

**Oracle® Serialization and Tracking Integration  
Pack for Oracle® Pedigree and Serialization  
Manager and Oracle® E-Business Suite 3.1 -  
Implementation Guide**

Release 3.1

**Part No. E20512-03**

January 2012

**ORACLE®**

Oracle Serialization and Tracking Integration Pack for Oracle Pedigree and Serialization Manager and Oracle E-Business Suite 3.1 – Implementation Guide

Part No. E20512-03

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# Preface

Welcome to the Oracle Serialization and Tracking Integration Pack for Oracle Pedigree and Serialization Manager and Oracle E-Business Suite 3.1 - Implementation Guide.

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

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## Oracle AIA Guides

- Oracle Fusion Middleware Infrastructure Components and Utilities User's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1 (11.1.1.5.0)
- Oracle Fusion Middleware Installation and Upgrade Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1 (11.1.1.5.0)
- Oracle Fusion Middleware Concepts and Technologies Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1 (11.1.1.5.0)
- Oracle Fusion Middleware Reference Process Models User's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1 (11.1.1.5.0)
- Oracle Fusion Middleware Migration Guide for Oracle Application Integration Architecture 11g Release 1 (11.1.1.5.0)
- Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1 (11.1.1.5.0)

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## Additional Resources

The following resources are also available:

Resource	Location
Oracle Application Integration Architecture: Product-to-Guide Index	Oracle Technology Network: <a href="http://www.oracle.com/technetwork/index.html">http://www.oracle.com/technetwork/index.html</a>
Known Issues and Workarounds	My Oracle Support: <a href="https://support.oracle.com/">https://support.oracle.com/</a>
Release Notes	Oracle Technology Network: <a href="http://www.oracle.com/technetwork/index.html">http://www.oracle.com/technetwork/index.html</a>
Documentation updates	My Oracle Support: <a href="https://support.oracle.com/">https://support.oracle.com/</a>



# Part 1: Understanding the Delivered Integration

[Chapter 1: Oracle Serialization and Tracking Process Integration Pack](#)

[Chapter 2: Product Definition Process Integration](#)

[Chapter 3: Product Serialization Process Integration](#)

[Chapter 4: Serialized Item Tracking Process Integration](#)

# Chapter 1: Oracle Serialization and Tracking Process Integration Pack

This chapter provides an overview of the Oracle Serialization and Tracking Process Integration Pack and an overview of the Oracle Serialization and Tracking Process Integration Pack process flows.

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## Oracle Serialization and Tracking Process Integration Pack Overview

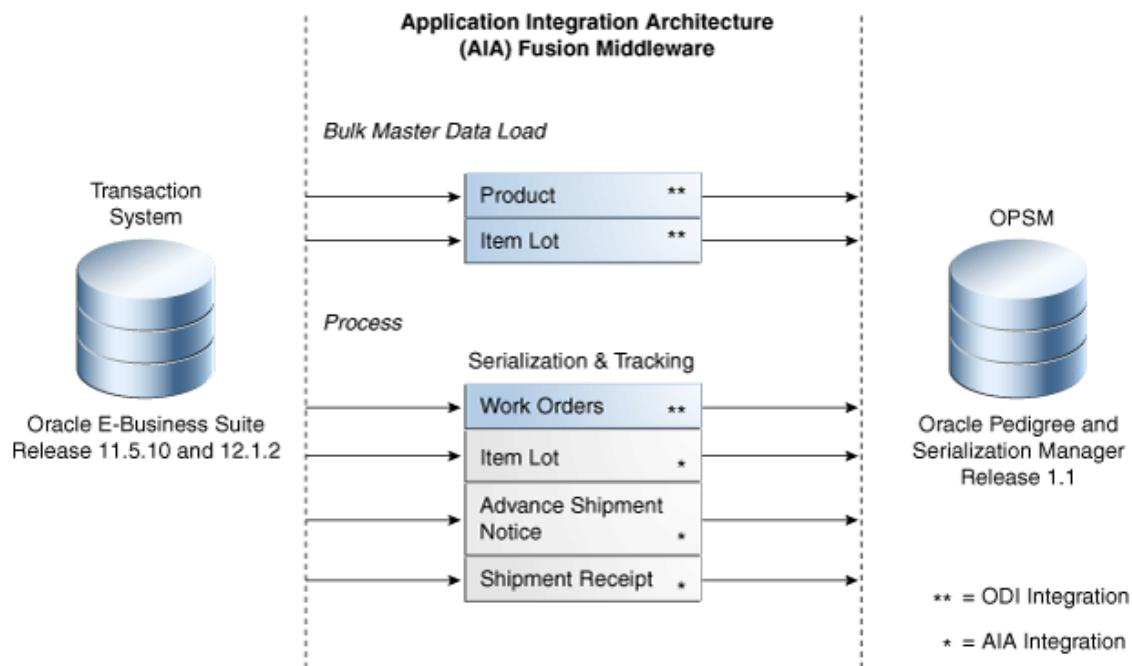
Oracle Pedigree and Serialization Manager (OPSM) is an application that enables companies to manage serialization of products and share serialized product data across the supply chain. OPSM can integrate with your existing manufacturing, shipping, and receiving transactional systems or it can operate as a standalone application. OPSM can support multiple transactional systems integrated to a single instance of OPSM. The multiple transactional systems may be multiple instances managed within your company or systems managed by your manufacturing and logistics partners. OPSM integrates with Oracle E-Business Suite to manage the business processes relevant to serialization and serialized item tracking. These processes are manufacturing, packaging, shipping, receiving, and return.

The initial integrations between OPSM Release 1.1 and Oracle E-Business Suite Release 11.5.10 and 12.1.2 are designed to address the primary process flows around the synchronization of product and lot information, creation of serials, and recording and/or tracking of serialized item events.

The initial integrations record and/or track the following events:

- Item and product definition synchronization
- Reserving serials for discrete manufacturing jobs and process manufacturing batches
- Synchronizing lot information
- Decommissioning serials when jobs or batches are cancelled or terminated
- Commissioning serials to the designated product and lot
- Shipping serialized items
- Receiving returned serialized items

This diagram illustrates the process integrations between Oracle E-Business Suite Release 11.5.10 and 12.1.2 and OPSM:



### Integration points between Oracle E-Business Suite and OPSM

The Oracle Serialization and Tracking Process Integration Pack contains these process integrations:

- Product Definition (includes Product Synchronization)
- Work Order Serialization
- Lot Synchronization
- Commission Serials
- Serialized Item Tracking (includes Advance Shipment Notice and Shipment Receipt)

Each one of these process integrations is discussed in detail in this implementation guide.

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## Oracle Serialization and Tracking Process Integration Pack Process Flows

This section provides a brief overview and diagram of each of the Oracle Serialization and Tracking Process Integration Pack process flows.

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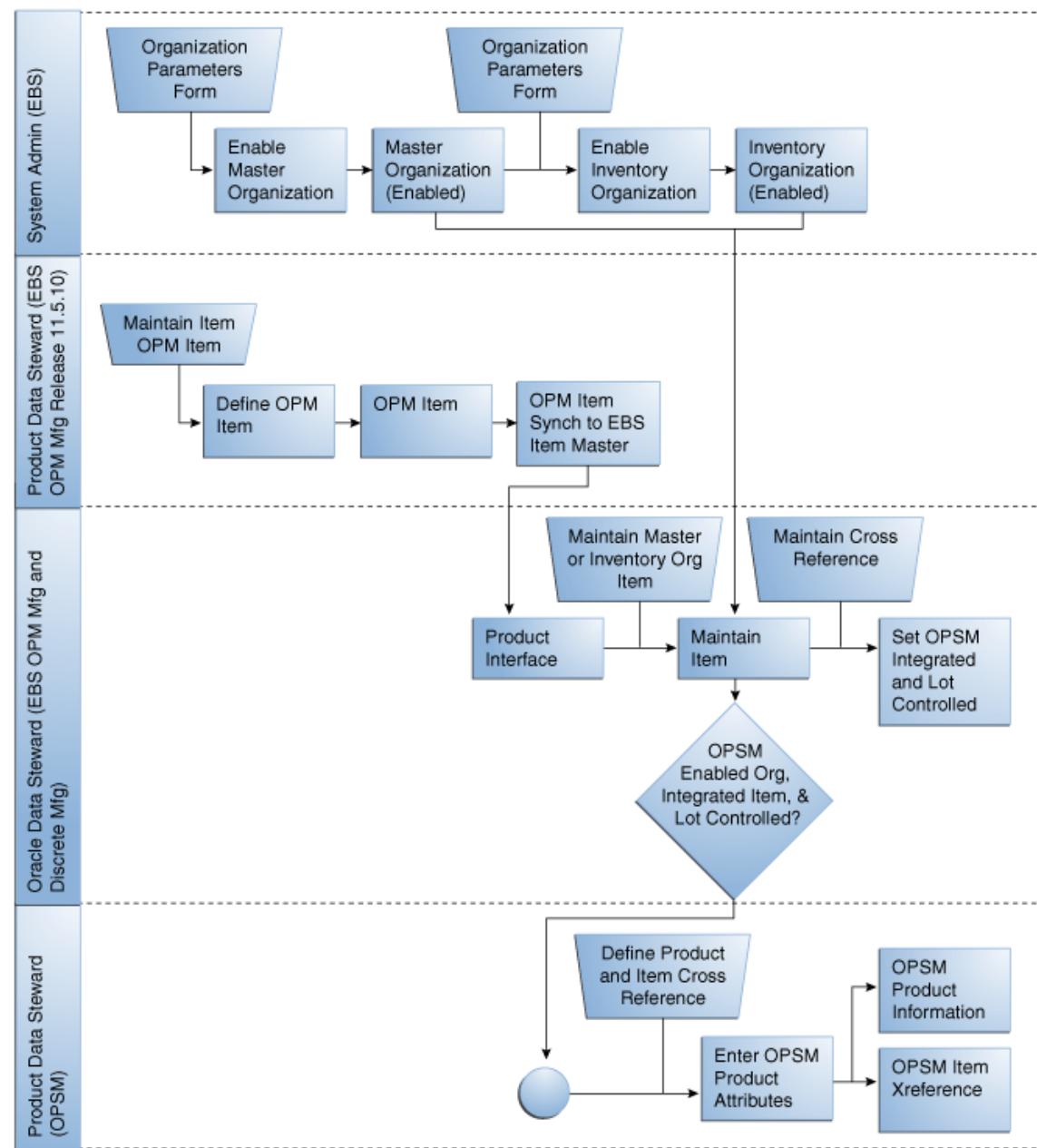
### Product Definition Process Flows

The Product Definition process integration contains two process flows. The Product Definition process flow and the Product Synchronization process flow.

## Product Definition

This diagram illustrates the Product Definition business process flow:

Product Definition Business Process Flow



Product Definition business process flow

New products can be created directly in the Oracle Pedigree and Serialization Manager (OPSM) application with a cross reference to the item in one or more transactional systems (Oracle Inventory). OPSM is the central repository for product definitions. OPSM stores the attributes used to identify the product along with the required regulatory product attributes required to generate a pedigree. OPSM also stores product packaging level information and attributes that control serialization of the product packaging unit. The serialization process control attributes determine the serial type, serial generation overage amounts, and serial range control. In addition, process control attributes for the product determine if serials are tracked for transactions with no change of ownership, the creation of a pedigree, and whether the serials are generated by OPSM or externally for the product. Process controls for the product can be overridden by location.

Products can be defined in OPSM in these ways:

- Using the Maintain Products page in OPSM. Product information can be created, modified, or deleted using the OPSM product pages.
- Calling the OPSM Define Product and Item Cross Reference page from the Oracle Inventory Master Item window or from the Organization Item window.

The Source System Precedence setting in the OPSM system parameters controls whether product and product detail information can be updated from any source system or only from the owning source system. The owning source system is recorded on the product and product detail records.

- Using the batch product synchronization process between Oracle E-Business Suite and OPSM.

The Source System Precedence setting in the OPSM system parameters controls whether product and product detail information can be updated from any source system or only from the owning source system. The owning source system is recorded on the product and product detail records.

## See Also

[Product Synchronization](#)

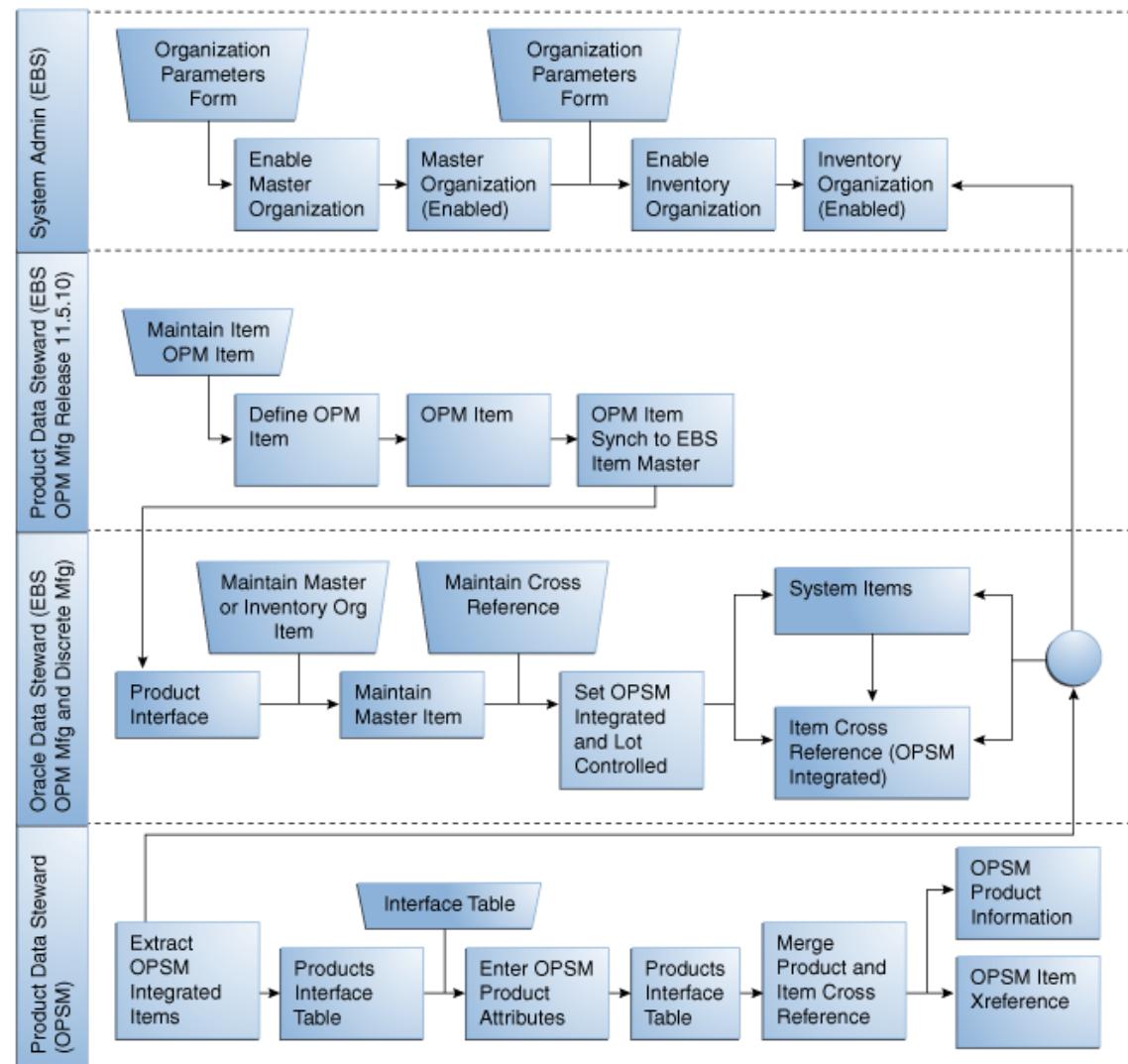
[Product Definition Process Integration](#)

[Configuring the Product Definition Process Integration](#)

## Product Synchronization

This diagram illustrates the Product Synchronization business process flow:

Product Synchronization Business Process Flow



### Product Synchronization business process flow

The batch product synchronization process is between Oracle E- Business Suite and OPSM. Items flagged as *OPSM Integrated* in the EBS Item Cross Reference are extracted to the OPSM Product Interface table. This table is used to further enrich the data with the OPSM specific product information, which is then loaded into the OPSM system.

The Source System Precedence setting in the OPSM system parameters controls whether product and product detail information can be updated from any source system or only from the owning source system. The owning source system is recorded on the product and product detail records.

The product synchronization process can occur for a full load or incremental load of the item information between the applications. The full load synchronizes all OPSM Integrated items between the two applications. The incremental load synchronizes only the items newly flagged as *OPSM Integrated* from the last time the synchronization process was performed between the two applications.

### See Also

[Product Definition Process Integration](#)

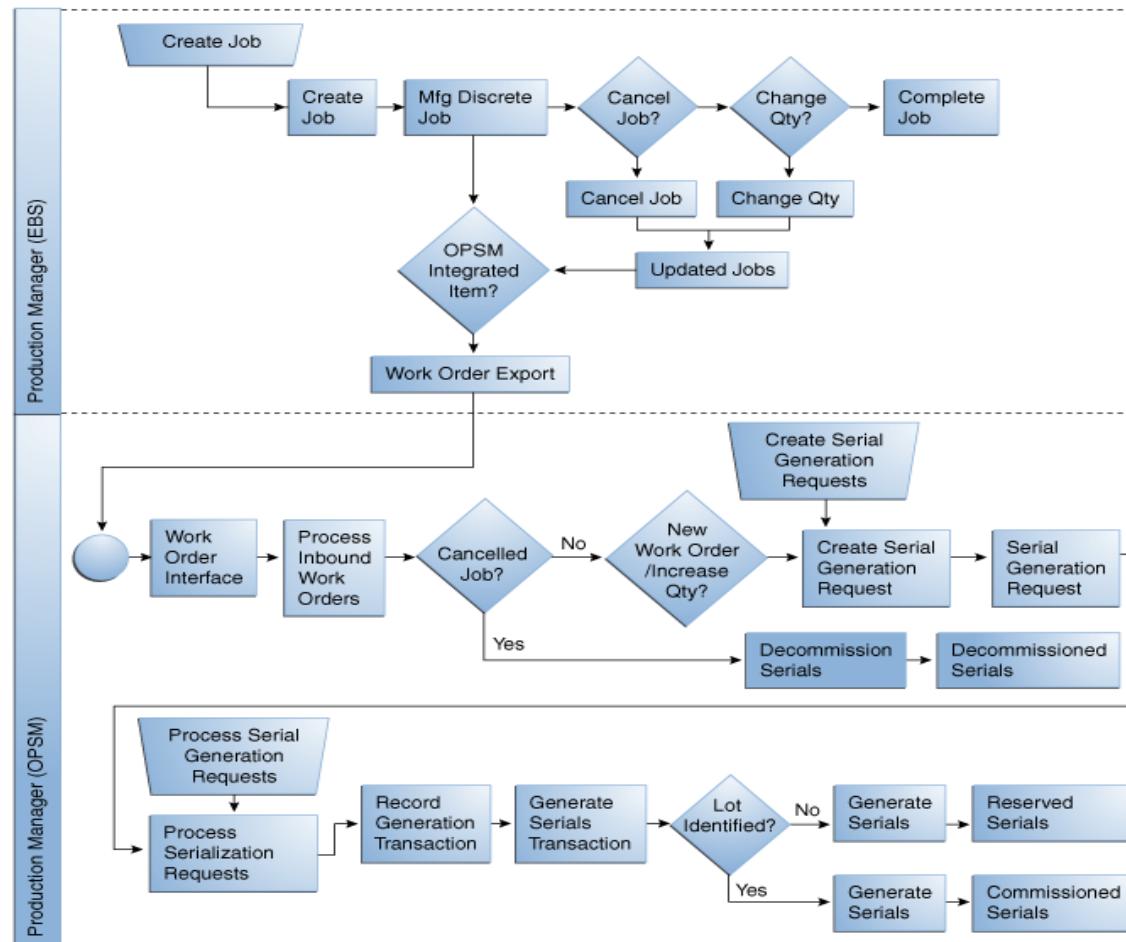
[Configuring the Product Definition Process Integration](#)

## Work Order Serialization Process Flows

The Work Order Serialization process integration contains two process flows. The Work Order Serialization process flow for Oracle Discrete Manufacturing and the Work Order Serialization process flow for Oracle Process Manufacturing.

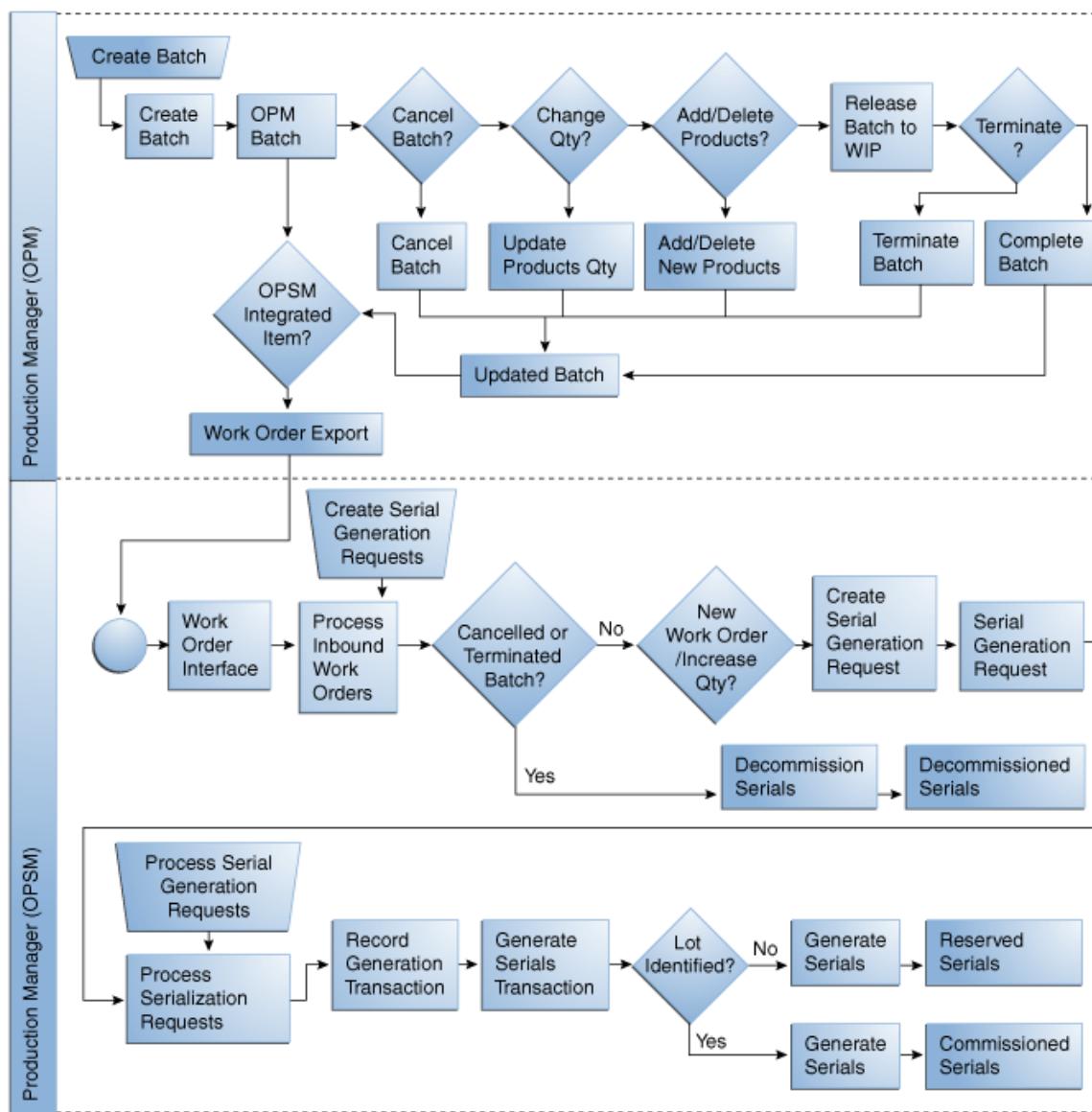
### Work Order Serialization

These diagrams illustrate the Work Order Serialization business process flows for discrete and process manufacturing:



[Work Order Serialization business process flow \(Discrete Manufacturing\)](#)

## Work Order Serialization Business Process Flow (Process Manufacturing)



## Work Order Serialization business process flow (Process Manufacturing)

A work order is created in Oracle E-Business Suite for the manufacturing or packaging of the Oracle Pedigree and Serialization Manager (OPSM) serialized product. Based on user specified criteria, the work order is extracted by OPSM for the generation of serials. OPSM then generates serials for one or more products identified on the work order. The serials that are generated are stored in OPSM along with a transaction record of the serials generation that contains the work order reference information. Any changes to the work order that increases the output of the work order or identifies a new product results in a request for additional serials to be generated in OPSM. A reduction in the output quantity does not reduce the quantity of serials or change the status of the serials. If the work order is cancelled, the serials are *Decommissioned*. If the work order is terminated, serials that are at a *Reserved* status are decommissioned when the work order is closed. Serials are generated at either a *Reserved* or *Commissioned* status. If both the product and the lot are identified on the serial generation request, the serials are created as *Commissioned*. If either the product or lot is unknown or the lot has not been created in the transactional system and synchronized to OPSM, the serials are generated in a *Reserved* status.

## See Also

[Product Serialization Process Integration](#)

[Configuring Product Serialization Process Integration](#)

## Lot Synchronization Process Flows

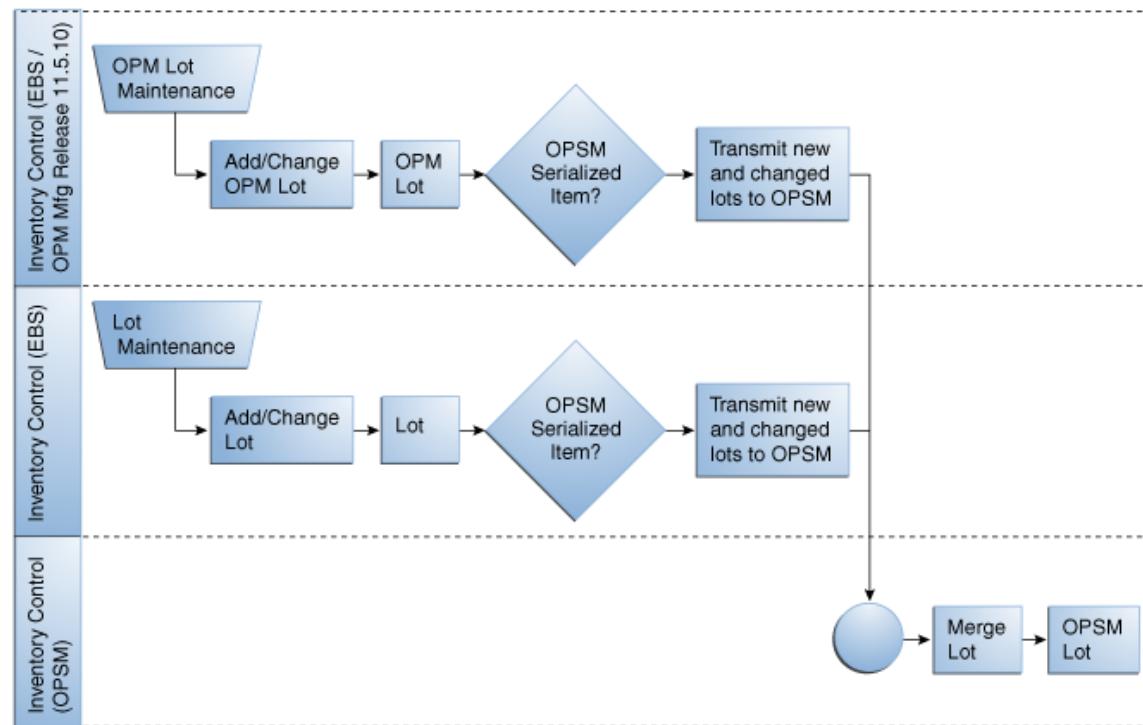
The Lot Synchronization process integration contains four process flows. The process flows are:

- Real-time Lot Synchronization process flow for Oracle Discrete Manufacturing.
- Bulk load Lot Synchronization process flow for Oracle Discrete Manufacturing.
- Real-time Lot Synchronization process flow for Oracle Process Manufacturing
- Bulk load Lot Synchronization process flow for Oracle Process Manufacturing.

### Real Time Lot Synchronization

This diagram illustrates the real-time Lot Synchronization business process flow for discrete and process manufacturing:

Lot Synchronization Business Process Flow



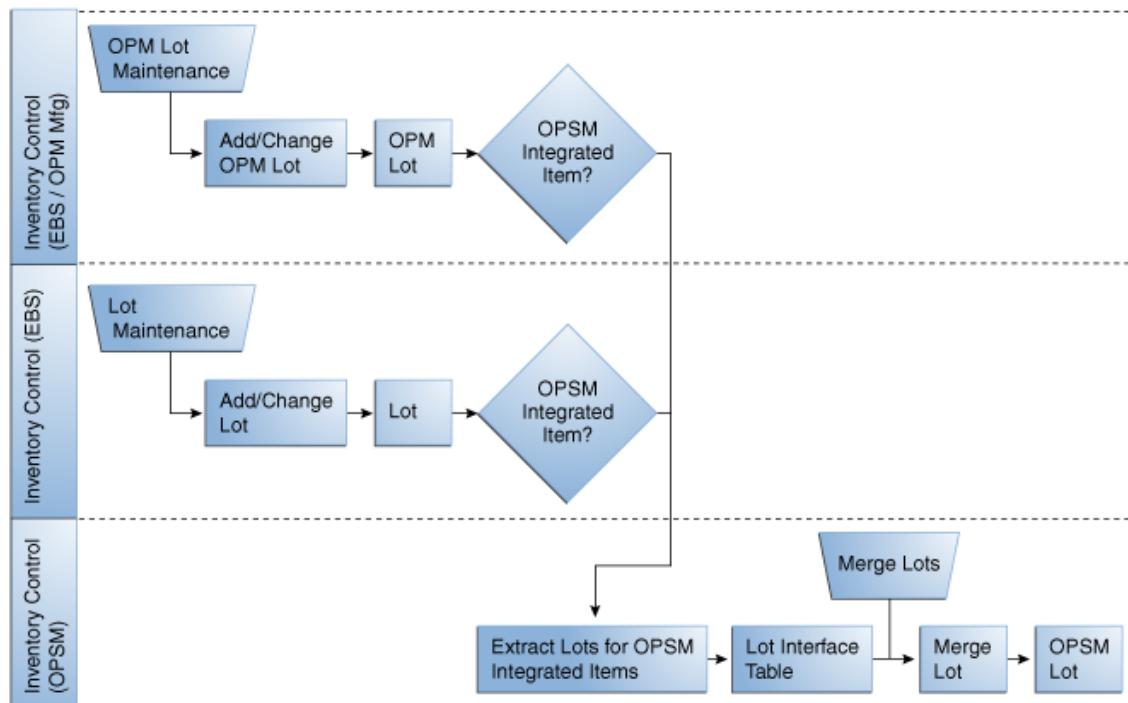
### Real Time Lot Synchronization business process flow

Lot information is synchronized real-time to the Oracle Pedigree and Serialization Manager (OPSM) application from Oracle E-Business Suite when a lot is created or modified. Additional modification of the lot master data including the lot expiration date can occur post manufacturing. Changes to the lot information will continue to be synchronized independent of the manufacturing process.

## Bulk Load Lot Synchronization

This diagram illustrates the bulk load Lot Synchronization business process flow for discrete and process manufacturing:

Lot Synchronization Business Process Flow



### Bulk Load Lot Synchronization business process flow

In addition, lot information can be bulk synchronized from Oracle E- Business Suite to OPSM using Oracle Data Integrator (ODI). The bulk lot synchronization process can occur for a full load or incremental load of the lot information between the applications. The full load synchronizes all lot information for OPSM Integrated items between the two applications. The incremental load synchronizes only the new or updated lot information from the last time the synchronization process was performed between the two applications.

#### See Also

[Product Serialization Process Integration](#)

[Configuring Product Serialization Process Integration](#)

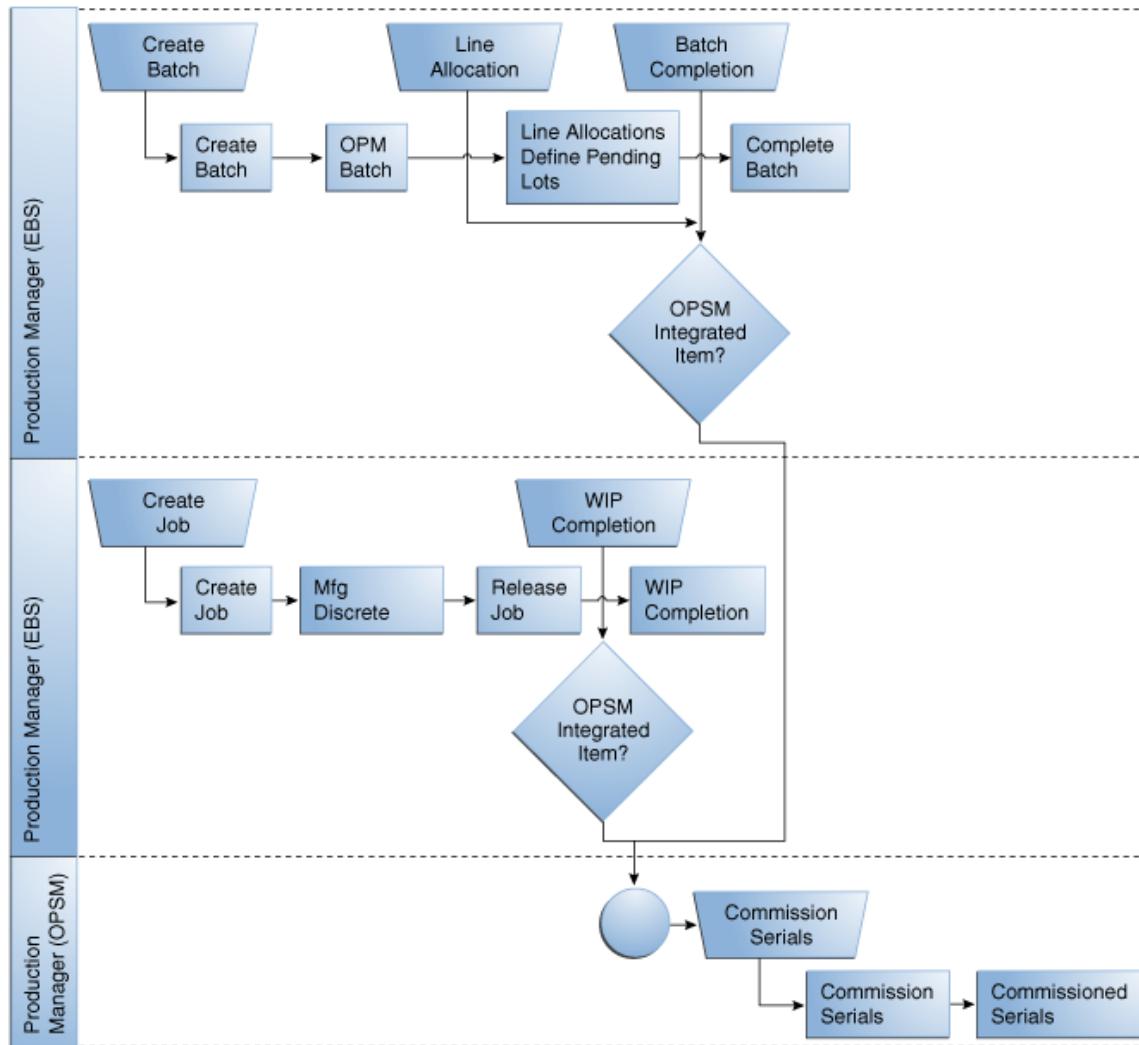
## Commission Serials Process Flows

The Commission Serials process integration contains two process flows. The Commission Serials process flow for Oracle Discrete Manufacturing and the Commission Serials process flow for Oracle Process Manufacturing.

## Commission Serials

This diagram illustrates the Commission Serials business process flow for discrete and process manufacturing:

Commission Serials Business Process Flow



### Commission Serials business process flow

A work order (job or batch) is created in Oracle E-Business Suite (Oracle Discrete Manufacturing and Oracle Process Manufacturing) for the manufacturing of the Oracle Pedigree and Serialization Manager (OPSM) integrated item. During job completion or batch completion, you are able to invoke the OPSM Commission Serials page and commission the serials to the job or batch.

#### See Also

[Product Serialization Process Integration](#)

[Configuring Product Serialization Process Integration](#)

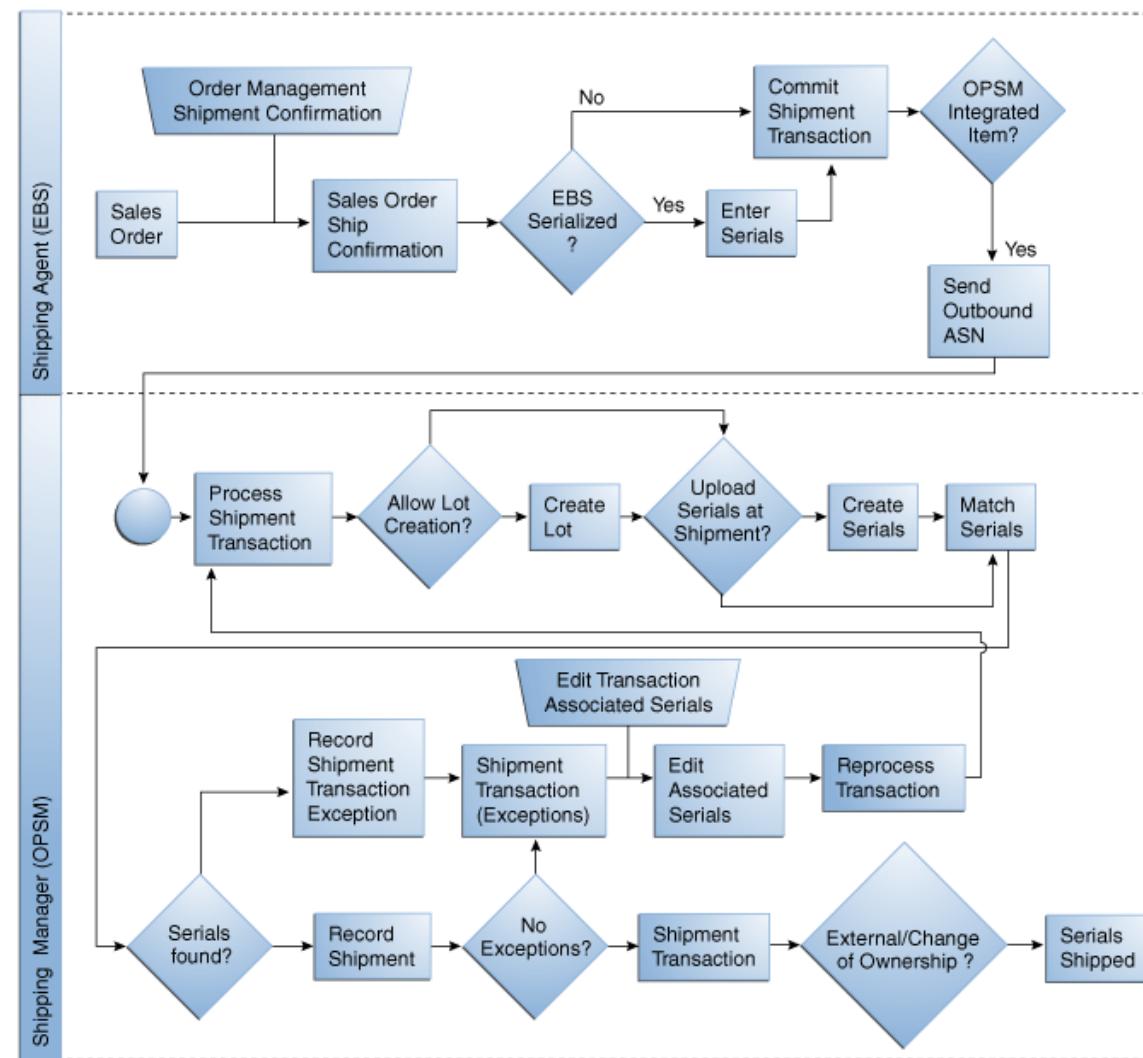
## Serialized Item Tracking Process Flows

The Serialized Item Tracking process integration contains two process flows. The Shipment Transaction process flow (Advance Shipment Notice) and the Shipment Receipt (Return) Transaction process flow.

### Serialized Item Tracking

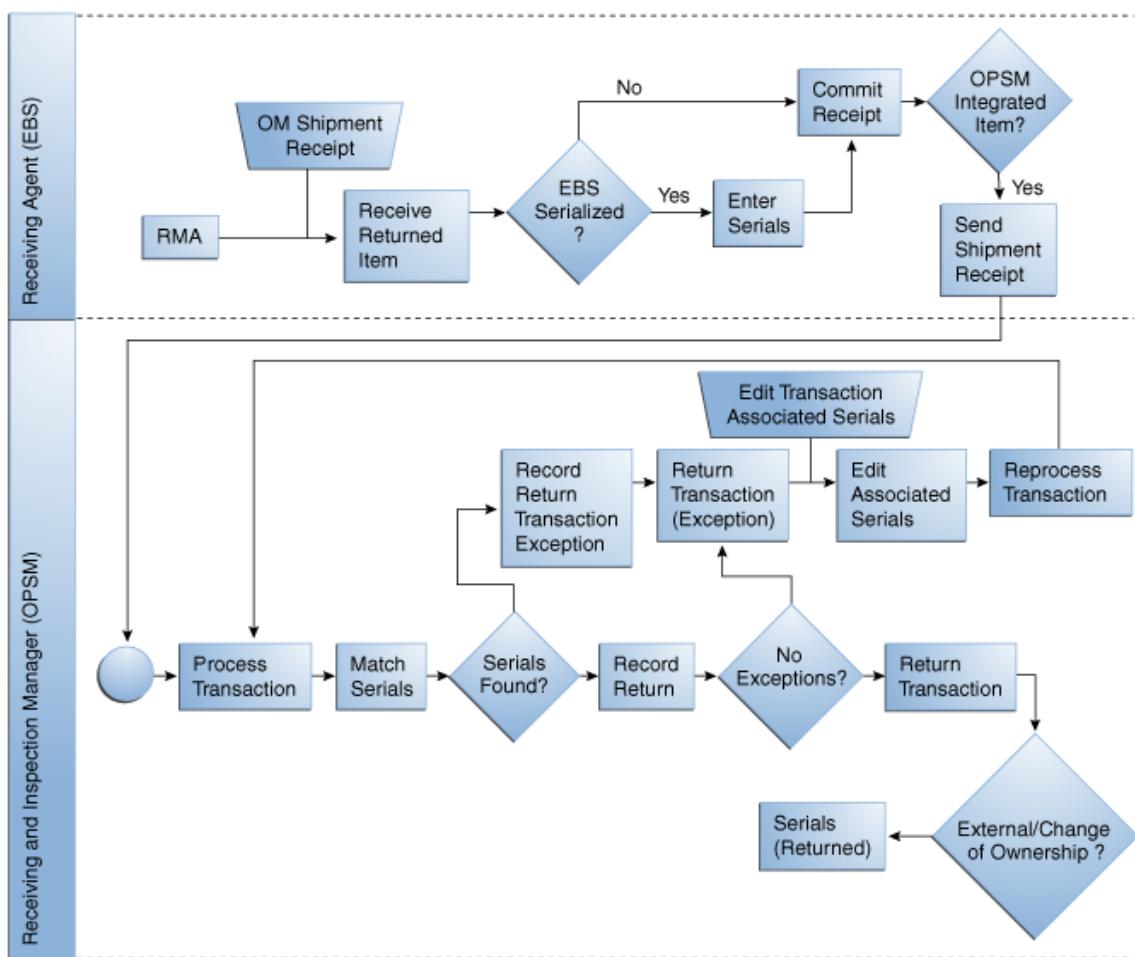
These diagrams illustrate the Shipment Transaction and Shipment Receipt (Return) Transaction business process flows:

Shipment Transaction Business Process Flow



Shipment Transaction business process flow

## Shipment Receipt (Return) Transaction Business Process Flow



## Shipment Receipt (Return) Transaction business process flow

Oracle Pedigree and Serialization Manager (OPSM) tracks the change of ownership of serialized items. This includes the change of ownership when an item is sold to or returned from an external customer. Optionally, OPSM will record shipments or returns to internal customers where there is no change of ownership. At ship confirmation, information about the shipped items including the associated serials, product packaging (inner serialized packages), and the product containerization (outer packaging layers) is transmitted to the OPSM application.

The OPSM application will optionally create the lot number at the time of shipment, record the shipment transaction, update the packaging hierarchy, associate the serials to the shipment transaction, and update the state of the serials to *Shipped*. Serials shipped to a customer designated for change of ownership are transmitted to the defined serial destinations. Serialized items returned from the customer will similarly be recorded. The OPSM application will log the Return transaction with the associated serials, update the packaging hierarchy, modify the state of the serials to *Returned*, and identify any exceptions such as, return of serials that were not previously shipped, or did not previously exist, and transmit the returned serials to the defined serial destination.

**Note:** Serials generated by Oracle E-Business Suite are created in OPSM at ship confirmation.

**See Also**

[Serialized Item Tracking Process Integration](#)

[Configuring the Serialized Item Tracking Process Integration](#)

# Chapter 2: Product Definition Process Integration

This chapter provides an overview of the Product Definition Process Integration and discusses:

- Product Definition process flow
- Product Synchronization process flow

## Product Definition Process Integration Overview

The Oracle Pedigree and Serialization Manager (OPSM) application is the central repository for product definitions. New products can be created directly in the OPSM application with a cross reference to an item in Oracle E-Business Suite (Oracle Inventory). Keeping the product information and its item number cross-reference information up to date is crucial in a serialization environment.

The Product Definition Process Integration enables product and item number cross-reference information to be integrated and synchronized between Oracle E-Business Suite (Oracle Inventory) and OPSM. The Product Definition Process Integration supports these process flows:

- Product Definition:
  - A user can define item number information using the Master Item window or Organization Item window in Oracle E-Business Suite (Oracle Inventory) and integrate that information to OPSM by calling the OPSM Define Product and Item Cross Reference page through a menu option on the window. This option is only available for items marked with a Cross Reference Type of *OPSM INTEGRATED = YES* in Oracle Inventory.
  - A user can create product and item cross-reference information directly in OPSM by using the Maintain Products page. Product information can be created, modified, and deleted using pages in OPSM. This option is only available for items marked with a Cross Reference Type of *OPSM INTEGRATED = YES* in Oracle Inventory.
- Product Synchronization:
  - Using a Full Load Product Synchronization process all item number information is synchronized between Oracle E-Business Suite (Oracle Inventory) and OPSM. Oracle Data Integrator (ODI) takes all items marked with a Cross Reference Type of *OPSM INTEGRATED = YES* in Oracle Inventory and transfers them to the OPSM Product Interface table. The transferred records in the OPSM Product Interface table are further enriched with the OPSM Product Information, which is then loaded into OPSM.
  - Using an Incremental Load Product Synchronization process a subset of item number information is synchronized between Oracle E-Business Suite (Oracle Inventory) and OPSM. Oracle Data Integrator (ODI) takes all items newly flagged as *OPSM INTEGRATED=YES* since the last extract and transfers them to the OPSM Product Interface table. The transferred records in the OPSM Product Interface table are further enriched with the OPSM Product Information, which is then loaded into OPSM.

## See Also

### [Configuring the Product Definition Process Integration](#)

*Oracle Inventory User's Guide*, "Defining and Maintaining Item Information"

*Oracle Pedigree and Serialization Manager Process Guide*, "Setting Up Oracle Pedigree and Serialization Manager"

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## Solution Assumptions and Constraints

The solution assumptions and constraints for the Product Definition Process Integration are:

1. The Oracle Pedigree and Serialization Manager (OPSM) application is designed as a stand-alone application on Fusion 11g technology stack. OPSM does not have any dependencies on Fusion Applications or Fusion Applcore and foundation components.
2. Translations in Oracle E-Business Suite are not synchronized into OPSM. OPSM does not support translations of database content.
3. Item basic information is maintained in Oracle E-Business Suite and product details are maintained in OPSM.
4. The Oracle E-Business Suite Profile Option INV: Enable OPSM Checkbox is manually defined and enabled.
5. Master and Inventory organizations of an item are OPSM enabled in Oracle E-Business Suite (Oracle Inventory).
6. Multiple master organizations for synchronization are not supported.
7. Item cross reference type should be "YES" for the OPSM Integrated Item at the Master Organization and is not disabled at the item Inventory Organization level in Oracle E-Business Suite (Oracle Inventory).
8. Item must be lot controlled in Oracle E-Business Suite (Oracle Inventory) at the Master Item level for Product Synchronization and at the Organization level for Work Order Serialization, Commission Serials, Lot Synchronization, and Serialized Item Tracking.

---

## Product Definition Process Flow

The Product Definition process flow enables you to create an OPSM Integrated item in Oracle E-Business Suite (Oracle Inventory) using the Master Item or Organization Item windows. From the Master Item window or the Organization Item window, the Oracle Pedigree and Serialization Manager (OPSM) Define Product and Item Cross Reference page can be called by selecting from the Tools menu the Define Product in OPSM option. This enables you to define all of the different attributes for the item in OPSM.

The product definition process flow does not use Oracle Data Integrator (ODI) or AIA. This process flow entails an Oracle E-Business Suite window to an OPSM page transfer.

---

## Product Definition Process Flow

### To Define a Product:

1. Define an item using the Master Item window in Oracle E-Business Suite (Oracle Inventory).

**2. Define the item as lot controlled.**

On the Inventory tab of the Master Item window, select **Full Control** for the Lot Control field.

**3. Define the Item Cross Reference Type for the item as OPSM INTEGRATED.**

Select Cross References from the Tools menu in the Master Item window and then select the Item Cross Reference Type of **OPSM INTEGRATED** using the Item Cross Reference Assignment window.

**4. Clear the Applicable to All Organizations check box using the Item Cross Reference Assignment window.**

**5. Enable the item cross reference for the master organization level using the Item Cross Reference Assignment window.**

Select **YES** for the Value field for the master organization.

**6. Click the Define Flexfields icon.**

The Item Cross-References window appears.

**7. Enter the OPSM Serial Type as a flex field for the item cross reference and click the OK button.**

**For more information** on setting up flexfield item cross references, see [Setting Up Oracle E-Business Suite](#).

**8. Save your work in Oracle E-Business Suite (Oracle Inventory).**

**9. Invoke the OPSM Define Product and Item Cross Reference page.**

Select Define Product in OPSM from the Tools menu in the Master Item window.

The OPSM Define Product and Item Cross Reference page is called asynchronously. After the OPSM page is called, you can close Oracle E-Business Suite (Oracle Inventory) and continue to define the product attributes in OPSM. The item number and description is passed to this page.

**Note:** This page can also be called from the Organization Item window.

**10. Define the product and product detail or select an existing product and product detail in OPSM using the Define Product and Item Cross Reference page.**

**11. (Optional) Override the process controls by location for the product using the Product Process Controls and Location Overrides page.**

Click the Product Location Override button on the Define Product and Item Cross Reference page.

**12. Save your work in OPSM.**

**See Also**[Configuring the Product Definition Process Integration](#)[Oracle Inventory User's Guide](#), "Defining and Maintaining Item Information"[Oracle Pedigree and Serialization Manager Process Guide](#), "Setting Up Oracle and Pedigree Serialization Manager"

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## Product Synchronization Process Flow

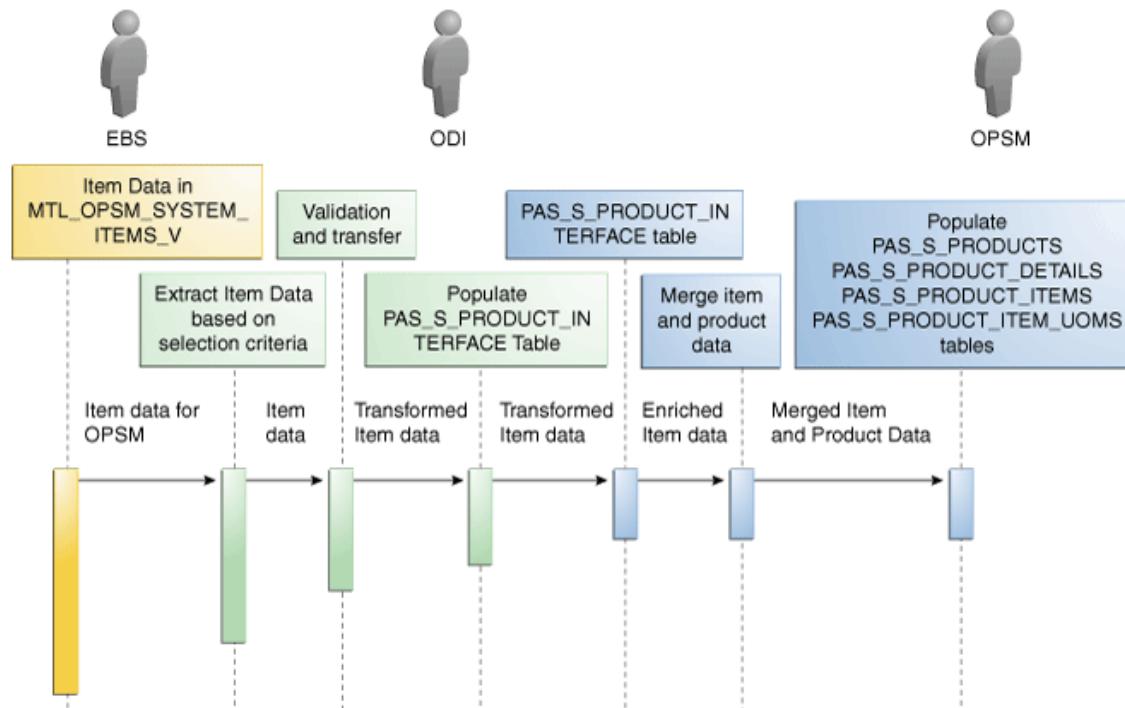
The Product Synchronization process flows transfer OPSM Integrated items created in Oracle E-Business Suite (Oracle Inventory) to Oracle Pedigree and Serialization Manager (OPSM) using Oracle Data Integrator (ODI). Product Synchronization can occur for a full load of items or an incremental load (items newly flagged as *OPSM Integrated*) since the last data extract.

To synchronize item data from Oracle E-Business Suite to OPSM the ODI tool is used. The mode of transport is view to a table. For the ODI interface Oracle E-Business Suite MTL\_OPSM\_SYSTEM\_ITEMS\_V view is the source view and OPSM PAS\_S\_PRODUCT\_INTERFACE table is the target table.

---

### Product Synchronization Process Flow

This diagram illustrates the Product Synchronization sequence diagram:



[Product Synchronization sequence diagram](#)

**To PERFORM Product Synchronization:**

1. Define one or more items in Oracle E-Business Suite (Oracle Inventory).

2. Navigate to the OPSM Product Synchronization page.

System Setup > Product Synchronization

3. Run the Product Synchronization batch process.

Click the Submit New Instance button in the upper right hand corner of the Product Synchronization page.

4. Select the options for the Product Synchronization process.

- a. Select the Synchronization Action of **Extract Items**.
- b. Select the Extract Scenario Name representing a full or incremental load.
- c. Select the Source System where you are going to synchronize item information from into OPSM.

5. Click the OK button to initiate the Product Synchronization process.

If you selected an extract scenario representing a full load, the Product Synchronization Extract Items background process uses ODI (OracleEbiz To PAS ItemSync Interface) to pull item bulk data from the MTL\_OPSM\_SYSTEM\_ITEMS\_V view and transforms the data into the target OPSM Products Interface table format, and then transfers the data to the OPSM Products Interface table (PAS\_S\_PRODUCT\_INTERFACE).

If you selected an extract scenario representing an incremental load, the Product Synchronization Extract Items background process uses ODI (OracleEbiz To PAS ItemSync Interface) to pull items newly flagged as *OPSM Integrated* since the last data extract from the MTL\_OPSM\_SYSTEM\_ITEMS\_V view and transfers the data to the OPSM Products Interface table (PAS\_S\_PRODUCT\_INTERFACE).

If items have previously been synchronized to OPSM then:

- Item number from MTL\_OPSM\_SYSTEM\_ITEMS\_V view and item number from PAS\_S\_PROD\_ITEM\_DETAIL\_UOM\_V view need to match.
- Primary uom code of MTL\_OPSM\_SYSTEM\_ITEMS\_V view and item uom of PAS\_S\_PROD\_ITEM\_DETAIL\_UOM\_V view need to match.
- Source System from MTL\_OPSM\_SYSTEM\_ITEMS\_V view and source system of PAS\_S\_PROD\_ITEM\_DETAIL\_UOM\_V view need to match.
- ODI will also populate the product information in OPSM Products Interface table (PAS\_S\_PRODUCT\_INTERFACE).

Upon completion of processing, an email notification message is sent to the ODI administrator indicating the outcome of the processing and the appropriate counts of business transactions extracted and loaded. When an error occurs, the AIA error asynchronous BPEL process is called for error handling and notification.

6. Enrich the extracted data created from the Product Synchronization process using an Open Interface.

Enter an action code of MERGE and enter OPSM product data for each item number listed in the Open Interface.

You are modifying data directly in the OPSM Products Interface table (PAS\_S\_PRODUCT\_INTERFACE) through the Open Interface.

**7. Run the Product Synchronization process again in OPSM.**

Click the Submit New Instance button in the upper right hand corner of the Product Synchronization page.

**8. Select the options for the Product Synchronization process.**

- a. Select the Synchronization Action of **Merge Product and Item Cross Reference**.
- b. Select the Source System where you are going to synchronize item information from into OPSM.
- c. If the Source System Precedence in system parameters is set to *Owning Source System*, select the Disregard Source Systems Exceptions check box if you want the system to not notify you if source systems exceptions occur. This check box is not selected by default.

Both the product and the product details can be associated with an owning source system. Within the System Parameters in OPSM you have the ability to select the source system precedence. If you select to give source system precedence to the “owning source system” then no other system can update that data. For example, if the product’s owning source system is EBIZ\_02 and an update comes in from EBIZ\_01, the system issues an error because EBIZ\_01 isn’t the owning source and the system parameter setup states that only the owning source can update the product.

If you select the Disregard Source Systems Exceptions check box that means you do not want to be notified if these types of exceptions occur. It does not mean that the system ignores source system precedence and updates the record anyway; it simply means that the error is not written to the error table and subsequently they will not display in the Job Instance Message area on the bottom part of the page. The record will still be cleared from the Product Interface table even though it was not successfully processed. If you do not select the Disregard Source Systems Exceptions checkbox, the system will record an error every time a source system precedence issue occurs and the messages will display in the Job Instance Message area. The records that are in error will remain in the Product Interface table.

**9. Click the OK button to initiate the Product Synchronization process.**

The Product Synchronization Merge Product Information background process takes the item number and product information that was enriched using the Open Interface from the PAS\_S\_PRODUCT\_INTERFACE table and validate and insert the transformed data into the OPSM Product and Item Cross Reference tables (PAS\_S\_PRODUCTS, PAS\_S\_PRODUCT\_DETAILS, PAS\_S\_PRODUCT\_ITEMS, and PAS\_S\_PRODUCT\_ITEM\_UOMS).

**10. Verify the Product Synchronization process results using the Edit Product page, Serial Generation Details tab in the OPSM application.**

Maintain Products > Edit Action or Edit Product icon > Edit Product page > Click Serial Generation Details tab

Using the Edit Product page, you can view product and item cross-reference information.

**See Also**

[Configuring the Product Definition Process Integration](#)

*Oracle Inventory User's Guide*, "Defining and Maintaining Item Information"

Oracle Pedigree and Serialization Manager Process Guide, "Setting Up Oracle Pedigree and Serialization Manager"

# Chapter 3: Product Serialization Process Integration

This chapter provides an overview of the Product Serialization Process Integration and discusses:

- Product Serialization process flows
- Oracle Inventory Interfaces (Discrete Manufacturing) - Oracle E-Business Suite Release 11.5.10 and 12.1.2
- Oracle Process Manufacturing Interfaces - Oracle E-Business Suite 11.5.10
- Oracle Pedigree and Serialization Manager Interfaces
- Core AIA Components
- Integration Services

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## Product Serialization Process Integration Overview

The Product Serialization process integration encompasses the Work Order Serialization process integration, the Lot Synchronization process integration, and the Commission Serials process integration.

This section provides overviews of Work Order Serialization process integration, Lot Synchronization process integration, Commission Serials process integration, and discusses the solution assumptions and constraints.

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### Product Serialization Process Integration Overview

Product Serialization involves the creation of serials based on the work order manufacturing yield prior to or during the production of the product and the commissioning of the serials to that actual physical product that is produced at completion. Initially, serials are created in OPSM in a *Reserved* status. The lot number associated with the serials may or may not be known when the serials are created. At completion, the lot is identified and the serials may be commissioned to the completed product, the product and lot number will be recorded on the serial and the serial will be set to a status of *Commissioned*. Optionally, the serials may be commissioned at any time from the initial creation of the serial up to and including the time of shipment.

## Work Order Serialization

The Work Order Serialization process integration manages the creation of globally unique serials for manufactured products. The creation of the serials is loosely coupled to Oracle E-Business Suite. The serials are stored in the Oracle Pedigree and Serialization Manager (OPSM) system and linked to the production order by the order number, product, and lot identification. Serials are generated based on the planned manufacturing yield allowing for additional serials for manufacturing overages or scrapped items. Either product specific serials or non-product specific numeric serials can be generated. The system supports both sequential and random generation of serial numbers. Serials associated with cancelled work orders will be decommissioned. Reserved serials associated with a terminated batch process will be decommissioned when the terminated batch is closed. Serials can be sent to one or more serial destinations for label printing or other purposes.

## Lot Synchronization

The Lot Synchronization process integration transfers lot information created and updated in Oracle E-Business Suite (Oracle Inventory and Oracle Process Manufacturing) to Oracle Pedigree and Serialization Manager (OPSM). When a new lot is created or an existing lot is updated in Oracle E-Business Suite, the lot details are synchronized to OPSM.

Lots created or updated in Oracle E-Business Suite (Oracle Inventory and Oracle Process Manufacturing) can be synchronized to OPSM in these ways:

- Real-time through the use of business events and a Java program.
- Bulk synchronized (full or incremental loads) using the Oracle Data Integrator (ODI). The mode of transport is view to a table.

## Commission Serials

When completing a job in Oracle Discrete Manufacturing or a batch in Oracle Process Manufacturing you have the option to commission serials for the job or batch in Oracle Pedigree and Serialization Manager (OPSM). The Commission Serials process integration enables you to perform the commission process.

Using several windows in Oracle E-Business Suite (Oracle Discrete Manufacturing and Oracle Process Manufacturing), you can call the Commission Serials page in OPSM. Using the Commission Serials page, you can commission serials to a job or a batch. Serials are commissioned in OPSM when they are associated to a product and lot. Plus, the serials are given a *Commissioned* status.

This process integration does not use Oracle Data Integrator or AIA. This integration entails an Oracle E-Business Suite window to an OPSM page transfer.

### See Also

[Configuring the Product Serialization Process Integration](#)

Oracle Inventory User's Guide, "Transactions"

Oracle Process Manufacturing Process Execution User's Guide, "Batch Creation"

Oracle Process Manufacturing Process Execution User's Guide, "Batch Material Allocation" and "Batch Completion"

Oracle Process Manufacturing Inventory Management User's Guide, "Lot Control"

Oracle Work in Process User's Guide, "Discrete Manufacturing"

Oracle Pedigree and Serialization Manager Process Guide, "Maintaining Lots"

Oracle Pedigree and Serialization Manager Process Guide, "Managing Serials"

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## Solution Assumptions and Constraints

The solution assumptions and constraints for the Product Serialization Process Integration are:

1. The Oracle Pedigree and Serialization Manager (OPSM) application is designed as a stand-alone application on Fusion 11g technology stack. The OPSM application does not have any dependencies on Fusion Applications or Fusion Applcore and foundation components.
2. Translations in Oracle E-Business Suite are not synchronized into OPSM. OPSM does not support translations of database content.  
OPSM is integrated to both Oracle Discrete Manufacturing and Oracle Process Manufacturing (OPM).
3. OPSM is not integrated to Oracle Shop Floor Management (OSFM) or Oracle Flow Manufacturing.
4. Item basic information is maintained in Oracle E-Business Suite and product details are maintained in OPSM.
5. Master and Inventory Organizations of an item should be OPSM enabled in Oracle E-Business Suite (Oracle Inventory).
6. Item cross reference type OPSM INTEGRATED should be "YES" for the OPSM Integrated Item at the Master Organization and is not disabled at the item Inventory Organization level in Oracle E-Business Suite (Oracle Inventory).
7. All the required setup for discrete jobs and OPM batches is complete in the respective Oracle E-Business Suite applications.
8. Item must be lot controlled in Oracle E-Business Suite (Oracle Inventory) at the Master Item level for Product Synchronization and at the Organization level for Work Order Serialization, Commission Serials, Lot Synchronization, and Serialized Item Tracking.
9. Items have been synchronized to OPSM.
10. Lots have been synchronized to OPSM.
11. If items are serialized in Oracle E-Business Suite, the serials may be uploaded to OPSM at the time of shipment.
12. Oracle Process Manufacturing inventory does not support serials in Oracle E-Business Suite 11.5.10.

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## Product Serialization Process Flows

This section discusses:

- Work Order Serialization process flow (Discrete Manufacturing)
- Work Order Serialization process flow (Process Manufacturing)
- Lot Synchronization process flow (Discrete Manufacturing) - Oracle E-Business Suite Release 11.5.10 and 12.1.2

- Lot Synchronization process flow (Process Manufacturing) - Oracle E-Business Suite Release 11.5.10
- Commission Serials process flow (Discrete Manufacturing)
- Commission Serials process flow (Process Manufacturing) - Oracle E-Business Suite Release 11.5.10
- Commission Serials process flow (Process Manufacturing) - Oracle E-Business Suite Release 12.1.2

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## Work Order Serialization Process Flow (Discrete Manufacturing)

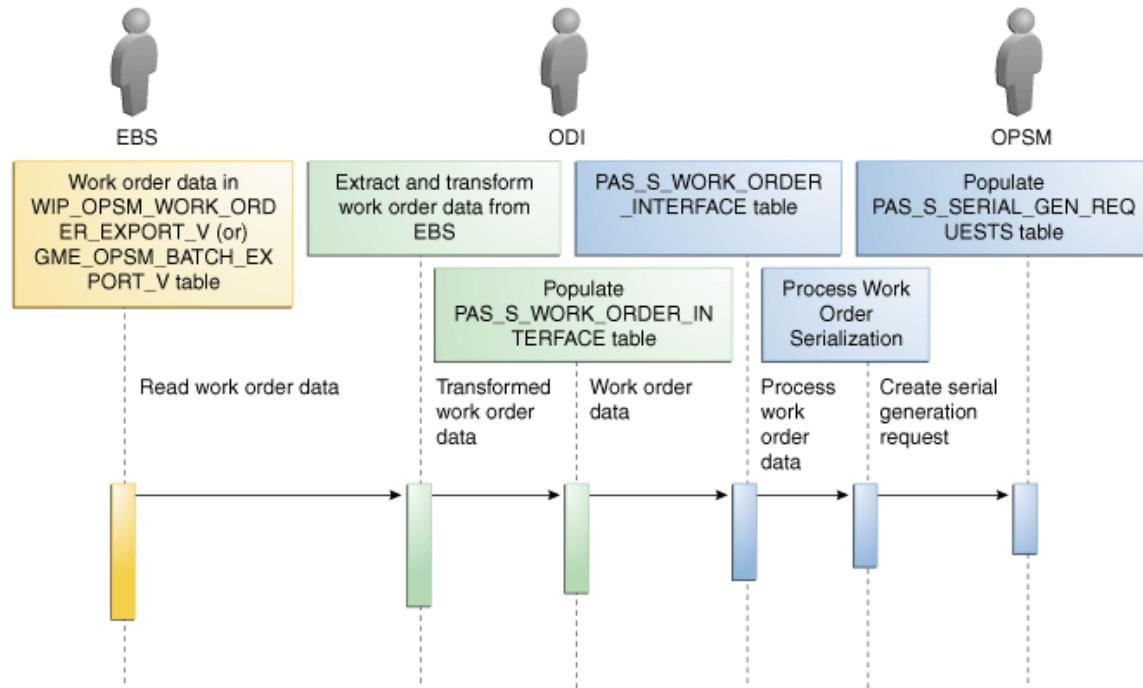
After a work order (job) is created or modified in Oracle E- Business Suite (Oracle Discrete Manufacturing), it is ready to be synchronized with Oracle Pedigree and Serialization Manager (OPSM) to generate, commission, or decommission serials for that particular work order. Oracle Data Integrator (ODI) extracts the discrete work order information for OPSM Integrated and lot controlled items and transfers the records to the Work Order Interface table. This information is sent to OPSM through the integration layer for serial generation in OPSM. The ODI mode of transport is view to a table. Work Order Serialization can occur for a full load of work orders or an incremental load (net new and changed work orders).

For every successful work order data transfer from Oracle E- Business Suite (Oracle Discrete Manufacturing), an email notification is sent to the ODI Administrator.

When an error occurs in the integration process that information is sent to the AIA AsyncErrorHandler BPEL process.

## Work Order Serialization Process Flow

This diagram illustrates the Work Order Serialization sequence diagram:



Sequence diagram for Work Order Serialization process flow

### To Perform Work Order Serialization for Discrete Manufacturing:

1. Create a job for an OPSM Integrated Item using the Discrete Jobs window in Oracle E-Business Suite (Oracle Discrete Manufacturing).
2. Navigate to the OPSM Work Order Serialization page.  
Serials > Work Order Serialization
3. Run the Work Order Serialization batch process.  
Click the Submit New Instance button in the upper right hand corner of the Work Order Serialization page.
4. Select the options for the Work Order Serialization process.
  - a. Select the Synchronization Action of **Extract Work Orders and Process Work Order Serialization**.
  - b. Select the Extract Scenario Name representing the incremental or full load with the desired values for the following selection criteria:

Work Order Status

Org Code

Scheduled Start Time in Days - number of days prior to the current date

Scheduled End Time in Days - number of days after the current date

**For more information** on setting up ODI extract scenarios, see [Setting Up ODI Extract Scenarios](#).

- c. Select the Source System where you are going to extract work order information from into OPSM.
- d. Select the Purge Interface Table check box if you want to delete existing records in the interface table for the selected source system.
5. Click the **OK** button to initiate the **Work Order Serialization** process.

If you selected an extract scenario representing a full load, the Work Order Serialization background process uses ODI (OracleEbizDiscreteMfg To PAS Product Serialization Interface) to pull discrete work order information for the OPSM Integrated and lot controlled items from the Oracle Discrete Manufacturing WIP\_OPSM\_WORK\_ORDER\_EXPORT\_V view and transforms the data into the target OPSM Work Order Interface table format, and then transfers the data to the OPSM Work Order Interface table (PAS\_S\_WORK\_ORDER\_INTERFACE). It then initiates the process to generate the serial generation request in OPSM.

If you selected an extract scenario representing a incremental load, the Work Order Serialization background process uses ODI (OracleEbizDiscreteMfg To PAS Product Serialization Interface) to pull net new and changed discrete work order information for the OPSM Integrated and lot controlled items from the Oracle Discrete Manufacturing WIP\_OPSM\_WORK\_ORDER\_EXPORT\_V view and transforms the data into the target OPSM Work Order Interface table format, and then transfers the data to the OPSM Work Order Interface table (PAS\_S\_WORK\_ORDER\_INTERFACE). It then initiates the process to generate the serial generation request in OPSM.

Upon completion of processing, an email notification message is sent to the ODI administrator indicating the outcome of the processing and the appropriate counts of business transactions extracted and loaded. When an error occurs, the AIA AsyncErrorHandler BPEL process is called for error handling and notification.

6. Navigate to the OPSM Maintain Serial Generation Requests page.

Serials > Maintain Serial Generation Requests

7. Search for the serial generation requests that pertain to the work order.

Select the work order number in the Created Document field and click the Search button.

8. Select the serial generation request and submit the serial generation request for processing.

Select Submit from the Actions menu or click the Submit Serial Generation Request icon.

After the serial generation request is processed, it creates the serial numbers for the items on the work orders.

9. Navigate to the OPSM Maintain Serials page and verify the Work Order Serialization process results.

Serials > Maintain Serials

You are able to view all of the serial numbers that were created for the items on the work orders. The serial numbers are created in OPSM in a *Reserved* status or a *Commissioned* status if product and lot where identified. If a job has been cancelled, previously generated serials are decommissioned.

### See Also

[Configuring the Product Serialization Process Integration](#)

Oracle Work in Process User's Guide, "Discrete Manufacturing"

Oracle Pedigree and Serialization Manager Process Guide, "Managing Serials"

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## Work Order Serialization Process Flow (Process Manufacturing)

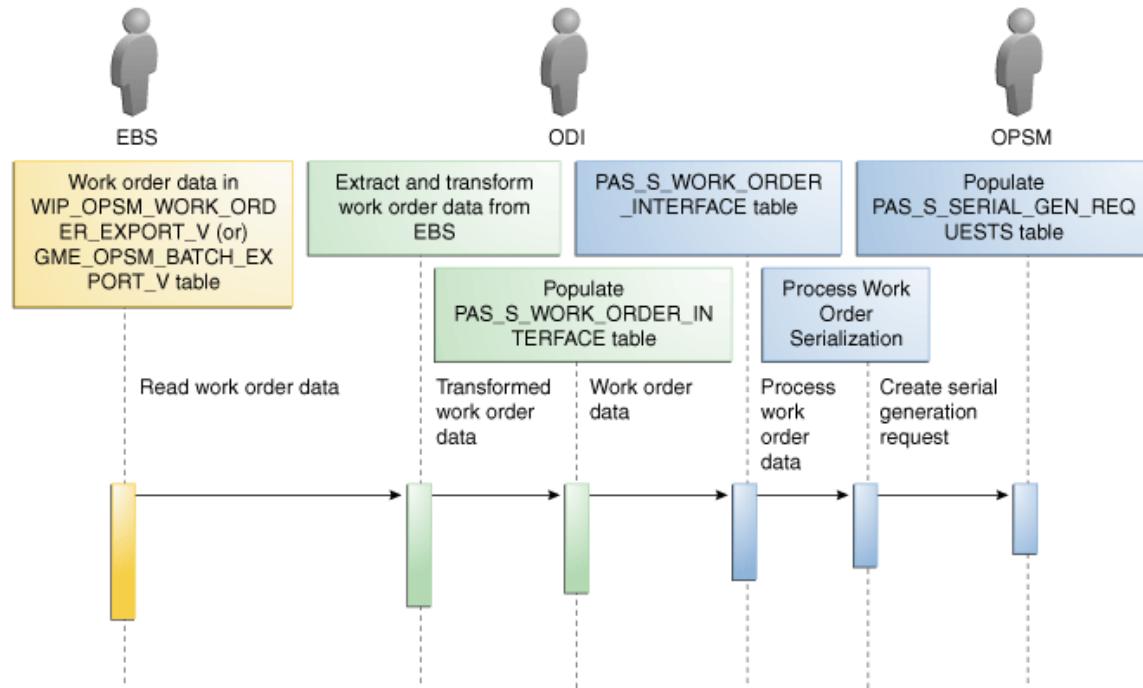
After a work order (batch) is created or modified in Oracle E- Business Suite (Oracle Process Manufacturing), it is be ready to be synchronized with Oracle Pedigree and Serialization Manager (OPSM) to generate, commission, or decommission serials for that particular work order. Oracle Data Integrator (ODI) extracts the process work order (batch) information for OPSM Integrated and lot controlled items and transfers the records to the Work Order Interface tables. This information is sent to OPSM through the integration layer for serial generation in OPSM. The ODI mode of transport is view to a table. Work Order Serialization can occur for a full load of work orders (batches) or an incremental load (net new and changed work orders (batches)).

For every successful work order (batch) data transfer from Oracle E- Business Suite (Oracle Process Manufacturing), an email notification is sent to the ODI Administrator.

When an error occurs in the integration process that information is sent to the AIA AsyncErrorHandling BPEL process.

## Work Order Serialization Process Flow

This diagram illustrates the Work Order Serialization sequence diagram:



Sequence diagram for Work Order Serialization process flow

### To Perform Work Order Serialization for Process Manufacturing:

1. Create a batch for an OPSM Integrated Item using the Batch window in Oracle E-Business Suite (Oracle Process Manufacturing).
2. Navigate to the OPSM Work Order Serialization page.  
Serials > Work Order Serialization
3. Run the Work Order Serialization batch process.  
Click the Submit New Instance button in the upper right hand corner of the Work Order Serialization page.
4. Select the options for the Work Order Serialization process.
  - a. Select the Synchronization Actions of **Extract Work Orders and Process Work Order Serialization**.
  - b. Select the Extract Scenario Name representing the incremental or full load with the desired values for the following selection criteria:
    - Work Order Status
    - Org Code
    - Scheduled Start Time in Days - number of days prior to the current date

Scheduled End Time in Days - number of days after the current date

Scheduled End Time in Days - number of days after the current date

**For more information** on setting up ODI extract scenarios, see [Setting Up ODI Extract Scenarios](#).

- c. Select the Source System where you are going to extract work order information from into OPSM.
- d. Select the Purge Interface Table check box if you want to delete existing records in the interface table for the selected source system.
5. Click the OK button to initiate the Work Order Serialization process.

If you selected an extract scenario representing a full load, the Work Order Serialization background process uses ODI (OracleEbizProcessMfg To PAS Product Serialization Interface) to pull all batch records from the Oracle Process Manufacturing GME\_OPSM\_BATCH\_EXPORT\_V view and transforms the data into the target OPSM Work Order Interface table format, and then transfers the data to the OPSM Work Order Interface table (PAS\_S\_WORK\_ORDER\_INTERFACE). It then initiates the process to generate the serial generation request in OPSM.

If you selected an extract scenario representing an incremental load, the Work Order Serialization background process uses ODI (OracleEbizProcessMfg To PAS Product Serialization Interface) to pull net new and changed batch records from the Oracle Process Manufacturing GME\_OPSM\_BATCH\_EXPORT\_V view and transforms the data into the target OPSM Work Order Interface table format, and then transfers the data to the OPSM Work Order Interface table (PAS\_S\_WORK\_ORDER\_INTERFACE). It then initiates the process to generate the serial generation request in OPSM.

Upon completion of processing, an email notification message is sent to the ODI administrator indicating the outcome of the processing and the appropriate counts of business transactions extracted and loaded. When an error occurs, the AIA AsyncErrorHandler BPEL process is called for error handling and notification.

6. Navigate to the OPSM Maintain Serial Generation Requests page.

Serials > Maintain Serial Generation Requests

7. Search for the serial generation requests that pertain to the work order.

Select the work order number in the Created Document field and click the Search button.

8. Select the serial generation request and submit the serial generation request for processing.

Select Submit from the Actions menu or click the Submit Serial Generation Request icon.

After the serial generation request is processed, it creates the serial numbers for the items on the work orders.

9. Navigate to the OPSM Maintain Serials page and verify the Work Order Serialization process results.

Serials > Maintain Serials

You are able to view all of the serial numbers that were created for the products on the batches. The serial numbers are created in OPSM in a *Reserved* status or a *Commissioned* status if product and lot were identified.

If a batch was cancelled, previously generated serials are decommissioned.

If a batch was terminated, serials in a *Reserved* status when the batch is closed are decommissioned. Serials at a *Commissioned* status will remain commissioned.

### See Also

[Configuring the Product Serialization Process Integration](#)

Oracle Process Manufacturing Process Execution User's Guide, "Batch Creation"

Oracle Pedigree and Serialization Manager Process Guide, "Managing Serials"

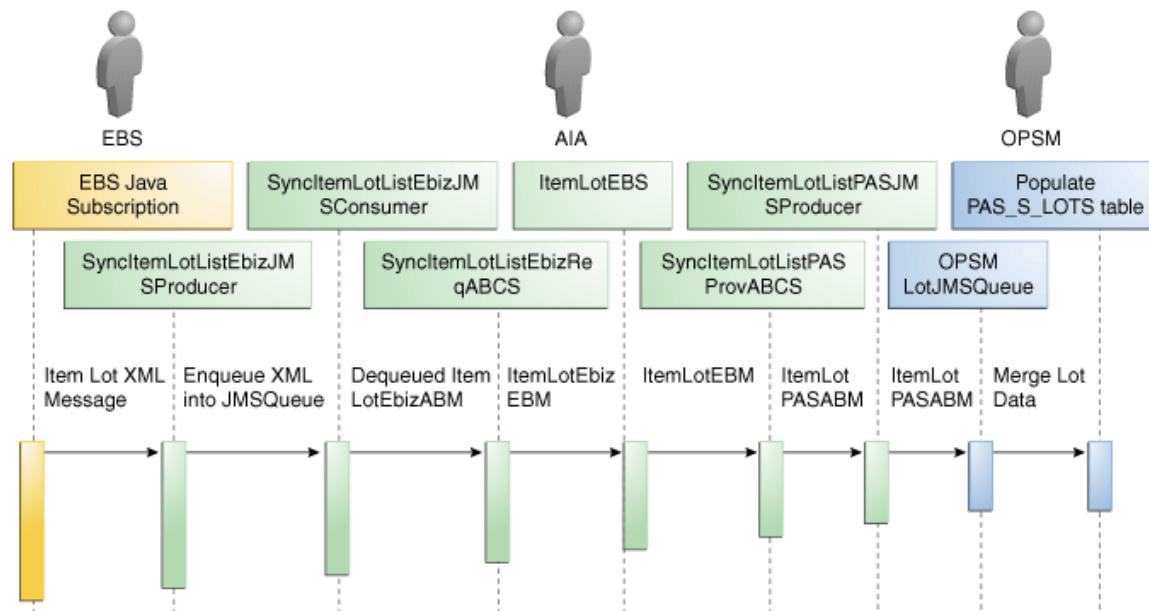
## Lot Synchronization Process Flow (Discrete Manufacturing) - Oracle E-Business Suite Release 11.5.10 and 12.1.2

When lot information is created or an existing lot is updated in Oracle E-Business Suite (Oracle Inventory), the lot information can be synchronized to Oracle Pedigree and Serialization Manager (OPSM) in these ways:

- Real-time using Business Events, Java Subscription Rule Function, and AIA.
- Bulk synchronization (full or incremental) using a database view and Oracle Data Integrator (ODI).

### Real-Time Lot Synchronization Process Flow (Discrete Manufacturing)

This diagram illustrates the real-time Lot Synchronization sequence diagram:



Sequence Diagram for the Real-Time Lot Synchronization Process Flow

## To Perform Real-Time Lot Synchronization (Discrete Manufacturing):

### 1. Navigate to a window where lots can be entered or updated.

- Item Lots window

Inventory > On-hand, Availability > Lots

- Lot Entry window

This window can be accessed from several Discrete Manufacturing windows such as, WIP Completions window and Misc Transactions window.

### 2. Enter new lot information or update existing lot information.

### 3. Save your work.

When a new lot is inserted or an existing lot is updated in the MTL\_LOT\_NUMBERS table, an Oracle Event Alert is triggered. The Oracle Event Alert calls a PL/SQL procedure that raises a Business Event. The Business Event executes the associated Java Subscription Rule Function. The Java program generates the XML payload and sends the XML payload to the endpoint URL.

If the lot fails to synchronize to OPSM, you can either change the lot to retrigger the real-time synchronization or execute the OPSM Bulk Lot Synchronization to resend the information from Oracle E-Business Suite to OPSM.

### See Also

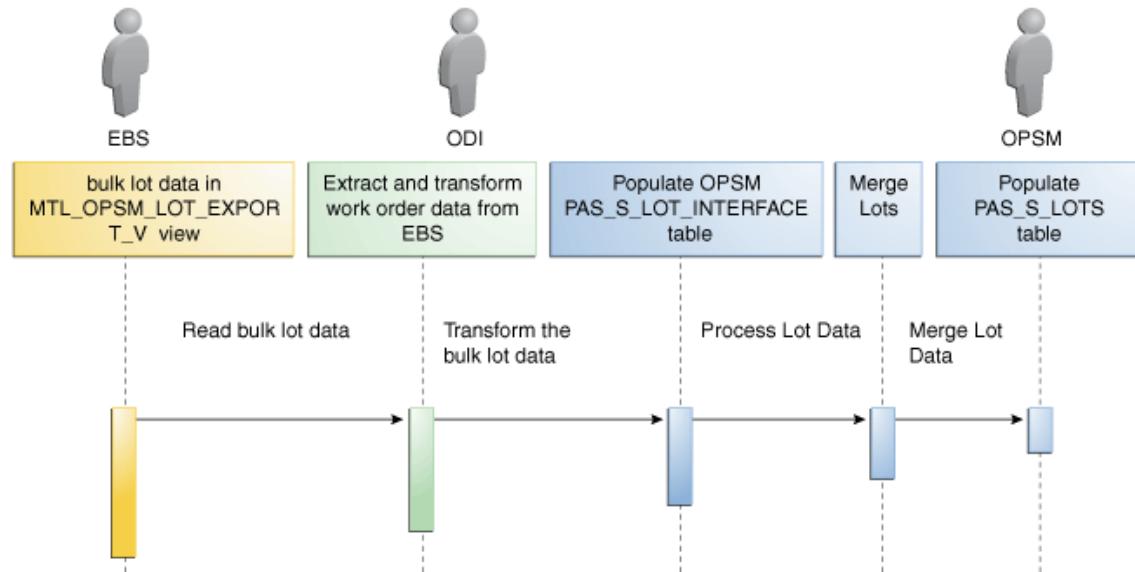
[Configuring the Product Serialization Process Integration](#)

Oracle Work in Process User's Guide, "Discrete Manufacturing"

Oracle Pedigree and Serialization Manager Process Guide, "Maintaining Lots"

## Bulk Load Lot Synchronization Process Flow (Discrete Manufacturing)

This diagram illustrates the bulk load Lot Synchronization sequence diagram:



### Sequence Diagram for the Bulk Load Lot Synchronization Process Flow

#### To Perform Bulk Load Lot Synchronization for Discrete Manufacturing:

1. Create a lot or update an existing lot for an OPSM Integrated Item using any of the lot entry windows in Oracle E-Business Suite (Oracle Inventory).

2. Navigate to the OPSM Lot Synchronization page.

    Serials > Lot Synchronization

3. Run the Lot Synchronization batch process.

    Click the Submit New Instance button in the upper right hand corner of the Lot Synchronization page.

4. Select the options for the Lot Synchronization process.

    a. Select the Synchronization Action of **Extract Lots and Merge Lots**.

    b. Select the Extract Scenario Name representing a full or incremental load with the desired values for the following selection criteria:

        Lot Status

        Org Code

        Lot Number

        Item Number

Creation Date Start Window

Creation Date End Window

Expiration Date Start Window

Expiration Date End Window

**For more information** on setting up ODI extract scenarios, see [Setting Up ODI Extract Scenarios](#).

- c. Select the Source System where you are going to extract work order information from into OPSM.
- d. Select the Purge Interface Table check box if you want to delete existing records in the interface table for the selected source system.

5. Click the **OK** button to initiate the **Lot Synchronization** process.

If you selected an extract scenario representing a full load, the **Lot Synchronization** background process uses ODI (OracleEbiz To PAS LotSync Interface) to pull all lot information for the OPSM Integrated and lot controlled items from the Oracle Inventory MTL\_OPSM\_LOT\_EXPORT\_V view and transforms the data into the target OPSM Lot Interface table format, and then transfers the data to the OPSM Lot Interface table (PAS\_S\_LOT\_INTERFACE).

If you selected an extract scenario representing an incremental load, the **Lot Synchronization** background process uses ODI (OracleEbiz To PAS LotSync Interface) to pull net new and changed lot records for the OPSM Integrated and lot controlled items from the Oracle Inventory MTL\_OPSM\_LOT\_EXPORT\_V view and transforms the data into the target OPSM Lot Interface table format, and then transfers the data to the OPSM Lot Interface table (PAS\_S\_LOT\_INTERFACE).

Upon completion of processing, an email notification message is sent to the ODI administrator indicating the outcome of the processing and the appropriate counts of business transactions extracted and loaded. When an error occurs, the AIA AsyncErrorHandler BPEL process is called for error handling and notification.

6. Navigate to the OPSM Maintain Lots page and verify the **Lot Synchronization** process results.

Serials > Maintain Lots

You are able to view all of the lot numbers that were created.

## See Also

[Configuring the Product Serialization Process Integration](#)

Oracle Work in Process User's Guide, "Discrete Manufacturing"

Oracle Pedigree and Serialization Manager Process Guide, "Maintaining Lots"

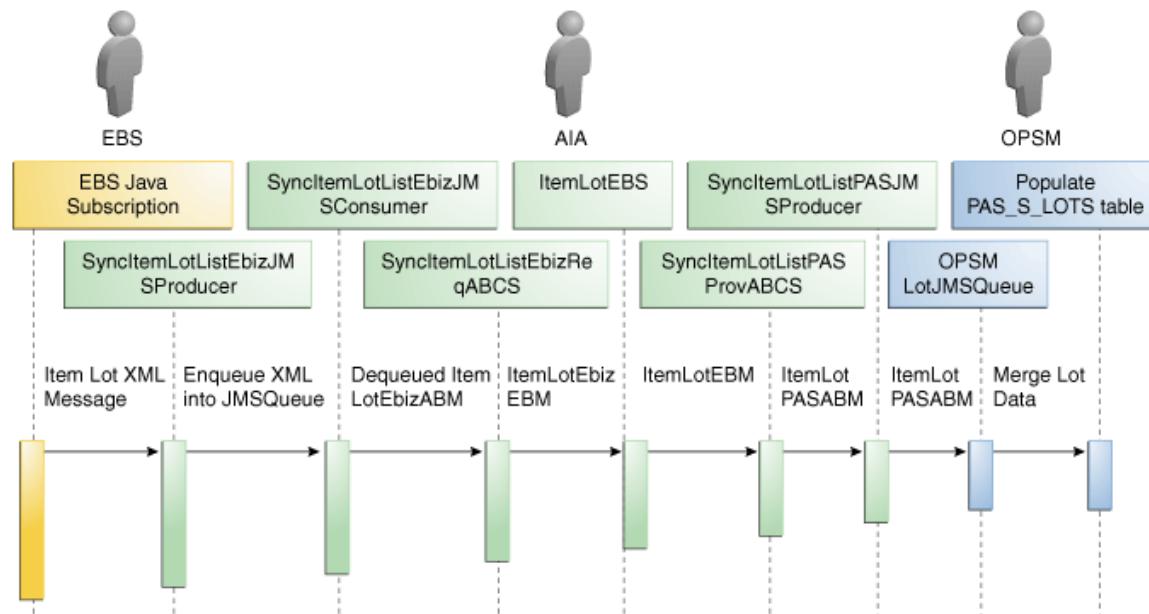
## Lot Synchronization Process Flow (Process Manufacturing) - Oracle E-Business Suite Release 11.5.10

When lot information is created or an existing lot is updated in Oracle E-Business Suite (Oracle Process Manufacturing), the lot information can be synchronized to OPSM in these ways:

- Real-time using Business Events, Java Subscription Rule Function, and AIA.
- Bulk synchronization (full or incremental) using a database view and Oracle Data Integrator (ODI).

### Real-Time Lot Synchronization Process Flow (Process Manufacturing)

This diagram illustrates the real-time Lot Synchronization sequence diagram:



Sequence Diagram for the Real-Time Lot Synchronization Process Flow

#### To Perform Real-Time Lot Synchronization (Process Manufacturing):

1. Create or update a lot in Oracle E-Business Suite (Oracle Process Manufacturing).

Creating a lot in Oracle Process Manufacturing can be done in multiple ways. Use one of these methods to create a lot:

#### Lot Origination

- a. Navigate to the Lots/Sublots window.  
OPM Inventory > Setup > Lot/Sublot
- b. Enter lot information on the Lots/Sublots window.

## Production - Material Details

- a. Navigate to the Line Allocations window.

Production Supervisor > Batches > Batch: Material Details > Line Allocations

- b. Enter new lot information.
- c. Click the Yes button when prompted to create the new lot.

## Production - Complete Batch

- a. Navigate to the Complete Batch - Items Requiring Allocations window.

When you are completing the Batch, if all the lines are not allocated then the allocation is made from the Complete Batch - Item Requiring Allocations window.

- b. Enter new lot information.
- c. Click the Yes button when prompted to create the new lot.

## Quantity

- a. Navigate to the Create Immediate window.

OPM Inventory > Create Immediate

- b. Enter new lot information.
- c. Click the Yes button when prompted to create the new lot.

## Receiving

- a. Navigate to the Receipts window.
- b. Enter the lot information when receiving the item.

## 2. Save Your Work.

When a new lot is created or an existing lot is updated in the IC\_LOTS\_MST table, a business event (oracle.apps.gmi.lot.create or oracle.apps.gmi.lot.update) is raised. Java subscription of the business event reads the input parameters and passes to the PL/SQL procedure to get the lot information. An XML payload is generated based on the lot information. The XML payload is sent to the JMS producer in the AIA layer for synchronization. Through an OPSM MergeLot Web Service, the data is inserted in to the PAS\_S\_LOTS table.

## See Also

### [Configuring the Product Serialization Process Integration](#)

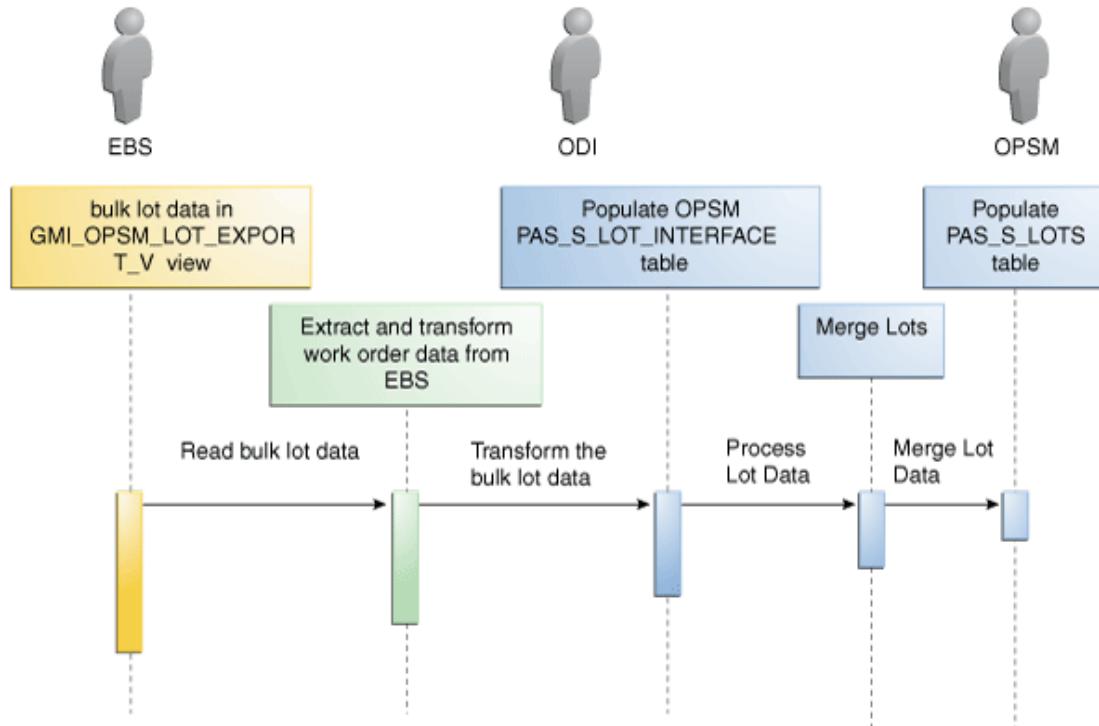
Oracle Process Manufacturing Process Execution User's Guide, "Batch Material Allocation" and "Batch Completion"

Oracle Process Manufacturing Inventory Management User's Guide, "Lot Control"

Oracle Pedigree and Serialization Manager Process Guide, "Maintaining Lots"

## Bulk Load Lot Synchronization Process Flow (Process Manufacturing)

This diagram illustrates the bulk load Lot Synchronization sequence diagram:



Sequence Diagram for the Bulk Load Lot Synchronization Process Flow

To Perform Bulk Load Lot Synchronization for Process Manufacturing:

1. Create a lot or update an existing lot for an OPSM Integrated Item using any of the lot entry windows in Oracle E-Business Suite (Oracle Process Manufacturing).
2. Navigate to the OPSM Lot Synchronization page.  
Serials > Lot Synchronization
3. Run the Lot Synchronization batch process.  
Click the Submit New Instance button in the upper right hand corner of the Lot Synchronization page.
4. Select the options for the Lot Synchronization process.
  - a. Select the Synchronization Actions of **Extract Lots and Merge Lots**.
  - b. Select the Extract Scenario Name representing a full or incremental load with the desired values for the following selection criteria:
    - Lot Status
    - Lot Number

Item Number  
Creation Date Start Window  
Creation Date End Window  
Expiration Date Start Window  
Expiration Date End Window

**For more information** on setting up ODI extract scenarios, see [Setting Up ODI Extract Scenarios](#).

- c. Select the Source System where you are going to extract work order information from into OPSM.
- d. Select the Purge Interface Table check box if you want to delete existing records in the interface table for the selected source system.
5. Click the **OK** button to initiate the Lot Synchronization process.

If you selected an extract scenario representing a full load, the Lot Synchronization background process uses ODI (Oracle Ebiz To PAS LotSync Interface) to pull all batch records from the Oracle Process Manufacturing GMI\_OPSM\_LOT\_EXPORT\_V view and transforms the data into the target OPSM Lot Interface table format, and then transfers the data to the OPSM Lot Interface table (PAS\_S\_LOT\_INTERFACE).

If you selected an extract scenario representing an incremental load, the Lot Synchronization background process uses ODI (Oracle Ebiz To PAS LotSync Interface) to pull net new and changed lot records from the Oracle Process Manufacturing GMI\_OPSM\_LOT\_EXPORT\_V view and transforms the data into the target OPSM Lot Interface table format, and then transfers the data to the OPSM Lot Interface table (PAS\_S\_LOT\_INTERFACE).

Upon completion of processing, an email notification message is sent to the ODI administrator indicating the outcome of the processing and the appropriate counts of business transactions extracted and loaded. When an error occurs, the AIA AsyncErrorHandler BPEL process is called for error handling and notification.

6. Navigate to the OPSM Maintain Lots page and verify the Lot Synchronization process results.

Serials > Maintain Lots

You are able to view all of the lot numbers that were created.

## See Also

[Configuring the Product Serialization Process Integration](#)

Oracle Process Manufacturing Process Execution User's Guide, "Batch Material Allocation" and "Batch Completion"

Oracle Process Manufacturing Inventory Management User's Guide, "Lot Control"

Oracle Pedigree and Serialization Manager Process Guide, "Maintaining Lots"

## Commission Serials Process Flow (Discrete Manufacturing)

In Oracle E-Business Suite (Oracle Discrete Manufacturing), you can call the Oracle Pedigree and Serialization Manager (OPSM) Commission Serials page from the Completion Transactions and Move Transaction windows. The Commission Serials process flow does not use Oracle Data Integrator (ODI). This process flow entails an Oracle E-Business Suite window to an OPSM page transfer.

This section discusses:

- Job Completions process flow
- Move Transaction process flow
- Material Transactions process flow

### Job Completions Process Flow

#### To Commission Serials from Job Completions:

1. Navigate to the Completion Transactions window in Oracle E-Business Suite (Oracle Discrete Manufacturing).  
Work In Process Responsibility > Material Transactions > Completion Transactions
2. Enter the Released Job Number that you want to complete, which has a lot control assembly and click the Continue button.  
The WIP Assy (Assembly) Completion window appears.
3. Enter a valid Subinventory and Quantity using the WIP Assy Completion window and click the Lot/Serial button.  
The Lot Entry window appears.
4. Enter completed lot numbers and quantity on the Lot Entry window.
5. Save your work in Oracle E-Business Suite (Oracle Discrete Manufacturing).
6. Invoke the OPSM Commission Serials page.

Select Commission Serials in OPSM from the Tools menu in the Lot Entry window.

The OPSM Commission Serials page is called asynchronously. The item number and lot information is passed to this page.

Commission Serials in OPSM is only available through the Tools menu in the Lot Entry window if the lot exists in Oracle E-Business Suite. If the lot does not exist in Oracle E-Business Suite, you will need to complete the transaction and then commission the serials using the Material Transaction window.

**For more information** on commissioning serials from the Material Transactions window, see [Material Transactions Process Flow](#).

**7. Commission the serials using the OPSM Commission Serials page and save your work.**

Serial selection criteria are automatically populated from the identified lot and document information. Once you have verified the pre-populated data, select the Continue button, which will populate the select criteria in the selection window below. Select serials to be commissioned and press the Commission Serials button. A popup window is displayed to confirm the number of serials selected, the lot, and the commission document reference. Press the OK button to confirm the commissioning of the serials.

**8. Navigate back to the Oracle Discrete Manufacturing Lot Entry window and click the Done button.**

The WIP Assy Completions window re-appears.

**9. Click the Done button on the WIP Assy Completion page.**

The Completion Transactions window re-appears.

At this point, the WIP Completion Transaction is complete.

**See Also**

[Configuring the Product Serialization Process Integration](#)

Oracle Work In Process User's Guide, "Discrete Manufacturing"

Oracle Pedigree and Serialization Manager Process Guide, "Managing Serials"

## Move Transaction Process Flow

**To Commission Serials from Move Transaction:**

**1. Navigate to the Move Transaction window in Oracle E- Business Suite (Oracle Discrete Manufacturing).**

Work In Process > Move Transactions > Move Transactions

**2. Enter transaction information and a Transaction Type of *Complete*.**

**3. Invoke the OPSM Commission Serials page.**

Select Commission Serials in OPSM from the Tools menu in the Move Transaction window.

The OPSM Commission Serials page is called asynchronously. The item number and lot information is passed to this page.

On the initial completion to a new lot, the lot will not get created until completion of the transaction. The option to navigate to OPSM is not available until the lot has been created in Oracle E-Business Suite.

**4. Commission the serials using the OPSM Commission Serials page and save your work.**

Serial selection criteria are automatically populated from the identified lot and document information. Once you have verified the pre-populated data, select the Continue button, which will populate the select criteria in the selection window below. Select serials to be commissioned and press the Commission Serials button. A popup window is displayed to confirm the number of serials selected, the lot, and the commission document reference. Press the OK button to confirm the commissioning of the serials.

**5. Navigate back to the Move Transaction window and click the Save button**

The shop floor transaction is now complete.

**See Also**

[Configuring the Product Serialization Process Integration](#)

Oracle Work In Process User's Guide, "Discrete Manufacturing"

Oracle Pedigree and Serialization Manager Process Guide, "Managing Serials"

## Material Transactions Process Flow

**To Commission Serials from Material Transactions:**

**1. Navigate to the Material Transactions window.**

The Find Material Transactions window appears.

**2. Enter transaction information and click the Find button.**

The Material Transactions window appears displaying information about the transaction.

**3. Invoke the OPSM Commission Serials page.**

Select Commission Serials in OPSM from the Tools menu in the Material Transactions window.

The OPSM Commission Serials page is called asynchronously. The product and lot information is passed to this page.

**4. Commission the serials using the OPSM Commission Serials page and save your work.**

Serial selection criteria are automatically populated from the identified lot and document information. Once you have verified the pre-populated data, select the Continue button, which will populate the select criteria in the selection window below. Select serials to be commissioned and press the Commission Serials button. A popup window is displayed to confirm the number of serials selected, the lot, and the commission document reference. Press the OK button to confirm the commissioning of the serials.

**See Also**

[Configuring the Product Serialization Process Integration](#)

Oracle Inventory User's Guide, "Transactions"

Oracle Pedigree and Serialization Manager Process Guide, "Managing Serials"

## Commission Serials Process Flow (Process Manufacturing) - Oracle E-Business Suite Release 11.5.10

In Oracle E-Business Suite (Oracle Process Manufacturing), you can call the Oracle Pedigree and Serialization Manager (OPSM) Commission Serials page from the Batch and Complete Batch - Item Requiring Allocation windows. The Commission Serials process flow does not use Oracle Data Integrator (ODI). This process flow entails an Oracle E-Business Suite window to an OPSM page transfer.

This section discusses:

- Line Allocations process flow
- Batch Completions process flow

### Line Allocations Process Flow

#### To Commission Serials from Line Allocations:

1. Navigate to the Batch window in Oracle Process Manufacturing.

Production Supervisor > Batches

2. Enter Batch information.
3. Click the Material Details button on the Batch window.

The Batch Material Details window appears. This window displays the information about the Ingredients, Products, and By-Products for the batch.

4. Click the Products tab.

Use this tab to view the products and co-products details.

5. Click the Line Allocations button on the Batch Material Details window.
6. View or enter lot information into which the products or co-products are moved using the Line Allocations window.

You can update the lot information on this page. If the lot does not exist, the system prompts for the creation of a new lot. Click the Yes button to create a new lot.

7. Save your work in Oracle Process Manufacturing.
8. Invoke the OPSM Commission Serials page.

Select Commission Serials in OPSM from the Actions menu in the Line Allocations window.

Multiple lots can be yielded on one batch so the Commission Serials in OPSM action is available for all lines of the batch. This action is disabled for the DEFAULTLOT.

The OPSM Commission Serials page is called asynchronously. The product and lot information is passed to this page.

**9. Commission the serials using the OPSM Commission Serials page and save your work.**

Serial selection criteria are automatically populated from the identified lot and document information. Once you have verified the pre-populated data, select the Continue button, which will populate the select criteria in the selection window below. Select serials to be commissioned and press the Commission Serials button. A popup window is displayed to confirm the number of serials selected, the lot, and the commission document reference. Press the OK button to confirm the commissioning of the serials.

**10. Navigate back to the Batch Material Details window and complete the transaction.**

**See Also**

[Configuring the Product Serialization Process Integration](#)

Oracle Process Manufacturing Process Execution User's Guide, "Batch Material Allocation" and "Batch Completions"

Oracle Pedigree and Serialization Manager Process Guide, "Managing Serials"

## Batch Completions Process Flow

**To Commission Serials from Batch Completions:**

**1. Navigate to the Batch window in Oracle Process Manufacturing.**

Production Supervisor > Batches

**2. Select the batch you want to complete.**

**3. Select Complete from the Actions menu.**

The Complete Batch dialog box appears.

**4. Enter the Actual Completion Date for the batch and click the OK button.**

The Complete Batch - Items Requiring Allocations window appears.

If allocations are not done for all items (ingredients, products, and by-products) during processing of the batch, the system automatically opens the Complete Batch - Items Requiring Allocations window at the time of batch release or completion.

**5. Enter completed product and lot information on the Complete Batch - Items Requiring Allocations window.**

**6. Invoke the OPSM Commission Serials page.**

Select Commission Serials in OPSM from the Actions menu in the Complete Batch - Item Requiring Allocations window. This action is only enabled for products and is disabled for ingredients, and by-products.

Multiple lots can be yielded on one batch so the Commission Serials in OPSM action is available for all the lines. The action is disabled for 'DEFAULTLOT'.

The OPSM Commission Serials page is called asynchronously. The product and lot information is passed to this page.

**7. Commission the serials using the OPSM Commission Serials page and save your work.**

Serial selection criteria are automatically populated from the identified lot and document information. Once you have verified the pre-populated data, select the Continue button, which will populate the select criteria in the selection window below. Select serials to be commissioned and press the Commission Serials button. A popup window is displayed to confirm the number of serials selected, the lot, and the commission document reference. Press the OK button to confirm the commissioning of the serials.

**8. Navigate back to the Complete Batch - Item Requiring Allocations window and complete the transaction.**

**See Also**

[Configuring the Product Serialization Process Integration](#)

Oracle Process Manufacturing Process Execution User's Guide, "Batch Material Allocation" and "Batch Completions"

Oracle Pedigree and Serialization Manager Process Guide, "Managing Serials"

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## Commission Serials Process Flow (Process Manufacturing) - Oracle E-Business Suite Release 12.1.2

In Oracle E-Business Suite (Oracle Process Manufacturing), you can call the Oracle Pedigree and Serialization Manager (OPSM) Commission Serials page from the Complete Batch - Item Requiring Allocation, Material Transaction, and Pending Lots windows. The Commission Serials process flow does not use Oracle Data Integrator (ODI). This process flow entails an Oracle E-Business Suite window to an OPSM page transfer.

This section discusses:

- Batch Completions process flow
- Material Transactions process flow
- Pending Lots process flow

### Batch Completions Process Flow

To Commission Serials from Batch Completions:

**1. Navigate to the Batch window in Oracle Process Manufacturing.**

Production Supervisor > Batches

**2. Select the batch you want to complete.**

**3. Select Complete from the Actions menu.**

The Complete Batch dialog box appears.

**4. Enter the Actual Completion Date for the batch and click the OK button.**

The Complete Batch - Items Requiring Allocations window appears.

If allocations are not done for all items (ingredients, products, and by-products) during processing of the batch the system automatically opens the Complete Batch - Items Requiring Allocations window at the time of batch release or completion.

- 5. Enter completed product and lot information on the Complete Batch - Items Requiring Allocations window.**
- 6. Navigate to the Complete Batch - Item Requiring Allocations window in Oracle Process Manufacturing.**

If allocations are not done for all items (ingredients, products, and by-products) during processing of the batch the system automatically opens the Complete Batch - Item Requiring Allocations window at the time of batch release or completion.

**7. Invoke the OPSM Commission Serials page.**

Select Commission Serials in OPSM from the Actions menu in the Complete Batch - Item Requiring Allocations window. This action is only enabled for products and is disabled for ingredients, and by-products.

Multiple lots can be yielded on one batch so the Commission Serials in OPSM action is available for all the lines. The action is disabled for 'DEFAULTLOT'.

The OPSM Commission Serials page is called asynchronously. The product and lot information is passed to this page.

**8. Commission the serials using the OPSM Commission Serials page and save your work.**

Serial selection criteria are automatically populated from the identified lot and document information. Once you have verified the pre-populated data, select the Continue button, which will populate the select criteria in the selection window below. Select serials to be commissioned and press the Commission Serials button. A popup window is displayed to confirm the number of serials selected, the lot, and the commission document reference. Press the OK button to confirm the commissioning of the serials.

**9. Navigate back to the Complete Batch - Item Requiring Allocations window and complete the transaction.**

**See Also**

[Configuring the Product Serialization Process Integration](#)

Oracle Process Manufacturing Process Execution User's Guide, "Batch Materials" and "Batch Completions"

Oracle Pedigree and Serialization Manager Process Guide, "Managing Serials"

**Material Transactions Process Flow**

To Commission Serials from Material Transactions:

**1. Navigate to the Batch window.**

The Find Batches window appears.

**2. Enter Batch Number and click the Find button.**

The Batch Details window appears displaying information about ingredients, products, and by-products.

**3. Click the Products tab.**

Using this tab, you can view product and co-product details for the batch.

**4. Click the Pending Lots button.**

The Pending Product Lots window appears.

**5. View or enter lot information into which the products and co-products are moved.**

If the lot you enter does not exist, the system creates the lot for you.

**6. Click the OK button.**

Batch Details window re-appears.

**7. Save your work.**

**8. Click Transact Material button on the Batch Details window.**

The Material Transactions window appears.

**Note:** You can additionally create transaction lines using the Material Transactions window to adjust the Yield.

**9. Navigate to the Lot Entry window.**

Click the Lot/Serial button.

**10. (Optional) Enter lot information if required.**

**11. Invoke the OPSM Commission Serials page.**

Select Commission Serials in OPSM from the Actions menu in the Lot Entry window. This action is only enabled for products and is disabled for ingredients, and by-products.

The OPSM Commission Serials page is called asynchronously. The product and lot information is passed to this page.

**Note:** If any yield is left which has not been transacted and if the batch status is completed, you can create material transactions against the product/co-product for the remaining quantity, which is not allocated. If you close the batch without allocating all the quantity, the batch should be re-opened and the material transactions are created to allocate to a particular lot.

**12. Commission the serials using the OPSM Commission Serials page and save your work.**

Serial selection criteria are automatically populated from the identified lot and document information. Once you have verified the pre-populated data, select the Continue button, which will populate the select criteria in the selection window below. Select serials to be commissioned and press the Commission Serials button. A popup window is displayed to confirm the number of serials selected, the lot, and the commission document reference. Press the OK button to confirm the commissioning of the serials.

**13. Navigate back to the Material Transactions window and complete the transaction.**

Click the Transact button to complete the transaction.

**See Also**

[Configuring the Product Serialization Process Integration](#)

*Oracle Process Manufacturing Process Execution User's Guide*, "Batch Creation", "Batch Materials", and "Batch Completions"

*Oracle Pedigree and Serialization Manager Process Guide*, "Managing Serials"

## Pending Lots Process Flow

**To Commission Serials from Pending Lots:**

**1. Navigate to the Batch window.**

The Find Batches window appears.

**2. Enter Batch Number and click the Find button.**

The Batch Details window appears displaying information about ingredients, products, and by-products.

**3. Click the Products tab.**

Using this tab, you can view product and co-product details for the batch.

**4. Click the Pending Lots button.**

The Pending Product Lots window appears.

**5. View or enter lot information into which the products and co-products are moved.**

If the lot you enter does not exist, the system creates the lot for you.

**6. Invoke the OPSM Commission Serials page.**

Select Commission Serials in OPSM from the Actions menu in the Pending Product Lots window.

This action is only enabled for products and is disabled for ingredients, and by-products.

The OPSM Commission Serials page is called asynchronously. The product and lot information is passed to this page.

**7. Commission the serials using the OPSM Commission Serials page and save your work.**

Serial selection criteria are automatically populated from the identified lot and document information. Once you have verified the pre-populated data, select the Continue button, which will populate the select criteria in the selection window below. Select serials to be commissioned and press the Commission Serials button. A popup window is displayed to confirm the number of serials selected, the lot, and the commission document reference. Press the OK button to confirm the commissioning of the serials.

**8. Navigate back to the Material Transactions window and complete the transaction.**

**See Also**

[Configuring the Product Serialization Process Integration](#)

*Oracle Process Manufacturing Process Execution User's Guide*, "Batch Creation", "Batch Materials", and "Batch Completions"

*Oracle Pedigree and Serialization Manager Process Guide*, "Managing Serials"

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## Oracle Inventory Interfaces (Discrete Manufacturing) - Oracle E-Business Suite Release 11.5.10 and 12.1.2

This section discusses the real-time lot synchronization interfaces.

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### Real-Time Lot Synchronization Interfaces

#### **Business Event**

`oracle.apps.inv.opsm.lotsync`

#### **Services**

These are the services delivered with this integration:

- `SynclItemLotListEbizJMSProducer`
- `SynclItemLotListEbizJMSConsumer`
- `SynclItemLotListPASJMSProducer`

#### **SynclItemLotListEbizJMSProducer**

The `SynclItemLotListEbizJMSProducer` service is a Mediator service that enqueues Oracle E-Business Suite item lot payload messages in the AIA layer. This service pushes the messages to the `AIA_EbizItemLotJMSQueue`, which are consumed by the `SynclItemLotListEbizJMSConsumer` service.

### **SynclItemLotListEbizJMSConsumer**

The SynclItemLotListEbizJMSConsumer service is a Mediator service that is used for picking up the Oracle E-Business Suite item lot payload from the AIA Queue. This service listens and takes messages from the AIA\_EbizItemLotJMSQueue, dequeues the messages, and then invokes SynclItemLotListEbizReqABCImpl.

### **SynclItemLotListPASJMSProducer**

The SynclItemLotListPASJMSProducer service is a Mediator service that enqueues the item lot payload messages into the OPSM JMS Queue. This service pushes the messages into the OPSMLotSynchQueue (which is available in the OPSM application server).

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## **Oracle Process Manufacturing Interfaces - Oracle E-Business Suite 11.5.10**

This section discusses the real-time lot synchronization interfaces.

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### **Real-Time Lot Synchronization Interfaces**

#### **Business Events**

- oracle.apps.gmi.lot.create (for lot create)
- oracle.apps.gmi.lot.update (for lot update)

#### **Services**

These are the services delivered with this integration:

- SynclItemLotListEbizJMSProducer
- SynclItemLotListEbizJMSConsumer

### **SynclItemLotListPASJMSProducer**

The SynclItemLotListEbizJMSProducer service is a Mediator service that enqueues Oracle E-Business Suite item lot payload messages in the AIA layer. This service pushes the messages to the AIA\_EbizItemLotJMSQueue, which are consumed by the SynclItemLotListEbizJMSConsumer service.

### **SynclItemLotListEbizJMSConsumer**

The SynclItemLotListEbizJMSConsumer service is a Mediator service that is used for picking up the Oracle E-Business Suite item lot payload from the AIA Queue. This service listens and takes messages from the AIA\_EbizItemLotJMSQueue, dequeues the messages, and then invokes the SynclItemLotListEbizReqABCImpl public interface.

### **SynItemLotListPASJMSProducer**

The SynItemLotListPASJMSProducer service is a Mediator service that enqueues the item lot payload messages into the OPSM JMS Queue. This service pushes the messages into the OPSMLotSynchQueue (which is available in the OPSM application server).

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## **Oracle Pedigree and Serialization Manager Interfaces**

This section discusses:

- Real-Time Lot Synchronization Interfaces
- Bulk Lot Synchronization Interfaces

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### **Real-Time Lot Synchronization Interface**

Oracle Pedigree and Serialization Manager (OPSM) uses this Web Service for the real-time Lot Synchronization Process Integration:

- MergeLot (MergeLotAsync operation)

#### **MergeLot**

The MergeLot Web Service is used to create a new lot or update an existing lot in the OPSM system. This Web Service inserts or updates lot information into the PAS\_S\_LOTS table.

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### **Bulk Lot Synchronization Interface**

The bulk lot synchronization process uses Oracle Data Integrator (ODI) for its processing between Oracle E-Business Suite and OPSM.

This table lists the source view and target table this process uses:

Oracle E-Business Suite Source System	Source View	OPSM Target Table
Oracle Inventory (Oracle Discrete Manufacturing)	MTL_OPSM_LOT_EXPORT_V	PAS_S_LOT_INTERFACE
Oracle Process Manufacturing	GMI_OPSM_LOT_EXPORT_V	PAS_S_LOT_INTERFACE

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## **Core AIA Components**

The process integration for real-time Lot Synchronization uses the following delivered Core AIA components:

- ItemLotEBO
- ItemLotListEBM

The core EBO and EBM XSD files are located here:

`$AIA_HOME/AIAMetaData/AIAComponents/EnterpriseObjectLibrary/Core/EBO/ItemLot/V1`

The industry EBS WSDL files are located here:

`$AIA_HOME/AIAMetaData/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/ItemLot/V1`

For detailed documentation about individual EBOs, click the EBO Name link on the Integration Scenario Summary page of 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** about using the Oracle Enterprise Repository and configuring it to provide the AIA Reference Doc link, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1*, “Configuring and Using Oracle Enterprise Repository as the Oracle AIA SOA Repository.”

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

**For more information**, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1*, “Generating Deployment Plans and Deploying Artifacts.”

## Integration Services

These are the services delivered with this integration:

- `SynclItemLotListEbizReqABCImpl`
- `ItemLotEBS`
- `SynclItemLotListPASProvABCImpl`

Use the Integration Scenario Summary page in the Oracle AIA Console to search for and view integration scenarios that use a particular ABC service.

**For more information** about using the Oracle Enterprise Repository and configuring it to provide the AIA Reference Doc link, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1*, “Configuring and Using Oracle Enterprise Repository as the Oracle AIA SOA Repository.”

### SynclItemLotListEbizReqABCImpl

The `SynclItemLotListEbizReqABCImpl` service is a BPEL process, which receives `ItemLotEbizABM` as input from Oracle E-business Suite. This message is transformed to `SynclItemLotListEBM`, which also populates EBM Header and invokes `ItemLotEBS`.

#### PartnerLinkService(s)

- `SynclItemLotListEbizReqABCImplExtension`

This is an extensibility service, which takes SyncItemLotListEBM and ItemLotEbzbAM as input and returns the same. This service enables the customer to filter, augment, and validate the input.

- ItemLotEBS

This service accepts SyncItemLotListEBM, which routes to either CAVS or SyncItemLotListPASProvABCImpl.

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## ItemLotEBS

The ItemLotEBS service is an Enterprise Business Service that routes all Item lot related actions (ItemLot and so on) to SyncItemLotListPASProvABCImpl.

This EBS service routes the SyncItemLotListEBM to SyncItemLotListPASProvABCImpl or CAVS based on the filter condition and operation.

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## SyncItemLotListPASProvABCImpl

The SyncItemLotListPASProvABCImpl service is a BPEL Process, which receives SyncItemLotListEBM as input from ItemLotEBS. This input SyncItemLotListEBM is transformed into ItemLotPASABM.

This is a single operation service, which receives SyncItemLotListEBM as a request from ItemLotEBS and does not return a response. This invokes the SyncItemLotListPASJMSProducer service.

## PartnerLinkService(s)

- SyncItemLotListPASProvABCImplExtension

This is an extensibility service, which takes SyncItemLotListEBM and ItemLotPASABM as input and returns the same. This service enables the customer to filter, augment, and validate the input.

- SyncItemLotListPASJMSProducer

This service accepts ItemLotPASABM as input service and enqueues the ItemLotPASABM payload messages into OPSM JMS Queue. This service pushes the messages into the OPSMLotSyncQueue (which is available in OPSM application server).

# Chapter 4: Serialized Item Tracking Process Integration

This chapter provides an overview of the Serialized Item Tracking Process Integration and discusses:

- Shipment Transaction process flow
- Shipment Receipt (Return) process flow
- Oracle E-Business Suite Interfaces
- Oracle Pedigree and Serialization Manager Interfaces
- Core AIA Components
- Integration Services

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## Serialized Item Tracking Process Integration Overview

The Serialized Item Tracking process integration is used to record shipment transactions and shipment receipt return transactions of OPSM Integrated items from Oracle E-Business Suite to Oracle Pedigree and Serialization Manager (OPSM).

### Shipping Transactions

When a delivery is ship confirmed in Oracle E-Business Suite, the outbound Advance Shipment Notice (ASN) is published from Oracle E-Business Suite to OPSM. The ASN contains the transaction details including the transaction date, transaction quantity, shipped item, lot, trading partners (sold to, shipped by, shipped to, and sold by), and supporting document information. It may also include the shipped item serials, component serials (genealogy), and the container packaging hierarchy. Based on the shipped to customer, the shipment transaction may be flagged to indicate whether a change of ownership has occurred or not.

OPSM processes the ASN recording the details of the shipment along with the serials, packaging hierarchy, and item genealogy. If OPSM has been configured to create serials at shipment, the shipped item serials and component serials created in Oracle E-Business Suite are uploaded into OPSM at the time of shipment. The packaging hierarchy from Oracle E-Business Suite is also updated in OPSM at the time of shipment. Optionally, the lot can be created as part of the shipment transaction as well. OPSM validates the serials associated with the transaction to verify the status, state, lot expiration date, existence of the serial, along with other edits. If the shipment is to a customer where a change of ownership occurs, the serials are updated to indicate they have been shipped. Optionally, shipments with no change of ownership can be recorded in OPSM. If no change of ownership occurs, the serials will remain in their current state.

When the transaction has been successfully processed, it contains the details of the transaction including transaction details, shipped items, serials, reference documents, trading partners, lot information and product information, container packing hierarchy, and the shipped item genealogy.

## Shipping Receipts (Returns)

When the shipping receipt (return) transaction is processed, the returned product information is transmitted to OPSM through the shipment receipt. The return receipt transaction records the details of the return in OPSM including the returned items, serials, product information, reference documents, transaction quantity, date, and trading partners. If the shipment receipt contains the returned serials, the serials validation is performed to verify the serials were previously shipped, have not been decommissioned, and have not been flagged as counterfeit. Optionally, returns with no change of ownership can be recorded in OPSM. If no change of ownership occurs, the serials will remain in their current state.

### See Also

[Configuring the Serialized Item Tracking Process Integration](#)

Oracle Order Management User's Guide, "Order Entry"

*Oracle Shipping Execution User's Guide*, "Managing Deliveries", "Pick Release" and "Ship Confirm"

Oracle Purchasing User's Guide, "Receiving"

Oracle Pedigree and Serialization Manager Process Guide, "Managing Transactions"

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## Solution Assumptions and Constraints

The solution assumptions and constraints for the Serialized Item Tracking Process Integration are:

1. The Oracle Pedigree and Serialization Manager (OPSM) application is designed as a stand-alone application on Fusion 11g technology stack. OPSM does not have any dependencies on Fusion Applications or Fusion Applcore and foundation components.
2. Translations in Oracle E-Business Suite are not synchronized into OPSM. OPSM does not support translations of database content.
3. Item basic information is maintained in Oracle E-Business Suite and product details are maintained in OPSM.
4. Master and Inventory organizations of an item are OPSM enabled in Oracle E-Business Suite (Oracle Inventory).
5. Item cross reference type OPSM Integrated should be "YES" for the OPSM Integrated Item at the Master Organization and is not disabled at the item Inventory Organization level in Oracle E-Business Suite (Oracle Inventory).
6. Item must be lot controlled in Oracle E-Business Suite (Oracle Inventory) at the Master Item level for Product Synchronization and at the Organization level for Work Order Serialization, Commission Serials, Lot Synchronization, and Serialized Item Tracking.
7. Items have been synchronized to OPSM. As a result of the synchronization, a product with at least one product detail record that is cross-referenced to the item and primary UOM in Oracle E-Business Suite has been defined in OPSM.
8. Lots have been synchronized to OPSM.
9. Returns with transaction type DELIVER processed through API, Open interface, and Mobile, which calls the Receiving transaction Processor, will trigger the business event to send Shipment Receipt to OPSM.

10. Mobile device to OPSM integration (Oracle Mobile Supply Chain Applications (MSCA) and Oracle Warehouse Management System (WMS)) is not supported.
11. Identification of the OPSM serial number through a link to OPSM on the sales order return line is not supported.
12. Integration process for receipts is applicable only to customer returns (internal or external) or RMA's. It does not apply to supplier receipts, inter-org transfers, and internal sales orders.
13. Ship confirm process can be performed from other methods such as API and open interface.
14. Integration process for ASN (Advance Shipment Notice) is not applicable to inter-org transfers and internal sales orders.
15. WMS (Warehouse Management System) is not supported.
16. In the case where an item is serialized (serial control is set to *Predefined* or *At Receipt*), to get item genealogy the work order has to be completed using a mobile device to have a one-to-one relationship with the assembly and components.
17. When entering serials number in Oracle E-Business Suite and Shipment Confirmation or during Shipment Receipt Return, you must enter a list of serials, you cannot enter a range.

---

## Shipment Transaction Process Flow

When an OPSM (Oracle Pedigree and Serialization Manager) tracked item is shipped in Oracle E-Business Suite, the transaction information is sent to the OPSM system in the form of an Advance Shipment Notice (ASN). This integration is achieved through the Serialized Item Tracking Process Integration (business events and AIA integration).

The ASN contains:

- Delivery details
- Serialized Containerization details (optional)
- Order details
- Item information
- Lot information
- Shipped Item Serials (optional)
- Serialized item genealogy (optional)

Serials associated with the shipment transaction can be identified in these ways:

- Entry of the shipped item serials in Oracle E-Business Suite during shipment confirmation. If serial generation is set to *At Sales Order Issue*, then either serials that only exist in OPSM can be entered or serials originating within Oracle E-Business Suite can be entered. If serial generation is set to either *At Receipt* or *Predefined*, then the serials originating from Oracle E-Business Suite will be sent to OPSM.
- Identification of the serialized shipping container in Oracle E-Business Suite during shipment confirmation. This assumes the serialized items are already associated to the serialized container in OPSM. When the shipment transaction is processed, inference will be used to identify the shipped item serials.

- Entry of the serials in the OPSM Maintain Transactions page by navigating from the Oracle E-Business Suite Shipping Transactions or Quick Ship windows to the OPSM Maintain Transactions page after the shipment transaction from Oracle E-Business Suite is recorded in OPSM.

## Shipment Transaction Process Flows

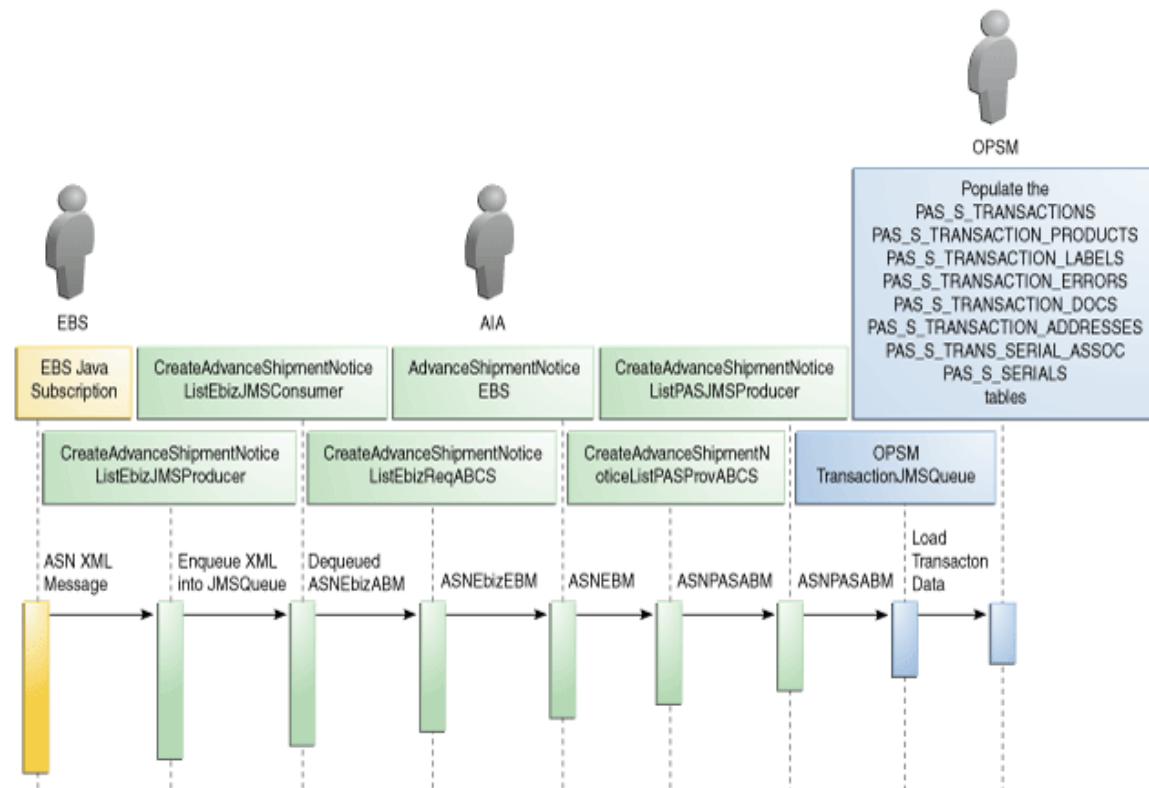
ASNs can be processed using the Shipping Interfaces window, Shipping Transaction window, or the Quick Ship window in Oracle E-Business Suite.

This section discusses:

- Shipping Transaction window process flow
- Quick Ship window process flow (alternate method)

### Shipping Transactions Window Process Flow

This diagram illustrates the Shipment Transaction sequence diagram:



Sequence Diagram for Shipment Transaction Process Flow

To Perform a Shipment Transaction Using the Shipping Transactions window:

- Create and book the sales order in Oracle E-Business Suite.
- Navigate to the Release Sales Order For Picking window in Oracle E-Business Suite.

Order Management Super User Process Operations (USA) > Order.Shipping > Release Sales Order

3. Enter the Sales Order number in the Order Number field.
4. Click Execute Now button.
5. Click the OK button when prompted that the Pick Release online has completed successfully.
6. Navigate to the Shipping Transactions window in Oracle E-Business Suite.

Order Management Super User Process Operations (USA) > Order.Shipping > Transactions

7. Enter Sales Order number in From Order Number field and click the Find button.

The Shipping Transactions window appears.

8. Enter serial information for the delivery by clicking the Contents tab.

**Note:** Perform Steps 8 and 9 for items that have Serial Generation set to At Sales Order Issue, At Receipt, or Predefined (on the Inventory tab of the item). In the detail line, enter the Shipped Quantity and the Serial Number to associate with the delivery. If you enter the shipped quantity but not the serial number, the system issues a warning.

9. Click the Delivery tab.
10. Select Ship Confirm in the Actions field and click the Go button.

The Confirm Delivery window appears.

11. Click the OK button.
12. Navigate to the Shipping Interfaces window in Oracle E-Business Suite.

Order Management Super User Process Operations (USA) > Order.Shipping > Interfaces > Run

The Submit a New Request dialog box appears.

13. Select the Single Request option and click the OK button.
14. Select Interface Trip Stop - SRS in the Name field.

The Parameters window appears.

15. Enter Trip Stop and Delivery ID and click the OK button.

Whenever a delivery is shipped and the corresponding delivery details are interfaced to Inventory, a business event (oracle.apps.wsh.delivery.gen.interfaced) is triggered. The subscription of the business event submits a Java Rule Function if the delivery details have at least one OPSM Enabled Item. This Java Rule Function in turn calls the PL/SQL API, which returns all the ASN data in Table type objects. Using this data a Java Program generates the XML Payload and sends it to the JMS Producer. All messages are tagged with the processing date and time of the event to ensure that the messages can be sequenced and processed in the correct order. If the XML Payload fails going to JMS Producer, then an Error Notification goes to SYSADMIN.

**16. (Optional) Navigate to the Shipping Transactions window in Oracle E-Business Suite.**

**Note:** Steps 17 - 20 are optional. If the serials have not been entered on the shipment transaction in Oracle E-Business Suite, the user can navigate to OPSM to enter the serials directly in OPSM.

Order Management Super User Process Operations (USA) > Order.Shipping > Transactions

This window is used to enter serials directly in Oracle Pedigree and Serialization Manager (OPSM) if the items are serialized by OPSM and the sales order delivery is closed.

**17. (Optional) Enter Sales Order number in From Order Number field and click the Find button.**

**18. (Optional) Enter serial numbers using one of these methods:**

**Delivery Tab Method**

- a. Select the Delivery tab.
- b. Select OPSM Shipment Transaction from the Tools menu.

The OPSM Maintain Transactions page appears with the shipment transaction information retrieved and displayed based on the Transaction Type, Location, Document, and Document Type. A separate shipment transaction will display in OPSM for each delivery line.

- c. If the transaction is in an exception status, navigate to the Maintain Serial Associations page in OPSM.

Click the Maintain Serial Associations button or select Maintain Serial Associations from the Actions menu for the transaction on the Maintain Transactions page.

- d. Add or delete serials or containers using the Maintain Serial Associations page.
- e. Save your work and return to the Maintain Transactions page.

**Lines/LPNs Tab Method**

- a. Select the Lines/LPNs tab.
- b. Select OPSM Shipment Transaction from the Tools menu.

The OPSM Maintain Transactions page appears with the shipment transaction information retrieved and displayed based on the Transaction Type, Location, Document, Document Type, and Document Line. A single shipment transaction will display in OPSM for the delivery line.

- c. If the transaction is in an exception status, navigate to the Maintain Serials Association page in OPSM.

Click the Maintain Serial Associations button or select Maintain Serial Associations from the Actions menu for the transaction on the Maintain Transactions page.

- d. Add or delete serials or containers using the Maintain Serial Associations page.
- e. Save your work and return to the Maintain Transactions page.

**19. (Optional) Reprocess the shipment transaction using the Maintain Transactions page.**

Click the Reprocess Transaction(s) button at the top of the Search Results: Transactions region.

**See Also**

[Configuring the Serialized Item Tracking Process Integration](#)

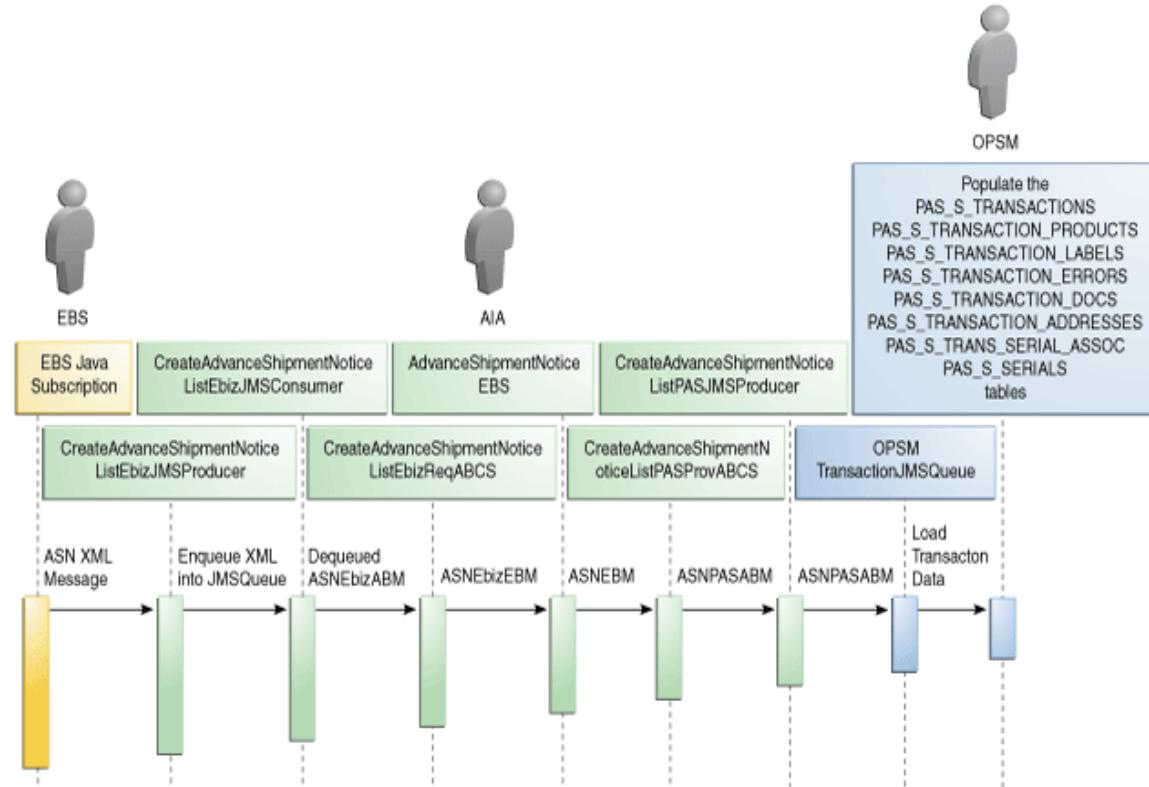
Oracle Order Management User's Guide, "Order Entry"

*Oracle Shipping Execution User's Guide*, "Managing Deliveries", "Pick Release" and "Ship Confirm"

Oracle Pedigree and Serialization Manager Process Guide, "Managing Transactions"

## Quick Ship Window Process Flow (Alternate Method)

This diagram illustrates the Shipment Transaction sequence diagram:



Sequence Diagram for Shipment Transaction Process Flow

### To Perform a Shipment Transaction Using the Quick Ship window - Alternate Method:

1. Create and book the sales order in Oracle E-Business Suite.
2. Navigate to the Release Sales Order For Picking window in Oracle E-Business Suite.

Order Management Super User Process Operations (USA) > Order.Shipping > Release Sales Order

3. Enter the Sales Order number in the Order Number field.
4. Click Execute Now button.
5. Click the OK button when prompted that the Pick Release online has completed successfully.
6. Navigate to the Quick Ship window.

Order Management Super User Process Operations (USA) > Order.Shipping > Quick Ship

7. Enter delivery number in the Delivery Name (From) field and click the Find button.

Enter serial information for the delivery by entering the Shipped Quantity in the delivery detail line.

The serial number field remains locked until you enter a shipped quantity.

**Note:** Perform Steps 8 and 9 for items that have Serial Generation set to *At Sales Order Issue*, *At Receipt*, or *Predefined* (on the Inventory tab of the item).

Enter the Serial Number that is being associated with the shipment.

If the item is not set to serial generation *At Sales Order Issue*, the serial number field is not available.

**8. Ship confirm the delivery.**

Click the Ship Confirm button.

The Confirm Delivery window appears.

**9. Click the OK button.**

The ship confirm process is done.

**10. Navigate to the Shipping Interfaces window in Oracle E-Business Suite.**

Order Management Super User Process Operations (USA) > Order.Shipping > Interfaces > Run

The Submit a New Request dialog box appears.

**11. Select the Single Request option and click the OK button.**

**12. Select Interface Trip Stop - SRS in the Name field.**

The Parameters window appears.

**13. Enter Trip Stop and Delivery ID and click the OK button.**

Whenever a delivery is shipped and the corresponding delivery details are interfaced to Inventory, a business event (oracle.apps.wsh.delivery.gen.interfaced) is triggered. The subscription of the business event submits a Java Rule Function if the delivery details have at least one OPSM Enabled Item. This Java Rule Function in turn calls the PL/SQL API, which returns all the ASN data in Table type objects. Using this data a Java Program generates the XML Payload and sends it to the JMS Producer. All messages are tagged with the processing date and time of the event to ensure that the messages can be sequenced and processed in the correct order. If the XML Payload fails going to JMS Producer, then an Error Notification goes to SYSADMIN.

**14. (Optional) Navigate to the Quick Ship window.**

**Note:** Steps 16 - 19 are optional. If the serials have not been entered on the shipment transaction in Oracle E-Business Suite, the user can navigate to OPSM to enter the serials directly in OPSM.

Order Management Super User Process Operations (USA) > Order.Shipping > Quick Ship

This window is used to enter serials directly in Oracle Pedigree and Serialization Manager (OPSM) if the items are Serialized by OPSM and the sales order delivery is closed.

**15. (Optional) Enter delivery number in the Delivery Name (From) field and click the Find button.**

**16. (Optional) Enter serial numbers using one of these methods:**

#### **Delivery Tab Method**

- a. Select the Delivery tab.
- b. Select OPSM Shipment Transaction from the Tools menu.

The OPSM Maintain Transactions page appears with the shipment transaction information retrieved and displayed based on the Transaction Type, Location, Document, and Document Type. A separate shipment transaction will display in OPSM for each delivery line.

- c. If the transaction is in an exception status, navigate to the Maintain Serial Associations page in OPSM.

Click the Maintain Serial Associations button or select Maintain Serial Associations from the Actions menu for the transaction on the Maintain Transactions page.

- d. Add or delete serials or containers using the Maintain Serial Associations page.
- e. Save your work and return to the Maintain Transactions page.

#### **Delivery Lines/LPNs Tab Method**

- a. Select the Delivery Lines/LPNs tab.
- b. Select OPSM Shipment Transaction from the Tools menu.

The OPSM Maintain Transactions page appears with the shipment transaction information retrieved and displayed based on the Transaction Type, Location, Document, and Document Type. A separate shipment transaction will display in OPSM for each delivery line.

- c. If the transaction is in an exception status, navigate to the Maintain Serial Associations page in OPSM.

Click the Maintain Serial Associations button or select Maintain Serial Associations from the Actions menu for the transaction on the Maintain Transactions page.

- d. Add or delete serials or containers using the Maintain Serial Associations page.
- e. Save your work and return to the Maintain Transactions page.

**17. (Optional) Reprocess the shipment transaction using the Maintain Transactions page.**

Click the Reprocess Transaction(s) button at the top of the Search Results: Transactions region.

#### **See Also**

[Configuring the Serialized Item Tracking Process Integration](#)

Oracle Order Management User's Guide, "Order Entry"

*Oracle Shipping Execution User's Guide*, "Managing Deliveries", "Pick Release" and "Ship Confirm"

Oracle Pedigree and Serialization Manager Process Guide, "Managing Transactions"

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## Shipment Receipt (Return) Transaction Process Flow

When an OPSM tracked item is returned in Oracle E-Business Suite, the transaction information for the receipt along with the serials are sent to the Oracle Pedigree and Serialization Manager (OPSM) system. This integration is achieved through the Serialized Item Tracking Process Integration (business events and AIA integration).

Serialized items and their quantities are synchronized during the receiving process between Oracle E-Business Suite and OPSM. The receipt transaction contains:

- Receipt details
- Item information
- Lot information
- Serials

Serials associated with the return receipt transaction can be identified in these ways:

- Entry of the returned item serials in Oracle E-Business Suite during receipt. If serial generation is set to *At Sales Order Issue*, then either serials that only exist in OPSM can be entered or serials originating within Oracle E-Business Suite can be entered. If serial generation is set to either *At Receipt* or *Predefined*, then the serials originating from Oracle E-Business Suite will be sent to OPSM.
- Entry of the serials in the OPSM Maintain Transactions page by navigating from the return receipt transaction to the OPSM Maintain Transactions page after the return receipt transaction from Oracle E-Business Suite is recorded in OPSM.

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## Shipment Receipt (Return) Process Flows

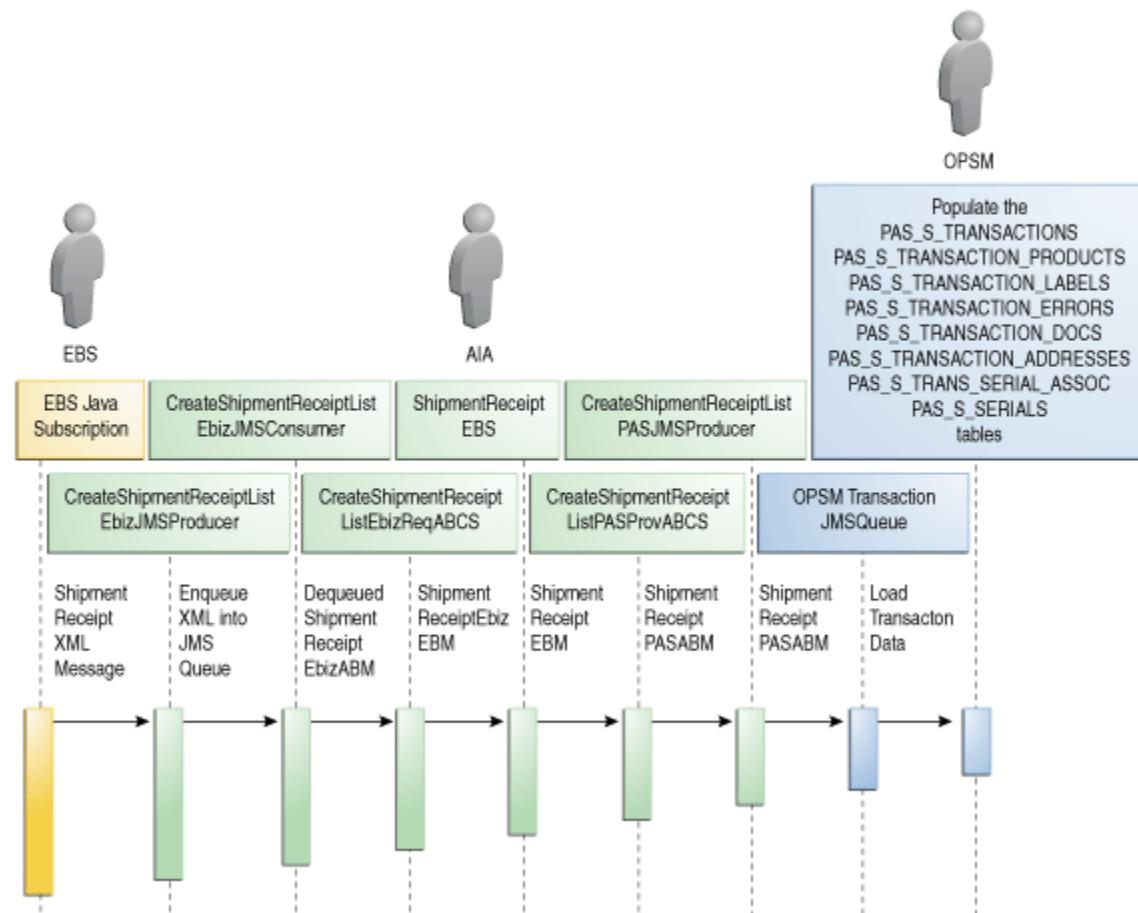
RMA<sup>s</sup> can be processed using the Receipt window or the Receiving Transaction window in Oracle E-Business Suite.

This section discusses:

- Receipt window process flow
- Receiving Transaction window process flow (alternate method)

## Receipt Window Process Flow

This diagram illustrates Shipment Receipt (Return) sequence diagram:



Sequence Diagram for Shipment Receipt (Return) Process Flow

**To Perform a Shipment Receipt (Return) Using the Receipts window:**

1. Create and book the sales order in Oracle E-Business Suite.
2. Navigate to the Receipts window.

Purchasing Super User Process Operations > Receiving > Receipts

3. Select the Inventory Organization where you want to perform the receipt process.

The Find Expected Receipts window appears.

4. Select the Customer tab.
5. Enter the following:
  - a. Enter the sales order number in the RMA Num field.
6. Click the Find button.

The Receipt Header window appears. New Receipt option appears by default.

7. Select the first line and enter the Subinventory for the line.
8. Click the Lot/Serial button.

The Lot Entry window appears.

9. Enter the returned lot information and click the Done button.
10. Save your work.

The receipt transaction process is complete. The deliver transaction occurs and the items are sent to the specified inventory.

For the deliver transaction, the business event (oracle.apps.po.rcv.rcvtn.outbound) is raised which sends receipt and serials details for OPSM Integrated items from Oracle E-Business Suite to the endpoint URL in the AIA layer.

The receipt and serial details from the endpoint URL are processed in the AIA layer and then the required details are sent to OPSM.

**Note:** Steps 11 - 16 are optional. If the serials have not been entered on the shipment receipt (return) transaction in Oracle E-Business Suite, the user can navigate to OPSM to enter the serials directly in OPSM.

11. (Optional) Navigate to the Material Transaction window in Oracle E-Business Suite.

This window is used to call the OPSM page to enter the serials if the item is OPSM Serialized.

Each return line associated with an RMA Receipt transaction type and with an OPSM Integrated item is available for update to OPSM.

12. Invoke the Maintain Transaction page in OPSM.

Select OPSM Return Transaction from the Tools menu for a return line.

The OPSM Maintain Transactions page appears with the return transaction information retrieved and displayed based on the Transaction Type, Location, Document, and Document Type. A separate return transaction displays in OPSM for each receipt line.

13. If the transaction is in an exception status, navigate to the OPSM Maintain Serial Associations page.

Click the Maintain Serial Associations button or select Maintain Serial Associations from the Actions menu for the transaction on the Maintain Transactions page.

14. Add or Delete Serials or Containers using the Maintain Serial Associations page.

15. Save your work and return to the Maintain Transactions page.

16. Reprocess the return transaction using the Maintain Transactions page.

Click the Reprocess Transaction(s) button at the top of the Search Results: Transactions region.

### See Also

[Configuring the Serialized Item Tracking Process Integration](#)

Oracle Order Management User's Guide, "Order Entry"

Oracle Purchasing User's Guide, "Receiving"

Oracle Pedigree and Serialization Manager Process Guide, "Managing Transactions"

## Receiving Transaction Window Process Flow (Alternate Method)

To Perform a Shipment Receipt (Return) Using the Receiving Window - Alternate Method:

1. Navigate to the Receiving Transactions window.

Purchasing Super User Process Operations > Receipts > Receiving Transaction

The RMA process flow from the Receiving Transactions window functions basically the same as the RMA process flow from the Receipt window.

**For more information** on the RMA process flow from the Receipt window, see [Receipt Window Process Flow](#).

### See Also

[Configuring the Serialized Item Tracking Process Integration](#)

Oracle Order Management User's Guide, "Order Entry"

Oracle Purchasing User's Guide, "Receiving"

Oracle Pedigree and Serialization Manager Process Guide, "Managing Transactions"

## Oracle E-Business Suite Interfaces

This section discusses:

- Shipment Transactions Interfaces
- Shipment Receipt (Return) Interfaces

### Shipment Transaction Interfaces

#### Business Event

This is the business event delivered with this integration:

- oracle.apps.wsh.delivery.gen.interfaced

#### Services

These are the services delivered with this integration:

- CreateAdvanceShipmentNoticeListEbizJMSProducer

- CreateAdvanceShipmentNoticeListEbizJMSConsumer
- CreateAdvanceShipmentNoticeListPASJMSProducer

### **CreateAdvanceShipmentNoticeListEbizJMSProducer**

The CreateAdvanceShipmentNoticeListEbizJMSProducer service is a Mediator service that enqueues Oracle E-Business Suite Advance Shipment Notice payload messages into the AIA layer. This service pushes the messages to the AIA\_EbizAdvanceShipmentNoticeJMSQueue, which are consumed by the CreateAdvanceShipmentNoticeListEbizJMSConsumer service.

### **CreateAdvanceShipmentNoticeListEbizJMSConsumer**

The CreateAdvanceShipmentNoticeListEbizJMSConsumer service is a Mediator service that is used for picking up the Oracle E-Business Suite Advance Shipment Notice payload from the AIA queue. This service listens to and takes messages from the AIA\_EbizAdvanceShipmentNoticeJMSQueue, dequeues the messages, and then invokes the CreateAdvanceShipmentNoticeListEbizReqABCImpl public interface.

### **CreateAdvanceShipmentNoticeListPASJMSProducer**

The CreateAdvanceShipmentNoticeListPASJMSProducer service is a Mediator service that enqueues the shipment transaction payload messages into OPSM JMS Queue. This service pushes the messages into the OPSMCreateTransactionQueue (which is available in the OPSM application server).

---

## **Shipment Receipt (Return) Interfaces**

### **Business Event**

This is the business event delivered with this integration:

- oracle.apps.po.rcv.rcvtn.outbound

### **Services**

These are the services delivered with this integration:

- CreateShipmentReceiptListEbizJMSProducer
- CreateShipmentReceiptListEbizJMSConsumer
- CreateShipmentReceiptListPASJMSProducer

### **CreateShipmentReceiptListEbizJMSProducer**

The CreateShipmentReceiptListEbizJMSProducer service is a Mediator service that enqueues Oracle E-Business Suite shipment receipt payload messages into the AIA layer. This service pushes the messages to the AIA\_EbizShipmentReceiptJMSQueue, which are consumed by the CreateShipmentReceiptListEbizJMSConsumer service.

### **CreateShipmentReceiptListEbizJMSConsumer**

The CreateShipmentReceiptListEbizJMSConsumer service is a Mediator service that is used for picking up the Oracle E-Business Suite shipment receipt payload from the AIA queue. This service listens to and takes messages from the AIA\_EbizShipmentReceiptJMSQueue, dequeues the messages, and then invokes the CreateShipmentReceiptListEbizReqABCImpl public interface.

### CreateShipmentReceiptListPASJMSProducer

The CreateShipmentReceiptListPASJMSProducer service is a Mediator service that enqueues the shipment return payload messages into OPSM JMS Queue. This service pushes the messages into the OPSMCreateTransactionQueue (which is available in the OPSM application server).

---

## **Oracle Pedigree and Serialization Manager Interfaces**

Oracle Pedigree and Serialization Manager (OPSM) uses this Web Service for the Serialized Item Tracking Process Integration:

- CreateTransaction

---

### **CreateTransaction**

The CreateTransaction Web Service is used to record a shipment or return transaction into the OPSM system. In addition, the OPSM system shall optionally enable:

- Updating packaging hierarchy in OPSM at time of shipment or return.
- Recording the shipment or return to an internal customer.

---

## **Core AIA Components**

The process integration for Serialized Item Tracking uses the following delivered core AIA components:

- AdvanceShipmentNoticeEBO
- ShipmentReceiptEBO
- AdvanceShipmentNoticeEBM
- ShipmentReceiptEBM

The core EBO and EBM XSD files are located here:

- \$AIA\_HOME/AIAMetaData/AIAComponents/EnterpriseObjectLibrary/Core/EBO/AdvanceShipmentNotice/V1
- \$AIA\_HOME/AIAMetaData/AIAComponents/EnterpriseObjectLibrary/Core/EBO/ShipmentReceipt/V1

The core EBS WSDL files are located here:

- \$AIA\_HOME/AIAMetaData/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/AdvanceShipmentNotice/V1
- \$AIA\_HOME/AIAMetaData/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/ShipmentReceipt/V1

For detailed documentation about individual EBOs, click the EBO Name link on the Integration Scenario Summary page of 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** about using the Oracle Enterprise Repository and configuring it to provide the AIA Reference Doc link, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1*, “Configuring and Using Oracle Enterprise Repository as the Oracle AIA SOA Repository.”

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

**For more information**, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1*, “Generating Deployment Plans and Deploying Artifacts.”

## Integration Services

These are the services delivered with this integration:

- CreateAdvanceShipmentNoticeListEbizReqABCImpl
- AdvanceShipmentNoticeEBS
- CreateAdvanceShipmentNoticeListPASProvABCImpl
- CreateShipmentReceiptListEbizReqABCImpl
- ShipmentReceiptEBS
- CreateShipmentReceiptListPASProvABCImpl

Use the Integration Scenario Summary page in the Oracle AIA Console to search for and view integration scenarios that use a particular ABC service.

**For more information** about using the Oracle Enterprise Repository and configuring it to provide the AIA Reference Doc link, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1*, “Configuring and Using Oracle Enterprise Repository as the Oracle AIA SOA Repository.”

---

## CreateAdvanceShipmentNoticeListEbizReqABCImpl

The CreateAdvanceShipmentNoticeListEbizReqABCImpl service is a BPEL Process, which receives AdvanceShipmentNoticeEbizABM as input from Oracle E-business Suite. This service transforms this message to CreateAdvanceShipmentNoticeListEBM, populates the EBM Header, and invokes AdvanceShipmentNoticeEBS.

This is a single operation service, which receives AdvanceShipmentNoticeEbizABM as a request from Oracle E-Business Suite and does not return a response.

### PartnerLink Service(s)

- CreateAdvanceShipmentNoticeListEbizReqABCImplExtension

This is an extensibility service, which takes CreateAdvanceShipmentNoticeListEBM and AdvanceShipmentNoticeEbizABM as input and returns the same. This service enables you to filter, augment, and validate the input.

- AdvanceShipmentNoticeEBS

This service accepts CreateAdvanceShipmentNoticeListEBM and routes the message to either CAVS or CreateAdvanceShipmentNoticeListPASProvABCImpl.

---

## AdvanceShipmentNoticeEBS

The AdvanceShipmentNoticeEBS is an Enterprise Business Service that routes all Advance Shipment Notice related actions (AdvanceShipmentNotice and so on) to CreateAdvanceShipmentNoticeListPASProvABCImpl.

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## CreateAdvanceShipmentNoticeListPASProvABCImpl

The CreateAdvanceShipmentNoticeListPASProvABCImpl service is a BPEL Process, which receives CreateAdvanceShipmentNoticeListEBM as input from AdvanceShipmentNoticeEBS. This input CreateAdvanceShipmentNoticeListEBM is transformed into AdvanceShipmentNoticePASABM.

This is a single operation service, which receives CreateAdvanceShipmentNoticeListEBM as a request from AdvanceShipmentNoticeEBS and does not return a response. This invokes the CreateAdvanceShipmentNoticeListPASJMSProducer Partner link.

### PartnerLink Service(s)

- AdvanceShipmentNoticePASProvABCImplExtension

This is an extensibility service, which takes CreateAdvanceShipmentNoticeListEBM and AdvanceShipmentNoticePASABM as input and returns the same. This service enables you to filter, augment, and validate the input.

- CreateAdvanceShipmentNoticeListPASJMSProducer

This service accepts AdvanceShipmentNoticePASABM and enqueues this AdvanceShipmentNoticePASABM message into OPSMCreateTransactionQueue JMS queue.

---

## CreateShipmentReceiptListEbizReqABCImpl

The CreateShipmentReceiptListEbizReqABCImpl service is a BPEL Process, which receives ShipmentReceiptEbizABM as input from Oracle E-business Suite. The service transforms this message to CreateShipmentReceiptListEBM, populates the EBM Header, and invokes ShipmentReceiptEBS.

This is a single operation service, which receives ShipmentReceiptEbizABM as a request from Oracle E-Business Suite and does not return a response.

### PartnerLink Service(s)

- CreateShipmentReceiptListEbizReqABCImplExtension  
This is an extensibility service, which takes ShipmentReceiptABM and CreateShipmentReceiptListEbizEBM as input and returns the same. This service enables you to filter, augment, and validate the input.
- ShipmentReceiptEBS  
This service accepts CreateShipmentReceiptListEBM and routes the message to either CAVS or CreateShipmentReceiptListPASProvABCImpl.

---

## ShipmentReceiptEBS

The ShipmentReceiptEBS service is an Enterprise Business Service that routes all Shipment Receipt related actions (Shipment Receipt and so on) to CreateShipmentReceiptListPASProvABCImpl.

---

## CreateShipmentReceiptListPASProvABCImpl

The CreateShipmentReceiptListPASProvABCImpl service is a BPEL Process, which receives CreateShipmentReceiptListEBM as input from ShipmentReceiptEBS. This input CreateShipmentReceiptListEBM is transformed into ShipmentReceiptPASABM.

This is a single operation service, which receives CreateShipmentReceiptListEBM as a request from ShipmentReceiptEBS and does not return a response. This invokes CreateShipmentReceiptListPASJMS Producer Partner link.

### PartnerLink Service(s)

- ShipmentReceiptPASProvABCImplExtension  
This is an extensibility service, which takes CreateShipmentReceiptListEBM and ShipmentReceiptPASABM as input and returns the same. This service enables you to filter, augment, and validate the input.
- CreateShipmentReceiptListPASJMSProducer  
This service accepts ShipmentReceiptPASABM and enqueues this ShipmentReceiptPASABM message into OPSMCreateTransactionQueue JMS queue.

## Part 2: Implementing the Delivered Integrations

[Chapter 5: Configuring the Product Definition Process Integration](#)

[Chapter 6: Configuring the Product Serialization Process Integration](#)

[Chapter 7: Configuring the Serialized Item Tracking Process Integration](#)

[Chapter 8: Supporting Multiple Oracle E-Business Suite Source Systems](#)

[Chapter 9: Setting Up Web Service Security for Oracle E-Business Suite Release 12.1.2](#)

# Chapter 5: Configuring the Product Definition Process Integration

**Note:** The Product Definition Process Integration includes the Product Definition and Product Synchronization process flows

This section discusses how to:

- Set up Oracle E-Business Suite.
- Set up Oracle Pedigree and Serialization Manager
- Implement Oracle Data Integrator

## Setting Up Oracle E-Business Suite

This section discusses how to:

- Set up flexfield item cross references, profile options, and organizational parameters
- Set up Oracle Inventory

## Setting Up Flexfield Item Cross References, Profile Options, and Organization Parameters

Before you can use the Product Definition Integrations (Product Definition and Product Synchronization), certain information must be set up in Oracle E-Business Suite (Oracle Inventory). The information that needs to be set up in E-Business Suite (Oracle Inventory) is discussed in this section.

### Setting Up Flexfield Item Cross References

#### To Set Up Flexfield Item Cross References:

1. Navigate to the Descriptive Flexfield Segments window.

Sysadmin > Application > Flexfield > Descriptive > Segments

The Descriptive Flexfield Segments window appears.

2. Query for a segment Title value of **Item cross-references**.
3. Clear the Freeze Flexfield Definition check box.

4. In the Context Field Values region of the window, enter the following information:

Field Name	Field Value
Code	YES
Name	YES
Description	Serial Type for EBS Serials

5. Click the Synchronize with Reference Field check box.

6. Click the Segments button.

The Segments Summary window appears.

7. Enter the following information:

Field Name	Field Value
Number	1
Name	Serial Type
Window Prompt	Serial Type
Column	ATTRIBUTE1
Value Set	INV_OPSM_SERIAL_TYPE

8. Save your work.

9. Click the Open button.

The Segments window appears.

10. Enter the following information:

Field Name	Field Value
Default Type	Constant
Default Value	SGTIN-96

11. Save your work.

12. Repeat steps 1-11 for each serial type you want to add to the environment.

## Setting Up Profile Options

### To Manually Create a Profile Option:

1. Navigate to the Profiles window.

Application Developer > Profile

**2. Enter the following information:**

Field Name	Field Description
Name	Enter the name of the profile option.
Application	Enter the Oracle application responsible for this profile option.
User Profile Name	Enter the user name for the profile option.
Description	Enter the description for the profile option.
SQL Validation	If required, enter SQL validation for the profile option.

**3. Save your work.**

**4. Navigate to the System Profile Values window.**

System Administrator > Profile > System

**5. Enter the profile name in the Profile field and click the Find button.**

**6. Select the profile value for the site.**

**7. Save your work.**

### Profile Options

This table lists the profile options that need to be set up for the Product Definition process integration:

Profile Option Name	Application	User Profile Name	Description	SQL Validation
INV_OPSM_ENA_BLED	Inventory	INV: Enable OPSM Checkbox	This profile controls the display of the OPSM Enabled check box on the Organization Parameters window. Values are Yes or No.	SQL = "select MEANING , lookup_code into :visible_option_value, :profile_option_value from mfg_lookups where lookup_type = 'SYS_YES_NO'" COLUMN = "MEANING(*)"
INV_OPSM_EBS_SRC_SYS_NAME	Application Object Library	OPSM Integration: EBS Source System Name	This profile defines the source system name. For example, EBIZ_01 and EBIZ_02.	N/A
INV_OPSM_EBS_JMSQ_HOST	Application Object Library	OPSM Integration: JMS Queue Producer URL Host	Identifies the OPSM integration JMS Queue URL Host for the outbound messages.	N/A
INV_OPSM_EBS	Application	OPSM Integration:	Identifies the OPSM integration	N/A

Profile Option Name	Application	User Profile Name	Description	SQL Validation
_JMSQ_PORT	Object Library	JMS Queue Producer URL Port	JMS Queue URL Port for the outbound messages.	
INV_OPSM_EBS_URL	Application Object Library	OPSM Integration: OPSM URL	This profile defines the OPSM URL.  For example, <a href="http://adc60005sems.oracle.com:15038/opsm/faces/external.jsp">http://adc60005sems.oracle.com:15038/opsm/faces/external.jsp</a>	N/A

## Setting Up Organization Parameters

Enable OPSM for the E-Business Suite (Oracle Inventory) master organization and inventory organization where item information is created and synchronized with Oracle Pedigree and Serialization Manager (OPSM).

### To Set Up Organization Parameters:

1. Navigate to the Organization Parameters window.
2. Select the OPSM Enabled check box.
3. Save your work.

## Setting Up Oracle Inventory

Before you can use the Product Definition Process Integrations (Product Definition and Product Synchronization), the Oracle Inventory application must be implemented and the setup information defined. The Product Definition process integrations require that organizations are marked as OPSM Enabled and the items are marked as OPSM Integrated and Fully Lot Controlled.

**For more information** on setting up Oracle Inventory, see all the *Oracle Inventory guides*.

## Setting Up Items

### To Set Up Items:

1. Navigate to the Master Item window in Oracle E-Business Suite.

Inventory > Items > Master Items

2. Enter item information.

Mark the item as lot controlled, by selecting **Full Control** in the Lot Control field.

3. Navigate to the Item Cross Reference Assignment window.

Select Cross References from the Tools menu.

**4. Set the item as OPSM Integrated.**

Enter the following:

- a. Enter **OPSM INTEGRATED** in the Cross Reference Type field.
- b. Enter **YES** in the Value field for the organization.

**5. Click the Define Flexfields icon.**

The Item Cross-References window appears.

**6. Enter the OPSM Serial Type as a flex field for the item cross reference and click the OK button.**

**7. Save your work.**

---

## Setting Up Oracle Pedigree and Serialization Manager

Before you can use the Product Definition Process Integrations (Product Definition and Product Synchronization), the Oracle Pedigree, and Serialization Manager (OPSM) application must be implemented and the setup information defined.

**For more information** on setting up OPSM, see “Setting Up Oracle Pedigree and Serialization Manager” in the *Oracle Pedigree and Serialization Process Guide*.

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### Lookup Types and Codes Specific to the Product Definition Process Integration

This table lists the lookup types and codes that pertain directly to the Product Definition process integration (Product Synchronization):

Lookup Type	Lookup Type Meaning	Lookup Type Description	Lookup Code, Meaning, and Description
PAS_ACTION_CODE	Action Code	Indicates when the record is ready for merging into the product and item reference base tables.	MERGE, Merge Product and Item into OPSM, Merge Product and Item into OPSM
PAS_PRODUCT_EXTRACT	Product Extract	Identifies the ODI scenario that is used for the product information extract.	None by default.
PAS_PRODUCT_SYNC_ACTIONS	Actions for Product Synch	Actions for product synch (i.e. extract, merge, etc.)	EXTRACT, Extract Items, Extract Items EXTRACTANDMERGE, Extract Items and Merge Product and Item Cross Reference, Extract Items and Merge Product and Item Cross

Lookup Type	Lookup Type Meaning	Lookup Type Description	Lookup Code, Meaning, and Description
			Reference MERGE, Merge Product and Item Cross Reference, Merge Product and Item Cross Reference
PAS_SOURCE_SYSTEM	Source System	The identifier used to distinguish different transactional or ERP Systems.	None by default. Integration standard with Oracle E-Business Suite: EBIZ_01, EBIZ_02, and so on.
PAS_JOB_STATUS	Job Status	Status of Job Processing	<ul style="list-style-type: none"> <li>COMPLETE, Complete, Job was completed</li> <li>ERRORS, Error(s) Exist, Error(s) exist for job processed.</li> <li>INPROGRESS, In Progress, Job is in processing</li> <li>SUBMITTED, Submitted, Job was submitted</li> <li>TERMINATED, Abnormal Termination, Job was abnormally terminated</li> <li>WARNINGS, Warning(s) exist, Warning(s) exist for job processed</li> </ul>

## Setting Up System Parameters

Oracle Pedigree and Serialization Manager (OPSM) has two system parameters that determine how the Product Definition process integration (Product Definition and Product Synchronization) process operates. These two parameters are Owning Source System Default and Source System Precedence.

### To Set Up System Parameters:

1. Navigate to the OPSM Maintain System Parameters page.

System Setup > Maintain System Parameters

2. Select a value for the Owning Source System Default field.

Use this field to specify the default setting for the Owning Source System field on the Maintain Products page. This field value defaults into the Source System attribute on the Product and Product Detail definition. This value indicates the transactional system from which the product originated.

Owning Source Systems are user defined using OPSM Lookup Type PAS\_SOURCE\_SYSTEM.

### 3. Select a value for the Source System Precedence field.

This field value indicates whether product or product detail information can be changed by any source system or only the owning source system. Source System Precedence values are:

- Any Source System: Selecting this option enables the product or product detail to be updated by any transactional system.
- Owning Source System: Selecting this option means that the product or product detail record can only be updated by the transactional system that created that record.

### 4. Save your work.

#### See Also

Oracle Pedigree and Serialization Manager Process Guide, “Setting Up Oracle Pedigree and Serialization Manager”

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## Setting Up ODI Extract Scenarios

The Product Definition process integration (Product Synchronization) process flow uses Oracle Data Integrator (ODI) for the integration between Oracle E-Business Suite and Oracle Pedigree and Serialization Manager. When you run the Product Synchronization process in OPSM, you must specify a synchronization action. If you select a synchronization action of Extract Items or Extract Items and Merge Product and Item Cross Reference, you must also enter an extract scenario name. The ODI process uses the extract scenario name to determine the data to be extracted.

Oracle delivers a few extract scenarios (EBS Full and EBS Incremental) to assist you with the product synchronization process flow. You can use these extract scenarios as-is or you can modify them to meet your requirements. In addition, you can create new extract scenarios.

Use this procedure to create a new extract scenario:

#### To Create a New Extract Scenario:

1. Access the database table PAS\_S\_ODI\_EXTRACT\_DEF.
2. Add a new extract definition to the database table.

These variables (by scenario) must have a record in the extract definition table.

Product Synchronization (Full and Incremental)

Scenario Name: LOAD\_ORACLEEBIZ\_ITEM\_DATA\_TO\_PAS\_PKG

Variables are:

- SCENARIO
- VERSION
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVV\_FULL\_LOAD\_EXECUTION

### 3. Access the database table PAS\_S\_ODI\_CONNECT\_CONFIG.

Verify that a record exists in this table. Add a record if one does not exist. This table contains connection information for ODI. You need information from the ODI installation process to add a record to this table.

**4. Navigate to the OPSM Maintain Lookups page.**

System Setup > Maintain Lookups

**5. Search for the PAS\_PRODUCT\_EXTRACT Lookup Type.**

**6. Add a Lookup Code to the PAS\_PRODUCT\_EXTRACT Lookup Type that matches the extract definition that you created in Step 2.**

**7. Save your work.**

**8. Navigate to the OPSM Product Synchronization page.**

The extract scenario you created is available for selection and use by the Product Synchronization process.

## Implementing Oracle Data Integrator

Before you can use the Product Definition process integration (Product Synchronization), the Oracle Data Integrator (ODI) must be implemented. ODI is a middleware integration tool used to transfer bulk data from Oracle E-Business Suite to the Oracle Pedigree and Serialization Manager (OPSM) system and also for data transfer between multiple Oracle E-Business Suite instances to the OPSM system.

**For more information** on implementing the Oracle Data Integrator, see the *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1*.

This table lists the ODI interface that the Product Definition Process Integration (Product Synchronization) uses:

Interface	Source View/Table	Target Table
OracleEbiz To Pas ItemSync Interface	MTL_OPSM_SYSTEM_ITEMS_V PAS_S_PROD_ITEM_DETAIL_UOM_V	PAS_S_PRODUCT_INTERFACE

# Chapter 6: Configuring the Product Serialization Process Integration

This section discusses how to:

- Set up Oracle E-Business Suite.
- Set up Oracle Pedigree and Serialization Manager
- Implement Oracle Data Integrator
- Work with Domain Value Maps
- Handle errors
- Configure the Lot Synchronization Process Integration properties

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## Setting Up Oracle E-Business Suite

This section discusses how to:

- Set up Oracle Inventory
- Set up Oracle Discrete Manufacturing
- Set up Oracle Process Manufacturing
- Set up Business Event Subscriptions
- Set up Alerts

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## Setting Up Oracle Inventory

Before you can use the Product Serialization Process Integration, the Oracle Inventory application must be implemented and the setup information defined. The Product Serialization process integration requires that organizations are marked as OPSM Enabled and the items are marked as *OPSM Integrated* and *Fully Lot Controlled*.

**For more information** on setting up Oracle Inventory, see all the *Oracle Inventory guides*.

### Setting Up Organization Parameters

Enable OPSM for the E-Business Suite (Oracle Inventory) master organization and inventory organization where item and lot information is synchronized with Oracle Pedigree and Serialization Manager (OPSM).

**To Set Up Organization Parameters:**

1. Navigate to the Organization Parameters window.

2. Select the OPSM Enabled check box.
3. Save your work.

## Setting Up Items

### To Set Up Items:

1. Navigate to the Master Item window in Oracle E-Business Suite.

Inventory > Items > Master Items

2. Enter item information.

Mark the item as lot controlled, by selecting **Full Control** in the Lot Control field.

3. Navigate to the Item Cross Reference Assignment window.

Select Cross References from the Tools menu.

4. Set the item as OPSM Integrated.

Enter the following:

- a. Enter **OPSM INTEGRATED** in the Cross Reference Type field.

- b. Enter **YES** in the Value field for the organization.

5. Click the Define Flexfields icon.

The Item Cross-References window appears.

6. Enter the OPSM Serial Type as a flex field for the item cross reference and click the OK button.

7. Save your work.

## Setting Up Profile Options

### To Manually Create a Profile Option:

1. Navigate to the Profiles window.

Application Developer > Profile

2. Enter the following information:

Field Name	Field Description
Name	Enter the name of the profile option.
Application	Enter the Oracle application responsible for this profile option.
User Profile Name	Enter the user name for the profile option.

Field Name	Field Description
Description	Enter the description for the profile option.
SQL Validation	If required, enter SQL validation for the profile option.

3. Save your work.
4. Navigate to the System Profile Values window.

System Administrator > Profile > System

5. Enter the profile name in the Profile field and click the Find button.
6. Select the profile value for the site.
7. Save your work.

### Profile Options

This table lists the profile options that need to be set up for the Product Serialization process integration:

Profile Option Name	Application	User Profile Name	Description	SQL Validation
INV_OPSM_ENABLE_D	Inventory	INV: Enable OPSM Checkbox	This profile controls the display of the OPSM Enabled check box on the Organization Parameters window. Values are Yes or No.	SQL = "select MEANING , lookup_code into :visible_option_value, :profile_option_value from mfg_lookups where lookup_type = 'SYS_YES_NO'" COLUMN = "MEANING(*)"
INV_OPSM_EBS_SRC_SYS_NAME	Application Object Library	OPSM Integration: EBS Source System Name	This profile defines the source system name. For example, EBIZ_01 and EBIZ_02.	N/A
INV_OPSM_EBS_JMS_HOST	Application Object Library	OPSM Integration: JMS Queue Producer URL Host	Identifies the OPSM integration JMS Queue URL Host for the outbound messages.	N/A
INV_OPSM_EBS_JMS_PORT	Application Object Library	OPSM Integration: JMS Queue Producer URL Port	Identifies the OPSM integration JMS Queue URL Port for the outbound messages.	N/A
INV_OPSM_EBS_URL	Application Object Library	OPSM Integration: OPSM URL	This profile defines the OPSM URL. For example, <a href="http://adc60005sems.ora">http://adc60005sems.ora</a>	N/A

Profile Option Name	Application	User Profile Name	Description	SQL Validation
			cle.com:15038/opsm/faces/external.jspx	

## Setting Up Oracle Discrete Manufacturing

Before you can use the Product Serialization Process Integration, the Oracle Discrete Manufacturing application must be implemented and the setup information defined.

**For more information** on setting up Oracle Discrete Manufacturing, see all the *Oracle Discrete Manufacturing guides*.

## Setting Up Oracle Process Manufacturing

Before you can use the Product Serialization Process Integration, the Oracle Process Manufacturing application must be implemented and the setup information defined.

**For more information** on setting up Oracle Process Manufacturing, see all the *Oracle Process Manufacturing guides*.

## Setting Up Business Event Subscriptions

Before you can use the real-time Lot Synchronization Process Integrations, you must set up business event subscriptions for the business events used for the real-time lot synchronization processing.

The business events that are used for the real-time Lot Synchronization Process Integrations are:

Oracle E-Business Suite Release	Business Event	Java Rule Function
12.1.2	oracle.apps.inv.opsm.syncLot	oracle.apps.inv.opsm.lot.util.InvOpsmLotRule
11.5.10	oracle.apps.gmi.lot.create	oracle.apps.gmi.opsm.lot.util.GmiOpsmLotRule
11.5.10	oracle.apps.gmi.lot.update	oracle.apps.gmi.opsm.lot.util.GmiOpsmLotRule

You need the information in this table when setting up business event subscriptions.

### To Set Up Business Event Subscriptions:

1. Log in to Oracle E-Business Suite.
2. Navigate to the Business Events window.

Workflow Administrator Web Applications > Administrator Workflow > Business Events

3. Query the Event using the Name of the business event.

For example, oracle.apps.inv.opsm.syncLot

**4. Click the Create Subscription button.**

An event subscription is a registration indicating that a particular event is significant to a particular system and specifying the processing to perform when the triggering event occurs.

The Create Subscription window appears.

**5. Enter the following information:**

Field Name	Field Value
Event Filter	Select the business event name for the filter. For example, oracle.apps.inv.opsm.syncLot
Phase	Any value over 99. Subscriptions with phase 1-99 are run synchronously and 100 and above are deferred.
Action Type	Custom Selecting custom will execute custom business logic defined as a Java rule function.
On Error	Stop and Rollback The Event Manager halts all subscription processing for the event, rolls back any subscriptions already executed for the event, and places the event message on the standard WF_ERROR agent.

**6. Click the Next button.**

**7. Enter the following information:**

Field Name	Field Value
Java Rule Function	Enter the Java Rule Function associated with the business event. For example, oracle.apps.inv.opsm.lot.util.InvOpsmLotRule
Owner Name	Enter Owner Name. For Business Event oracle.apps.inv.opsm.syncLot, Owner Name = Oracle Inventory For Business Event oracle.apps.gmi.lot.create, Owner Name = Process Inventory For Business Event oracle.apps.gmi.lot.update, Owner Name = Process Inventory
Owner Tag	Enter Owner Tag. For Business Event oracle.apps.inv.opsm.syncLot, Owner Tag = INV For Business Event oracle.apps.gmi.lot.create, Owner Tag = GMI For Business Event oracle.apps.gmi.lot.update, Owner Tag = GMI

8. Click **Apply** button to save the changes.
9. Repeat steps 3 - 8 for each business event and associated Java rule function.

---

## Setting Up Alerts

Before you can use the Product Serialization Process Integration (Lot Synchronization), you must set up the INV: OPSM Synchronize Alert in Oracle E-Business Suite. Oracle delivers the INV: OPSM Synchronize Lot alert definition but to use the alert you must also set up the operating units that can use in the alert in Oracle E-Business Suite.

### To Set Up Operating Units for an Alert:

1. Log in to Oracle E-Business Suite.
2. Navigate to the **Alerts** window.

Alert Manager, Vision Enterprises > Alert > Define

The Alerts window appears.

3. Query for alert INV: OPSM Synchronize Lot
4. Click **Alert Details** button.

The Alert Details window appears.

5. Select the **Installations** tab.
6. Enter Oracle ID, Operating Unit, and select the **Enabled** check box.
7. Save your work.

---

## Setting Up Oracle Pedigree and Serialization Manager

Before you can use the Product Serialization Process Integration, the Oracle Pedigree and Serialization Manager (OPSM) application must be implemented and the setup information defined.

**For more information** on setting up OPSM, see “Setting Up Oracle Pedigree and Serialization Manager” in the *Oracle Pedigree and Serialization Manager Process Guide*.

## Lookup Types and Codes Specific to the Product Serialization Process Integration

This table lists the lookup types and codes that pertain directly to the Product Serialization process integration:

Lookup Type	Lookup Type Meaning	Lookup Type Description	Lookup Code, Meaning, and Description
PAS_JOB_STATUS	Job Status	Status of Job Processing	<ul style="list-style-type: none"> <li>COMPLETE, Complete, Job was completed</li> <li>ERRORS, Error(s) Exist, Error(s) exist for job processed.</li> <li>INPROGRESS, In Progress, Job is in processing</li> <li>SUBMITTED, Submitted, Job was submitted</li> <li>TERMINATED, Abnormal Termination, Job was abnormally terminated</li> <li>WARNINGS, Warning(s) exist, Warning(s) exist for job processed</li> </ul>
PAS_LOT_EXTRACT	Lot Extract	Identifies the ODI scenario that is used for the lot information extract.	<ul style="list-style-type: none"> <li>EBS_LOT_SYNC_DISCRETE_FULL, EBS Discrete Full, EBS Discrete Full Load</li> <li>EBS_LOT_SYNC_DISCRETE_INCREMENTAL, EBS Discrete Incremental, EBS Discrete Incremental Load</li> <li>EBS_LOT_SYNC_PROCESS_R1_1_FULL, EBS R11 Process Full, EBS R11 Process Full Load</li> <li>EBS_LOT_SYNC_PROCESS_R1_1_INCR, EBS R11 Process Incremental, EBS R11 Process Incremental Load</li> </ul>
PAS_LOT_SYNCH_ACTIONS	Actions for Lot Synchronization	Actions for Lot Synchronization (Extract, Merge, etc.)	<ul style="list-style-type: none"> <li>EXTRACT, Extract Lots, Extract Lots</li> <li>EXTRACTANDMERGE, Extract Lots and Merge Lots, Extract Lots and Merge Lots from Lot Interface Table</li> <li>MERGE, Merge Lots, Merge Lots from Lot Interface Table</li> </ul>
PAS_SOURCE_SYSTEM	Source System	The identifier used to distinguish different transactional or ERP Systems.	None by default. Integration standard with Oracle E-Business Suite: EBIZ_01, EBIZ_02, and so on.

Lookup Type	Lookup Type Meaning	Lookup Type Description	Lookup Code, Meaning, and Description
PAS_WORK_ORDER_EXTRACT	Work Order Extract	Identifies the ODI scenario that is used for the work order extract.	<ul style="list-style-type: none"> <li>• EBS_WO_SERIAL_DISCRETE_FULL, EBS Discrete Full, EBS Discrete Full</li> <li>• EBS_WO_SERIAL_DISCRETE_INCREMENTAL, EBS Discrete Incremental, EBS Discrete Incremental</li> <li>• EBS_WO_SERIAL_PROCESS_FULL, EBS Process Full, EBS Process Full</li> <li>• EBS_WO_SERIAL_PROCESS_INCREMENTAL, EBS Process Incremental, EBS Process Incremental</li> </ul>
PAS_WO_SERIALIZATION_ACTIONS	Actions for Work Order Serialization	Determines if the Work Order Serialization Process will perform only the Extract of work orders, the Processing of work orders, or both the extract and processing of work orders.	<ul style="list-style-type: none"> <li>• EXTRACT, Extract Work Orders, Extract Work Orders</li> <li>• EXTRACTANDPROCESS, Extract Work Orders and Process Work Order Serialization, Extract Work Orders and Process Work Order Serialization</li> <li>• PROCESS, Process Work Order Serialization, Process Work Order Serialization</li> </ul>

## Setting Up Locations

Before you can use the Product Serialization Process Integration, locations must be set up in Oracle Pedigree and Serialization Manager (OPSM). When transactional systems integrate to OPSM they need to identify the location when requesting serials or recording transactions against the serials. The location identifies the entity that has performed the transaction and defines the controls the system enforces on that entity.

At a minimum, you must define locations and products with their item cross references.

### To Set Up Locations:

1. Navigate to the OPSM Maintain Locations page.

System Setup > Maintain Locations

2. Select Create from the Actions menu or click the Create icon located at the top of the Search Results: Locations region.
3. Enter location information. To generate SGTIN-96 or SGTIN-198 serials, enter the Company Prefix.
4. Enter the External Reference Identifier.

The External Reference Identifier creates a cross reference of the OPSM Location to the Oracle E-Business Suite Inventory Org. Enter the Org Code used in Oracle E-Business Suite to identify the Inventory Org.

5. Save your work.

**For more information** on creating locations, see “Setting Up Oracle Pedigree and Serialization Manager” in the *Oracle Pedigree and Serialization Process Guide*

## Setting Up Products and Item Cross Reference Information

Before you can use the Product Serialization Process Integration, products and their transactional source system item cross reference information must be set up in Oracle Pedigree and Serialization Manager (OPSM). For Work Order Serialization, products must be configured with Serial Control set to *OPSM Serialized*.

At a minimum, you must define locations and products with their item cross references.

### To Set Up Products and Item Cross Reference Information:

1. Navigate to the OPSM Maintain Products page.

System Setup > Maintain Products

2. Select Create from the Actions menu or click the Create icon located at the top of the Search Results: Products region.
3. Add product information, product details, and item cross reference details.

To create serials originating in Oracle E-Business Suite in OPSM at time of shipment, select the Create Serials for Shipments check box. This value may be overridden by product and location.

To record internal shipments, select the Record Internal Shipments check box. This value may be overridden by product and location.

To record internal returns, select the Record Internal Returns check box. This value may be overridden by product and location.

In the product details tab, define the attributes for serialization including the serial type, overage type, and overage amount. EPC Number and EPC filter may be required depending on the serial type selected.

4. Select **OPSM Serialized** in the Serialization Control field. Optionally, this value can be overridden at the location level from the Location Overrides tab.
5. Save your work.

**For more information** on creating products and item cross reference information, see “Setting Up Oracle Pedigree and Serialization Manager” in the *Oracle Pedigree and Serialization Process Guide*

## Setting Up ODI Extract Scenarios

The Work Order Serialization and Lot Synchronization process integration process flows use Oracle Data Integrator (ODI) for the integration between Oracle E-Business Suite and Oracle Pedigree and Serialization Manager. When you run the Work Order Serialization or the Lot Synchronization process in OPSM, you must specify a synchronization action. If you select a synchronization action of Extract Work Orders, Extract Work Orders and Process Work Order Serialization, Extract Lots, or Extract Lots and Merge Lots you must also enter an extract scenario name. The ODI process uses the extract scenario name to determine the data to be extracted.

Oracle delivers a few extract scenarios. For Work Order Serialization, Oracle delivers the (EBS Discrete Full, EBS Discrete Incremental, EBS Process Full, and EBS Process Incremental) to assist you with the work order serialization process flow. For Lot Synchronization, Oracle delivers the (EBS Discrete Full, EBS Discrete Incremental, EBS R11 Process Full, and EBS R11 Process Incremental) to assist you with the Lot Synchronization process flow. You can use these extract scenarios as-is or you can modify them to meet your requirements. In addition, you can create new extract scenarios.

Use this procedure to create a new extract scenario:

### To Create a New Extract Scenario:

1. Access the database table PAS\_S\_ODI\_EXTRACT\_DEF.
2. Add a new extract definition to the database table.

These variables (by scenario) must have a record in the extract definition table.

### Work Order Serialization - Discrete (Full and Incremental)

Scenario Name:

LOAD\_ORACLEEBIZ\_DISCRETEMFG\_WORKORDER\_DATA\_TO\_PAS\_PKG

Variables are:

- SCENARIO
- VERSION
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVV\_FULL\_LOAD\_EXECUTION
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVV\_WO\_STATUS
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVV\_ORG\_CODE
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVN\_SCH\_START\_TIME\_IN\_DAYS
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVN\_SCH\_END\_TIME\_IN\_DAYS

### Work Order Serialization - Process (Full and Incremental)

Scenario Name:

LOAD\_ORACLEEBIZ\_PROCESSMFG\_WORKORDER\_DATA\_TO\_PAS\_PKG

Variables are:

- SCENARIO
- VERSION
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVV\_FULL\_LOAD\_EXECUTION
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVV\_WO\_STATUS
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVV\_ORG\_CODE
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVN\_SCH\_START\_TIME\_IN\_DAYS
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVN\_SCH\_END\_TIME\_IN\_DAYS

Multiple values can be entered for the PVV\_WO\_STATUS and PVV\_ORG\_CODE variables but they must be in a comma separated list format. You do not have to put single quotes around the data selection values that you enter in this table.

For example, if you want to enter multiple values to use for data selection on the organization code variable you would enter the value as M1,M2,M3 not 'M1','M2','M3'.

#### **Lot Synchronization - Discrete (Full and Incremental) 12.1.2 and 11.5.10**

Scenario Name: LOAD\_ORACLEEBIZ\_DISCRETEMFG\_BULK\_LOT\_DATA\_TO\_PAS\_PKG

Variables are:

- SCENARIO
- VERSION
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVV\_FULL\_LOAD\_EXECUTION
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVV\_LOT\_STATUS
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVV\_ORG\_CODE
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVV\_LOT\_NUMBER
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVV\_ITEM\_NUMBER
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVN\_CREATIONDATE\_START\_WINDOW\_IN\_DAYS
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVN\_CREATIONDATE\_END\_WINDOW\_IN\_DAYS
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVN\_EXPIRATIONDATE\_START\_WINDOW\_IN\_DAYS
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVN\_EXPIRATIONDATE\_END\_WINDOW\_IN\_DAYS

### Lot Synchronization - Process (Full and Incremental) 11.5.10 Only

Scenario Name: LOAD\_ORACLEEBIZ\_PROCESSMFG\_BULK\_LOT\_DATA\_TO\_PAS\_PKG

Variables are:

- SCENARIO
- VERSION
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVV\_FULL\_LOAD\_EXECUTION
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVV\_LOT\_STATUS
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVV\_LOT\_NUMBER
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVV\_ITEM\_NUMBER
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVN\_CREATIONDATE\_START\_WINDOW\_IN\_DAYS
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVN\_CREATIONDATE\_END\_WINDOW\_IN\_DAYS
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVN\_EXPIRATIONDATE\_START\_WINDOW\_IN\_DAYS
- ORACLEEBIZ\_TO\_PAS\_PROJECT.PVN\_EXPIRATIONDATE\_END\_WINDOW\_IN\_DAYS

Multiple values can be entered for the PVV\_LOT\_STATUS, PVV\_ORG\_CODE, PVV\_LOT\_NUMBER, and PVV\_ITEM\_NUMBER variables but they must be in a comma separated list format. You do not have to put single quotes around the data selection values that you enter in this table.

For example, if you want to enter multiple values to use for data selection on the organization code variable you would enter the value as M1,M2,M3 not 'M1','M2','M3'.

#### 3. Access the database table PAS\_S\_ODI\_CONNECT\_CONFIG.

Verify that a record exists in this table. Add a record if one does not exist. This table contains connection information for ODI. You need information from the ODI installation process to add a record to this table.

#### 4. Navigate to the OPSM Maintain Lookups page.

System Setup > Maintain Lookups

#### 5. Search for the Lookup Type.

Search for PAS\_WORK\_ORDER\_EXTRACT for Work Order Serialization.

Search for PAS\_LOT\_EXTRACT for Lot Synchronization

#### 6. Add a Lookup Code to the Lookup Type that matches the extract definition that you created in Step 2.

#### 7. Save your work.

8. Navigate to the OPSM page to perform the Work Order Serialization or Lot Synchronization process.

Serials > Work Order Serialization

Serials > Lot Synchronization

The extract scenario you created is available for selection and use by the process.

## Implementing Oracle Data Integrator

Before you can use the Product Serialization Process Integration (Work Order Serialization and Lot Synchronization), the Oracle Data Integrator (ODI) must be implemented. ODI is a middleware integration tool used to transfer bulk data from Oracle E-Business Suite to the Oracle Pedigree and Serialization Manager (OPSM) system and also for data transfer between multiple Oracle E-Business Suite instances to the OPSM system.

**For more information** on implementing the Oracle Data Integrator, see the *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1*.

This table lists the interfaces the Work Order Serialization and Lot Synchronization Process Integrations use:

Interface	Source View/Table	Target Table
OracleEbizProcessMfg To PAS Product Serialization Interface	GME_OPSM_BATCH_EXPORT_V PAS_S_PROD_ITEM_DETAIL_UOM_V	PAS_S_WORK_ORDER_INTERFACE
OracleEbizDiscreteMfg To Pas Product Serialization Interface	WIP_OPSM_WORK_ORDER_EXPORT_V PAS_S_PROD_ITEM_DETAIL_UOM_V	PAS_S_WORK_ORDER_INTERFACE
OracleEbiz To PAS LotSync Interface	MTL_OPSM_LOT_EXPORT_V GMI_OPSM_LOT_EXPORT_V	PAS_S_LOT_INTERFACE

## Working with Domain Value Maps

Domain value maps (DVMs) are a standard feature of the Oracle SOA Suite. They enable you to equate lookup codes and other static values across applications, for example, FOOT and FT or US and USA.

DVMs are static in nature, though administrators can add maps as needed. Transactional business processes never update DVMs; they only read from them. DVMs are stored in XML files and cached in memory at runtime.

DVM types are seeded for the Work Order Serialization and Lot Synchronization flows, and administrators can extend the list of mapped values by adding more maps. The DVM data should be synchronized with what the participating applications use. This synchronization should occur before any initial loads are run or any incremental transactional flows are initiated.

This is the DVM for the process integration for Work Order Serialization:

DVM	Description
LOCATION	Locations
WORK_ORDER_STATUS	Work Order Status

## Handling Errors

Use the Oracle Pedigree and Serialization Manager (OPSM) Web Service Exceptions page to view exception messages that are generated when messages are processed by the OPSM Web Services (MergeLot Web Service and CreateTransaction Web Service). Exception messages are only created for exceptions or errors that are detected by the web service. If the web service processes successfully during the integration process, no message is recorded.

**Note:** If you call the Web Services directly without going through the AIA integration, you are not able to view exception messages using the OPSM Web Service Exceptions page. The Web Service Exceptions page is used to assist with the integration between OPSM and other transactional systems (Oracle E-Business Suite).

### Web Service Exceptions Process Flow

An OPSM process continually monitors the integration message queue and then pulls the JMS messages from the queue and dequeues them. It then invokes the appropriate web service. If the web service fails, it creates a job instance message. Using the Web Service Exceptions page, you can view the job instance messages created by the web service. A web service can fail because the data that is being passed in the message is invalid or the data being passed is incorrect for the message. In addition, you can view the overall system problem errors or web services not running errors using the Web Service Exceptions page.

#### To View Web Service Exceptions:

1. Navigate to the OPSM Web Service Exceptions page.

- Transactions > Web Service Exceptions
- Serials > Web Service Exceptions

The Web Service Exceptions page appears. You can only view WEBSERVICES job types on this page.

2. Enter search criteria for the web service exceptions you want to view and click the Search button.

Use the Web Service Name field to search only for exceptions for the MergeLot or CreateTransaction Web Service. Otherwise, all web service exceptions appear.

All of the exceptions that match the search criteria appear in the Search Results: Job Instances table of the page.

3. Select a Job Instance ID that you want to view the messages for in the Search Results: Job Instances table.

The job instance messages for that specific web service job instance appear in the Job Instance Messages region of the page. Three job instance messages appear for each job instance. The messages provide this information:

- The first job instance message provides details indicating that the web service failed and provides the details (actual fields in the message) where the failure occurred. You can use this information to re-send the message through the transactional system (Oracle E-Business Suite).
- The second job instance message provides details indicating a partial explanation of the exception that was triggered by the web service. Only a portion of the exception text appears.
- The third job instance message provides details indicating which composite ID contains more details about the exception. You can view this composite ID within the Oracle Enterprise Manager application to view the entire SOA composite and BPEL flow.

If the SOA composite produces a fault (runtime fault and so on), the BPEL CatchAll activity grabs the fault and writes a job instance record and corresponding job instance message record. This job instance message provides details indicating which composite ID contains more details about the SOA composite fault. You can view this composite ID within the Oracle Enterprise Manager application to view the entire SOA composite and BPEL flow.

## Configuring the Lot Synchronization Process Integration Properties

Configure these properties in the AIAConfigurationProperties.xml file. It is located here: AIA\_HOME>/aia\_instances/\$INSTANCE\_NAME/AIAMetaData/config. Entries in the AIAConfigurationProperties.xml file are case sensitive.

**For more information** about requirements for working with AIAConfigurationProperties.xml, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1*, “Building AIA Integration Flows,” How to Set Up AIA Workstation.

**For more information** about using the Oracle Enterprise Repository and configuring it to provide the AIA Reference Doc link, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1*, “Configuring and Using Oracle Enterprise Repository as the Oracle AIA SOA Repository.”

Settings for the SyncItemLotListEbizReqABCImpl service property:

Property Name	Value/Default Values	Description
Default.SystemID	EBIZ_01	Default Oracle E-Business Suite system ID. It is the responsibility of the application to send the SystemID from which the request is being sent. If any requestor application fails to send this, AIA will pick the sender SystemID from this property.

Property Name	Value/Default Values	Description
Routing.ItemLotEBSV1.SyncItemLotList.RouteToCAVS	True/False. Default = False	<p>This property, which is used for populating EBMHeader's EnvironmentCode, decides whether the ItemLotEBS should invoke CAVS or the Provider application's business connector service.</p> <p>If the value is set to true, EBMHeader's Env Code is set to 'CAVS' and the EBS routes the request to CAVS.</p> <p>If the value is set to false, EBMHeader's Env Code is set to the EnvCode mentioned in AIAConfig property Routing.ItemLotEBS.SyncItemLotList.MessageProcessingInstruction.EnvironmentCode, or if this property is not set, then the default EnvCode will be 'PRODUCTION' and in the EBS routing rules will decide based on the EnvCode where it should route to.</p>
Routing.ItemLotEBSV1.SyncItemLotList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	<p>This property defines the Environment Code to be populated in EBMHeader, which is used by the EBS to route it to the corresponding provider application business connector service or CAVS. This property is used while checking the Routing.RouteToCAVS property.</p>
Routing.ItemLotEBSV1.SyncItemLotList.CAVS.EndpointURI	http://10.177.219.95:8009/AIAValidationSystemServlet/asyncrequestrecipient	<p>This property defines the Definition ID to be populated in MessageProcessingInstruction of the EBMHeader, when the RouteToCAVS property is set to true. This holds the URI of CAVS simulator where the EBS should send the request.</p>
ABCSExtension.PreXformABMtoEBM	True/False. Default = False	<p>An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point before ABM is transformed to EBM. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.</p>
ABCSExtension.PostInvokeEBS	True/False. Default = False	<p>An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after ABM is transformed to EBM and after invoking the EBS. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.</p>

Property Name	Value/Default Values	Description
ABCSExtension.PostXformABMtoEBM	True/False. Default = False	An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after ABM to EBM transformation and before Invoking the EBS. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.
ABCSExtension.PreInvokeEBS	True/False. Default = False	An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after ABM to EBM transformation and before Invoking the EBS. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.
ABCSExtension.PostInvokeEBS	True/False. Default = False	An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point before ABM is transformed to EBM. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.

Settings for the SyncItemLotListEbizPASProvABCImpl service property:

Property Name	Value/Default Values	Description
Default.SystemID	PAS_01	Default Oracle Pedigree and Serialization Manager (OPSM) system ID. You must set the SystemID in EBMHeader to which the request should be sent in the EBS. If not set, the ProviderABC will route the message to this DefaultSystemID picked from the config file.
ABCSExtension.PreXformEBMtoABM	True/False. Default = False	An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point before EBM is transformed to ABM and before invoking the target application. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.

Property Name	Value/Default Values	Description
ABCSExtension.PostXformEBMtoABM	True/False. Default = False	An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after EBM is transformed to ABM and before invoking the target application. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.
ABCSExtension.PrelnvokeABS	True/False. Default = False	An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after EBM is transformed to ABM and before invoking the target application. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.
ABCSExtension.PostInvokeABS	True/False. Default = False	An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after EBM is transformed to ABM and after invoking the target application. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.
Routing.SyncItemLotListPASJMSProducer.execute.RouteToCAVS	True/False. Default = False	<p>This property, which is used for populating EBMHeader's EnvironmentCode, decides whether the SyncItemLotListPASProvABCS should invoke CAVS or the SyncItemLotListPAsJMSProducer business connector service.</p> <p>If the value is set to true, EBMHeader's Env Code is set to 'CAVS' and the EBS routes the request to CAVS.</p> <p>If the value is set to false, EBMHeader's Env Code is set to the EnvCode mentioned in AIAConfig property Routing.SyncItemLotListPASJMSProducer.execute.MessageProcessingInstruction.EnvironmentCode, or if this property is not set, then the default EnvCode will be 'PRODUCTION' and in the ProvABCS routing rules will decide based on the EnvCode where it should route to.</p>
Routing.SyncItemLotListPASJMSProducer.execute.CAVS.EndpointURI	Default Value = <a href="http://sdc60021sems.us.oracle.com:8055/AIAValidationSystemServlet/asyncrecipient">http://sdc60021sems.us.oracle.com:8055/AIAValidationSystemServlet/asyncrecipient</a>	This property defines the Definition ID to be populated in MessageProcessingInstruction of the EBMHeader, when the RouteToCAVS property is set to true. This holds the URI of CAVS simulator where the PASJMSProducer should send the request.

Property Name	Value/Default Values	Description
Routing.SyncItemLotListPASJMSProducer.execute.PAS_01.EndpointURI	Default Value = http://sdc60021sems.us.oracle.com:8055/soa-infra/services/default/SyncItemLotListPASJMSProducer/SyncItemLotListPASGetABM?WSDL	This property defines the Definition ID to be populated in MessageProcessingInstruction of the EBMHeader, when the RouteToCAVS property is set to false. This holds the URI of OPSM business service url, where the PASJMSProducer should send the request.
Routing.SyncItemLotListPASJMSProducer.execute.MessageProcessingInstruction.EnvironmentCode	Default value = PRODUCTION	This property defines the Environment Code to be populated in EBMHeader, which is used by the PASJMSProducer to route it to the corresponding provider application business connector service or CAVS.

# Chapter 7: Configuring the Serialized Item Tracking Process Integration

This chapter discusses how to:

- Set up Oracle E-Business Suite
- Set up Oracle Pedigree and Serialization Manager
- Work with Domain Value Maps
- Handle errors
- Configure the Serialized Item Tracking Process Integration properties

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## Setting Up Oracle E-Business Suite

Before you can use the Serialized Item Tracking Process Integrations, several Oracle E-Business Suite applications must be implemented and the setup information defined.

This chapter discusses how to:

- Set up Oracle Inventory
- Set up Oracle Trading Community Architecture
- Set up Oracle Order Management
- Set up Oracle Purchasing
- Set up Oracle Discrete Manufacturing
- Set up Oracle Process Manufacturing
- Set up business event subscriptions

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## Setting Up Oracle Inventory

Before you can use the Serialized Item Tracking Process Integrations, the Oracle Inventory application must be implemented and the setup information defined.

**For more information** on setting up Oracle Inventory, see all the *Oracle Inventory guides*.

### Setting Up Profile Options

To Manually Create a Profile Option:

1. Navigate to the Profiles window.

## Application Developer &gt; Profile

## 2. Enter the following information:

Field Name	Field Description
Name	Enter the name of the profile option.
Application	Enter the Oracle application responsible for this profile option.
User Profile Name	Enter the user name for the profile option.
Description	Enter the description for the profile option.
SQL Validation	If required, enter SQL validation for the profile option.

## 3. Save your work.

## 4. Navigate to the System Profile Values window.

System Administrator &gt; Profile &gt; System

- Enter the profile name in the Profile field and click the Find button.
- Select the profile value for the site.
- Save your work.

**Profile Options**

This table lists the profile options that need to be set up for the Serialized Item Tracking process integration:

Profile Option Name	Application	User Profile Name	Description	SQL Validation
INV_OPSM_ENABLE_D	Inventory	INV: Enable OPSM Checkbox	This profile controls the display of the OPSM Enabled check box on the Organization Parameters window. Values are Yes or No.	SQL = "select MEANING , lookup_code into :visible_option_value, :profile_option_value from mfg_lookups where lookup_type = 'SYS_YES_NO'" COLUMN = "MEANING(*)"
INV_OPSM_EBS_SRC_SYS_NAME	Application Object Library	OPSM Integration: EBS Source System Name	This profile defines the source system name. For example, EBIZ_01 and EBIZ_02.	N/A
INV_OPSM_EBS_JMS_Q_HOST	Application Object Library	OPSM Integration: JMS Queue Producer URL	Identifies the OPSM integration JMS	N/A

Profile Option Name	Application	User Profile Name	Description	SQL Validation
		Host	Queue URL Host for the outbound messages.	
INV_OPSPM_EBS_JMS_Q_PORT	Application Object Library	OPSPM Integration: JMS Queue Producer URL Port	Identifies the OPSPM integration JMS Queue URL Port for the outbound messages.	N/A
INV_OPSPM_EBS_URL	Application Object Library	OPSPM Integration: OPSPM URL	This profile defines the OPSPM URL. For example, http://adc60005sems.oracle.com:15038/opspm/faces/external.jsp x	N/A

## Setting Up Oracle Trading Community Architecture

Optionally, the customer type can be set to *Internal* on the Classification tab on the Customer - Standard window. This indicates to Oracle Pedigree and Serialization Manager (OPSPM) that when a sale or return to the customer is made, no change of ownership will occur. For the shipment or return transactions from customers with type set to *Internal* to be recorded in OPSPM, OPSPM must be configured to record internal shipments and/or returns.

**For more information** on setting up Oracle Order Management, see all the *Oracle Trading Community Architecture guides*.

## Setting Up Oracle Order Management

Before you can use the Serialized Item Tracking Process Integrations, the Oracle Order Management application must be implemented and the setup information defined.

**For more information** on setting up Oracle Order Management, see all the *Oracle Order Management guides*.

## Setting Up Oracle Purchasing

Before you can use the Serialized Item Tracking Process Integrations, the Oracle Purchasing application must be implemented and the setup information defined.

**For more information** on setting up Oracle Purchasing, see all the *Oracle Purchasing guides*.

## Setting Up Oracle Discrete Manufacturing

Before you can use the Serialized Item Tracking Process Integrations, the Oracle Discrete Manufacturing application must be implemented and the setup information defined.

**For more information** on setting up Oracle Discrete Manufacturing, see all the *Oracle Discrete Manufacturing guides*.

## Setting Up Oracle Process Manufacturing

Before you can use the Serialized Item Tracking Process Integrations, the Oracle Process Manufacturing application must be implemented and the setup information defined.

**For more information** on setting up Oracle Process Manufacturing, see all the *Oracle Process Manufacturing guides*.

## Setting Up Business Event Subscriptions

Before you can use Serialized Item Tracking Process Integration, you must set up business event subscriptions for the business events used for the serialized item tracking processing.

The business events that are used for the Serialized Item Tracking Process Integration are:

Oracle E-Business Suite Release	Business Event	Java Rule Function
12.1.2 and 11.5.10	oracle.apps.wsh.delivery.gen.interfaced	oracle.apps.wsh.opsm.delivery.util.WshOpsmAdvanceShipmentNoticeRule
12.1.2 and 11.5.10	oracle.apps.po.rcv.rcvtxn.outbound	oracle.apps.po.opsm.receipt.util.RcvOpsmReceiptTransactionRule

You need the information in this table when setting up business event subscriptions.

### To Set Up Business Event Subscriptions:

1. Log in into Oracle E-Business Suite.
2. Navigate to the Business Events window.

Workflow Administrator Web Applications > Business Events

3. Query the Event using the Name of the business event.

For example, oracle.apps.wsh.delivery.gen.interfaced

4. Click the Create Subscription button.

An event subscription is a registration indicating that a particular event is significant to a particular system and specifying the processing to perform when the triggering event occurs.

The Create Subscription window appears.

**5. Enter the following information:**

Field Name	Field Value
Event Filter	Select the business event name for the filter. For example, oracle.apps.wsh.delivery.gen.interfaced
Phase	Any value over 99. Subscriptions with phase 1-99 are run synchronously and 100 and above are deferred.
Action Type	Custom Selecting custom will execute custom business logic defined as Java rule function.
On Error	Stop and Rollback The Event Manager halts all subscription processing for the event, rolls back any subscriptions already executed for the event, and places the event message on the standard WF_ERROR agent.

**6. Click the Next button.**

**7. Enter the following information:**

Field Name	Field Value
Java Rule Function	Enter the Java Rule Function associated with the business event. For example, oracle.apps.wsh.opsm.delivery.util.WshOpsmAdvanceShipmentNoticeRule
Owner Name	Enter Owner Name. For Business Event oracle.apps.wsh.delivery.gen.interfaced, Owner Name = Oracle Shipping For Business Event oracle.apps.po.rcv.rcvtxn.outbound, Owner Name = Oracle Purchasing
Owner Tag	Enter Owner Tag. For Business Event oracle.apps.wsh.delivery.gen.interfaced, Owner Tag = WSH For Business Event oracle.apps.po.rcv.rcvtxn.outbound, Owner Tag = PO

**8. Click Apply button to save the changes.**

**9. Repeat steps 3 - 8 for each business event and associated Java rule function.**

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## Setting Up Oracle Pedigree and Serialization Manager

Before you can use the Serialized Item Tracking Process Integrations, the Oracle Pedigree and Serialization Manager (OPSM) application must be implemented and the setup information defined.

**For more information** on setting up OPSM, see “Setting Up Oracle Pedigree and Serialization Manager” in the *Oracle Pedigree and Serialization Process Guide*.

## Lookup Types and Codes Specific to the Serialized Item Tracking Process Integration

This table lists the lookup types and codes that pertain directly to the Serialized Item Tracking process integration:

Lookup Type	Lookup Type Meaning	Lookup Type Description	Lookup Code, Meaning, and Description
PAS_ADDRESS_CODE	Address Code	The type of address (i.e. source, destination, etc.)	<ul style="list-style-type: none"> <li>• DESTINATION, Destination Address, Destination Address</li> <li>• SOURCE, Source Address, Source Address</li> </ul>
PAS_ADDRESS_TYPE	Address Type	The type of address (i.e. shipping, business, etc.)	<ul style="list-style-type: none"> <li>• BUSINESS, Business Address, Business Address</li> <li>• SHIPPING, Shipping Address, Shipping Address</li> </ul>
PAS_DOCUMENT_TYPE	Document Type	The type of document (e.g. Invoice Number, Shipping Number, Work Order, etc.).	None by default.
PAS_LABEL_PRINT_FORMAT	Label Print Format	The format the label is printed in.	None by default.
PAS_LABEL_TYPE	Label Type	The type of package identifier (e.g. Container, LPN, Serial Number, etc.).	<ul style="list-style-type: none"> <li>• USN-1, USN-1, USN-1</li> <li>• SGTIN-96, SGTIN-96, SGTIN-96</li> <li>• SGTIN-198, SGTIN-198, SGTIN-198</li> </ul>
PAS_PACKAGE_UNIT	Package Unit Type	The type of packaging unit of the serialized product or cartonization packaging unit (e.g. Bottle, Blister Pack, Box, Case, Bundle, Pallet, Container, etc.).	None by default.
PAS_SERIAL_TYPE	Serial Type	The format of the serial number (e.g. SGTIN-96, etc.).	<ul style="list-style-type: none"> <li>• SGTIN-96, SGTIN-96, SGTIN-96</li> <li>• SGTIN-198, SGTIN-198, SGTIN-198</li> <li>• USN-1, UNIQUE SERIAL NUMBER, UNIQUE SERIAL NUMBER</li> </ul>
PAS_SOURCE_SYSTEM	Source System	The identifier used to	None by default.

Lookup Type	Lookup Type Meaning	Lookup Type Description	Lookup Code, Meaning, and Description
		distinguish different transactional or ERP Systems.	Integration standard with Oracle E-Business Suite: EBIZ_01, EBIZ_02, and so on.
PAS_TRANSACTION_TYPE	Serial Transaction Type	The type of transaction performed against the serialized item.	<ul style="list-style-type: none"> <li>• GENERATE, Generate, Generate</li> <li>• IMPORT, Import, Import</li> <li>• RETURN, Return, Return</li> <li>• SHIPMENT, Shipment, Shipment</li> <li>• TRANSMIT, Transmit, Transmit</li> </ul>
PAS_WEB_SERVICES	Web Services for Exception Handling Review	Web Services for Exception Handling Review	<ul style="list-style-type: none"> <li>• CREATETRANSACTION, CreateTransaction, CreateTransaction Web Service</li> <li>• MERGELOT, MergeLot, MergeLot Web Service</li> </ul>

## Setting Up System Parameters

Oracle Pedigree and Serialization Manager (OPSM) has a system parameter that determines if the lot can be created in OPSM as part of the shipment or return transaction processing.

### To Set Up System Parameters:

1. Navigate to the OPSM Maintain System Parameters page.

System Setup > Maintain System Parameters

2. Select a value for Allow Lot Creation.

Select the check box to enable the lot to be created in OPSM as part of the shipment transaction processing. This setting only enables the lot to be created. It will not be updated based on the shipment transaction lot information.

Select the check box to enable the lot to be created in OPSM as part of the return transaction processing. This setting only enables the lot to be created. It will not be updated based on the return transaction lot information.

3. Save your work.

## Setting Up Locations

Before you can use the Serialized Item Tracking Process Integrations, locations must be set up in Oracle Pedigree and Serialization Manager (OPSM). When transactional systems integrate to OPSM they need to identify the location when requesting serials or recording transactions against the serials. The location identifies the entity that has performed the transaction and defines the controls the system enforces on that entity.

At a minimum locations and products with their item, cross references must be defined.

### To Set Up Locations:

1. Navigate to the OPSM Maintain Locations page.

System Setup > Maintain Locations

2. Select Create from the Actions menu or click the Create icon located at the top of the Search Results: Locations region.
3. Enter location information.
4. Enter the External Reference Identifier.

The External Reference Identifier creates a cross reference of the OPSM location to the Oracle E-Business Suite Inventory Org. Enter the Org Code used in Oracle E-Business Suite to identify the Inventory Org.

5. Enter the Default Label Type.

The Default Label Type will be the default for the container label on a shipment or return transaction.

6. Save your work.

**For more information** on creating locations, see “Setting Up Oracle Pedigree and Serialization Manager” in the *Oracle Pedigree and Serialization Process Guide*

## Setting Up Products and Item Cross Reference Information

Before you can use the Serialized Item Tracking Process Integrations, products and their transactional source system item cross reference information must be set up in Oracle Pedigree and Serialization Manager (OPSM). If these products and item cross reference information have not been set up using the Product Synchronization or Product Definition processes, they can be set up directly in OPSM.

At a minimum locations and products with their item, cross references must be defined.

### To Set Up Products and Item Cross Reference Information:

1. Navigate to the OPSM Maintain Products page.

System Setup > Maintain Products

2. Select Create from the Actions menu or click the Create icon located at the top of the Search Results: Products region.
3. Add product information, product details, and item cross reference details.

To create serials originating in Oracle E-Business Suite in OPSM at time of shipment, select the Create Serials for Shipments check box. This value may be overridden by product and location.

To record internal shipments, select the Record Internal Shipments check box. This value may be overridden by product and location.

To record internal returns, select the Record Internal Returns check box. This value may be overridden by product and location.

In the product details tab, define the serial type to identify the serial type expected on the shipment and return transactions. EPC Number and EPC filter may be required depending on the serial type selected.

4. Save your work.

**For more information** on creating products and item cross reference information, see “Setting Up Oracle Pedigree and Serialization Manager” in the *Oracle Pedigree and Serialization Process Guide*

## Working with Domain Value Maps

Domain value maps (DVMs) are a standard feature of the Oracle SOA Suite. They enable you to equate lookup codes and other static values across applications, for example, FOOT and FT or US and USA.

DVMs are static in nature, though administrators can add maps as needed. Transactional business processes never update DVMs; they only read from them. DVMs are stored in XML files and cached in memory at runtime.

DVM types are seeded for the Serialized Item Tracking flows, and administrators can extend the list of mapped values by adding more maps. The DVM data should be synchronized with what the participating applications use. This synchronization should occur before any initial loads are run or any incremental transactional flows are initiated.

This is the DVM for the process integration for Serialized Item Tracking:

DVM	Description
LOCATION	Locations

## Handling Errors

Use the Oracle Pedigree and Serialization Manager (OPSM) Web Service Exceptions page to view exception messages that are generated when messages are processed by the OPSM Web Services (MergeLot Web Service and CreateTransaction Web Service). Exception messages are only created for exceptions or errors that are detected by the web service. If the web service processes successfully during the integration process, no message is recorded.

**Note:** If you call the Web Services directly without going through the AIA integration, you are not able to view exception messages using the OPSM Web Service Exceptions page. The Web Service Exceptions page is used to assist with the integration between OPSM and other transactional systems (Oracle E-Business Suite).

### Web Service Exceptions Process Flow

An OPSM process continually monitors the integration message queue and then pulls the JMS messages from the queue and dequeues them. It then invokes the appropriate web service. If the web service fails, it creates a job instance message. Using the Web Service Exceptions page, you can view the job instance messages created by the web service. A web service can fail because the data that is being passed in the message is invalid or the data being passed is incorrect for the message. In addition, you can view the overall system problem errors or web services not running errors using the Web Service Exceptions page.

#### To View Web Service Exceptions:

1. Navigate to the OPSM Web Service Exceptions page.

- Transactions > Web Service Exceptions
- Serials > Web Service Exceptions

The Web Service Exceptions page appears. You can only view WEBSERVICES job types on this page.

2. Enter search criteria for the web service exceptions you want to view and click the Search button.

Use the Web Service Name field to search only for exceptions for the MergeLot or CreateTransaction Web Service. Otherwise, all web service exceptions appear.

All of the exceptions that match the search criteria appear in the Search Results: Job Instances table of the page.

3. Select a Job Instance ID that you want to view the messages for in the Search Results: Job Instances table.

The job instance messages for that specific web service job instance appear in the Job Instance Messages region of the page. Three job instance messages appear for each job instance. The messages provide this information:

- The first job instance message provides details indicating that the web service failed and provides the details (actual fields in the message) where the failure occurred. You can use this information to re-send the message through the transactional system (Oracle E-Business Suite).

- The second job instance message provides details indicating a partial explanation of the exception that was triggered by the web service. Only a portion of the exception text appears.
- The third job instance message provides details indicating which composite ID contains more details about the exception. You can view this composite ID within the Oracle Enterprise Manager application to view the entire SOA composite and BPEL flow.

If the SOA composite produces a fault (runtime fault and so on), the BPEL CatchAll activity grabs the fault and write a job instance record and corresponding job instance message record. This job instance message provides details indicating which composite ID contains more details about the SOA composite fault. You can view this composite ID within the Oracle Enterprise Manager application to view the entire SOA composite and BPEL flow.

## Configuring the Serialized Item Tracking Process Integration Properties

Configure these properties in the AIAConfigurationProperties.xml file. It is located here: AIA\_HOME>/aia\_instances/\$INSTANCE\_NAME/AIMetaData/config. Entries in the AIAConfigurationProperties.xml file are case sensitive.

**For more information** about requirements for working with AIAConfigurationProperties.xml, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1*, “Building AIA Integration Flows,” How to Set Up AIA Workstation.

**For more information** about using the Oracle Enterprise Repository and configuring it to provide the AIA Reference Doc link, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1*, “Configuring and Using Oracle Enterprise Repository as the Oracle AIA SOA Repository.”

Settings for the CreateAdvanceShipmentNoticeListEbizReqABCImpl service property:

Property Name	Value/Default Values	Description
Default.SystemID	EBIZ_01	Default Oracle E-Business Suite System ID. It is the responsibility of the application to send the SystemID from which the request is being sent. If any requestor application fails to send this, AIA will pick the sender SystemID from this property.

Property Name	Value/Default Values	Description
Routing.AdvanceShipmentNoticeEB SV1.CreateAdvanceShipmentNotice List.RouteToCAVS	True/False. Default = False	<p>This property, which is used for populating EBMHeader's EnvironmentCode, decides whether the AdvanceShipmentNoticeEBS should invoke CAVS or the Provider application's business connector service.</p> <p>If the value is set to true, EBMHeader's Environment Code is set to 'CAVS' and the EBS routes the request to CAVS.</p> <p>If the value is set to false, EBMHeader's Environment Code is set to the EnvCode mentioned in AIAConfig property</p> <p>Routing.ShipmentReceiptEBS.SyncShipmentreceiptList.MessageProcessingInstruction.EnvironmentCode, or if this property is not set, then the default EnvCode will be 'PRODUCTION' and the EBS routing rules will decide based on the EnvCode where it should route to.</p>
Routing.AdvanceShipmentNoticeEB SV1.CreateAdvanceShipmentNotice List.MessageProcessingInstruction.E nvironmentCode	PRODUCTION	<p>This property defines the Environment Code to be populated in EBMHeader, which is used by the EBS to route it to the corresponding provider application business connector service or CAVS. This property is used while checking the Routing.RouteToCAVS property.</p>
Routing.AdvanceShipmentNoticeEB SV1.CreateAdvanceShipmentNotice List.CAVS.EndpointUR	http://10.177.219.95:8009/A IAValidationSystemServlet/ asyncrequestrecipient	<p>This property defines the Definition ID to be populated in MessageProcessingInstruction of the EBMHeader, when the RouteToCAVS property is set to true. This holds the URI of CAVS simulator where the EBS should send the request.</p>
ABCSExtension.PreXformABMtoEB M	True/False. Default = False	<p>An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point before ABM is transformed to EBM. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.</p>
ABCSExtension.PostXformABMtoEB M	True/False. Default = False	<p>An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after ABM to EBM transformation and before Invoking the EBS. It determines whether invocation of service at the extension point is to be made or not depending on whether it is true or false.</p>

Property Name	Value/Default Values	Description
ABCSExtension.PreInvokeEBS	True/False. Default = False	An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after ABM is transformed to EBM and before invoking EBS. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.
ABCSExtension.PostInvokeEBS	True/False. Default = False	An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after ABM is transformed to EBM and after invoking EBS. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.
Routing.AdvanceShipmentNoticeEB SV1.CreateAdvanceShipmentNotice List.EBIZ_01.EndpointURI	True/False. Default = False	This property defines the Definition ID to be populated in MessageProcessingInstruction of the EBMHeader, when the RouteToCAVS property is set to false. This holds the URI of Enterprise Business Service, where the ReqABCS should send the request.

Settings for the CreateAdvanceShipmentNoticeListPASProvABCSImpl service property:

Property Name	Value/Default Values	Description
Default.SystemID	PAS_01	Default Oracle and Pedigree and Serialization Manager (OPSM) system ID. It is your responsibility to set the SystemID in EBMHeader to which the request should be sent in the EBS. If not set, the ProviderABCS will route the message to this DefaultSystemID picked from the config file.

Property Name	Value/Default Values	Description
Routing.execute_pttV1.execute.RouteToCAVS	True/False. Default = False	<p>This property, which is used for populating EBMHeader's EnvironmentCode, decides whether CreateAdvanceShipmentNoticeListPASProvABCS should invoke CAVS or CreateAdvanceShipmentNoticeListPASJMSProducer business connector service.</p> <p>If the value is set to true, EBMHeader's Env Code is set to 'CAVS' and the EBS routes the request to CAVS.</p> <p>If the value is set to false, EBMHeader's Env Code is set to the EnvCode mentioned in AIAConfig property Routing.execute_pttV1.execute.MessageProcessingInstruction.EnvironmentCode, or if this property is not set, then the default EnvCode will be 'PRODUCTION' and in the ProvABCS routing rules will decide based on the EnvCode where it should route to.</p>
ABCSExtension.PreXformEBMtoABM	True/False. Default = False	<p>An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point before EBM is transformed to ABM and before invoking the target application. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.</p>
ABCSExtension.PostXformEBMtoABM	True/False. Default = False	<p>An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after EBM is transformed to ABM and before invoking the target application. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.</p>
ABCSExtension.PreInvokeABS	True/False. Default = False	<p>An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after EBM is transformed to ABM and before invoking the target application. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.</p>

Property Name	Value/Default Values	Description
ABCSExtension.PostInvokeABS	True/False. Default = False	An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after EBM is transformed to ABM and after invoking the target application. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.
Routing.execute_pttV1.execute.CAVS.EndpointURI	True/False. Default = False	This property defines the Definition ID to be populated in MessageProcessingInstruction of the EBMHeader, when the RouteToCAVS property is set to true. This holds the URI of CAVS simulator where the PASJMSProducer should send the request.
Routing.execute_pttV1.execute.PAS_01.EndpointURI	Default Value = http://sdc60008sems.us.oracle.com:8009/soa-infra/services/default/CreateAdvanceShipmentNoticeListPASJMSProducer/CreateAdvanceShipmentNoticeListPASGetABM?WSDL	This property defines the Definition ID to be populated in MessageProcessingInstruction of the EBMHeader, when the RouteToCAVS property is set to false. This holds the URI of OPSM business service url, where the PASJMSProducer should send the request.
Routing.execute_pttV1.execute.MessageProcessingInstruction.EnvironmentCode	Default Value = PRODUCTION	This property defines the Environment Code to be populated in EBMHeader, which is used by the PASJMSProducer to route it to the corresponding provider application business connector service or CAVS.

Settings for the CreateShipmentReceiptListEbizReqABCImpl service property:

Property Name	Value/Default Values	Description
Default.SystemID	EBIZ_01	Default Oracle E-Business Suite system ID. It is the responsibility of the application to send the SystemID from which the request is being sent. If any requestor application fails to send this, AIA will pick the sender SystemID from this property.

Property Name	Value/Default Values	Description
Routing.ShipmentReceiptEBSV1.CreateShipmentReceiptList.RouteToCAVS	True/False. Default = False	<p>This property, which is used for populating EBMHeader's EnvironmentCode, decides whether the AdvanceShipmentNoticeEBS should invoke CAVS or the Provider application's business connector service.</p> <p>If the value is set to true, EBMHeader's Environment Code is set to 'CAVS' and the EBS routes the request to CAVS.</p> <p>If the value is set to false, EBMHeader's Environment Code is set to the EnvCode mentioned in AIAConfig property</p> <p>Routing.ShipmentReceiptEBS.SyncShipmentreceiptList.MessageProcessingInstruction.EnvironmentCode, or if this property is not set, then the default EnvCode will be 'PRODUCTION' and the EBS routing rules will decide based on the EnvCode where it should route to.</p>
Routing.ShipmentReceiptEBSV1.CreateShipmentReceiptList.MessageProcessingInstruction.EnvironmentCode	PRODUCTION	<p>This property defines the Environment Code to be populated in EBMHeader, which is used by the EBS to route it to the corresponding provider application business connector service or CAVS. This property is used while checking the Routing.RouteToCAVS property.</p>
Routing.ShipmentReceiptEBSV1.CreateShipmentReceiptList.CAVS.EndpointURI	http://sdc60008sems.us.oracle.com:8009/AIAValidationSystemServlet/asyncrecipient	<p>This property defines the Definition ID to be populated in MessageProcessingInstruction of the EBMHeader, when the RouteToCAVS property is set to true. This holds the URI of CAVS simulator where the EBS should send the request.</p>
ABCSExtension.PreXformABMtoEBM	True/False. Default = False	<p>An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point before ABM is transformed to EBM. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.</p>
ABCSExtension.PostXformABMtoEBM	True/False. Default = False	<p>An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after ABM is transformed to EBM. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.</p>

Property Name	Value/Default Values	Description
ABCSExtension.PreInvokeEBS	True/False. Default = False	An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after ABM is transformed to EBM and before invoking the EBS. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.
ABCSExtension.PostInvokeEBS	True/False. Default = False	Description: An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after ABM is transformed to EBM and after invoking EBS. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.

Settings for the CreateShipmentReceiptListPASProvABCImpl service property:

Property Name	Value/Default Values	Description
Default.SystemID	PAS_01	Default Oracle Pedigree and Serialization Manager (OPSM) system ID. This property is only used if the message sent from Oracle E-Business Suite to OPSM does not contain the target systemID.
ABCSExtension.PreXformEBMtoABM	True/False. Default = False	An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point before EBM is transformed to ABM and before invoking the target application. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.
ABCSExtension.PostXformEBMtoABM	True/False. Default = False	An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after EBM is transformed to ABM and before invoking the target application. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.

ABCSExtension.PreInvokeABS	True/False. Default = False	An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after EBM is transformed to ABM and before invoking the target application. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.
ABCSExtension.PostInvokeABS	True/False. Default = False	An Enterprise Business Flow can invoke custom code during its execution. These will serve as extensibility points. Typical ABCS can have four Extension points. This property is used as an extension point after EBM is transformed to ABM and after invoking the target application. It determines whether invocation of the service at the extension point is to be made or not depending on whether it is true or false.
Routing.execute_pttV1.0.execute.RouteToCAVS	True/False. Default = False	This property, which is used for populating EBMHeader,'s EnvironmentCode, decides whether the CreateShipmentReceiptListPASProvABCS should invoke CAVS or the CreateShipmentReceiptListPASJMSProducer business connector service.
Routing.execute_pttV1.0.execute.CAVS.EndpointURI	Default Value = <a href="http://sdc60008sems.us.oracle.com:8009/AIAValidationSystemServlet/asyncrecipient">http://sdc60008sems.us.oracle.com:8009/AIAValidationSystemServlet/asyncrecipient</a>	This property defines the Definition ID to be populated in MessageProcessingInstruction of the EBMHeader, when the RouteToCAVS property is set to true. This holds the URI of CAVS simulator where the PASJMSProducer should send the request.
Routing.execute_pttV1.0.execute.PAS_01.EndpointURI	Default Value = <a href="http://sdc60008sems.us.oracle.com:8009/soa-infra/services/default/CreateShipmentReceiptListPASJMSProducer/CreateShipmentReceiptListPASGetABM?WSDL">http://sdc60008sems.us.oracle.com:8009/soa-infra/services/default/CreateShipmentReceiptListPASJMSProducer/CreateShipmentReceiptListPASGetABM?WSDL</a>	This property defines the Definition ID to be populated in MessageProcessingInstruction of the EBMHeader, when the RouteToCAVS property is set to false. This holds the URI of OPSM business service url, where the PASJMSProducer should send the request.
Routing.execute_pttV1.0.execute.MessageProcessingInstruction.EnvironmentCode	True/False. Default = False	This property defines the Environment Code to be populated in EBMHeader, which is used by the PASJMSProducer to route it to the corresponding provider application business connector service or CAVS.

# Chapter 8: Supporting Multiple Oracle E-Business Suite Source Systems

This chapter discusses how to support multiple Oracle E-Business Suite source systems.

## Supporting Multiple Oracle E-Business Suite Source Systems

The Oracle Serialization and Tracking Process Integration Pack (PIP) supports data transfer from multiple Oracle E-Business Suite systems to a single Oracle Pedigree and Serialization Manager (OPSM) application. The delivered Oracle Serialization and Tracking PIP supports data transfer from a single Oracle E-Business Suite Release 11.5.10 system and a Release 12.1.2 system. You can configure more than two Oracle E-Business Suite systems in Oracle Data Integrator (ODI).

Use this procedure to configure more than two Oracle E-Business Suite systems in ODI:

### Configuring More Than Two Oracle E-Business Suite Systems in ODI

To Configure More than Two Oracle E-Business Suite Systems in ODI:

1. Open the ODI Topology manager.
2. Click Insert Context on the Context tab.
3. Enter the new context name.  
For example, EBIZ\_03
4. Click Apply and OK.
5. Expand Oracle in the Physical Architecture tab.
6. Add a data server for the new Oracle E-Business Suite application database.
7. Add the physical schema for the Oracle E-Business Suite application database.
8. Add the new context that was created in step 3 in the Context tab of the physical schema and select the corresponding logical schema.
9. Add the new context (created in step 3) in the context column and add the existing logical schema name in logical schema column for the PASDS and WorkRepDS data servers.
10. Repeat step 9 for the LocationDS and WorkOrderStatusDS data servers available under XML technology.

# Chapter 9: Setting Up Web Service Security for Oracle E-Business Suite Release 12.1.2

This chapter discusses how to:

- Set Up web service security for Oracle E-Business Suite
- Work with Oracle Web Service Manager policies

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## Setting Up Web Service Security for Oracle E-Business Suite

Before you can modify the global security policies, Oracle E-Business Suite (EBS) Release 12.1.2 must be configured to send the user credentials.

This section discusses how to:

- Set up user credentials in EBS
- Set up subscriptions to business events.

---

### Setting Up User Credentials in EBS

#### To Set Up User Credentials in EBS:

1. Run the following command using your user-defined values for the module, key, and password to store the password in FND Vault: The module is the text value that you want to use to do a FND\_VAULT lookup of the user password. The key is the text value that you want to use to do a FND\_VAULT lookup of the user password.

@\$FND\_TOP/sql/afvltput.sql < module> <key> <password>

2. Verify that the password has been stored successfully in FND Vault by running the following command:  

```
select fnd_vault.get(< module>, <key>) from dual;
```

---

### Setting Up Subscriptions to Business Events

#### To Set Up Business Event Subscriptions:

1. Navigate to the Business Event page.

Workflow Administrator Web Applications > Administrator Workflow > Business Events

2. For each of the Business Events listed below, query the business event by entering it into the Name field and clicking the Go button.
  - oracle.apps.inv.opsm.syncLot
  - oracle.apps.wsh.delivery.gen.interfaced
  - oracle.apps.po.rcv.rcvtxn.outbound
3. In the Results table, click the Subscription icon.
4. In the Subscriptions page, click the edit icon for the subscription.
5. After the Update Subscriptions page appears, click the Next button.
6. In the Subscription Parameters section, create the following parameters with suitable values:
  - WFBES\_SOAP\_USERNAME: The username to be passed as part of the credentials.
  - WFBES\_SOAP\_PASSWORD\_MOD: The module used to set up the password in FND Vault in the previous section.
  - WFBES\_SOAP\_PASSWORD\_KEY: The key used to set up the password in FND Vault in the previous section.

## Working with Oracle Web Service Manager Policies

Oracle Web Services Manager (OWSM) is a standards-compliant solution delivered as part of Oracle SOA Suite that enables you to centrally define and store declarative policies and enforce security and management policies through configurable agents.

OWSM policies can be attached to applications programmatically at design time. Also, during deployment it is possible to attach OWSM policies to SOA composites using the Oracle Enterprise Manager Fusion Middleware Control.

### Setting Up OWSM Direct Policy Attachments

#### To Set Up OWSM Direct Policy Attachments:

For each of these SOA composites listed in this table perform this procedure:

SOA Composite	Service Endpoint	Service Policy
CreateAdvanceShipmentNoticeListEbizJMSProducer	CreateAdvanceShipmentNoticeListEbizGetABM	oracle/no_authentication_service_policy
CreateShipmentReceiptListEbizJMSProducer	CreateShipmentReceiptEbizGetABM	oracle/no_authentication_service_policy
SyncItemLotListEbizJMSProducer	SyncItemLotListEbizGetABM	oracle/no_authentication_service_policy

1. In Enterprise Manager, select the SOA composite on the Navigation pane.

In the General Information page, click the plus (+) to expand the Service and References section.

- 2. Attach the service specific policy:**
  - a. Click the name of the corresponding Service Endpoint per the table at the beginning of the procedure.
  - b. When the Composite window appears, click the Policies tab.
  - c. Click Attach/Detach.
  - d. Detach the oracle/no\_authentication\_service\_policy from the EbizJMSProducer Service Endpoints.
- 3. Repeat steps 1-2 to detach the service policy for each of the SOA Composites.**

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