonumberPX process invokes the *SyncItemListAgileReqABCSImpl* with *AgileSyncItemListABM* as input.
4	SyncItemListAgileReqABCSImpl invokes the ItemEBS with SyncItemListEBM operation	An invoke activity in *SyncItemListAgileReqABCSImpl* transforms the *AgileSyncItemListABM* ABM to *SyncItemList* EBM and invokes the *SyncItemList* operation on ItemEBS with *SyncItemListEBM* as the input. *SyncItemListEBM* is routed to Oracle EBS *SyncItemListEbizProvABCSImpl*.
5	SyncItemListEbizProvABCSImpl on the Oracle EBS first transforms & then calls the Oracle EBS service	*SyncItemListEbizProvABCSImpl* first transforms *SyncItemListEBM* into the input of Oracle EBSService and then calls that service to generate an Part Number and Description. It then calls another Oracle EBS service to create an Item using the part number and description generated. *SyncItemListEbizProvABCSImpl* invokes *ItemResponseEBSV2* with *SyncItemListResponseEBM*

#	Activity	Remarks
		as input, which is routed back to the *SyncItemListAgileReqABCSImpl*.
6	SyncItemListAgileReqABCSImpl first transforms & then returns the response to SyncItemListAgileReqABCS	*SyncItemListAgileReqABCSImpl* first transforms *SyncItemListResponseEBM* to *AgileSyncItemListResponseABM* and returns the same to *SyncItemListAgileReqABCS*.
7	SyncItemListAgileReqABCS returns AgileSyncItemListResponseABM to NPRAutonumberPX.	*SyncItemListAgileReqABCS* returns *AgileSyncItemListResponseABM* to *NPRAutonumberPX*.
8	NPRAutonumberPX returns the partNumber to New Part Creation UI in Agile	*NPRAutonumberPX* gets the partNumber from the AgileCreateItemResponseABM and returns it to the New Part Creation UI in Agile web client, which gets displayed in the Number field.

AIA Services for New Part Request

Core AIA Components for NPR

The Process Integration for New Part Reqeust (NPR) uses the following industry components:

EBOs	ItemEBO
EBMs	SyncItemListEBM SyncItemListResponseEBM
EBSs	ItemEBS ItemResponseEBSV2

Core Components Locations

EBO & EBM XSD files	http://[HOST:PORT]/AIAComponents/EnterpriseObjectLibrary/Core/EBO/
WSDL files	http://[HOST:PORT]/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/

For detailed documentation of individual EBOs, click the EBO Name link on the Integration Scenario Summary page in the Oracle AIA Console. You can also use the Integration Scenario Summary page to search for and view integration scenarios that use a particular EBO or EBS.

For more information, see Oracle Application Integration Architecture - Foundation Pack: Core Infrastructure Components Guide, "Using the BSR," Using the BSR UI to View Integration Scenarios.

EBOs can be extended, for example, to add new data elements. These extensions are protected, and will remain intact after a patch or an upgrade.

For more information, see Oracle Application Integration Architecture – Foundation Pack: Integration Developer's Guide, "Extensibility for AIA Artifacts."

Agile & Oracle EBS Components for NPR

Services	Agile (Requester)	Oracle E-Business Suite (Provider)
ABMs	AgileSyncItemListABM AgileSyncItemResponseABM	
ABCS	SyncItemAgileReqABCS SyncItemAgileReqABCSImpl	SyncItemListEbizProvABCSImpl
EBS	ItemEBS	ItemResponseEBSV2

Component Locations

ABO, ABM & Common XSD files	http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Agile/V1/schemas http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Ebiz/V1/schemas
WSDL files	http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Agile/V1/wsdls http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Ebiz/wsdls

Integration Services for New Part Request

The integration services for the New Part Request (NPR) process are as follows:

- ItemEBS
- SyncItemListAgileReqABCSImpl
- SyncItemListEbizProvABCSImpl

ItemEBS

ItemEBS is the Enterprise Business Service, which exposes the operations related to the Item Integration on the Item EBO. The following are the routing rules:

ItemEBS ESB service

- *SyncItemList*: Routes SyncItemListEBM to SyncItemListEbizProvABCSImpl

ItemResponseEBSV2 ESB service

- *SyncItemListResponse*: Routes SyncItemListResponseEBM to SyncItemListAgileReqABCSImpl

SyncItemListAgileReqABCSImpl

SyncItemListAgileReqABCSImpl transforms the Agile message (*AgileSyncItemListABM*) into *SyncItemListEBM* & calls the routing service to synchronize the Item and gets *SyncItemListResponseEBM* response from the Oracle EBS system. It then transforms the *SyncItemListResponseEBM* response from the routing EBS back to the Agile PLM message (*AgileSyncItemListResponseABM*) & sends it to *SyncItemListAgileReqABCS*, which returns it to the calling Agile PX.

Flow

1. Receives *AgileSyncItemListABM* from *SyncItemListAgileReqABCS*, which gets the same from Agile Action PX.
2. Transforms this message into the *SyncItemListEBM:*
   a. Populates the EBM header

      Determines Target System IDs and adds them into the EBM header for controlling the routing.
   b. Validates the required fields
   c. Maps to the EBM

Note: For more information about field mappings, see Appendix C.

1. Calls Target *ItemEBS* Service with the operation *SyncItemList*.
2. Transforms *SyncItemList* Response Message (from *SyncItemListResponseEBM*) to *AgileSyncItemListResponseABM* Agile message.

Note: For more information about field mappings, see Appendix C.

3. Sends *AgileSyncItemListResponseABM* back to *SyncItemListAgileReqABCS*, which in turn sends it back to the respective PX.

SyncItemListAgileReqABCSImpl has the following transformations:

AgileSyncItemListABM_to_SyncItemListEBM

SyncItemListResponseEBM_to_AgileSyncItemListResponseABM

SyncItemListEbizProvABCSImpl

SyncItemListEbizProvABCSImpl receives the *SyncItemListEBM* message from *ItemEBS*, transforms into Oracle EBS specific *SyncItemListABM* and calls the Genarate Item Number and Description services. Depending on the Item Catalog Category, the Item Number and its Description are generated and returned.

Note: Generate Item Number and Description service is called only if *syncActionCode* value in the EBM is CREATEREPLACE. In NPR flow, the value of *syncActionCode* is CREATEREPLACE,

However, in Item Synchronization flow, where the value of *syncActionCode* is CREATEUPDATE, the Generate Item Number and Description service is not called.

Subsequently, this Sync Item PL/SQL API is called to synchronize an Item in Oracle EBS. It then transforms Oracle EBS specific response message *SyncItemListResponseABM* to *SyncItemListResponseEBM* and calls the routing service *ItemResponseEBS* from which the response is send back to Agile PLM.

Flow

1. Receives *SyncItemListEBM* from *ItemEBS*.
2. Transforms *SyncItemListEBM* into Oracle EBS specific message *SyncItemListABM*.
3. Applies the dynamically generated XSL onto this transformation.

   This dynamic XSL is generated based on the XSLT defined at the customer site, which allows mapping of the EBM attributes to the ABM attributes that can be configured at customer site. To allow this mapping, a template call is made at the end of the Transformation XSL file (the one that transforms the EBM to ABM) and this dynamic XSL is called from the original EBM-To-ABM transformation XSL.
4. Calls *GenerateItemNumberService* helper BPEL process (if PIM is installed).
5. Creates Item in Oracle EBS system with Oracle EBS Generated Item Number instead of Agile Generated Item Number.

   - Populates the EBM header.

   Determines Target System IDs and adds them into the EBM header for controlling the routing.

   - Validates the required fields.
6. If the condition IS_PIM_INSTALLED is set true, it calls the GIN service.
7. Invokes the Sync Item API.
8. Transforms Oracle EBS specific message *SyncItemListResponseABM* into *SyncItemListResponseEBM*.
9. Calls *ItemResponseEBS* Service to send response message *SyncItemListResponseEBM* to *SyncItemListAgileReqABCSImp.*

SyncItemListEbizProvABCSImpl has the following transformations:

SyncItemListEBM_to_SyncItemListABM

SyncItemListResponseABM_to_SyncItemListResponseEBM

New Part Request Integration Customization Points

Agile

SyncItemAgileReqABCSImpl (Agile Process Item requestor flow)	AgileSyncItemListABM_to_SyncItemListEBM_Custom.xsl	Request ABM to Request EBM (custom)
	SyncItemListEBM_EBMHeader_Custom.xsl	Request EBM to EBM Header (main)
	AgileSyncItemListABM_to_SyncItemListEBM_Impl.xsl	Request ABM to Request EBM (main)

Oracle EBS

SyncItemEbizProvABCSImpl	XformSyncItemListEBMToEbizProdABM_Custom.xsl	Request EBM to Request ABM
	XformEbizProdABMToSyncItemListResponseEBM_Custom.xsl	ResponseABM to ResponseEBM

Essential DVMs for New Part Request

The following mandatory DVMs should be set for the New Part Request (NPR) process to flow successfully:

DVM

- AGILE_SITE_TARGET_MAPPING
- ITEM_PRIMARYCLASSIFICATIONCODE
- ITEM_STATUS_CODE
- ITEM_UOM_CODE

Chapter 8: Process Integration for Item Synchronization

This chapter discusses:

- Item Synchronization Process in Agile
- Item Synchronization Process Integration Solution Assumptions
- Item Synchronization Process Integration Sequence
- AIA Services for Item Synchronization
- Integration Services for Item Synchronization
- Item Synchronization Integration Customization Points
- Essential DVMs for Item Synchronization

Synchronization of Item from Agile to Oracle EBS is performed in the following two scenarios:

- When a part number is created in Agile PLM and the same part number needs to be created in Oracle EBS/PIM.
- When a part already exists in the Agile PLM and Oracle EBS/PIM, however, there is no change created on the item in Agile PLM. The information about this item from Agile PLM must be synchronized with the existing item information in EBS/PIM

The Process of synchronization of an item can be triggered in the following way:

On-demand by user: An Engineer creating a new Part in Agile should be able to synchronize the same with EBS/PIM. This action is triggered on action menu for the item. If item does not exist on the ERP/PIM, it will be created, else updated.

Once the change is created on item in Agile, the synchronized PX cannot be triggered.

Item Synchronization Process in Agile

The Item Synchronization process is almost same as the New Part Request process. However, for Item synchronization, a new Process Extension (PX) in Agile is used to trigger publication of a new part in EBS/PIM or synchronization of an updated part from PLM to EBS/PIM. The part information is replicated in EBS/PIM and a transfer status is returned.

All this is performed in real time. There is no approval or any other role involved in the process.

See also - NPR Process in Agile.

Item Synchronization Process Integration Solution Assumptions

- Part number generation occurs first in Agile and follows policies established in EBS/PIM.
- Action PX is designed in such a way that any attribute for an item could be passed in the payload along with the site specific attributes if multisite is enabled in Agile.
- Dynamic invocation interface (DII) is used in the PX for triggering the integration so that no stubs are generated for the ABMs and packaged in the PX jar; any changes to the payload will have minimum impact.

Item Synchronization Process Integration Sequence

Refer Integration Sequence flow diagram in NPR Integration sequence. The difference between the NPR and Item Synchronization flows is as follows:

- For Item Sync, the Part Number is created first in Agile PLM and then in Oracle EBS.
- If the Part already exists in Oracle EBS, the Part data will be synchronized with that of Agile PLM.

Item Synchronization Integration Flow

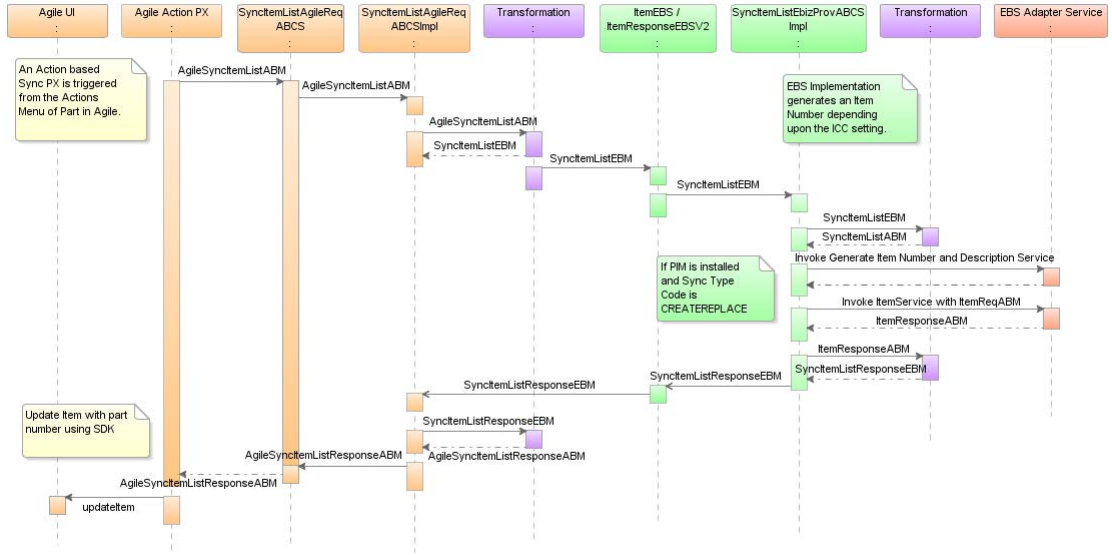
The Item Synchronization process is triggered from a PX. It is a synchronous process.

- The PX creates and invokes the Agile Request ABM - *AgileSyncItemListABM* for *SyncItemListAgileReqABCS*.
- The request *AgileSyncItemListABM* is transformed to *SyncItemListEBM* for NPR process.
- Using an Asynchronous Message Pattern, the process is invoked on the *ItemEBS* by *SyncItemListAgileReqABCSImpl* with *SyncItemListEBM* as input.
- The *SyncItemListEBM* is routed to *SyncItemListEbizProvABCSImpl* with *SyncItemListEBM* as input.
- The *SyncItemListEbizProvABCSImpl* implements the business logic for generating a New Item number in Oracle EBS.
- A response *SyncItemListResponseEBM* is returned to *ItemEBS* and routed back to *SyncItemListAgileReqABCSImpl.*
- The *SyncItemListAgileReqABCSImpl* transforms the response *SyncItemListResponseEBM* to

Agile response *AgileSyncItemListResponseABM.*

- *SyncItemListAgileReqABCS* receives *AgileSyncItemListResponseABM* and returns it back to the PX.

Item Synchronization Integration Services Orchestration



#	Name	Step Description
1.	Agile SyncItemPX is triggered	The Agile *Sync Item PX* is triggered by the Agile user from the Agile Web client as part of New Part creation in Agile.
2.	Invoke SyncItemListAgileReqABCS with AgileSyncItemListABM as input.	*SyncItemPX* process invokes the *SyncItemListAgileReqABCS* with *AgileSyncItemListABM* as input.
3.	Invoke SyncItemListAgileReqABCSImpl with AgileSyncItemListABM as input	*SyncItemPX* process invokes the *SyncItemListAgileReqABCSImpl* with *AgileSyncItemListABM* ABM as input
4.	SyncItemListAgileReqABCSImpl invokes the ItemEBS with SyncItemList operation	A transform activity in *SyncItemListAgileReqABCSImpl* transforms the *AgileSyncItemListABM* ABM to *SyncItemListReqMsg* EBM and invokes the *SyncItemList* operation on *ItemEBS* with *SyncItemListReqMsg* as the input. *SyncItemListReqMsg* is routed to Oracle EBS *SyncItemListEbizProvABCSImpl.*

5.	SyncItemListEbizProvABCSImpl on the Oracle EBS first transforms and then calls the Oracle EBS service	*SyncItemListEbizProvABCSImpl* first transforms *SyncItemListReqMsg* into the input of Oracle EBS service to create or update the item in Oracle EBS and then calls that service. *SyncItemListEbizProvABCSImpl* invokes *ItemResponseEBSV2* with *SyncItemListResponseMsg* as input, which is routed back to *SyncItemListAgileReqABCSImpl.*
6.	SyncItemListAgileReqABCSImpl first transforms and then returns the response to SyncItemListAgileReqABCS	*SyncItemListAgileReqABCSImpl* first transforms *SyncItemListResponseMsg* to *AgileSyncItemListResponseABM* and returns it to *SyncItemListAgileReqABCS.*
7.	SyncItemListAgileReqABCS returns the response to NPRAutonumberPX	*SyncItemListAgileReqABCS* returns *AgileSyncItemListResponseABM* to *SyncItemPX*.
8.	SyncItemPX returns the partNumber to New Part Creation UI in Agile	*SyncItemPX* gets message from *AgileSyncItemListResponseABM* and displays an appropriate message in UI.

AIA Services for Item Synchronization

Core AIA Components for Item Synchronization

The Process Integration for Item Synchronization uses the following industry components:

EBOs	ItemEBO
EBMs	SyncItemListEBM SyncItemListResponseEBM
EBSs	ItemEBS ItemResponseEBSV2

Core Components Locations

EBO & EBM XSD files	http://[HOST:PORT]/AIAComponents/EnterpriseObjectLibrary/Core/EBO/
WSDL files	http://[HOST:PORT]/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/

For detailed documentation of individual EBOs, click the EBO Name link on the Integration Scenario Summary page in the Oracle AIA Console. You can also use the Integration Scenario Summary page to search for and view integration scenarios that use a particular EBO or EBS.

For more information, see Oracle Application Integration Architecture - Foundation Pack: Core Infrastructure Components Guide, "Using the BSR," Using the BSR UI to View Integration Scenarios.

EBOs can be extended, for example, to add new data elements. These extensions are protected, and will remain intact after a patch or an upgrade.

For more information, see Oracle Application Integration Architecture – Foundation Pack: Integration Developer's Guide, "Extensibility for AIA Artifacts."

Agile & Oracle EBS Components for Item Synchronization

Services	Agile (Requester)	Oracle EBS (Provider)
ABMs	AgileSyncItemListABM AgileSyncItemListResponseABM	
ABCS	SyncItemListAgileReqABCS SyncItemListAgileReqABCSSImpl	SyncItemListEbizProvABCSImpl
EBS	ItemEBS	ItemResponseEBSV2

Component Locations

ABO, ABM & Common XSD files	http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Agile/V1/schemas http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Ebiz/V1/schemas
WSDL files	http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Agile/V1/wsdls http://<servername>:<portname>/AIAComponents/ApplicationObjectLibrary/Ebiz/wsdls

Integration Services for Item Synchronization

The integration services for the Item Synchronization process are as follows:

- ItemEBS
- SyncItemListAgileReqABCSImpl
- SyncItemListEbizProvABCSImpl

ItemEBS

ItemEBS is the Enterprise Business Service, which exposes the operations related to the Item Integration on the Item EBO. The following are the routing rules:

ItemEBS ESB service

- *SyncItemList*: Routes SyncItemListEBM to SyncItemListEbizProvABCSImpl.

ItemResponseEBSV2 ESB service

- *SyncItemListResponse*: Routes SyncItemListResponseEBM to SyncItemListAgileReqABCSImpl.

SyncItemListAgileReqABCSImpl

SyncItemListAgileReqABCSImpl transforms the Agile message (*AgileSyncItemListABM*) into *SyncItemListEBM* & calls the routing service to synchronize the Item and gets *SyncItemListResponseEBM* response from the Oracle EBS system. It then transforms the *SyncItemListResponseEBM* response from the routing EBS back to the Agile message (*AgileSyncItemListResponseABM*) & sends it to *SyncItemListAgileReqABCS*, which returns it to the calling Agile PX.

Flow

1. Receives *AgileSyncItemListABM* from *SyncItemListAgileReqABCS*, which gets the same from Agile Action PX.
2. Transforms this message into the *SyncItemListEBM:*
   a. Populates the EBM header

   Determines Target System IDs and adds them into the EBM header for controlling the routing.

   b. Validates the required fields
   c. Maps to the EBM

Note: For more information about field mappings, see mapping sheet in Appendix C.

3. Calls Target *ItemEBS* Service with the operation *SyncItemList*.
4. Transforms *SyncItemList* Response Message (from *SyncItemListResponseEBM*) to *AgileSyncItemListResponseABM* Agile message.

Note: For more information about field mappings, see mapping sheet in Appendix C.

5. Sends *AgileSyncItemListResponseABM* back to *SyncItemListAgileReqABCS*, which in turn sends it back to the respective PX.

SyncItemListAgileReqABCSImpl has the following transformations:

AgileSyncItemListABM_to_SyncItemListEBM

SyncItemListResponseEBM_to_AgileSyncItemListResponseABM

SyncItemListEbizProvABCSImpl

SyncItemListEbizProvABCSImpl receives the *SyncItemListEBM* message from *ItemEBS*, transforms into Oracle EBS specific *SyncItemListABM* and calls the Generate item number and description service.

Note: Generate Item Number and Description service is called only if *syncActionCode* value in the EBM is CREATEREPLACE. In NPR flow, the value of *syncActionCode* is CREATEREPLACE,

However, in Item Synchronization flow, where the value of *syncActionCode* is CREATEUPDATE, the Generate Item Number and Description service is not called.

Subsequently, the Sync Item PL/SQL API is called to synchronize an Item in Oracle EBS. It transforms Oracle EBS specific response message *SyncItemListResponseABM* to *SyncItemListResponseEBM* and calls the routing service *ItemResponseEBSV2* from which the response is send back to Agile.

Flow

1. Receives *SyncItemListEBM* from *ItemEBS*.
2. Transforms *SyncItemListEBM* into Oracle EBS specific message *SyncItemListABM*.
3. Applies the dynamically generated XSL onto this transformation.

   This dynamic XSL is generated based on the XSLT defined at the customer site, which allows mapping of the EBM attributes to the ABM attributes that can be configured at customer site. To allow this mapping, a template call is made at the end of the Transformation XSL file (the one that transforms the EBM to ABM) and this dynamic XSL is called from the original EBM-To-ABM transformation XSL.
4. Creates Item in Oracle EBS system with Oracle EBS Generated Item Number instead of Agile Generated Item Number.
   - Populates the EBM header.

   Determines Target System IDs and adds them into the EBM header for controlling the routing.
   - Validates the required fields.
5. Invokes the Sync Item API.
6. Transforms Oracle EBS specific message *SyncItemListResponseABM* into *SyncItemListResponseEBM*.

7. Calls *ItemResponseEBSV2* Service to send response message *SyncItemListResponseEBM* to *SyncItemListAgileReqABCSImp.*

SyncItemListEbizProvABCSImpl has the following transformation:

SyncItemListEBM_to_SyncItemListABM

SyncItemListResponseABM_to_SyncItemListResponseEBM

Item Synchronization Integration Customization Points

Agile

SyncItemListAgileReqABCSImpl (Agile Process Item requestor flow)	AgileSyncItemListABM_to_SyncItemListEBM_Custom.xsl	Request ABM to Request EBM (custom)
	AgileSyncItemListABM_to_SyncItemListEBM_Impl.xsl	Request ABM to Request EBM (main)
	SyncItemListReponseEBM_to_AgileSyncItemListResponseABM_Impl.xsl	Response EBM to response ABM (main)
	SyncItemListEBM_EBMHeader_Impl.xsl	Request EBM to EBM Header (main)
	SyncItemListEBM_EBMHeader_Custom.xsl	Request EBM to EBM Header (custom)

Oracle EBS

SyncItemListEbizProvABCSImpl	XformSyncItemListEBMToEbizProdABM_Custom.xsl	Request EBM to Request ABM
	XformEbizProdABMToSyncItemListResponseEBM_Custom.xsl	ResponseABM to ResponseEBM

Essential DVMs for Item Synchronization

The following mandatory DVMs should be set for the Item Synchronization Process to flow successfully:

- AGILE_SITE_TARGET_MAPPING
- ITEM_PRIMARYCLASSIFICATIONCODE

- ITEM_STATUS_CODE
- ITEM_UOM_CODE

Chapter 9: Process Integration for Variant Management

This chapter discusses the following:

- Architecture of Agile PLM Variant Management
- Variant Management and New Part Request Process
- Variant Management and Item Synchronization Process
- Transfer Model Option BOM from Agile PLM to E-Business Suite Process
- Launch Generic Configurator User Interface Process
- Update Model Option BOM in E-Business Suite Process
- Configure Instance BOM with Generic Configurator User Interface Process
- Essential DVMs for Variant Management

In Agile PLM 9.3 Variant Management, the user can configure a Model Option BOM with the help of the Generic Configurator User Interface to derive an Instance BOM.

In the following section, 'Configurator' is always refers to Generic Configurator User Interface.

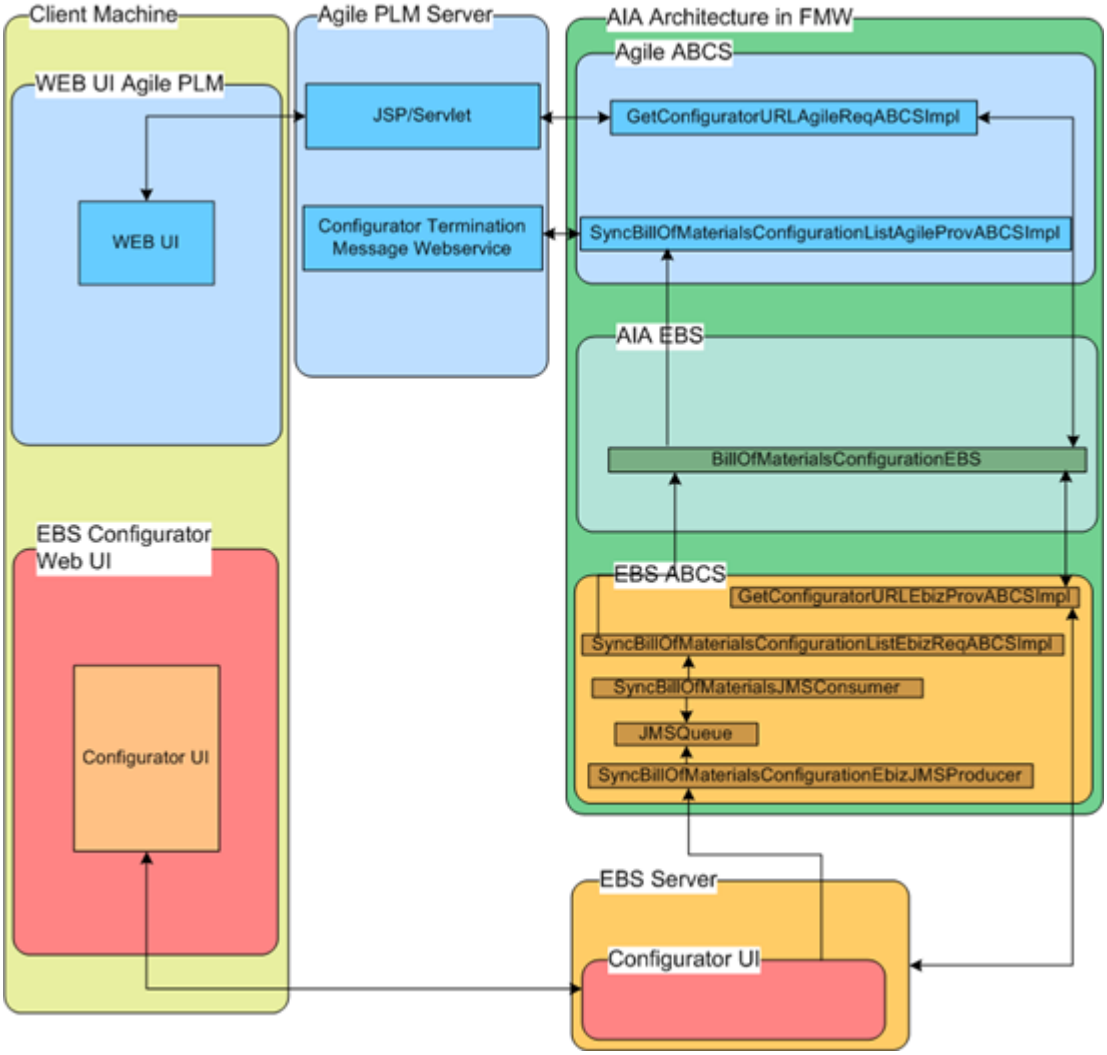
For more information about Agile PLM 9.3 Variant Management, see the User's Guide on OTN (http://www.oracle.com/technology/documentation/agile.html).

For more information about Oracle Generic Configurator User Interface, see the Oracle Configurator Implementation Guide on OTN (http://www.oracle.com/technology/documentation/application.html).

Architecture of Agile PLM Variant Management

The architecture of Agile PLM Variant Management to Oracle EBS Integration is the same as depicted in the diagram Architecture of Agile PLM Integration on page 10.

The following diagram shows the processes 'Launch Generic Configurator User Interface' and 'Configure Model Option BOM with Generic Configurator User Interface'.



Variant Management and New Part Request Process

The New Part Request process supports standard Agile PLM items and the Variant Management sub-items Model and Option Class.

For more information about New Part Request process see Chapter 7: Process Integration for New Part Request .

Variant Management and Item Synchronization Process

The Item Synchronization process supports standard Agile PLM items and the Variant Management sub-items Model and Option Class.

For more information about Item Synchronization process see Chapter 8: Process Integration for Item Synchronization.

Transfer Model Option BOM from Agile PLM to E-Business Suite

In Agile PLM, a Change Order has to be created for the Model Option BOM. For more information about the Change Order Release see Chapter 2: Process Integration for Change Order Release.

The Change Order Release process supports Agile PLM items and the Variant Management sub-items Model and Option Class, and their attributes Minimum, Maximum, Optional, and Mutually Exclusive.

The released Change Order has to be set to Implemented in EBS. The Oracle Generic Configurator User Interface can only show those BOM items that have been set to Implemented.

Launch Generic Configurator User Interface Process

To be able to use the Configurator, the setting 'External Configurator' has to be selected in the 'Preferences' mask in the Agile PLM Web client.

In Agile PLM 9.3 Variant Management, when you create a Model Option BOM, you must make sure:

- When a BOM item has the same minimum and maximum quantity value, the Quantity has to have the same value as well. If Min Qty = Max Qty <> Qty value, then the ECO, through which this BOM is released, causes an error in the AIA queue and will not be sent to Oracle EBS.
- No Reference Designators are added to Option Classes or Models. Reference Designators are not supported by E-Business Suite for Option Classes or Models.

1. In the Agile PLM Web Client, click Launch Configurator to open the EBS Configurator.
2. Agile invokes EBS Provider ABCS with the Model item information.
3. EBS Provider ABCS forms an Init Message needed to launch the Configurator.
4. EBS Provider ABCS determines the Configurator URL from EBS Profile Option: CZ_UIMGR_URL.
5. Information is sent back to Agile Requestor ABCS.

If an error occurs here, please make sure that the Model Option BOM has been transferred into EBS successfully.

6. Agile PLM uses this information to launch the Configurator.

Log on with an EBS login and password.

The EBS user login and password have to be entered once for every Agile PLM session.

7. Configurator is opened.

Update Model Option BOM in E-Business Suite Process

The Change Order Update process supports Agile PLM items and the Variant Management sub-items Model and Option Class, and their attributes Minimum, Maximum, Optional, and Mutually Exclusive.

For more information about the Change Order Update see Chapter 4: Process Integration for Change Order Update.

Configure Instance BOM with Generic Configurator User Interface Process

After Configurator is launched, user can select required options from Model Option BOM and enter quantities.

Once the user has completed the configuration of the Instance BOM and clicked the Finish button, a Termination Message (containing the configuration data) is returned from E-Business Suite to a Servlet in AIA.

For more information about the Termination Message, see Oracle Configurator Developer's User's Guide from OTN (http://www.oracle.com/technology/documentation/applications.html).

1. The Servlet in EBS ABCS transforms the Termination Message to EBS ABM.
2. The EBS ABM is then transformed to Enterprise Service EBM (syncBillOfMaterialsConfigurationListEBM).
3. The Enterprise Service routes the configuration as syncBillOfMaterialsConfigurationListEBM to Agile ABCS.
4. The Agile ABCS converts EBM to ABM and sends to Agile PLM configurator termination web service.

A notification is sent to Agile PLM, to the user who launched the configurator, once the Instance BOM is derived with the Configurator, or if an error has occurred. In Agile, to receive this notification, settings have to be modified in the Agile PLM Java client. For detailed information, see: Agile PLM on page 110.

The Agile PLM termination web service can derive an Instance BOM only of BOM items that have been transferred through the Design to Release PIP. The Instance BOM cannot be derived for BOM items that have not been transferred from Agile PLM.

In case of a process analyses, the instances of the following processes should be checked in the BPEL console:

- SyncBillOfMaterialsConfigurationListAgileProvABCSImpl
- SyncBillOfMaterialsConfigurationListEbizReqABCSImpl
- GetConfiguratorURLAgileReqABCSImpl
- GetConfiguratorURLEbizProvABCSImpl
- BillOfMaterialsConfigurationEBS

Essential DVMs for Variant Management

When you use Variant Management, make sure that the following properties are named identical in all systems.

ITEM_PRIMARYCLASSIFICATIONCODE

AGILE_01	Common	EBIZ_01
Part	PART	Part
AudioDevices_AIE	AudioDevices_AIE	AudioDevices_AIE
Model	MODEL	Model

Option Class	OPTION CLASS	Option_Class

ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALS COMPONENTITEM_OPTIONALINDICATOR

AGILE_01	Common	EBIZ_01
Yes	YES	1
No	NO	2

ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALS COMPONENTITEM_MUTUALLYEXCLUSIVEOPTIONINDICATOR

AGILE_01	Common	EBIZ_01
Yes	YES	1
No	NO	2

ITEM_BOM_ITEMTYPE_CODE

AGILE_01	Common	EBIZ_01
Model	MODEL	1
Option Class	OPTION CLASS	2
value1	PLANNING	3
Part	STANDARD	4
value2	PRODUCT_FAMILY	5

ITEM_WIP_SUPPLY_CODE

AGILE_01	Common	EBIZ_01
value1	STANDARD INVENTORY ITEM	1
value2	BULK_ISSUE_UNPLANNED_COSTED	2
value3	BULK_ISSUE_UNPLANNED_UNCOSTED	3
value4	BULK_ISSUE_PLANNED_COSTED	4
value5	BULK_ISSUE_PLANNED_UNCOSTED	5
Phantom	REFERENCE_UNPLANNED_UNCOSTED	6

ITEM_INDICATOR

AGILE_01	Common	EBIZ_01

Y	YES	Y
N	NO	N

Chapter 10: Implementing the Process Integration Pack

This chapter discusses:

- Prerequisites
- Setting up the Participating Applications
- Setting up the PIM Spoke Source System
- Loading Cross Reference Data
- Configuring the PIP
- Setting up National Language Support
- Domain Value Maps
- Application Interfaces
- Handling Errors
- Viewing EBO Implementation Maps (EIMs)

Note. For complete information on PIP, refer Oracle AIA Installation Guide.

Prerequisites

Deployment of Agile PLM PIP is performed by AIA Installer. However, for conducive functioning, this requires certain settings and configurations in the Partner Applications, namely, Agile PLM and Oracle E-Business Suite, and in the AIA Configuration Properties files.

The following configurations/setups are to be completed before the PIP is installed:

- SOA 10.1.3.4 MLR#8 + 8533397 should be installed and relevant patches are to be applied.
- AIA Foundation Pack P2.5 should be installed with relevant patches applied, if any.
- Agile PLM is installed and configured.
- Oracle E-Business Suite: Discrete Manufacturing, one of the following:
  - For Oracle E-Business Suite 11.5.10 release, patch 8640254 is applied with the prerequisites - (a) 11.5.10CU2 (b) 11i.ATG_PF.H.RUP4 patch 4676589.
  - For Oracle E-Business Suite R12.1.1, patch 8640262:R12.INV.B is applied.

Note: Before the PIP installation or upgrade, you must apply 8640262:R12.INV.B patch for R12.1.1. You can apply the patch 8640254 for 11.5.10CU2 either before or after you install, or upgrade the PIP.

Patch 8622332:R12.CZ.B must be applied for CZ integration if you chose Agile PLM with VM option for the PIP installation.

- PIM Spoke Source System in Oracle EBS release 12.1.1 is set up. See Setting up the PIM Spoke Source System on page 117.

PIM Spoke Source System setup is required only if you are installing the PIP with the PIM option.

Setting Up the Participating Applications

Agile PLM

After installation of Agile PIP, the Agile Administrator is required to set up Agile Content Services. The following are the settings/configurations:

1. Create New Destinations
2. Create New Events for ECO, MCO and SCO
3. Define Filters
4. Create New Subscribers for ECO, MCO, SCO
5. Set Privileges
6. Modify Flex Fields

These settings are used in Agile Java Client.

1. Create a New JMS Destination

1. In the Admin tab, go to System Settings > Agile Content Service > Destinations.
2. Select the Protocol JMS.
3. Enter or set the following essential values:

Field	Value/Setting
Name	Define your own
Response Expected	No
User Name	oc4jadmin (SOA server admin user name)

Password	welcome1
Provider Context Factory	com.evermind.server.rmi.RMIInitialContextFactory
Connection Factory	java:comp/resource/EcoRP/QueueConnectionFactories/QCF
Default Provider URL	opmn:ormi://<SOAServer>:<OPMNPort>:<instance-name>
Destination Name	java:comp/resource/EcoRP/Queues/PLM_ECO_QUEUE

4. Click Test Icon to validate.

2. Create New Events for ECO, MCO and SCO

Note: Create separate Events for CO Release and CO Validation.

1. In the Admin tab, go to System Settings > Agile Content Service > Events.
2. Enter or set the following:

Field	Value/Setting		
	ECO	MCO	SCO
Name	Define your own		
Event Type	Workflow		
Workflow	Default Change Order	Default Manufacturer Orders	Default Site Change Orders
Workflow Status	For CO Release Process - Released For CO Validation Process - Any status other than 'Released'. Preferred status is 'Submitted'.		

3. Define Filters

1. In the Admin tab, go to System Settings > Agile Content Service > Filters.
2. Modify Default Item Filter to set the following:

Field	Value/Setting
View Tabs	Add Sites, Title Block, Page Two, Page Three, BOM, Manufacturers
BOM Options	Tabs and Items
BOM Levels	Select **All Levels** checkbox
AML Options	Tabs and Manufacturer Parts
Attachment Options	Tab only

3. Modify the following filters to set the given fields:

Field	Value/Setting		
	Default Change Order Filter	Default Manufacturer Order Filter	Default Site Change Order Filter
Affected Items Options	Tab & Items	Tabs & Items	Tabs & Items
Redline Changes only	No	No	No

4. Create New Subscribers for ECO, MCO and SCO

Note: Create separate Subscribers for CO Release and CO Validation.

1. In the Admin tab, go to System Settings > Agile Content Service > Subscribers.
2. Create new Subscribers, one each for ECO, MCO and SCO, and set the following:

Field	Value/Setting		
	For ECO	For MCO	For SCO
Name	Define your own		
Subclass	ATO		
Workflow	Default ATOs		
Criteria	All Change Orders	All Manufacturer Orders	All Site Change Orders
Event	Select the Name of the Event that you created #2 for ECO	Select the Name of the Event that you created #2 for MCO	Select the Name of the Event that you created #2 for SCO

3. Enter or set the Subscriber Details for each (ECO, MCO, SCO), by adding a new row, as follows

Field	Value/Setting		
	For ECO	For MCO	For SCO
Destinations	Select the JMS Destinations that you created for each		
Filter	Default Change Order Filter	Default Manufacturer Change Order Filter	Default Site Change Order Filter
	Default Item Filter	Default Item Filter	Default Item Filter
Roles	All		

Field	Value/Setting
Format	aXML
Language	English
Site	All

4. Enable all the newly created Subscribers.

5. Set Privileges

1. In the Admin tab, go to User Settings > Privileges > Modify.
2. Create new Modify Privileges for ECO, MCO and SCO.
3. Set Privilege to Modify.
4. Select the Criteria that correspond to each ECO, MCO and SCO.
5. Select all the Attributes, including the invisible/disabled attributes in the Applied to field and Save them.
6. In the Where Used tab, add Roles to all the created privileges. Default role is Admin user.
7. Create new Read privileges for MCO.
8. Select All Manufacturer Orders in the Criteria.
9. Choose both visible and invisible/disabled attributes in the Applied to field.
10. Modify the Read Changes and Read Items to get the Admin user in the Where Used tab.

Note: The user should have privileges to modify the 'released' items and 'released' changes.

6. Modify Flex Fields

1. In the Admin tab, go to Data Settings > Classes.
2. For both Parts and Document classes, enable the flexfields on Page2, Page3 or Site tab according to the MultiSite_Enabled property value in the AIAConfigurationProperties.xml file, located at *<AIA_HOME>/config,* for the Agile PLM module.
3. These field names in Agile reflect the following fields from the Oracle EBS:
   - Manufacturer Cost
   - Available Quantity
   - On Hand Quantity
   - Reserved Quantity
4. The values of these fields should be the same as those entered for the following properties:
   - Item.UnitCostAttribute

- Item.AvailableQuantityAttribute
- Item.OnHandQuantityAttribute
- Item.ReservedQuantityAttribute

5. Set the created fields to Visible

Note. Make sure that these attributes have Read and Modify privileges.

6. Similarly, enable a Page2 or Page3 flex field on the ECO, MCO and SCO to reflect Change.TransferStatusAttribute property value in the *AIAconfigProperties.xml* file.

7. Create Auto Number Process Extensions for NPR

Create separate Auto Number PX each sub class with appropriate names. This is used to identify the sub class for which a particular Auto number PX is triggered.

1. In the Admin tab, go to Data Settings > AutoNumbers.
2. Click  button to create auto numbers for a subclass.
3. Enter the following fields in the *Define the AutoNumber* screen.
   a. Enter name for AutoNumber.
   b. Choose Yes for Enabled.
   c. Choose Custom for Type.
   d. Choose the subclass name for Where Used.
   e. Choose com.oracle.aia.npr.V2.NPRAutoNumber for Custom AutoNumber.
   f. Click OK.
4. Navigate to Admin > Data Settings > ProcessExtensions.

8. Create Action Menu based Process Extensions for NPR

1. In the Admin tab, go to Data Settings > Process Extensions.
2. Click  button to create the process extension.
3. Enter the following details in the *Define the AutoNumber* screen:
   a. Enter name as NPR Number
   b. Choose Internal Custom Action for Type.
   c. Choose the subclass name for Where Used.
   d. Choose com.oracle.aia.npr.V2.UpdateNPRNumber for Internal Custom Action.
   e. Choose Initiate From for Actions Menu.
   f. Choose Yes for Enabled.

g. Click OK.

4. Navigate to Admin > Data Settings
5. Double-click Classes.
6. Double-click Items in the *Classes* window.
7. Navigate to Process Extensions tab.
8. Click  to open *Assign Process Extensions* window.
9. Select NPR Number from the choices.
10. Click OK.

9. Variant Management: Enable Notification

1. In the Admin Tab, go to Server Settings > Database.
2. In the Notification Enabled field, select Yes.
3. Go to System Settings > Notifications.
4. In the Filter By field, select Name.
5. In the Value field enter Part.
6. Click Apply.
7. Open Parts - Part Send.
8. In the Notification Type field select Inbox.
9. In the Enabled field select Yes.

The following settings are user-specific settings.

1. Go to User Settings > Privileges > Send.
2. In the Filter By field select Name.
3. In the Value field enter Send Item.
4. Click Apply.
5. Open Send Items.
6. In the Enabled field select Yes.

The current user has to have a role assigned that contains the privilege 'Send Item'.

1. Go to User Settings > Users.
2. Make sure the current user has roles assigned to him that contain the privilege 'Send Item'.

Oracle E-Business Suite

The flow of data from Oracle E-Business Suite to Agile requires implementation of Concurrent Programs. These are configured as a Periodic/Scheduled publication or triggered ad hoc for On-Demand publication.

First Scheduled Run

When the concurrent program is scheduled, it sends back all those entities that have been updated since the last concurrent request has run. But for the very first run, this "Last run date" is not available. Hence it is defaulted to last 30 days. But this may result in large number of items being picked up. Hence, the customer may choose to first perform an ad hoc publish (this is after the Agile-Oracle EBS PIP is installed and a few items are transferred from Agile to Oracle EBS based on the implementation).

Also specific Orgs could be specified along with from and to date in the ad hoc request parameters, from performance perspective, to send the data in multiple requests. After this, the customer can set up a scheduled process and the first run of the scheduled process will obtain the ad hoc request run time as the Last run date.

Another option is that the customer can just schedule the request to be run with the "Updated within the last x hours" parameter set. This will, even for the first run, collect items which have been updated in the last x hours.

Subsequent Scheduled Run

We recommend that you set the ‘Updated in the last X hrs’ parameter with a reasonable value by default for the Concurrent Programs that are being set up to run at a schedule frequency. This parameter value should be specified other than the schedule frequency setup in the Concurrent Program setup. We suggest Customers set the same ‘X’ hrs for the Concurrent Program Schedule setup.

(OR)

Customers can leave all the parameters empty and schedule the concurrent program to run at a particular schedule frequency.

Profile Settings

The following settings have to be configured for EBS to support integration flow from Oracle EBS to Agile.

Set the following profile options in Oracle EBS:

EBS Integration Proxy Server Host	set it to the <SOA server /host name/>
EBS Integration Proxy Server Port	set it to the <SOA server http /port number/>
EBS Integration Server Domain	set it to </default/>
EBS Integration Server Host: Port	set it as </http://host:port/> for the SOA server
EBS Integration Language Codes	This profile option is used for returning the user language code through concurrent program to the requestor BPEL process for identifying the integration

	user based on the language code received. Depending on this language code, APPS Context is set for that particular integration user and ORACLE EBS will return the data in that particular language to Agile.
EBS Integration: PIM Spoke Source System Name	This profile option is used for specifying multiple source system based on which the items will be filtered and updated back to the agile. This Source system should be comma separated value.
EBS profile option: EGO: Enable Stats Collection	For Agile-EBS integration to work, this profile option must be disabled.

Note. If the ECO update is event based, then setup for Subscribers and Events has to be done.

To navigate to the profiles UI:

1. Log on with sysadmin credentials.
2. Go to /System Administrator/responsibility, click /System /link under /Profile /menu.
3. Search for the profiles given in the table above and set the values.

Setting up the PIM Spoke Source System

PIM Spoke Source System setup must be done before you run NPR flow for Oracle EBS 12.1.1 release. This setup is required so that after creation of an Item in Oracle EBS, it can appear in the *Association* Tab of the source system.

The PIM Spoke Source System setup is required only if the PIP is installed with the PIM option enabled.

To set up the PIM Spoke Source System:

1. Logon to Oracle EBS and navigate to *Product Information Management Data Librarian Responsibility*.
2. Navigate to Batch Import and then click the Import Workbench link.

   The *Item Import Management* screen appears.
3. Click the Source System Setup link.

   The *Source System Setup* page appears.
4. Click Define Source System.

   The *Define Source System* screen appears.
5. Define the Source System Name and Code,

   By default, the Enable for Items check box is checked.

6. Click Apply.

After you complete the setup, you need to pass the Source System Code value, Sender ID, in the NPR process EBM from Agile PLM.

For Oracle EBS to Agile PLM flow, the PIM Spoke Source System Profile option EBS Integration PIM Spoke Source System Name should contain the list of valid spoke source system codes as defined in the Source System Setup, These codes will be used to filter the items in Oracle EBS for sending it to the Agile PLM.

Validate the setup by releasing an item from Agile, with source system code as Sender ID in the EBM from Agile. Verify that the source system references appear in the HTML UI under:

Product Information Management Data Librarian > Item Catalog > Item Search > Item > Associations > Source System Items

Confirm that a single row appears under the Associations Tab in Source System Items Link.

Loading Cross Reference Data

This PIP uses the xref_data table present in AIA schema to maintain a cross-reference between Agile and Oracle EBS. This cross-reference information helps map Agile Parts/ Documents/ Change Orders to Oracle EBS Items/ Change Orders.

There are two main virtual tables in the aia.xref_data table that maintain this cross-reference information.

- CHANGE_CHANGEID - maintains all the Change Order information
- ITEM_ITEMID - maintains Item information.

Eexample

- A Change Order ECO001 contains two revised items
  - P0001 in site V1
  - P0002 in site V2
- Both these revised items have component items.
  - P0001 has component items C0001 and C0002
  - P0002 has component items C0003 and C0004
- When this Change Order is released from Agile to the Oracle E-Business Suite, the following entries are made in the CHANGE_CHANGEID virtual table.

XREF_TABLE	XREF_COLUMN	ROW_NUMBER	VALUE
CHANGE_CHANGEID	AGILE_01	E45E015046AF11DD9F2E436FB39961A8	ECO001::V1
CHANGE_CHANG	COMMON	E45E015046AF11DD9F2E43	2d37383330323730313238383837

XREF_TABLE	XREF_COLUMN	ROW_NUMBER	VALUE
EID		6FB39961A8	353631
CHANGE_CHANGEID	EBIZ_01	E45E015046AF11DD9F2E436FB39961A8	11075
CHANGE_CHANGEID	AGILE_01	E45E015046AF11DD9F2E436FB39961A9	ECO001::V2
CHANGE_CHANGEID	COMMON	E45E015046AF11DD9F2E436FB39961A9	2d37383330323730313238383 7353632
CHANGE_CHANGEID	EBIZ_01	E45E015046AF11DD9F2E436FB39961A9	11076

  - The first row entry is made by the Agile BPEL flow for Change Order number ECO001 that is created on an item, which belongs to a site mapped to the V1 organization in Oracle E-Business Suite.
  - The second entry (Common) is also created by the Agile BPEL flow. It indicates the common "business component id" for this particular in integration entity and is used for linking change orders to Oracle EBS Change Orders.
  - The third row entry represents the Oracle EBS change ID that corresponds to the Agile change order ECO001. Another set of entries will be made for the change order ECO0001 for site V2.
- For each revised item and component items in the Change Order, entries will be made into the ITEM_ITEMID virtual table.

Example

For ECO001 the following entries will be made in the ITEM_ITEMID table.

XREF_TABLE	XREF_COLUMN	ROW_NUMBER	VALUE
ITEM_ITEMID	AGILE_01	0078BE703EC711DDBF9CA7AA7FE3BDFB	P0001::V1
ITEM_ITEMID	COMMON	0078BE703EC711DDBF9CA7AA7FE3BDFB	3531383537373935373238363830303435
ITEM_ITEMID	EBIZ_01	0078BE703EC711DDBF9CA7AA7FE3BDFB	66247::204::<operating unit ID>
ITEM_ITEMID	AGILE_01	0078BE703EC711DDBF9CA7AA7FE3BDFC	P0002::V2
ITEM_ITEMID	COMMON	0078BE703EC711DDBF9CA7AA7FE3BDFC	3531383537373935373238363830303436
ITEM_ITEMID	EBIZ_01	0078BE703EC711DDBF9CA7AA7	66248::207::<operating unit ID>

XREF_TABLE	XREF_COLUMN	ROW_NUMBER	VALUE
		FE3BDFC	
ITEM_ITEMID	AGILE_01	0078BE703EC711DDBF9CA7AA7FE3BDFD	C0001::V1
ITEM_ITEMID	COMMON	0078BE703EC711DDBF9CA7AA7FE3BDFD	353138353737393537323836383303437
ITEM_ITEMID	EBIZ_01	0078BE703EC711DDBF9CA7AA7FE3BDFD	66249::204::<operating unit ID>
ITEM_ITEMID	AGILE_01	0078BE703EC711DDBF9CA7AA7FE3BDFE	C0002::V1
ITEM_ITEMID	COMMON	0078BE703EC711DDBF9CA7AA7FE3BDFE	353138353737393537323836383303438
ITEM_ITEMID	EBIZ_01	0078BE703EC711DDBF9CA7AA7FE3BDFE	66250::204::<operating unit ID>
ITEM_ITEMID	AGILE_01	0078BE703EC711DDBF9CA7AA7FE3BDFF	C0003::V2
ITEM_ITEMID	COMMON	0078BE703EC711DDBF9CA7AA7FE3BDFF	353138353737393537323836383303439
ITEM_ITEMID	EBIZ_01	0078BE703EC711DDBF9CA7AA7FE3BDFF	66251::207::<operating unit ID>
ITEM_ITEMID	AGILE_01	0078BE703EC711DDBF9CA7AA7FE3BDFG	C0004::V2
ITEM_ITEMID	COMMON	0078BE703EC711DDBF9CA7AA7FE3BDFG	353138353737393537323836383303440
ITEM_ITEMID	EBIZ_01	0078BE703EC711DDBF9CA7AA7FE3BDFG	66252::207::<operating unit ID>

- The first row entry is made by the Agile BPEL flow for part P0001. This part belongs to an Agile site that is mapped to site V1.
- The second entry (Common) is also created by the Agile BPEL flow. It indicates the common "business component ID" for this particular in integration entity and is used to link Agile Parts/ Documents/ Change orders to Oracle EBS Items/Change Orders.
- The third row entry represents the Oracle EBS inventory item ID that corresponds to the item P1B and the organization ID for the item. The rest of the entries represent the revised and component items for the ECO001.
- The ITEM_ITEMID virtual table contains the similar xref entries for each item/part created through the new part request process.

Creating Cross Reference Data

If data must be ported from other existing integrations to the Agile PLM PIP, first the relationship between Agile entities and Oracle EBS entities should be established and each Agile site should be mapped to the corresponding Oracle EBS organization by inserting the relevant data in the xref_data table.

The ESB out of the box utility xrefimport.sh can be used to load the required integration data in the xref_data table to establish the link between Agile and Oracle EBS. This data will map the Agile entities to the Oracle EBS entities as described in the previous section.

Even for existing Agile PLM PIP integrations, if an item or change order needs to be created in Oracle EBS and then is created in Agile, for the PIP to process the item XREF entry for that item needs to be made. All the update (reverse) flows for the PIP will update the item attributes in Agile only if there is an entry in the xref_data table for that particular item.

xrefimport.sh Usage

The xrefimport.sh is present under $ORACLE_HOME/integration/esb/bin/. Before you execute xrefimport.sh, set the following environment variables

- OC4J_USERNAME
- OC4J_PASSWORD
- DB_URL
- DB_USER
- DB_PASSWORD.

The values should point to the schema where xref table is created.

Sample values are as follows:

export DB_URL="jdbc:oracle:thin:@//<database server name>:< database port>/<sid>"
export DB_USER=aia
export DB_PASSWORD=aia
export OC4J_USERNAME=oc4jadmin
export OC4J_PASSWORD=welcome1

Then the data that has to be inserted in the xref_data table should be put in an XML file with the following format:

Sample Change Order data file:

```
<xref xmlns="http://xmlns.oracle.com/xref">
   <table name="CHANGE_CHANGEID">
      <columns>
         <column name="EBIZ_01"/>
         <column name="COMMON"/>
         <column name="AGILE_01"/>
      </columns>
   <rows>
      <row>
          <cell colName="EBIZ_01">11075</cell>
```

```
          <cell
colName="COMMON">2d37383330323730313238383735363l</cell>
          <cell colName="AGILE_01">ECO001::V1</cell>
      </row>
      <row>
          <cell colName="EBIZ_01">11076</cell>
          <cell
colName="COMMON">2d37383330323730313238383735363 2</cell>
          <cell colName="AGILE_01"> ECO001::V2</cell>
      </row>
   </rows>
</table>
</xref>
```

- The change id number that is inserted in the EBIZ_01 column for a particular change order can be obtained using the following query:

```
select change_id from eng_engineering_changes
where
change_notice=<AgileChangeOrder>
```

- The business component id that is inserted in the COMMON column can be any unique number.
- The Agile change order number and the Oracle E-business Suite organization that corresponds to an Agile site are inserted into the AGILE_01 column separated by "::."

Sample Item data file:

```
<xref xmlns="http://xmlns.oracle.com/xref">
   <table name="ITEM_ITEMID">
      <columns>
         <column name="EBIZ_01"/>
         <column name="COMMON"/>
         <column name="AGILE_01"/>
      </columns>
   <rows>
      <row>
          <cell colName="EBIZ_01">39854::204::204</cell>
          <cell
colName="COMMON">353138353737393537323836383 03435</cell>
          <cell colName="AGILE_01">P0001::V1</cell>
      </row>
   </rows>
</table>
</xref>
```

- The Item inventory number, the organization id and the operating unit ID are inserted in the EBIZ_01 column separated by "::"
- The inventory item id for a particular item can be obtained by using the following query:

```
select inventory_item_id from mtl_system_items_b
where
segment1='<AgileItem>'
```

- The organization id for the given item can be obtained by using the query -

```
select organization_id from mtl_parameters
where
organization_code=<EbizOrgMappedtotheItemAgileSite>
```

- The business component id that is inserted in the COMMON column can be any unique number.
- Agile item number and Oracle EBS organization that corresponds to the Agile site are inserted into the AGILE_01 column separated by "::."
- The command to execute the xrefimport.sh to load the data in the xref_data table is.

```
$ORACLE_HOME/integration/esb/bin/xrefimport.sh –file
<xmldatafilename>.
```

The result of the import are logged in $ORACLE_HOME/integration/esb/bin/xrefimport.log

Configuring the PIP

This PIP uses various configuration parameters that control the behavior of the flow. Standard AIA XML configuration file, AIAConfigurationProperties.xml, located at *$AIA_HOME/config,* is used for capturing the configuration parameters. AIA configuration file supports the system level configuration parameters, service level parameters and module configuration parameters.

System level parameters apply to all PIPs running on the SOA suite. Service level parameters can be configured at the individual service level such as ABCS.

Note. The configuration properties from Agile Module and Oracle E-Business Suite Module are listed separately in this section, only for identification. The actual AIAConfigurationProperties.xml file on AIA Server is a merger of both.

Configuration Parameters

This PIP uses the following type of configuration parameters -

- PIP Level configuration parameters: PIP Configuration parameters are implemented using AIA module configuration entry. The module configuration entry has a name and can contain any number of configuration parameters. A naming convention of PIPS.PIPName is used for naming modules. The parameters inside the module are named using with cascaded naming convention where individual words are separated with dots.

  For example, *agile.replicate.item*.
- Service Level configuration parameters: While most configuration requirements are satisfied by the PIP Level configuration parameters, sometimes the behavior of a flow needs to be controlled at the service level. These parameters can be captured using AIA service configuration parameters. Service configuration entry is identified by the service name such as *CreateItemAgileReqABCSImpl*. The parameter names themselves are named using cascaded naming convention as explained earlier in this section.

Note: Whenever the AIAConfigurationProperties.xml file is updated, it must be reloaded for the updates to reflect in the applications or services that use the updated properties. You can perform this reload by selecting the Reload button on the *Configuration* page in the Oracle AIA Console. Alternatively, you can perform the reload by rebooting the server.

Note: See Oracle AIA Core Components Guide, "Working with the BSR," Loading Oracle AIA Configuration Properties File Updates.

Agile Configurations

Properties	(default) Value/Setting	Description
moduleName	Agile	
MULTISITE_ENABLED	TRUE	When set to True, the sites specified in Sites Tab of Items are used to determine the Orgs in Oracle EBS to which they are mapped. When set to False, Page2 Multilist01attribute is used to determine the Orgs in Oracle EBS to which the Item will be extended to.
Item.UnitCostAttribute	Site.Numeric01	Determines the attribute to which the unit cost from Oracle EBS would be updated in Agile.
Item.AvailableQuantityAttribute	Site.Numeric02	Determines the attribute to which the available quantity from Oracle EBS would be updated in Agile.
Item.OnHandQuantityAttribute	Site.Numeric03	Determines the attribute to which the on-hand quantity from Oracle EBS would be updated in Agile.
Item.ReservedQuantityAttribute	Site.Numeric04	Determines the attribute to which the reserved quantity from Oracle EBS would be updated in Agile.
Change.TransferStatusAttribute	PageTwo.Text02	Determines the attribute to which the transfer status of a Change. When the Change flow is from Agile to Oracle EBS, the possible values are "Transferred" or "Errored." When the Change flow is from Oracle EBS to Agile, the value would be the same as that of the Status of the Change in all the Orgs of Oracle EBS.
REPLICATE_BOM_ENABLED	FALSE	Used for sample replicate BOM customization. Refer Readme in Samples folder
COMMON_BOM_ENABLED	FALSE	Used for sample common BOM customization. Refer Readme in Samples folder

Properties	(default) Value/Setting	Description

Notes:

Multisite_Enabled property is governed by Distributed Processing aspects in Agile PLM.

When it is set to TRUE (default), the Item.UnitCostAttribute, Item.AvailableQuantityAttribute, Item.OnHandQuantityAttribute and Item.ReservedQuantityAttribute can be set to Site Tab Flex Attributes. You can use Numeric, Text or Money flex fields of Site tab for these settings, and is denoted by the first element, Site. For example, Site.Numeric01.

When it is set to FALSE, all these attributes need to be set to Page2 or Page3 flex fields. Hence, the settings will need to be changed to PageTwo.Numeric01 or PageThree.Numeric01 accordingly.

The names of the attributes can be derived from the ItemABM Schema, which can be found in Agile PLM Interfaces.

Note: CAVS feature is not supported for the flows in this release. However, the CAVS enabling properties for the flows are deployed.

Provider ABCS

UpdateEngineeringChangeOrderListAgileProvABCSImpl

Property	Default Value / Setting	Description
ABCSExtension.PreProcessABM	false	User exit for the preprocess ABM should be called or not
ABCSExtension.PreProcessEBM	false	User exit for the preprocess EBM should be called or not
ABCSExtension.PostProcessEBM	False	User exit for the post-process EBM should be called or not
ABCSExtension.PostProcessABM	False	User exit for the post-process ABM should be called or not
TRACE.LOG.ENABLED	False	Use tracelog for the flow
Default.SystemID	AGILE_01	System ID of Agile application instance
Routing.MergeABSService.RouteToCAVS	false	If set to true route to CAVS else route to Agile application. This invocation would be for Change merge ABS service
Routing.MergeABSService.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServle	CAVS SOAP URL. When RouteToCAVS property is set to true, use the URL mentioned to

	t/syncresponsesimulator	connect to CAVS. This invocation would be for Change merge ABS service
Routing.ChangeStatusDBAdapter.RouteToCAVS	False	
Routing.ChangeStatusDBAdapter.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/syncresponsesimulator	
Routing.ChangeABSService.RouteToCAVS	False	If set to true route to CAVS else route to Agile application. This invocation would be for Change ABS service
Routing.ChangeABSService.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/syncresponsesimulator	CAVS SOAP URL. When RouteToCAVS property is set to true, use the URL mentioned to connect to CAVS. This invocation would be for Change ABS service
Routing.ChangeStatusService.RouteToCAVS	False	If set to true route to CAVS else route to Agile application. This invocation would be for Change Status ABS service
Routing.ChangeStatusService.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/syncresponsesimulator	CAVS URL. When RouteToCAVS property is set to true, use the URL mentioned to connect to CAVS. This invocation would be for Change Status ABS service
Routing.EngineeringChangeOrderResponseEBS.UpdateEngineeringChangeOrderListResponse.RouteToCAVS	False	
Routing.EngineeringChangeOrderResponseEBS.UpdateEngineeringChangeOrderListResponse.EndpointURI	http://${http.hostname}:${http.port}/event/AIASystem/EBS/EngineeringChangeOrderResponseEBS	ECO response EBS SOAP URL. When RouteToCAVS property is set to false use the URL mentioned to connect to ECO response EBS. This invocation would be for ECO response EBS
Routing.EngineeringChangeOrderResponseEBS.UpdateEngineeringChangeOrderListResponse.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/asyncresponsesimulator	CAVS SOAP URL. When RouteToCAVS property is set to true, use the URL mentioned to connect to CAVS. This invocation would be for ECO response EBS
Routing.EngineeringChangeOrderResponseEBS.UpdateEngineeringChangeOrderListResponse.MessageProcessingInstruction.EnvironmentCode		Environment code like 'PRODUCTION'/ 'CAVS' and so on. Identifies the installation environment

UpdateItemBalanceListAgileProvABCSImpl

Property	Default Value / Setting	Description
ABCSExtension.PreProcessABM	false	User exit for the preprocess ABM should be called or not
ABCSExtension.PreProcessEBM	false	User exit for the preprocess EBM should be called or not
ABCSExtension.PostProcessEBM	false	User exit for the post-process EBM should be called or not
ABCSExtension.PostProcessABM	false	User exit for the post-process ABM should be called or not
TRACE.LOG.ENABLED	false	Use tracelog for the flow
Default.SystemID	AGILE_01	System ID of Agile application instance
Routing.ItemABSService.RouteToCAVS	False	If set to true route to CAVS else route to Agile application. This invocation would be for Item ABS
Routing.ItemABSService.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/syncresponsesimulator	CAVS URL. When RouteToCAVS property is set to true, use the URL mentioned to connect to CAVS. This invocation would be for Item ABS
Routing.ItemBalanceResponseEBS.UpdateItemBalanceListResponse.RouteToCAVS	False	
Routing.ItemBalanceResponseEBS.UpdateItemBalanceListResponse.EndpointURI	http://${http.hostname}:${http.port}/event/AIASystem/EBS/ItemBalanceResponseEBS	Item balance response EBS SOAP URL. When RouteToCAVS property is set to false use the URL mentioned to connect to Item balance response EBS. This invocation would be for item balance response EBS
Routing.ItemBalanceResponseEBS.UpdateItemBalanceListResponse.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/asyncresponsesimulator	CAVS URL. When RouteToCAVS property is set to true, use the URL mentioned to connect to CAVS. This invocation would be for Itembalance response EBS
Routing.ItemBalanceResponseEBS.UpdateItemBalanceListResponse.MessageProcessingInstruction.EnvironmentCode		Environment code like 'PRODUCTION'/ 'CAVS' and so on. Identifies the installation environment

UpdateItemListAgileProvABCSImpl

Property	Default Value / Setting	Description
ABCSExtension.PreProcessABM	False	User exit for the preprocess ABM should be called or not

ABCSExtension.PreProcessEBM	False	User exit for the preprocess EBM should be called or not
ABCSExtension.PostProcessEBM	False	User exit for the post-process EBM should be called or not
ABCSExtension.PostProcessABM	false	User exit for the post-process ABM should be called or not
TRACE.LOG.ENABLED	false	Use tracelog for the flow
Default.SystemID	AGILE_01	System ID of Agile application instance
Routing.ItemResponseEBS.UpdateItemListResponse.MessageProcessingInstruction.EnvironmentCode		Environment code like 'PRODUCTION'/ 'CAVS' and so on Identifies the installation environment
Routing.ItemABSService.RouteToCAVS	false	
Routing.ItemABSService.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/syncresponsesimulator	Agile Item ABS service SOAP URL. When RouteToCAVS property is set to true, use the URL mentioned to connect to CAVS. This invocation would be for Agile Item ABS service
Routing.ItemResponseEBS.UpdateItemListResponse.RouteToCAVS	False	If set to true route to CAVS else route to Item EBS. This invocation would be for Item EBS
Routing.ItemResponseEBS.UpdateItemListResponse.EndpointURI	http://${http.hostname}:${http.port}/event/AIASystem/EBS/ItemResponseEBS	Item response EBS SOAP URL. When RouteToCAVS property is set to false use the URL mentioned to connect to Item response EBS. This invocation would be for item response EBS
Routing.ItemResponseEBS.UpdateItemListResponse.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/asyncresponsesimulator	CAVS URL. When RouteToCAVS property is set to true, use the URL mentioned to connect to CAVS. This invocation would be for Item response EBS

SyncBillOfMaterialsConfigurationListAgileProvABCSImpl

Property	Default Value / Setting	Description
Default.SystemID	AGILE_01	System ID for mapping
Routing.BillOfMaterialsConfigurationEBS.SyncBillOfMaterilasConfigurationList.RouteToCAVS	false	
Routing.BillOfMaterialsConfigurationEBS.SyncBillOfMaterialsConfigurationList.CAVS.Endpoint	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/asyncresponserecipient	When RouteToCAVS property is set to true, use the URL mentioned to connect to CAVS

URI		
Routing.ConfiguratorTerminationService.RouteToCAVS	false	
Routing.ConfiguratorTerminationService.AGILE_01.EndpointURI	http://http://AGILE_HOST:AGILE_PORT/AGILE_PATH/vm/services/ConfiguratorTerminationService	Partner link endpoint URL
Routing.ConfiguratorTerminationService.CAVS.Endpoint.URI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/asyncresponserecipient	When RouteToCAVS property is set to true, use the URL mentioned to connect to CAVS Partner link
Routing.ConfiguratorTerminationService.AGILE_01.ServiceName	ConfiguratorTerminationService	PartnerLink service name
ABCSExtension.PreXformEBMtoABM	false	User exit for the preprocess EBM should be called or not
ABCSExtension.PostXformEBMtoABM	false	User exit for the post-process EBM should be called or not
ABCSExtension.PreInvokeConfiguratorTerminationMessage	false	User exit for the preprocess invoke partner link should be called or not
ABCSExtension.PostInvokeConfiguratorTerminationMessage	false	User exit for the post-process invoke partner link should be called or not

Requester ABCS

ProcessEngineeringChangeOrderAgileReqABCS

Property	Default Value / Setting	Description
ABCSExtension.PreProcessABM	false	User exit for the preprocess ABM should be called or not
ABCSExtension.PreProcessEBM	false	User exit for the preprocess EBM should be called or not
ABCSExtension.PostProcessEBM	false	User exit for the post-process EBM should be called or not
ABCSExtension.PostProcessABM	false	User exit for the post-process ABM should be called or not
TRACE.LOG.ENABLED	false	Use tracelog for the flow
Default.SystemID	AGILE_01	System ID of Agile application instance

Routing.EngineeringChangeOrderEBS.CreateEngineeringChangeOrderList.RouteToCAVS	False	If set to true route to CAVS else route to EngineeringChangeOrder EBS (Enterprise Business Service)
Routing.EngineeringChangeOrderEBS.CreateEngineeringChangeOrderList.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/asyncresponsesimulator	CAVS URL. When RouteToCAVS property is set to true, use the URL mentioned to connect to CAVS
Routing.EngineeringChangeOrderEBS.CreateEngineeringChangeOrderList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	Environment code like 'PRODUCTION'/ 'CAVS' and so on Identifies the installation environment

SyncItemListAgileReqABCS

Property	Default Value / Setting	Description
TRACE.LOG.ENABLED	false	
Default.SystemID	AGILE_01	

SyncItemListAgileReqABCSImpl

Property	Default Value / Setting	Description
ABCSExtension.PreProcessABM	false	
ABCSExtension.PreProcessEBM	false	
ABCSExtension.PostProcessEBM	false	
ABCSExtension.PostProcessABM	false	
TRACE.LOG.ENABLED	false	
ROUTE_TO_CAVS	false	
DEFAULT_TARGET_ENDPOINT_URI	http://${http.hostname}:${http.port}/event/AIASystem/EBS/ItemEBS	
Default.SystemID	AGILE_01	
Routing.ItemEBS.SyncItemList.RouteToCAVS	false	
Routing.ItemEBS.SyncItemList.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/asyncresponsesimulator	

Routing.SyncItemListAgileReqABCS.RouteToCAVS	false	
Routing.SyncItemListAgileReqABCS.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/syncresponsesimulator	
Routing.ItemEBS.SyncItemList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	

ValidateEngineeringChangeOrderListAgileReqABCS

Property	Default Value / Setting	Description
ABCSExtension.PreProcessABM	false	
ABCSExtension.PreProcessEBM	false	
ABCSExtension.PostProcessEBM	false	
ABCSExtension.PostProcessABM	false	
TRACE.LOG.ENABLED	false	
NotifyToPerson	AIAIntegrationAdminUser	
Default.SystemID	AGILE_01	
Routing.EngineeringChangeOrderEBS.ValidateEngineeringChangeOrderList.RouteToCAVS	false	
Routing.EngineeringChangeOrderEBS.ValidateEngineeringChangeOrderList.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/asyncresponsesimulator	
Routing.EngineeringChangeOrderEBS.ValidateEngineeringChangeOrderList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	

GetConfiguratorURLAgileReqABCSImpl

Property	Default Value / Setting	Description
Default.SystemID	AGILE_01	System ID for mapping
Agile_site.ColumnName	AGILE_SITE	The Agile PLM site column name in the DVM

Agile_site.TargetColumnName	TARGET_VALUE	The Agile PLM site target column name in the DVM
Agile_site.DefaultOrgPropertyName	DEFAULT_MASTER_ORG	The Agile PLM site default property name in the DVM
Routing.BillOfMaterialsConfigurationsEBS.GetConfiguratorURL.RouteToCAVS	false	
Routing.BillofMaterialsConfigurationEBS.GetConfiguratorURL.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/asyncresponserecipient	When RouteToCAVS property is set to true, use the URL mentioned to connect to CAVS
ABCSExtension.PreXformABMtoEBM	false	User exit for the preprocess ABM should be called or not
ABCSExtension.PreInvokeEBS	false	User exit for the preprocess Invoke should be called or not
ABCSExtension.PostXformABMtoEBM	false	User exit for the post-process ABM should be called or not
ABCSExtensionPostReceiveGetURLResponse	false	User exit for the post-process EBM should be called or not
Return_URL	http://${http.hostname}:${http.port}/AGILE_PATH/default/actionDialogs/FinishExternalConfigurator.jsp	The Return URL to be used by the E-Business Suite for returning after configuration

Oracle EBS Configurations

Property	Value / Setting	Description
ModuleName	Ebiz	
DEFAULT_MASTER_ORG		Default organization when the incoming one is empty for New Part Request
EBIZ_01.SERVER_TIMEZONE		Corresponds to GMT offset of Oracle EBS instance. Get this value from Oracle EBS profile option SERVER_TIMEZONE_ID, for example, -07:00
FIXED_ORG_FOR_INBOUND_DATA_TRANSFER		If set, Oracle EBS to Agile flows will publish data only for this particular organization code

IS_PIM_INSTALLED	FALSE	True - PIM installed, false - non-PIM scenario. It should be kept to false for this release with Oracle EBS 11i.
RESPONSIBILITY	System Administrator	Responsibility for setting FND Apps Context
USER	sysadmin	User for setting FND Apps Context

Provider ABCS

CreateEngineeringChangeOrderListEbizProvABCSImpl

Property	Value / Settings	Description
ABCSEXTENSION.POSTPROCESSABM	FALSE	User exit for the post-process ABM should be called or not
ABCSEXTENSION.POSTPROCESSEBM	FALSE	User exit for the post-process EBM should be called or not
ABCSEXTENSION.PREPROCESSABM	FALSE	User exit for the preprocess ABM should be called or not
ABCSEXTENSION.PREPROCESSEBM	FALSE	User exit for the preprocess EBM should be called or not
ASSIGN_ITEM_TO_CHILD_ORG	T	Indicates if Components,SubstituteComponenst coming in does not exist in context org,should be assigned from master org or not
CREATE_ERP_CHANGE_ORDER	T	Indicates if an ERP change order should be created or a PLM change order. 'T' ---> ERP, 'F' ---> PLM
CUSTOM.TRANSFORMATIONS.ABM_TO_EBM	FALSE	Use Custom transformation for ABM to EBM
CUSTOM.TRANSFORMATIONS.EBM_TO_ABM	FALSE	Use Custom transformation for EBM to ABM
Default.SystemID	EBIZ_01	Used for the default XREF Target column name when TargetId is empty in incoming EBM
DEFAULT_STRUCTURE_TYPE	EBOM	This parameter is only for R12 case.If incoming payload has no

		value for structure type then the value specified for this config parameter will be defaulted.
REPLICATE_BOM_IMPLEMENTATION_SCOPE	All	Indicates BOM implementation scope for replicate BOM case. 'IMPLEMENTED' -- Implemented BOMs in source org will be considered in Replicating BOM from source org to Destination org. 'UNIMPLEMENTED' -- Unimplemented BOMs will only be considered
REPLICATE_BOM_VIEW_SCOPE	CURRENT_AND_FUTURE	Indicates the BOM view scope for replicate BOM case. 'ALL' - All the BOMs should be considered in Replicating BOM from source org to Destination org. 'CURRENT' -- BOM which is effective currently should be considered. 'CURRENT_AND_FUTURE' -- BOM which is effective currently and also those with future effective dates should be considered.
ROUTING.ECOSERVICE.CAVS.ENDPOINTURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/syncresponsesimulator	ECOService endpoint URI when set to CAVS
ROUTING.ECOSERVICE.EBIZ_01.ENDPOINTURI	http://${http.hostname}:${http.port}/event/AIASystem/Ebiz/ABCS/ECOServiceRouter	ECOService run time target endpoint URI
Routing.ECOService.RouteToCAVS	FALSE	Use CAVS for ECOService
ROUTING.ENGINEERINGCHANGEORDERRESPONSEEBS.CAVS.ENDPOINTURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/asyncresponsesimulator	EngineeringChangeOrderResponseEBS endpoint URI when set to CAVS
Routing.EngineeringChangeOrderResponseEBS.RouteToCAVS	FALSE	Use CAVS for EngineeringChangeOrderResponseEBS
STANDALONE_BOM_UPDATES_ALLOWED	FALSE	
TEMPLATE_FOR_ITEM_UPDATE_ALLOWED	F	During Item Updation if this config value is 'T' then item template can

		be updated. If it is set to 'F', the item template cannot be changed
TRACE.LOG.ENABLED	FALSE	Use tracelog for the flow
VALIDATE_REVISED_ITEM_REVISION	F	If this Config value is set to T then in MCO/SCO case we will ensure that the incoming revision is either Current or Future implemented revision
UNIMPLEMENTED_BOM_UPDATES_ALLOWED	T/F	If this property is set to 'T' redlining of unimplemented BOM's can be done from Agile. If it is set to 'F' then only implemented BOM's can be redlined.
ALLOW_LIFECYCLE_PHASE_SKIP	T/F	If this property is set to T, the life cycle phases in EBS can be skipped.If it is set to F, the life cycle phase skip is not possible.

ValidateEngineeringChangeOrderListProvABCSImpl

Property	Value / Setting	Description
ABCSEXTENSION.POSTPROCESSABM	True/False Default=false	User exit for the post-process ABM should be called or not
ABCSEXTENSION.POSTPROCESSEBM	True/False Default=false	User exit for the post-process EBM should be called or not
ABCSEXTENSION.PREPROCESSABM	True/False Default=false	User exit for the preprocess ABM should be called or not
ABCSEXTENSION.PREPROCESSEBM	True/False Default=false	User exit for the preprocess EBM should be called or not
ASSIGN_ITEM_TO_CHILD_ORG	T/F Default=T	Indicates if Components,SubstituteComponenst coming in does not exist in context org,should be assigned from master org or not.
CREATE_ERP_CHANGE_ORDER	T	Indicates if an ERP change order should be created or a PLM change order. 'T' ---> ERP, 'F' ---> PLM
CUSTOM.TRANSFORMATIONS.ABM_TO_EBM	True/False Default=false	Use Custom transformation for ABM to EBM
CUSTOM.TRANSFORMATIONS.EBM_TO_ABM	True/False Default=false	Use Custom transformation for EBM to ABM

Default.SystemID	EBIZ_01	Used to get the default XREF Target column name when TargetId is empty in incoming EBM
DEFAULT_STRUCTURE_TYPE	EBOM	This parameter is only for R12 case.If incoming payload has no value for structure type then the value specified for this config parameter will be defaulted.
REPLICATE_BOM_IMPLEMENTATION_SCOPE	ALL	Indicates BOM implementation scope for replicate BOM case. 'IMPLEMENTED' -- Implemented BOMs in source org will be considered in Replicating BOM from source org to Destination org. 'UNIMPLEMENTED' -- Unimplemented BOMs will only be considered
REPLICATE_BOM_VIEW_SCOPE	CURRENT_AND_FUTURE	Indicates the BOM view scope for replicate BOM case. 'ALL' - All the BOMs should be considered in Replicating BOM from source org to Destination org. 'CURRENT' -- BOM which is effective currently should be considered. 'CURRENT_AND_FUTURE' -- BOM which is effective currently and also those with future effective dates should be considered.
Routing.EngineeringChangeOrderResponseEBS.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/asyncresponsesimulator	EngineeringChangeOrderEBS EndpointURI when set to CAVS.
Routing.EngineeringChangeOrderResponseEBS.RouteToCAVS	True/False Default=false	Use CAVS for EngineeringChangeOrderResponse EBS
Routing.ValidateECOService.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/syncresponsesimulator	ValidateECOService runtime endpointURI .
Routing.ValidateECOService.EBIZ_01.EndpointURI	http://${http.hostname}:${http.port}/event/AIASystem/Ebiz/ABCS/ValidateEngineeringChangeOrderService	ValidateECOService endpointURI when set to CAVS.
Routing.ValidateECOService.RouteT	True/False Default=false	Use CAVS for ValidateECOService

oCAVS		
STANDALONE_BOM_UPDATES_ALLOWED	T/F Default=F	
TEMPLATE_FOR_ITEM_UPDATE_ALLOWED	T/F Default=F	During Item Updation if this config value is 'T' then item template can be updated. If it is set to 'F', then the item template cannot be changed
TRACE.LOG.ENABLED	True/False Default-false	Use tracelog for the flow
VALIDATE_REVISED_ITEM_REVISION	T/F Default=F	If this Config value is set to T then in MCO/SCO case we will ensure that the incoming revision is either Current or Future implemented revision
UNIMPLEMENTED_BOM_UPDATES_ALLOWED	T/F	If this property is set to 'T' redlining of unimplemented BOM's can be done from Agile. If it is set to 'F' then only implemented BOM's can be redlined.
ALLOW_LIFECYCLE_PHASE_SKIP	T/F	If this property is set to T, the life cycle phases in EBS can be skipped. if it is set to F, the life cycle phase skip is not possible.

SyncItemListEbizProvABCSImpl

Property	Value / Settings	Description
ABCSExtension.PostInvokeSyncItemListABM	True/False. Default=false	UserExit for PostProcess ABM
ABCSExtension.PostXformABMtoEBMEBM	True/False. Default=false	UserExit for PostProcess EBM
ABCSExtension.PreInvokeSyncItemListABM	True/False. Default=false	UserExit for PreProcess AM
ABCSExtension.PreXformEBMtoABMEBM	True/False. Default=false	UserExit for PreProcess EBM
Default.SystemID	EBIZ_01	Default target system to be invoked
Routing.ItemResponseEBSV2.SyncItemListResponse.CAVS.EndpointURI	Endpoint of CAVS system on the FMW	URL to which response messages should be routed if Routing.ItemResponseEBSV2.SyncI

		temListResponse.RouteToCAVS is set to True.
Routing.ItemResponseEBSV2.SyncItemListResponse.MessageProcessingInstruction.EnvironmentCode	PRODUCTION/CAVS Default = PRODUCTION	Environment Code to be populated in Response EBM Header.
Routing.ItemResponseEBSV2.SyncItemListResponse.RouteToCAVS	True/False. Default=false	Controls whether SyncItemListEbizProvABCSImpl should route response messages to Agile system or to CAVS
Routing.SyncItemListEbizAdapter.CAVS.EndpointURI	Endpoint of CAVS system on the FMW	URL to which messages should be routed if Routing.SyncItemListEbizAdapter.RouteToCAVS is set to True.
Routing.SyncItemListEbizAdapter.EBIZ_01.EndpointURI	No Default Value	URL of Adapter Service that invokes process_item_list api on ebiz Instance.
Routing.SyncItemListEbizAdapter.RouteToCAVS	True/False. Default=false	Controls whether SyncItemListEbizProvABCSImpl should route messages to Ebiz system or to CAVS
TRACE.LOG.ENABLED	True/False. Default=false	Logging enabled or not

GetConfiguratorURLEbizProvABCSImpll

Property	Value / Settings	Description
Default.SystemID	EBIZ_01	
ABCSEXTENSION.PREPROCESSABM	false	
ABCSEXTENSION.POSTPROCESSABM	false	
ABCSEXTENSION.PREPROCESSEBM	false	
ABCSEXTENSION.POSTPROCESSEBM	fasle	
CUSTOM.TRANSFORMATIONS.EBM_TO_ABM	false	
CUSTOM.TRANSFORMATIONS.ABM_TO_EBM	false	
Routing.ProcessInitMsgService.EBIZ_01.EndpointURI	http://${http.hostname}:${http.port}/event/AIASystem/Ebiz/ABCS/BOMConfi	

	gurationServiceRouter	
Routing.ProcessInitMsgService.RouteToCAVS	false	
Routing.ProcessInitMsgService.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/asyncresponserecipient	
Routing.BillOfMaterialsConfigurationEBS.GetConfiguratorURL.RouteToCAVS	false	
Routing.BillOfMaterialsConfigurationEBS.GetConfiguratorURL.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/asyncresponserecipient	
CONFIGURATOR_RETURN_URL	http://${http.hostname}:${http.port}/EBIBOMConfigurator/ebibomconfigreturnservlet	
CONFIGURATOR_APPLICATION_ID	401	
CONFIGURATOR_RESPONSIBILITY_ID	66935	
TERMINATE_MSG_BEHAVIOUR	full	
TRACE.LOG.ENABLED	false	

Requester ABCS

UpdateItemListEbizReqABCSImpl

Property	Value / Setting	Description
ABCSEXTENSION.POSTPROCESSABM	FALSE	User exit for the post-process ABM should be called or not
ABCSEXTENSION.POSTPROCESSEBM	FALSE	User exit for the post-process EBM should be called or not
ABCSEXTENSION.PREPROCESSABM	FALSE	User exit for the preprocess ABM should be called or not
ABCSEXTENSION.PREPROCESSEBM	FALSE	User exit for the preprocess EBM should be called or not
ASSET_ATTRS	T	When the property is set to true all Asset attributes will be published in

		output EBM
BOM_ATTRS	T	When the property is set to true all BOM attributes will be published in output EBM
COSTING_ATTRS	T	When the property is set to true all Costing attributes will be published in output EBM
CUSTOM_TRANSFORMATIONS	FALSE	Used to determine whether custom transformations should be used or not
Default.SystemID	EBIZ_01	Used to get the default XREF Target column name when TargetId is empty in incoming EBM
DEFAULT_ITEM_COST_GROUP		If this value is given then cost will be derived based on this value. Note: Either DEFAULT_ITEM_COST_TYPE or DEFAULT_ITEM_COST_GROUP should be set but not both
DEFAULT_ITEM_COST_TYPE	1	If this value is given the cost will be derived based on this value. Note: Either DEFAULT_ITEM_COST_TYPE or DEFAULT_ITEM_COST_GROUP should be set but not both
GPLAN_ATTRS	T	When the property is set to true all Planning attributes will be published in output EBM
INVENTORY_ATTRS	T	When the property is set to true all Inventory attributes will be published in output EBM
INVOICE_ATTRS	T	When the property is set to true all Invoice attributes will be published in output EBM
ITEM_ATTRS	T	When the property is set to true all Item attributes will be published in output EBM
LEAD_TIME_ATTRS	T	When the property is set to true all Lead Times attributes will be published in output EBM
MPSMRP_ATTRS	T	When the property is set to true all MPS/MRP Planning attributes will be published in output EBM

ORDER_ATTRS	T	When the property is set to true all Order attributes will be published in output EBM
PHYSICAL_ATTRS	T	When the property is set to true all Physical attributes will be published in output EBM
PROCESS_ATTRS	T	When the property is set to true all Process attributes will be published in output EBM
PURCHASING_ATTRS	T	When the property is set to true all Purchasing attributes will be published in output EBM
RECEIVING_ATTRS	T	When the property is set to true all Receiving attributes will be published in output EBM
Routing.GetItemAttrListService.EBIZ_01.EndpointURI	http://${http.hostname}:${http.port}/event/AIASystem/Ebiz/ABCS/GetItemService	getItemAttrListService run time target endpoint URI
Routing.GetItemAttrListService.GetItemService.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/syncresponsesimulator	Use CAVS for ItemEBS
Routing.GetItemAttrListService.GetItemService.RouteToCAVS	FALSE	Use CAVS for getItemAttrListService
Routing.ItemEBS.EBIZ_01.EndpointURI	http://${http.hostname}:${http.port}/event/AIASystem/EBS/ItemEBS	ItemEBS endpoint URI when set to CAVS
Routing.ItemEBS.UpdateItemListEBM.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/asyncresponsesimulator	getItemAttrListService endpoint URI when set to CAVS
Routing.ItemEBS.UpdateItemListEBM.RouteToCAVS	FALSE	ItemEBS run time target endpoint URI
SERVICE_ATTRS	T	When the property is set to true all Service attributes will be published in output EBM
TRACE.LOG.ENABLED	FALSE	Use tracelog for the flow
WEB_OPTION_ATTRS	T	When the property is set to true all Web Option attributes will be published in output EBM
WIP_ATTRS	T	When the property is set to true all Work In progress attributes will be published in output EBM

UpdateEngineeringChangeOrderEbizReqABCSImpl

Property	Value / Setting	Description
ABCSEXTENSION.POSTPROCESSABM	FALSE	User exit for the post-process ABM should be called or not
ABCSEXTENSION.POSTPROCESSEBM	FALSE	User exit for the post-process EBM should be called or not
ABCSEXTENSION.PREPROCESSABM	FALSE	User exit for the preprocess ABM should be called or not
ABCSEXTENSION.PREPROCESSEBM	FALSE	User exit for the preprocess EBM should be called or not
CUSTOM_TRANSFORMATIONS	FALSE	Used to determine whether custom transformations should be used or not
Default.SystemID	EBIZ_01	Used to get the default XREF Target column name when TargetId is empty in incoming EBM
INCLUDE_COMPONENT_ITEMS	T	Has a single Boolean Char value (T/F) this property is passed to Pl/Sql API based on the value of the property Component item details are populated in the output ABM
INCLUDE_REFERENCE_DESIGNATORS	T	Has a single Boolean Char value (T/F) this property is passed to Pl/Sql API based on the value of the property Reference Designators of the Component item details are populated in the output ABM
INCLUDE_REVISED_ITEMS	T	Has a single Boolean Char value (T/F) this property is passed to Pl/Sql API based on the value of the property Revised Item details are populated in the output ABM
INCLUDE_SUBSTITUTE_COMPONENTS	T	Has a single Boolean Char value (T/F) this property is passed to Pl/Sql API based on the value of the property Substitute item details are populated in the output ABM
Routing.ECOEngineeringChangeOrderEBS.EBIZ_01.EndpointURI	http://${http.hostname}:${http.port}/event/AIASystem/EBS/EngineeringChangeOrderEBS	EngineeringChangeOrderEBS endpoint URI when set to CAVS
Routing.ECOEngineeringChangeOrderEBS.UpdateEngineeringChangeOrde	FALSE	EngineeringChangeOrderEBS runtime target endpoint URI

rList.RouteToCAVS		
Routing.ECOEngineeringChangeOrderEBS.UpdateEngineeringChangeOrderList.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/asyncresponsesimulator	getUpdateEngineeringChangeOrderListService endpoint URI when set to CAVS
Routing.GetUpdateEngineeringChangeOrderListService.EBIZ_01.EndpointURI	http://${http.hostname}:${http.port}/event/AIASystem/Ebiz/ABCS/GetEngineeringChangeOrderService	getUpdateEngineeringChangeOrderListService runtime target endpoint URI
Routing.GetUpdateEngineeringChangeOrderListService.UpdateEngineeringChangeOrderListService.RouteToCAVS	FALSE	Use CAVS for getUpdateEngineeringChangeOrderListService
Routing.GetUpdateEngineeringChangeOrderListService.UpdateEngineeringChangeOrderListService.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/syncresponsesimulator	Use CAVS for EngineeringChangeOrderEBS
TRACE.LOG.ENABLED	FALSE	Use tracelog for the flow

UpdateItemBalanceListEbizReqABCSImpl

Property	Value / Setting	Description
ABCSEXTENSION.POSTPROCESSABM	FALSE	User exit for the post-process ABM should be called or not
ABCSEXTENSION.POSTPROCESSEBM	FALSE	User exit for the post-process EBM should be called or not
ABCSEXTENSION.PREPROCESSABM	FALSE	User exit for the preprocess ABM should be called or not
ABCSEXTENSION.PREPROCESSEBM	FALSE	User exit for the preprocess EBM should be called or not
CUSTOM_TRANSFORMATIONS	FALSE	Used to determine whether custom transformations should be used or not
Default.SystemID	EBIZ_01	Used to get the default XREF Target column name when TargetId is empty in incoming EBM
ItemBalanceEBS.EBIZ_01.Default.Target.EndpointURI	http://${http.hostname}:${http.port}/event/AIASystem/EBS/ItemBalanceEBS	ItemBalanceEBS runtime target endpoint URI
ItemBalanceService.EBIZ_01.Default.Target.EndpointURI	http://${http.hostname}:${http.port}/event/AIASystem/Ebiz/ABCS/GetItemBalanceService	ItemBalanceService runtime target endpoint URI
Routing.ItemBalanceEBS.UpdateItem	http://${http.hostname}:${http.port}/AI	ItemBalanceEBS endpoint URI when

BalanceList.CAVS.EndpointURI	AValidationSystemServlet/asyncresponsesimulator	set to CAVS
Routing.ItemBalanceEBS.UpdateItemBalanceList.RouteToCAVS	FALSE	Use CAVS for ItemBalanceEBS
Routing.ItemBalanceService.GetItemBalanceService.CAVS.EndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/syncresponsesimulator	ItemBalanceService endpoint URI when set to CAVS
Routing.ItemBalanceService.GetItemBalanceService.RouteToCAVS	FALSE	Use CAVS for ItemBalanceService
TRACE.LOG.ENABLED	FALSE	Use tracelog for the flow

SyncBillOfMaterialsConfigurationListEbizReqABCSImpl

Property	Value / Setting	Description
Default.SystemID	EBIZ_01	
rBCSEXTENSION.PREPPROCESSABM	false	
ABCSEXTENSION.PREPROCESSEBM	false	
CUSTOM.TRANSFORMATIONS.ABM_TO_EBM	false	
Routing.BillOfMaterialsConfigurationEBS.SyncBillOfMaterialsConfigurationList.RouteToCAVS	false	
Routing.BillOfMaterialsConfigurationEBS.SyncBillOfMaterialsConfigurationList.CAVSEndpointURI	http://${http.hostname}:${http.port}/AIAValidationSystemServlet/asyncresponserecipient	

Setting up National Language Support

For complete information about National Language Support, refer Appendix A. on page 180.

Setting up NLS in Agile PLM

1. In Agile Java Client, for each subscriber of MCO, SCO, ECO, go to the subscriber details page and set the language.

Note: For ease of understanding, we are using "Japanese" as language.

2. Change the language preference of all the users creating CO and Items, including integration user, to Japanese.

Setting up NLS in FMW for Agile PLM

Edit the Transformations

1. Edit the following XSL file and replace the hard-coded string 'Priliminary' to Japanese equivalent coming from Agile List values

   ```
   <SOA_HOME>/Apache/Apache/htdocs/AIAComponents/Transformations/Agile/Release1/QueueProcessorServiceImpl/AgileData_to_AgileCreateEngineeringChangeOrderListABM_Impl.xsl
   ```

2. Edit the following XSL file and replace the following values:

   ```
   <SOA_HOME>/Apache/Apache/htdocs/AIAComponents/Transformations/Agile/Release1/ProcessEngineeringChangeOrderAgileReqABCS/AgileCreateEngineeringChangeOrderListABM_to_CreateEngineeringChangeOrderListEBM_Impl.xsl
   ```

   Replace the hard-coded string 'Priliminary' to the Japanese equivalent coming from Agile list values.

   Replace the hard-coded string 'SCO' to Japanese equivalent coming from Agile list values.

3. Edit the following XSL file and replace hard coded strings ‘Errored’ with Japanese equivalent:

   ```
   <SOA_HOME>/Apache/Apache/htdocs/AIAComponents/Transformations/Agile/Release1/ProcessEngineeringChangeOrderAgileReqABCS/AgileCreateEngineeringChangeOrderListABM_to_AgileUpdateEngineeringChangeOrderListABM_Impl.xsl
   ```

4. Edit the following XSL file and replace the following values:

   ```
   <SOA_HOME>/Apache/Apache/htdocs/AIAComponents/Transformations/Agile/Release1/ProcessEngineeringChangeOrderAgileReqABCS/UpdateEngineeringChangeOrderListEBM_to_AgileUpdateEngineeringChangeOrderListABM_Impl.xsl
   ```

   Replace the hard-coded string ‘Transferred’ with its Japanese equivalent.

   Replace the hard-coded string ‘Errored’ with its Japanese equivalent..

Note: Use an UTF-8 based editor like JEdit to do these changes. Choose UTF-8 as the character set while loading the file to edit. Set FTP transfer mode to Binary while uploading these files to AIA components.

Editing AIAConfigurations

Edit the property 'LANG_LOCALE' under module 'Agile' to 'Japanese'. Its language value is available under column COMMON in the DVM - 'LANGUAGE_CODE'

Set up DVMs

Enter the Japanese language values under Agile column AGILE_01 in the following DVMs:

- ITEM_PRIMARYCLASSIFICATIONCODE
- ITEM_STATUS_CODE
- ITEM_UOM_CODE
- ECO_REASON_CODE
- ECO_TYPECODE
- ECO_CLASSIFICATION_CODE
- ECO_STATUS_CODE

Setting up NLS in FMW for Oracle EBS

1. Log on to the Oracle EBS environment.
2. Go to User Preferences.
3. Change the Current Session Language and Default Language to the language that is configured in Agile PLM.
4. Go to System Administrator Responsibility in ORACLE EBS and navigate to the following path:

   System Administrator > Profile Options > System

5. Query for profile option EBS Integration Language Codes.
6. Set the language code to the corresponding Agile PLM language.

Setting up the DVMs for NLS

- In the *LANGUAGE_CODE* DVM, configure EBlZ_01.with the appropriate language code of ORACLE EBS.
- In the *EBIZ_AGILE_APPS_USER* DVM, configure the LANG_CODE and the corresponding integration user under USER_NAME.

Domain Value Maps

Domain Value Maps (DVMs) templates are XML files that comply with the Oracle SOA Suite DVM schema. The DVMs are stored in the ESB database and are maintained using the ESB Console user interface. Domain values are used for static lookups. Using ESB administration, you may import these XML files and then modify them according to your needs.

Out-of-the-Box DVMs

During installation, the DVMs used for the PIP are imported with default data mappings. The values mapped by these DVMs have to be changed as needed. There are many DVMs that are seeded and need not be touched. Since most of the Agile attributes being mapped are list values, the Agile data is not seeded and should be changed accordingly.

Note: ICC manufacturer should be in synch before the DVMs are called.

Note: DVM about Orgs should already be configured.

Some of the most used DVMs, with their Out-of-the-Box values, are listed below. You can modify their values as per your requirements. For complete list of available DVMs, including the most used ones, see the List of DVMs.

Warning! You can only add more rows of value mappings but should not change the DVM name, the column names, or the number of columns.

To see or modify a DVM:

1. Log on to the ESB Control in the *Enterprise Manager Console*.

   The path would be as follows: http://<environment_name>.us.oracle.com:<port_number>/esb

2. Click Maps Icon to retrieve the DVMs

3. Click the requisite DVM to see/modify.

Sample DVMs

AGILE_SITE_TARGET_MAPPING

DEFAULT_MASTER_ORG in Oracle EBS is specified in this DVM. This is used when the *Multisite_Enabled* property is set to False and no Org is specified for the Item where it extends to.

When the *Multisite_Enabled* property is True, the Sites in Agile are mapped to various Orgs in Oracle EBS. A Site can be mapped to multiple Orgs in the Oracle EBS column using a "|" delimiter.

AGILE_TARGET_SITE_MAPPING

The Oracle EBS Orgs to Agile Sites are mapped. This is used for Oracle EBS to Agile flows. There is one to one mapping between the Oracle EBS Org to Agile Site.

LANGUAGE_CODE

COMMON	RETL_01	PSFT_01	EBIZ_01	JDEE1_01	SAP_01	OTM_01
North America Public Services				1		
Single Byte Search Description				1B		
Arabic	13	ARA	Arabic	AR		
Bulgarian				BG		
Canadian French	14	CFR				
Chinese Simplified	8	ZHS		CS		
Chinese Traditional	11	ZHT		CT		
Czech	16	CZE		C		
Danish	17	DAN		DN		
Dutch	18	DUT		DU		
English	1	ENG	AMERICAN	E	E	English

COMMON	RETL_01	PSFT_01	EBIZ_01	JDEE1_01	SAP_01	OTM_01
French	3	FRA		F		
Finnish	19	FIN		FN		
German	2	GER		G		
Greek	20	GRK		GR		
Croatian	15			HR		
Hebrew	21	HEB				
Hungarian	10	HUN		HU		
Italian	22	ITA		I		
Japanese	5	JPN		J		
Korean	6	KOR	KOREAN	KO		Korean
Malaysia		MAY				
Norwegian	25	NOR		NO		
Polish	26	POL		PO		
Portuguese	27	POR		P		
Romanian	28			RO		
Russian	7	RUS		RU		
Spanish	4	ESP		S		
Swedish	31	SVE		W		
Thai	32	THA				
Turkish	9	TUR		TR		
Warehouse				W		
Ex-employees				X		

ECO_STATUS_CODE

Used for Oracle EBS attribute - ECO_CHANGE_ORDER_TYPE/STATUS_CODE, ECO_REVISED_ITEM_TYPE/STATUS_CODE.

Used for Agile's Status attribute of a Change.

ITEM_STATUS_CODE

Used for Oracle EBS Item attributes - ITEM_OBJ/MAIN_OBJ_TYPE/INVENTORY_ITEM_STATUS_CODE.

The Agile Item Lifecycle phase attribute is mapped.

EBIZ_01	COMMON	AGILE_01
A	A	
Concept	CONCEPT	
Design	DESIGN	Preliminary
Engineer	ENGINEER	Pilot
Inactive	INACTIVE	Inactive
Lease	LEASE	
Non-Stock	NONSTOCK	
New B	NWEB	
OPM	OPM	
Obsolete	OBSOLETE	Obsolete
Pending	PENDING	
Phase-Out	PHASEOUT	
Production	PRODUCTION	Production
Prototype	PROTOTYPE	Prototype
R	R	

List of DVMs

Note: The mandatory DVMs are listed in bold font.

Domain Value Map	Description

Domain Value Map	Description
ECO_CLASSIFICATION_CODE	Used for Oracle EBS attribute ECO_ATTR/ECO_CHANGE_ORDER_TYPE/CHANGE_MANAGEMENT_TYPE This DVM is needed for the CO Update flow.
ECO_ENGINEERINGCHANGEORDERLINE_AVAILABLETOMRPINDICATOR	Used for Oracle EBS attribute - ECO_ATTR/ECO_REVISED_ITEM_TYPE/ECO_REVISED_ITEM_TYPE_ITEM/MRP_ACTIVE
ECO_ENGINEERINGCHANGEORDERLINE_DISPOSITION_TYPE_CODE	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/DISPOSITION_TYPE
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_ATPCHECKREQUIREDINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/CHECK_ATP
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_BILLOFMATERIALSSUBSTITUTECOMPONENTITEM_CHANGETYPECODE	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/COMPONENT_ITEM_TBL_ITEM/SUBSTITUTE_COMPONENT_TBL/SUBSTITUTE_COMPONENT_TBL_ITEM/ACD_TYPE
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_CHANGETYPECODE	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/SUBSTITUTE_COMPONENT_TBL/ACD_TYPE, ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/REFERENCE_DESIGNATOR_TBL/ACD_TYPE, ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/ACD_TYPE
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_COSTROLLUPINCLUSIONINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/INCLUDE_IN_COST_ROLLUP
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_FRACTIONALLOWEDINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/ENFORCE_INT_REQUIREMENTS
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_MUTUALLYEXCLUSIVEOPTIONINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/MUTUALLY_EXCLUSIVE
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_OPTIONALINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/OPTIONAL
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_REQUIREDFORREVENUEINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/REQUIRED_FOR_REVENUE

Domain Value Map	Description
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_REQUIREDTOSHIPINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/REQUIRED_TO_SHIP
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_SHIPPINGALLOWEDINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/SHIPPING_ALLOWED
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_SHIPPINGDOCUMENTVISIBILITYINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/INCLUDE_ON_SHIP_DOCS
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_ENGINEERINGINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/STRUCTURE_HEADER/ASSEMBLY_TYPE
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_NAME	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/ALTERNATE_BOM_CODE
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_TYPECODE	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/STRUCTURE_HEADER/STRUCTURE_TYPE_NAME, ECO_REVISED_ITEM_TYPE/STRUCTURE_TYPE_NAME
ECO_ENGINEERINGCHANGEORDERLINE_UPDATEWIPINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/UP_WIP
ECO_PRIORITY_CODE	Used for Oracle EBS attribute - ECO_CHANGE_ORDER_TYPE/PRIORITY_CODE
ECO_REASON_CODE	Used for Oracle EBS attribute - ECO_CHANGE_ORDER_TYPE/REASON_CODE. Used for Agile's Reason Code attribute of a Change.
ECO_STATUS_CODE	Used for Oracle EBS attribute - ECO_CHANGE_ORDER_TYPE/STATUS_CODE, ECO_REVISED_ITEM_TYPE/STATUS_CODE. Use for Agile's Status attribute of a Change. Here, the Oracle EBS values are language independent. The Query used for retrieving corresponding DVM values from Oracle EBS Tables is as follows: SELECT status_code FROM eng_change_statuses_vl WHERE status_name = <p_status_name>;
ECO_TYPECODE	Used for Oracle EBS attribute CHANGE_ORDER_TYPE_ID. Used for Agile's Change

Domain Value Map	Description
	Type attribute of a Change. Here, the Oracle EBS values are language independent. The Query used for retrieving corresponding DVM values from Oracle EBS Tables is as follows: SELECT change_order_type_id FROM eng_change_order_types_vl WHERE type_name = <p_change_order_type> AND change_mgmt_type_code = 'CHANGE_ORDER' AND type_classification='HEADER';
ITEM_BILLING_TYPE_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/SERVICE_OBJ_TYPE/MATERIAL_BILLABLE_FLAG
ITEM_BOM_ITEM_TYPE_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/BOM_OBJ_TYPE/BOM_ITEM_TYPE
ITEM_CONSIGNMENT_ITEM_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/GPLANNING_OBJ_TYPE/CONSIGNED_FLAG
ITEM_CONTRACT_TYPE_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/ASSET_OBJ_TYPE/CONTRACT_ITEM_TYPE_CODE
ITEM_CREATE_FIXED_ASSET_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/SERVICE_OBJ_TYPE/ASSET_CREATION_CODE
ITEM_DUAL_UOM_TRACKING_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/MAIN_OBJ_TYPE/TRACKING_QUANTITY_IND
ITEM_EFFECTIVITY_CONTROL_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/BOM_OBJ_TYPE/EFFECTIVITY_CONTROL
ITEM_INDICATOR	YES/NO DVM used for multiple Item attributes - ITEM_OBJ/INVENTORY_OBJ_TYPE/SERIAL_STATUS_ENABLED, ITEM_OBJ/INVENTORY_OBJ_TYPE/LOT_STATUS_ENABLED, ITEM_OBJ/INVENTORY_OBJ_TYPE/CYCLE_COUNT_ENABLED_FLAG, ITEM_OBJ/INVENTORY_OBJ_TYPE/LOT_MERGE_ENABLED, ITEM_OBJ/INVENTORY_OBJ_TYPE/LOT_SPLIT_ENABLED,

Domain Value Map	Description
	ITEM_OBJ/INVENTORY_OBJ_TYPE/STOCK_ENABLED_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/INSPECTION_REQUIRED_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/PURCHASING_ENABLED_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/RECEIPT_REQUIRED_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/RFQ_REQUIRED_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/TAXABLE_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/MUST_USE_APPROVED_VENDOR_FL, ITEM_OBJ/RECEIVING_OBJ_TYPE/ALLOW_SUBSTITUTE_RECEIPTS_F, ITEM_OBJ/RECEIVING_OBJ_TYPE/ALLOW_UNORDERED_RECEIPTS_FL, ITEM_OBJ/BOM_OBJ_TYPE/BOM_ENABLED_FLAG, ITEM_OBJ/BOM_OBJ_TYPE/ENG_ITEM_FLAG, ITEM_OBJ/COSTING_OBJ_TYPE/COSTING_ENABLED_FLAG, ITEM_OBJ/COSTING_OBJ_TYPE/INVENTORY_ASSET_FLAG, ITEM_OBJ/ORDER_OBJ_TYPE/CUSTOMER_ORDER_FLAG, ITEM_OBJ/ORDER_OBJ_TYPE/RETURNABLE_FLAG,
ITEM_INVENTORY_PLANNING_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/GPLANNING_OBJ_TYPE/INVENTORY_PLANNING_CODE
ITEM_LOTEXPIRATION_ON_RECEIPT_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/INVENTORY_OBJ_TYPE/LOT_CONTROL_CODE
ITEM_MAKEORBUY_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/GPLANNING_OBJ_TYPE/PLANNING_MAKE_BUY_CODE
ITEM_RECEIVING_ROUTING_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/RECEIVING_OBJ_TYPE/RECEIVING_ROUTING_ID
ITEM_REPLENISHMENT_SOURCE_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/GPLANNING_OBJ_TYPE/SOURCE_TYPE
ITEM_RESERVATION_ALLOWED_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/INVENTORY_OBJ_TYPE/RESERVABLE_T

Domain Value Map	Description
	YPE
ITEM_RETURN_INSPECTION_REQUIRED_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/PURCHASING_OBJ_TYPE/INSPECTION_REQUIRED_FLAG
ITEM_SERIALIZATION_EVENT_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/INVENTORY_OBJ_TYPE/SERIAL_NUMBER_CONTROL_CODE
ITEM_SERVICE_REQUEST_ENABLED_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/ASSET_OBJ_TYPE/SERV_REQ_ENABLED_CODE
ITEM_STATUS_CODE	Used for Oracle EBS Item attributes - ITEM_OBJ/MAIN_OBJ_TYPE/INVENTORY_ITEM_STATUS_CODE. The Agile Item Lifecycle phase attribute is mapped.
ITEM_TRACK_INSTANCE_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/SERVICE_OBJ_TYPE/COMMS_NL_TRACKABLE_FLAG
ITEM_UOM_CODE	Unit of Measure DVM for Item attributes - ITEM_OBJ/PHYSICAL_OBJ_TYPE/VOLUME_UOM_CODE, ITEM_OBJ/PHYSICAL_OBJ_TYPE/WEIGHT_UOM_CODE
ITEM_UOM_CONVERSION_USAGE_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/MAIN_OBJ_TYPE/ALLOWED_UNITS_LOOKUP_CODE
ITEM_WIP_SUPPLY_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/WIP_OBJ_TYPE/WIP_SUPPLY_TYPE
ITEM_PRIMARYCLASSIFICATIONCODE	Used for Oracle EBS Item attributes - ITEM_OBJ/MAIN_OBJ_TYPE/ITEM_CATALOG_GROUP_CODE. The Agile PartType of an Item is mapped to the Oracle EBS ICC.
AGILE_SITE_TARGET_MAPPING	DEFAULT_MASTER_ORG in Oracle EBS is specified here. This is used when the Multisite_Enabled property is set to False and no Org is specified for the Item where it extends to. When the Multisite_Enabled property is true, the Sites in Agile are mapped to various Orgs in Oracle EBS. A Site could be mapped to multiple Orgs in the Oracle EBS column with "|" delimiter.

Domain Value Map	Description
AGILE_TARGET_SITE_MAPPING	The Oracle EBS Orgs to Agile Sites are mapped. This is used for Oracle EBS to Agile flows. There is one to one mapping between the Oracle EBS Org to Agile Site.
AGILE_INTEGRATION_USERS	The Agile Change originator users are mapped to the RequesterPartyReference in the EBM.

LANGUAGE_CODE	Language Code DVM for common and system specific language code names are mapped.
EBIZ_AGILE_APPS_USER	Used in mapping the User Name , depending on the Language code DVM.
ECO_STATUS_CODE	Used for Oracle EBS attribute - ECO_CHANGE_ORDER_TYPE/STATUS_CODE, ECO_REVISED_ITEM_TYPE/STATUS_CODE. Use for Agile's Status attribute of a Change. Here, the Oracle EBS values are language independent. The Query used for retrieving corresponding DVM values from Oracle EBS Tables is as follows: SELECT status_code FROM eng_change_statuses_vl WHERE status_name = p_status_name;
ECO_PRIORITY_CODE	Used for Oracle EBS attribute - ECO_CHANGE_ORDER_TYPE/PRIORITY_CODE
ECO_REASON_CODE	Used for Oracle EBS attribute - ECO_CHANGE_ORDER_TYPE/REASON_CODE. Used for Agile's Reason Code attribute of a Change.
ECO_TYPECODE	Used for Oracle EBS attribute CHANGE_ORDER_TYPE_ID. Used for Agile's Change Type attribute of a Change. Here, the Oracle EBS values are language independent. The Query used for retrieving corresponding DVM values from Oracle EBS Tables is as follows: SELECT change_order_type_id FROM eng_change_order_types_vl WHERE type_name = p_change_order_type AND change_mgmt_type_code = 'CHANGE_ORDER' AND type_classification='HEADER';
ITEM_STATUS_CODE	Used for Oracle EBS Item attributes - ITEM_OBJ/MAIN_OBJ_TYPE/INVENTORY_ITEM_STA

	TUS_CODE. The Agile Item Lifecycle phase attribute is mapped.
ITEM_UOM_CONVERSION_USAGE_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/MAIN_OBJ_TYPE/ALLOWED_UNITS_LOOKUP_CODE
ITEM_PRIMARYCLASSIFICATIONCODE	Used for Oracle EBS Item attributes - ITEM_OBJ/MAIN_OBJ_TYPE/ITEM_CATALOG_GROUP_CODE. The Agile PartType of an Item is mapped to the Oracle EBS ICC.
ITEM_DUAL_UOM_TRACKING_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/MAIN_OBJ_TYPE/TRACKING_QUANTITY_IND
ITEM_UOM_CODE	Unit of Measure DVM for Item attributes - ITEM_OBJ/PHYSICAL_OBJ_TYPE/VOLUME_UOM_CODE, ITEM_OBJ/PHYSICAL_OBJ_TYPE/WEIGHT_UOM_CODE
ITEM_INDICATOR	YES/NO DVM used for multiple Item attributes - ITEM_OBJ/INVENTORY_OBJ_TYPE/SERIAL_STATUS_ENABLED, ITEM_OBJ/INVENTORY_OBJ_TYPE/LOT_STATUS_ENABLED, ITEM_OBJ/INVENTORY_OBJ_TYPE/CYCLE_COUNT_ENABLED_FLAG, ITEM_OBJ/INVENTORY_OBJ_TYPE/LOT_MERGE_ENABLED, ITEM_OBJ/INVENTORY_OBJ_TYPE/LOT_SPLIT_ENABLED, ITEM_OBJ/INVENTORY_OBJ_TYPE/STOCK_ENABLED_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/INSPECTION_REQUIRED_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/PURCHASING_ENABLED_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/RECEIPT_REQUIRED_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/RFQ_REQUIRED_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/TAXABLE_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/MUST_USE_APPROVED_VENDOR_FL, ITEM_OBJ/RECEIVING_OBJ_TYPE/ALLOW_SUBSTITUTE_RECEIPTS_F, ITEM_OBJ/RECEIVING_OBJ_TYPE/ALLOW_UNORDERED_RECEIPTS_FL,

	ITEM_OBJ/BOM_OBJ_TYPE/BOM_ENABLED_FLAG, ITEM_OBJ/BOM_OBJ_TYPE/ENG_ITEM_FLAG, ITEM_OBJ/COSTING_OBJ_TYPE/COSTING_ENABLED_FLAG, ITEM_OBJ/COSTING_OBJ_TYPE/INVENTORY_ASSET_FLAG, ITEM_OBJ/ORDER_OBJ_TYPE/CUSTOMER_ORDER_FLAG, ITEM_OBJ/ORDER_OBJ_TYPE/RETURNABLE_FLAG,
ITEM_RESERVATION_ALLOWED_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/INVENTORY_OBJ_TYPE/RESERVABLE_TYPE
ITEM_LOTEXPIRATION_ON_RECEIPT_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/INVENTORY_OBJ_TYPE/LOT_CONTROL_CODE
ITEM_SERIALIZATION_EVENT_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/INVENTORY_OBJ_TYPE/SERIAL_NUMBER_CONTROL_CODE
ITEM_RECEIVING_ROUTING_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/RECEIVING_OBJ_TYPE/RECEIVING_ROUTING_ID
ITEM_INVENTORY_PLANNING_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/GPLANNING_OBJ_TYPE/INVENTORY_PLANNING_CODE
ITEM_MAKEORBUY_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/GPLANNING_OBJ_TYPE/PLANNING_MAKE_BUY_CODE
ITEM_REPLENISHMENT_SOURCE_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/GPLANNING_OBJ_TYPE/SOURCE_TYPE
ITEM_CONSIGNMENT_ITEM_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/GPLANNING_OBJ_TYPE/CONSIGNED_FLAG
ITEM_BILLING_TYPE_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/SERVICE_OBJ_TYPE/MATERIAL_BILLABLE_FLAG
ITEM_TRACK_INSTANCE_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/SERVICE_OBJ_TYPE/COMMS_NL_TRACKABLE_FLAG
ITEM_CREATE_FIXED_ASSET_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/SERVICE_OBJ_TYPE/ASSET_CREATION_CODE
ITEM_BOM_ITEMTYPE_CODE	Used for Oracle EBS Item attribute -

	ITEM_OBJ/BOM_OBJ_TYPE/BOM_ITEM_TYPE
ITEM_EFFECTIVITY_CONTROL_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/BOM_OBJ_TYPE/EFFECTIVITY_CONTROL
ITEM_WIP_SUPPLY_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/WIP_OBJ_TYPE/WIP_SUPPLY_TYPE
ITEM_CONTRACT_TYPE_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/ASSET_OBJ_TYPE/CONTRACT_ITEM_TYPE_CODE
ITEM_SERVICE_REQUEST_ENABLED_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/ASSET_OBJ_TYPE/SERV_REQ_ENABLED_CODE
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_ENGINEERINGINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/STRUCTURE_HEADER/ASSEMBLY_TYPE
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_TYPECODE	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/STRUCTURE_HEADER/STRUCTURE_TYPE_NAME, ECO_REVISED_ITEM_TYPE/STRUCTURE_TYPE_NAME
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_CHANGETYPECODE	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/ ACD_TYPE
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_COSTROLLUPINCLUSIONINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/ INCLUDE_IN_COST_ROLLUP
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_OPTIONALINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/OPTIONAL
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_MUTUALLYEXCLUSIVEOPTIONINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/MUTUALLY_EXCLUSIVE
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_ATPCHECKREQUIREDINDICATOR	Used for Oracle EBS attribute ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/CHECK_ATP
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_SHIPPINGALLOWEDINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/SHIPPING_ALLOWED
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_REQUIREDTOSHIPINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/REQUIRED_TO_SHIP

ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_REQUIREDFORREVENUEINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/REQUIRED_FOR_REVENUE
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_SHIPPINGDOCUMENTVISIBILITYINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/INCLUDE_ON_SHIP_DOCS
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_BILLOFMATERIALSCOMPONENTITEM_FRACTIONALLOWEDINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/COMPONENT_ITEM_TBL/ENFORCE_INT_REQUIREMENTS
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_NAME	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/ALTERNATE_BOM_CODE
ECO_ENGINEERINGCHANGEORDERLINE_DISPOSITION_TYPE_CODE	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/DISPOSITION_TYPE
ECO_ENGINEERINGCHANGEORDERLINE_UPDATEWIPINDICATOR	Used for Oracle EBS attribute - ECO_REVISED_ITEM_TYPE/UP_WIP
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_NAME	Used for Oracle EBS attribute ECO_REVISED_ITEM_TYPE / ALTERNATE_BOM_CODE
ECO_ENGINEERINGCHANGEORDERLINE_REVISEDBILLOFMATERIALS_TYPECODE	Used for Oracle EBS attribute ECO_REVISED_ITEM_TYPE /STRUCTURE_HEADER /STRUCTURE_TYPE_NAME
ITEM_BILLING_TYPE_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/SERVICE_OBJ_TYPE/MATERIAL_BILLABLE_FLAG
ITEM_BOM_ITEMTYPE_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/BOM_OBJ_TYPE/BOM_ITEM_TYPE
ITEM_CONSIGNMENT_ITEM_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/GPLANNING_OBJ_TYPE/CONSIGNED_FLAG
ITEM_CONTRACT_TYPE_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/ASSET_OBJ_TYPE/CONTRACT_ITEM_TYPE_CODE
ITEM_CREATE_FIXED_ASSET_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/SERVICE_OBJ_TYPE/ASSET_CREATION_CODE
ITEM_DUAL_UOM_TRACKING_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/MAIN_OBJ_TYPE/TRACKING_QUANTITY_IND
	Used for Oracle EBS Item attribute - ITEM_OBJ/BOM_OBJ_TYPE/EFFECTIVITY_CONTRO

ITEM_EFFECTIVITY_CONTROL_CODE	L
ITEM_INDICATOR	YES/NO DVM used for multiple Item attributes - ITEM_OBJ/INVENTORY_OBJ_TYPE/SERIAL_STATUS_ENABLED, ITEM_OBJ/INVENTORY_OBJ_TYPE/LOT_STATUS_ENABLED, ITEM_OBJ/INVENTORY_OBJ_TYPE/CYCLE_COUNT_ENABLED_FLAG, ITEM_OBJ/INVENTORY_OBJ_TYPE/LOT_MERGE_ENABLED, ITEM_OBJ/INVENTORY_OBJ_TYPE/LOT_SPLIT_ENABLED, ITEM_OBJ/INVENTORY_OBJ_TYPE/STOCK_ENABLED_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/INSPECTION_REQUIRED_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/PURCHASING_ENABLED_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/RECEIPT_REQUIRED_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/RFQ_REQUIRED_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/TAXABLE_FLAG, ITEM_OBJ/PURCHASING_OBJ_TYPE/MUST_USE_APPROVED_VENDOR_FL, ITEM_OBJ/RECEIVING_OBJ_TYPE/ALLOW_SUBSTITUTE_RECEIPTS_F, ITEM_OBJ/RECEIVING_OBJ_TYPE/ALLOW_UNORDERED_RECEIPTS_FL, ITEM_OBJ/BOM_OBJ_TYPE/BOM_ENABLED_FLAG, ITEM_OBJ/BOM_OBJ_TYPE/ENG_ITEM_FLAG, ITEM_OBJ/COSTING_OBJ_TYPE/COSTING_ENABLED_FLAG, ITEM_OBJ/COSTING_OBJ_TYPE/INVENTORY_ASSET_FLAG, ITEM_OBJ/ORDER_OBJ_TYPE/CUSTOMER_ORDER_FLAG, ITEM_OBJ/ORDER_OBJ_TYPE/RETURNABLE_FLAG, ITEM_OBJ/ORDER_OBJ_TYPE/ REPLENISH_TO_ORDER_FLAG, ITEM_OBJ/ORDER_OBJ_TYPE/ PICK_COMPONENTS_FLAG,
ITEM_INVENTORY_PLANNING_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/GPLANNING_OBJ_TYPE/INVENTORY_PLANNING_CODE

ITEM_LOTEXPIRATION_ON_RECEIPT_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/INVENTORY_OBJ_TYPE/LOT_CONTROL_CODE
ITEM_MAKEORBUY_CODE	Used for Oracle EBS Item attribute – ITEM_OBJ/ GPLANNING_OBJ_TYPE / PLANNING_MAKE_BUY_CODE
ITEM_PRIMARYCLASSIFICATIONCODE	Used for Oracle EBS Item attribute - ITEM_OBJ/ MAIN_OBJ_TYPE / ITEM_CATALOG_GROUP_CODE
ITEM_RECEIVING_ROUTING_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/ RECEIVING_OBJ_TYPE / RECEIVING_ROUTING_ID
ITEM_REPLENISHMENT_SOURCE_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/ GPLANNING_OBJ_TYPE / SOURCE_TYPE
ITEM_RESERVATION_ALLOWED_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/ INVENTORY_OBJ_TYPE / RESERVABLE_TYPE
ITEM_SERIALIZATION_EVENT_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/INVENTORY_OBJ_TYPE/ SERIAL_NUMBER_CONTROL_CODE
ITEM_SERVICE_REQUEST_ENABLED_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/ ASSET_OBJ_TYPE / SERV_REQ_ENABLED_CODE
ITEM_STATUS_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/ MAIN_OBJ_TYPE / INVENTORY_ITEM_STATUS_CODE
ITEM_TRACK_INSTANCE_INDICATOR	Used for Oracle EBS Item attribute - ITEM_OBJ/ SERVICE_OBJ_TYPE / COMMS_NL_TRACKABLE_FLAG
ITEM_UOM_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/ PHYSICAL_OBJ_TYPE / WEIGHT_UOM_CODE ITEM_OBJ/ PHYSICAL_OBJ_TYPE / VOLUME_UOM_CODE ITEM_OBJ/ PHYSICAL_OBJ_TYPE / DIMENSION_UOM_CODE
ITEM_UOM_CONVERSION_USAGE_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/ MAIN_OBJ_TYPE / ALLOWED_UNITS_LOOKUP_CODE
ITEM_WIP_SUPPLY_CODE	Used for Oracle EBS Item attribute - ITEM_OBJ/ WIP_OBJ_TYPE / WIP_SUPPLY_TYPE E

Application Interfaces

Application Interfaces are the Web Services and APIs that communicate and transact between Application and Integration Layers.

Agile PLM Interfaces

WSDL

SyncItemAgileReqABCS, SyncItemAgileReqABCSImpl	
ItemABS.wsdl	Used to create an item in Oracle EBS
UpdateItemBalanceListAgileProvABCSImpl	
ItemABS.wsdl	
UpdateEngineeringChangeOrderAgileReqABCSImpl	
ChangeABS.wsdl ChangeMerge.wsdl	
UpdateItemListAgileProvABCSImpl	
ItemABS.wsdl	Used to update an Item in Oracle EBS
ProcessEngineeringChangeOrderAgileReqABCS	
ChangeABS.wsdl	Used to create an EngineeringChangeOrder in Oracle EBS
ValidateEngineeringChangeOrderAgileReqABCS	
ChangeABS.wsdl	Used to validate an EngineeringChangeOrder in Oracle EBS
SyncBillOfMaterialsConfigurationListAgileProvABCSImpl	
ConfiguratorTerminationService.wsdl	Used as the AIA WSDL for Agile VM ConfiguratorTerminationService
SyncBillOfMaterialsConfigurationListAgileProvABCSImplExtensionConcreteWSDL.wsdl	Used to service SyncBillOfMaterialsConfigurationListAgileProvABCSImpl
GetConfiguratorURLAgileReqABCSImpl	
GetConfiguratorURLAgileReqABCSImplExtensionConcreteWSDL.wsdl	Used to service GetConfiguratorURLAgileReqABCSImpl
GetConfiguratorURLAgileReqABCSImpl.wsdl	Used to service GetConfiguratorURLAgileReqABCSImpl

XSD

SyncItemAgileReqABCS, SyncItemAgileReqABCSImpl	
ItemABM.xsd ItemABO.xsd	Contains the Item Request and Response ABM/ABO
UpdateItemListAgileProvABCSImpl	
ItemABM.xsd ItemABO.xsd	Contains the Update Item List Request and Response ABO/ABM
CreateEngineeringChangeOrderAgileReqABCS	
EngineeringChangeOrderABM.xsd EngineeringChangeOrderABO.xsd	Contains CreateEngineeringChangeOrderListABM and CreateEngineeringChangeOrderListResponseABM and corresponding ABOs.
ValidateEngineeringChangeOrderAgileReqABCS	
EngineeringChangeOrderABM.xsd EngineeringChangeOrderABO.xsd	Contains ValidateEngineeringChangeOrderListABM and ValidateEngineeringChangeOrderListResponseABM
SyncBillOfMaterialsConfigurationListAgileProvABCSImpl	
ConfiguratorABM.xsd	Contains the ABM definitions for Agile VM
ConfiguratorABO.xsd	Contains the ABO definitions for Agile VM
ConfiguratorTerminationServiceTypes.xsd	Contains the local copy of the type definition for the Agile VM ConfiguratorTerminationService
GetConfiguratorURLAgileReqABCSImpl	
ConfiguratorABM.xsd	Contains the ABM definitions for Agile VM
ConfiguratorABO.xsd	Contains the ABO definitions for Agile VM

Oracle EBS Interfaces

WSDL

SyncItemListEbizProvABCSImpl	
ItemServiceRouter.wsdl	Used for the OA Adapter "INV_EBI_ITEM_PUB.process_item" pl/sql function call.
UpdateItemBalanceListEbizReqABCSImpl	
ItemBalanceRouter.wsdl	Used for the OA adapter "INV_EBI_ITEM_PUB.GET_ITEM_BALANCE" pl/sql function call.

UpdateItemListEbizReqABCSImpl	
GetItemAttributesRouter.wsdl	Used for the OA adapter "INV_EBI_ITEM_PUB.GET_ITEM_ATTRIBUTES" pl/sql function call.
UpdateEngineeringChangeOrderListEbizReqABCSImpl	
GetEngineeringChangeOrderServiceRouter.wsdl	Used for the OA adapter "INV_EBI_CHANGE_ORDER_PUB.GET_ECO_LIST_ATTR" pl/sql function call.
CreateEngineeringChangeOrderListEbizProvABCSImpl	
ECOServiceRouter.wsdl	Used for the OA adapter INV_EBI_CHANGE_ORDER_PUB/PROCESS_CHANGE_ORDER_LIST pl/sql function call.
ValidateEngineeringChangeOrderListEbizProvABCSImpl	
ValidateEngineeringChangeOrderService.wsdl	Used for the OA adapter INV_EBI_CHANGE_ORDER_PUB/VALIDATE_CHANGE_ORDER_LIST PL/SQL function call.

XSD

SyncItemEbizProvABCSImpl	
APPS_INV_EBI_ITEM_PUB_PROCESS_ITEM.xsd	Contains the CreateItem Request and Response ABM
ItemAttributeABM.xsd	Contains the GenerateItemNumber User Exit Output Type
UpdateItemBalanceListEbizReqABCSImpl	
ItemBalanceABM.xsd	ABM for ItemBalanceABO
ItemBalanceABO.xsd	Contains structure of UpdateItemBalanceListABM and UpdateItemBalanceListResponseABM details. Created based on the input from the CP and output to the CP for UpdateItemBalance flow
APPS_INV_EBI_ITEM_PUB_GET_ITEM_BALANCE.xsd	Defines the input and output ABM of the PL/SQL API call. The package used is INV_EBI_ITEM_PUB.GET_ITEM_BALANCE
CommonEbizComponents.xsd	Defines common ResponseType element
UpdateItemListEbizReqABCSImpl	
ItemAttributeABM.xsd	ABM for ItemAttributeABO

ItemAttributeABO.xsd	Created based on the input from the Concurrent Program to BPEL process and output to the Concurrent Program from BPEL process
APPS_INV_EBI_ITEM_PUB_GET_ITEM_ATTRIBUTES.xsd	The input and output ABM for the PL/SQL API call are defined in this XSD. Package is INV_EBI_ITEM_PUB.GET_ITEM_ATTRIBUTES
UpdateEngineeringChangeOrderListEbizReqABCSImpl	
EngineeringChangeOrderABM.xsd	ABM for EngineeringChangeOrderABO
EngineeringChangeOrderABO.xsd	Created based on the input from the Concurrent Program to BPEL process and output to the Concurrent Program from BPEL process
APPS_INV_EBI_CHANGE_ORDER_PUB_GET_ECO_LIST_ATTR.xsd	Used for input/output ABM of INV_EBI_CHANGE_ORDER_PUB.GET_ECO_LIST_ATTR API call
CreateEngineeringChangeOrderListEbizProvABCSImpl	
APPS_INV_EBI_CHANGE_ORDER_PUB_PROCESS_CHANGE_ORDER_LIST.xsd	Used for input/output ABM of INV_EBI_CHANGE_ORDER_PUB/PROCESS_CHANGE_ORDER_LIST API call
ValidateEngineeringChangeOrderListEbizProvABCSImpl	
APPS_INV_EBI_CHANGE_ORDER_PUB_VALIDATE_CHANGE_ORDER_LIST.xsd	Defines the input and output ABM of the PL/SQL API call. The package used is INV_EBI_CHANGE_ORDER _PUB/ VALIDATE_CHANGE_ORDER_LIST API call.

Handling Errors

Based on the roles that are defined for the services, e-mail notifications are sent if an error occurs. The roles can be assigned at various levels in a hierarchy (service, process, domain) so that when a service errors out, the Error Handling Framework uses the role value to derive the users who has to be notified. The Error Handling Framework then notifies the users through their preferred notification method, puts the error in the user's Oracle Worklist, and puts the error in the error log.

- Role: Actor role associated with the error notification. Actor roles receive notifications for and are assigned to error scenarios occurring in Oracle AIA integration flows.

  The task is editable in the Error Console and is meant to be worked on and resolved by the actor assigned to the task.
- FYI Role: FYI role associated with the error notification. This role receives for-your-information (FYI) notifications for error scenarios occurring in Oracle AIA integration flows. An example of an FYI role is a customer service representative. The task is displayed in read-only view in the

Error Console.

The roles specified for the 'Role' and 'FYI Role' parameters should be defined and associated with users in the system-jazn-data.xml file, located at *$ORACLE_HOME/j2ee/oc4j_soa/config*. The details of mail IDs of the users is taken from the user-properties.xml file, located at *$ORACLE_HOME/bpel/system/services/config*.

For more information about the errors thrown by the applications - Agile PLM and Oracle E-Business Suite, see their product documentation.

Configuring AIA Error Notifications

The steps that you must follow to configure the Error Notifications are as follows:

1. Identify the Users to be configured and their Respective roles to be assigned.
2. Configure the user properties file with the user objects and the group objects.
3. Configure the ns-emails.xml file with the required details. The location of ns-emails.xml file is *$ORACLE_HOME/bpel/system/services/config.*
4. Configure the BSR with the notifications in the *AIA Console* at http://<HOST>:<PORT>/AIA/. Log on with oc4jadmin credentials.

To configure Users and Roles:

1. Go to $ORACLE_HOME/j2ee/oc4j_soa/config/.

In the system-jazn-data.xml file add a new user under the users using the following template:

```
<user>
     <name>UserName</name>
     <credentials>!password</credentials>
</user>
```

Example:

```
<user>
     <name>AGILE_INTEGRATION_EBIZ</name>
     <credentials>!welcome1</credentials>
</user>
```

2. Add a Role to the user under the roles tab using the following template:

```
<role>
     <name>RoleToDefine</name>
     <members>
          <member>
               typeuser</type>
               <name>UserName</name>
          </member>
      </members>
</role>
```

Example:

EBIZ_TO_AGILE is the role assigned to user AGILE_INTEGRATION_EBIZ

```
<role>
     <name>EBIZ_To_AGILE</name>
     <members>
          <member>
               typeuser</type>
              <name>AGILE_INTEGRATION_EBIZ</name>
           </member>
     </members>
</role>
```

To configure User Properties:

1. Go to $ORACLE_HOME/bpel/system/services/config/

In /users-properties.xml file, add a new userObject under the userObject using the following template:

```
<userObject >
  <name>UserName</name>
  <description>Description</description>
  <email>UserMailId</email>
  Product CollaborationProduct CollaborationTitle</title>
  <firstName>UserFirstName</firstName>
  <lastName />
  <timeZone>America/Los_Angeles</timeZone>
  <languagePreference>en-US</languagePreference>
  <notificationPreferences>Mail</notificationPreferences>
</userObject>
```

Similarly, add the group object by using the following template:

```
<groupObject >
  <name>UserName</name>
  <email>MailId</email>
  <owners>OwnerName</owners>
</groupObject>
```

Example:

```
<userObject >
  <name>AGILE_INTEGRATION_EBIZ</name>
  <description>AGILE_INTEGRATION_EBIZ User</description>
  <email>testuser@oracle.com</email>
  Product CollaborationProduct
CollaborationAGILE_INTEGRATION_AGILE</title>
  <firstName>EBIZ_To_AGILE</firstName>
  <lastName />
  <timeZone>America/Los_Angeles</timeZone>
  <languagePreference>en-US</languagePreference>
  <notificationPreferences>Mail</notificationPreferences>
</userObject>
<groupObject >
```

```
    <name>AGILE_INTEGRATION_EBIZ</name>
    <email>testuser@oracle.com</email>
    <owners>AGILE_INTEGRATION_EBIZ</owners>
  </groupObject>
```

Note. Ensure that the User Object and Group Object are declared before the closing of </principalObjects> tag in the User-properties.xml file.

To configure ns-emails.xml:

1. Go to $ORACLE_HOME/bpel/system/services/config/.
2. In the ns_emails.xml file, set the NotificationMode="EMAIL".
3. Configure from name and from Email properties.
4. Set the SMTP Host name and port details for the outgoing mail settings.

To configure BSR:

The BSR provides a UI for managing mappings between actor and FYI roles and their participating applications for use during AIA error notifications. The error notifications you define on the Error Notifications page are stored in the BSR_ERROR_NOTIFICATIONS table.

Log on to the AIA Console and visit Setup.Error Notifications Tab to see the page for configuring the Error Notifications.

The fields should be filled with the following details.

Error Code	Enter the error code associated with the error notification you are searching for. Basically, this can be set to any logical name in this release.
System Code	Select the system code associated with the error notification you are searching for. This is the system code of the participating application which should be configured using the System tab under Setup in BSR.
Process Name	Enter the BPEL process name associated with the error notification you are searching for.
Service Name	Enter the service name associated with the error notification you are searching for. This is the business process in which the service is participating. Basically, this can be the same as the BPEL process name.
Role	Select the actor role associated with the error notification you are searching for. Specify an actor role that you want to receive notification with this error. This is the role that will be responsible for taking action to correct the error that generated the notification.
FYI Role	Select the FYI role associated with the error notification you are searching for. This is the role that will be notified of the error, but will not be responsible for taking any actions to correct the error that generated the notification.
Search	Click to execute a search for error notifications based on your search criteria. For a given process, if no entry is found in the BSR_ERROR_NOTIFICATIONS table, the default roles specified in AIAConfigurationProperties.xml are used. Therefore, you are not

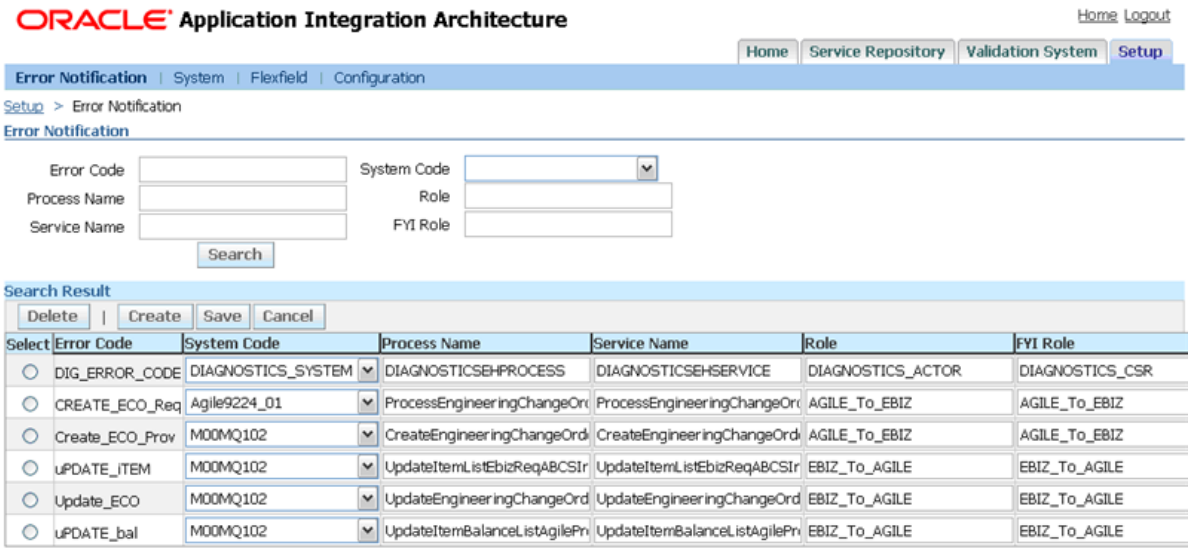
	required to populate the BSR_ERROR_NOTIFICATIONS table unless there is an explicit need.
Delete	Select radio button for the error notification row that you want to delete and then click the Delete button to execute the deletion.
Create	Click to add a row to the Search Result grid, where you can enter details for a new error notification.
Save	Click to save all entries and updates to the page.
Undo	Click to undo all updates made to the page after the last save.

Logic Used to Determine Notification Roles for an Error

The Error Handling Framework uses runtime values and the data that you enter on this page to execute the following hierarchical logic to determine the appropriate notification roles for an error:

- If all four runtime values (SYSTEM_CODE, ERROR_CODE, SERVICE_NAME, and PROCESS_NAME) are available and they map to an error notification entry in this table, use the specified notification roles.
- If the ERROR_CODE, SERVICE_NAME, and PROCESS_NAME are available and map to an error notification entry in this table, use the specified notification roles.
- If the SERVICE_NAME and PROCESS_NAME are available and map to an error notification entry in this table, use the specified notification roles.
- If the SERVICE_NAME is available and maps to an error notification entry in this table, use the specified notification roles.

- If none of these values are available, the default values are fetched from the AIAConfigurationProperties.xml file.



Worklist Application

The Oracle Worklist application is used to provide an Error Console for the Oracle Application Integration Architecture (AIA). The Error Console application is a user interface (UI) that Actor roles, such as integration administrators, and FYI roles can use to access details about Oracle AIA ecosystem service errors that have been assigned to them. Based on their roles, users will be able to interact with the following types of tasks in the Error Console:

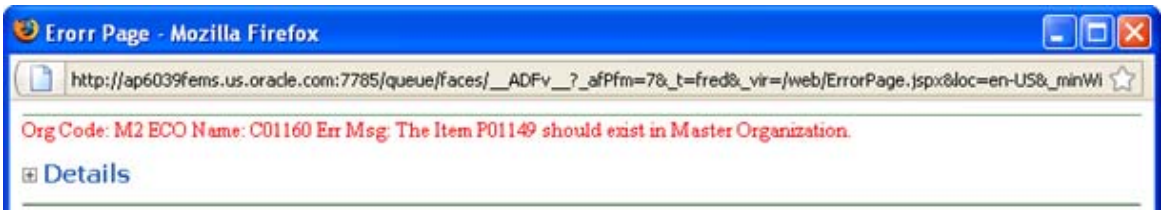
Log on to the worklist by using the UserName and Password That You configured in the system-jazn-data.xml to see the worklists in the below URL.
`http://<hostname>:<port>/integration/worklistapp/Login`

Example: Log on the with user name 'AGILE_INTEGRATION_EBIZ' and password 'welcome1' in the worklist application to view the error notifications assigned to this user.

Error Handling in PIP Queue Manager

Any failure in the processing of a Change Order is captured by the Queue Manager. This Errored process can be identified in the Queue Monitor, symbolized by , as shown in the following sample image:

To see the reason for error, click the link Errored in the Process Status column. It pops-up an *Error Message* window, similar to the following sample message:



This Error Message consists of two parts:

1. Error Text - This is the description of the Error Source, which can be from any of the participating ABCS services that faulted.
2. Details - The Error Details consist of:
   - Service Name - The name of the service where an Instance failed to process.
   - Instance ID - The identification number of the Instance that failed.

Multiple faults generated by the service are captured and displayed in this UI. In addition to this, any failures in the flows would be captured in the AIA's Error Logs. These can be seen from Enterprise Manager Console logs section.

In an event when a certain service is down and the error is not related to the payload, users may resubmit the change in the Queue Manager UI.

Viewing EBO Implementation Maps (EIMs)

For more information about how services are mapped, see the document: EBO Implementation Maps (EIMs) 881022.1 at My Oracle Support (http://metalink.oracle.com).

Chapter 11: Customizations

This chapter discusses:

- Customizing the Transformations
- User Exits

The Integration provides two approaches of customizations:

- Customizing the Transformations - This approach allows to modify and add the mappings between the attributes of the participating applications.
- User Exits - These Predefined extension points provided in the OOTB BPEL flow. You can plug-in your own logic at these exit points to validate, enrich and transform data.

Customizing the Transformations

There may be a need for Out-of-the-Box and User-Defined attributes mapping between applications, which are not covered as part of standard transformations. Considering this, the transformation files, that is, the XSLs, have been externalized to facilitate the implementers to carry out the following:

- Modify the Out-of-the-Box transformations.
- Add new mappings for the Agile attributes to EBM attributes. These Agile attributes could either be the ones that are not mapped out-of-the-box including any of the flex-fields.

The transformations support the following requirements:

- In the integration flow, there are multiple transformations involving multiple ABO/Ms and EBO/Ms.
- The transformations support the flex field mappings
- In this mechanism of transformations, where customer can provide XSLs for complex transformations that are not part of standard transformations. It is required to support the transformations for user-defined EBO extensions (ex. Custom tags) and in places where customer want to override the standard transformation logic.

Transformation Rules

- For a transformation from ABM into EBM, all the flex-fields (interchangeably user-defined attribute/UDA/Flex attribute) go under *SpecificationGroup* element under the main EBM element with a matching type like ValueText (for text values), ValueNumeric (for numeric

values) etc carrying the values.

- For the transformations from EBM into ABM depending on the identification element of Specification and SpecificationGroup pull processing is done to populate the UDAs.
- For Classification elements, such as ItemClassification etc, the field values are translated by using a configuration, into EBM and vice-versa. The configuration states are <<Name in Agile>> <<Name on EBO>> <<Name on Oracle Manufacturing>>. For rest of the classification elements like part type, product family etc fields need to be packed/ unpacked on/from the XXCatalog element on the EBM.

Customization in Agile

The XSL transformations in Agile PLM Integration are externalized, that is, these are hosted on implementation server under

```
$ORACLE_HOME/Apache/Apache/htdocs/AIAComponents/Transformations/Agile/
Release1/<ABCSname>
```

Note: Refer Customization Points of each Process in their chapters.

The implementers modify the XSLs based on the customization points against each process to modify, include new mappings for the Agile attributes to the EBM elements. The whole behavior of the OOTB mappings can be enhanced by using this approach.

Warning: Server has to be restarted to bring the changes into effect.

A few sample customizations have been provide at <AIA_HOME>\PIPS\Core\Agile\Samples. A sample customization of ECO attributes is given below.

Sample Customizations

User-defined ECO - in Sites Tab under Items

Mapping

Agile	EBM	Oracle EBS
Item.Site:List01	corecomEBO:RevisedItem/corecomEBO:BaseUOMCode	Primary UOM Code
Item:Site:List06	corecomEBO:RevisedItem/corecomEBO:ItemManufacturingCharacteristics /corecomEBO:StructureAllowedIndicator	BOM Allowed Flag
Item:Site:List05	corecomEBO:RevisedItem/corecomEBO:ItemManufacturingCharacteristics /corecomEBO:EngineeringItemIndicator	Engineering Item Flag

Custom Code

Location:

Templates:

```
createEngineeringChangeOrderLines_With_SiteData
createEngineeringChangeOrderLines_With_OrgData
createEngineeringChangeOrderLines_With_DefaultMasterOrgData
```

Landmark:

Code Snippet: Code snippet is given only for "BOM Allowed" , "Engineering Item" flags

```
<xsl:if test="./changeABO:AffectedItem/changeABO:Site[itemABO:SiteName
= $varSiteID]/itemABO:List04">
<corecomEBO:StructureAllowedIndicator><xsl:value-of
select="./changeABO:AffectedItem/changeABO:Site[itemABO:SiteName =
   $varSiteID]/itemABO:List04"/></corecomEBO:StructureAllowedIndicator
>
</xsl:if>

<xsl:if test="./changeABO:AffectedItem/changeABO:Site[itemABO:SiteName
= $varSiteID]/itemABO:List05">
<corecomEBO:EngineeringItemIndicator><xsl:value-of
   select="./changeABO:AffectedItem/changeABO:Site[itemABO:SiteName =

   $varSiteID]/itemABO:List05"/></corecomEBO:EngineeringItemIndicator>
</xsl:if>
```

Customizations in Oracle EBS

To Customize a Mapping File

1. Pickup the <flow>_Custom XSL file from

   ```
   $ORACLE_HOME/Apache/Apache/htdocs/AIAComponents/Transformations/<flow_
   name>/
   ```

   where <flow> is the process name, such as ECO_CHANGE_ORDER_TYPE

   a. If only flex-field transformation has to be modified then the custom targets can be modified to include the new mappings.

   For example, ECO_CHANGE_ORDER_TYPE_Custom in Create ECO flow for the change order flex attributes.

   b. The user need not set the custom transformations property in this case as the targets are already included in the base transformation file.

   - If the whole mapping has to be modified, copy the base mappings into the custom target (for example, Custom in Create ECO flow) in the custom file and modify the required mappings.
   - After modifying the file the user has to set the Custom Transformations property in the AIA

Configurations file and reload the configurations from the AIA console.

2. After carrying out either step 2 or 3, the server has to be re-started for the new transformations to load into the JVM.
3. The changes transformations will now take effect.

Templates in the Custom Files

1. CreateEngineeringChangeOrderListEbmToAbm: The following templates are used in the custom transformation files that are used to map the flex field attributes.
   - ECO_CHANGE_ORDER_TYPE_Custom
   - ECO_REVISED_ITEM_TYPE_ITEM_Custom
   - REFERENCE_DESIGNATOR_TBL_Custom
   - COMPONENT_ITEM_TBL_Custom
   - SUBSTITUTE_COMPONENT_TBL_ITEM_Custom
   - STRUCTURE_HEADER_Custom

   The Custom template is used for modifying the whole mapping.
2. ItemEbmToAbm: The template CUSTOM_OBJ_TYPE_Custom is used to map the flex field attributes.

   The template "Custom" is used to replace the entire mapping.
3. UpdateItemListABMToEBM: The template ItemSpecificationGroup_Custom is used the map the flex field to the specification group in the EBM. The "UpdateItemListABMToEBMCustom" template is used to replace the entire file.
4. ItemBalanceAbmToEbm: Since no flex-field is involved here only one template "CustomABMToEBM" for the entire mapping customization is provided.
5. Mapping of Flex Attribute1 in CreateEngineeringChangeOrderListEbmToAbm_Custom.xsl

Note. Since the templates are directly included inside the objects only the specific attributes being mapped should be put in the custom xsl and not the entire hierarchy.

Replacing the Entire Mapping

The template *UpdateItemListABMToEBMCustom* is used for entire ABM to EBM transformation.

a. Change the Property in AIA Configurations file.

Note:
1. File Path: <AIA_HOME>/config/AIAConfigurationProperties.xml
2. Not needed when only the flex field mapping is done.
3. The use of custom transformation property is as per integration flow and has to be set accordingly.

b. Reload the AIA Configurations file.

c. Restart the server.

Note: The URL is of Enterprise Manager Console.

User Exits

Extensibility Points

Requester Flows

Just prior to:

- Execution of transformation of ABM to EBM.
- Invocation of Enterprise Business Service.
- Execution of transformation of EBM to ABM.
- Invocation of callback service or response return.

Provider Flow

Just prior to:

- Execution of transformation of EBM to ABM.
- Invocation of Application Service.
- Execution of transformation of ABM to EBM.
- Invocation of callback EBS or return of response message.

Development Steps for User Exits

1. Identify which out-of-box flow is to be extended.

2. Identify the suitable exit point in the Flow.
3. Develop the Flow
4. Configure the Out-of-box flow to include the newly developed flow
5. Test the developed flow

Appendix A: National Language Support in Agile – Oracle EBS PIP

National Language Support has been implemented in the PIP for Agile to Oracle EBS Integration.

Requester Flows

1. In all the requester flows the Language Code is handled from the Concurrent Program.
2. Configure the profile option called *EBS Integration Language Codes* with the installed languages in Oracle EBS using comma-separated values. For example, US, KO.

Note: In AIA Release 2.4 PIP, only one language in the Oracle EBS Integration profile option for reverse flow. This is because in Agile, the filtering and routing is carried out based on the language code in the EBS layer. Agile does not send any response to Oracle EBS Integration Requester ABCS for the language that is not equal to the one configured at Agile side.

3. In AIA Release 2.3 PIP, the value of the Apps User is set from the Configuration file. However, from AIA Release 2.4 PIP onwards, a new DVM *EBIZ_AGILE_APPS_USER*, with the columns LANG_CODE and USER_NAME, is used. The value of the Apps User is set based on the language code returned by the concurrent program.

   Before you send the EBM to Agile, the Language code is converted to the common value, which is configured from the DVM *LANGUAGE_CODE*. The default integration user is picked from the AIA configuration file. In the module level Oracle EBS there is a property named USER from where the default user is picked.

Note: Have to make sure that the values are configured for the DVM's LANGUAGE_CODE and EBIZ_AGILE_APPS_USER before the flows are triggered.

4. For the Update Engineering Change Order, there are two ways the Requester ABCS is invoked. One is through the concurrent program and the other is through the inbound adapter Events, called the Business Events.

   In AIA Release 2.3 PIP, a change in ECO status returns the SID and the Change ID as an input to the Requester ABCS. However, from AIA Release 2.4 PIP onwards, another field called Language_Code has been added to input parameters in the transformations, which has a default value as US. If you want to update this for Multi Languages, you are required to execute the Publish Engineering Change Order concurrent program.

Provider Flows

In the AIA Release 2.3 PIP, the default language code in Agile is set to en-US. This code value is sent over to the provider ABCS in Oracle EBS without any conversion. However, from AIA Release 2.4 PIP onwards, this language code from Agile PLM is converted to an Oracle EBS system value using the LANGUAGE_CODE DVM.

This language code value is then used for setting up the APPS user in the *EBIZ_AGILE_APPS_USER* DVM. If the Language Code does not exist in this DVM, the default user is set from the AIA configuration file.

Notes: The steps given are specific to NLS. Carry out all the prerequisite configuration steps before testing the flows.

EBS Integration Language Codes is a prerequisite field to be configured with value with the appropriate Language Code. Also, in AIA Release 2.4 PIP, the language code configured in Agile should be configured in EBS exactly. That is, if Agile is configured with Korean (KO) then the EBS Integration Language Codes should be configured with KO as Agile would only accept the Korean data.

Configure ECO_STATUS_CODE and ITEM_STATUS_CODE with the corresponding Language values in the Agile PLM column (the column name 'Common').

Appendix B: Functionalities Available

The following functionalities are available across different versions of Agile PLM and Oracle EBS application combination deployments.

Features and Agile PLM + Oracle EBS Versions	Agile 9226 + EBS 11.5.10	Agile 9226 + EBS 12.1.1	Agile 93 + EBS 11.5.10	Agile 93 withou VM + EBS 12.1.1	Agile 9226 + EBS 12.1.1 with PIM	Agile 93 without VM + EBS 12.1.1 wiht PIM	Agile 93 with VM + EBS 12.1.1 with PIM	Agile 93 with VM + EBS 12.1.1
NPR (Action PX)	N	N (Deployed - shared with SyncItem)	N	N (Deployed - shared with SyncItem)	Y	Y	Y	N (Deployed - shared with SyncItem)
NPR (Auto Number PX)	N	N (Deployed - shared with SyncItem)	N	N (Deployed - shared with SyncItem)	Y	Y	Y	N (Deployed - shared with SyncItem)
PREL(ECO Forward Flow From Agile to EBS)	Y	Y	Y	Y	Y	Y	Y	Y
ECO Update Flow (From EBS to Agile)	Y	Y	Y	Y	Y	Y	Y	Y
Item Balance Update Flow (From EBS to Agile)	Y	Y	Y	Y	Y	Y	Y	Y
Item Operational Attribute Update Flow (From EBS to Agile)	Y	Y	Y	Y	Y	Y	Y	Y

Features and Agile PLM + Oracle EBS Versions	Agile 9226 + EBS 11.5.10	Agile 9226 + EBS 12.1.1	Agile 93 + EBS 11.5.10	Agile 93 withou VM + EBS 12.1.1	Agile 9226 + EBS 12.1.1 with PIM	Agile 93 without VM + EBS 12.1.1 wiht PIM	Agile 93 with VM + EBS 12.1.1 with PIM	Agile 93 with VM + EBS 12.1.1
Queue Functionality (AQ (Database Persistent))	Y	Y	Y	Y	Y	Y	Y	Y
Sync Item	N	Y	N	Y	Y	Y	Y	Y
VM Configurator Integration	N	N	N	N	N	N	Y	Y
Prerelease Audit	N	Y	N	Y	Y	Y	Y	Y

Appendix C: Agile to Oracle EBS Entity Maps

Bill of Materials Mappings

Agile Entity: Attribute	Bill of Materials EBO	Oracle EBS Entity: Attribute	Comments
Part/Document. Title Block.Number	ItemReference/Identification/ID	Structure: Primary: Item Number	
Site	ItemReference/Identification/ ContextID (schemeID: OrganizationCode)	Structure: Context Organization Code	
	ItemReference/Identification/ Revision/Code	Structure: Primary: Item Revision Code	
	TypeCode	Structure: Primary: Engineering Flag	AIA EBO Team bug 6709708
	Name	Structure: Primary: Structure Name	
	AttributeOverrideAllowedIndicator	Structure: Primary: Enable for Attribute Update	For Common Bill
	ImplementationDate	Structure: Primary: Implementation date	
	EffectivityControlCode	Structure: Primary: Effectivity Control	
	PrimaryIndicator	Structure: Primary: Structure Name - Primary	Indicates if it is Primary BOM/Structure.
BOM Notes	Note/Content	Structure: Primary: Description	
	Note/LanguageCode		
Change Order	EngineeringChangeOrderRefer	Structure: Primary:	Change Notice

Agile Entity: Attribute	Bill of Materials EBO	Oracle EBS Entity: Attribute	Comments
	ence/ EngineeringChangeOrderIdentification/ ID	Change Order Number	
Site	EngineeringChangeOrderReference/ EngineeringChangeOrderIdentification/ ContextID (schemeID: OrganizationCode)	Structure: Primary: Change Order Organization Code	
Part/Document. Title Block.Number	CommonBillOfMaterialsReference/ ItemIdentification/ID	Structure: Primary: Common Bill Item Number	For Common BOM in Agile
Site	CommonBillOfMaterialsReference/ ItemIdentification/ContextID (schemeID: OrganizationCode)	Structure: Primary: Common Bill Item Organization Code	For Common BOM in Agile
	OriginalBillOfMaterialsReference/ ItemIdentification/ID	Structure: Primary: Copy Bill Item Number	
	OriginalBillOfMaterialsReference/ ItemIdentification/ContextID (schemeID: OrganizationCode)	Structure: Primary: Copy Bill Item Organization Code	
Part/Document.BOM.Find Number	ComponentItem/Identification/ID (SchemeID: ComponentItemSequence)	Component: Primary: Component Item Sequence	
	ComponentItem/Identification/ContextID (SchemeID: ComponentOperationSequence)	Component: Primary: Component Operation Sequence	
	ComponentItem/Identification/ContextID (SchemeID: ComponentNewOperationSequence)	Component: Primary: Component New Operation Sequence	For Change Order Processing

Agile Entity: Attribute	Bill of Materials EBO	Oracle EBS Entity: Attribute	Comments
Part/Document. Title Block.Number	ComponentItem/ItemReference Identification/ID	Component: Primary: Item Number	
Site	ComponentItem/ItemReference Identification/ ContextID (schemeID: OrganizationCode)	Component: Context Organization Code	
	ComponentItem/StorageUnitCode	Component: Primary: Basis	
Qty	ComponentItem/Quantity	Component: Primary: Quantity	
	ComponentItem/BasisQuantity	Component: Primary: Sales Order Basis	
	ComponentItem/MinimumQuantity	Component: Primary: Minimum Quantity	
	ComponentItem/MaximumQuantity	Component: Primary: Maximum Quantity	
	ComponentItem/YieldFactor	Component: Primary: Yield	
Item Notes	ComponentItem/Comment (languageCode)	Component: Primary: Comment	
	ComponentItem/ PlanningQuantityMultiplier	Component: Primary: Planning	
	ComponentItem/OptionalIndicator	Component: Primary: Optional	
	ComponentItem/ModelPlanLevelCode	Component: Primary: Plan Level Code	
	ComponentItem/ OptionalOnModelIndicator	Component: Primary: Optional On Model Indicator	
	ComponentItem/ MutuallyExclusiveOptionIndicator	Component: Primary: Mutually Exclusive	

Agile Entity: Attribute	Bill of Materials EBO	Oracle EBS Entity: Attribute	Comments
	ComponentItem/CostRollupInclusionIndicator	Component: Primary: Include in Cost Rollup	
	ComponentItem/ATPCheckRequiredIndicator	Component: Primary: Check ATP	
	ComponentItem/ShippingAllowedIndicator	Component: Primary: Shippable	
	ComponentItem/ ShippingDocumentVisibilityIndicator	Component: Primary: Include on ship Docs	
	ComponentItem/ChangeTypeCode	Component: Primary: Add/Modify/ Disable	
	ComponentItem/FractionAllowedIndicator	Component: Primary: Enforce Integer Quantity	
	ComponentItem/ AutoRequestIndicator	Component: Primary: Auto Request Material	
	ComponentItem/ OverrideAttributesComponentItemIdentifier	Component: Primary: Override Attributes	For Common Bill Components.
	ComponentItem/ RequiredToShipIndicator	Component: Primary: Required To Ship	
	ComponentItem/ RequiredForRevenueIndicator	Component: Primary: Required For Revenue	
Effective Date	ComponentItem/ EffectiveTimePeriod/ StartDateTime	Component: Primary: Date Effective From	
	ComponentItem/ EffectiveTimePeriod/ EndDateTime	Component: Primary: Date Effective To	
	ComponentItem/ EngineeringChangeOrderReference/ EngineeringChangeOrderIdenti	Component: Primary: Change Order Number	Change Notice

Agile Entity: Attribute	Bill of Materials EBO	Oracle EBS Entity: Attribute	Comments
	fication/ ID		
	ComponentItem/ EngineeringChangeOrderReference/ EngineeringChangeOrderIdentification/ ContextID (schemeID: OrganizationCode)	Component: Primary: Change Order Organization Code	
	ComponentItem/ InventoryLocationReference/ LocationIdentification/ID	Component: Primary: Supply Locator	
	ComponentItem/ InventoryLocationReference/ LocationIdentification/ ContextID	Component: Primary: Supply Locator Organization Code	
	ComponentItem/ ModelBillOfMaterialsComponentItemReference/ BillOfMaterialsComponentItemIdentification/ID	Component: Primary: Model Item Number	
	ComponentItem/ ModelBillOfMaterialsComponentItemReference/ BillOfMaterialsComponentItemIdentification/ ContextID (schemeID: OrganizationCode)	Component: Primary: Model Item Organization Code	
	ComponentItem/ ComponentItemSpecificationGroup/ SpecificationGroup/Name	BOM/Structure Component Flex/User-Defined Attribute Group Name	
	ComponentItem/ ComponentItemSpecificationGroup/	BOM/Structure Component Flex/User-Defined Attribute Name	

Agile Entity: Attribute	Bill of Materials EBO	Oracle EBS Entity: Attribute	Comments
	SpecificationGroup/ Specification/Name		
	ComponentItem/ ComponentItemSpecificationGroup/ SpecificationGroup/Specification/ ValueCode	BOM/Structure Component Flex/User-Defined Attribute Value	
	BillOfMaterialsSpecificationGroup / SpecificationGroup/Specification/ ValueText (languageCode)		
	ComponentItem/ ComponentItemSpecificationGroup/ SpecificationGroup/Specification/ ValueNumeric		
	ComponentItem/ ComponentItemSpecificationGroup/ SpecificationGroup/Specification/ ValueQuantity (unitCode)		
	ComponentItem/ ComponentItemSpecificationGroup/ SpecificationGroup/Specification/ ValueAmount (currencyCode)		

Agile Entity: Attribute	Bill of Materials EBO	Oracle EBS Entity: Attribute	Comments
	ComponentItem/ ComponentItemSpecificationGroup/ SpecificationGroup/Specification/ ValueDate		
	ComponentItem/ ComponentItemSpecificationGroup/ SpecificationGroup/Specification/ ValueDateTime		
	ComponentItem/SubstituteComponentItem/ ItemReference/Identification/ID	Substitute Component: Item Number	
	ComponentItem/SubstituteComponentItem/ ItemReference/Identification/ContextID (schemeID: OrganizationCode)	Substitute Component: Context Organization Code	
	ComponentItem/SubstituteComponentItem/ Quantity	Substitute Item: Quantity	
	ComponentItem/SubstituteComponentItem/ ChangeTypeCode	Substitute Item: Add/Disable	
	ComponentItem/SubstituteComponentItem/ EngineeringChangeOrderReference/ EngineeringChangeOrderIdentification/ID	Substitute Item: Change Order Number	
	ComponentItem/SubstituteComponentItem/ EngineeringChangeOrderReference/	Substitute Item: Change Order Organization Code	

Agile Entity: Attribute	Bill of Materials EBO	Oracle EBS Entity: Attribute	Comments
	EngineeringChangeOrderIdentification/ ContextID (schemeID: OrganizationCode)		
	ComponentItem/ SubstituteComponentItemSpecificationGroup Name	Substitute Component Flex Attribute Group	
	ComponentItem/ SubstituteComponentItemSpecificationGroup/ Specification/Name	Substitute Component Flex Attributes	
	ComponentItem/ SubstituteComponentItemSpecificationGroup/ SpecificationGroup/ Specification/ ValueCode	Substitute Component Flex Attribute Value	
	ComponentItem/ SubstituteComponentItemSpecificationGroup/ SpecificationGroup/Specification/ ValueText (languageCode)		
	ComponentItem/ SubstituteComponentItemSpecificationGroup/ SpecificationGroup/Specification/ ValueNumeric		
	ComponentItem/ SubstituteComponentItemSpecificationGroup/ SpecificationGroup/Specification/ ValueQuantity (unitCode)		

Agile Entity: Attribute	Bill of Materials EBO	Oracle EBS Entity: Attribute	Comments
	ComponentItem/ SubstituteComponentItemSpecificationGroup/ SpecificationGroup/Specification/ ValueAmount (currencyCode)		
	ComponentItem/ SubstituteComponentItemSpecificationGroup/ SpecificationGroup/Specification/ ValueDate		
	ComponentItem/ SubstituteComponentItemSpecificationGroup/ SpecificationGroup/Specification/ ValueDateTime		
Ref Des	ComponentItem/ProcessingInstruction/ Identification/ID	Reference Designator	
Ref Des	ComponentItem/ ProcessingInstruction/Note/Content	Reference Designator: Description	
	ComponentItem/ ProcessingInstruction/Note/LanguageCode		
	ComponentItem/ ProcessingInstruction/ChangeTypeCode	Reference Designator: Add/Disable	

Agile Entity: Attribute	Bill of Materials EBO	Oracle EBS Entity: Attribute	Comments
	ComponentItem/ ProcessingInstruction/ EngineeringChangeOrderReference/ EngineeringChangeOrderIdentification/ID	Reference Designator: Change Order Number	
	ComponentItem/ ProcessingInstruction/ EngineeringChangeOrderReference/ EngineeringChangeOrderIdentification/ContextID (schemeID: OrganizationCode)	Reference Designator: Change Order Organization Code	
	BillOfMaterialsSpecificationGroup/ SpecificationGroup/Name	BOM/Structure Header Flex/User-Defined Attribute Group Name	
	BillOfMaterialsSpecificationGroup/ SpecificationGroup/ Specification/Name	BOM/Structure Header Flex/User-Defined Attribute Name	
	BillOfMaterialsSpecificationGroup / SpecificationGroup/Specification/ ValueCode	BOM/Structure Header Flex/User-Defined Attribute Value	
	BillOfMaterialsSpecificationGroup / SpecificationGroup/Specification/ ValueText (languageCode)		
	BillOfMaterialsSpecificationGroup / SpecificationGroup/Specification/ ValueNumeric		

Agile Entity: Attribute	Bill of Materials EBO	Oracle EBS Entity: Attribute	Comments
	BillOfMaterialsSpecificationGroup / SpecificationGroup/Specification/ ValueQuantity (unitCode)		
	BillOfMaterialsSpecificationGroup / SpecificationGroup/Specification/ ValueAmount (currencyCode)		
	BillOfMaterialsSpecificationGroup / SpecificationGroup/Specification/ ValueDate		
	BillOfMaterialsSpecificationGroup / SpecificationGroup/Specification/ ValueDateTime		

Item EBO Mappings

Agile Entity: Attribute	Item EBO	Oracle EBS Entity: Attribute Group: Attribute	Comments
Part/Document. Title Block.Number	ItemIdentification/ID	Item: Primary: Item Number	Item Concatenated Segments. Required for Item Creation
Site	ItemIdentification/ContextID (schemeID: OrganizationCode)	Item: Context Organization Code	Context Organization Code. Required for Item Creation
Part/Document. Title Block. Description	ItemIdentification/Description	Item: Primary: Description	Required for Item Creation

Agile Entity: Attribute	Item EBO	Oracle EBS Entity: Attribute Group: Attribute	Comments
	ItemIdentification/ApplicationObjectKey/ID	Item: Inventory Item Id	Inventory item identifier
	ItemIdentification/ApplicationObjectKey/ContextID (schemeID: OrganizationId)	Item: Organization Id	Organization identifier
	ItemIdentification/AlternateObjectKey/ID (schemeID: "SourceSystemReference") (SchemeAgencyID: <source system >)	Item: Source System Cross-Reference: Value of source system reference	
	ItemIdentification/Revision/Number (schemeID: RevisionId)	Item Revision: Revision Id	Item revision identifier
Change Orders Class.Affected Items.New Revision	ItemIdentification/Revision/Code	Item Revision: Revision Code	3 Character Revision Code, Alphanumeric, Revision sort sequence based on ASCII value of Revision Code and Revision Effective Date. Required for Revision Creation
	ItemIdentification/Revision/Label	Item Revision: Revision Label	Required for Revision Creation
	ItemIdentification/Revision/Description	Item Revision: Description	
	ItemIdentification/Revision/Reason	Item Revision: Reason	

Agile Entity: Attribute	Item EBO	Oracle EBS Entity: Attribute Group: Attribute	Comments
ECO/MCO/SCO. Affected Item. Effectivity Date	ItemIdentification/Revision/EffectiveDate	Item Revision: Effective Date	Required for Revision Creation
	TypeCode	Item: Primary: User Item Type	
	SerialControlIndicator	Item: Inventory: Serial Status Enabled	
	LotControlIndicator	Item: Inventory: Lot Status Enabled	
	ServiceIndicator	Item: Service: Contract Item Type (Service)	Service Item Flag is maintained internally at the table level when Contract Item Type Value is 'Service'.
	DualUOMTrackingIndicator	Item: Primary: Tracking	
	UOMConversionUsageCode	Item: Primary: Conversions	
	BaseUOMCode	Item: Primary: Primary Unit of Measure	Required for Item Creation. Can be defaulted using Profile Option.
	SecondaryUOMCode	Item: Primary: Secondary Unit of Measure	
	StorageUOMCode	N/A	
	ShippingUOMCode	N/A	

Agile Entity: Attribute	Item EBO	Oracle EBS Entity: Attribute Group: Attribute	Comments
Item Type	PrimaryClassificationCode	Item: Primary: Item Catalog Category	
Change Orders Class.Affected Items.New Lifecycle	Status/Code	Item: Primary: Item Status	Required for Item Creation. Can be defaulted using Profile Option.
	TemplateItemReference/Name (languageCode)	Item Template: Template Name Item Template: Language	Template can be used to set up values for multiple attributes for an Item. Certain operational attributes like BOM allowed flag etc required for integration can be either provided through attribute mapping or provided using the Item template.
	ItemSpecificationGroup / SpecificationGroup/Name	Item Flex/User-Defined Attribute Group Name	Item Flex/User-Defined Attribute Group Name
	ItemSpecificationGroup/SpecificationGroup/ Specification/Name	Item Flex/User-Defined Attribute Name	Item Flex/User-Defined Attribute Name
	ItemSpecificationGroup/ SpecificationGroup/Specification / ValueCode ItemSpecificationGroup/ SpecificationGroup/Specification / ValueText (languageCode)	Item Flex/User-Defined Attribute Value	Item Flex/User-Defined Attribute Value Language Code for Translatable Text

Agile Entity: Attribute	Item EBO	Oracle EBS Entity: Attribute Group: Attribute	Comments
	ItemSpecificationGroup/ SpecificationGroup/Specification / ValueNumeric		attributes
	ItemSpecificationGroup/ SpecificationGroup/Specification / ValueQuantity (unitCode)		Unit of Measure for Number attributes
	ItemSpecificationGroup/ SpecificationGroup/Specification / ValueAmount (currencyCode)		
	ItemSpecificationGroup/ SpecificationGroup/Specification / ValueDate		
	ItemSpecificationGroup/ SpecificationGroup/Specification / ValueDateTime		
	LifecycleCharacteristics/LifecycleCode	Item: Primary: Lifecycle	
	LifecycleCharacteristics/LifecyclePhaseCode	Item: Primary: Lifecycle Phase	Item Lifecycle is required to define Lifecycle Phase.
	LifecycleCharacteristics/RevisionLifecyclePhaseCode	Item Revision: Lifecycle Phase	Item Lifecycle and Lifecycle phase should have been defined for the Item.
	PhysicalCharacteristics/VolumeMeasure (unitCode)	Item: Physical Attributes: Volume	
		Item: Physical Attributes: Volume Unit Of Measure	

Agile Entity: Attribute	Item EBO	Oracle EBS Entity: Attribute Group: Attribute	Comments
	PhysicalCharacteristics/WeightMeasure (unitCode)	Item: Physical Attributes: Weight	
		Item: Physical Attributes: Weight Unit Of Measure	
	PhysicalCharacteristics/HeightMeasure (unitCode)	Item: Physical Attributes: Height	
		Item: Physical Attributes: Dimension Unit of Measure	
	PhysicalCharacteristics/LenghtMeasure (unitCode)	Item: Physical Attributes: Length	
		Item: Physical Attributes: Dimension Unit of Measure	
	PhysicalCharacteristics/WidthMeasure (unitCode)	Item: Physical Attributes: Width	
		Item: Physical Attributes: Dimension Unit of Measure	
	InventoryCharacteristics/CycleCountEnabledIndicator	Item: Inventory: Cycle Count Enabled	
	InventoryCharacteristics/LotExpirationOnReceiptIndicator	Item: Inventory: Control	Item: Inventory: Lot Expiration Control
	InventoryCharacteristics/LotMergeEnabledIndicator	Item: Inventory: Lot Merge Enabled	

Agile Entity: Attribute	Item EBO	Oracle EBS Entity: Attribute Group: Attribute	Comments
	InventoryCharacteristics/LotSplitEnabledIndicator	Item: Inventory: Lot Split Enabled	
	InventoryCharacteristics/ReservationAllowedIndicator	Item: Inventory: Reservable	
	InventoryCharacteristics/SerializationEventCode	Item: Inventory: Serial Number Generation	
	InventoryCharacteristics/ShelfLifeDuration	Item: Inventory: Shelf Life Days	
	InventoryCharacteristics/StockingAllowedIndicator	Item: Inventory: Stockable	
	InventoryCharacteristics/InitialLotNumberPrefix	Item: Inventory: Lot Starting Prefix	
	InventoryCharacteristics/InitialLotNumberSuffix	N/A	
	InventoryCharacteristics/InitialSerialNumberPrefix	Item: Inventory: Serial Starting Prefix	
	InventoryCharacteristics/InitialSerialNumberSuffix	N/A	
	InventoryCharacteristics/UnitCost/Amount (currencyCode)	Item: Cost	
	InventoryCharacteristics/UnitCost/PerQuantity (unitCode)		

Agile Entity: Attribute	Item EBO	Oracle EBS Entity: Attribute Group: Attribute	Comments
	ItemPurchasingCharacteristics/AssetClassificationCode	Item: Purchasing: Asset Category	
	ItemPurchasingCharacteristics/DebitGLAccountCode	Item: Purchasing: Expense Account	
	ItemPurchasingCharacteristics/HazardClassificationCode	Item: Purchasing: Hazard Class	
	ItemPurchasingCharacteristics/ReceiptInspectionRequiredIndicator	Item: Purchasing: Inspection Required	
	ItemPurchasingCharacteristics/UnitListPrice/Amount	Item: Purchasing: List Price	
	ItemPurchasingCharacteristics/PurchasingAllowedIndicator	Item: Purchasing: Purchasable	
	ItemPurchasingCharacteristics/ReceiptRequiredIndicator	Item: Purchasing: Receipt Required	
	ItemPurchasingCharacteristics/RFQRequiredIndicator	Item: Purchasing: RFQ Required	
	ItemPurchasingCharacteristics/TaxableIndicator	Item: Purchasing: Taxable	
	ItemPurchasingCharacteristics/TaxCode	Item: Purchasing: Tax Code	
	ItemPurchasingCharacteristics/IssueUOMCode	Item: Purchasing: Unit of Issue	

Agile Entity: Attribute	Item EBO	Oracle EBS Entity: Attribute Group: Attribute	Comments
	ItemPurchasingCharacteristics/ UseApprovedSupplierIndicator	Item: Purchasing: Use Approved Supplier	
	ItemPurchasingCharacteristics/ ReceiptSubstitutionAllowedIndicator	Item: Receiving: Allow Substitute Receipts	
	ItemPurchasingCharacteristics/ UnorderedReceiptAllowedIndicator	Item: Receiving: Allow Unordered Receipts	
	ItemPurchasingCharacteristics/ OverReceiptQuantityPercent	Item: Receiving: Tolerance Percentage	
	ItemPurchasingCharacteristics/ReceiptRoutingCode	Item: Receiving: Receipt Routing	
	ItemPurchasingCharacteristics/ReceivingDurationTolerance/ UnderDuration	Item: Receiving: Days Early	
	ItemPurchasingCharacteristics/ReceivingDurationTolerance/ OverDuration	Item: Receiving: Days Late	
	ItemPlanningCharacteristics/ConsignmentItemIndicator	Item: General Planning: Consigned	
	ItemPlanningCharacteristics/Lot SizeMultiplier	Item: General Planning: Fixed Lot Multiplier	
	ItemPlanningCharacteristics/InventoryPlanningCode	Item: General Planning: Inventory Planning Method	
Make/Buy	ItemPlanningCharacteristics/MakeOrBuyCode	Item: General Planning: Make or Buy	

Agile Entity: Attribute	Item EBO	Oracle EBS Entity: Attribute Group: Attribute	Comments
	ItemPlanningCharacteristics/ MaximumProductionOrderQuantity	Item: General Planning: Maximum	Item: General Planning: Maximum Order Quantity
	ItemPlanningCharacteristics/ MinimumProductionOrderQuantity	Item: General Planning: Minimum	Item: General Planning: Minimum Order Quantity
	ItemPlanningCharacteristics/ReplenishmentSourceCode	Item: General Planning: Type	Item: General Planning: Source Type
	ItemPlanningCharacteristics/ShrinkageRate	Item: MPS/MRP Planning: Shrinkage Rate	
	ItemPlanningCharacteristics/ReorderCharacteristics/ ReorderQuantity	Item: General Planning: Fixed Quantity	
	ItemPlanningCharacteristics/ReorderCharacteristics/ MaximumReorderQuantity	Item: General Planning: Maximum Order	
	ItemPlanningCharacteristics/ReorderCharacteristics/ MinimumInventoryQuantity	Item: General Planning: Minimum Order	
	ItemPlanningCharacteristics/ReorderCharacteristics/ MaximumSupplyDuration	Item: General Planning: Maximum Days of Supply	
	ItemPlanningCharacteristics/ReorderCharacteristics/ MinimumSupplyDuration	Item: General Planning: Minimum Days of Supply	
	ItemPlanningCharacteristics/ ProcessingLeadTimeCharacteristics/ CumulativeManufacturingDuration	Item: Lead Times: Cumulative Manufacturing	
	ItemPlanningCharacteristics/ ProcessingLeadTimeCharacteris	Item: Lead Times: Cumulative Total	

Agile Entity: Attribute	Item EBO	Oracle EBS Entity: Attribute Group: Attribute	Comments
	tics/ CumulativeTotalDuration		
	ItemPlanningCharacteristics/ ProcessingLeadTimeCharacteristics/ FixedDuration	Item: Lead Times: Fixed	
	ItemPlanningCharacteristics/ ProcessingLeadTimeCharacteristics/ DurationUOMCode	N/A	
	ItemPlanningCharacteristics/ ProcessingLeadTimeCharacteristics/ ReferenceLotSizeQuantity	Item: Lead Times: Lead Time Lot Size	
	ItemPlanningCharacteristics/ ProcessingLeadTimeCharacteristics/ PostprocessingDuration	Item: Lead Times: Postprocessing	
	ItemPlanningCharacteristics/ ProcessingLeadTimeCharacteristics/ PreprocessingDuration	Item: Lead Times: Preprocessing	
	ItemPlanningCharacteristics/ ProcessingLeadTimeCharacteristics/ ProcessingDuration	Item: Lead Times: Processing	
	ItemPlanningCharacteristics/ ProcessingLeadTimeCharacteristics/ UnitProductuionDuration	Item: Lead Times: Variable	
	ItemPlanningCharacteristics/MinMaxCharacteristics/ MaximumQuantity	Item: General Planning: Maximum	Item: General Planning: Maximum Min-Max Quantity
	ItemPlanningCharacteristics/MinMaxCharacteristics/ MinimumQuantity	Item: General Planning: Minimum	Item: General Planning: Minimum Min-Max Quantity
	ItemManufacturingCharacteristics/StructureAllowedIndicator	Item: Bill of Materials: BOM Allowed	

Agile Entity: Attribute	Item EBO	Oracle EBS Entity: Attribute Group: Attribute	Comments
	ItemManufacturingCharacteristics/BOMItemTypeCode	Item: Bill of Materials: BOM Item Type	
	ItemManufacturingCharacteristics/ ConfiguratorModelTypeCode	Item: Bill of Materials: Configurator Model Type	
	ItemManufacturingCharacteristics/EffectivityControlCode	Item: Bill of Materials: Effectivity Control	
	ItemManufacturingCharacteristics/EngineeringItemIndicator	Item: Bill of Materials: Engineering Item	
Cost	ItemManufacturingCharacteristics/CostingEnabledIndicator	Item: Costing: Costing Enabled	
	ItemManufacturingCharacteristics/InventoryAssetIndicator	Item: Costing: Inventory Asset Value	
	ItemManufacturingCharacteristics/StandardLotSizeQuantity	Item: Costing: Standard Lot Size	
	ItemManufacturingCharacteristics/WIPSupplyTypeCode	Item: Work In Progress: Type	
	ItemManufacturingCharacteristics/ReturnPercentTolerance/ UnderPercent	Item: Order Management: Under Return	Item: Order Management: Under Return Tolerance
	ItemManufacturingCharacteristics/ReturnPercentTolerance/ OverPercent	Item: Order Management: Over Return	Item: Order Management: Over Return Tolerance
	ItemManufacturingCharacteristics/ShipmentPercentTolerance/ UnderPercent	Item: Order Management: Under Shipment	Item: Order Management: Under Shipment Tolerance

Agile Entity: Attribute	Item EBO	Oracle EBS Entity: Attribute Group: Attribute	Comments
	ItemManufacturingCharacteristics/ShipmentPercentTolerance/ OverPercent	Item: Order Management: Over Shipment	Item: Order Management: Over Shipment Tolerance
	ItemManufacturingCharacteristics/BaseModelItemReference/ Identification/ID	Item: Bill of Materials: Base Model	
	ItemOrderManagementCharacteristics/ AssembleToOrderIndicator	Item: Order Management: Assemble to Order	
	ItemOrderManagementCharacteristics/ BackOrderEnabledIndicator	Item: Web Store: Back Orderable	
	ItemOrderManagementCharacteristics/SaleableIndicator	Item: Order Management: Customer Ordered	
	ItemOrderManagementCharacteristics/OrderableIndicator	Item: Order Management: Customer Orders Enabled	
	ItemOrderManagementCharacteristics/ ReturnAllowedIndicator	Item: Order Management: Returnable	
	ItemOrderManagementCharacteristics/ ReturnInspectionRequiredIndicator	Item: Order Management: RMA Inspection Required	
	ItemOrderManagementCharacteristics/ InvoicingEnabledIndicator	Item: Invoicing: Invoice Enabled	
Shippable Item	ItemOrderManagementCharacteristics/ShippableIndicator	Item: Order Management: Shippable	
	ItemServiceCharacteristics/BillingTypeCode	Item: Service: Billing Type	

Agile Entity: Attribute	Item EBO	Oracle EBS Entity: Attribute Group: Attribute	Comments
	ItemServiceCharacteristics/ContractTypeCode	Item: Service: Contract Item Type	
	ItemServiceCharacteristics/CreateFixedAssetIndicator	Item: Service: Create Fixed Asset	
	ItemServiceCharacteristics/DefaultServiceContractDuration	Item: Service: Duration	Item: Service: Service Contracts Duration
	ItemServiceCharacteristics/DefaultServiceContractPeriodCode	Item: Service: Duration Period	Item: Service: Service Contracts Duration Period
	ItemServiceCharacteristics/ContractCoverageEnabledIndicator	Item: Service: Enable Contract Coverage	
	ItemServiceCharacteristics/DefectTrackingEnabledIndicator	Item: Service: Enable Defect Tracking	
	ItemServiceCharacteristics/ProvisioningEnabledIndicator	Item: Service: Enable Provisioning	
	ItemServiceCharacteristics/ServiceBillingEnabledIndicator	Item: Service: Enable Service Billing	
	ItemServiceCharacteristics/ServiceRequestEnabledIndicator	Item: Service: Service Request	
	ItemServiceCharacteristics/WarrantyDelayDuration	Item: Service: Starting Delay (Days)	
	ItemServiceCharacteristics/TrackInstanceIndicator	Item: Service: Track in Installed Base	

Agile Entity: Attribute	Item EBO	Oracle EBS Entity: Attribute Group: Attribute	Comments
Commodity, Item Category, Product Line(s), Part Family	ItemClassification/Classification Code	Category: Name	Alternate Catalog Category Concatenated Segments
	ItemClassification/CatalogReference/CatalogIdentification/ID	Catalog: Name	Alternate Catalog
Part/Document. Manufacturers. Manufacturer	ItemManufacturer/ ManufacturerPartyReference/OrganizationName	Manufacturer: Manufacturer Name	
Part/Document. Manufacturers. Mfr Part Number	ItemIdentification/ManufacturerItemID (SchemeAgencyID: <Manufacturer Name>)	MPN: Manufacturer Part Number	
	ItemManufacturer/Status/Code	MPN: Approval Status	
	ItemManufacturer/EffectiveTimePeriod/StartDateTime	MPN: Effective From	
	ItemManufacturer/EffectiveTimePeriod/EndDateTime	MPN: Effective To	

Engineering Change Order EBO Mappings

Agile Entity: Attribute	Engineering Change Order EBO	Oracle EBS Entity: Attribute	Comments
Number	Identification/ID	Change Order: Primary: Change Order Number	Change Notice
Site	Identification/ContextID (schemeID: OrganizationCode)	Change Order: Context Organization Code	

Agile Entity: Attribute	Engineering Change Order EBO	Oracle EBS Entity: Attribute	Comments
Description of Change	Description	Change Order: Primary: Description	
Date Originated	InitiationDate	Change Order: Primary: Initiation Date	
Date Released	ImplementationDate	Change Order: Primary: Implementation Date	
	PriorityCode	Change Order: Primary: Priority	
Reason Code	ReasonCode	Change Order: Primary: Reason	
Change Type	TypeCode	Change Order: Primary: Change Order Type	
Change Category	ClassificationCode	Change Order: Primary: Classification Code	
Status	Status/Code	Change Order: Primary: Status	
Originator	RequesterPartyReference/ PersonName	Change Order: Primary: Requestor	
Change Analyst, Component Engineer	OwnerPartyReference/ PersonName	Change Order: Primary: Assigned To	
	EngineeringChangeOrderLine/ Description	N/A	
Disposition01	EngineeringChangeOrderLine/ DispositionTypeCode	Revised Item: Primary: Disposition	
	EngineeringChangeOrderLine/	Revised Item: Primary:	

Agile Entity: Attribute	Engineering Change Order EBO	Oracle EBS Entity: Attribute	Comments
	EarliestEffectiveDate	Earliest Schedule Date and Time	
Effective Date	EngineeringChangeOrderLine/ EffectiveDate	Revised Item: Primary: Schedule Date and Time	
	EngineeringChangeOrderLine/ AvailableToMRPIndicator	Revised Item: Primary: MRP Active	
	EngineeringChangeOrderLine/ UpdateWIPIndicator	Revised Item: Primary: Update Jobs/Schedules	
	EngineeringChangeOrderLine/ EffectivityCode	N/A	
	EngineeringChangeOrderLine/ UseUpMRPPlanName	Revised Item: Primary: Plan Name	
	EngineeringChangeOrderLine/ Status/Code	Revised Item: Primary: Status	
	EngineeringChangeOrderLine/ EffectivityControlItemReference/ Identification/ID	Revised Item: Primary: Use Up Item Number	
	EngineeringChangeOrderLine/ EffectivityControlItemReference/ Identification/ContextID	Revised Item: Primary: Use Up Item Organization Code	
Flex Attributes	EngineeringChangeOrderLine/ EngineeringChangeOrderLineSpecificationGroup/	Revised Item Flex Attributes	
	EngineeringChangeOrderLine/ CurrentItem		
Revised Item	EngineeringChangeOrderLine/ RevisedItem	Revised Item	
	EngineeringChangeOrderLine/ CurrentBillOfMaterial		
Revised BOM/Structure	EngineeringChangeOrderLine/ RevisedBillOfMaterials	Revised BOM/Structure	

Agile Entity: Attribute	Engineering Change Order EBO	Oracle EBS Entity: Attribute	Comments
	EngineeringChangeOrderStatusHistory	Change Order: Primary: History	Change Order Status History.
	EngineeringChangeOrderSpecificationGroup	Flex/User Defined Attribute Group	

Item Balance EBO Mappings

Agile Entity: Attribute	Item Balance EBO	Oracle EBS Entity: Attribute	Comments
Part/Document. Title Block.Number	InventoryBalance/ItemReference/Identification/ID	Item: Primary: Item Number	
Site	InventoryBalance/ItemReference/Identification/ContextID	Item: Context Organization	
	InventoryBalance/OnHandQuantity	Item: On Hand Quantity	

Appendix D: Concurrent Program Implementation Details

The three flows from Oracle E-Business Suite to Agile are to be scheduled for data to be sent out at regular intervals. This is carried out by using Oracle E-Business Suite Concurrent Programs, which can be run at various intervals and scheduled with UI options. The programs are:

1. Publish Item Attributes Updates
2. Publish Item Balance Updates
3. Publish Engineering Change Order Updates

Features

After the PIP Integration setup is complete, carry out the following:

1. Initial Publication of Items/ECOs from Oracle EBS

   Run an ad-hoc request specifying from and to date (If this is not done the CP will pick all the Items/ECOs that got updated in the last 30 days). Also specific Orgs could be specified along with from and to date in the CP parameters, from performance perspective to send the data in multiple CP requests as part of Implementation setup

2. Periodic/Scheduled Publication of Items/ECOs from Oracle EBS

   We recommend customers setting the 'Updated in the last X hrs' parameter with a reasonable value by default for the Concurrent Programs that are being setup to run at a schedule frequency. This parameter value should be specified apart from the schedule frequency setup in the Concurrent Program setup. We suggest Customers set the same 'X' hrs for the Concurrent Program Schedule setup. (OR)

   Customers can leave all the parameters empty and schedule the CP to run at a particular schedule frequency that he desires.

3. On Demand/Ad-hoc Publication of Items/ECOs from Oracle EBS

   The Items/ECOs that failed during the scheduled execution must be sent as separate ad-hoc request by specifying appropriate value to the parameters. The Items/ECOs of the Organizations that failed during the scheduled publication can be obtained from the log information to provide input parameters for the ad-hoc Concurrent Request to sync up the data between Oracle EBS and Agile after resolving the reported publication error.

Parameters

1. Item/ECO Names
   - The Items/ECOs that are to be published should be entered separated by double semi-

colon.

- This is a text parameter of maximum length 240.

Examples:

ItemName1;;ItemName2;;ItemName3
ChangeOrderName1;;ChangeOrderName2;; ChangeOrderName3

2. Organization Codes

   - Organization codes must be specified separated by double semi-colon.
   - This is a text parameter of maximum length 240.

   Example1:

   Item Names - Item1;;Item2;;Item3
   Organization Codes - Org1;;Org2
   If Item1 exists in Org1, Item2 in Org2 and Item3 in both Org1 & Org2 then,
   Items Published: Item1:Org1, Item2:Org2, Item3:Org1, Item3:Org2

   Example2:

   Organization Codes - Org1;;Org2
   Updated in the last X Hrs – 10
   Items/ECOs Published: Items/ECOs that got updated in the last 10 hours from Org 1 & Org2.

3. From Date

   This is a Standard Date Time parameter.

4. To Date

   This is a Standard Date Time parameter. This parameter should be entered only if From Date parameter is given a value.

5. Updated in the last X hrs

   This is a number parameter of maximum length 15. If this parameter is provided a value then the From Date and To Date parameter values will not be considered

Supported Functionalities

1. Scheduled Request with no value provided to all parameters

   Items/ECOs that got updated from the last completed-scheduled request will be picked for publication. The Errored Items/ECOs from the previous run will not be automatically picked for the publication. All the errored Items/ECOs need to be published by using ad-hoc CP request functionality and providing appropriate CP request parameters for such ad-hoc requests.

2. Ad-hoc Request with no value provided to all parameters

   It is recommended for the customers to provide appropriate parameter values for the CP ad-hoc requests. In case if no value is provided then Items/ECOs that got updated from the last completed-scheduled request will be published.

   If there are no scheduled requests prior to the current request then it will pick all the

Items/ECOs that got updated from the last completed request. If there are no completed requests prior to the current one (First request of CP) then it will choose the data that got updated in the last 30 days.

Expected Behaviors

The following table shows the expected behavior of the requests based on the input values provided. A tick-mark (x) implies that the values are specified, while a dash implies they are not.

Item/ECO Names	Organization Codes	From Date	To Date	Updated in last X hrs	Expected Items/ECOs to be published
x	-	-	-	-	Specified Items/ECOs from all assigned Organization
-	x	-	-	-	Items/ECOs updated from the last Completed request from the specified organization (If no last completed request then last 30 days). This is done in order to maintain the performance of the system. For the Publish Item Attribute Concurrent Job to work, the spoke source system value must match the value passed in from the PIP.
-	-	x	-	-	Items/ECOs updated between the specified From Date and System Date from all Organizations
-	-	-	x	-	Error (From Date cannot be empty when to Date is specified)
-	-	-	-	x	Items/ECOs updated in the last X hours from all Organizations
x	x	-	-	-	Specified Items/ECOs from Specified Organizations if exist
-	x	x	-	-	Items/ECOs updated between the specified From Date and System Date from specified Organizations
-	x	-	-	x	Items/ECOs updated in the last X hours from specified Organizations
x	-	x	-	-	Specified Items/ECOs updated between the specified From Date

Item/ECO Names	Organization Codes	From Date	To Date	Updated in last X hrs	Expected Items/ECOs to be published
					and System Date from all assigned Organizations
x	-	-	x	-	Error (From Date cannot be empty when to Date is specified)
x	-	-	-	x	Specified Items/ECOs updated in the last 'X' hrs specified from all assigned Organizations
x	-	x	x	-	Specified Items/ECOs updated between the specified From Date and To Date from all assigned Organizations
x	-	x	x	x	Specified Items/ECOs updated in the last 'X' hrs specified, from all assigned Organizations. The specified From Date and To Date will be ignored
x	x	-	x	x	Specified Items/ECOs from Specified Organizations if exist and updated in the last 'X' hrs specified. The specified To Date will be ignored
x	x	x	x	x	Specified Items/ECOs from Specified Organizations if exist and updated in the last 'X' hrs specified. The specified From Date and To Date will be ignored

Appendix E: Queue Management

For complete information on features and functionality of Queue Manager, and how to use it, refer the latest "Agile PLM Integration Pack for Oracle E-Business Suite – User Guide" located at http://www.oracle.com/technology/documentation/agile.html.

The Queue Management feature in the PIP caters to the following requirements:

- An Event to produce filtered payload to a File Destination to a JMS Destination.
- The Payload is defined using a standard XSD.
- The files or JMS Messages produced by Events are sequenced in the order in which the objects are released.

Note: These requirements are leveraged using the Agile Content Service (ACS). ACS has the ability to produce payload to a File or JMS destination. The payload is based on filtered configured for the ACS Event defined by Agile provided AXML schema definition. Also the ACS transmits the messages in the order in which the ATOs are released.

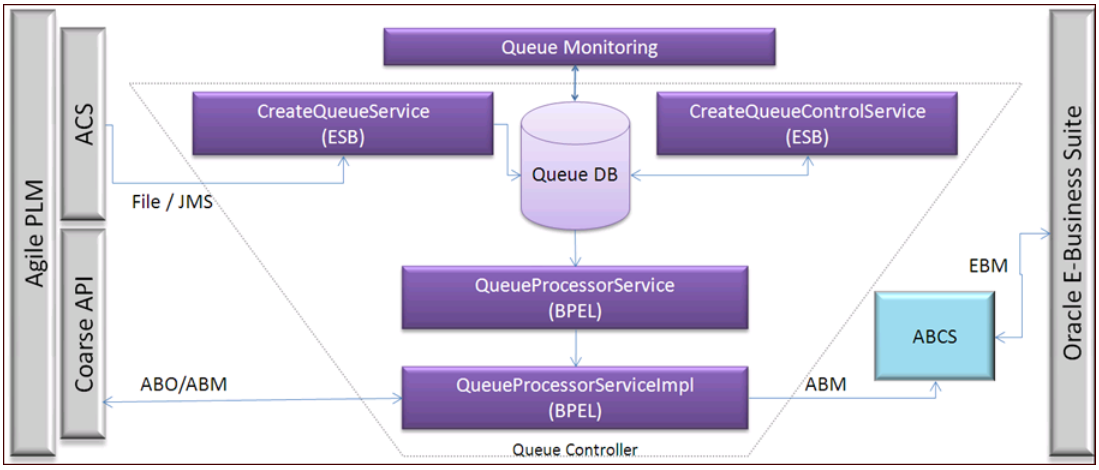
- A Queue to manage the order of Messages.
- A Queue Monitoring UI to enable reordering and resubmitting unprocessed messages.
- The Queue manages the payloads based on the Business Process for which the message is produced by the Event.
- The Queue controlling mechanism:
  - Triggers the Business Flow based on the business process of message.
  - Processes the messages sequentially depending upon the order specified in the message (the highest order message is picked first for processing).
  - A message is not picked for processing unless; the processing of the previous message is complete.
  - The order of the messages, which have not been picked for processing, can be re-ordered.

Queue Management Solution

The Queue Management Solution comprises of the following components:

- Queue DB: The database persist the data related to a Queue messages.

- Queue Controller: Polls for new Event payloads and add them to the Queue DB. The highest priority message for each Business Process is picked and processed sequentially to trigger its Business Flow.
- Queue Monitoring: UI which monitors the Queue message status supports Reordering of priorities of the Queue Messages. Also, it provides the facility to resubmit the unprocessed messages.



Queue Schema

To support the Queue Management solution, a polling strategy similar to *PollingControlTableStrategy* is used. Two main tables are used to manage the sequential processing and reordering of the messages.

The QUEUE_TABLE stores all the queue messages that are being provided by the Event trigger. The QUEUE_CONTROL_TABLE stores the relevant information of the messages from the QUEUE_TABLE, which have not been processed yet.

The Queue Manager ensures that there is only one message in the control table, which is not yet processed. When the processing of a message is complete, a Pending message from the Queue table is inserted into this table. This facilitates the Sequential processing of the message. Also, since all the pending messages are stored in the Queue table, they can be reordered.

Queue DB Details

The Queue Schema has the following tables:

ECO_QUEUE	This table holds the data of both Process ECO and Validate ECO. The PROCESS_TYPE column is used as identifier for Process ECO and Validate ECO.
ECO_QUEUE_CONTROL	This table stores the details about the rows that are currently under processing state.

ECO_QUEUE_TABLE_CRITERIA	This table contains the data needed for a criteria. One set of criteria forms a filter.
ECO_QUEUE_TABLE_FILTER	This table contains the data needed to form a filter, i.e., the criterion to be used to form a specific filter.
ECO_QUEUE_STATUS	This table hold the data to control the simultaneous processing and suspending the Queue. By changing the values in the ECO_QUEUE_STATUS column, the number of simultaneously processed ECOs can be changed.

The structure of ECO_QUEUE_STATUS table is:

ECO_QUEUE_STATUS_ID	ECO_QUEUE_STATUS	Description
1	1 or 0	The status of the Queue - in suspended or resume mode.
2	1	The count of rows that can be processed simultaneously for Process ECO. A value of 1 means sequential processing.
3	5	The count of rows that can be processed simultaneously for Validate ECO.

Queue Controller

A polling strategy on the Queue DB is used for addressing the Queue Management business requirements. The Queue Controller provides an ECO system to ensure that this polling strategy works in tandem to ensure the following:

- All Event transmitted File/JMS Messages are added to the Queue for both CO Release and CO Processing flows as well as for the CO Validation flow.
- At any given point of time there is only one pending message in the control table for CO Release and CO Processing flows.
- Once the processing of a message in control table is complete, insert the highest priority queue message for CO Release and CO Processing flows from the queue table to the control table.
- In case of CO Release and CO Processing flows if the Integration flow errors out, the queue manager will wait until the message is resubmitted or removed for CO Release flow.
- CO Release Processes are shown on the Process ECO tab.
- Validate Release Processes are shown on the Validate ECO tab.
- Validate CO processes are processed concurrently unlike the CO Release and CO Processing

flows, which are processed sequentially.

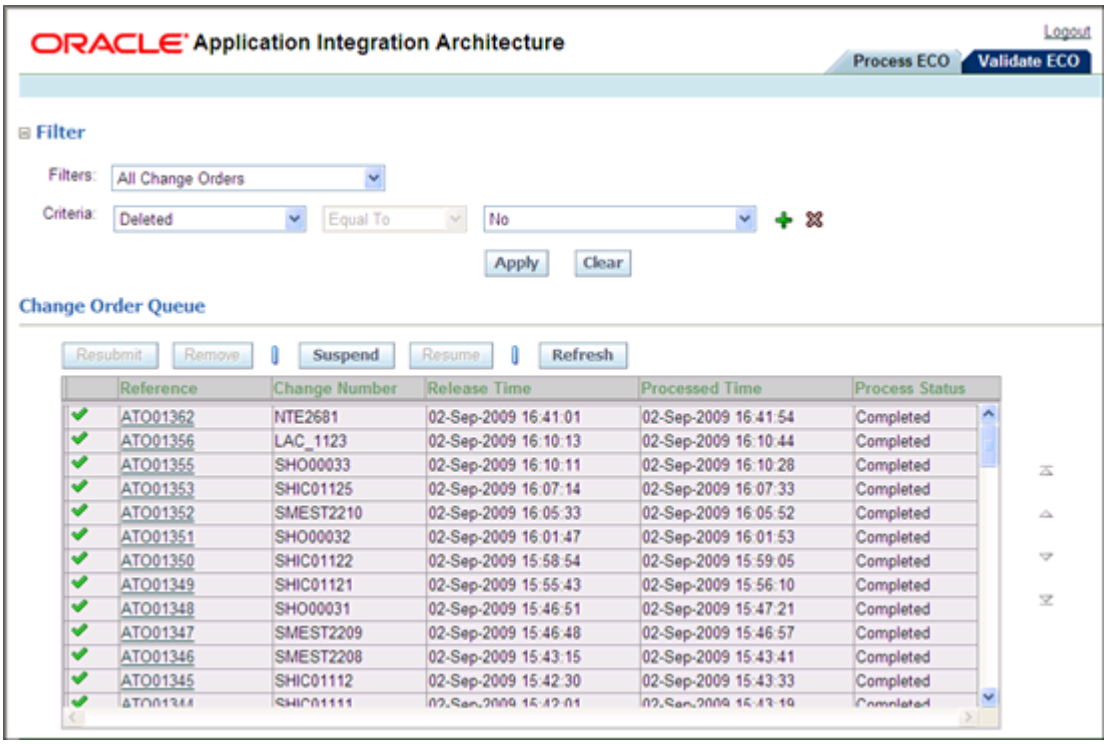
- If any of the Validate CO processes errors out, other processes can still proceed.

Queue Monitor

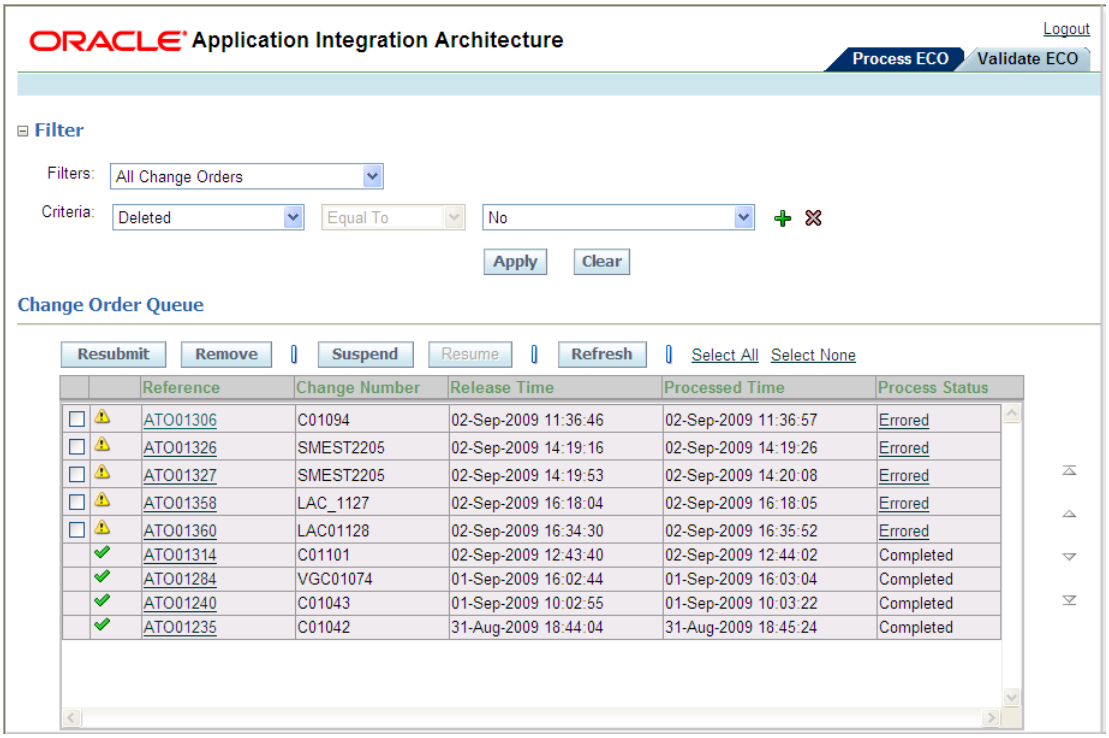
When a Change Order is released for Release ECO or Validate ECO processing by the Agile Content Service (ACS), it is picked up by the Queue Controller. The Queue Monitor displays a list of all the Change Orders that are waiting to get processed in both the tabs. It also facilitates you to reorder their sequence of processing.

For complete details on Queue Monitor, refer Agile PLM to Oracle EBS Integration User Guide located at http://www.oracle.com/technetwork/documentation/agile-085940.html#aia. Scroll down to the **Agile AIA Documentation** section, click **Download** and extract **E14766_01.pdf** from the zip file.

CO Release Process Queue



CO Validation Process Queue



Queue Manager Services

The following services are deployed as part of the Queue Manager:

1. CreateQueueService
2. CreateQueueControlService
3. QueueProcessorService
4. QueueProcessorServiceImpl

CreateQueueService

The CreateQueueService is implemented as an ESB Routing Service. An Adapter Service (File/JMS Adapter) polls on the destinations for any Event payloads. The payload is in the form of aXML files. This service receives message as a binary element (aXML File). For each payload received the service inserts a new row into the QUEUE table. An Adapter Service (DB Adapter) is used for the same. The Toplink solution generates the required schema from the table for this DB Adapter.

- The service uses transformation services to populate any NOT NULL columns in the table.
- OBJECT_REFERENCE is inserted with the file name of the aXML file using the ESB header transformation extension functions.

- PROCESS_STATUS is Pending for the newly inserted row.
- PROCESS_PRIORITY is captured from the file name. (ACS can be configured to append an default order for the file name)

CreateQueueControlService

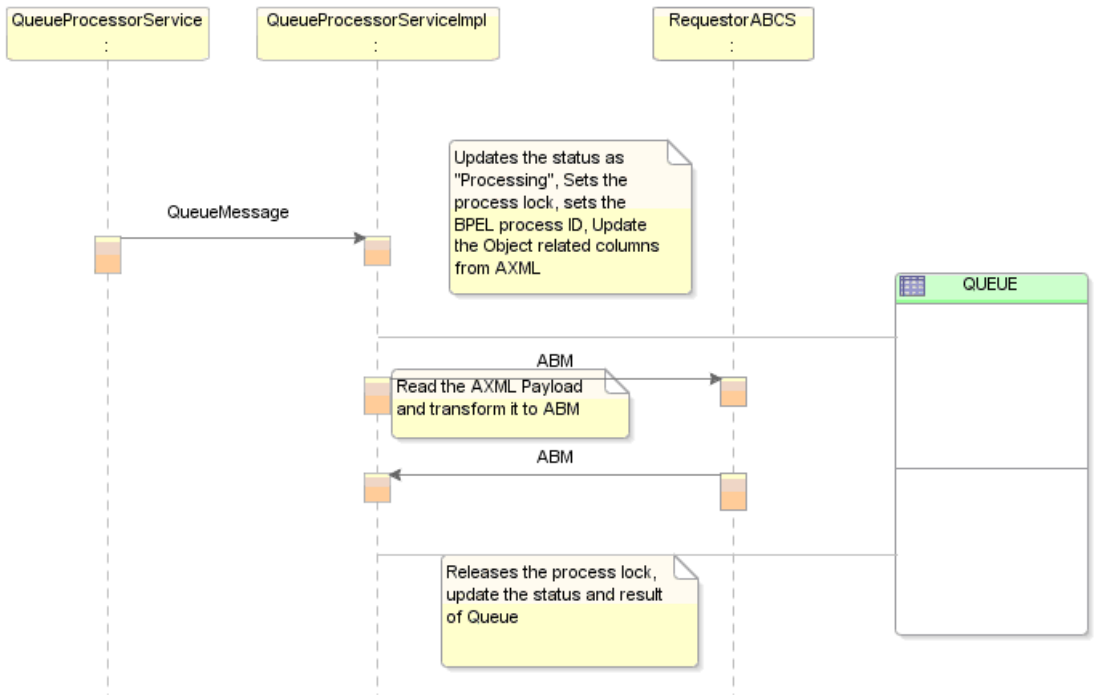
The CreateQueueControlService is implemented as an ESB Routing Service. A DB Adapter polls on the QUEUE_CONTROL_TABLE table. If there are no rows which are in Pending status, the CreateQueueControlService invokes a DB Adapter service which executes a custom SQL. This SQL identifies the highest priority pending Queue message from QUEUE_TABLE table and inserts the same in QUEUE_CONTROL_TABLE table.

This polling strategy ensures that at any point of time there is only one Pending message in the QUEUE_CONTROL_TABLE table. Once the Pending message is processed and status completed, a new Pending message is inserted from QUEUE_TABLE table to the QUEUE_CONTROL_TABLE table. When the status for a message is completed in the QUEUE_CONTROL_TABLE that row would be deleted from the table.

QueueProcessorService

The QueueProcessorService is implemented as an ESB service which acts like an Interface and provides a façade in front of the QueueProcessorServiceImpl service. A DB Adapter polls on the QUEUE_CONTROL table for any Pending messages. A Pending message in the table is routed to the QueueProcessorServiceImpl service which processes the message. Based on the result from the implementation service the status of the message is updated in the control table.

QueueProcessorServiceImpl



The primary task of this service is to invoke the RequestorABCS. The Response from RequestorABCS is processed and the Queue is updated with processing status.

Input: The QueueMessage generated by Toplink solution in the QueueProcessorService is used as the input for this Service.

Output: QueueStatusMessage which contains the status and result of processed Queue message.

#	Name	Step Description
1	QueueProcessorService Invokes QueueProcessorServiceImpl process	The QueueProcessorService invokes QueueProcessorServiceImpl with QueueMessage (generated by Toplink solution for QUEUE table) as input.
2	Invoke UpdateQueueStatus DB Adapter service	The input QueueMessage in this process is assigned with following values to update the Queue message in the Queue DB PROCESS_STATUS: Processing PROCESS_ID: BPEL Process Id PROCESS_LOCK: 1
3	Transform AgileData (aXML) to ABM	The QueueMessage will have the AgileData payload which is transformed to ABM

#	Name	Step Description
4	Invoke RequestorABCS	QueueProcessorServiceImpl invokes the RequestorABCS with ABM as input.
5	Invoke Coarse Grained Web Service	RequestorABCS optionally invokes the coarse grained web services to get the ABM populated with any missing information required for the Integration flow.
6	RequestorABCS Transforms ABM to EBM	The response ABM from coarse grained WS is transformed to EBM and an operation on EBS is invoked with EBM as the input.
7	RequestorABCS orchestrates the business flow	The RequestorABCS routes the EBM to the EBS,
8	EBS routes the response to RequestorABCS	The response EBM from EBS is routed to the RequestorABCS which is transformed to ABM and returned to the QueueProcessorServiceImpl
9	QueueProcessorServiceImpl invokes UpdateQueueResult DB Adapter service	The result from the RequestorABCS is used to update the status of Queue in the Queue DB. Also the Process lock is released.

Transformations

The aXML payload is transformed to the ABM which is input for the RequestorABCS. Since the ABM schema is defined on the lines of aXML schema this transformation will be simpler to do in the Jdeveloper XSL Mapper.

Implementation Details

The QueueProcessorServiceImpl is implemented as an Asynchronous BPEL process. There are calls to the RequestorABCS, DB Adapters for updating Queue status and invoking the RequestorABCS. These involve some logic (parsing the aXML payload) which cannot be achieved using the ESB.

Note: The QueueID is used for correlation set between the QueueProcessorServiceImpl and the RequestorABCS.

Error Management

All errors in the Integration flow are handled in the *RequestorABCS.* Any such errors leading to failure of the Queue processing will be handled in this process. As a result of such error the Queue Status and Result with failure status is updated in the Queue DB.

Appendix F: Troubleshooting

1. Issue: Creating an ECO fails with the error "The SQL Exception is: "javax.resource.ResourceException: RollbackException: Transaction has been marked for rollback: Timed out".

   Solution:

   Increase the timeout values.

   For example, for 100 Affected Items [without any BOM data] being created in Oracle EBS through a Change Order released from Agile.

Location	Property to modify	Sample Value
<SOA_ORACLE_HOME>/bpel/domains/<domain_name>/config/domain.xml	syncMaxWaitTime	120
<SOA_ORACLE_HOME>/integration/esb/config/esb_config.ini	xa_timeout jms_receive_timeout	120 120
<SOA_ORACLE_HOME>/j2ee/<domain_name>/application-deployments/orabpel/ejb_ob_engine/orion-ejb-jar.xml	transaction-timeout	120
<SOA_ORACLE_HOME>/j2ee/<domain_name>/config/transaction-manager.xml	transaction-timeout	120

2. Issue: Flow fails with FOTY0001: type error in BPEL console.

   Solution: Determine the exact reason for the failure by checking the FMW logs located at \\<soa_home>\opmn\logs\default_group~oc4j_soa~default_group~1.log. If the log message indicates the following, then the FMW timeout values can be increased, as instructed below.

```
XML-22044: (Error) Extension function error: Error invoking
'populateXRefRow':'oracle.tip.xref.exception.RepositoryException:
Unable to access Cross Reference Values from Database.The SQL
Exception is: "ORA-02049: timeout: distributed transaction waiting for
lock" Please ensure that the database is accessible. If accessible,
please look at the stack trace and fix the issue.  If unable to fix
contact Oracle Support '
```

   To increase the FMW timeout values, change the timeout parameters in the following files:

   - soa_home\bpel\domains\default\config\domain.xml: Increase the value of the property syncMaxWaitTime, for example, to 60.
   - soa_home\integration\esb\config-esbconfig.ini: Increase the value of xa_timeout and jms_receive_timeout, for example, to 60.
   - soa_home\j2ee\oc4j_soa\config\transaction-manager.xml: Increase the value of transaction-timeout, for example, to 1800.
   - soa_home\j2ee\oc4j_soa\application-deployments\orabpel\ejb_ob_engine\orion-

ejb-jar.xml: Increase the value of transaction-timeout, for example, to 1800.

3. Issue: In ECO forward flow, after the ECO is processed successfully but the transfer status attribute (flex) in the ECO in Agile is not getting updated.

   Solution: Check which flexfield attribute has been enabled corresponding to the change. Then, ensure that the same attribute has been configured in the AIAConfigurationProperties.xml for that property.

4. Issue: For the Item Cost update and Item Balance update flows, the attributes in Agile are not getting updated.

   Solution: First check weather Multisite_Enabled property is set to True or False. Based on this given value, it should be ensured that the Cost and Quantity attributes in AIAConfigurationProperties.xml is correctly set.

5. Issue: NPR use case failing with one of the following errors –

   - Exception on JaxRpc invoke: start fault message: SystemError: Error occured in Web Services system.:end fault message
   - Exception on JaxRpc invoke: HTTP transport error: javax.xml.soap.SOAPException: java.security.PrivilegedActionException: javax.xml.soap.SOAPException: Message send failed: Premature EOF encountered
   - The security token could not be authenticated or authorized

   Solution: Please refer pre-installation steps for PIP installation in Installation guide and verify the WebService Provider and ASADMIN setup on Oracle EBS environment.

6. Issue: In Agile ACS, the test for Destination fails with some error.

   Solution: If the Agile server and the FMW server are in different domains then for the ACS to work there should be entry made in the Host file of the two servers.

   For Example:

   10.176.138.126 aia06.agile.agilesoft.com aia06 - this would go in the FMW server's host file.
   64.181.168.191 sdc78623svqe.corp.siebel.com - this would go in the Agile server's host file.

7. Issue: If Oracle EBS Provider errors out with an error message like "This Child Item has no Master Item record in MTL_SYSTEM_ITEMS", perform the step given in the solution below.

   Solution: If it is first time release of Item from Agile PLM to Oracle EBS then item should be sent as Affected or Revised item in the Master Org also along with Child Org from Agile PLM.

Installation Issues

1. Issue: After an un-successful install or uninstall, it sometimes reinstalls the FP in the same directory location, as the directory used for the earlier FP installation gets recreated after the server restart. You may see a directory like, D:\product\10.1.3.1\AIAFP_201, which contains only the logs sub-directory.

   Solution:

   a. Stop SOA suite.

   b. Go to <SOA_HOME>\j2ee\home\config

   c. Open j2ee-logging.xml to edit.

   d. Remove the logger and log handler configurations for AIA loggers

   e. Restart SOA.

2. Issue: After unsuccessful uninstall or install, sometimes you cannot re-install the FP in the same directory location, as the FP installer warns of an existing FP at the given <home> location.

   Solution:

   a. Stop SOA suite.

   b. Go to <SOA_HOME>\opmn\conf\opmn.xml

   c. Go to process-type (defines the JVM) under /opmn/process-manager/ias-instance/ias-component corresponding to the SOA JVM in use

   d. Remove aia home start-up parameter from the start-up parameter list

   e. Restart the SOA.

   You should be able to install the FP now.

Queue Issues

1. Issue: ECOs remain in the pending state and are not picked up for processing.

   Solution: By default, the Queue will be in the suspended mode. Click the Resume button to continue the queue processing.

2. Issue: Two ATOs for the same ECO appear in the process ECO tab.

   When a change is submitted, which triggers the Validate ECO Subscriber, and then released (which triggers ECO trigger) and not much interval is given between due to ACS thread is sleeping when the Validate ECO trigger picks up the data the change is already in released status. ACS does not pick up the snapshot data at the time when the process is triggered but the data when the ACS thread is running to pick up the data.

   Solution: There should be enough delay between submit and release so that we get the ECO status correctly and it gets queued up under either Validate or Process ECO queue.

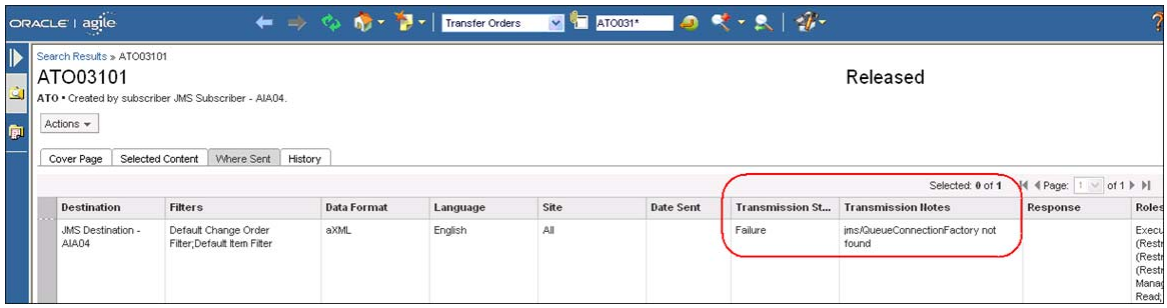
Otherwise if some changes need to auto implemented do not configure pre-release audit subscription for that particular work flow.

3. Issue: Once an ECO/MCO/SCO has been released in Agile, the Queue does not display any corresponding entry for the change order.

Solution:

a. Check Agile for ATO which was created on the release of the particular change order. Check the status on the Where Sent tab of the ATO.

b. If it shows a 'Failure' message, this implies that an error occurred while ACS was processing the publishing of the data to JMS destination. The error message is specified in the Transmission Notes column.

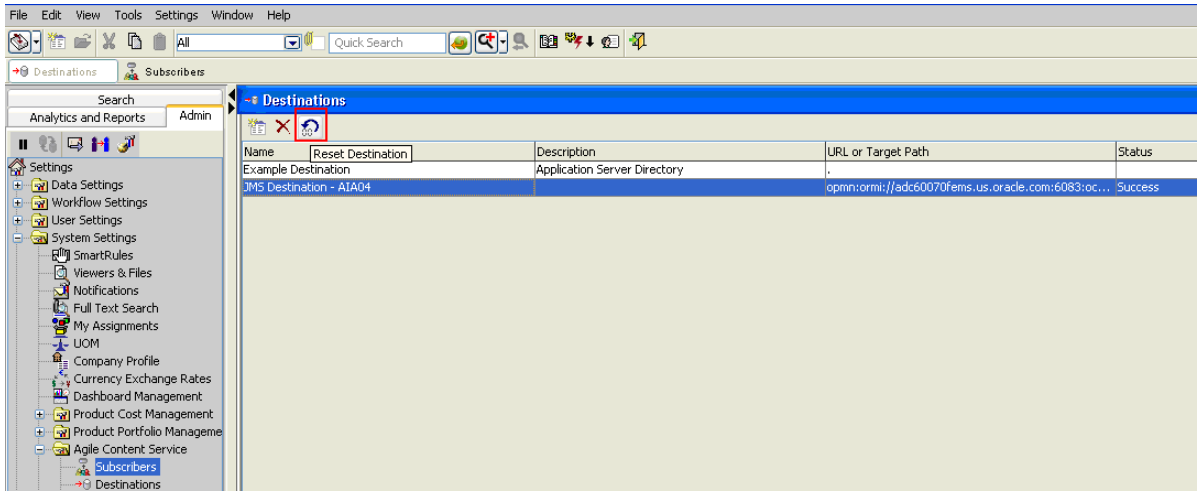


c. After you make any necessary changes to the transfer order or the destination to correct the problem, 'Reset' the destination to attempt delivery again. Once a destination has failed, no other transfer orders can be sent to that destination until it has been reset.

To reset the destination:

a. In Agile Java client, go to Admin > System Settings > Agile Content Service > Destinations.

b. Select the particular destination and click on the Reset button on the top.

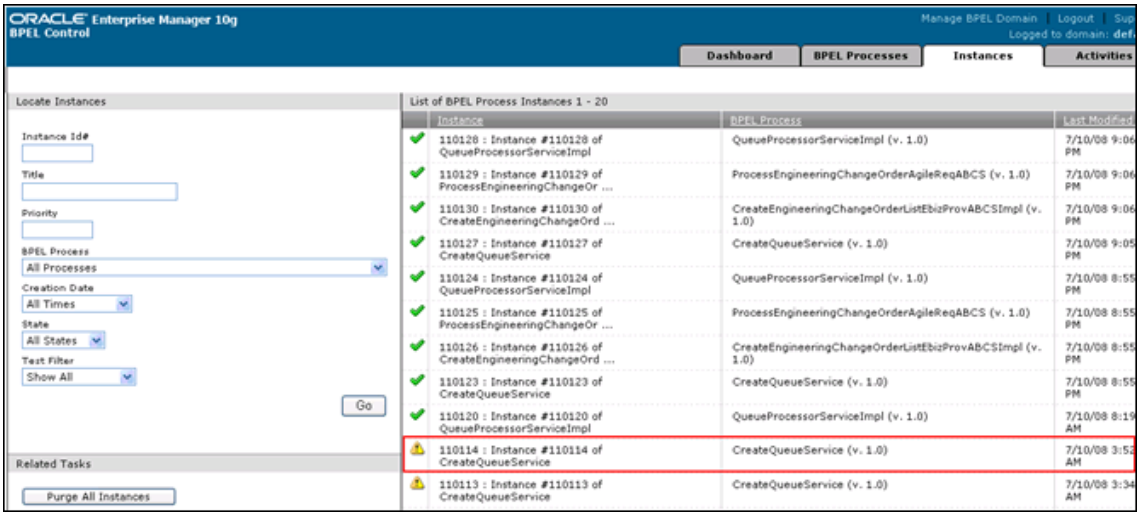


c. After resetting the Destination, test the Destination to ensure the Test is Successful for the Destination. In case it fails, this has to be resolved, mainly by ensuring all the ECO Queue settings are correct and OPMN Port specified in the URL is correct.

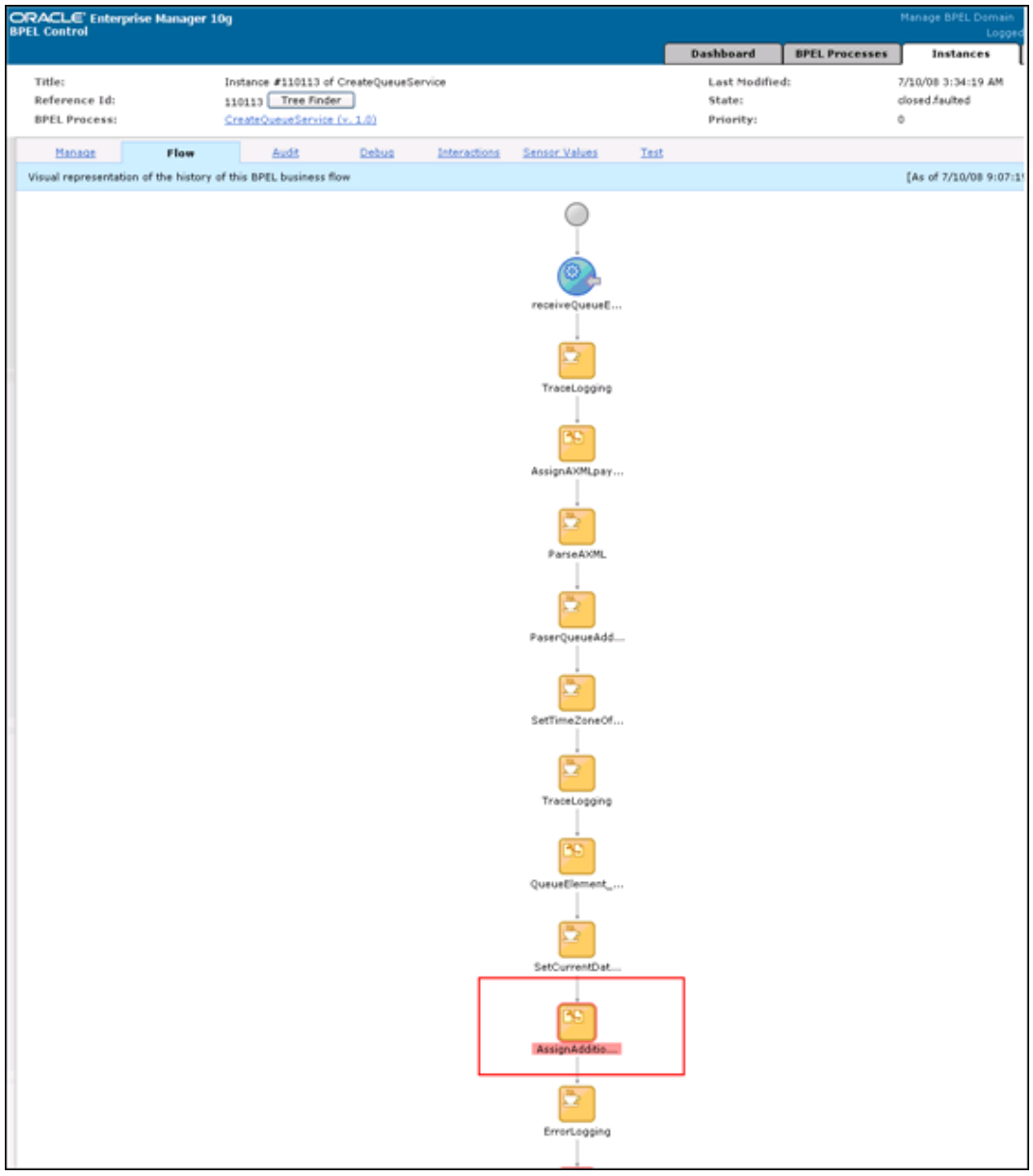
d. If the status of the ATO transfer is Success, it implies that the ACS publishing of data to JMS queue was successful. Then we need to troubleshoot in the BPEL console:

e. Navigate to the BPEL Console: http://<server name>:<port number>/BPELConsole.

f. Click on the Instances tab. Check for the instance of the *CreateQueueService* for which the error occurred.



g. Click on the Instance Name and go to the Flow link. In the BPEL flow shown, find the element at which the error has occurred.



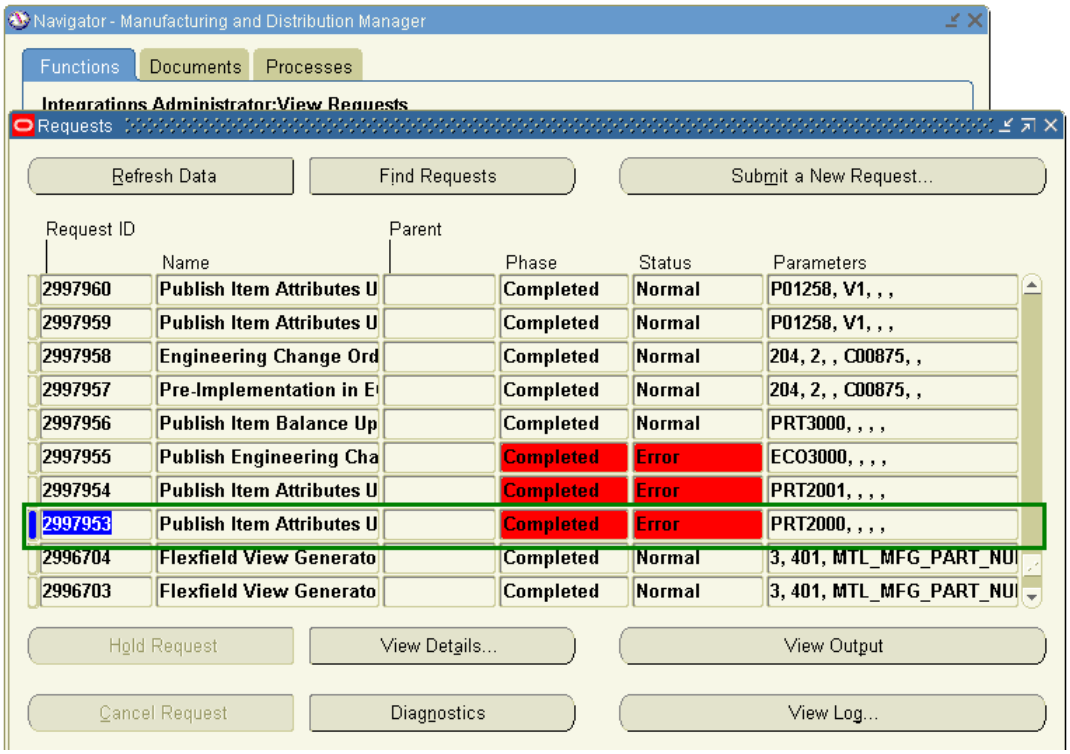
h. Click on the element to view the Activity Audit trail which will have details of the error.

Oracle E-Business Suite Issues

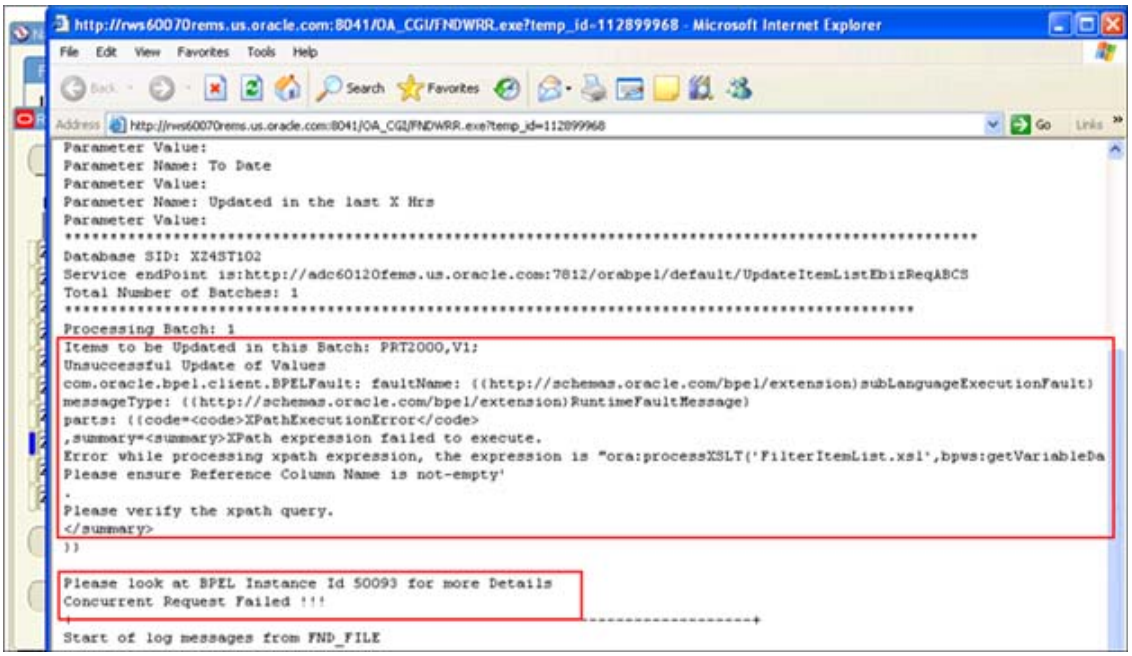
1. Issue: The status of the concurrent program request for one of the reverse flows is 'Error'

   Solution:

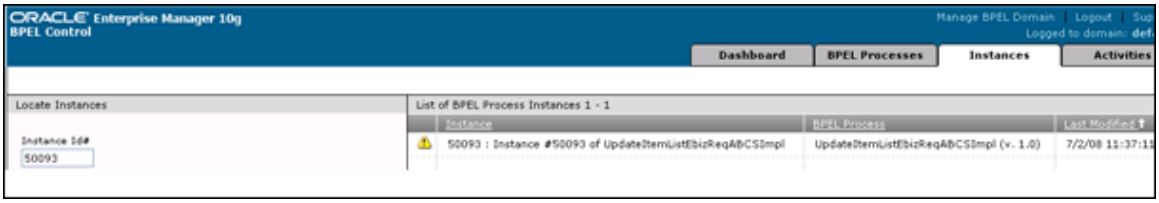
   a. If the concurrent program request shows an error status, in the View Requests tab, select the row with the error and click on the View Log button.



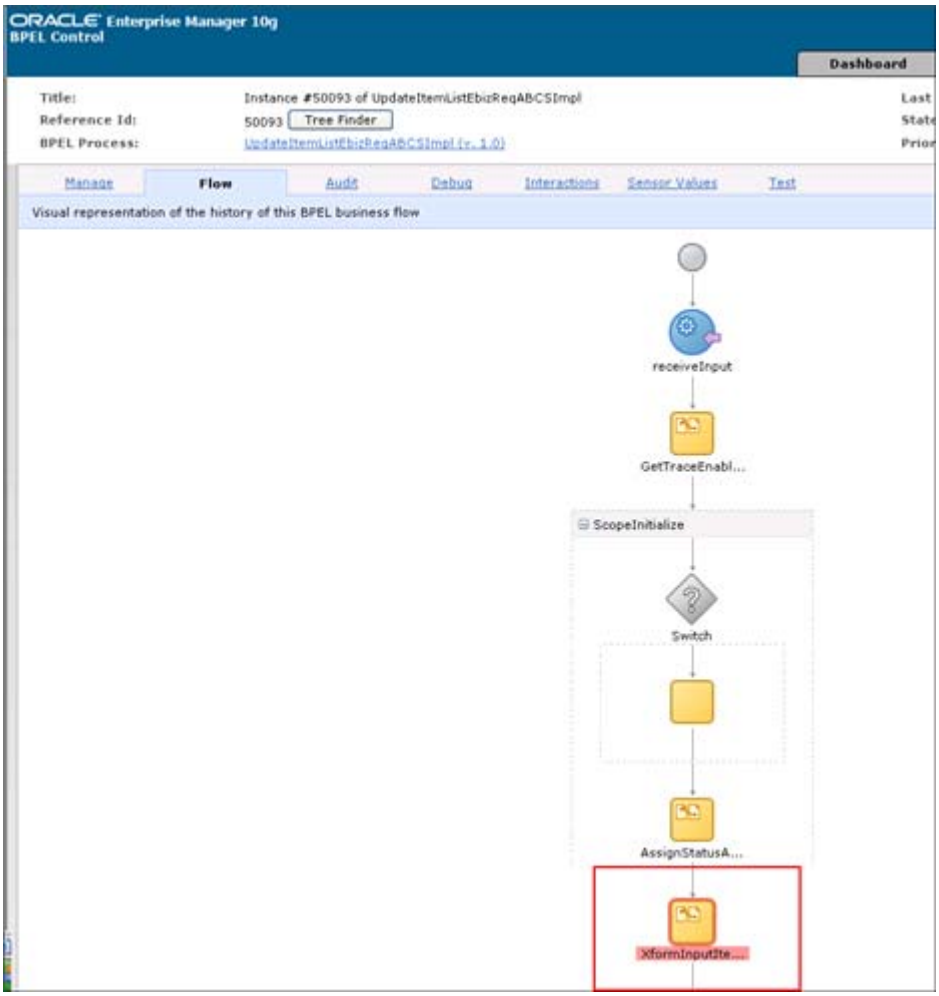
b. The error message is displayed there. If further details are required on the process instance that caused the error, note the BPEL process instance that appears in the log file.



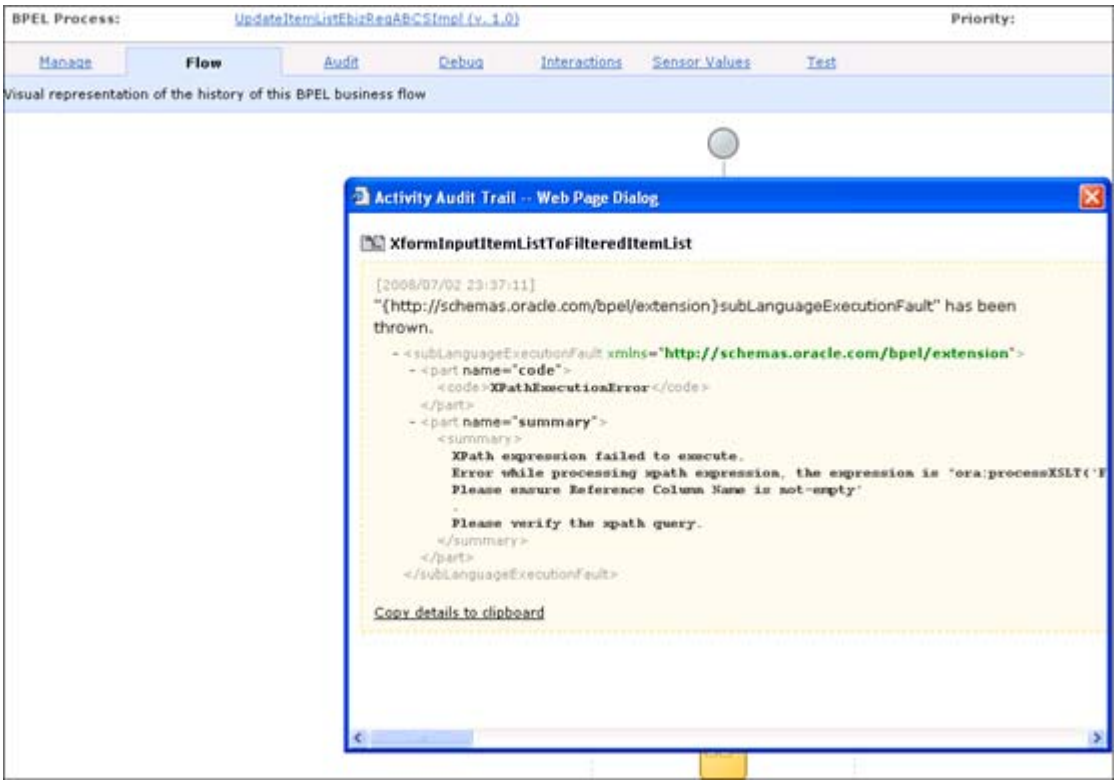
c. Navigate to the BPEL Console: http://<server name>:<port number>/BPELConsole. Click on the Instances tab and search for the specific instance ID.



d. Click on the Instance Name and go to the Flow link. In the BPEL flow shown, find the element at which the error has occurred.



e. Click on the element to view the Activity Audit trail which will have details of the error.



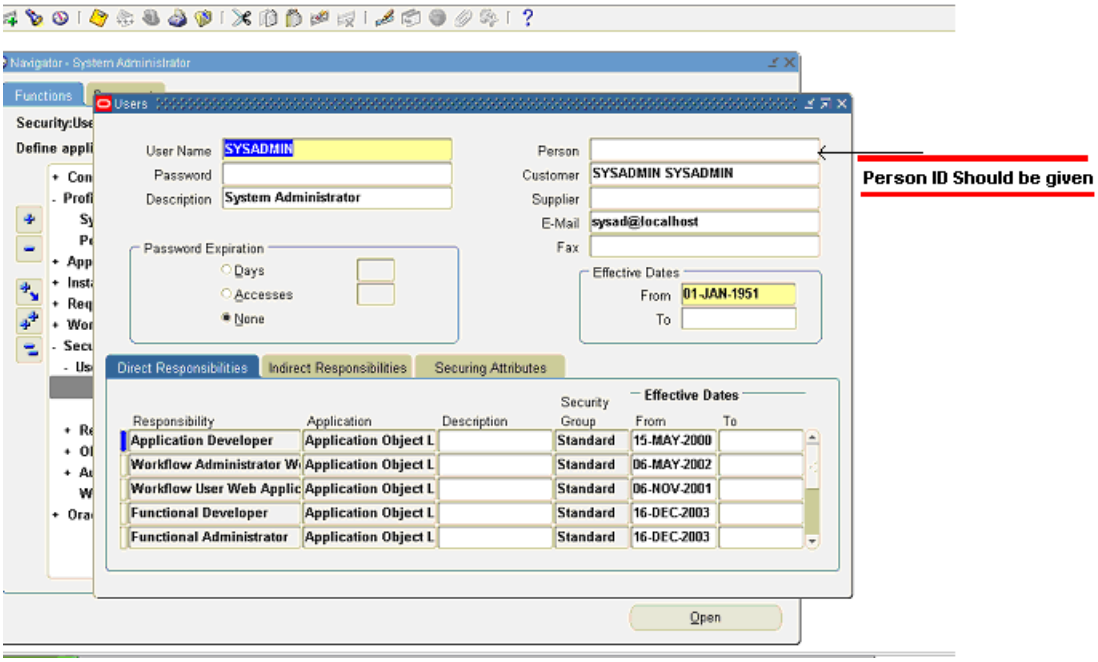
2. Issue: Create ECO flow gives the error message - "following user does not have the PersonId not attached to it".

Solution:

a. Check whether the Oracle EBS Integration User specified in the AIAConfigurationProperties.xml is the correct user or not.

b. If the user is correct then check whether the integration user has a person name assigned in system Administrator responsibility.

c. If the user is not assigned, the assign a valid user.



3. Issue: Unable to establish connection to "EbizConnectionPool".

Solution:

If the Database password is changed then the same should be changed in the Connection pool in the Application server console. Try establishing connection.

a. Login to http://<hostname>:<port>/em/oc4j_soa/Administration

b. Under Go to Task tab click on JDBC Resources/Under Connection pools "EbizConnectionPool"

c. Click on Test Connection to see that the connection is successful or not with the given user/pwd.

4. Issue: Concurrent Program Failed

Solution:

a. Check whether the Profile values for EBS Integration Proxy Server Host, EBS Integration Proxy Server Port are configured correctly in the profiles screen.

b. If not, then fill the following fields:

"EBS Integration Proxy Server Host" - set it to the <soa server /host name/>

"EBS Integration Proxy Server Port "- set it to the <soa server http /port number/ >

"EBS Integration Server Domain" - set it to <default>

"EBS Integration Server Host: Port" - set it as </http://host:port/> for the soa server