

# **Oracle® Warehouse Management**

User's Guide

Release 12.1

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Oracle Warehouse Management User's Guide, Release 12.1

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## **Oracle Warehouse Management User's Guide, Release 12.1**

### **Part No. E13433-07**

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- Did you understand the context of the procedures?
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- Does the structure of the information help you with your tasks?
- Do you need different information or graphics? If so, where, and in what format?
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# Preface

## Intended Audience

Welcome to Release 12.1 of the *Oracle Warehouse Management User's Guide*.

See Related Information Sources on page xiv for more Oracle E-Business Suite product information.

## Deaf/Hard of Hearing Access to Oracle Support Services

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## Structure

- 1 Oracle Warehouse Management Overview**
- 2 Oracle Warehouse Management Rules Engine**
- 3 Material Management**
- 4 Task Management**
- 5 Oracle Warehouse Management Inbound Logistics**
- 6 Oracle Warehouse Management Crossdocking**
- 7 Oracle Warehouse Management Outbound Logistics**
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- 9 Logistic Service Providers (LSPs) Management**
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- 11 Cartonization, Consolidation, and Packing**
- 12 Shipping**
- 13 Labor Management**
- 14 Oracle Warehouse Management Reports**
- A Windows and Navigation Paths**
- B Mobile User Interface and Oracle Warehouse Management**
- Glossary**

## Related Information Sources

### Integration Repository

The Oracle Integration Repository is a compilation of information about the service endpoints exposed by the Oracle E-Business Suite of applications. It provides a complete catalog of Oracle E-Business Suite's business service interfaces. The tool lets users easily discover and deploy the appropriate business service interface for integration with any system, application, or business partner.

The Oracle Integration Repository is shipped as part of the E-Business Suite. As your instance is patched, the repository is automatically updated with content appropriate for the precise revisions of interfaces in your environment.

### ***Oracle Inventory User's Guide***

The *Oracle Inventory User's Guide* describes how to create, transact categorize and count

items.

## ***Oracle Management Implementation Guide***

The *Oracle Warehouse Management Implementation Guide* describes how to implement Oracle Warehouse Management.

## **Do Not Use Database Tools to Modify Oracle E-Business Suite Data**

Oracle STRONGLY RECOMMENDS that you never use SQL\*Plus, Oracle Data Browser, database triggers, or any other tool to modify Oracle E-Business Suite data unless otherwise instructed.

Oracle provides powerful tools you can use to create, store, change, retrieve, and maintain information in an Oracle database. But if you use Oracle tools such as SQL\*Plus to modify Oracle E-Business Suite data, you risk destroying the integrity of your data and you lose the ability to audit changes to your data.

Because Oracle E-Business Suite tables are interrelated, any change you make using an Oracle E-Business Suite form can update many tables at once. But when you modify Oracle E-Business Suite data using anything other than Oracle E-Business Suite, you may change a row in one table without making corresponding changes in related tables. If your tables get out of synchronization with each other, you risk retrieving erroneous information and you risk unpredictable results throughout Oracle E-Business Suite.

When you use Oracle E-Business Suite to modify your data, Oracle E-Business Suite automatically checks that your changes are valid. Oracle E-Business Suite also keeps track of who changes information. If you enter information into database tables using database tools, you may store invalid information. You also lose the ability to track who has changed your information because SQL\*Plus and other database tools do not keep a record of changes.





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# Oracle Warehouse Management Overview

This chapter covers the following topics:

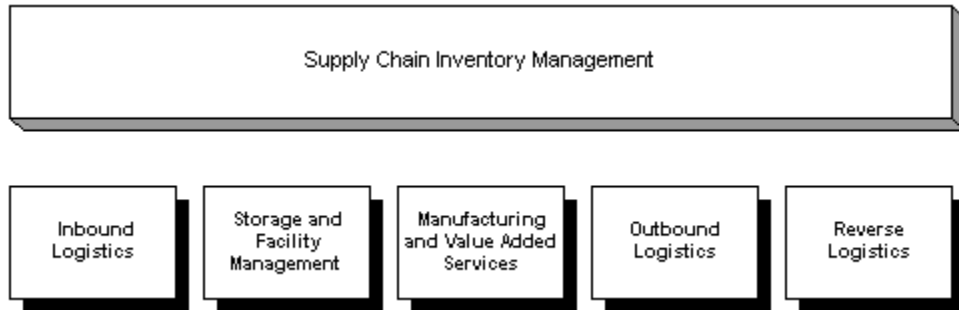
- Overview of the Oracle Warehouse Management System
- Inbound Logistics
- Inventory, Storage, and Facility Management
- Oracle Warehouse Management Value Added Services
- Outbound Logistics
- Reverse Logistics
- Warehouse Configuration
- Container and License Plate Management
- Oracle Warehouse Management Rules Engine

## Overview of the Oracle Warehouse Management System

Oracle Warehouse Management system is a component of Oracle's Supply Chain Management and Manufacturing solution. It spans the areas of warehouse resource management, warehouse configuration, task management, advanced pick methodologies, and value added services.

Oracle Warehouse Management optimizes the material handling business processes for warehouses, manufacturing facilities, and distribution centers. Oracle Warehouse Management supports both paper-based and automated environments with material handling systems and radio frequency (RF) hand-held computers. To optimize the order fulfillment process, Oracle Warehouse Management provides advanced distribution processes, such as value-added services, cross docking, order assembly postponement, and resource and task management.

Oracle Warehouse Management also provides an easy-to-use interface for mobile, wireless hand-held computers. Mobility, process automation, and bar code scanning greatly improve the efficiency of the Supply Chain Logistics business processes.



The Oracle Warehouse Management functionality spans the supply chain inventory management spectrum. Specifically, Oracle Warehouse Management addresses the following supply chain inventory management components:

- **Inbound Logistics:** Includes receiving directly into inventory, receipt inspections, label printing, and rules-based directed put away to storage or opportunistic cross docking
- **Storage and Facility Management:** In addition to Oracle's suite of Mixed Mode Manufacturing storage and facility management module, Oracle Warehouse Management extends intra-organization replenishments, container management, storage space optimization, cycle counting and physical inventory, and physical warehouse mapping.
- **Value Added Services:** Includes labeling, packing, and kitting
- **Outbound Logistics:** Includes picking, staging, packing, product consolidation, loading, and shipping
- **Reverse Logistics:** Includes product returns, refurbishment, and recycling

## Mobile User Interface

You can view all mobile windows with either the graphical user interface, or the character- mode interface. The interfaces display the same information, and the graphical user interface displays information similar to the desktop application. The following figures depict the mobile user interfaces.

Materials & Mfg	
1<Receiving	>
2<Inventory	>
3<Manufacturing	>
4<Pick/Ship	>
5<Labels	>
6<Inquiry	>
7<Change Responsibility>	
8<Logout	>

Oracle Mobile	
ORACLE	
Materials & Mfg	
1	Receiving
2	Inventory
3	Manufacturing
4	Pick/Ship
5	Labels
6	Inquiry
7	Change Responsibility
8	Logout

## Related Topics

Inbound Logistics, page 1-4

Outbound Logistics Overview, page 1-6

Overview of Oracle Quality, *Oracle Quality User's Guide*

Overview of Project Manufacturing, *Oracle Project Manufacturing User's Guide*

# Inbound Logistics

Oracle Warehouse Management supports receipt of purchase orders and internal requisitions, return material authorizations (RMAs) and inter-organization shipments in each of three receipt routing methods:

- Direct (receive and deliver)
- Standard (receive and later deliver)
- Inspection (receive, inspect, and later deliver)

Advanced shipment notices (ASNs) offer a form of collaboration that speeds the receiving process by enabling the receiver to check in entire inbound loads, without entering individual line information. ASNs may contain such information as purchase order number, item number, item serial number, and item lot number.

After products are received, Oracle Warehouse Management can direct users to a dynamically determined staging location based on predefined business rules and strategies. For example, a rule might specify that an item be put away based on the temperature required for storage, hazardous storage requirements, or product velocity.

If a shortage situation occurs, the system might direct you to immediately cross dock the item, versus putting it away to a regular storage location.

The following table provides a summary of the inbound logistics tasks supported by Oracle Warehouse Management.

Inbound Logistics Tasks
Receiving with or without ASNs
Receipt check-in
Quality control inspection
Bar code printing
Directed put-away and storage optimization
Opportunistic cross docking

# Inventory, Storage, and Facility Management

Oracle Warehouse Management provides advanced materials visibility and expedited

material movement for inventory control. Oracle Warehouse Management also provides license plate tracking throughout the warehouse. Also, the inventory tracking capabilities provided by Oracle Inventory, Receiving, Shipping, and Work in Process applications, Oracle Warehouse Management provides advanced lot and serial attribute tracking and visibility, material status control, and advanced space utilization capabilities.

The following table provides a summary of the inventory, storage, and facility management tasks supported by Oracle Warehouse Management.

---

**Inventory, Storage, and Facility Management Tasks**

---

Container and license plate management

Subinventory configuration

Advanced locator definition

Kanban replenishment management

Move orders (intra-organization transfers and issues)

LPN based WIP completions

Task dispatching

Material status control

Lot and serial genealogy and tracking

Visibility of inventory ownership

Cycle counting and physical inventory

Date coding and shelf life monitoring

ABC classification and analysis

---

## Related Topics

Explaining License Plate Management, page 3-2

Material Setup, *Oracle Warehouse Management Implementation Guide*

Warehouse Setup, *Warehouse Management Implementation Guide*

# Oracle Warehouse Management Value Added Services

All manufacturing modes supported by the Oracle Agile Manufacturing suite of products are supported in Oracle Warehouse Management. This means that with Oracle Warehouse Management you can take advantage of mixed modes of manufacturing in assembly—from Project Manufacturing to kitting and dekitting.

The following table provides a summary of the value added services supported by the system.

Value Added Services
Kitting and dekitting
Customer compliance labeling
Mixed-mode manufacturing

## Related Topics

Compliance Labeling Setup, page 10-2

## Outbound Logistics

Oracle Warehouse Management automates and helps manage warehouse picking tasks. These tasks include the following:

- Assigning tasks to pickers, according to various business practices
- Suggesting pick locations based on picking strategies that are configured using the Oracle Warehouse Management rules engine
- Packing and consolidation of materials into LPNs
- Vehicle loading and LPN Shipment confirmation
- Interfacing with compliance labeling systems to generate labels according to customer- or carrier-preferred format

The following table provides a summary of the outbound logistics tasks supported by Oracle Warehouse Management.

---

## Outbound Logistics Tasks

---

Wave picking

Pick methodologies

Dock assignments

Directed picking rules

Task dispatching and interleaving

Task monitoring through the Oracle Warehouse Management Control Board

Cartonization and packing

Interface with compliance labeling system

Shipment stage, consolidation, and loading

Shipment verification and close

---

## Related Topics

Describing Pick Methodologies, page 7-4

Explaining Consolidation, page 11-11

## Reverse Logistics

Oracle Warehouse Management enables you to perform the following reverse logistics tasks:

- Return Material Authorization (RMA) receiving
- Supplier returns (RTV)
- Refurbishment and recycling

Oracle Warehouse Management enables you to record and transact returns of material packed into a Licence Plate Number (LPN) using the return to vendor feature. You can also provide LPN based receiving corrections. LPN based returns can be initiated through the desktop forms or transacted through the mobile device interface by scanning the LPN to be returned. Corrections can be made directly through the desktop

forms to immediately update information.

Oracle Warehouse Management offers a one step or a two step process for returns. This option is determined by the WMS:Express Returns profile option. By enabling this option you can perform a two step return process where, for example, a manager can initiate the return (step 1) and a picker can retrieve the material and deliver it to shipping (step 2). Otherwise the return transaction is initiated and completed in one step.

For more information refer to the *Oracle Purchasing User's Guide*.

## Related Topics

Explaining LPN Based Returns, page 5-43

Returns,, *Oracle Purchasing User's Guide*

Corrections, *Oracle Purchasing User's Guide*

## Warehouse Configuration

Oracle Warehouse Management uses the same warehouse, resource, trading partner, and material configuration employed by the rest of the Oracle eBusiness Suite. These entities enable users to define inventory organizations, physical areas within the facility, and inventory locators, as well as material valuation cost groups—that are used to track inventory costs, departments within a facility, and the resources (both people and machines) that perform warehouse tasks, such as material movement and value added services. Oracle Warehouse Management uses the following to help manage your warehouse:

- Container and license plate management, page 1-8
- Rules Engine, page 1-9

Container management enables you to track the contents of any containers in receiving, inventory, shipping, and intransit inventories. The rules engine enables you to set up task strategies that optimize warehouse execution and management.

## Related Topics

Warehouse Setup, *Oracle Warehouse Management Implementation Guide*

## Container and License Plate Management

Oracle Warehouse Management provides full visibility to inventory items that are stored in license plate numbers (LPNs). An LPN, in Oracle Warehouse Management, is any object that exists in a location and holds items. An LPN might be a container, but it does not need to represent a physical entity. It could be as simple as a label on a



collection of items. Oracle Warehouse Management enables users to track, transact, and nest LPNs and their contents.

## Using License Plate Numbers

Using LPNs, you can do the following:

- Receive, store, and pick material by LPN
- View on-hand balances by LPN
- View contents of LPN, including item number, serial number, quantity, and so on
- Move multiple items in a transaction by the LPN
- Perform WIP completions into prepicked LPNs
- Complete work orderless completions or discrete job completions into LPNs
- Print labels and reports for referencing container contents
- Track nested LPNs (for example, cartons on a pallet)

## Summary of Container Management Features

Oracle Warehouse Management container management enables you to:

- Use a unique LPN, identify a container and its contents
- Pack and unpack LPN contents
- Receive inventory into LPNs from suppliers and internal organizations
- Move, and transact inventory in LPNs
- View LPN contents
- View the on-hand quantity packed in an LPN
- Print LPN labels

## Related Topics

Explaining License Plate Management, page 3-2

## Oracle Warehouse Management Rules Engine

The Oracle Warehouse Management rules engine is a modeling tool whose repository

of business practices and restrictions enable it to suggest the best process for a particular warehouse function. You can set up rules and strategies to do the following:

- Enable the system to allocate material for picking (directed picking, page 1-10)
- Enable the system to suggest put away locations in which to store an item (directed putaway, page 1-10)
- Enable the system to assign material valuation and holding accounts to received material (cost group assignment, page 1-10)
- Enable the system to suggest the label format and information content that are used to print a given label (compliance labeling, page 1-10)
- Designate warehouse
- Designate which operation plan, page 1-11 to use for consolidation.

All of these features increase your ability to manage your warehouses more efficiently.

## **Directed Picking and Putaway**

Oracle Warehouse Management directed picking and putaway enables you to dynamically select storage locations for material that is received into the warehouse, or completed from WIP, and to allocate material for sales orders based on user defined material selection criteria.

## **Cost Group Assignment**

If your company holds inventory on their premises, you can use the cost group assignment feature to view the ownership associated with inventory. A separate cost group is warranted whenever an item has a different account coding. Thus, a supplier's warehouse inventory can be identified, tracked, and properly costed, even if it is commingled with your company's inventory. The cost group assignment feature helps reduce physical inventory levels, while promoting higher inventory turns.

## **Compliance Labeling**

Oracle Warehouse Management enables you to suggest a label format based on the customer, item, order type, carrier, or other entities related to the material.

The actual printing of the label is performed by a third party label printing system. Label generation and format selection are performed within Oracle Warehouse Management, either at predetermined points in the business process, or at user request.

## **Task Dispatching**

The rules engine identifies the correct task type for system generated tasks so that they

can be assigned to a qualified user with the appropriate equipment.

## Operation Plan Selection

The rules engine identifies the correct operation plan to use for consolidation. Operation plan selection rules correspond to the three modes of consolidation: LPN, Locator, and LPN and Locator.

If LPN based consolidation is selected, all picked material that has to be consolidated together are directed to be dropped into the same License Plate Number. If Locator based consolidation is selected, picked material is consolidated into locators. If Locator and LPN based consolidation is selected, picked material is consolidated into locators. In addition, it also provides consolidation LPN suggestions within the consolidation locators.

## Related Topics

Overview of the Oracle Warehouse Management Rules Engine, page 2-1

Overview of Rules Setup, page 2-7

Corrections, *Oracle Purchasing User's Guide*

Returns, *Oracle Purchasing User's Guide*



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# Oracle Warehouse Management Rules Engine

This chapter covers the following topics:

- Overview of the Rules Engine
- Components of the Rules Engine
- Overview of Rules Setup
- Defining WMS Rules
- Picking Rule Allocation
- Defining WMS Rules for Logistics Service Providers (LSPs)
- Picking Rules for Oracle Warehouse Management Enabled Project Manufacturing Organizations
- Setting Up Pick Wave Rules
- Oracle Warehouse Management Strategies Window
- Rules Workbench
- Explaining the Oracle Warehouse Management Rules Engine Simulator
- Summary of Rule Properties

## Overview of the Rules Engine

The rules engine provides a repository for restrictions and business policies. You define and implement rules, directly from standard Oracle Applications windows. You select from the elements in the lists of values to compose rules. The rules engine also does not allow you to modify rules currently in use.

Based on the restrictions that you define, the rules engine performs the following activities:

- Enables directed picking
- Enables directed put away
- Assigns tasks to a resource with the appropriate training and equipment
- Assigns cost groups to received material
- Ensures customer compliant labeling
- Determines which operation plan to use for consolidation

You can base rules on nearly any attribute in the database, including user-defined flexfields. You can create rules based on the following rule types:

- Put Away, page 2-2
- Picking, page 2-3
- Task Type Assignment, page 2-3
- Cost Group Assignment, page 2-3
- Label Format Assignment, page 2-4
- Operation Plan Selection, page 2-4

## Put Away Rules

Directed put away directs operators to put newly received material into the most appropriate location. You can base the rule on virtually any business process, and the rules engine provides intelligent suggestions for put away locations for the material. Some typical processes that put away rules are capable of modeling include the following:

- Direct an operator to put away an item in the same locator where other quantity of the item already resides. This minimizes item fragmentation.
- Prohibit commingling of different items or different lots of the same item in a single locator
- Avoid lot commingling in a locator
- Base the put away location on inspection results, the type of purchase order, or item category

You can also use the rules engine to suggest locations to put away any item anywhere within the warehouse.

## Picking Rules

Directed picking creates material allocations and directs operators to pick material from specific locations. To ensure proper stock rotation, you can set up picking rules to allocate material using FIFO (First In, First Out) or FEFO (First Expired, First Out). You can also set up the rules engine to meet customer requirements, such as stock condition or quality. Furthermore, you can set up different rules to deplete a locator to free up additional warehouse space, or to pick by cost group ownership for particular customers.

## Task Type Assignment Rules

Based on user-defined criteria, such as the source subinventory, locator, or item attributes, the rules engine can identify the task type for each task that is generated by the system.

Task type assignment captures the skill sets and equipment required for a warehouse task, ensures the system assigns the task to the appropriate operator. An operator can sign onto a mobile radio frequency (RF) device, and optionally specify the equipment they are using. Based on the operator skill set, the equipment requirements, and the equipment capacity, the rules engine can then assign tasks to the operator. In some cases, the system assigns tasks based on the subinventory in which the task occurs.

For example, the rules engine assigns hazardous tasks to personnel who have completed hazardous material handling training. Another task assignment example, might include limiting put aways to top racks to those operators who signed on to a high-reach forklift.

## Cost Group Rules

Cost groups capture the material valuation accounts necessary for tracking inventory value. For example, you might set up different accounts for refurbished versus new goods, or for consigned goods that might have cost groups that are tied to the owning company. When material is received into the warehouse, the rules engine can automatically determine the owning cost group.

The rules engine automates cost group assignment decisions, thus removing the complexity of making this decision from the warehouse floor. For example, the rules engine can make a cost group assignment based on sales channel by assigning different cost groups to internet orders and in-store orders. The rules engine can also make a cost group assignment based on inspection results. It can assign an item that fails inspection to a "Hold" cost group. The rules engine can also assign cost groups by vendor site, item category, item. If you do not assign a cost group rule for a particular item, then the system uses the default cost group of the storage subinventory where the item resides.

## Label Format Assignment Rules

The rules engine selects the appropriate label format and content for the business need. With the compliance labeling feature, labels with the required information, bar-code symbols, and layout can be generated for each item and container.

## Operation Plan Selection Rules

Consolidation is the process of bringing material from various parts of the warehouse together. Operation plan selection rules correspond to the three modes of consolidation: LPN, Locator, and LPN and Locator. There are three types of operation plans, inbound, crossdock, and outbound. You use these plans to build the operation plan selection rules. You also use operation plan selection rules to determine if you can consolidate material across outbound deliveries. Oracle Warehouse Management allows you to create inbound and crossdock operation plans. For more information, see *Setup Operation Plans*, page 4-3. You cannot create outbound operation plans. Oracle Warehouse Management is seeded with the following outbound operation plans:

- LPN based consolidation in staging lane within delivery
- Direct consolidation in staging lane across deliveries
- Direct consolidation in staging lane within delivery
- LPN based consolidation in consolidation locator, across deliveries in staging lane
- LPN based consolidation in consolidation locator within delivery in staging lane
- LPN based consolidation in staging lane across deliveries
- Locator based consolidation in consolidation locator, across deliveries in staging lane
- Locator based consolidation in consolidation locator within delivery in staging lane.

You set up rules to determine which operation plan to select for a given task. This is an optional step. If you do not set up operation plan selection rules, the system uses the organization level plan.

For example, if you want certain categories of items to go through the consolidation step, and other categories of items to be dropped directly to the staging lane, you create an operation plan selection rule that specifically selects the operation plan based on the item category.

## Related Topics

Rules Engine Capabilities and Rule Types, page 2-1.



## Components of the Rules Engine

The rules engine contains the following components:

- Objects, page 2-5
- Rules, page 2-5
- Strategies, page 2-6

### Objects

*Objects* are the entities that you use within a rule. They correspond to tables and their attributes (or columns). Oracle Warehouse Management also includes two objects you can use to specify constant values: Constant Character and Constant Number.

You select constant character or constant number when you want to specify a specific parameter value for an object. For example, you might set the parameter item number equal to the constant number, 23454. In this case, the constant value would be 23454, and represents the item number.

### Rules

A *rule* is one or more restrictions that must be fulfilled to satisfy a business or customer requirement. For picking and put away rules, you assign a sort criteria that determines in which order the system uses a rule to suggest an allocation. Picking and put away rules also have a quantity function, page 2-5 that specifies the quantity considerations used to determine the material available for picking, or the space available for put away. Cost group, task type, label assignment, and operation plan selection rules have a return value, page 2-5, that returns a value, based on the type of rule that you define. If all of the restrictions are met for a particular cost group, task type, label assignment, or operation plan selection rule, then the return value provides the name of the task type, label format, cost group, or operation plan.

#### Examples of Quantity Functions

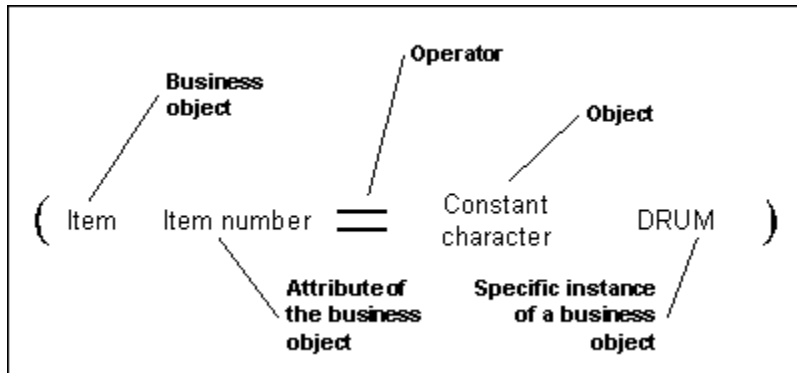
- Picking rule: available to reserve
- Put away based on locator weight capacity only
- Put away: use a custom function to determine the destination locator capacity

#### Examples of Return Values

Return values are used in cost group, task type, label format, and operation plan selection rules. If the rule restrictions are met, then the rules engine returns the value specified. For example, if an item has a HAZMAT code, then the return value for a task type might be Hazardous. In this case, the system assigns the task to an operator who is qualified to handle hazardous materials. Likewise, if all of the items in an EACH PICK

subinventory should be assigned the same cost group, you might specify a rule that returns the cost group associated with the EACH PICK subinventory. For example if the cost group value is EP100, then every time an item is put away into the EACH PICK subinventory, the system returns the cost group value of EP100. This cost group is then assigned to the item being put away into the subinventory.

The figure below provides an example of a picking rule. In this example, you can review the various components that make up a rule.



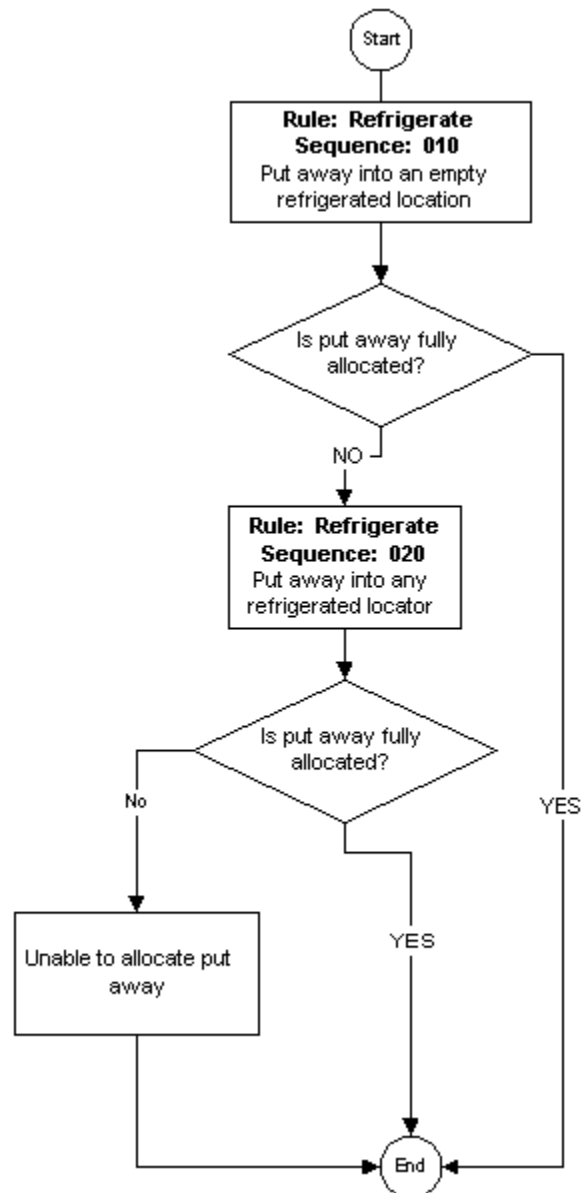
## Strategies

A *strategy* is an ordered sequence of rules that the system uses to fulfill complex business demands. The system selects the rules of a strategy in sequence until it fully allocates a picking or put away task, or until it finds a cost group that meets restrictions. When you define strategies, you also specify the date or range of dates on which the strategy is effective. When setting up strategies, you also specify whether you want the system to use a rule if it can only allocate some of the material or space required by that allocation.

**Note:** Strategies are not used for task type, label format, and operation plan selection rules.

### Strategy Example

The following figure provides a graphical example of a simple strategy that includes two rules: a rule that specifies to put the item away to an empty refrigerated location, and a rule to put away to any refrigerated location.



## Overview of Rules Setup

You use a series of Oracle Warehouse Management rule types to set up various rules for your warehouse. Although you use the same windows to set up all rules, the setup that is required for Cost Group, Picking, and Put Away rules differ from the setup that is required for Task Type, Label Format, and Operation Plan Selection rules. You do not assign task type, label format, and operation plan selection rules to strategies. Rather, the rules engine automatically links these types of rules directly to the organization when you enable the rule. The search order is determined by a weight applied. The larger the number, the higher the weight. You can assign weights only to task type

assignment, label format, and operation plan selection rules.

Use the following windows to set up rules:

- Rules window, page 2-8
- Strategies window, page 2-23
- Rules Workbench, page 2-24

**Note:** All of the rules engine windows are organization-specific, so make sure that you select the appropriate organization before defining your rules.

## Defining WMS Rules

You define rules in the WMS Rules window, page A-1.

The screenshot shows the 'WMS Rules (W1)' window. The 'Type' is 'Pick'. The 'Name' is '30-day range FEFO min pick task'. The 'Description' is 'Lots with less than 30 days life order to deplete locators, use pick UOM'. The 'Activity' is empty, and the 'Plan Type' is empty. The 'Quantity Function' is 'Stock on-hand', and the 'Direct ATT/ATR Quantity' is empty. The 'Allocation Mode' is 'No LPN Allocation, Prioritize Pick UOM'. The 'User Defined' checkbox is unchecked, 'Enabled' is checked, and 'Common to All Orgs' is checked. Below these are tabs for 'Restrictions', 'Sort Criteria', and 'Consistency'. The 'Restrictions' tab is active, showing a table with two rows of restrictions.

Seq	And/Or	(	Object	Parameter	Operator	Object	Parameter / Value / LOV	Value	)	[ ]
10		(	Lot	Expiration Date	<=	Date	Current Date	+30		
20	And		Item	Shelf Life Control C	<>	Constant number	1			

Use the WMS Rules window to set up any of the six rules types:

- Cost Group Assignment
- Label Format
- Operation Plan Selection
- Pick

- Put away
- Task Type Assignment

Setup for picking and put away rules differs from the setup for cost group, task type, label assignment, and operation plan selection rules. Picking and put away rules require a quantity function and use an optional sort criteria, while the assignment-type rules require a return value. Picking rules also have optional consistency requirements as well as the choice of allocation modes.

In the header section of the Oracle Warehouse Management Rules window, you select the type of rule to define. You also specify a name and description for the rule, and the quantity function or return value. If you are creating a picking rule, you also specify the allocation mode for the rule.

All rules must be enabled before you can use them. Therefore, you must enable the rule before the system can consider it for use in a strategy. You must also enable a rule before you can assign it in the Rules Workbench. After the rule is enabled, the system also evaluates the rule syntax to ensure it is valid.

**Note:** After you enable a rule, you cannot change it. Furthermore, rules that you assign to a strategy cannot be disabled. To modify a rule already assigned to a strategy, you must disable the strategy and then disable the related rule. If an enabled rule has not been assigned to a strategy and you need to modify it, clear the Enabled check box.

In the Rules Workbench window, you can also enable rules that are not assigned to strategies. (A rule can be used even if it is not assigned to a strategy.) For example, in the Object field, you can select Stock on-hand then the parameter Material Status to create a rule restriction that affects on-hand stock.

You can optionally make the rule available to all of the organizations in your company. If you enable a picking or put away rule in all organizations, then other organizations can include it in strategies. If you make a task type, label format, and operation plan selection rules available to all organizations, then all organizations will use the rule, because there are no strategy assignments for these types of rules.

The rules engine comes seeded with several basic rules. For seeded rules, the User Defined check box is clear. You cannot edit seeded rules, but you can use the rule copy function on the Tools menu to copy a rule.

To locate existing rules, use the Find Rules window. Use any of the following fields to narrow your search:

- Type
- Name

- Description
- Weight
- User Defined
- Enabled

## Restrictions Tab

You specify the business objects, their related parameters, and the restrictions of the rule. Each line in corresponds to a restriction on the Restrictions tab. You use the AND and OR operators to join multiple lines of restrictions. You use the open and close parenthesis to create complex compound statements. The Sequence Number field in this window, enables you to specify the sequence in which the restrictions are linked together.

**Note:** When you set up restriction sequence numbers, consider a numbering scheme, such as 10, 20, 30. This enables you to easily add more restriction lines, if necessary.

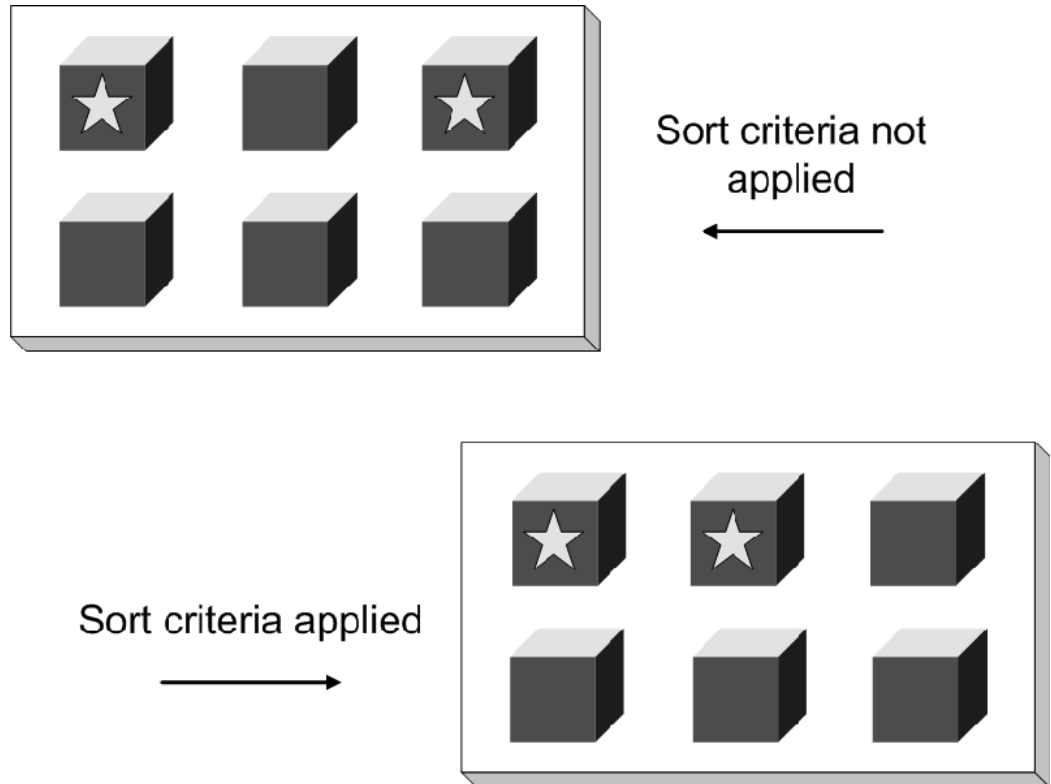
For example, in the Object field, you can select *Stock on-hand* then the parameter *Material Status* to create a rule restriction that affects on-hand stock.

## Sort Criteria Tab

The Sort Criteria tab enables you to impose an order on the criteria returned that meet the restrictions in your rule. The figure below provides an example of the results of applying a sort criteria to a picking rule. In the example, assume that you want to pick cases of an item in stock. In this case, also assume that multiple cases of the item are in stock. To determine how the items that meet your rule's restrictions should be picked, you specify a sort criteria based on FEFO (first expired, first out).

If the blocks with stars in them represent cases of items that will be expiring within the next week, and the blocks that do not include stars represent cases that will expire at the end of the month, the system would suggest picking based on the order that you specified in the sort criteria.

In this example, the first set of blocks shows the unsorted items that meet the rule's restrictions. The second set of blocks shows this same set of items, but with the sort criteria applied to them. If the pick task required that three cases be picked, the system would suggest picking the two expiring cases first, and one of the cases that expires later in the month.



You can specify multiple sort criteria. To break any ties that might occur at a level, the system considers subsequent sort criteria in ascending order.

## Consistency Tab

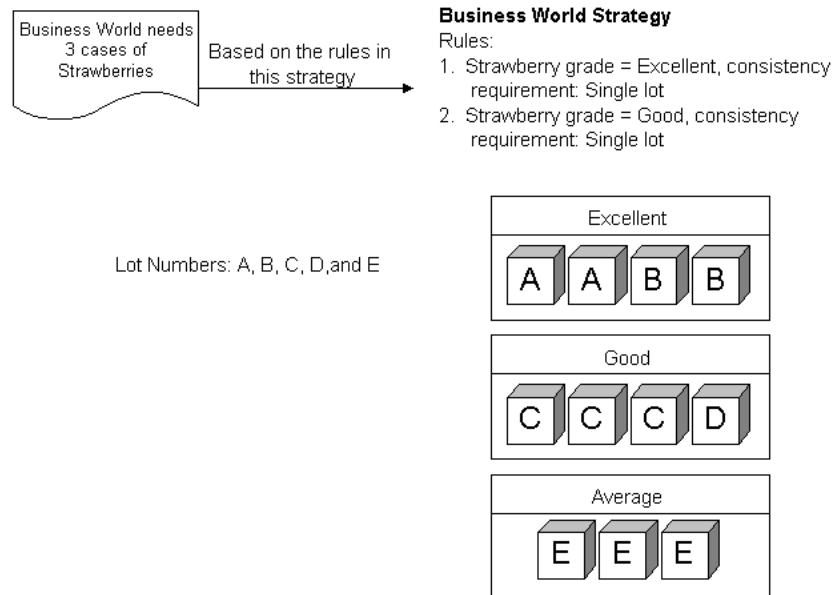
A consistency requirement is used to indicate that all allocations for a particular line must have a common criteria. The most typical use of consistency requirements is a customer that requires that for a particular item, they will only accept a single lot; thus, in this scenario, a quantity of mixed lots, would be unacceptable. Consistency requirements can also be used for lot attributes and for many other attributes of an allocation.

The Consistency tab enables you to specify that all of the allocation lines must have the same value for a particular attribute. For example, you might decide that the specific lot that gets allocated to a customer is not important, so long as their order for 1000 items gets filled by exactly one lot. Specifying consistency requirements can help you to optimize your warehouse. For example, you can set up a consistency requirement that allocates a pick to just one locator, or just one revision, or one subinventory, and so on.

The following figures provide a three-part example of the effects of using a consistency option.

Assume that a customer, Business World requires that although they prefer Excellent-grade strawberries over Good-grade strawberries, it is more important that all of their order come from a single lot of strawberries. Also assume that Business World

has just submitted a sales order for three cases of strawberries. The following figure shows the rules associated with this example, and the available quantity in each of the three grade categories, Excellent, Good, and Average.



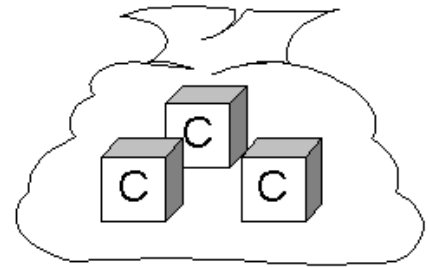
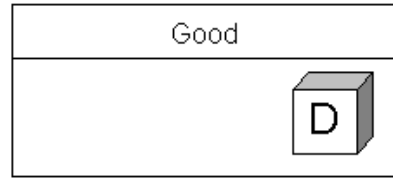
Oracle Warehouse Management first applies the rule restrictions to the available strawberries. Business World will not accept Average-grade strawberries so those quantities are not considered. The first rule in the restriction states Excellent Only and a consistency requirement of Single Lot. Because there are not enough Excellent-grade strawberries in a single lot to satisfy the first restriction, the Oracle Warehouse Management Rules Engine proceeds to the next rule in the strategy.

The second rule specifies Good Only and a consistency requirement of "Single Lot." There are enough Good-grade strawberries in a single lot (lot C), to satisfy the requirements of the second rule's restrictions.

So, the rules engine allocates three cases from lot C. The following figure illustrates the results of this allocation.



Shipped to Business World:  
3 cases of Good quality strawberries, based on the restrictions set forth in the second rule restriction that required "Good" quality strawberries from a consistent lot.



To Business World

In this example, Business World valued receiving a single lot over receiving Excellent-grade strawberries. However, it is also possible to model other preferences. For example, another scenario might have illustrated that Business World preferred to receive Excellent-grade strawberries—from mixed lots—before it considered accepting Good-grade strawberries. You can model all of this using the Oracle Warehouse Management Rules Engine.

## Task Type, Label Format, and Operation Plan Selection Rules

You use the WMS Rules window, page A-1 to set up task type, label, and operation plan selection rules. These types of rules do not require strategies; however, they do require that you assign a weight. Later, the system uses this weight to evaluate which rule to carry out first. The higher the number is, the higher the rule weight. For these types of rules, both the Sort Criteria and Consistency tabs are disabled.

## Picking Rule Allocation

The Allocation Mode field is available only for picking rules. There are four allocation modes available for picking rules, including the following:

- No LPN Allocation, page 2-14
- No LPN Allocation, Prioritize Pick UOM, page 2-14
- Allocate LPN and Loose, page 2-15
- Allocate Entire LPN Only, page 2-16
- Strict Pick UOM, page 2-17

## No LPN Allocation

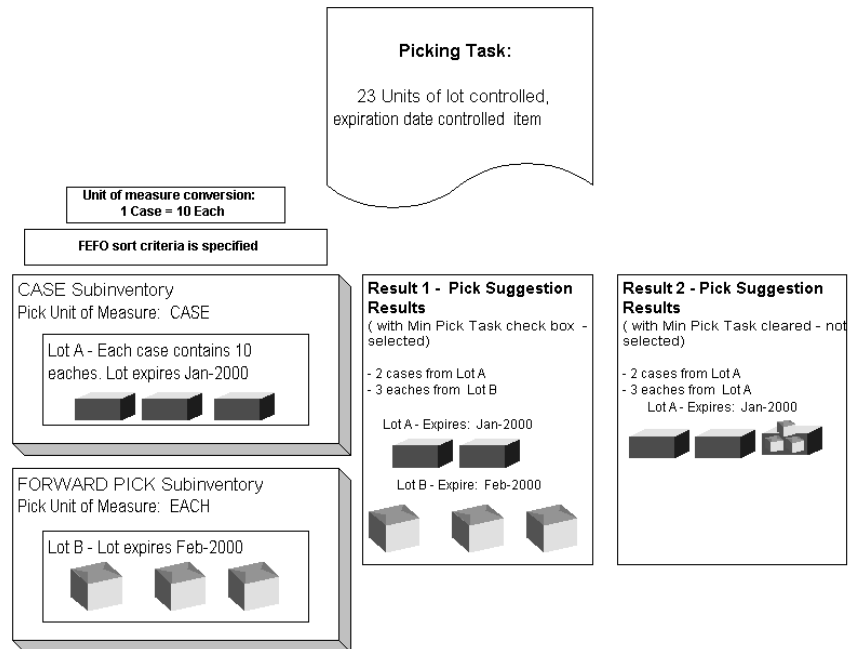
This allocation mode allocates both packed and loose material, but does not allocate material at the LPN level. The system considers loose and packed material as equal. The system does not suggest an LPN to the operator who performs the task. If there is both loose and packed material available in the suggested locator, the choice is left to the operator to determine how to perform the pick.

**Note:** If an LPN is reserved for a particular sales order, then the allocation will be made to the LPN detail level, so long as the rule restrictions and consistency requirements are met, even if the allocation mode is No LPN Allocation.

## No LPN Allocation, Prioritize Pick UOM

Similar to rules made in the No LPN Allocation mode, this allocation mode does not allocate to the LPN detail level. The system considers loose and packed material equally, subject to the sort criteria and restrictions, and the operator determines which combination of loose and packed material from a suggested locator to fulfill the allocation. In addition, this allocation mode honors the pick unit of measure for a subinventory before it considers the sort criteria in the rule. The figure below provides an example of the results of selecting this allocation mode for a picking rule.

**Note:** This allocation mode works best for material that is not lot or revision controlled, and when either LPNs are not used or all LPNs are of a standard pack size which is defined as the Pick Unit of Measure. Also, if an LPN is reserved for a particular sales order, the allocation will be made to the LPN detail level, so long as the rule restrictions and consistency requirements are also met, even if the allocation mode is No LPN Allocation, Prioritize Pick UOM.



For example, assume a picking task requires 23 units of a lot controlled, expiration date-controlled item. The sort criteria for the rule specifies picking by the first expired, first out (FEFO) method.

In this example, two subinventories exist from which to fulfill the pick: a CASE subinventory and a FORWARD PICK subinventory. If you select the If No LPN Allocation, Prioritize Pick UOM allocation method, then the rules engine prioritizes the picking task by the pick unit of measure specified at the subinventory (Result 1). In Result 1, which assumes that No LPN Allocation, Prioritize Pick UOM is selected, the system suggests picking two cases from the CASE subinventory and three eaches from the EACH subinventory.

In Result 2, which assumes No LPN Allocation, Prioritize Pick UOM is not selected, the rules engine prioritizes the pick task based on the sort criteria defined for the rule. In this result, the system suggests picking the full order from Lot A, which expires before Lot B.

## Allocate LPN and Loose

This allocation mode is useful when the system should suggest particular LPNs to allocate. Using this allocation mode, both loose and packed material is considered equally. However, if material that has been allocated resides in an LPN, then that LPN will be indicated on the allocation record, and the task will be for that particular LPN. In other words, instead of leaving it to the operator to select one of potentially many LPNs that contain the required item, the Rules Engine chooses a particular LPN.

Rule restrictions can be built based on details of an LPN, for example only LPNs that

are associated with a particular container item are allocated for particular customers, or only LPNs that do not have mixed items, mixed revisions, or mixed lots are allocated. In addition, sort criteria can be used to indicate that packed, or loose, material should be preferred by the system. This allocation mode will allocate loose material, partial LPNs, multiple partial LPNs, or full LPNs subject to the sort criteria and restrictions and LPN availability.

Only the innermost LPNs that contain the items are allocated, so when LPNs are nested the allocation will be made to the innermost LPN only.

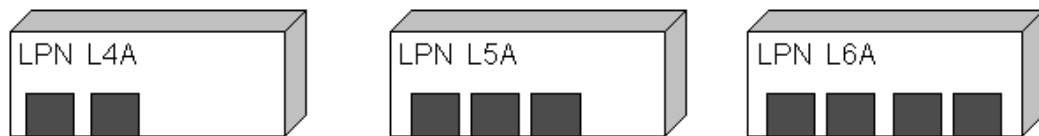
### Allocate Entire LPN Only

This allocation mode will allocate only LPNs that can be entirely consumed by the allocation. This allows a warehouse to take full advantage of the way material is already packed in the warehouse, particularly when LPNs contain mixed lots. Using this allocation mode, customer exclusions or inclusions based on lot attributes or other restrictions can be honored while selecting the single (or multiple) best LPNs that meet the customer requirements.

This allocation mode only considers packed material. It also does not consider any LPNs which can not be fully allocated for a single move order line, so LPNs that contain mixed items, that are partially reserved or allocated to other requirements, or that have a quantity greater than the allocation quantity are immediately discarded.

This allocation mode is best used when the LPNs are all a standard size, because the Rules Engine does not perform any best fit algorithm.

Consider the following example:



Suppose a sales order for 5 of an item were placed, and there are 9 pieces available in 3 LPNs. The LPNs are as follows: L4A qty 2, L5A qty 3, and L6A qty 4.

Suppose the Rules Engine allocated LPN L6A first, either because that is the LPN that the Rules Engine happens to come across first or because of the sort criteria that are indicated in the rule. There is a qty of 1 left to be allocated, but neither L4A nor L5A can be entirely consumed by the task so the remaining quantity of 1 is backordered.

The Rules Engine does not have visibility to the fact that L4A and L5A would make an exact fit; it only allocates in the sequence determined by the sort criteria, or in the absence of a sort criteria that differentiates different material or LPNs, in an arbitrary sequence. While a sort criteria indicating to sequence LPNs by ascending order of their on-hand quantity would produce the correct results in this example, there are other examples in which this sort criteria would not produce the correct results.

Consistency requirements impose an all-or-nothing requirement on the allocations. If the item in the example above were a lot controlled item, all 9 were of the same lot, and

the rule with Allocate Entire LPN Only allocation mode also indicated consistent lot, then the nothing would be allocated, because as in the example above, the Rules Engine would be unable to allocate all 5 required.

Only the innermost LPNs that contain the items are allocated, so when LPNs are nested the allocation will be made to the innermost LPN only.

## Strict Pick UOM

If you enable pick UOM, a pick UOM, and a picking rule, then you can enable a strict pick UOM allocation for the item. If you enable strict pick UOM allocation, then the system does not break the standard pack (pick UOM). It assumes that subsequent replenishments will allocate the balance quantity. For example, you have a demand for 49 EA and your warehouse stocks pallets in a BULK subinventory with pick UOM Pallet (1 Pallet = 10 EA). The following table illustrates how the system allocates the material if you select strict pick UOM allocation.

Subinventory	Pick UOM	Onhand Quantity	Result with Strict Pick UOM
Bulk	Pallet= (10 EA)	90 EA (9 Pallet)	40
Each	EA	6 EA	6
			46 EA is allocated. The remaining quantity of 3 remains unallocated because the of the allocation rule.

## Process Allocation Logic

You can create rules and allocate material according to specific process manufacturing allocation requirements such as grade, lot, and dual unit of measure. The following table shows the process manufacturing allocation criteria:

Rule Type	Description
FEFO / FIFO	Directs user to pick lots based on earliest lot creation date (FIFO) or lot expiration date (FEFO)

Rule Type	Description
Lot Indivisible	If you set the Lot Divisible attribute to No on the Item Master, the allocation engine attempts to allocate only entire lots until the required quantity is fulfilled. The allocation must be within shipping tolerances for sales orders. For manufacturing orders the rules engine over-allocates only if you enabled over picking for manufacturing.
Shelf Life Days	Directs the system to allocate material before it expires. For example, in process production, if the expiration date of an ingredient lot is greater than the transaction date + shelf life days, then the system allocates the lot to the batch.
Partial Allocation	You can partially allocate part of the requested quantity if sufficient inventory is not available to fulfill the requested quantity.
Grade Matching	You can allocate material according to preferred lot grade. If you specify a preferred grade on a sales order line, the system allocates lot of this grade.
Customer Specification Matching	The system allocates inventory only if quality results match the customer specification.

### Dual Unit of Measure Allocation

If the item is under dual unit of measure (UOM) control, then the system uses the primary unit of measure for allocation. For example, if item FG1 has a primary UOM of EA and a secondary UOM of LB, and a sales order exists that requires 2 KG of the item, then the allocation engine converts the quantity in KG to EA and allocates the required quantity in EAs. The system allocates the secondary quantity based on the conversion between EAs and LBs. If lot specific UOM conversions exist for the item, then the actual allocated quantity in the secondary UOM could differ from the standard conversion.

### Related Topics

Defining ATP, Pick, Item-Sourcing Parameters, *Oracle Inventory User's Guide*

Inventory Attribute Group, *Oracle Inventory User's Guide*

Lot Specific Unit of Measure Conversions, *Oracle Inventory User's Guide*

## Defining WMS Rules for Logistics Service Providers (LSPs)

You can define client-specific WMS rules to carry out picks, put aways, label printing, and task management. You can define a specific client category and associate the category to items and use this category to define client-specific rules. In the case of picking and put away, you can define a client-specific rule or strategy by using the key flexfield established during LSP setup to store the client reference. To create the picking rule, use the item object and the key flexfield as one of the parameters. After you define the rule or strategy, then you can assign the rule or strategy in the Rules Workbench by item or by category.

## Picking Rules for Oracle Warehouse Management Enabled Project Manufacturing Organizations

To support environments where cross project picking is required but intelligent allocation is desired, four picking rules and one picking strategy have been seeded with Oracle Warehouse Management. When an existing Oracle Warehouse Management organization is enabled for Project Manufacturing, or when a Project Manufacturing organization is Oracle Warehouse Management enabled, the seeded strategy, Project Manufacturing Allocation Preferences, will be assigned to the organization. Thus, picking will work according to this strategy, out of the box.

The screenshot shows the 'WMS Strategies (WV1)' window. At the top, the 'Type' is set to 'Pick'. The 'Name' is 'Project Manufacturing Allocation Preferences' and the 'Description' is 'Prefer same task, then project, then planning group, then common, then anythi'. Below these fields are three checkboxes: 'User Defined' (unchecked), 'Strategy Enabled' (checked), and 'Common to All Orgs' (checked). A small icon is visible to the right of these checkboxes.

Below the configuration fields is a table titled 'Rules'. The table has columns for 'Seq', 'Rule Name', 'Partial Success Allowed', 'Effective Dates' (with sub-columns 'Date Type', 'From', and 'To'), and 'Common To All Orgs'. There are five rows of rules, each with a sequence number and a rule name. The first five rows are: 10 'Same Project, Same Task', 20 'Same Project', 30 'Pick Common Stock', 40 'Same Planning Group', and 50 'Seeded Default pick rule'. Each of these five rules has 'Partial Success Allowed' checked, 'Date Type' set to 'Always', and 'Common To All Orgs' checked. Below these are five more rows, each with an empty 'Seq' field, an empty 'Rule Name' field, 'Partial Success Allowed' unchecked, and 'Common To All Orgs' unchecked. At the bottom of the window, there is a 'Description' field with the text 'Pick from Same Project & Task as Sales Order Line'.

Seq	Rule Name	Partial Success Allowed	Date Type	From	To	Common To All Orgs
10	Same Project, Same Task	<input checked="" type="checkbox"/>	Always			<input checked="" type="checkbox"/>
20	Same Project	<input checked="" type="checkbox"/>	Always			<input checked="" type="checkbox"/>
30	Pick Common Stock	<input checked="" type="checkbox"/>	Always			<input checked="" type="checkbox"/>
40	Same Planning Group	<input checked="" type="checkbox"/>	Always			<input checked="" type="checkbox"/>
50	Seeded Default pick rule	<input checked="" type="checkbox"/>	Always			<input checked="" type="checkbox"/>
		<input type="checkbox"/>				<input type="checkbox"/>
		<input type="checkbox"/>				<input type="checkbox"/>
		<input type="checkbox"/>				<input type="checkbox"/>
		<input type="checkbox"/>				<input type="checkbox"/>
		<input type="checkbox"/>				<input type="checkbox"/>

Description: Pick from Same Project & Task as Sales Order Line

When allocating a work order or sales order this strategy searches for material in the following order:

- It attempts to find on hand material in the same project and task as that on the sales order or WIP job/schedule
- It will attempt to find material in the same project, without regards to the task
- It will attempt to allocate material from common (non-project and task) inventory
- It will attempt to allocate material from another project where the project assigned to the inventory is the same planning group as the project on the sales order
- Failing all of the above, the strategy will allocate any available material regardless of project or task

**Note:** This strategy can also be useful if a sales order or WIP job/schedule, without a project reference (common), is pick released. The strategy will first try to allocate common material and failing that, it will allocate any available inventory regardless of project. This is because rule sequences 10, 20, and 40 will not return any results, but rule sequences 30 and 50 will execute properly.

This strategy uses four seeded picking rules. These rules can be used 'as is' within a user-defined strategy. No modifications are necessary to make these rules behave, as



defined below, as restrictions. All of the four rules are applicable for Project Manufacturing organizations only.

- Same Project, Same Task

This rule ensures that only material that is for the same project and task as that on the move order line is allocated.

**Note:** The project and task on the move order line comes from the project and task on the sales order or WIP job/schedule for which the move order was created.

- Same Project

This rule ensures that only material that is for the same project as that on the move order line is allocated. The task on the sales order or WIP job/schedule and the task on the on-hand inventory will not be taken into account.

- Pick Common Stock

This rule will only allocate material in a locator with no project and task (regardless of the project and task on the sales order or WIP job/schedule.)

- Same Planning Group

This rule will allocate material in a project whose planning group is the same as that of the project on the sales order or WIP job/schedule.

## Setting Up Pick Wave Rules

Setting up pick wave rules includes the following tasks:

- Setting up pick slip grouping rules, page 2-21
- Setting up release sequences, page 2-21
- Setting up release rules, page 2-21

Use the Pick Slip Grouping Rules window to set up pick methodologies.

For instructions on setting up pick slip grouping rules see: Defining Pick Slip Grouping Rules, *Oracle Inventory User's Guide*.

Use the Release Sequence Rules window to set up rules that specify the priority in which you want the system to consider pick line releases. You can prioritize picking lines by the following criteria:

- Order number
- Outstanding invoice value

- Departure date
- Schedule date
- Shipment priority

You set up release rules to specify the release criteria that you want the system to consider during pick release. Release rules specify the following release criteria:

- Order, either for all, backordered, or un-released orders
- Shipping, including specifying the carrier and ship from location
- Inventory, including specifying the warehouse and pick slip grouping rule

## Setting Up Release Rules

1. Navigate to the Release Rules window.
2. Enter the name of the release rule.
3. In the Release Criteria region, Order tab, select the type of order (either All, backordered, or un-released) to which this rule applies.
4. Specify any optional order information, such as order type, in the remaining fields on this tab.
5. Select the Shipping tab.
6. On the Shipping tab, enter optional shipping information, such as the carrier and ship-from location.
7. Select the Inventory tab.
8. On the Inventory tab, enter optional inventory information, such as the Ship-from warehouse, and pick slip grouping rule.

**Note:** Although optional, if you want the system to consider your warehouse and pick slip grouping rule, you should at least complete these fields, on the Inventory tab.

9. Save your work.

## Related Topics

Defining Release Sequence Rules, *Oracle Shipping Execution User's Guide*

## Oracle Warehouse Management Strategies Window

After you define your rules, you must set up a strategy and then associate the applicable rules. After you assign rules to a strategy, the rules engine can execute the strategies on any objects to which the strategy applies. The rules engine executes each subsequent rule in your strategy until an allocation is completely filled.

After the rules engine finds a strategy, it will not continue to another strategy if the task cannot be fulfilled based on the first strategy. Therefore, unless you want the strategy to fail if specific restrictions are not met, the last rule in your rule strategies should be a default rule that includes no restrictions. You set up strategies in the Oracle Warehouse Management Strategies Window, page A-1.

The screenshot shows the 'WMS Strategies (W1)' window. At the top, there are fields for 'Type' (set to 'Put away'), 'Name' (set to 'Put away to Item Pick Locator>CASE sub>BULK sub>anywhere'), and 'Description' (set to 'Put away to Item Pick Locator>CASE sub>BULK sub>anywhere'). Below these are three checkboxes: 'User Defined' (checked), 'Strategy Enabled' (checked), and 'Common to All Orgs' (unchecked). A '[ ]' button is on the right.

Below the configuration fields is a table titled 'Rules'. The table has columns: 'Seq', 'Rule Name', 'Partial Success Allowed', 'Date Type', 'Effective Dates' (with sub-columns 'From' and 'To'), 'Common To All Orgs', and a final column with a dropdown arrow. The table contains five rows of rules:

Seq	Rule Name	Partial Success Allowed	Date Type	Effective Dates	Common To All Orgs	
				From	To	[ ]
5	ISAT Rule	<input checked="" type="checkbox"/>	Always			<input type="checkbox"/>
10	Item Locator (pick location) Putaway	<input checked="" type="checkbox"/>	Always			<input type="checkbox"/>
20	Put away to CASE Subinventory	<input checked="" type="checkbox"/>	Always			<input type="checkbox"/>
30	Put away to BULK Subinventory	<input checked="" type="checkbox"/>	Always			<input type="checkbox"/>
40	Default Put away	<input checked="" type="checkbox"/>	Always			<input type="checkbox"/>
		<input type="checkbox"/>				<input type="checkbox"/>
		<input type="checkbox"/>				<input type="checkbox"/>
		<input type="checkbox"/>				<input type="checkbox"/>
		<input type="checkbox"/>				<input type="checkbox"/>
		<input type="checkbox"/>				<input type="checkbox"/>

At the bottom of the window, there is a 'Description' field with the text 'ISAT Rule'.

When you define strategies, verify that the User Defined check box is selected; for seeded strategies, the User Defined check box is clear. You cannot modify system defined strategies, however you can copy them using the strategy copy function located in the window's tool bar.

Make sure you enable the strategies so that the strategies can later be assigned in the Rules Workbench. To add rules strategy, you specify a sequence number in which you want the rule to be considered (within the strategy) and then use the list of values in the Rule Name field to select the rule that you want to add.

The Partial Success Allowed check box enables the system to only partially fulfill the requirements of a rule's allocation, and then move onto the next rule in the strategy.

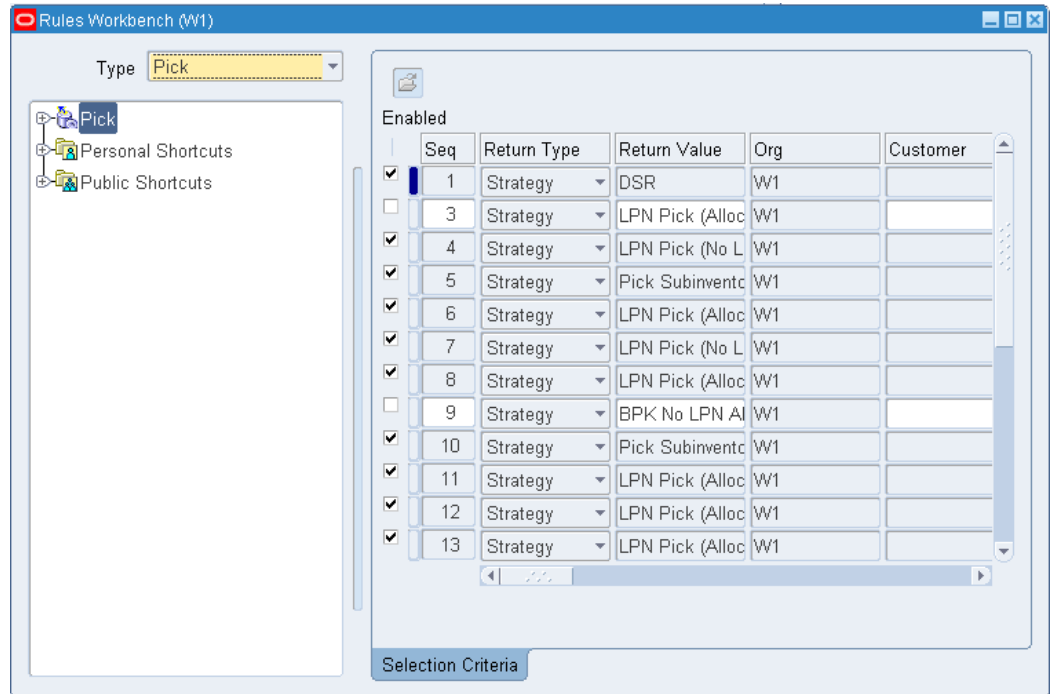
**Note:** Enabled strategies cannot be modified. To modify a strategy, you must disable the strategy by clearing the Strategy Enabled check box.

## Rules Workbench

The Rules Workbench enables you to assign strategies, rules, and cost group values directly to any number of objects in an assignment matrix.

The Rules Workbench provides you with the following functionality:

- Add, update, or delete strategies, rules, and cost group values in the selection criteria
- Enable and disable selection criteria in the assignment matrix
- Hide and show columns of the strategy selection matrix based on user preferences
- Query where a rule, strategy, or cost group value is assigned
- Assign crossdock criteria to business objects for planned and opportunistic crossdocking. For more information on creating crossdock criteria, see Crossdock Criteria, page 6-13.



The Rules Workbench is comprised of two regions:

- Rules Workbench Tree

Rules Workbench tree displays a view of all the rules and strategies that are available in the organization.

In the Rules Workbench, a rule type to view to assign The Rules Workbench contains the following rule types:

- Pick
- Put Away
- Cost Group
- Planned Crossdock
- Opportunistic crossdock
- Cartonization

Expand the Rule Type node in the tree to see a list of all valid rules and strategies you can use in the organization. The strategies can then be expanded to see the rules that are used for that strategy.

You can hide the tree from view so that a greater area of the window is available to make the return type assignments.

- Rules Workbench Matrix

You assign rules to business objects in the rules workbench matrix. You identify the return type, which is a strategy, rule, or value and the name of the strategy, rule, or value.

You enter the specific strategy to execute, date effectivity, and sequence. The rules workbench uses the other columns to indicate under what conditions each assignment is applicable. You can also make assignments based on supplier, item, item category, transaction type, user, unit of measure, project, and many other objects. The values in each field are restricted to valid values for the organization.

The organization column always defaults to the current organization and cannot be changed because all rule assignments are organization specific.

## Rules Engine Behavior

The Rules Engine evaluates the assignments in the Rules Workbench, after filtering out any assignments that are not enabled or not currently effective. The remaining assignments are evaluated in the user-defined sequence, and the system returns the first return type in which all the values in the assignment match the attributes of the record in the Rules Engine.

If the Rules Engine returns a strategy instead of a rule, then the system evaluates the rules in the strategy in sequence. If after the Rules Engine evaluates all the picking or putaway rules in a strategy, and the allocation is not wholly allocated, then the remaining quantity remains unallocated. If the system cannot find a cost group rule in the strategy, then the system uses the default cost group for the subinventory. The Rules Engine never attempts to retrieve a second strategy from the Rules Workbench. If it cannot find a match then the system uses the default picking and put away rules for the organization, and the default cost group for the subinventory.

## Rules Engine Simulator and Rules Execution and Trace

The Rules Engine Simulator and Rules Execution Trace windows list the strategy assignment that was selected by the Rules Engine, by displaying the Rules Workbench within the respective windows and highlighting the selected row.

### How to use the Rules Workbench:

1. Navigate to the Rules Workbench.
2. Select the rule type to use to view assignments.

The types that are available are pick, put away, cost group, opportunistic crossdock, and planned crossdock.

3. The Rules Workbench is folder enabled so that objects not applicable to your organization can be hidden to make defining strategy assignments easier. For

example, project and task would only be used in a project manufacturing organization.

**Note:** Validation on defining a folder has been enabled to ensure that you do not hide fields for which any assignments have already been made for that rule type. For example, you cannot make a strategy assignment to the Destination Subinventory object, and then hide the Destination Subinventory column.

4. Enter the Sequence.

Sequence controls the order in which the strategy assignments are evaluated. The sequence must be unique within the rule type and organization.

5. Enter the return type. You can enter a strategy, rule, or value.

6. Enter the return value. This is the name of the rule, strategy, or cost group.

7. Enter any of the following combination of values to assign your rule or strategy. These parameters determine how the rules engine returns suggestions for allocations. The available values are:

- Organization
- Customer
- Item
- Item category
- Item type
- Assignment group
- Source subinventory
- Supplier
- Order type
- Freight code
- Project
- Task
- User

- UOM
  - Transaction action
  - Destination subinventory
  - Transaction reason
  - Transaction source
  - Transaction type
  - UOM class
8. Enter the Date Type. This determines how long the rule or strategy remains active. If you choose something other than ALWAYS, optionally enter a from and to date for the rule or strategy to remain active.
  9. Select the Enabled check box. You can enable or disable each return type. The Rules Engine evaluates only enabled rows, and you can modify or delete only disabled rows.
  10. Save your work.

## Explaining the Oracle Warehouse Management Rules Engine Simulator

The Oracle Warehouse Management Rules Engine Simulator enables you to create and debug the picking and putaway setup for the rules engine. Individual rules or strategies, as well as the entire process including strategy selection, can be performed for allocation of material for picking, allocation of space for putaway, or both. The Simulator enables you to select a rule, strategy, or entire process, and then select a move order line to simulate against. Any existing move order is eligible for simulation. The output is displayed in tabular format, including which lot numbers, revision numbers, and serial numbers were allocated, if applicable.

The Rules Engine Simulator has several modes. These modes determine which part of the rules engine processes that you want to simulate, which in turn determines which types of move orders are valid. You can simulate the following:

- Picking rule - You indicate which rule should be used in order to allocate material for a move order. If the move order cannot be filled in its entirety by this rule, then only the quantity that can be fulfilled is shown in the results.
- Picking strategy - You indicate which strategy should be used in order to allocate material for a move order. The Simulator then traverses the rules in that strategy, in sequence, as the rules engine would do. If the move order cannot be filled in its entirety by this strategy, then only the quantity that can be fulfilled



is shown in the results.

- Picking process - You can simulate the entire material allocation process. The Simulator finds a picking strategy, and then executes the rules in the strategy in sequence, as is done by the rules engine.
- Put away rule - Same as a picking rule.
- Put away strategy - Same as a picking strategy.
- Put away process - Same as a picking process.
- Entire process - You can simulate the entire picking and put away process.

Any move order that allocates material can be selected to simulate a picking rule, a picking strategy, or the picking process. These include move order transfers, move order issues, and picking lines from a sales order. In addition, a put away rule, a put away strategy, or the put away process can be simulated on move order transfers, picking lines from a sales order, put away from WIP, or receiving. The type of move order that can be simulated is dependent on the type of simulation. There are three types to simulate:

- A pick simulation (rule, strategy, or process) can be performed for any unallocated move order that requires material, such as a replenishment move order, a manual move order or a sales order picking move order.
- A put away simulation (rule, strategy, or process) can be performed for any unallocated move order that requires only material to be put away, such as a WIP completion, or a purchase order receipt.
- A simulation of the pick and put away entire process can be performed for any unallocated move order for which there is a material movement of both a pick and put away, including sales order staging transfers, replenishments, and manual move orders.

In order to perform a simulation, the Rules Engine Simulator requires a move order that has not yet been allocated. An unallocated move order can be obtained in several ways, including the following:

- For a pick wave move order, release the sales order with the Auto-Allocate flag disabled on the Inventory tab of the Pick Release window
- For a put away move order from receiving, perform a purchase order receipt of a standard, or inspection, purchase order but do not perform the actual put away transaction
- For a WIP completion move order, perform a WIP completion into an LPN without the drop step on the mobile device

- For a manual move order, do not allocate the move order through the Transact Move Orders or through any other method

The output of the Rules Engine Simulator is a list of suggestions. In the case of picking or when the entire process is simulated the following data is displayed:

- Source - What subinventory/locator the material came from
  - Cost group - Which cost group the material was allocated from
  - Lot - If the material is lot controlled, which lots were allocated and information about the lots
  - Revision - If material is revision controlled, which revision was allocated
  - Serial - If material is serial controlled, and serial allocation is enabled for the organization, which serials were allocated and information about the serials
- Rule used - Which rule was used for each allocation line
- Strategy used - Which strategy was used for the process

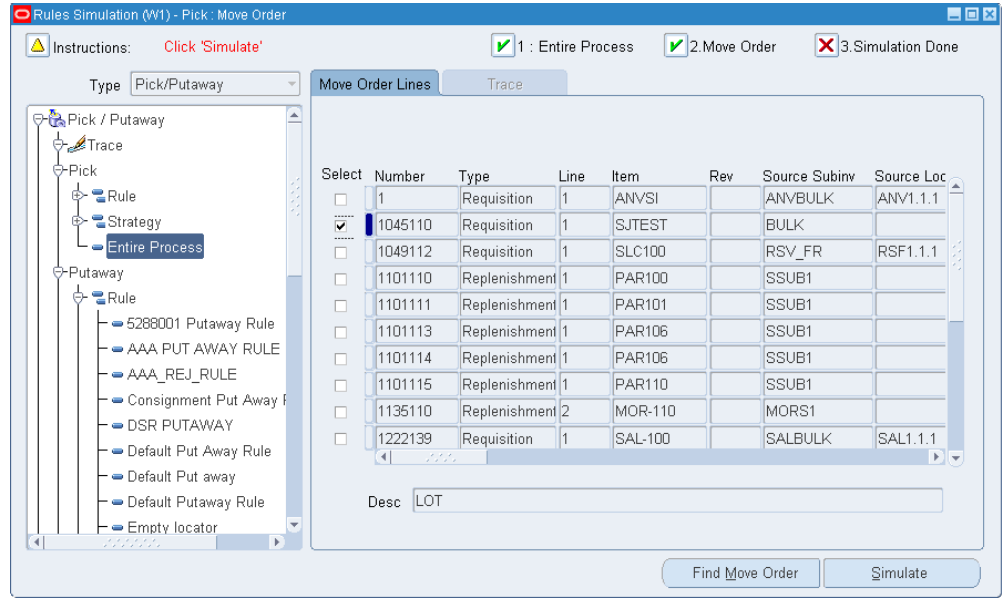
In the case of put away or when the entire process is simulated, the following data is displayed:

- Destination - What subinventory/locator the material is going to
  - Rule used - Which rule was used for each allocation line
  - Strategy used - Which strategy was used for the process

### **Performing a Simulation:**

The Simulator window contains four unique guidance tools. The first tool is the Instructions. You will notice, in the top left corner of the window, an icon that is titled Instructions. This area of the window will help to guide you through the necessary steps needed to perform a simulation. The second tool is at the top middle and right of the window. These icons are labeled 1 Entire process, 2 Move Order and 3 Simulation Done. These icons will change from a red X to a green check mark when each task has been completed. For example, when you select the type of process you want to simulate, the Entire Process icon will change to a green check mark. When you have selected the move order, the Move Order icon will be changed to a green check mark and so on.

1. Navigate to the Rule Simulation, page A-1 window



2. Select the simulation mode that you want to use by selecting the appropriate node on the tree. (Disabled rules or strategies cannot be simulated and are indicated on the tree with a different icon.)
3. Select Find Move Order. This will enable you to find all move orders that meet your selected criteria. (Only unallocated move orders are available.)
4. Select which move order, returned by the query criteria, should be simulated. (Only one move order can be simulated at a time.)
5. Select Simulate. This will begin the simulation process.

The output of your simulation is displayed on several tabs including:

- Source loc, which displays where the material comes from
  - Destination loc, which displays where the material is put away to
  - Lot, which displays lot information if applicable
  - Serial, which displays serial information if applicable
  - Strategy assignments

The initial move order tab is still displayed so that you can switch to other move orders that you want to simulate. Or, if conditions have changed in the warehouse, you can select Simulate again to re-simulate the move order without having to reset the Simulator window. For example, these changes may include receiving additional material into the warehouse or changing the rule definition. Note that

the data displayed on the move order tab is all the data that is included on the move order before any allocations have been made. This data will not be changed by the Simulator, and all suggestions provided by the rules engine must match the data already on the move order.

**Note:** The output on the Simulator is displayed in the same order that the rules engine allocated the material. There is a one-to-one relationship between the lines on the various tables. For example, if you are simulating a transfer and line 1 of the source locator tab is from locator A, quantity 100, then line 1 of the destination locator tab is for that entire quantity, and line 1 of the lot tab is for that material movement.

### Explaining Rules Trace:

After a simulation has been successfully completed, trace details of the Rules Engine execution are available for further information on why specific material was excluded from consideration. The trace output provides this information in an easy-to-use format.

1. Complete a rule simulation.
2. Select the Trace Node at the top of the tree in the Rules Engine Simulator window.
3. The following explains the differences between a trace performed on a rule simulation, strategy simulation, and an entire process simulation:
  - If a rule was simulated, the tree will have only the rule in the tree, and that rule will be marked by a green check mark to indicate that it was used.
  - If a strategy was simulated, the tree will display the strategy and the rules under it. Any rules that were used for allocating the move order will be marked with a green check mark, while any rules for which material met the restrictions but was rejected for other reasons will be marked with a red "X". Rules that returned no material, or which were not used at all are not marked with an icon.
  - If the entire process was simulated, the tree will display the Pick Selection criteria, Putaway Selection criteria, or both depending on the rule engine node simulated. If either the Pick Selection criteria or Putaway Selection criteria is selected, the Trace tab displays the assignment matrix from the Rules Workbench. If the selection in the assignment matrix is a strategy, the selection criteria node can be expanded to show all the rules within the strategy.

When a rule that was used by the simulation (as indicated by the check mark) is highlighted in the tree, the pre-suggestions used by the Rules Engine in making the allocation are displayed. Pre-suggestions are on-hand records that met the rule

restrictions, but then must go through additional validation before they are actually confirmed as an allocation by the Rules Engine.

The set of checks is displayed in the Constraints section on the right-hand side, and the constraints are different for picking rules and putaway rules. Validations that pass are marked with a check mark, while validations that fail are marked with an "X". Validations that are not applicable to the particular allocation are not marked at all. Highlight any pre-suggestion in the form to view the outcome from its validations. The pre-suggestions that pass the additional validations are marked as selected, and the suggested quantity is indicated in the row.

The following is a brief description of each of the validations used for picking rules:

- Available Qty - All of the item that is on-hand in that locator has been allocated or reserved for other transactions.
- Pick UOM - The rule has pick unit of measure enabled. When pick unit of measure is enabled, the system attempts to make a best fit of full units of measure. A full unit of measure could not be allocated of this material because there are not enough left to be allocated and a smaller unit of measure may make a better fit.
- Consistency - The rule has one or more consistency requirements defined. All allocations using this rule must have some common attribute, as defined by the rule. There is not enough matching quantity available to make the allocation of this material.
- Sort Criteria - The rule has pick unit-of-measure enabled. This material was not allocated because there is other material which is deemed better by the sort criteria defined in the rule. This material is displayed here because of the how pick unit of measure processing occurs internally.
- Serial Num Used - The serial number has already been allocated to a different transaction. Because availability of particular serial numbers is not stored in the same way as availability of non serialized material, this verification must be made in addition to the availability check.

The following is a brief description of each of the validations used for picking rules:

- Same Subinv & Locator - This subinventory and locator will not be considered because that is also the source of the material. For all move orders except pick wave move orders, the system will not suggest a putaway to the same locator from which the material was picked.
- Material Status - Either the material status of the destination subinventory or locator disallows putaways, or the lot or serial status (if applicable) disallows putaways.

- **Comingle Cost Groups** - The material being put away has one cost group while the destination has material of another cost group. There are no characteristics (revision, lot, serial, or license plate) which would differentiate these two groups of material. The system does not allow cost group commingling where the cost group cannot be identified by some physical characteristic.
- **Locator Capacity** - The locator does not have sufficient capacity to hold the material being put away.

Messages similar to these descriptions are displayed in the comments region on the trace output. Note that the validation check will only fail if the entire quantity fails for that reason. If, for instance, the entire quantity of a pre-suggestion is not allocated because only some of it was available, the pre-suggestion will not be considered to have failed the "Available Qty" check.

**Note:** Material status check is not part of the trace output for a picking rule. The material status validation for picking rules is performed prior to generating the pre-suggestions, so that if material is not available to pick because of material status, then it will not even be displayed as a pre-suggestion. The material status check for put away, however, is performed after the pre-suggestions have been made.

### **Run-Time Execution Trace:**

The Rules Engine Simulator can be used to help fine-tune the rules setup during implementation. The Simulator is helpful for verifying how the Rules Engine behaves for each move order individually. However, a manager may wish to understand why the Rules Engine allocated a particular lot for picking or a particular locator for putaway after the move order has been allocated and potentially, even transacted. The Run-Time Rules Execution Trace feature provides the ability to view all the details the Rules Engine Simulator provides, at some point after a move order has been allocated.

Capturing the data required for run-time trace is expensive and thus should only be enabled when necessary. To enable the data capture, navigate to Help -> Diagnostics -> Preferences from the toolbar, verify the check box is enabled for Runtime Logging, and save the preferences. After debugging has been completed, disable the runtime logging through the same window so that performance is not unnecessarily reduced.

The trace data generated for picking and put away rules when the rules engine is invoked is provided by move order allocation of the following transactions:

- Pick release of sales orders
- Component pick release for WIP jobs
- Directed put away of LPNs

- Completion with drop from WIP jobs

1. Navigate to the Rules Engine Execution Trace window.
2. The Find Move Order Lines window will appear on top of the Rules Engine Execution Trace window. Find the move order that you want to trace.

**Note:** To find move orders, you can utilize the sales order number, item number, batch number, purchase order number, and so on.

3. The search criteria entered in the Find Move Order Lines window, batch number for example, may return multiple move orders. Select the move order that you want to trace.

**Note:** The Rules Engine Execution Trace window displays instructions that will help in utilizing this feature. You can follow these instruction throughout the trace process.

4. After you have selected the move order, select Suggestions.
5. Expand the Pick/Putaway node located as part of the tree on the left side of the window.
6. Expand the Trace node.
7. Depending on your particular trace, expend either the Pick Selection criteria or the Putaway Selection criteria node.
8. Select the check marked node.
9. Continue by selecting the check marked nodes that expand off of the tree.
10. You can now inspect the Pre-suggestions that the trace generated.

The information on the Trace tab displays pre-suggestions based on constraints defined in the rule. The constraints for the rule are also available on the Trace tab. The allocated space and quantity can be seen on the selected row in the Pre-Suggestions area of the Trace tab. Lot and serial information is shown on the Lot and Serial tabs. Detailed comments on why an allocation could not take place will be displayed in the Comments area of the Trace tab.

Additionally, move order lines can be purged after the trace output has been analyzed. All the data captured from the debugging is stored in several tables in the database. This data should be periodically purged, as data from move orders that are no longer required is not unnecessarily stored. The purge button can purge all move order trace data for a particular move order batch, or for all move orders

allocated in a particular date range. Note that this purges only the trace data created when Runtime Logging is enabled; it does not purge the move order lines or move order allocations.

## Summary of Rule Properties

The following table provides a summary of the properties associated with each rule type.

<b>Prop</b>	<b>Pick</b>	<b>Put Away</b>	<b>Cst Grp</b>	<b>Task</b>	<b>Label</b>	<b>Op. Plan</b>
Uses restrictions	Yes	Yes	Yes	Yes	Yes	Yes
Uses sort criteria	Yes	Yes	No	No	No	No
Uses consistency restrictions	Yes	No	No	No	No	No
Has a return value	No	No	Yes	Yes	Yes	Yes
Assigned to a strategy	Yes	Yes	Yes	No	No	No
Assigned a weight, but no strategy	No	No	No	Yes	Yes	Yes
Uses the quantity function	Available quantity	Available capacity	Not applicable	Not applicable	Not applicable	Not applicable
Allows partial quantities	Yes	Yes	No	No	No	No
Uses effective dates	Yes	Yes	Yes	No	No	No



<b>Prop</b>	<b>Pick</b>	<b>Put Away</b>	<b>Cst Grp</b>	<b>Task</b>	<b>Label</b>	<b>Op. Plan</b>
Use Allocation Mode	Yes	No	No	No	No	No

## Related Topics

Oracle Warehouse Management Rules Engine Setup Windows, page 2-7

Describing the Consistency Tab, page 2-11



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## Material Management

This chapter covers the following topics:

- Explaining License Plate Management
- Explaining Multi-level Nesting Support
- Viewing LPNs
- Generating License Plate Numbers
- Maintaining LPNs
- Performing Inventory Transactions with LPNs
- LPN Material Status
- Lot Transactions
- How to Split a Lot
- How to Merge a Lot
- How to Translate a Lot
- Viewing Lots
- Explaining How to Use Oracle Warehouse Management Kanban Management Features
- Explaining LPN Based WIP Completions and Put Away
- Describing Oracle Warehouse Management Inquiry Windows
- Mobile Inquiries
- Locator Alias
- Consigned Stock and Vendor Managed Inventory in Oracle Warehouse Management

## Explaining License Plate Management

In Oracle Warehouse Management, a license plate number (LPN) is any object that holds items. Although LPNs are associated with containers, they do not need to represent a physical entity, such as a box. Thus, you can define an LPN as a collection of items. Oracle Warehouse Management enables you to track, transact, and nest LPNs.

You can:

- Receive, store, and pick material by LPN
- View on-hand balances by LPN
- View LPN contents
- Use LPNs to perform transactions
- Print labels and reports for referencing container contents
- Track nested LPNs (for example, cartons on a pallet)
- Pack, unpack, consolidate, split, and update LPNs
- Reuse empty LPNs

### Related Topics

Explaining Multi-level Nesting Support, page 3-2

Viewing LPNs, page 3-3

Generating LPNs, page 3-5

Maintaining LPNs, page 3-8

## Explaining Multi-level Nesting Support

Oracle Warehouse Management enables you to nest LPNs. For example, pallet LPN P5555 contains three nested LPNs: LPN P5552, LPN P5553, and LPN P5554. In the system, you would see LPN P5555 as the top-level LPN, and each of the of the three box LPNs would fall under LPN P5555.

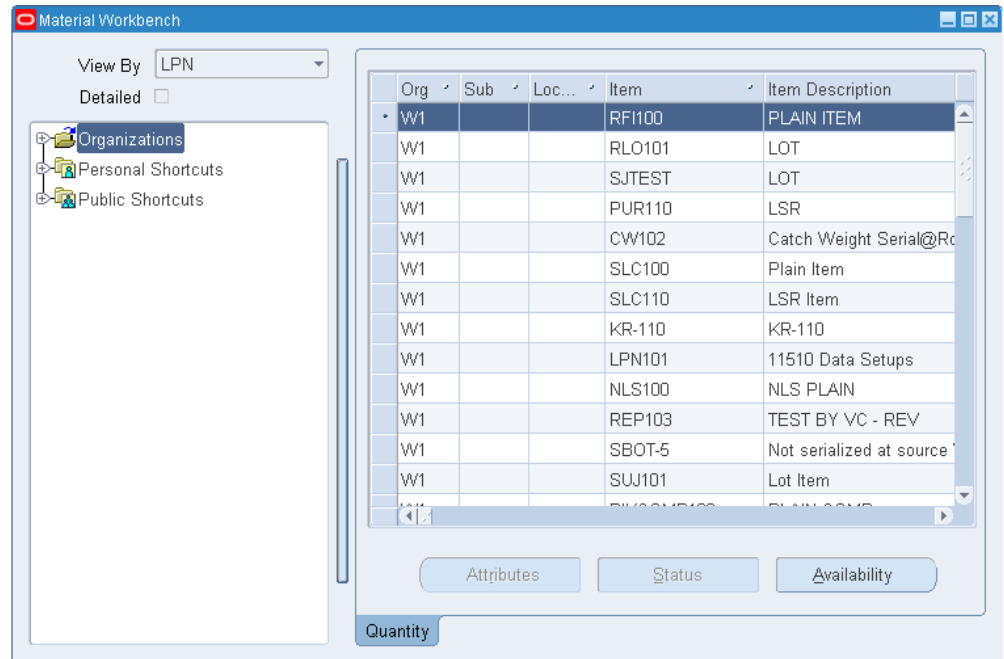
**Note:** If Oracle Warehouse Management is enabled in an Oracle Project Manufacturing organization, co-mingling of project and task material is not allowed in an LPN at any level of nesting. Also, project and task material cannot be mixed with non-project and task material in an LPN.

## Viewing LPNs

You can use the Material Workbench or the mobile user interface to view the contents of an LPN.

In the Material Workbench, you can view the attributes of a particular LPN. Use the following instructions to view the contents of an LPN.

1. Navigate to the Material Workbench, page A-1 window.



2. In the View By field, select LPN from the list of values.
3. Expand the Organizations folder to display a list of LPNs for the organization.
4. Select the LPN that you want to view.

The system displays the contents of the LPN in the right panel of the window. You can also expand an LPN in the left column to view its specific contents. Continue expanding the LPN to see increasing levels of detail.

**Note:** Status field: Shows the material status for on-hand material status enabled organizations.

5. When you are finished, close the Material Workbench to return to the navigator.

### Viewing LPNs with the Mobile User Interface:

1. Log in to the mobile user interface under the Oracle Warehouse Management responsibility.
2. From the Whse Mgmt menu, select Inquiry.
3. From the Inquiry menu, select the LPN option.
4. In the LPN field, enter the LPN or select it from the list of values.

```
LPN Inquiry
LPN>
<Find LPN>
<Cancel>
```

5. Select <Find LPN>.

```
LPN(WD3)
LPN      :21
Org      :WD3
Sub      :Stores
Loc      :1.1.1
State    :In Invento
<LPN Contents>
<LPN Details>
<Cancel>
```

6. Select <LPN Contents> to view the contents of the LPN, <LPN Details> to view the LPN details, or <Cancel> to return to the inquiry menu.

The LPN Contents page lists information about the LPN such as the LPN state,

item, item description, subinventory where the item resides, locator where the item resides, cost group, UOM, on-hand quantity, and available to transact quantity.

```
LPN Contents (WD3)
LPN      :21
State    :In Invento
Item     :IC ATO Mod
Desc     :IC ATO Mod
Sub      :Stores
Loc      :1.1.1
CG       :CG-146507
UOM      :Ea
On Hand  :10,000
Avail Qty:9,000
<Outer LPN>
<Done>
```

The LPN Details page displays LPN container information such as the LPN number, weight, weight UOM, content volume, total volume, volume UOM, and container.

```
LPN Details (WD3)
LPN      :21
Weight    :0
Wt UOM    :
Content Vo:0
Total Vol :0
Vol UOM   :
Container :
<Done>
```

7. Select <Done> when you are finished viewing the LPN contents and LPN details.

## Generating License Plate Numbers

You can generate LPNs using one of the following methods:

- Submitting a concurrent request

- Generate LPNs using a mobile device

You can submit a concurrent request to generate multiple LPNs. These LPNs might be associated with a particular container item, or they could be simply labels with no physical container association. They can be generated at the subinventory and locator, or they could have no location until they are packed.

For example, assume that you want to assign LPNs to large boxes that will be stored in a particular subinventory and locator. In this case, you can submit a request to direct the system to generate the number of LPNs that you need, based on the parameters that you specify in the concurrent request. In another example, a warehouse manager might pregenerate hundreds of LPN labels and distribute these preprinted labels to the warehouse operators. This way, whenever an operator needs a new LPN, he or she can peel off the next label and use it, rather than having to print a label with each new transaction.

To submit the LPN generation request, you must select the Generate License Plates option from the Oracle Warehouse Management Navigator. Next, select Generate LPN as the request that you want to submit, and then indicate the appropriate LPN generation parameters in the Parameters window:, page A-1

- Container Item
- LPN Prefix
- LPN Suffix
- Starting Number
- Quantity
- Cost Group



This request generates the specified number of LPNs based on the starting prefix, suffix, and start number specified either in the request, or at the organization level. Labels for these LPNs will be printed, provided that your label printing hardware and software have been set up accordingly.

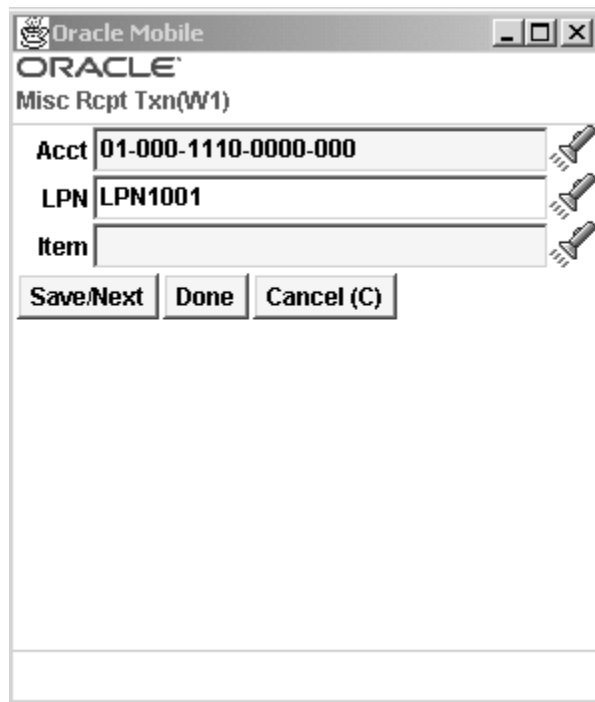
## Using a Mobile Device to Generate LPNs

LPNs can be generated at their point of use in mobile receipt and task forms. When the cursor is in the LPN field, press Generate to automatically generate the LPN. The system default shortcut key, for Generate is [CTRL]+[G]. This can be customized for each mobile device. The actual key mapping is stored in the default.ini file. For more information about key mapping, see *Oracle Applications System Administration Guide*.

## Using a Mobile Telnet GUI to Generate LPNs

You can use the mobile telnet GUI to generate a new LPN. In the LPN field enter the

new LPN and press enter. This generates the new LPN.



Oracle Mobile

ORACLE

Misc Rcpt Txn(W1)

Acct 01-000-1110-0000-000

LPN LPN1001

Item

Save/Next Done Cancel (C)

## Processing a Production Batch in Oracle Process Manufacturing (OPM)

Oracle Warehouse Management enables you to use a single scan approach (rather than multi-scans) to process a typical Oracle Process Manufacturing (OPM) production batch. The following transactions for a OPM production batch can be processed using a single scan:

1. Associate the product/product lot with a specific container ID (by scanning container ID).
2. Mark that portion of the product batch as complete.
3. Create an LPN (license plate number).
4. Induct it into Oracle Warehouse Management.

## Maintaining LPNs

- Updating LPNs
- Reusing Empty LPNs

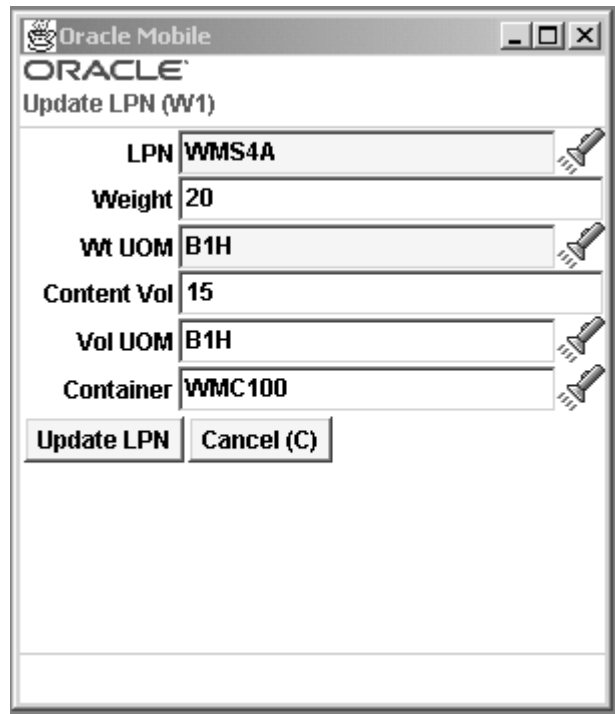
## Updating LPNs

You can update the attributes of a LPN including:

- Weight UOM
- Volume UOM
- Volume content
- Container item

Use the following instructions to update a LPN.

1. Log onto the mobile device.
2. Navigate to the Update LPN, page A-5 screen.



Oracle Mobile  
ORACLE<sup>®</sup>  
Update LPN (W1)

LPN	WMS4A
Weight	20
Wt UOM	B1H
Content Vol	15
Vol UOM	B1H
Container	WMC100

Update LPN Cancel (C)

3. In the LPN field, enter or select the LPN whose attributes you want to update.
4. Update each of the following optional fields as appropriate:
  - Weight: This is the weight of the LPN. It defaults to the current weight of the LPN.
  - Wt UOM: This is the unit of measure for the weight. It defaults to the current

weight unit of measure of the LPN.

- **Volume:** This is the total volume of the LPN. It defaults to the current volume of the LPN, which is the maximum of the content volume and the container item volume—if one is available.
  - **Vol UOM:** This is the unit of measure for the volume. It defaults to the current volume unit of measure of the LPN.
  - **Container:** This is the container item that is associated with this LPN. It defaults to the current container associated with the LPN. Thus, you could not associate an LPN to a container item, if there are none of that item in the location, or if there are containers but they are all already associated to other container items. After a LPN has been associated with a container item, it cannot be disassociated or changed.
5. After you update the attributes of this LPN, select <Update LPN> to save your changes to the LPN's attributes.

## Reusing Empty LPNs

It is possible to reuse empty LPNs in a warehouse. All empty LPNs will be updated to a state of Defined But Not Used. This allows the LPN to be used from any mobile page as a new LPN for any transaction.

LPNs that have been used for picking but later split so that they are empty will be updated using the Shipping API to unassign them from the original delivery they were picked for. The API will be used to unassign them from the delivery as well as reset all the information on the delivery detail record that pertains to the original Sales Order (Customer, Ship-To, Ship Method).

## Performing Inventory Transactions with LPNs

You can use Oracle Warehouse Management to pack LPNs with any grouping of material into a locator. You can then enter the LPN to transact the material. The system transacts all contents of the LPN, including the contents of any LPN nested within the LPN. You can associate LPNs with the following inventory transactions:

- Miscellaneous issues, page 3-12
- Subinventory transfers, page 3-12
- Direct inter-organization transfers, page 3-13
- Move order transactions, page 7-46

For more information about inventory transactions, see *Overview of Inventory*

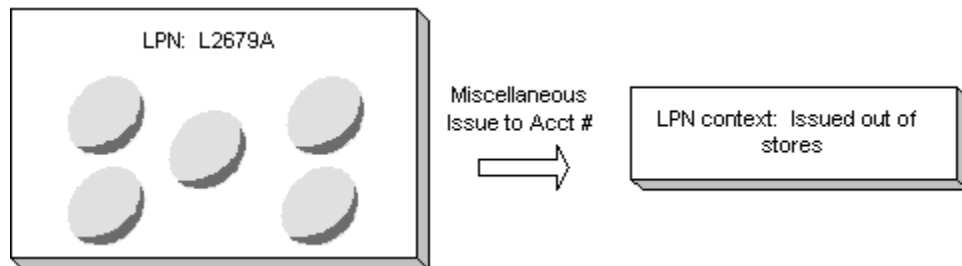
Transactions, *Oracle Inventory User's Guide*.

You use a mobile device to perform LPN inventory transactions. When you enable Oracle Warehouse Management, you can enter the LPN or the item information for each transaction. If you enter the LPN, then the system transacts all the contents of the LPN. If you do not enter an LPN, then you can enter the item, quantity, source locations, and all necessary revision, lot, and serial information.

**Note:** You must use the mobile user interfaces to transact material in LPNs. The desktop transaction windows do not include LPN fields. Furthermore, the availability value in the forms reflect unpacked quantities.

All inventory transactions update the weight, volume, and units stored in locators. The Oracle Warehouse Management Rules Engine uses these values to determine locator for put away suggestions. The weight and volume of a container item assigned to an LPN is also used to update the weight and volume of the locator. The locator is updated by the gross weight of the LPN, which is the net (weight of contents) plus tare (weight of container). The volume of the LPN is approximated by the maximum of the volume of the contents and the volume of the LPN defined on the container item.

You can use the mobile device to perform miscellaneous issues for an LPN. The following figure provides an example of what occurs when you perform a miscellaneous LPN issue. In this example, assume that LPN L2679A contains five items. When you perform a miscellaneous issue for the LPN, the system allocates all of the items in the LPN. Thus, this transaction includes issuing the five items included in the LPN.



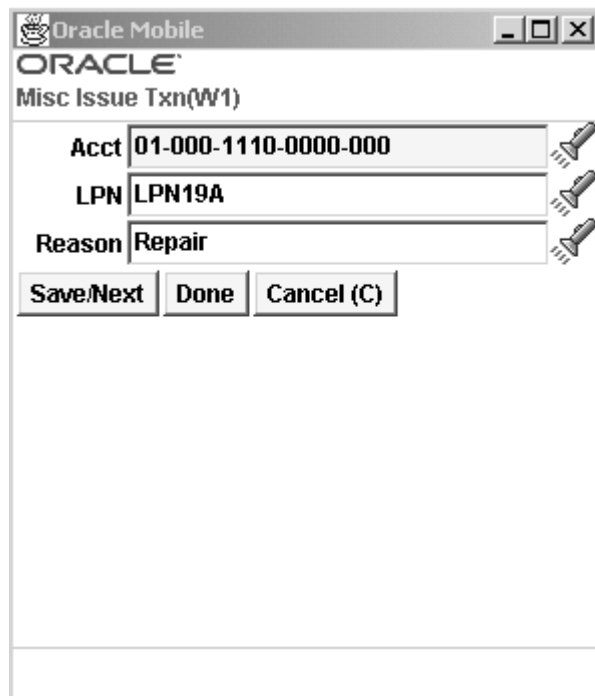
**Note:** Because only Oracle Warehouse Management enabled organizations use LPNs, organization transfers can only be performed using LPNs if the destination organization is also Oracle Warehouse Management enabled. If the destination is not Oracle Warehouse Management enabled, the LPN must be unpacked, and the individual contents must be transferred.

**Note:** If you do not specify an LPN during a transaction, then the

system transacts loose material.

### How to Perform a Miscellaneous Issue

1. Log on to the mobile device.
2. Navigate to the Miscellaneous Issue page.



Oracle Mobile

ORACLE

Misc Issue Txn(W1)

Acct 01-000-1110-0000-000

LPN LPN19A

Reason Repair

Save/Next Done Cancel (C)

3. In the Acct field, enter the adjustment account for the issue and corresponding receipt.
4. In the LPN field, enter the LPN to transact.

**Note:** The LPN must be on-hand in the current organization.

5. Optionally, enter a reason for the issue in the Reason field.
6. Select <Save/Next> to enter additional transfers, <Done> to complete the transaction, or <Cancel> to cancel the issue.

### How to Perform a Subinventory LPN Transfer

1. Log on to the mobile device.

2. Navigate to the Sub Transfer page.
3. Enter or select the LPN from which you want to perform the transfer.

The screenshot shows a mobile application window titled "Oracle Mobile" with a sub-header "ORACLE Sub Transfer (W1)". The form contains four input fields, each with a label and a value, and a set of three buttons at the bottom. The fields are: "LPN" with value "LPN29A", "To Sub" with value "BULK", "To Loc" with value "B2.2.1", and "Reason" with value "Shortage". To the right of each field is a small icon of a mobile device. The buttons at the bottom are "Save/Next", "Done", and "Cancel (C)".

LPN	LPN29A
To Sub	BULK
To Loc	B2.2.1
Reason	Shortage

Save/Next Done Cancel (C)

4. In the To Sub field, enter or select the subinventory to which you want to transfer the LPN.
5. In the To Loc field, enter or select the destination locator for the LPN.
6. In the Reason field, optionally enter or select a reason for the transfer.
7. Select <Save/Next> to enter additional transfers, <Done> to complete the transfer, or <Cancel> to cancel the transfer.

### How to Perform a Direct Inter Organization Transfer

1. Log on to the mobile device.
2. Navigate to the Org Transfer window.

ORACLE® Intransit Ship(W1)	
To Org	W2
Txn Type	Intransit Shipment
Ship Num	100111
Item	AS54888
Desc	Sentinel Standard Desktop
From Sub	BULK
Loc	B1.1.1
UOM	Ea(1 Ea)
Avail Qty	0
Qty	1
To Sub	REC

3. Enter or select the from organization if necessary

4. Enter or select the to organization.

**Note:** You can only transfer LPNs to Oracle Warehouse Management enabled organizations

5. Enter or select the Transaction Type.

6. Optionally, in the LPN field, enter or select the LPN to transfer.

**Note:** If you do not enter an LPN you must enter the Item, Subinventory, and Locator information.

7. Enter the destination subinventory in the To Sub field.

8. Enter the destination locator in the To Loc field.

9. Select <Save/Next> to transfer another LPN, <Done>to complete the transfer, or <Cancel> to cancel the transfer.



## Related Topics

Locator Alias, page 3-41

## LPN Material Status

Material status control restricts the movement and usage of portions of on-hand inventory. You can use material status controls to control picking or shipping an internal order, sales order, or issue material for a work order. You can also specify whether material needs to be quarantined until you inspect it. In addition, you can determine whether products with a particular status can be reserved, included in *available to promise* calculations, or netted in production planning. You can set material status at Subinventory, Locator, Lot, Serial, or On-hand levels. To enable LPN material Status control, you must enable On-hand material status control.

On-hand material status control enables you to restrict material movement by on-hand quantity and enables you to track the material status of LPN contents. The material status of the LPN is the status of the on-hand balances packed into the LPN. When you perform LPN transactions, the system evaluates whether you can perform the transaction type on the contents of the LPN. The LPN material status also controls whether the material packed in the LPN is nettable, atpable or reservable. When you update the LPN material status, it changes the material status for all contents of the LPN.

The system tracks the status of the LPN contents as an attribute of the on-hand balances which are packed in an LPN, not as an attribute of the LPN itself. When you enable on-hand material status in an Oracle Warehouse Management-enabled organization, the system applies the status of *loose* and *packed material* within an LPN. If the contents of the LPN have different status, the status of the LPN would be Mixed. When packing material into an LPN the transaction would be allowed or disallowed if the profile option allows or disallows mixed status in an LPN. When you receive material that you immediately pack into an LPN, the default status of the material is the default on-hand balance status.

When you pack material into an LPN, the on-hand balance material status remains, and the material status for the LPN contents is the material status of the on-hand balances which are packed into the LPN. When material is unpacked from the LPN, the transaction will be disallowed or allowed if the status of the material being unpacked is different from the status of the same material in that location based on the value of the organization parameter.

The status of the LPN contents appears on the LPN Content label and the LPN Summary label depending on the business flow. For the LPN Content and LPN Summary labels, the Material Status field shows the LPN status for the LPN Summary label and the on-hand status of the content for the LPN Content Label. You can also set material status as a restriction on the pick rule to restrict material of a particular status to allocate.

## Performing LPN Material Status Transactions

When you perform an LPN transaction with contents under material status control, the LPN field checks the on-hand material status and validates the transaction after you exit the LPN field. The following transactions are subject to LPN material status control:

- Put Away
- LPN Load
- LPN Ship
- Subinventory Transfer
- Organization Transfer
- Planning Transfer
- Xfer to Regular
- Alias Issue
- Miscellaneous Issue
- Consigned / VMI Issue
- Normal Cycle Count
- Normal Physical Count
- Consolidate
- Unpack
- Split
- Split by Order

## Setting Up LPN Material Status Control

To set up LPN material status control, complete the following Oracle Inventory-related setups:

- Determine the material status definitions for your organization see Setting Up Material Status Control, *Oracle Inventory User's Guide*
- Enable on-hand material status control for your Oracle Warehouse

Management-enabled organization see, *Defining Default Inventory Parameters, Oracle Inventory User's Guide*

- Optionally, set the default item material status see, *Inventory Attribute Group, Oracle Inventory User's Guide*

## Related Topics

Overview of Material Status Control, *Oracle Inventory User's Guide*

Material Workbench, *Oracle Inventory User's Guide*

Material Workbench Information, *Oracle Inventory User's Guide*

Material Workbench Transactions, *Oracle Inventory User's Guide*

## Lot Transactions

Oracle Warehouse Management enables you to split, merge, and translate lots. You can split a single lot into multiple lots, and merge multiple lots into a single resulting lot. You can also translate a lot into a new lot.

**Note:** You can use the Inventory open interface to split, merge, and translate items under both lot and serial control.

## Updating Lot Status

You cannot update the material status of a lot while receiving the lot (using the Mobile Supply Chain Applications Miscellaneous/Alias receipt process) in an organization that is tracking status at an onhand level. You can update the lot status using the Lot windows.

## Lot Splitting

Lot splitting enables you to split a parent lot into multiple child lots. This is useful when a portion of the lot does not have the same lot attributes or material status as the rest of the lot. After you split the lot, you can change the attributes or status of the resulting lots.

You can also split a lot when a portion of the lot characteristics differs from the rest of the lot. For example, if you store a lot in multiple locations, and damage occurs to one of the lots, then you can split the lot and assign new characteristics to the new lot that contains the damaged quantity.

## Lot Merging

Lot merging enables you to merge multiple lots into a single lot instance. For example,

you can merge lots if you store them in a single vat or silo.

## Lot Translate

Lot Translate enables you to either change the name of an inventory lot to another name, or to convert one product to another product. For example, you can change the lot name, item revision, or subinventory of an existing lot, and move it to another assembly.

## Restricting Lot Transactions

You should not perform lot transactions on some items. When you split a lot, the resulting lot inherits the attributes from the parent lot; however, you can update the lot attributes before you save the new lot. When you merge a lot, the resulting lot inherits the attributes of the largest merged lot. If you merge lots with identical quantities, then the system uses the attributes of the first lot that you enter on the transactions page. When you translate a lot into the same item, the resulting lot inherits the attributes of the starting lot; however, you can update the lot attributes before you save the new lot. When you translate a lot into a new item, and the lot attribute context of the resulting item is the same as the lot attribute context of the starting item, then the system derives the lot attributes from the starting lot. If the contexts of the lot attributes differ, then the system uses the default attribute values.

**Note:** A reserved lot cannot be merged or split.

Oracle Warehouse Management has the following levels at which you can restrict lot splitting, merging, and translating:

- Item level control
- Lot level control

### Item-Level Lot Restrictions

You must enable the lot attributes Lot Split Enabled, Lot Translate Enabled, and Lot Merge Enabled on the Item Master in Inventory to perform lot transactions on a lot controlled item. See *Inventory Attribute Group*, *Oracle Inventory User's Guide* for more information.

### Lot-Level Restrictions

Lot split, lot merge, and lot translate are transaction types. You can disallow lot transactions for material statuses that you create. For example, if you assign a material status that disallows lot split to the lot, locator, or subinventory in which the lot resides, then the system cannot split the lot. Similarly, if the lot, locator, or subinventory in which the lot resides has a material status that disallows lot merge or lot translate, then the system cannot merge or translate the lot.

## Full Versus Partial Lot Split

A full lot split consists of splitting the entire quantity of a starting lot into resulting lots. A partial split consists of splitting only a portion of the starting lot into resulting lots, and leaves remaining quantity in the starting lot.

## Child Lot Splitting and Merging

A child is a lot that has a subordinate relationship to another lot, known as the parent lot. When the system splits or merges a lot, it stores the parent-child relationship between the two lots. The parent-child subplot architecture supports an unlimited number of parent-child levels; therefore, you can split a lot numerous times.

When you split a lot with a parent-child relationship you can enter the parent lot as a new value, the parent lot of the parent lot, or the child lot.

## LPN Lot Support

Oracle Warehouse Management supports splitting, merging, and translating for both loose and packed material. It can split lots within an LPN, or it can pack the split lots into new LPNs. You can also perform a subinventory transfer when you perform a lot split, merge, or translate.

## Manual and Automatic Lot Splits

When the system splits a lot into a small number of resulting lots, you can manually specify the resulting lot numbers and lot quantities. When a lot is split into a large number of resulting lots, you can specify the number of resulting lots or the appropriate quantity of the resulting lot that you want the system to automatically create. For example, you might specify that a batch of 100 pallets be split into 100 sublots of 1 pallet per subplot. In this case, the system automatically creates a new lot and the resultant lot quantity, and then uses the parent lot attributes as the default attributes for the resulting lot.

## Sublot Third Party Integration

Oracle Warehouse Management subplot functionality includes all of the application program interfaces (APIs) to integrate with third party systems. Oracle Warehouse Management supports the following APIs:

- Completion of assembly and product
- New lot creation
- Lot split

- Populate lot genealogy

Oracle Warehouse Management also supports lots splitting for assembly and product completions through a transaction interface.

## Lot-Specific Conversions

You can create lot-specific conversions if you set the parameter Auto Create Lot UOM Conversion to Yes on the Organization Parameters window. See *Defining Revision, Lot, Serial, LPN Parameters*, *Oracle Inventory User's Guide* for more information. This parameter determines whether the system creates lot-specific conversion based on the resulting lot quantities. The conversion is not inherited from the source lot. The system creates conversions only if the item is under dual UOM control, and the UOMs are in different classes. If you set the parameter to user confirmation, then the system prompts you to create the lot conversion. If you select <Save Conv>, you can save the newly created conversion.

**Note:** You cannot automatically create lot UOM conversions for lots that are created in Oracle Work in Process.

## Merging Indivisible Lots

You can merge part of an indivisible lot. This is essentially a miscellaneous issue from one lot and a miscellaneous receipt into another lot. An exception occurs if a reservation exists against the resulting lot. You cannot merge into a lot that has an existing reservation.

## How to Split a Lot

1. Log on to the mobile user interface.
2. Navigate to the Lot Split page.

For a Project Manufacturing organization, Project and Task fields are displayed on the start lot and resulting lot screens.

Oracle Mobile	
<b>ORACLE</b>	
Inventory Lot Split(W1)	
Txn Type	Inventory Lot Split
Lot	
Item	
Desc	
Rev	
LPN	
Sub	
Loc	
UOM	
On Hand	
Avail Qty	
No result is found	

3. In the LPN field, enter the LPN number and press the Enter key.

The lot subinventory, locator, on hand, and available quantities default from the LPN current location. The Project and Task fields also default if the lot is in a Project Manufacturing organization.

At this point the you can select <Save/Result> to perform a Manual split, or proceed to step 4 to perform an auto split.

4. Enter the quantity of the lot to split in the Split Qty field.

For example, if a lot includes 50 items and you want to split, 20 of the 50 into a new lot, enter 20 in the Split Qty field. If the item is under dual unit of measure control the secondary unit of measure appears. The system automatically splits the secondary unit of measure evenly across the lot. The dual unit of measure entry controls are:

- Fixed
- Default
- No Default

For more information about dual unit of measure entry controls see Inventory Attribute Group, *Oracle Inventory User's Guide*

5. Enter one (but not both) of the following:

- In the Num Lots field, enter the number of resulting lots
- In the Ea Lot Qty field, enter the quantity that you want in each of the resulting lots

6. Select <Auto Split> to perform the split.

The resulting Lot Split window appears and displays the resulting lot number, UOM, quantity, subinventory, locator, project, and task.

**Note:** When you split a lot, the resulting lot inherits the attributes of the source lot. You can choose to update the lot attributes if necessary.

Oracle Mobile  
ORACLE  
Inventory Lot Split(W1)

Avail Qty	20
Split Qty	5
Remaining	0
Res Lot	DLL017
Res UOM	Ea(1 Ea)
Res Qty	2.5
Res LPN	
Res Sub	BULK
Res Loc	B1.1.1

Next Previous Cancel (C)

7. Press Enter to confirm the lot attributes.

8. In the resulting Lot Attributes window, select <Accept Defaults> to accept the new lot attributes.



9. In the Lot Split window, in the LPN field, press CTRL + G to generate an LPN for the new lot.
10. Select <Done> to complete the transaction.

**Note:** If you generated multiple lots, the system automatically generates the subsequent lot numbers.

11. Navigate to the mobile user interface LPN Inquiry window, page A-5 and search on Item or LPN to review the results of your split transaction.

You can use the Lot Genealogy, page A-1 and the Warehouse Control Board, page A-1 windows to view the results of lot split transactions.

Additional considerations exist when you split a lot in a Oracle Warehouse Management enabled Project Manufacturing organization.

- The resulting lot split page defaults the project, task, subinventory, and locator from the starting split lot page, and you can edit all of these values except for project and task.
- If you enter an LPN, the associated project, task, subinventory, locator, on-hand quantity, and available quantity default from the LPN. You cannot edit the resulting lot split project and task. You can edit only the Project and Task fields on the starting lot split page.
- If the starting lot split Project and Task fields are not populated, then the system processes the transaction against common stock. The system also treats the resulting lots as common stock.

## How to Merge a Lot

1. Log on to the mobile device.
2. Navigate to the Lot Merge page.

```

Inventory Lot Merge(
Txn Type :Inventory
Lot      >A0
Item     >LPN11115
Desc     :Lot Contro
Rev      >A
LPN      >
Sub      >FGI
Loc      ]1.1.1
UOM      >Ea(1 Ea)
On Hand  :13
Avail Qty:13
Lot Qty  :10
Total Qty:
<Save/Next>

```

3. In the Lot field, enter or select the starting lot number to merge.  
The system displays the item and item description that are associated with the lot as well as the Project and Task if the lot is in a Project Manufacturing organization.
4. Enter either the LPN or the subinventory and locator combination for the lot.  
The system displays the UOM and on-hand and available quantities of the lot. If the item is under dual unit of measure control, then the system displays the secondary unit of measure and secondary available quantity if you set the form function parameter to display secondary units of measure and quantities.  
  
**Note:** Note You can merge only available quantities.
5. In the Lot Qty field or the Total Qty field, enter the quantity of the lot to merge. The secondary lot quantity appears if applicable, and you set the form function parameter to display secondary information.
6. In the resulting Lot Merge window, enter or select the starting lot to merge.  
If the lot is child lot enabled, you can generate a new parent and child lot combination, or choose an existing parent and child lot combination. If you choose an existing parent lot, the systems requires you to enter a child lot for that parent.  
Additional considerations exist when you merge a lot in a Oracle Warehouse Management enabled Project Manufacturing organization, including the following:
  - You can merge only lots from the same project and task.
  - If you do not enter the starting lot Project and Task fields, then the system processes the transaction against common stock. The system also treats the resulting lots as common stock.

- If you enter an LPN, the associated project, task, subinventory, locator, on-hand quantity, and available quantity default from the LPN, but the result lot project and task will be non-editable. You can edit only the Project and Task fields that are on the starting lot page.
7. Enter the lot to which you want to merge, LPN, or the lot subinventory and locator combination.
  8. In the Lot Qty field, enter the quantity of the lot to merge.
  9. If you want to merge additional lots, select and then enter additional lots and the related quantities. Otherwise, go to step 10.
  10. To verify and save the results of this lot merge transaction, select <Save/Merge>.

The system displays the results of the lot merge transaction

```
Inventory Lot Merge(
Total Qty:35
Res UOM  >Ea(1 Ea)
Rep Lot  :
Res Lot  >A9
Res LPN  >LPN682A
Res Sub  >FGI
Res Loc  ]1.1.1
<Done>
<Cancel>
```

11. In the Res Lot field, press CTRL + G to generate a new lot number for the merged lot.
12. Press Enter to access the Lot Attributes page, and then change or select <Accept Defaults> to change or accept, the resulting lot attributes. The system re-displays the lot merge results form.
13. If you want to generate an LPN for the resulting lot, in the LPN field, press CTRL + G.
14. Select <Done> to complete the lot merge transaction.
15. Navigate to the mobile user interface LPN Inquiry window, and search on the Item or LPN to view the results of your split transaction. You can also navigate to the Lot Genealogy, and Warehouse Control Board windows to view the results of lot split

transactions.

## How to Translate a Lot

Lot translate enables you to either change the name of an existing lot or convert one product to another. For example, you can change the lot name, item, revision, or subinventory of an existing lot and move it to another assembly. You cannot translate a lot if reservations exist. You can perform the following actions with lot translate:

- Update the lot name to an existing lot name.
- Update the lot to a new lot.
- Update the item to a new item and a new lot.
- Update the item and lot to an existing item and lot.

**Note:** You cannot translate a lot unless you set up a distribution account for the organization.

1. Navigate to the Inventory Lot Translate page.

```
Inventory Lot Transl
Txn Type :Inventory
Lot      >A3
Item     >LPN11115
Desc     :Lot Contro
Rev      >A
LPN      >
Sub      >FGI
Loc      ]1.1.1
UOM      :Ea(1 Ea)
On Hand  :6
Avail Qty:6
<Save/Result>
<Cancel>
```

2. Enter the lot to translate in the Lot field. The Item and Description fields are populated automatically.
3. If the item is under revision control, enter the revision in the Rev field.
4. Enter the LPN, subinventory and locator. The values in the quantity fields default automatically. If the item is under dual unit of measure control, then the values in the secondary quantity fields default as well if you set the form function parameter

to display secondary information.

5. Optionally, modify the resulting item if you want to change the item. The resulting item must already be defined in the Item Master and enabled for the organization.

**Note:** If you rename the item, then the new item must have the same controls as the item that you are translating. For example, you cannot translate a lot-controlled item into a lot-controlled and serial-controlled item.

6. Optionally, modify the revision of the item if it is under revision control.
7. Enter a new resulting lot. If the lot is under parent lot control, then you can enter a new parent lot. You can generate a new parent lot and child lot combination, or choose an existing parent lot and child lot combination.

```
Inventory Lot Transl
Avail Qty:6
Res Item >LPN11115
Desc      :Lot Contro
Rev       >A
Res Lot    :A5
Res UOM    :Ea(1 Ea)
Res LPN    >LPN681A
Res Sub    >FGI
Res Loc    ]1.1.1
<Done>
<Cancel>
```

8. Press Enter to display the lot attributes page. You can update the lot attributes page, or accept the default lot attributes.
9. Optionally, enter a new LPN for the LOT in the RES LPN field.
10. Optionally, enter a new destination subinventory and locator for the lot in the Res Sub and Res Loc fields.
11. Select <Done> to complete the transaction, or <Cancel> to cancel the transaction.

## Viewing Lots

You can view the characteristics of lots, including the lot's genealogy, and where the lot is used, by logging into the Item Lots window.

1. Navigate to the Item Lots , page A-1 window.
2. In the Find Lots window, enter or select the lot that you want to view.
3. Click one of the following buttons to view details about the lot.
  - View Genealogy: The Where Used tab shows the item and material status associated with the lot. The tree structure on the Lot Source tab shows all of the ingredient or component lots that have been used to make a particular lot. The Lot Source tab also shows a summary of transactions associated with the lot. To view the attributes of a lot, select that lot on the tree and click on the Attributes field (located to in the Lot Details region).

The Where Used tabs shows all subsequent lots that have used a lot as an ingredient or component.

**Note:** The profile option, INV: Genealogy Prefix or Suffix, determines whether the item number should be displayed along with the lot number in the genealogy tree structure. The profile option, INV: Genealogy Delimiter, determines the delimiter between the item number and the lot number.

The transaction region displays all material transactions performed on that lot, including its original source and final destinations. For example, you can view from which supplier and purchase order a component lot originated. You can also view to which customers or other distribution centers sales orders for finished product lots have been shipped.

Clicking View On-hand enables you to view whether there is still on-hand quantities associated with a lot. You can then change the material status of the remaining lot, or move the lot into another locator.

- On-hand: Shows the on-hand quantities, subinventory and locator attributes associated with the lot.
- Transactions: Shows the transaction details associated with a particular lot.
- Supplier Lot: Shows the suppliers of the subject lot.

## Explaining How to Use Oracle Warehouse Management Kanban Management Features

A kanban system is a self-regulating pull system that leads to shorter lead times and reduced inventory. Kanban systems are typically applied to items with relatively constant demand and medium to high production volume. Kanbans represent replenishment signals that are manual and highly visible, such as a color-coded card

that moves with the material, a light that goes on when replenishment is required, or an empty bin that is moved to the supply location to trigger replenishment.

Kanban replenishment is a two step process, First the kanban replenishment request is created, next, the kanban is filled. The transaction that fills the kanban is different depending on the source type of the kanban.

## Replenishing Kanban Cards Using the Mobile User Interface

The Replenish Card mobile user interface form enables you to replenish kanban cards. It sends a replenishment signal to the appropriate replenishment source. In the case of an intra-organization kanban card, the system generates a move order and the kanban card status is updated to In-Process.

The Replenish Card form operates in two modes:

- **Verify:** You review the kanban card information before replenishing the card
- **Automatic:** You replenish the kanban card as soon as you scan the card number.

**Note:** Automatic mode should only be used by expert users.

## Performing Kanban Transactions Using the Mobile User Interface

The system enables you to fill your kanban by scanning the kanban card number. If the move order has not been allocated by the Move Order Pick Slip report, then you can allocate the move order on the mobile device.

Transacting the move order indicates that you have filled up the bin and returned it to the kanban's location.

Use the following instructions to perform kanban transactions with the mobile user interface. For information about setting up kanban features in standard Oracle forms, see *Overview of Kanban Replenishment, Oracle Inventory User's Guide*.

## Explaining LPN Based WIP Completions and Put Away

- Describing WIP completions within Oracle Warehouse Management, page 3-30
- Explaining prepacking LPNs for WIP completion, page 3-32

## Explaining Crossdocking Support

Crossdocking WIP completions to sales orders is supported if crossdocking is enabled for the organization. Crossdocking from WIP simply provides a new supply type, in addition to purchase order receipts, that can be used to fulfill backordered sales order lines. Crossdocking from WIP behaves identically to crossdocking from purchase order

receipts, honoring the release sequence rules and suggesting the appropriate staging lane for the material when the LPN is put away to inventory. See: Overview of Crossdocking, page 6-1 for more information.

## Explaining Lot and Serial Attribute Entry

Like other transactions that can potentially generate new lots or serial numbers, entering lot and serial attributes, and lot and serial status is supported for LPN based WIP completions. Lot expiration date, if required, will also be entered here.

## Describing WIP Completions within Oracle Warehouse Management

Oracle Warehouse Management enables you to utilize LPNs and other Oracle Warehouse Management features with Oracle WIP completion including:

- Pack LPNs at WIP completion using new, pregenerated, or prepacked LPNs
- Enter lot and serial attributes
- Crossdock to backordered requirements
- Print labels for completed material or LPNs
- Utilize the Oracle Warehouse Management rules engine for directed put away

Oracle Quality can also be utilized with WIP Completion. If Oracle Warehouse Management is enabled in a Project Manufacturing organization, Oracle Quality can be integrated to have inspection plans triggered off of project and task numbers. For more information see: Overview of Oracle Quality, *Oracle Quality User's Guide*.

WIP completion can be performed for discrete jobs that have a quantity available to complete, and can also be performed for workorderless completions.

After identifying the LPN to complete into, and the job or assembly which you are completing, you have the option of either completing directly into inventory, or allowing the LPN to reside in WIP until another operator puts the LPN away. The completion and put away process can be included in one continuous flow, or the process can be split in two separate parts.

Like a standard purchase order receipt, a completed LPN is not visible as on-hand or available quantity until the inventory put away is performed. Also like a standard purchase order receipt, a completed LPN that still resides in WIP can be put away using the mobile put away window. These two different modes are triggered via two different windows. To put the job or assembly directly into inventory, you use the Assembly Completion w/Drop screen.

**Note:** LPN completions are supported only in standard cost organizations



Complete Assy	
Job	> [REDACTED]
LPN	> [REDACTED]
Assembly :	
UOM :	
Job Qty :	
Compl Qty:	
Avail Qty:	
Qty :	[REDACTED]
<Save>	
[REDACTED]	

If you want the LPN to reside in WIP until another operator puts it away, use the Assembly Completion screen.

Complete Assy	
Job	> [REDACTED]
LPN	> [REDACTED]
Assembly :	
UOM :	
Job Qty :	
Compl Qty:	
Avail Qty:	
Qty :	[REDACTED]
<Save>	
[REDACTED]	

When the material is completed into the LPN, the job is updated and material with supply type Assembly Pull is pulled from inventory. Also at this point, any labels that are defined for the WIP completion business flow will be printed. If any of the components are serial controlled, you will be able to optionally enter the serial numbers of the components that are part of your assembly.

Pre-defined put away rules are utilized at the time of WIP completion. The system will generate the put away subinventory and locator based on user-defined put away rules. Some common processes that the rules are capable of modeling include minimizing item fragmentation, requiring no lot commingling in a locator, directing hazardous materials to a corresponding hazardous storage location, or placing seasonal items in a subinventory dependent on time of year.

## Explaining Prepacking LPNs for WIP Completions

Prepacking generates LPNs that can later be used at WIP completion. Prepacking utilizes the cartonization setup, including container load relationships if set up, to determine the best container item and correct quantity of those container items to use. In order to prepack, you must enter the revision and lot number of the finished assembly, if applicable. If no lot number is entered but one is required, the system will automatically generate a lot number for you.

**Note:** Particular serial numbers are not prepacked into specific LPNs, but rather the serial numbers are entered at the time of completion.

Labels can be printed as part of the prepack request. Prepacking can print the label types that are associated to the LPN Generation and Cartonization business flows. The labels can then serve as the printed instructions to the operator of which LPNs should be used at time of completion.

An association is not made between the prepacked LPNs and the WIP job. While each prepack request may have been run with a particular job in mind, the generated LPNs need not be used for that particular job, and do not need to be used at all.

Prepacking LPNs, page A-1 for WIP completion is performed through the desktop forms. This is a request that requires you to input the item number, revision, lot number, quantity, and so on as needed. This request also enables you to specify a container item for the assembly item to be packed into, if applicable. If cartonization is enabled, the system will automatically select the appropriate container for the assembly item to be packed into. However, even if cartonization is enabled, you may enter a container, which the system will only recognize for this assembly item. The system will not utilize the cartonization parameters if a specific container is specified on this form. After you have entered the required information, select OK to prepare to submit the information.

Your prepacked LPN information is now ready to be submitted. Selecting Submit will start the process that will generate the necessary LPNs for your assembly.

Prepacked LPNs can be entered at the time of completion. The LPN list of values, in the WIP completion window, contains all pregenerated LPNs as well as all LPNs prepacked with the assembly that has been entered or that is on the job or schedule. New LPNs can also be created.

**Note:** An LPN that has been prepacked with a different assembly than the current completion transaction cannot be used.

The quantity specified during the request for prepacked LPNs will automatically be entered after the prepacked LPN is chosen. If over completions are not allowed, then an LPN which is prepacked with a greater quantity than is available to complete for a particular job cannot be used.

The revision number of the contents will automatically be used. The lot number that was prepacked will also be automatically entered and cannot be changed. If the lot number is new, then you will need to enter lot attributes and lot status as before, but if the lot number already existed then you will not be prompted for them. All serial numbers, including any applicable attributes or status, must be entered for a serial controlled assembly.

**Note:** The lot, quantity, revision, and item number of a prepacked LPN cannot be changed. However, as there is not tie between the prepacked LPNs and the job prior to the completion transaction, there is no need to use the prepacked LPNs for a particular job. New LPNs can be generated as needed. The original prepacked LPN can remain unused and will not impact any current or future transactions.

```
Complete Assy
Job      >45982
LPN      >L1135A
Assembly :ASL100
UOM      :Ea
Job Qty  :40.0
Compl Qty:0.0
Avail Qty:40.0
Qty      :2.0

<Drop>
```

At WIP completion, you enter your Job number then tab. The system will automatically fill in the fields based on this assembly, including the unit of measure, job quantity, and so on. In the LPN field, you select the prepacked LPN from the list of values. When the prepacked LPN is selected, the Qty field will be populated with the quantity specified during the request that you performed for the prepacked LPN.

Depending on whether you are going to put the assembly directly into inventory, or if you are going to have the assembly reside in WIP will determine whether you drop or save the transaction.

## Describing Oracle Warehouse Management Inquiry Windows

With Oracle Warehouse Management you can navigate to several inquiry windows, where you can view, inquire, and better manage your warehouse operations. You can also run summary reports from some windows. To access the following windows, from the Warehouse Manger navigator, select the Inquiry option.

- Material Workbench
- Global Inventory Position Inquiry
- Warehouse Control Board
- Run Multi-organization Quantity Report
- Supply/Demand Detail
- Potential Shortages
- Item Lots
- Serial Numbers
- Item Reservation window
- Material Transactions
- Summarize Transactions
- Material Transaction Distributions
- Movement Statistics Summary
- Label Requests

## Related Topics

Explaining the Warehouse Control Board, page 4-16

Material Workbench, *Oracle Inventory User's Guide*

Mobile Inquiries, page 3-34

## Mobile Inquiries

You can use the mobile inquiry pages to perform material inquiries. These inquiries help you to find pertinent information about material in Oracle Warehouse Management. Each type of inquiry helps you to find a different type of information.

Inquiry		
1<Item		>
2<LPN		>
3<Status		>
4<Kanban		>
5<Consolidation		>
6<Locator		>
7<Walkup Inquiry>		
8<Logout		>

## Item Inquiry

The Item Inquiry provides you with detailed information about an item such as the on-hand quantity, packed quantity, loose quantity, and unit of measure. If the item is under dual unit of measure control, then you can also view the dual unit of measure information. You can also view the LPN details for the item.

If the item is under lot control you can view the lot attributes for the item. If the item is under serial control, the serial details appear as well. When you enter the inquiry information, the system requires you to enter the item. The subinventory and cost group fields are optional.

Oracle Mobile

ORACLE

Item Inquiry(W1)

Item	50>1 Oil
Desc	50:1 Oil for small engines
Sub	
CG	

Find (F) Cancel (C)

Oracle Mobile

ORACLE

Inquiry(W1)

Item	50:1 Oil
Desc	50:1 Oil for small engines
Sub	ABC
Loc	ABC.1.1
CG	CG-1326
UOM	Ea
On Hand	1
Avail Qty	1
Packed Qty	0
Loose Qty	1

Done

## LPN Inquiry

The LPN Inquiry provides you with detailed LPN location information as well as information about the state of the LPN. You can also view details about the LPN

contents, and to which cost group the contents belong. In addition, you can view the LPN details such as weight, volume, and dimension. The Status field (for on-hand status enabled organization) displays the status of the LPN.

```
LPN(W2)
LPN      :LPN-ALL
Org      :W2
Sub      :SUB_A
Loc      :SUBA.1.1
State    :In Invento
<LPN Contents>
<LPN Details>
<Cancel>
```

```
LPN Contents (W2)
Outer LPN:LPN-ALL
LPN      :LPN741A
State    :In Invento
Item     :ARU-100
Desc     :Plain item
Sub      :SUB_A
Loc      :SUBA.1.1
CG       :CG-1556
UOM      :Ea
On Hand  :2
Avail Qty:2
<Next>
<Outer LPN>
<Done>
```

```

LPN Details (W2)
LPN      :LPN-ALL
Weight   :24
Wt UOM   :PD
Content  Vo:6
Total Vol :6
Vol UOM   :FT3
Container :
<Done>

```

```


```

## Status Inquiry

A material status is a combination of transactions and planning actions that you choose to disallow in a particular circumstance. The Status Inquiry enables you to search for material status information about a particular subinventory, locator, serial, or lot. When you enter the query criteria, you can enter information about the subinventory, item, or both. See Setting up Material Status Control, *Oracle Inventory User's Guide* and Overview of Material Status, *Oracle Inventory User's Guide* for more information about material statuses.

```

Status Inquiry(W1)
Sub      :BULK
Status   >Active
Loc      :B1.1.1
Status   >Active
Item     :DPL0TSEKASS
From Lot :kb-lot1
To Lot   :kb-lot1
Status   >KB-NOWIPTRN
From SN  :DP20001
To SN    :DP20001
Status   >Active
<Query More>
<Done>

```

```


```

## Locator Inquiry

The Locator Inquiry enables you to query for a particular item within a subinventory. When you perform this type of query, you must enter an item in the Item field. The system also restricts the list of values to items, which reside within the subinventory and locator you entered. If the item is under lot control, choose <Lot Attributes> to



view the lot attributes information.

Oracle Mobile  
ORACLE  
Locator Inquiry(W1)

Sub	AMOBULK	
Loc	AMO1.1.1	
Item	AJA100	
Desc	Vanilla Item	
CG		

Find (F) Cancel (C)

Oracle Mobile  
ORACLE  
Locator Inquiry(W1)

Item	AJA100
Desc	Vanilla Item
Sub	AMOBULK
Loc	AMO1.1.1
CG	CG-1326
UOM	Ea
On Hand	5
Avail Qty	5
Packed Qty	0
Loose Qty	5

Done

## Walk-up Inquiry

The Walk-up Inquiry enables you to query a subinventory and locator for on-hand material. This enables you to view the on-hand quantity within the locator. If you choose to, you can enter an item within the query, but this restricts the search to only the item you enter, and does not enable you to view the entire contents of the locator.

```
Walkup Inquiry(W1)
Sub      >CASE
Loc      ]C1.1.1
Item     >
Desc     :
<Find>
<Cancel>
```

```
Walkup Inquiry(W1)
Item      :A-110
Desc      :LSR
Sub       :CASE
Loc       :C1.1.1
UOM       :Ea
On Hand   :12
Packed Qty:2
Loose Qty :10
Rev Count :1
Lot Count :2
LPN Count :1
<Next>
<Done>
```

## Differences Between the Material Inquiries

The three inquiries Item Inquiry, Locator Inquiry, and Walk-up Inquiry perform similar functions. All three enable you to see on-hand quantity for material; however, significant differences exist. You use the Item Inquiry to query for particular items in the warehouse. You must enter the item number, and you can optionally enter the subinventory and locator. You use Locator Inquiry to query for a particular item in a locator. You must enter the subinventory, locator, and item information. If you choose

to select the item from the list of values, then the list of values displays only the items that reside in the locator you entered. You use the Walk-up Inquiry to query for all items in a locator. You must enter the subinventory and locator, and you can optionally enter an item. This query enables you to view all material in a particular locator if you do not enter an item.

## Locator Alias

A locator alias is an alternative identifier that corresponds to a physical locator. It can be a check digit, a unique identifier, or a non-unique identifier. For example, you can use the check digit 13 as the locator alias for the locator 06-06-01. The system does not suggest a locator alias to you during a transaction, it suggests the actual locator.

Locator aliases ensure the presence of a user at the physical location. You can use a barcode to represent the locator alias. This ensures that when the alias is scanned, a user must be present at the physical location.

## Locator Alias Setup

You enable locator aliases when you setup your organization. See *Defining Default Inventory Parameters, Oracle Inventory User's Guide*. You must also enable locator aliases for individual subinventories. See *Defining Subinventories, Oracle Inventory User's Guide*. When you create your locators, you also create locator aliases. See *Defining Stock Locators, Oracle Inventory User's Guide*.

If you enable locator aliases for a subinventory, then you must enter a locator alias for all transactions in and out of the subinventory. If the subinventory is under dynamic locator control you cannot create a locator during a mobile transaction. The only way you can generate a locator for this type of subinventory is during a desktop transaction.

## Locator Alias Uniqueness

There are three uniqueness options for locator alias: no uniqueness constraints, unique within a subinventory, and unique within an organization. For example, if you set the Enforce Locator Alias Uniqueness parameter at the organization level, and you create the locator alias 12 for locator C1.1.1 in organization W1, then you cannot use that locator alias anywhere else in the organization; however, you can use locator alias organization W2. If you set the Enforce Locator Alias Uniqueness Parameter at the organization level, then the subinventory level parameter is disabled.

You can also use the same locator aliases for more than one subinventory or within the same subinventory if you set no uniqueness constraints. For example, you can use check digit 13 as the locator alias for locators 06-06-01 and 06-06-02 in subinventory FGI.

You define locator alias uniqueness in the Locators Maintenance window. You define the organization-level uniqueness in the Organization Parameters window. See *Defining Default Inventory Parameters, Oracle Inventory User's Guide*.

You define the subinventory-level uniqueness in the Subinventories window. See *Defining Subinventories, Oracle Inventory User's Guide*.

## Locator Alias Behavior

For user and system directed pages, the locator alias behavior depends upon locator uniqueness. During a transaction, the system prompts you to enter the locator alias when you navigate to the locator field on that page. If the locator alias is unique, then the locator segments appear, and you can navigate to the next field. If you enter an incorrect alias, then the system displays an error message, and prompts you to enter the correct alias. If the locator alias is not unique, then after you enter the locator alias you must also enter the locator segments that correspond to the locator alias.

```
Misc Rcpt Txn(W1)
Acct      >00-000-11
LPN       >LPN760A
Item      >T100
Desc      :TEST BY U
Sub       >SUB01
Loc       ]
UOM       >Ea(1 Ea)
Qty       :
Reason    >
<Save/Next>
<Done>
<Cancel>

Enter Alias
```

```
Misc Rcpt Txn(W1)
Acct      >00-000-11
LPN       >LPN760A
Item      >T100
Desc      :TEST BY U
Sub       >SUB01
Loc       ]11
UOM       >Ea(1 Ea)
Qty       :
Reason    >
<Save/Next>
<Done>
<Cancel>

Enter Alias
```

Misc Rcpt Txn(W1)	
Acct	>00-000-11
LPN	>LPN760A
Item	>T100
Desc	:TEST BY U
Sub	>SUB01
Loc	]SB.1.1
UOM	>Ea(1 Ea)
Qty	:
Reason	>
<Save/Next>	
<Done>	
<Cancel>	

For pages where the locator field appears automatically, the system does not direct you to enter a locator alias. If you clear the locator field, then the locator alias behavior is the same as mentioned in the previous paragraphs.

## Consigned Stock and Vendor Managed Inventory in Oracle Warehouse Management

Oracle Warehouse Management supports the ability to store and transact stock that is owned by another party (consigned stock) and/or planned by another party (vendor managed inventory). You can also leverage the Oracle Warehouse Management rules engine to build picking preferences or putaway rules by owner and planner.

### Mobile Interface

For miscellaneous receipt and miscellaneous issue transactions, a mobile page exists for the receipt or issue of consigned stock. Owning and planning party fields are included in the page to identify the supplier and supplier site combination for the special stock.

```

Cons/UMI Rcpt(W1)
Plng Party>
Acct      >
LPN       >
Item      >
<Save/Next>
<Done>
<Cancel>

```

In a Oracle Warehouse Management organization, the LPN field is shown for optionally packing the material received.

In addition to physical transfers of consigned stock, logical transfer transactions can be created with the mobile user interface.

The Consigned Transfer to Regular transaction will explicitly consume material that is consigned. It will not move any material, just perform a logical transfer.

A similar mobile transaction is available to transfer the planning party from a supplier to the current organization.

```

Xfer to Regular (W1)
Owng Party>Advanced
Item      >MXGKB1
Desc      :comp plai
From Sub  >
UOM       >Ea(1 Ea)
On Hand   :0
Avail Qty :0
Qty       :
Reason    >
<Save/Next>
<Done>
<Cancel>

```

---

# Task Management

This chapter covers the following topics:

- Overview of Task Planning
- Set up Operation Plans
- Setup Task Filters
- Setting Up User Task Type Attributes
- Explaining Task Dispatch and Assignment
- Explaining Task Unloading
- Explaining Task Skipping
- Task Exceptions
- Explaining the Warehouse Control Board
- Navigating the Warehouse Control Board
- Managing Tasks
- Using the Oracle Warehouse Management Control Board for Task Planning
- Using the Oracle Warehouse Management Control Board for Outbound Operations
- Using the Oracle Warehouse Management Control Board for Inbound Operations
- Using the Oracle Warehouse Management Control Board for Manufacturing Operations
- Using the Oracle Warehouse Management Control Board for Warehousing Operations
- Performing Rough Cut Planning
- Using the Warehouse Control Board as a Monitoring Tool
- How to Perform Task Dispatched Cycle Counts
- Opportunistic Cycle Counting

## Overview of Task Planning

Task planning is the release of work to the warehouse floor in order to optimally run the day-to-day warehousing operations. Tasks are comprised of demand pick tasks for sales orders, work orders, and replenishment. Tasks are also comprised of inbound receiving and put away tasks, slotting inventory transfer tasks, inventory control related cycle counting tasks, and inbound-outbound hybrid crossdocking tasks. Once multiple tasks are created from the various task creation sources, they are placed in one single pool and released appropriately to the warehouse floor for optimal operation of the warehouse. Optimization is performed by task interleaving and resource-workload balancing.

Wave planning in warehousing enables you to release waves of work to the warehouse to fulfill sales order demand.

You need to be able to plan the release of tasks in the warehouse on a day-to-day basis so that you can run operations optimally to minimize cost and maximize productivity. You can use the warehouse control board, to can query tasks based on multiple criteria, re-prioritize and interleave them, and release them to the warehouse floor in the form of task waves.

## Using Application Program Interfaces for Task Planning

You can also use application program interfaces (APIs) for task planning. You can use APIs to update and delete inbound, outbound, move order and cycle count tasks. You can update the task status, task type, priority, operation plan, and LPN cartonization information You can:

- Change the status from Unreleased to Pending or Queued
- Change the status from Active to Pending or Unreleased
- Change the status from Dispatched to Pending or Unreleased
- Change the status from Pending to Queued

If you try to update a pending a task and change the status to queued, then you must enter the employee id of the user to which the task should be queued as and input parameter to the API. You can use APIs to split outbound tasks and cancel pending crossdocking tasks. You can also use API to query all types of tasks.

## Related Topics

Explaining the Warehouse Control Board, page 4-16

Navigating the Warehouse Control Board, page 4-18

Using the Oracle Warehouse Management Control Board for Task Planning, page 4-30



Using the Oracle Warehouse Management Control Board for Outbound Operations, page 4-31

Using the Oracle Warehouse Management Control Board for Inbound Operations, page 4-34

Using the Oracle Warehouse Management Control Board for Manufacturing Operations, page 4-35

Using the Oracle Warehouse Management Control Board for Warehousing Operations, page 4-36

## Set up Operation Plans

Operation plans define the material movement path and the sequence of operations to perform to complete an activity. You can use both inbound and outbound operation plans. Eight seeded outbound operation plans are available, they are:

- LPN based consolidation in staging lane within delivery
- Direct consolidation in staging lane across deliveries
- Direct consolidation in staging lane within delivery
- LPN based consolidation in consolidation locator, across deliveries in staging lane
- LPN based consolidation in consolidation locator within delivery in staging lane
- LPN based consolidation in staging lane across deliveries
- Locator based consolidation in consolidation locator, across deliveries in staging lane
- Locator based consolidation in consolidation locator within delivery in staging lane

You can create inbound operation plans using the following inbound operation plan types:

- **Inspect:** Inspect operations plans apply to move order lines that have the Inspect Required flag set. The inspect step is the last step in the operation plan. Inspect operation plans do not allow drops to inventory locators.
- **Crossdock:** Crossdock operation plans apply to crossdocked move order lines. The crossdock step is the last step in the operation plan. The crossdock step implies a load and a drop to a staging locator. The drop operation before a crossdock operation does not happen in inventory.
- **Standard:** Standard operation plans apply to any move order lines that does not require inspection, or was not crossdocked. A standard operation plan can end in a

receiving or inventory locator. It can also traverse multiple receiving and inventory locators. You cannot follow a drop to an inventory locator by a drop to a receiving locator, because once you drop material to an inventory locator, it is delivered to inventory.

Before you can put your operation plans into effect, you must complete the following setups:

- Set up Zones: If you choose to segregate your material by zones, you must create zones.
- Set up Operation Plan Assignment Rules: You must set up operation rules in the Rules window to tie your operation plans to your system rules.

1. Navigate to the Operations Plans window.

Seq	Operation	In Inventory	Zone	Subinventory	Locator	Into LPN	Material Grouping	PL/SQL Procedure
10	Load	<input type="checkbox"/>						
20	Drop	<input type="checkbox"/>		Pre-specified	Standard API		Operation plan	Allow commin
30	Load	<input type="checkbox"/>						
40	Drop	<input type="checkbox"/>		Pre-specified	Standard API		Operation plan	Allow commin
50	Cross dock	<input checked="" type="checkbox"/>			Putaway rule			

2. Select a Plan Type from the list of values. Your choices are Standard, Inspection, or Crossdocking.
3. Enter a name for the operation plan in the Name field.
4. Select the Crossdock to WIP check box to use this operation plan to crossdock items to WIP instead of for outbound shipment.

5. Optionally, enter a description for the operation plan in the Description field.
6. Enter the first sequence number in the Sequence field. The operations performed within an operation plan follow the ascending sequence in which you define the operations.
7. Select Load from the Operation list of values. The first operation in all operation plans must be Load. The next sequence number defaults in the sequence field and Drop automatically populates in the Operations field.
8. Optionally, select the in Inventory check box. You can select this check box only if your operation plan type is Standard. Selecting this check box transfers the material to inventory at this step in the operation plan. All subsequent steps have this check box checked by default.
9. Select the determination method. You are required to enter a locator determination method, and optionally can enter a zone, subinventory, or Into LPN method. The determination methods are as follows:
  - Prespecified: If you choose prespecified, you can enter the subinventory, locator, and zone where you would like to drop the material. This is the only determination method for subinventories and zones.
  - Standard API- Standard API- If you choose Standard API as the locator determination method, you invoke an API that determines the locator. If you choose Standard API for locator, you must enter a pre-specified subinventory or zone. You can also choose Standard API as the LPN determination method.
  - Custom API- If you choose Custom API as the locator or LPN determination method, you provide the PL/SQL API. The API needs to conform to the signature as the seeded standard API and registered via Register custom API concurrent program.
10. If you selected Standard API as the locator determination method, select a Locator Material Grouping method from the list of values. The available choices are as follows:
  - Operation Plan Type: If you select Operation Plan type, the system derives the locator grouping method from the operation plan type such as inspection, Standard, or Crossdocking.
  - Destination Subinventory: This is the final inventory destination subinventory the putaways rule suggests.
  - Destination Locator: This is the final inventory destination locator the putaway rule suggests.

11. If you selected Standard API or Custom API as the locator determination method, enter a PL / SQL procedure. The available choices for Standard API are as follows:
  - Locator Determination with Item
  - Locator Determination without Item
12. If you selected an LPN Determination method, select an LPN Material grouping method from the list of values. The available choices are:
  - Operation Plan Type: If you select Operation Plan type, then the system derives the locator grouping method from the operation plan such as inspection, Standard, or Crossdocking.
  - Destination Subinventory: This is the final inventory destination subinventory the putaway rule suggests.
  - Destination Locator: This is the final inventory destination locator the putaway rule suggests.
13. If you selected an LPN Determination method enter a PL / SQL procedure in the Into LPN fields. The available choices for Standard API are as follows:
  - Locator Determination with Item
  - Locator Determination without Item
14. Select the Zone / Subinventory / Locator Tab.
15. Enter the Subinventory, Zone, or Locator if necessary.
16. Repeat Steps 6 through 15 to enter more load and drop information.
17. Optionally, if your plan type is Inspect, or Crossdocking, enter the Inspect or Crossdocking sequence. In an Inspect or Crossdocking plan, this is the last operation.
18. If you entered crossdock in the previous step, select a Crossdock Method to link the crossdock operation plan to an outbound operation plan. The choices are:
  - LPN based consolidation in staging lane within deliveries
  - Locator based consolidation in consolidation locator within deliveries
  - LPN based consolidation locator within deliveries
  - Direct consolidation in staging lane within delivery

- LPN based consolidation in staging lane across deliveries
  - Direct consolidation in staging lane across deliveries
  - LPN based consolidation in consolidation locator across deliveries
  - Locator based consolidation in consolidation locator across deliveries
19. Select Enabled to enable the operation plan.
  20. Save your work.

## Related Topics

Setting Up Locator Zones, *Oracle Warehouse Management Implementation Guide*

## Setup Task Filters

You can use Task Filters to control the types of tasks the system dispatches to users. For example, you can setup that a user can receive internal order tasks, but not replenishment tasks. It works in conjunction with the Pick Load Setup page.

1. Navigate to the Task Filters window.
2. Enter the filter name in the Name field.
3. Enter a brief description of the filter in the User Name field.
4. Enter a long description in the Description field.
5. In the Task Source alternative region, select the Include check box to include the associated task source. That task sources are as follows:
  - Internal Orders
  - Move Order Issues
  - Move Order Transfers
  - Replenishments
  - Sales Orders
  - Work Orders
  - Cycle Counting

6. Save your work.

## Related Topics

Explaining Pick Load Setup, page 7-26

## Setting Up User Task Type Attributes

The User Task Type Attributes window enables you to specify a task type, pick load page type, and if you should honor the pick UOM you specified on the Subinventory window. If you choose to honor the pick UOM, then you can print Shipping Contents labels by case or pallet for the pick release business flow even if you do not enable cartonization To set up task type attributes:

1. Navigate to the User Task Type Attributes window.

User Task Type	User Task Type Description	Standard Task Type	Honor Case Pick	Pick Load Page Type	Pick Load Page Type Description
BULK	Bulk Pick	Pick	<input checked="" type="checkbox"/>	ASG	Default Pick Load Configurati
CASE	Case Pick	Pick	<input checked="" type="checkbox"/>	Express Pick	Default Express Pick Load ar
REPL	Min Max Replenishme	Replenish	<input type="checkbox"/>	SEASONAL	Seasonal Worker
MOVX	Move Transfer	Move Order Transf	<input type="checkbox"/>	ADS_GENERALOP	ADS General Format Overpic
			<input type="checkbox"/>		
			<input type="checkbox"/>		
			<input type="checkbox"/>		
			<input type="checkbox"/>		
			<input type="checkbox"/>		
			<input type="checkbox"/>		

2. Select the desired User Task Type. The user task types represent picking replenishment, move order transfer, and move order issue tasks.
3. Optionally, select Honor Case Pick. If you select Honor Case Pick, then the system honors the pick UOM you specified on the Subinventory window.
4. Optionally, enter a Pick Load Page Type. This associates a pick load page temple with the user task type. This template will take effect when the task appears on the pick load page for tasks with this user task type.

**Note:** The setup you perform on this page overrides the from function parameter setup. However, if you do not define a user task type attribute for a particular user task type, then the system displays a pick load template from the user task type based on the form function parameter instead of the User Task Attributes

window.

5. Save your work.

## Related Topics

Pick Load Setup, page 7-26

## Explaining Task Dispatch and Assignment

This section covers the following topics:

- Describing task management
- Describing task management setup

## Describing Task Management

Task management increase the efficiency of your warehouse operations by:

- Dispatching tasks to qualified users with the right equipment
- Splitting tasks based on the capacity of the equipment
- Merging tasks based on the pick methodology of the wave
- Optimizing the task sequence, based on task priority, locator pick sequence, and approximate distance between the locator x-y coordinates and the current location (last pick locator) of the warehouse operator who is currently logged onto the equipment
- Minimizing the distance operators travel to complete assigned tasks
- Minimizing dead-heading, or the number of trips operators make with an empty load

Task management is handled by two systems: The rules engine assigns task types, and the dispatch engine assists with task execution.

## Describing the Task Type Rules

The Oracle Warehouse Management Rules Engine enables the system to assign task types to tasks. Like the picking and put away rules, task type assignment rules can be based on a variety of data, including the following:

- Unit of measure (UOM) defined for the pick line: for example, if the pallets need to be picked, the Task Type Assignment engine can dispatch tasks to the pallet pickers
- Ownership of the material: for example, if the item belongs to XYZ company, and XYZ requires that their hazardous material be handled by a resource that has hazardous material handling skills, then the Task Type Assignment engine will dispatch tasks associated with XYZ's hazardous material handling requirements
- Type of material being handled: for example, the Task Type Assignment engine might handle refrigerated material different than hazardous material

Task type assignment rules are prioritized, based on their respective weights that you specify. For example, you might assign different weights for two rules to handle a specific tasks. In this case, the Task Type Assignment engine will execute the rule with the higher weight first.

## Describing the Task Dispatch Engine

Whenever a new task is requested by the operator, the task dispatch engine handles the actual execution of a task. The task dispatch engine dispatches an appropriate tasks to a qualified operator. The task dispatch engine also handles exception management, and automatically triggers corrective actions whenever a discrepancy is recorded.

The task dispatch engine also performs the following functions:

- Identifies resource and equipment requirements for a particular task
- Evaluates skill sets
- Filters appropriate tasks to resources

The Task Dispatch engine also includes a set of predefined exception messages and transaction reasons that handle all of the generic exceptions during task dispatching, and will trigger a set of actions and workflows, based on these exceptions.

## Describing Task Splitting

The rules engine optimizes task dispatching by splitting tasks, based on equipment capacity, the maximum fill capacity of the equipment, and the locator pick UOM at the subinventory level.

The system makes the decision to split a task based on whether the available equipment can handle the task, and whether the volume and weight of the items in the pick line are within the equipment's capacity limits.

The system calculates equipment capacity based on the equipment volume, the maximum weight it can handle, the volume of the items that it is required to handle, and their corresponding weights.



**Note:** All material movement tasks can be split.

## Describing Task Management Setup

Setting up task type assignment and dispatch includes setting up the following:

- Resources,
- Equipment items
- Equipment resources
- Departments
- Setting up task types
- Setting up task type assignment rules

## Task Type Assignment and Dispatch

Assume that your warehouse has the following human resources, each assigned to the roles and equipment shown in the following table.

### *Example of Task Type Assignment and Dispatch*

Task Type	Resources	Equipment
EAPK (each pick)	Robert, Randy	Dolly, equipment number: DL-222
CDPK (cold pick)	Judd	Forklift, equipment number: FL-12011
CSPK (case pick)	Robert, Judd	Cart, equipment number: CRT-12232

Each task type requires the appropriate set of skills and equipment. For example, case picking tasks require a cart and an operator that can pick up the required cases. Alternatively, cold pick tasks require a forklift and a picker who can operate the forklift.

Based on the information provided above, task type assignment rules would need to be set up that assign the appropriate task type whenever the task has certain attributes. For example, picks of refrigerated items should be assigned the CDPK task type, while case picks should be assigned the CSPK task type.

## Material Allocations

Assume that the sales order shown in the following figure has just been released to the warehouse for picking.

Sales Order 1055023					
<b>Item</b>	<b>Description</b>	<b>Qty</b>	<b>UOM</b>		
011064	Strawberries	1000	PT		
CM777	Granola cereal	10	EA		
CM777	Granola cereal	1200	EA		

### Allocation Results

#### Material Allocation

Item	Description	Quantity	UOM	Subinventory	Locator
011064	Strawberries	1000	PT	COLDPICK	5.1.10
CM777	Granola bars	10	EA	EACHPICK	10.1.17
CM777	Granola bars	1200	CS	CASEPICK	17.1.13

### Task Type Assignment Results

#### Task Type Assignment

Item	Description	Quantity	UOM	Subinventory	Locator	Task Type
011064	Strawberries	1000	PT	COLDPICK	5.1.10	CDPK
CM777	Granola bars	10	EA	EACHPICK	10.1.17	EAPK
CM777	Granola bars	1200	CS	CASEPICK	17.1.13	CSPK

Based on the above scenario, the following occurs:

- First, the system evaluates the picking rules to come up with a material allocation. In this case, picking rules that honor the pick unit-of-measure have been set up that allocate full case (where one case equals 12 eaches) picks of granola bars to the CASEPICK subinventory. Smaller order lines of granola bars are allocated from the EACHPICK subinventory, while strawberries are stored only in the COLDPICK subinventory.
- Next, the system evaluates the task type assignment rules in the sequence indicated by the rule weight, and then assigns the task type of the first rule where the restrictions are met. In this example, the rules have been set up based solely on the subinventory of the task, resulting in the task type assignments indicated above.

- Now the task will be split based on equipment capacity. Assume that each granola bar weighs 4 ounces, and that the equipment that is used for this type of task, a cart, has a weight capacity of 225 pounds. Therefore, only 225 pounds can be moved onto the cart at a time, so the system splits the picking task for granola bars into the following two tasks:
  - One task for 900 eaches (or 75 cases)
  - One task for 300 eaches (or 25 cases)

**Note:** Calculation for granola bar weight: 900 bars @ 4 ounces = 3600 ounces. 3600 ounces / 16 ounces (16 ounces = 1 pound) = 225 pounds

Finally, after performing the material allocation, task type assignment, and task splitting, the Task Dispatch engine dispatches the tasks to each operator's mobile device, based on their equipment and task type assignment. When the operator completes the task and requests the next task, the system dispatches the next closest task that the operator is qualified to perform with the equipment that is currently available.

**Note:** The previous example provides a detailed view of picking tasks. However, the Oracle Warehouse Management performs replenishment tasks using an identical process.

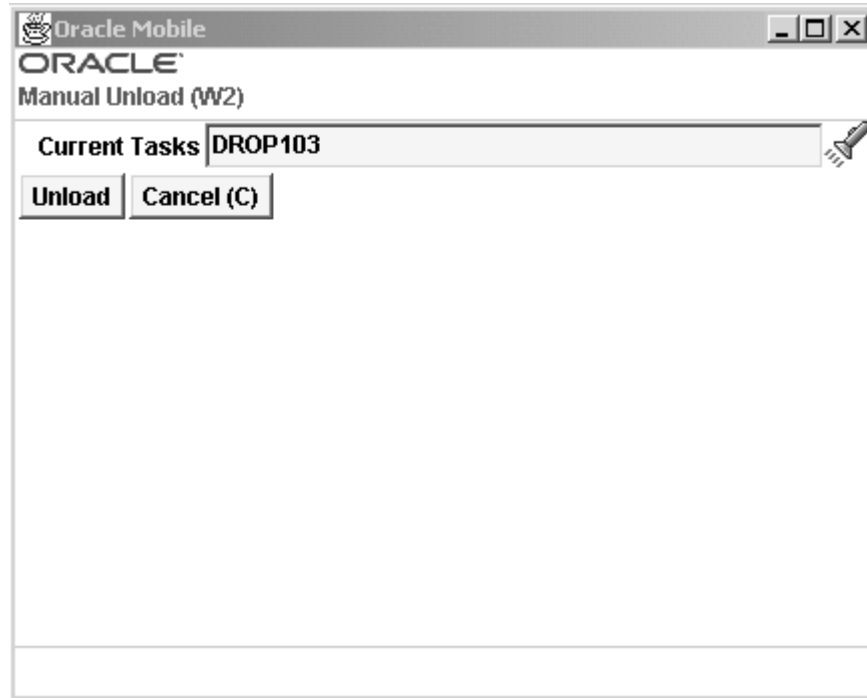
## Explaining Task Unloading

A task that has been loaded can be unloaded at any point prior to the task drop. Unloading a task enables you to reverse the task load, returning the material, or full LPN, to the same locator from which it was picked. If the material requirement that has created that task has been cancelled, then the task will be cancelled when it is unloaded. This is particularly for change management of sales orders and work orders.

You can use the Manual Unload page to unload tasks loaded using advanced pick load.

To unload a task:

1. Navigate to the Manual Unload page.
2. Enter the task to unload in the Current Task field.



3. Choose <Unload> to unload the task, or <Cancel> to cancel the task unload.
4. If you choose <Unload> the Unload page appears. The unload page displays the From LPN, From Subinventory, From Locator, Item, UOM and Qty, or displays the Subinventory and Locator information if you are unloading the entire LPN.
5. Choose <Unload> to unload the task, or choose <Cancel> to cancel the unload.

## Related Topics

Locator Alias, page 3-41

Overview of Crossdocking, page 6-1

## Explaining Task Skipping

An operator may be unable to perform a task that has been dispatched to them due to conditions outside their control, and do not warrant another type of task exception. For example, the aisle to which he or she was directed may be temporarily blocked. The operator may skip the task it is returned to the pool of pending tasks and dispatched again.

## Task Exceptions

If at any point during the pick process the user reports a discrepancy, warehouse manage can initiate a corrective action workflow. Discrepancies might include any of the following:

- Picking a different quantity than the quantity suggested by the system
- Dropping material into a different staging lane than the staging lane suggested by the system

If a discrepancy is reported, the system immediately directs the user to an audit screen, where he or she is prompted to indicate a reason for the mismatch.

Each reason has an associated corrective action workflow, which will be initiated immediately after an exception occurs. For example, a corrective action workflow might notify the warehouse supervisor, through pager, mail, or other alert mechanism, that an exception has occurred. Corrective actions can also notify customer service that a potential backordered situation exists on a sales order.

Corrective actions can also place a location on hold so that subsequent material allocations do not source material from that locator. These actions can also request a cycle count for a particular locator, or re-release the balance of the sales order line so that it can be sourced from another location.

When you enter an exception during the picking process, you can enter a reason for the exception. You setup the exception reasons in Oracle inventory. See: Defining Transaction Reasons, *Oracle Inventory User's Guide*.

**Note:** Reason codes and their related corrective action workflows are created during system set up. For more information about corrective actions, see the *Oracle Workflow User's Guide*.

Transactions reasons also have an associated reason context. Transaction reasons and the associated contexts are required when you enter an exception. The available reason contexts are as follows:

- Pick Partial: Split the pick and confirm a quantity less than the requested quantity. You must pick the entire quantity, but you may pick it in stages.
- Pick Over: Pick more than the requested quantity. This exception honors lot specific conversions, and enables you to pick the full quantity of an indivisible lot if necessary.
- Pick None: End the pick immediately, load nothing, and move on to the next task. If the item is under dual UOM control, then the backorders must reflect both the primary and secondary quantities.

**Note:** When you perform a pick none against a task, the system automatically performs a pick none for all subsequent allocations for that locator. This occurs because the system assumes that there is no on-hand quantity available in the locator.

- **Curtail Pick:** End the pick and load the material after you pick a few LPNs or lots.
- **Change Source Location:** Change the material pick location.
- **LPN Exception:** Allows you to select between the transfer or into LPN at the time of the pick.
- **Change UOM:** Change the task transaction unit of measure. This refers to the transactional UOM if the item is under dual UOM control. You cannot change the secondary UOM. If you change the transactional UOM to the secondary UOM, the system recognizes this change.
- **Fix Previous LPN:** For rapid scan configurations that do not require you to confirm the Into LPN or transfer LPN, as soon as a fully consumable LPN is scanned, the cursor is placed on LPN field (for the remaining quantity). You can perform exceptions on the scanned LPN. If you move past the LPN Field, 'Fix Previous LPN' is no longer available.
- **Change Lot Number:** Change Lot Number enables you to substitute a different lot number than the allocated lot number during the picking process. The new lot you select may be any lot associated with the SKU which resides in the locator. The system does not adhere to (first in, first out) FIFO, life, or grade restrictions which were made during the allocation process. However, the system does honor existing allocations and reservations for lots. You cannot select a lot for which allocations and previous reservations exist.

## Related Topics

For more information on setting up over picking and under picking, see [Explaining Pick Load Setup](#), page 7-26.

[Explaining Over Picking](#), page 7-19

## Explaining the Warehouse Control Board

Oracle Warehouse Management creates tasks such as picks, put away, moves, and replenishments and dispatches pending tasks on demand to mobile radio frequency devices.

The Warehouse Control Board is a tool that Oracle Warehouse Management and

supervisors use to monitor, plan, control, and execute various warehouse operations, including the following:

- Effectively use resources
- Query tasks
- Plan tasks
- Release tasks to the warehouse floor
- Assign, reassign, and prioritize the progress of tasks
- Perform manual scheduling
- Cancel crossdock tasks

The Warehouse Control Board enables you to view workloads across the entire warehouse, manage exceptions, and review, release, reassign, and re-prioritize tasks. Specifically, the Control Board enables you to do the following:

- View tasks: including unreleased, pending, queued, dispatched, active, loaded, completed, and exception tasks

**Note:** At the time of pick release (Sales Order or WIP), you can specify whether or not to plan the release of tasks. If planning is opted, pick tasks are created with a status of Unreleased so that you cannot perform or execute them immediately. If you do not want to plan the tasks, pick tasks are created with a status of Pending.

- Manage task assignments: including mass selection/refinement through add, remove and filtering features, the mass change/update of task status, priority, resource assignments and sorting on various fields, for the resultant task record set view
- View task exceptions: including a description of the cause for failure

You can also view the status of each task, including the time in which it was dispatched, the time it was picked up, and the time it was dropped into a staging lane. If any errors occurred in processing the task, you have full view of the error reported, and the task in question's current status.

## Related Topics

Overview of Task Planning, page 4-2.

## Navigating the Warehouse Control Board

The Warehouse Control Board is comprised of the Find Tasks window and the Tasks window.

When you navigate to the Warehouse Control Board, page A-1, the Find Tasks window appears first. This window provides you with the option of filtering tasks, before you view them. You can also use the Find Tasks window to save a query to use again, delete an existing query, or access the Manage Tasks window.

The following is a list of available tabs and query fields. The query criteria can be used in any combination:

### Task Tab

The screenshot shows the 'Find Tasks (W1)' window with the 'Task' tab selected. The window contains several input fields and checkboxes for filtering tasks. The 'Query' and 'Description' fields are at the top. Below them are tabs for 'Task', 'Inbound Plan', 'Inbound', 'Outbound', 'Manufacturing', and 'Warehousing'. The 'Task' tab is active, showing fields for 'Location' (Source Subinventory, Source Locator, Destination Subinventory, Destination Locator), 'Resources' (Employee, Role, Equipment Type, Equipment), and 'Source' (Inbound, Outbound, Crossdock, Manufacturing, Warehousing). There are also checkboxes for 'Status' (Unreleased, Pending, Queued, Dispatched, Active, Loaded, Completed) and 'Task' (User Task Type, Priority, Creation Date, UOM, Minimum, Maximum, Age, Item, Item type, Category Set, Category, Quantity). At the bottom are buttons for 'Manage', 'Save Query', 'Delete Query', 'Clear', and 'Find'.

- Location region: Source Subinventory, Source Locator, Destination Subinventory, and Destination Locator
- Resources region: Role, Employee, Equipment Type, and Equipment
- Source region: Inbound, Outbound, Manufacturing, Warehousing, and Crossdock



**Note:** Source is a required field.

**Note:** If you search for crossdock tasks, you cannot search for inbound and outbound tasks. You use the Inbound, Inbound Plan, and Outbound tabs

- Status region: Unreleased, Pending, Queued, Dispatched, Active, Loaded, and Completed
- Task region: User Task Type, Priority, Creation Date, Age UOM, Age Minimum, and Age Maximum
- Item region: Item, Item Type, Category Set, Category, and Quantity

## Inbound Plan Tab

The screenshot shows a software window titled "Find Tasks (W1)". At the top, there are two input fields labeled "Query" and "Description". Below these are five tabs: "Task", "Inbound Plan" (which is selected), "Inbound", "Outbound", "Manufacturing", and "Warehousing". The main content area is divided into three sections. The "Plan Status" section on the left contains five checkboxes: "Pending", "In Progress", "Completed", "Cancelled", and "Overridden/Aborted", all of which are currently unchecked. The "Inbound Task Category" section on the right contains two checkboxes: "Planned" and "Independent", both of which are checked. The "Operation Plan" section at the bottom contains three input fields: "Activity", "Plan Type", and "Name". At the bottom of the window, there are five buttons: "Manage", "Save Query", "Delete Query", "Clear", and "Find".

- Plan Status- The status of the Inbound Plan
  - Pending
  - In Progress
  - Completed
  - Cancelled
  - Overridden / Aborted
- Inbound Task Category
  - Planned
  - Independent
- Operation Plan

- Activity
- Plan Type
- Name

## Inbound Tab

Find Tasks (W1)

Query

Description

Task Inbound Plan **Inbound** Outbound Manufacturing Warehousing

Purchase Order  ... -

RMA  -

Internal Requisition  -

Shipment  -

Manage Save Query Delete Query Clear Find

- Purchase Order
- RMA
- Internal Requisition
- Shipment

## Outbound Tab

Find Tasks (W1)

Query

Description

Task Inbound Plan Inbound **Outbound** Manufacturing Warehousing

**Order**

Order  -  ☐ Sales Order

Pick Slip  -  ☐ Internal Order

Lines per Order  -  ☒ Both

Order Type

Customer Number

Customer Name

Customer Class

**Shipping**

Wave Number  Trip

Delivery  Carrier

Ship Method  Priority

Shipment Date  -

Time Till Shipment

Time Till Appointment

**Ship To**

State

Country

Postal Code

Manage Save Query Delete Query Clear Find

- Order region: Order, Pick Slip, Lines per Order, Customer Number, Customer Name, Order Type, and Customer Class
- Shipping region: Delivery, Ship Method, Trip, Shipment Date, Carrier, Priority, Shipment Date, Time Till Shipment, Time Till Appointment
- Ship To region: State, Country, and Postal Code

## Manufacturing Tab

The screenshot shows a software window titled "Find Tasks (W1)". At the top, there are two text input fields labeled "Query" and "Description". Below these are five tabs: "Task", "Inbound Plan", "Inbound", "Outbound", "Manufacturing" (which is selected), and "Warehousing". The "Manufacturing" tab contains several search criteria with radio button options for "Job", "Flow", "Repetitive", and "Batch". The criteria are: "Job" (with a radio button), "Assembly" (with a radio button), "Start Date" (with a radio button), "Line" (with a radio button), and "Department" (with a radio button). Each criterion has a text input field followed by a hyphen and another text input field. At the bottom of the window are five buttons: "Manage", "Save Query", "Delete Query", "Clear", and "Find".

Find Tasks (W1)

Query

Description

Task Inbound Plan Inbound Outbound **Manufacturing** Warehousing

☒ Job ☐ Flow ☐ Repetitive ☐ Batch

Job  -

Assembly  Product

Start Date  -

Line  -

Department

Manage Save Query Delete Query Clear Find

- Manufacturing Type (Job, Flow, Repetitive, Batch)
- Job (Job, Flow, Repetitive)
- Batch (Batch)
- Assembly (Job, Flow, Repetitive)
- Start Date (Job, Flow, Repetitive, Batch)
- Line (Job, Flow, Repetitive)
- Department (Job, Flow, Repetitive)

## Warehousing Tab

The screenshot shows the 'Find Tasks (W1)' window with the 'Warehousing' tab selected. The window has a title bar with standard OS controls. Below the title bar are two input fields: 'Query' and 'Description'. A tabbed interface follows, with 'Task', 'Inbound Plan', 'Inbound', 'Outbound', 'Manufacturing', and 'Warehousing' tabs. The 'Warehousing' tab is active, displaying four main sections: 'Replenishment', 'Move Order Requisition', 'Material Moves', and 'Cycle Count'. Each section contains specific task checkboxes and input fields. At the bottom are five buttons: 'Manage', 'Save Query', 'Delete Query', 'Clear', and 'Find'.

Section	Task	Checked	Input
Replenishment	Replenishment Tasks	<input checked="" type="checkbox"/>	
	Move Order		<input type="text"/> - <input type="text"/>
Move Order Requisition	Move Order Transfer Tasks	<input checked="" type="checkbox"/>	
	Move Order Issue Tasks	<input checked="" type="checkbox"/>	
Material Moves	Inventory Move	<input checked="" type="checkbox"/>	
	Staging Move	<input checked="" type="checkbox"/>	
Cycle Count	Cycle Count Tasks	<input checked="" type="checkbox"/>	
	Name		<input type="text"/>

- Replenishment region: Replenishment Tasks and Move Orders
- Move Order Requisition region: Move Order Transfer Tasks, Move Order Issues Tasks, and Move Orders
- Inventory Move region: Inventory Move and Staging Move
- Cycle Count region: Cycle Count Tasks and Name

## Tasks Window

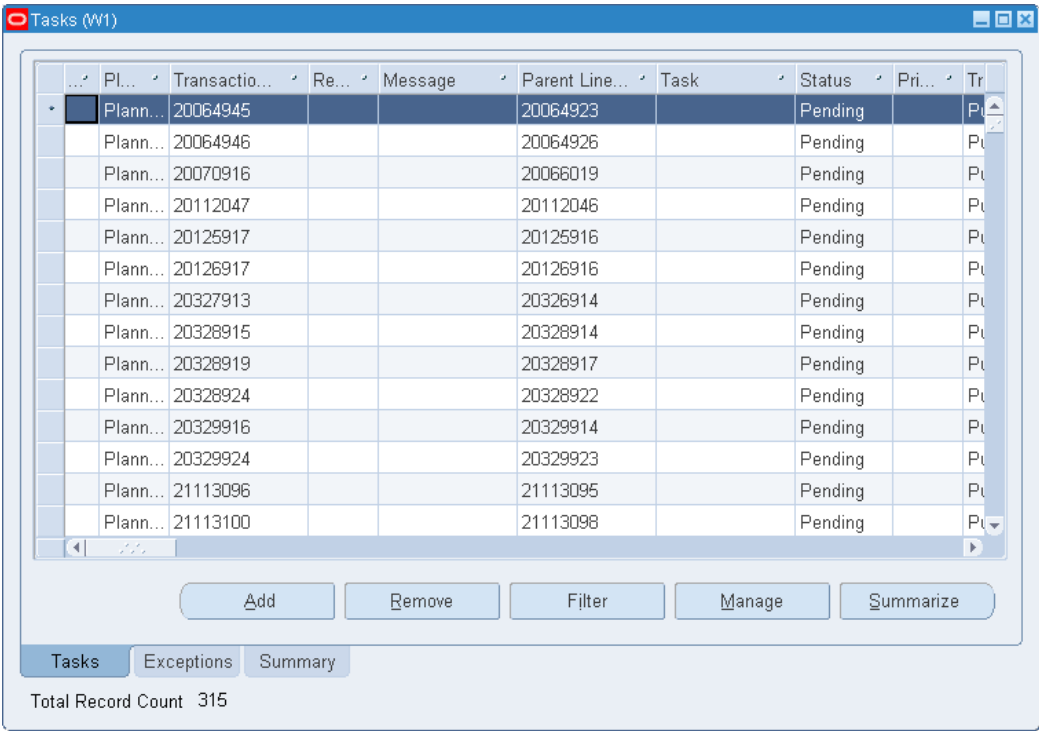
After entering the desired search criteria, select Find and the Tasks window displays only the information related to the specified query criteria. You can save the queries and give them specified user names.

**Note:** Save your repetitive queries to quickly build waves. For example, you can save a query for a specific carrier or for one line orders.

Use the Tasks window to view, plan, and manage warehouse tasks.

The task information is segregated by Tasks, Exceptions, and Summary tabs located at the bottom of the window.

Tasks Tab



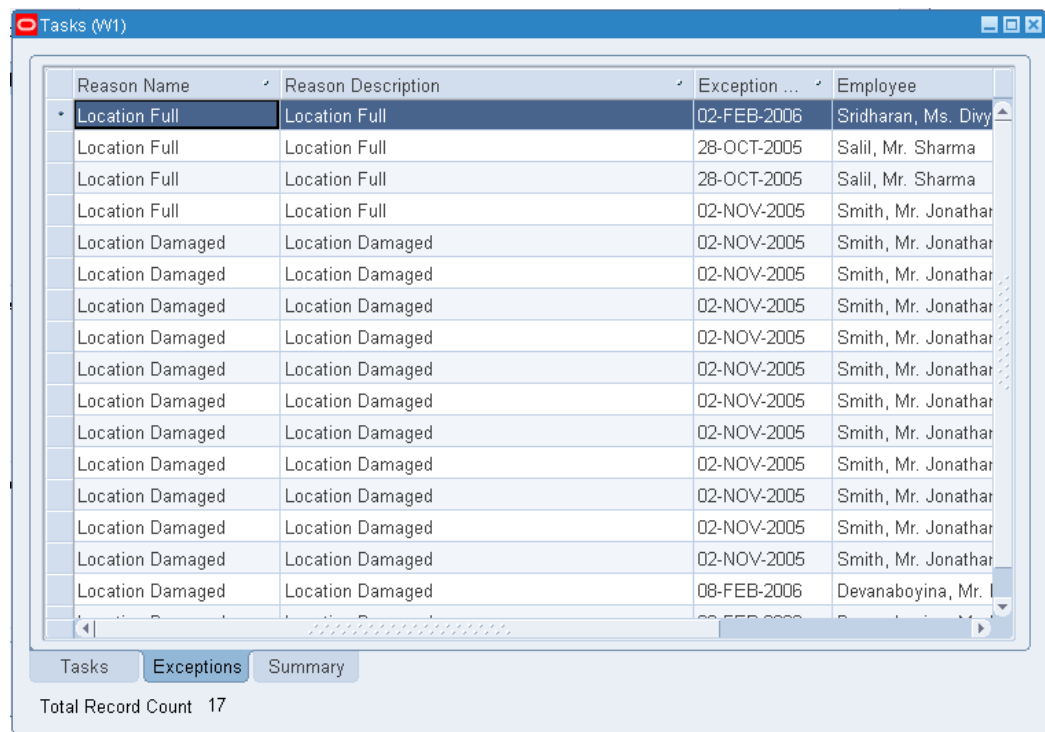
Select the Tasks tab to view information about the various warehouse tasks.

On the Tasks tab you can add, remove, filter, manage, and summarize tasks.

- To see more tasks in the Tasks window, click Add.
- To remove tasks from the Tasks window, click Remove.
- To narrow down the tasks by Results, Message, Status, Priority, Source Header, Line Number, Item, Subinventory, Locator, To Subinventory, To Locator, or Quantity, click Filter.
- To update the task Status, Employee, User Task Type, or Priority, click Manage.
- To cumulate Weight, Volume, or Time information for tasks, click Summarize.

To summarize the tasks, highlight one or more tasks and click Summarize. The Summary window displays. In the Summary window select what you want to summarize by, you can choose Time, Weight, Volume, or any combination of these three. To create the summary, click Execute.

### Exceptions Tab



Reason Name	Reason Description	Exception ...	Employee
Location Full	Location Full	02-FEB-2006	Sridharan, Ms. Divy
Location Full	Location Full	28-OCT-2005	Salil, Mr. Sharma
Location Full	Location Full	28-OCT-2005	Salil, Mr. Sharma
Location Full	Location Full	02-NOV-2005	Smith, Mr. Jonathar
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathar
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathar
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathar
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathar
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathar
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathar
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathar
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathar
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathar
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathar
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathar
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathar
Location Damaged	Location Damaged	08-FEB-2006	Devanaboyina, Mr. I

Tasks Exceptions Summary

Total Record Count 17

Use the Exceptions tab to view exceptions to a particular task. Anytime you record a discrepancy, such as picking less than the suggested quantity or putting away to a location that is different from the suggested location, you are required/prompted to enter a reason code for the discrepancy. This reason code, along with the task details, can then be viewed as exceptions.



## Summary Tab

Tasks (W1)

Summary/Totals

Tasks

Time

Weight

Volume

Details

Task Type	Total Tasks	Time	Time UOM	Volume	Volume UOM	Weight	Wi
-----------	-------------	------	----------	--------	------------	--------	----

Tasks Exceptions Summary

To summarize the tasks, highlight one or more tasks in the Tasks tab and select Summarize. The Summary window displays. In the Summary window select what you want to summarize by, you can choose Time, Weight, Volume or any combination of these three. To create the summary, click Execute.

## Managing Tasks

The Manage Tasks window helps you effectively manage tasks. You can use it to create and save actions to perform on tasks such as manage task priorities, control task assignments, and cancel crossdocking tasks. When you access the Manage Task window, you can perform an existing action or a one-time action. You can access the Manage Tasks window from either the Find Tasks window or the Tasks window. If you access the Manage Tasks window from the Find Task window, then the Manage Tasks window considers all of the tasks the query returns. If you access the Manage Tasks window from the Tasks window, then the Manage Tasks window considers only the tasks that you selected on the Tasks window.

The Task Summary area of the Manage Tasks window displays the number of tasks that you selected listed by system task type. If you choose to perform an action, these are the tasks the action affects.

**Manage Tasks**

Action

Description

**Task Summary**

Picks (0)  
Putaways (0)  
Move Transfers (0)  
Mover Order Issues (0)  
Replenishments (0)

Total

**Action**

☒ Update ☐ Cancel

**Update**

Status

Priority

☒ Set ☐ Increment ☐ Decrement

Priority

☐ Clear Task Priority

**Assign**

Employee

☐ Override Employee Eligibility Check

User Task Type

Save Action Delete Action Clear

Execute Now Submit Cancel

### To Manage Tasks:

1. Select Update or Cancel from the Action region. If you select Update, you can change the task status, priority, assigned employee, user task type, or override the employee eligibility check. If you select Cancel, you can delete tasks with the Source type crossdock. If you select Cancel, you cannot make changes to the Task Updates area of the window.

**Note:** If you cancel crossdocking tasks, then you must confirm the cancellation before the system executes the action.

2. Optionally, enter a new task status. If the tasks you select have the status Active or Dispatched, then you can change the status to Queued, Pending, or Unreleased.

**Note:** If you update the status to Queued, then you must enter an employee.

3. In the Priority area of the window, select the type of task prioritization to perform. The choices are:
  - Set Priority: Sets the actual priority of the tasks. For example, if the current task priority is 15, and you enter a new value of 30, then after you execute the action, the new task priority is 30.
  - Increment Priority: Increments the priority based on an integer. For example, if the current priority of task 1 is 15 and the current priority of task 2 is 25, and you enter an increment priority of 5, then the new priority of task 1 is 20, and the new priority of task 2 is 30.
  - Decrement Priority: Decrements the priority based on an integer. For example, if the current priority of task 1 is 10 and the current priority of task 2 is 20, and you enter a decrement priority of 5, then the new priority of task 1 is 5, and the new priority of task 2 is 15.

**Note:** The system prioritizes tasks in ascending order. Tasks with a larger number have a higher priority.

4. Click Clear Task Priority to remove the priority for the affected tasks.
5. Enter an employee for the affected tasks if you changed the status to Queued.
6. Optionally, select a new User Task Type if you updated the status to Pending or Unreleased.
7. Click one of the following buttons to complete the action:
  - Save Action: Saves the action in the system.
  - Delete Action: Deletes the action from the system.
  - Clear: Clears all the fields on the Manage Tasks window.
  - Execute Now: Performs the action immediately.
  - Submit: Performs the action in the background.

- Cancel: Cancels the action.

## Using the Oracle Warehouse Management Control Board for Task Planning

The workbench is a powerful management tool to manage inbound, outbound, manufacturing, and warehousing operations individually or in any combination.

### Outbound, Manufacturing, and Warehousing Operations

You can use the following planning tools:

- Select the task plan in Pick Release.
- Select the task plan in Replenishment.
- Select the task plan in Component Pick Release for manufacturing jobs.

To perform wave planning, you can:

- Create plans dynamically or use saved plans (queries).
- Plan waves by multiple methods including carrier, item, lines, order, etc.
- Schedule waves based on priority.
- Simulate with filtering capabilities. You can add or remove tasks to waves dynamically.
- Summarize by time, weight, volume for all task types.
- Accept waves.
- Release waves.

You can manually assign tasks by assigning work to individuals (queuing).

You can perform mass updates to tasks, lines, orders, deliveries, or waves:

- Reprioritize for expedited shipments.
- Reprioritize waves, orders, deliveries, lines, or tasks based on business conditions.
- Change statuses until the task is active (Unreleased, Pending, Queue).
- Unrelease waves based on business conditions.

To use the Warehouse Control Board as an analytical tool, you can copy task details and

summary results to a spreadsheet for analysis.

To perform rough cut planning, you can do the following:

- Assign labor standards by task type (case pick, pallet pick, etc.).
- Adjust standards dynamically based on current conditions.
- Review tasks by time, weight, and volume.
- Summarize labor requirements for selected tasks.
- Summarize weight or volume to estimate carrier capacity or to build loads.
- Dynamically adjust rough cut plans to meet requirements.
- Accept and release waves.

To use the Warehouse Control Board as a monitoring tool, you can view the status of employees to determine who is active and review the performances of employees.

## Inbound Operations

To use the Warehouse Control Board as an online reporting tool, you can summarize by weight and volume for all tasks completed in Receiving.

To use the Warehouse Control Board as an analytical tool, you can copy task details and summary to a spreadsheet for analysis or reporting.

To use the Warehouse Control Board as a monitoring tool, you can review the performance of employees.

## Using the Oracle Warehouse Management Control Board for Outbound Operations

You can use the Warehouse Control Board to manage tasks.

1. Navigate to the Warehouse Control Board.
2. In the Find Tasks window, select a saved query.
3. If you do not use an existing query, select Outbound and the desired statuses of the tasks you want to view.
4. You can further restrict the tasks you want to see by selecting the Outbound tab and enter any of the following information to narrow the search:
  - Order region: Order, Pick Slip, Lines per Order, Customer Number, Customer Name, Order type and Customer Class

- Shipping region: Delivery, Ship Method, Trip, Shipment Date, Carrier, and Priority
- Ship To region: State, Country, and Postal Code

For example, you could only select orders which have 1 to 2 lines per order.

5. Select Find to view details of the plan (query) which meet your search criteria.
6. In the Tasks window, you can perform any of the following by right mouse clicking:

Copy task details and summary results to a spreadsheet for analysis.

Filter the plan for simulation and review the results.

Filter Criteria	Input Field
Expansion Code	<input type="text"/>
Plan/Task	<input type="text"/>
Transaction Number	<input type="text"/>
Result	<input type="text"/> ...
Message	<input type="text"/>
Parent Line ID	<input type="text"/>
Task	<input type="text"/>
Status	<input type="text"/>
Priority	<input type="text"/>
Transaction Source Type	<input type="text"/>
System Task Type	<input type="text"/>
Source Header	<input type="text"/>

Buttons: Clear, OK, Cancel

Add tasks to the plan dynamically.

For example, you could add to the plan (query) by carrier or add to the carrier by state, etc.

Remove tasks from the plan (query) dynamically.

Select the tasks you want to remove and select Remove in the Tasks window.

7. **Note:** Removing a task logically removes the task record from the current task record set view.
8. If you want to summarize tasks, select the tasks to summarize. To select tasks, you can use the Shift key or right mouse click to select all the tasks.  
You can summarize the workload (tasks) by Time, Weight, and/or Volume.
9. Select Summarize.
10. In the Summary window, select Time, Weight, and/or Volume.
11. Task types appear based on the tasks being summarized. You can dynamically change the following information:
  - Standards (time per task) based on current performance
  - Unit of Measure (Weight UOM, Volume UOM, Time UOM)

**Summary (W1)**

**Summarize By** ☒ Time ☒ Weight ☐ Volume

**Default Classes/UOM**

Weight Class: MASS Weight UOM: LB

Volume Class: Volume UOM:

Time Class: Period Time UOM: ...

User Task Type	Description	Time per Task	Time UOM

Execute

12. Execute the summary of the plan.  
Select Execute.
13. View the Summary/Total based on the selected conditions (Time, Weight, and Volume).
14. Validate the summary totals by reviewing the Task tab.  
Messages indicate if the tasks were summarized properly or gives an error message if the data was not available.

## Using the Oracle Warehouse Management Control Board for Inbound Operations

You can use the Warehouse Control Board as an online reporting tool, an analytical tool, and a monitoring tool.

1. Navigate to the Warehouse Control Board.



2. In the Find Tasks window, select Inbound Operations and the Loaded/Completed status.  
Inbound only looks at completed tasks.
3. Select Find to display the task details.
4. Select all the tasks in the Tasks window. To select all the tasks, right mouse click and choose Select All Tasks.
5. Select Summarize.
6. You can summarize by Weight or Volume.
7. Select Execute to summarize the plan (tasks).
8. View the summary to show the amount of work completed.

## Using the Oracle Warehouse Management Control Board for Manufacturing Operations

Managing inbound manufacturing operations works the same as for outbound manufacturing operations.

1. Navigate to the Find Tasks window.
2. Select Manufacturing and the desired statuses.
3. You can further restrict the plan (query) based on the following manufacturing parameters:
  - Job, Flow, Repetitive
  - Job/Schedule
  - Assembly
  - Start Date
  - Line
  - Department
4. Review the task details.
5. Select the desired tasks.

**Note:** You can also dispatch tasks to users if the work order has an EAM WIP entity type.

6. Summarize the selected tasks.
7. In the Summary window, summarize by Time.
8. Select Execute.
9. View the summary of the manufacturing operations.
10. You can validate the summary total by reviewing the Task tab.
11. You can unrelease a manufacturing task to update the plan.

## Using the Oracle Warehouse Management Control Board for Warehousing Operations

Managing inbound warehousing operations works the same as for outbound warehousing operations. Typically, warehousing operations are combined with outbound operations.

1. Navigate to the Find Tasks window in the Warehouse Control Board.
2. Select Warehousing and the desired statuses.
3. You can further restrict the plan (query) based on the following warehousing parameters:
  - Replenishment: Replenishment Tasks, Move Orders
  - Move Order Requisition: Move Order Transfer Tasks, Move Order Issue Tasks, Move Orders
  - Inventory Move: Inventory Move, Staging Move
  - Cycle Count: Cycle Count Tasks, Name
4. Review the task details.
5. Follow the same steps as for managing outbound operations.

## Performing Rough Cut Planning

To perform rough cut planning you need to establish labor standards by task type.

1. Navigate to the Standard Operations window.

Code	Description	Department	Min Transfer Qty	Task Type	Option Dependent	Count Point
AWNG	Awning window	Awning	0		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
AWRL	Almond Clad White In	A WI WRAIL	0		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
BAYW	Bay / Bow window	Bay - Bow	0		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
BHRD	Brass Window Hardw:	Brass Hdrw	0		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
BULK	Bulk Pick	Picking	1	Pick	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CASE	Case Pick	Picking	1	Pick	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CCNT	Cycle Count	Picking	0	Cycle Count	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CGDG	Circle Double Glaze	DbI Glaze	0		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

2. Highlight a Resource Code and select Operation Resources.

Seq	Resource	UOM	Basis	Usage	Inverse
10	CASE_EMP	MIN	Item	3	.333333

3. To assign a labor rate to the resource:
  - Choose Item for the Basis field from the list of values
  - Enter a Usage Rate/AmountThe Inverse Rate/Amount will be calculated automatically.

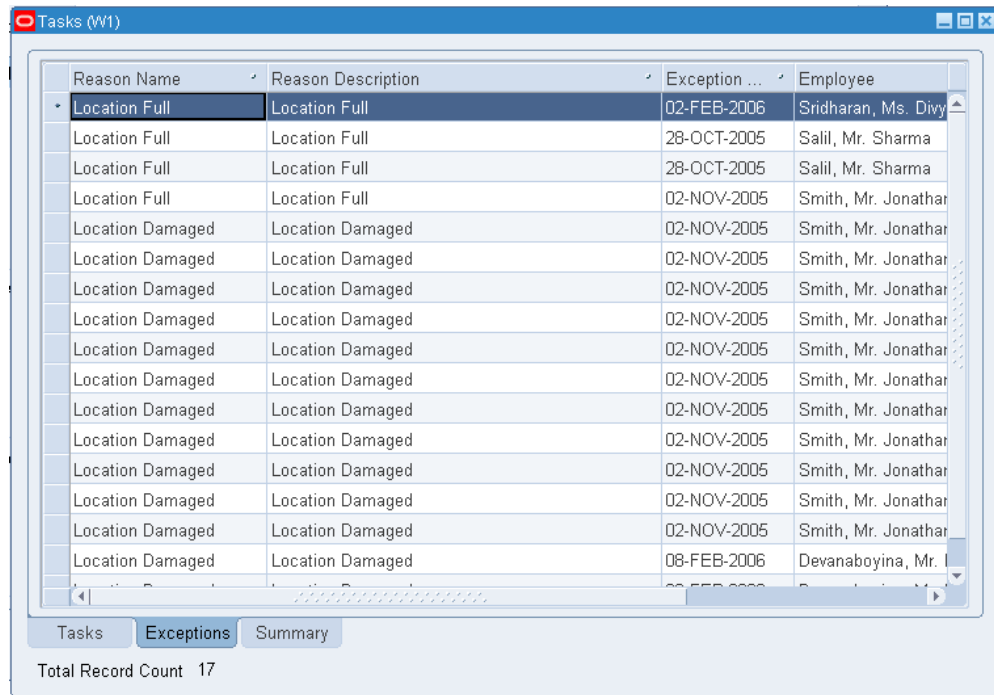
## Using the Warehouse Control Board as a Monitoring Tool

You can monitor task statuses in the Warehouse Control Board by percentage, by number of tasks by organization, or by employee. To view the task statuses:

### Monitor Task Exceptions:

You can also monitor exceptions for the tasks. To view task exceptions:

1. In the Tasks window, select the Exceptions tab.



Reason Name	Reason Description	Exception ...	Employee
Location Full	Location Full	02-FEB-2006	Sridharan, Ms. Divy
Location Full	Location Full	28-OCT-2005	Salil, Mr. Sharma
Location Full	Location Full	28-OCT-2005	Salil, Mr. Sharma
Location Full	Location Full	02-NOV-2005	Smith, Mr. Jonathan
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathan
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathan
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathan
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathan
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathan
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathan
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathan
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathan
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathan
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathan
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathan
Location Damaged	Location Damaged	02-NOV-2005	Smith, Mr. Jonathan
Location Damaged	Location Damaged	08-FEB-2006	Devanaboyina, Mr. I

Tasks Exceptions Summary

Total Record Count 17

2. View the exceptions.

## How to Perform Task Dispatched Cycle Counts

Cycle counting can be dispatched directly to qualified mobile users so that they need not be aided by a paper cycle count report to determine their tasks. Cycle count tasks can be interleaved with picking and replenishment tasks if the same operators that are qualified to do cycle count tasks are also qualified for other tasks, or the system can be set up so that cycle count tasks get dispatched only to certain dedicated counters.

When cycle counts are scheduled, if a cycle count task type has been defined, then tasks will automatically be generated for cycle counts. See, *Setup Warehouse Task Types*, *Oracle Warehouse Management Implementation Guide*.

For a given cycle count header, one task is generated for each item, revision,

subinventory, and locator; a single task will be generated for multiple serials or lots. If a count has been performed on the desktop, or via a user directed count on the mobile device, then the task will no longer be available. In addition, only counts that are not past their due date are available as tasks.

The operator can skip tasks after entering partial information. This can be performed using the hot key <ESC-K>. If the task is skipped, it will be dispatched to the operator after a specific time, which is defined as one of the organization parameters. If the task is completed after it was skipped then it will not reappear as a task in the operators queue.

**Note:** Oracle Warehouse Management cycle count only supports one cycle count task type.

The system assigns the first cycle count task type defined in the organization to the task, so only one cycle count task type should be defined. If the organization does not wish to use dispatched cycle count tasks, then do not define a cycle count task type.

Follow these instructions to perform a task dispatched cycle count.

1. Log into the mobile user interface and navigate to the Task Menu, page A-5.
2. Select Acc Next Task.
3. If the operator is qualified, and the cycle count task type is defined, a cycle count task will be dispatched to the operator.
4. Confirm each field as necessary.

**Note:** If Oracle Warehouse Management is enabled in a Project Manufacturing organization, two additional fields will be visible: Project and Task. The rest of the procedure is the same as shown here.

5. In the case of a discrepancy, confirm the actual quantity.
6. Skip the task if the count is unable to be made. For example, if an obstacle is preventing the operator from counting. See: Explaining Task Skipping, page 4-14.

## Opportunistic Cycle Counting

Opportunistic cycle count enables users to perform an unscheduled cycle count in the middle of a picking operation if an item falls below a minimum quantity tolerance for the locator. If the resulting quantity is less than or equal to the specified quantity, then the system asks you whether or not you would like to perform a cycle count for this item at this locator. For instance, if the Opportunistic Cycle Count Trigger Quantity is

set to 5, then any time a pick from a locator leaves 5 or fewer pieces in the locator, the system prompts you to count the item.

Opportunistic cycle counting is controlled at the subinventory level. This means if you enable opportunistic cycle counting for the subinventory, then all items within the subinventory will be subject to opportunistic cycle counts. When you establish the parameters for the subinventory, enter the Opportunistic Cycle Count Days Threshold which is the number of days tolerance that controls whether or not redundant cycle counts are performed. If a cycle count has been performed at this location for this item within the specified number of days, then the system does not prompt you to perform another cycle count for this item or locator combination.

For example, if the Opportunistic Cycle Count Days Threshold is set to 14 days, then the system will only prompt you to count this item locator combination if there has not been a cycle count in this location within the past 14 days. If that item location combination was counted 10 days prior to the pick which would otherwise trigger a free cycle count, that trigger will not be invoked because of the days tolerance. If an opportunistic cycle count is performed and there is already a scheduled cycle count for that item location combination, then the system deletes the existing cycle count entry. This prevents redundant cycle counts from being performed.

## Blind Counts

When you specify the Cycle Count header, you control whether or not the opportunistic cycle count will be blind. If the count is blind, then the system does not specify the system on-hand quantity during the count.

### To perform an opportunistic cycle count:

1. Navigate to the Load page.
2. Confirm the Subinventory, Locator, and item information.
3. Enter or scan the transfer LPN.
4. Select the Load or Load and Drop button. The opportunistic cycle count trigger will only appear if the picking task drives the on-hand quantity below the quantity threshold. You can choose to count the item within the locator at this time, or schedule a count to be performed at a later time.
5. Click Schedule Count to schedule the count for a later time, or select the down arrow to proceed with the opportunistic count.
6. Enter the desired information into the Qty field. Enter a valid value such as 0. Based on your setup parameters, the system can default the available quantity, or you can perform a blind count. This setting is based on the default cycle count header. You select the default cycle count header when you enable opportunistic cycle counting.

7. Press the down arrow.
8. Click Done. You can now complete the normal staging process.

## **Related Topics**

*Oracle Warehouse Management Implementation Guide*, Setting Up Opportunistic Cycle Counting





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# Oracle Warehouse Management Inbound Logistics

This chapter covers the following topics:

- Inbound Logistics Overview
- Oracle Warehouse Management Inbound Features
- Describing Receiving Documents
- Describing Receiving Methods
- Explaining the Standard Receipt Process
- Explaining the Direct Receipt Process
- Explaining the Confirm Receipt Process
- Explaining the Express Receipt Process Using ASNs
- Explaining the Inspection Process
- Receiving Material for Clients (LSP Feature)
- How to Perform Receiving Transactions Using the Oracle Warehouse Management Mobile User Interface
- How to Perform an ASN Receipt
- How to Print the ASN Discrepancy Report
- Explaining the Express Receipt Process Using Internal Requisitions
- Explaining the Express Receipt Process Using Internal Shipments
- Receiving Common User Interface
- How to Perform Receipts Using the Receiving Common Interface
- Document Initiated Receipts
- Item Initiated Receipts
- Cross References for Vendor Items

- Describing the LPN Put Away Process
- Multi-Step Putaway and Replenishment
- Explaining LPN Based Returns
- LPN Transactions
- Explaining Pre-Generated Putaways

## Inbound Logistics Overview

Oracle Warehouse Management inbound logistics refers to receiving, inspection, and put away processes within the warehouse. The major inbound features of Oracle Warehouse Management include the following:

- Support for handling Advanced Shipment Notices (ASNs)
- Functionality to receive material directly into unique license plate numbers (LPNs)
- Features that enable you to specify and capture lot and serial information at receipt
- Functionality to automate the matching of material received to expected material
- System suggested put away locations
- Opportunistic Cross Docking for backordered sales order lines
- Support for Oracle Project Manufacturing organizations.
- Support for Oracle Quality.
- Support for N step material movement path
- Receive material by zone
- Support for Inbound operation plans

## Supporting ASNs

The Oracle Warehouse Management system supports suppliers sending ASNs that might include item, quantity, lot, and serial information, project number and task (with Oracle Project Manufacturing,) as well as the LPNs into which the material is packed. You can receive ASNs through a standard ASN receipt, where LPN contents are verified by the receiver, or through an Express ASN receipt, where the LPN contents do not need to be verified.

## Receiving Material Into LPNs

All material received through Oracle Warehouse Management is associated with a unique LPN. This enables material to be easily tracked and transacted throughout the warehouse, without scanning the item, quantities, lots, or serials.

**Note:** Oracle Warehouse Management requires that you receive items into an LPN.

## Specifying and Capturing Lot and Serial Attributes at Receipt

With standard Oracle Purchasing, at the time of receipt, you are not allowed to enter lot and serial numbers. With Oracle Warehouse Management, however, you can enter lot and serial numbers immediately, at the time of receipt. You can also enter related material statuses or attributes that might apply to the lot or to the serial just received.

## Automatically Matching Material Received to Expected Material

Oracle Warehouse Management matches the item and quantity received to the document that the material was received against. This means that the receiver does not need to manually select lines or shipments individually. However, Oracle Warehouse Management does not show the *expected* quantity to be received, rather, the system requires the receiver to enter the *actual* quantity received, and then through a background process, the system matches the actual quantity against the expected quantity.

Instead of having to spend time reviewing the related purchasing documentation, at the time of receipt, automatically matching the received material also enables operators to efficiently process inbound material.

**Note:** Oracle requires that all Oracle Warehouse Management related receipts be made through the mobile device.

## Advanced Task Framework

Advanced task framework enables you to streamline your inbound process. You can setup operation plans can be setup to move and process material. The system employs the flexibility of the rules engine to assign operation plans to material based on specific business needs. At execution time, the system directs the you to move and process material as defined in the operation plan. You can use zones, to augment the augment the flexibility of the advanced task framework. The framework streamlines material flow, minimizes travel time and increases operational efficiency via enhanced consolidation and deconsolidation capabilities in conjunction with multi-step material movement.

## Related Topics

Set Up Operation Plans, page 4-3

Setting Up Locator Zones, *Oracle Warehouse Management Implementation Guide*

Overview of Oracle Quality, *Oracle Quality User's Guide*

Overview of Project Manufacturing, *Oracle Project Manufacturing User's Guide*

## Oracle Warehouse Management Inbound Features

Oracle Warehouse Management supports the following inbound features:

- Optional inbound material inspections: The system supports an inbound inspection flow that includes a receipt step, an inspection step, and a put-away step. The system does not increment on-hand balances until the inspection and put away are complete. Inspections can be performed using standard Oracle Purchasing Inspection or using the optional module of Oracle Quality. Commingling of accepted and rejected material into the same LPN is not prevented by the system. It should be done operationally. If Oracle Warehouse Management is enabled in a Project Manufacturing organization, Oracle Quality can be set up to trigger collection plans based on project and task numbers.

**Note:** If selected for inspection, all quantities within an LPN must be inspected.

- System assigned cost groups: At the time of receipt, the system will assign a cost group—providing that you have set them up—to the inbound material. Oracle Warehouse Management separates physical inventory accounting from standard cost group accounting. This enables you to assign split portions of an LPN different cost groups.
- System suggested put-away locations: Using the Oracle Warehouse Management Rules Engine, the system will suggest an optimal put away location for inbound material.

**Note:** Put away suggestions are not enforced by the system and therefore, you can override them at the time of put away.

- Workflow enabled discrepancy actions: If you override a put away suggestion at the time of put away, then you must provide a reason for the change. You can optionally build workflow notifications and corrective actions that are triggered on put away override reasons.

- System suggested opportunistic cross-docking: If you enable cross docking for your warehouse, then before suggesting a put away location, the Oracle Warehouse Management will attempt to cross-dock inbound material directly to an outbound staging area to fulfill backordered sales order lines.
- Monitor and track inbound material using receiving locators: The inbound area can be defined as a receiving subinventory and segmented into locators. The inbound material can be received in receiving locators in order to monitor and track movement within the inbound area. See: *Defining Subinventories, Oracle Inventory User's Guide*.
- Inbound receiving for Oracle Project Manufacturing organizations: If Oracle Warehouse Management is enabled in a Project Manufacturing organization, you can decide how to receive PO lines. The three available options are:
  - Entering the project/task when receiving a PO/RMA/Internal Requisition/ASN.  
The receiving quantity will be consumed across lines/shipments/distributions with the specific project/task.
  - Not entering the project when receiving a PO/RMA/Internal Requisition/ASN.  
The receiving quantity will be cascaded across the lines/shipments/distributions with no specific consideration for project/task. It will cascade against multiple project lines including common lines.
  - Selecting No Project in the list of values (LOV).  
The system will consume the quantity explicitly against lines/shipments/distributions with no project/tasks specified against them.
- You can pack inbound material using the packing workbench packing station you enter determines the Transaction Source type. The transaction source types are Inbound and Outbound. If packing station resides in a sub-inventory of type "Receiving", packing can be performed only for inbound material.

## Related Topics

Entering Quality Results Directly, *Oracle Quality User's Guide*

Inspecting Received Items, *Oracle Quality User's Guide*

## Describing Receiving Documents

Oracle Warehouse Management supports the following receiving documents:

- Purchase orders, with or without ASNs

- Return material authorizations (RMAs)
- Inter-org intransit shipment documents
- Internal requisitions
- Blanket purchase orders

Oracle Warehouse Management supports two modes of receiving: Express and Confirm. To enter receipts using Express mode, you need only enter the document number, and optionally the LPN. For Confirm mode, you need to enter all of the information about the material being received. This includes the following information:

- Document number
- Project (with Oracle Project Manufacturing)
- Task, if applicable (with Oracle Project Manufacturing)
- LPN
- Item
- Quantity
- UOM
- Revision (if applicable)
- Lot (if applicable)
- Serial number (if applicable)

**Note:** Express mode is only supported for purchase orders with ASNs and inter-org shipments, intransit shipments and internal requisitions.

## Describing Receiving Methods

Oracle Warehouse Management supports receiving material according to the same three routings that are used in standard Oracle Purchasing: Standard Routing, Inspection Required, and Direct Delivery.

**Note:** With Advanced Task Framework, it is possible to carry out multi-stage planned movement of inbound material in the receiving

area before storage in the warehouse. Advanced Task Framework functionally is applicable only for material with standard or inspection routing.

## **Standard Routing**

Standard Routing

Standard routing includes the following steps:

- Receiving the material
- Later putting the material away

You should use this routing when the material needs to be received (checked-in) initially and then, at some later point, put away into an inventory storage location. You can assign receiving locators to items with a purchase order. Receiving locators have infinite capacity. You can enter a capacity, but it has no influence on putaway rules. With Standard Routing, the system does not increment the on-hand balance, until the put away task has been completed.

## **Inspection Required**

Inspection Required includes the following steps:

- Material receipt
- Material inspection
- Material put away

You should use Inspection Required when the material that you are receiving requires inspection. You can accept or reject material during the inspection, and put away to separate locations, based on the inspection result. The system does not increment the on-hand balance until the put away step task been completed. You can assign receiving locators to inspected items that have a purchase order. Receiving locators have infinite capacity. You can enter a capacity, but it has no influence on putaway rules.

## **Direct Delivery**

This routing should be used when it is important that material show up in the on-hand balance immediately after it is received into the warehouse, or whenever the receiver will be receiving the material directly into its inventory storage location.

With Oracle Warehouse Management, you can receive material directly into an on-hand storage location. That material can optionally be put away from that storage location into a final storage location. Direct delivery can be effectively used to model a receiving

staging lane, where material is initially received into the warehouse and it is important that on-hand balances are incremented at the time of receipt. Later, the material can be put away from the temporary staging lane to a final storage location.

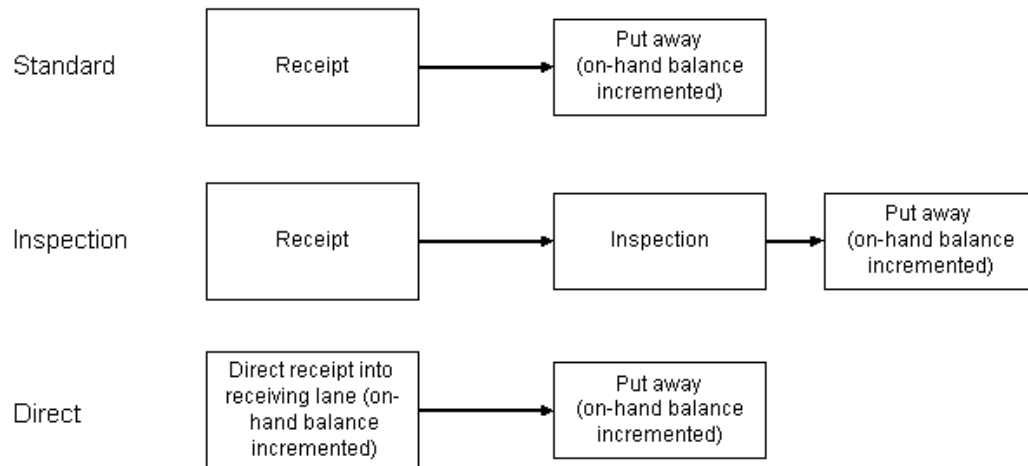
Direct delivery includes the following steps:

- Material receipt
- Material put away (optional in this routing, because on-hand inventory has already been incremented)

The system also supports express receiving for Advanced Shipping Notices (ASNs).

**Note:** Put away task are always manually instigated. Thus, the system does not dispatch put away tasks.

The following figure summarizes the three types of receiving methods.



## Explaining the Standard Receipt Process

The Standard receipt process includes the following steps:

1. The user scans the document number that is being received.

**Note:** In a Oracle Warehouse Management enabled Project Manufacturing organization, you can receive project material against a new LPN using [CTRL+G] to generate the LPN. Alternatively, you can receive the project material into an LPN that is associated with the project. The system will display all of the LPNs associated with the project, in inventory and in receiving, for that project and task combination.



2. The user scans the LPN material that is being received into. Optionally, the user can request a new system-generated LPN through a hot key on the mobile device.

**Note:** If you are receiving an intransit receipt that contains both loose items and an LPN, you must fully consume the LPN before you can receive the loose item. The intransit receipt should be processed as two transactions.<sup>7</sup>

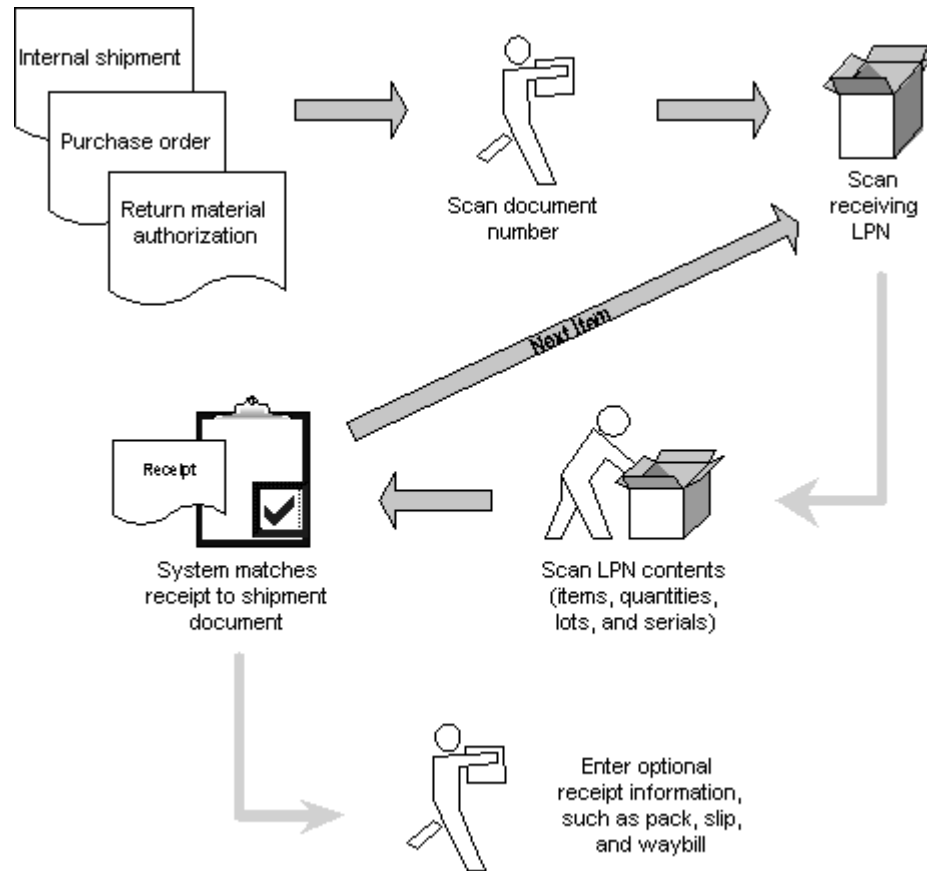
3. In the Project field, enter, select, or scan the project associated with this document line. (Only visible in a Oracle Warehouse Management enabled Project Manufacturing organization.)

**Note:** If the project details are not entered in the purchase order, when you log into the mobile device for receipts, the system will not display the Project or Task details.

4. In the Task field, if applicable, select the task associated with the project. By default, the system selects the task associated with the project from the purchase order distribution line. If you need more than one PO distribution then it should have only one Project/Task combination. However there is an exception to this, you can have non-project distribution for purchase order lines. (Only visible in a Oracle Warehouse Management enabled Project Manufacturing organization.)
5. The received material is scanned, including the item numbers, quantities, lots, and serials.
6. The user can select the <Next Item> option to continue receiving again the same document, or he or she can select the <Done> option to proceed to the receipt header.
7. At this point, the system matches the material entered by the user to the shipment lines on the document, according to the Oracle Warehouse Management matching algorithm.
8. On the receipt header page, the user can enter optional information for the receipt, such as pack slip number, waybill, and so on, or can select <Done> to complete the receipt.

**Note:** As previously mentioned, the on-hand balance for standard receipts is not incremented until the put away step has been completed

The following figure illustrates the standard receipt process.



## Explaining the Direct Receipt Process

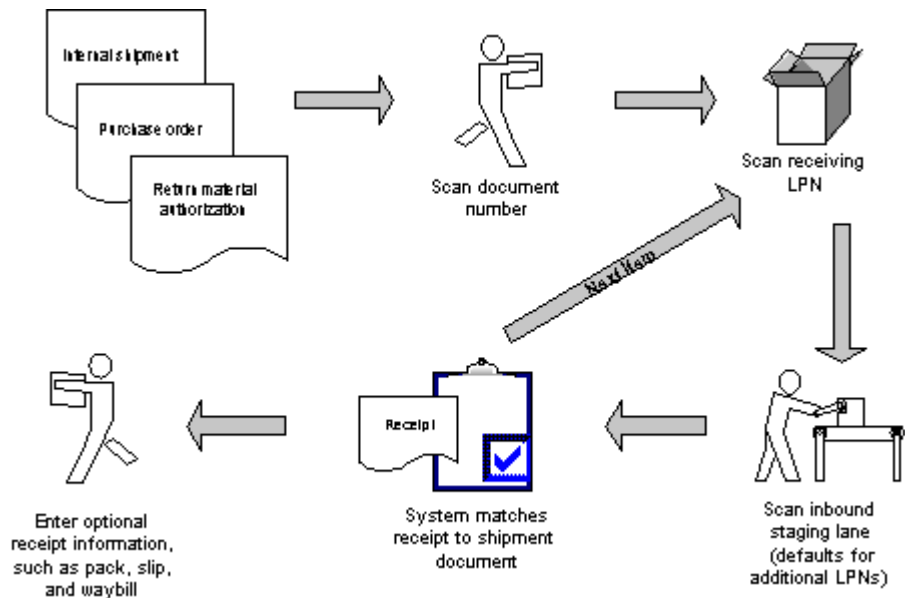
The receiving process for a Direct routing is similar to the Standard routing process, and includes the following steps:

1. The user scans the document number that is being received against.
2. The user scans the LPN material that is being received into. Optionally, the user can request a new system-generated LPN through a hot key on the mobile device. You can receive nested LPNs for all types of documents.
3. The received material is scanned, including the item numbers, quantities, lots, and serials.
4. In the Project field, enter, select, or scan the project associated with this document line. (Only visible in a Oracle Warehouse Management enabled Project Manufacturing organization.)
5. In the Task field, if applicable, select the task associated with the project. By default,

the system selects the task associated with the project from the purchase order distribution line. If you need more than one PO distribution then it should have only one Project/Task combination. However there is an exception to this, you can have non-project distribution for purchase order lines. (Only visible in a Oracle Warehouse Management enabled Project Manufacturing organization.)

6. The user scans the subinventory and locator in which the material is being received. This is typically the inbound staging lane. This location defaults for additional LPNs that are received against the same document.
7. The user can then select <Next Item> to continue to receive against the same document, or select <Done> to proceed to the receipt header.
8. At this point, the system matches the material entered by the user to the shipment lines on the document, according to the Oracle Warehouse Management matching algorithm.
9. On the receipt header page, the user can enter optional information for the receipt, such as pack slip number, waybill, and so on, or can select <Done> to complete the receipt.

The following figure illustrates the Direct routing process.



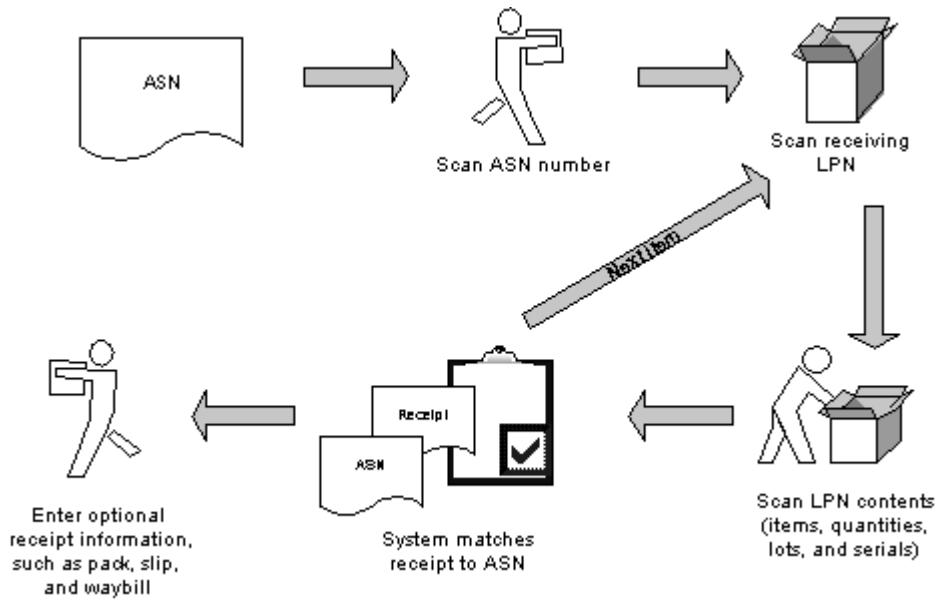
## Explaining the Confirm Receipt Process

The receiving process for standard ASNs is similar to the process of a Standard routing receipt. The following steps explain the ASN receipt process:

1. The user scans the ASN number that is being received against.
2. The user scans the receiving LPN. Optionally, the user can request a new system-generated LPN through a hot key on the mobile device.
3. In the Project field, enter, select, or scan the project associated with this document line. (Only visible in a Oracle Warehouse Management enabled Project Manufacturing organization.)
4. In the Task field, if applicable, select the task associated with the project. By default, the system selects the task associated with the project from the purchase order distribution line. If you need more than one PO distribution then it should have only one Project/Task combination. However there is an exception to this, you can have non-project distribution for purchase order lines. (Only visible in a Oracle Warehouse Management enabled Project Manufacturing organization.)
5. The received material is scanned, including the item numbers, quantities, lots, and serials.
6. The user can then select <Next Item> to continue to receive against the same document, or select <Done> to proceed to the receipt header.
7. At this point, the system matches the material entered by the user to the information contained on the ASN. If a discrepancy appears, the system provides immediate notification to the user.
8. On the receipt header page, the user can enter optional information for the receipt, such as pack slip number, waybill, and so on, or can select <Done> to complete the receipt.

If receipt header information was sent on the ASN, it will automatically default on the header page.

The following figure illustrates the ASN Confirm Receipt routing process.



## Explaining the Express Receipt Process Using ASNs

The receiving process for ASN express receipts is more streamlined than if an ASN is not used. You can use ASN receiving options regardless of the routing of the purchase order. However, instead of scanning the document number, you scan the ASN number. With ASN receipts, the system matches the received material against the ASN information. If a discrepancy appears, then the system sends you a notification. The following steps explain the ASN receipt process:

1. The ASN is sent by the supplier and processed by Oracle Warehouse Management.  
LPNs are prepacked in the system. This means that although the material has not yet been received, all of the content information has been entered into the system.
2. The user scans the ASN being received.  
If direct routing is used, then the user would also need to scan the receiving subinventory and locator. The LPN state at this point, is Resides at vendor site.
3. Enter, select, or scan the Project and Task details. (Only visible in a Oracle Warehouse Management enabled Project Manufacturing organizations.) By default, the system selects the task associated with the project from the purchase order distribution line. If more than one PO distribution is desired, then it should have only one Project/Task combination. However, there is an exception to this, you can have non-project distribution for purchase order lines.

**Important:** If the ASN contains any distribution with a project ID,

then you must enter a value for the Project field on the Express ASN Receipt page.

4. The system receives all of the material sent on the ASN.
5. On the receipt header page, the user can enter optional information for the receipt, such as pack slip number, waybill, and so on, or can select <Done> to complete the receipt.

If receipt header information was sent on the ASN, it will automatically default on the header page.

## Explaining the Inspection Process

The following steps explain the LPN Inspection process.

1. To initiate the LPN Inspection process, the user scans the LPN to be inspected.
2. Next, the user scans the item and quantity.

If only one item is packed in the LPN, then you can press enter and the contents of the LPN will automatically default into the appropriate fields. You can receive nested LPNs for all document types.
3. Depending on the value of the system profile option, QA:PO Inspection, the system transfers the user to either Oracle Purchasing Inspection or Oracle Quality Inspection. If the profile option value is set to Oracle Quality, but not applicable quality plans are found, then the system defaults to Oracle Purchasing Inspection.
4. If the user is using Oracle Quality, then he or she should proceed to step 5. If the user is using Oracle Purchasing, then he or she should proceed to step 6.
5. Using Oracle Quality Inspection, the user enters information into a quality collection plan that has been previously set up to include customizable quality-related fields that must be captured during inbound inspection.

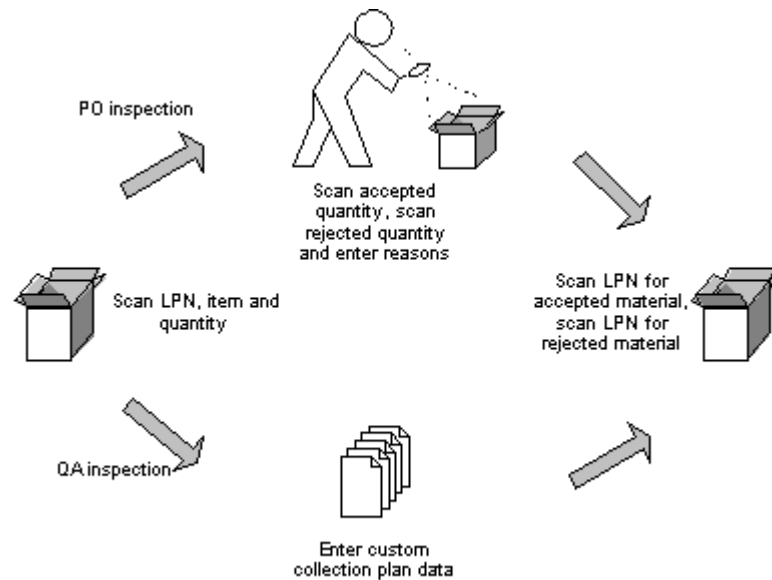
**Note:** Inspections can be performed using the optional module of Oracle Quality. If Oracle Warehouse Management is enabled in a Project Manufacturing organization, Oracle Quality can be set up to trigger collection plans based on project and task numbers. See: *Entering Quality Results, Oracle Quality User's Guide*.

6. Using Oracle Purchasing Inspection, the user enters the accepted quantity, rejected quantity, and a reason and quality code for both accepted and rejected material.

7. The user enters the accepted and rejected quantities.
8. In addition to capturing data in Oracle Quality Inspection, material statuses and lot or serial attributes can be assigned automatically, based on the results of a Quality Inspection and assignment rules that were previously set up.
9. After completing the inspection, the user must scan an LPN for the accepted quantity (this value defaults to the original LPN), and then must generate a different LPN for the rejected quantity.

At this point, the LPN inspection is complete.

The following figure provides an example of the LPN Inspection process.



## Related Topics

Performing Receipts using the Oracle Warehouse Management Mobile Single Receiving Common User Interface, page 5-33

Quality Results, *Oracle Quality User's Guide*

Defining Subinventories., *Oracle Inventory User's guide*

Overview of Manufacturing, *Oracle Project Manufacturing User's Guide*

## Receiving Material for Clients (LSP Feature)

When operating in a third party logistics (LSP) environment, logistics service providers can receive material by client. When you receive a purchase order (PO), the system automatically appends the client code to the PO number and item number. This process

helps to segment and identify information by client. If two or more clients have the same PO number or item number at receipt, the system prompts you to select the correct client from a list. After you select the proper client, then the system automatically appends this information to the PO number or item number. You can then proceed with the normal receiving process.

## **How to Perform Receiving Transactions Using the Oracle Warehouse Management Mobile User Interface**

You use the mobile user interface to perform receiving transactions. However, before you can receive items into the warehouse, using either the standard, direct, or inspection methods, an approved purchase order or orders must already exist. Oracle Warehouse Management supports both non-stocked items (items that are not set up in inventory) and stocked items (items that are defined and set up in inventory), enabling you to receive against any purchase order lines through the mobile user interface.

This section explains how to perform the following receipt transactions, using the mobile user interface:

- Standard receipt , page 5-16
- Direct receipt, page 5-20
- Inspection receipt, page 5-23
- Express receipt, page 5-26

You can view the results of your receipt transactions, using the Material Workbench, page A-5. Query on the subinventories into which you received items, or query the items being received.

### **How to Perform a Standard Receipt**

You use the mobile user interface to perform a standard receipt from a purchase order. After you receive the material, you must also perform a corresponding put away task to put away the received items into a subinventory and locator. Recall that with standard receiving, the on-hand inventory is not incremented until the item or items have been put away.

1. Log into the mobile user interface and navigate to the Receipt form, page A-5.



Oracle Mobile

ORACLE

Receipt (W1)

PO Num

Item

2. In the PO Num field, enter or select the purchase order number that you want to receive against.  
The system automatically displays the associated supplier.
3. In the Line Num field, enter or select the purchase order line number that is associated with this receipt.
4. The system automatically displays the associated item, item description, location, and UOM.
5. In the Project field, enter, select, or scan the project associated with this document line. (Only visible in a Oracle Warehouse Management enabled Project Manufacturing organization.)
6. In the Task field, if applicable, select the task associated with the project. (By default, the system selects the task associated with the project from the purchase order distribution line.) (Only visible in a Oracle Warehouse Management enabled Project Manufacturing organization.)
7. Enter the LPN in the LPN field.

Oracle Mobile  
ORACLE  
Receipt (W1)

PO Num 4438

Supplier Advanced Network Devices

Line Num

Item WM100

Desc Inkjet Printer

LPN LPN01

To Sub BULK

To Loc B1.1.1

UOM Ea(1 Ea)

Qty 25

Next Item Done Cancel (C)

8. If you have set up receiving subinventories and locators, enter the subinventory and locators in the To Sub and To Loc fields. See: *Defining Subinventories, Oracle Inventory User's Guide* and *Locator Alias*, page 3-41
9. Enter the quantity you are receiving in the Qty field. If the item is under dual unit of measure control, the system may display the secondary unit of measure and secondary quantity. To display the Sec Uom and Sec Qty fields, you must set a form function parameter. If you set the form function parameter to display the Sec Uom and Sec Qty fields, then you can modify them based on the parameters you set on the Item Master. See, *Inventory Attribute Group, Oracle Inventory User's Guide* for more information.
10. If the item is lot, serial, or lot/serial controlled, you can enter, select a lot, or scan the first lot, and enter a quantity. If the item is under dual UOM control, then the secondary lot quantity defaults based on how you defined the item in the Item Master. Either the remaining quantity is displayed indicating the quantity yet to be received or the total quantity received to date, depending on the setting of the QTYTRG form function parameter. If the lot is under child lot control, you enter the parent lot, and the child lot appears automatically in the Lot field.

**Note:** If you set Lot Divisible to no on the Item Master, you must transact the entire lot.

To enter Lot attributes press enter in the Lot field. The Lot Attributes are as follows:

- Lot
- Status
- Expiration Date
- Grade
- Expiration Action Date
- Expiration Action
- Retest Date
- Hold Date
- Mature Date
- Supplier Lot.

For more information on Lot Attributes see, Inventory Attribute Group, *Oracle Inventory User's Guide*

```

Lot Attributes (M1)
Lot      >DS11
Status   >Active
Exp Date :
Grade    >GOOD
ExpActDt :
ExpAction>AMST
Retest Dt:10-AUG-200
Hold Dt  :07-MAY-200
Mature Dt:12-MAY-200
Supp Lot :
<Done>
<Cancel>

```

11. Choose <Done> or <Cancel> to return to the Receipt page.
12. Select <Next Item> to receive more items, or select <Done>, which opens the Receipt Information page.
13. In the Receipt Information form, optionally enter the carrier, pack slip, bill of lading, waybill, and airbill numbers associated with the receipt.
14. Select <Done> to complete the standard receipt.

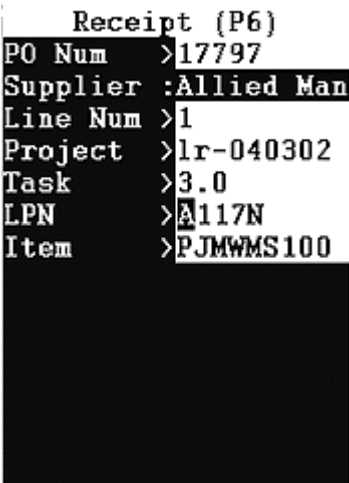
After you perform the standard receipt, you must perform a put away task to put the item away into the appropriate subinventory and locator. In the case of a Oracle Warehouse Management enable Project Manufacturing organization, the item would be put away into the subinventory and locator belonging to the project. .

**Note:** In the case of a Oracle Warehouse Management enabled Project Manufacturing organization, the Project and Task details are derived from the LPN. This will be the project and task on the purchase order distribution line. The fields cannot be edited. In the Locator fields, only the physical segments of the locator are displayed. You only enter the physical segments of the locator in the confirmation field. The system will append the project and task to this locator when posting the transaction to Oracle Inventory.

**How to Perform a Direct Receipt**

You use the mobile user interface to perform a direct receipt from a purchase order. With direct receiving, you receive the item or items directly into a receiving subinventory, and at the time of receipt, the on-hand inventory balance is automatically incremented.

- 1. Log into the mobile user interface and navigate to the Receipt form, page A-5.



The screenshot shows a mobile application interface for a 'Receipt (P6)' form. The form contains several fields with their corresponding values: PO Num is 17797, Supplier is Allied Man, Line Num is 1, Project is 1r-040302, Task is 3.0, LPN is A117N, and Item is PJMWMS100. The fields are displayed in a list-like format with a dark background and light text.

Receipt (P6)	
PO Num	>17797
Supplier	:Allied Man
Line Num	>1
Project	>1r-040302
Task	>3.0
LPN	>A117N
Item	>PJMWS100

- 2. In the PO Num field, enter or select the purchase order number that you want to receive against.  
The system automatically displays the associated supplier.
- 3. In the Line Num field, enter or select the purchase order line number that is associated with this receipt.

4. In the Project field, enter, select, or scan the project associated with this document line. (Only visible in a Oracle Warehouse Management enabled Project Manufacturing organization.)
5. In the Task field, if applicable, select the task associated with the project. (By default, the system selects the task associated with the project from the purchase order distribution line.) (Only visible in a Oracle Warehouse Management enabled Project Manufacturing organization.)
6. In the LPN field, enter or generate (by pressing [CTRL]+[G]) a LPN for this receipt. You can receive nested LPN.

The system automatically displays the associated item.

7. Press [Enter] to display the Deliver form.

```

Deliver (P6)
PO Num    >17797
Supplier   :Allied Ma
Line Num   >1
Project    >lr 040302
LPN        >A117N
Item       >PJMWS100
Desc       :Vanilla I
To Sub     >Project
To Loc     ]1.1.1
Deliv UOM  >Ea
Deliv Qty  :20
<Next Item>
<Done>
<Cancel>

```

The system automatically displays the PO Number, Supplier, LPN, item, and the item description. In the case of a Oracle Warehouse Management enabled Project Manufacturing organization, the Project and Task fields would also be visible and populated.

8. In the To Sub field, enter or select the subinventory in which to receive this item.  
When you enter a value for the To Sub field, the system displays the To Loc field.
9. In the To Loc field, enter the subinventory locator in which to receive the item.
10. Enter the quantity you are receiving in the Deliv Qty field. If the item is under dual unit of measure control, the system may display the secondary unit of measure and secondary quantity. To display the Sec Uom and Sec Qty fields, you must set a form function parameter. If you set the form function parameter to display the Sec Uom and Sec Qty fields, then you can modify them based on the parameters you set on the Item Master. See Inventory Attribute Group, *Oracle Inventory User's Guide* for

more information.

11. If the item is lot, serial, or lot/serial controlled, you can enter, select a lot, or scan the first lot, and enter a quantity. If the item is under dual UOM control, then the secondary lot quantity defaults based on how you defined the item in the Item Master. Either the remaining quantity is displayed indicating the quantity yet to be received or the total quantity received to date, depending on the setting of the QTYTRG form function parameter. If the lot is under child lot control, you enter the Parent Lot, and the child lot appears automatically in the Lot field.

**Note:** If you set Lot Divisible to no on the Item Master, you must transact the entire lot.

To enter Lot attributes press enter in the Lot field. The Lot Attributes are as follows:

- Lot
- Status
- Expiration Date
- Grade
- Expiration Action Date
- Expiration Action
- Retest Date
- Hold Date
- Mature Date
- Supplier Lot.

For more information on Lot Attributes see, *Inventory Attribute Group, Oracle Inventory User's Guide*

```

Lot Attributes (M1)
Lot      >DS11
Status   >Active
Exp Date :
Grade    >GOOD
ExpActDt :
ExpAction>AMST
Retest Dt:10-AUG-200
Hold Dt  :07-MAY-200
Mature Dt:12-MAY-200
Supp Lot :
<Done>
<Cancel>

```

12. In the Receipt Information form, optionally enter the carrier, pack slip, bill of lading, waybill, and airbill numbers associated with the receipt.
13. Select <Next Item> to enter more items, or select <Done> to complete the standard receipt.

## Performing Inspection Receipts

You use the mobile user interface to perform an inspection receipt from a purchase order. With inspection receiving, you receive the item or items. See: Overview of Mobile Quality, *Oracle Mobile Supply Chain Applications User's Guide* for more information.

1. Log into the mobile user interface and navigate to the Receipt form, page A-5.
2. In the PO Num field, enter or select the purchase order number to receive against. The system automatically displays the associated supplier.
3. In the Line Num field, enter or select the purchase order line number that is associated with this receipt.
4. In the LPN field, enter or generate (by pressing [CTRL]+[G]) a LPN for this receipt. You can receive nested LPNs.
5. Enter the receiving subinventory and locator if applicable. The system automatically displays the associated item.
6. Press [Enter] to display the Receipt form. The system displays the item description, location, and UOM.
7. Enter the quantity you are receiving in the Qty field. If the item is under dual unit

of measure control, the system may display the secondary unit of measure and secondary quantity. To display the Sec Uom and Sec Qty fields, you must set a form function parameter. If you set the form function parameter to display the Sec Uom and Sec Qty fields, then you can modify them based on the parameters you set on the item master. See, Inventory Attribute Group, *Oracle Inventory User's Guide* for more information.

8. If the item is lot, serial, or lot/serial controlled, you can enter, select a lot, or scan the first lot, and enter a quantity. Either the remaining quantity is displayed indicating the quantity yet to be received or the total quantity received to date, depending on the setting of the QTYTRG form function parameter. If the lot is under child lot control, you enter the Parent Lot, and the child lot appears automatically in the Lot field.

**Note:** If you set Lot Divisible to no on the Item Master, you must transact the entire lot.

To enter Lot attributes press enter in the Lot field. The Lot Attributes are as follows:

- Lot
- Status
- Expiration Date
- Grade
- Expiration Action Date
- Expiration Action
- Retest Date
- Hold Date
- Mature Date
- Supplier Lot.

For more information on Lot Attributes see, Inventory Attribute Group, *Oracle Inventory User's Guide*



```

Lot Attributes (M1)
Lot      >DS11
Status   >Active
Exp Date :
Grade    >GOOD
ExpActDt :
ExpAction>AMST
Retest Dt:10-AUG-200
Hold Dt  :07-MAY-200
Mature Dt:12-MAY-200
Supp Lot :
<Done>
<Cancel>

```

9. To enter additional items, select <Next Item>; To complete this receipt and perform the required inspection, select <Done>.

The system displays the Receipt Information window.

```

Receipt Information
PO Num    >1006073
Supplier  :Allied Man
Rcpt Num  :507
Carrier   >
Pack Slip:
BOL       :
Waybill   :
Airbill   :
<Done>
<Cancel>
<Inspect>

```

10. Select <Done> or <Inspect> to perform the inspection.
11. Enter whether the item passed or failed the inspection.
12. Select <Done> to complete the transaction.

### Inspecting Project and Task material if Oracle Quality is not Installed

The standard inspection process does not support project/task material within an Oracle Project Manufacturing organization. The Oracle Quality inspection process does support project/task material inspection. If Oracle Quality is not installed, the following

procedure can be utilized to inspect project material:

1. Navigate to the Putaway Drop form.
2. In the LPN field, enter the accepted LPN and select <Drop>
3. The system will display the item, project, task, subinventory, and locator details for the accepted LPN.
4. The system suggests the To Subinventory and To Locator details based on the put away rules defined for the Project and Task.

## Related Topics

Locator Alias, page 3-41

## How to Perform an ASN Receipt

You can also use the mobile user interface to perform receipts from advanced shipping notices (ASNs).

1. Log into the mobile user interface, and navigate to the Express Receive, page A-5 form.

The system displays the ASN Receipt Express form.

2. In the ASN Num field, enter or select the ASN number, and then select <Done>.

You can optionally enter an LPN and purchase order number in the ASN Receipt Express form. The system automatically displays the ASN number, a receipt number, and other information, if supplied.



The screenshot displays a mobile application interface for an ASN Receipt. It features a list of fields with their corresponding values, some of which are highlighted with a black background. The fields and values are: ASN Num (AA1000), Rcpt Num (611), Carrier (>), Pack Slip (PA1000), BOL (B2178), Waybill (WY288), and Airbill (WY288). At the bottom, there are two buttons: <Done> and <Cancel>.

Receipt Information	
ASN Num	>AA1000
Rcpt Num	:611
Carrier	>
Pack Slip	:PA1000
BOL	:B2178
Waybill	:WY288
Airbill	:WY288
<Done>	
<Cancel>	

3. In the BOL field, enter the bill of lading number.

4. In the Waybill or Airbill fields, enter either the waybill or the airbill.
5. Select <Done> to save and complete the transaction.

**Note:** If you are using drop ship functionality within Oracle applications and you do not use the ASN or iSupplier portal to trigger automatic receipts into the receiving organization, perform these drop shipment receipts through the desktop receiving windows or receive the material into non LPN controlled subinventories. This is because the mobile user interface will receive the material into LPNs but the sales order issue transaction that is automatically created by Oracle Order Management will not reference any LPNs. Therefore the material must be loose (unpacked) prior to being issued out of inventory.

## How to Print the ASN Discrepancy Report

The ASN discrepancy report enables users of Oracle Warehouse Management to generate a report that details any discrepancies between the material information that a supplier sent on their ASN, and the material information that was collected at the time of actual receipt. The ASN Discrepancy Report is only valid for material that was not received through an Express Receipt, but through a Confirmed Receipt instead.

At the time of Confirmed receipt, you can enter different LPNs, Items, Quantities, Lots and Serials than what was shipped on the ASN. This report enables you to see the difference between the expected information and the actual information. The report also enables you to specify what types of discrepancies to report on and other parameters to control the behavior of the report.

1. Log into the application and navigate to the Submit, page A-1 Request window.
2. In the Name field, enter, or select from the list of values, Oracle Warehouse Management ASN Discrepancy Report.
3. Populate the remaining fields. The remaining fields include:
  - Organization - The organization for which the Oracle Warehouse Management ASN Discrepancy Report will be executed
  - Shipment Num - The shipment number to query for ASN Confirm Receipts
  - Item - The item number to query for ASN Confirm Receipts
  - From Date - The earliest date ASN receipts should be searched for ASN Confirm Receipts

- To Date - The latest date ASN receipts should be searched for ASN Confirm Receipts
- Supplier - The supplier that should be searched for
- Supplier Site - The supplier site that should be searched for
- Check LPN - Include expected and received LPNs on the report
- Check Revision - Include expected and received revisions on the report
- Check Lot Number - Include expected and received lot numbers on the report
- Check Serial Number - Include expected and received serial numbers on the report
- Show Only Discrepancies - Display all ASN Confirm Receipts that met the selection criteria, or display only those that had discrepancies.

## Explaining the Express Receipt Process Using Internal Requisitions

1. Navigate to the Express Receive Int Req page.
2. Scan or enter the internal requisition number. You can only have one shipment for per item on an internal requisition. You can receive multiple shipments each with different items, but not one item on multiple shipments.
3. Scan or enter the LPN. You can receive nested LPNs.
4. Optionally, enter or scan the subinventory and locator information. See Locator Alias, page 3-41.

```

Receipt (W1)
Req Num>3800
LPN    >00336
To Sub >
To Loc ]
<Next LPN>
<Done>

```

5. Choose <Next LPN> to enter another LPN against this requisition. Choose <Done> to complete the internal requisition. If you choose <Done> the Receipt Information page opens.
6. Optionally, enter the Carrier, Pack Slip, Bill of Lading, Waybill and Airbill.
7. Choose <Done> to complete the receipt, or choose <Cancel> to cancel the receipt.

## Related Topics

Documented Initiated Receipts, page 5-34

Item Initiated Receipts, page 5-35

Receiving for Different Routings, page 5-31

Receiving Material Sent for Outside Processing, page 5-31

Displaying Country Origin, page 5-32

Displaying Routing Message, page 5-32

## Explaining the Express Receipt Process Using Internal Shipments

1. Navigate to the Express Receive Int Ship page.
2. Scan or enter the Shipment number.
3. Scan or enter the item number.
4. Scan or enter the LPN if applicable. LPNs may be nested.
5. Scan or enter the To Subinventory if applicable.
6. Scan or enter the To Locator if applicable. See Locator Alias, page 3-41.
7. Enter the quantity to receive in the Qty field.

Oracle Mobile  
ORACLE  
Receipt (W2)

Ship Num	68880
Src Org	W1 - Cherry Hill Distribution
Item	JLP202
Desc	Serial Item
Location	W2 - Newark
UOM	Ea(1 Ea)
Qty	5

Next Item Done Cancel (C)

8. Choose <Done> to process the receipt and open the Receipt Information page.
9. Optionally enter the Carrier, Pack Slip, Bill of lading, Waybill and Airbill.
10. Choose <Done> to complete the receipt, or choose <Cancel> to cancel the receipt.

## Related Topics

Documented Initiated Receipts, page 5-34

Item Initiated Receipts, page 5-35

Receiving for Different Routings, page 5-31

Receiving Material Sent for Outside Processing, page 5-31

Displaying Country Oracle Warehouse Management User's Guide Origin, page 5-32

Displaying Routing Message, page 5-32

## Receiving Common User Interface

Businesses need to be able to perform receipts without knowing the document types they are receiving against. The single receiving common user interface allows receipts against all inbound document types. Document types include Purchase Orders, Return Material Authorizations, Intransit Shipments, ASN, and Internal Requisitions.

If your business does not need to use one common user interface to perform all the receipts, it is advisable to use the different menu entries for each of the types of receipts. This will increase the performance while validating the list of values.

## Receiving for Different Routings

The common user interface changes based on the routing. The routing is determined based on the document number, document type, and the item.

- If you are receiving against a direct routing, instead of the Location field, the Subinventory and the Locator fields display.
- For a one-time item or an expense item, even if the routing is direct, the system will not ask for the To Subinventory and the To Locator because an expense item cannot be delivered to inventory.
- For a direct receipt, the LPN is no longer required since you may want to receive in inventory as loose and also may be receiving in a non-LPN controlled subinventory.

## Related Topics

Performing Receipts Using the Oracle Warehouse Management Mobile Single Receiving Common User Interface, page 5-33

## Receiving Material Sent for Outside Processing

The common user interface changes if you perform a receipt against material sent for outside processing.

- After you enter Document and Item, the system changes the user interface asking for the Job/Schedule.
- After entering the Job/Schedule, the system displays the Sequence Num and Department the material should be delivered to complete the receipt. It also displays the Quantity to be delivered to complete that WIP operation.

```

Receipt (M1)
PO Num    >3428
Supplier  :Advanced
Line Num   >
Item      >MAN-OSP
Desc      :Outside p
Job/Sched >MAN-JOB
Op Seq Num:20
Dept      :MAN-OSP-D
UOM       >Ea
Req Qty   :4
Qty       :
<Next Item>
<Done>
<Cancel>

```

## Related Topics

Performing Receipts Using the Oracle Warehouse Management Mobile Single Receiving Common User Interface, page 5-33

## Displaying Country Of Origin

The COUNTRY OF ORIGIN field can be viewed in the common user interface screen. Country of Origin is displayed depending on the form function parameter SHOW\_COO. The default is No. To display Country of Origin, set the parameter to Yes. This field is shown immediately after the LPN field and is optional.

## Related Topics

Performing Receipts Using the Oracle Warehouse Management Mobile Single Receiving Common User Interface, page 5-33

## Displaying Routing Message

An Inspection Required routing message may be displayed in the common user interface, depending on the Inspection Routing of the document received. This provides you with the knowledge that some of the material needs to be routed to inspection. The message displays after you exist out of the LPN field.

## Related Topics

Performing Receipts Using the Oracle Warehouse Management Mobile Single Receiving Common User Interface, page 5-33

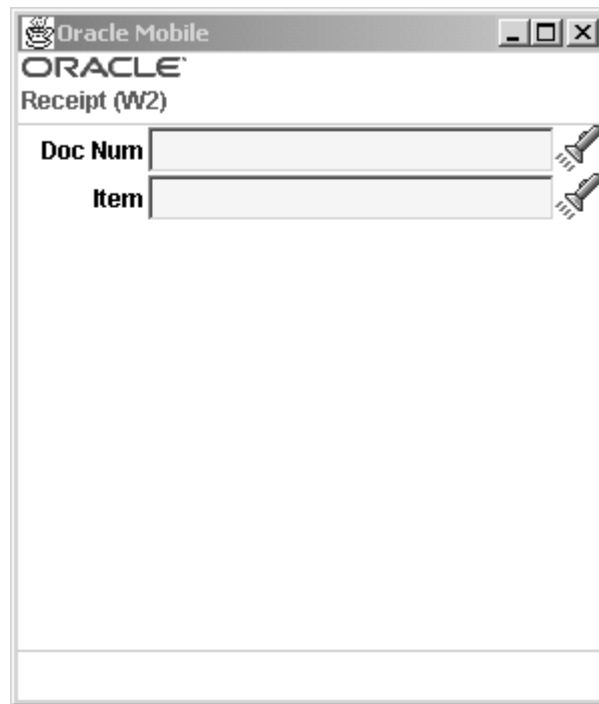


## How to Perform Receipts Using the Receiving Common Interface

1. Navigate to the Receipts screen by selecting All from the Receiving menu.

The Receipts screen displays the document field where you can enter the document number without knowing the document type you are receiving against.

2. The Document field is an LOV that includes all the open purchase orders, return material authorizations, intransit shipments, and internal requisitions against which the material can be received. Oracle Warehouse Management will determine the document type, displaying a list of values if there are multiple matches.



3. Based on the document type, once you exit the Document field, the user interface changes to look exactly as if you would have performed the receipt for that document type after initiating it directly from the menu.

For example, if the scanned document is a purchase order, the Supplier and Line Num fields would display on the user interface.

Also based on the document type selected, the prompt for the Document field changes. In this example it changes to an Int Shipment so you understand you are performing an Int Shipment.

Oracle Mobile  
ORACLE  
Receipt (W2)

Ship Num	68880
Src Org	W1 - Cherry Hill Distribution
Item	JLP200
Desc	vanilla item
Location	W2 - Newark
UOM	Ea(1 Ea)
Qty	

Next Item Done Cancel (C)

## Document Initiated Receipts

The common user interface behaves slightly different for different document types. For all the document types below, the FROM LPN field is optional. In the FROM LPN field, you can enter the license plate number for the Intransit Shipment, Requisition, or ASN. The LPN field is mandatory depending on the routing of the item/org/doc.

### Purchase Order

For a PO receipt, after you enter a PO Number, the user interface will display the following fields:

- PO Num (once it has been entered in the doc prompt)
- Supplier
- Line Num
- Item

### Return Material Authorization (RMA)

For a RMA receipt, after you enter a RMA Number, the user interface will display the following fields:

- RMA Num (once it has been entered in the doc prompt)
- Customer
- Item

## Intransit Shipments

For Intransit Shipments (non-express), after you enter an Intransit Shipment number, the user interface will open with the following fields:

- Ship Num (once it has been entered in the doc prompt)
- Src Org
- Item

## Internal Requisitions

For Internal Requisitions (non-express), after you enter an Internal Requisition number, the user interface will open with the following screen:

- Req Num (once it has been entered in the doc prompt)
- Src Org
- From LPN
- Item

Currently the functionality is limited to having one shipment for a item on an internal requisition. You can receive multiple shipments each with different items but not one item on multiple shipments.

## ASN

For ASNs (non-express), after you enter an ASN number, the user interface will open with the following fields:

- ASN Num (once it has been entered in the doc prompt)
- Item

## Item Initiated Receipts

In some cases you may want to scan the item number before scanning the document number. You can receive against any document by scanning the item first. The user

interface is easily customized so the user interface displays the Item field first.

All the menu options have been seeded with an additional form function parameter ITEM\_CONTROLLED. It has two values YES or NO. If it is set to YES the user interface will display the Item field first. By default the value seeded is NO.



## Receiving Different Item Types

You can receive different types of items in the single receiving common user interface. Items include vendor, substitute, expense, and one-time items.

The vendor item can be defined either through Vendor Item Association or defined as a cross reference to an existing item in the system. If you scan the vendor item, the Item field is defaulted with the system item and the vendor item shows up as a non-editable field after the Item field.

## Cross References for Vendor Items

You can define cross references for vendor items using both the desktop windows, and the mobile pages. If you receive a vendor item that is not cross referenced to a system item, the system will return a No results found message. To define references on the desktop see: Defining Cross Reference Types, *Oracle Inventory User's Guide*

### How to Define Cross References for Vendor Items from the Mobile Device:

1. Press Ctrl+G on the Item field.

The system will ask you to select the system item you are associating with the vendor item. This can be done from the list of values.

2. After you enter the system item, the Supplier Item field displays. This is defaulted from the item you scanned. You can change this association or you can leave the

default.

When you save the receipt, the new association is created.

3. When you process the transaction by selecting <Done> or <Next Item>, the system creates a cross reference to this specific organization.

If the cross reference is applicable to all organizations, you need to use the desktop and update the record there. From the mobile device, you can only create an organization specific cross-reference.

## Describing the LPN Put Away Process

In addition to supporting LPN put away from a Standard Routing, Oracle Warehouse Management enables you to initiate a put away by scanning an LPN anywhere in the warehouse.

After you scan an LPN, you have the option of loading that LPN onto your current equipment, or dropping the LPN immediately. If you load the LPN, you can scan additional LPNs onto their equipment then begin dropping LPNs whenever they are at the appropriate locations to be dropped.

**Note:** Putaway transactions must be carried out using the manual load, directed drop, drop an LPN, or manual drop pages.

## Explaining Manual Loads

A manual load is a put away task that you create. You can use the Manual Load page to fully load the contents of one LPN into another LPN to put away the outer LPN. You can also transfer the contents of one LPN into another LPN in order to put away the second LPN. Finally, you can use the Manual Load page to select items from an LPN and put away only those items. For efficient warehouse operations, you sometimes need to put away individual contents of an LPN and then consolidate the content at various warehouse storage locations. To accomplish this, you load an entire LPN and then specify which items of the LPN to put away at the various storage locations. To perform a manual load, complete the following steps:

1. Navigate to the Manual Load Page.
2. Enter or scan the LPN to load.
3. Enter the Into LPN to nest the LPN.

Oracle Mobile

ORACLE

Manual Load (W2)

LPN LPN148A

Into LPN LPN103

Load Full LPN Transfer Contents

Select Contents Cancel (C)

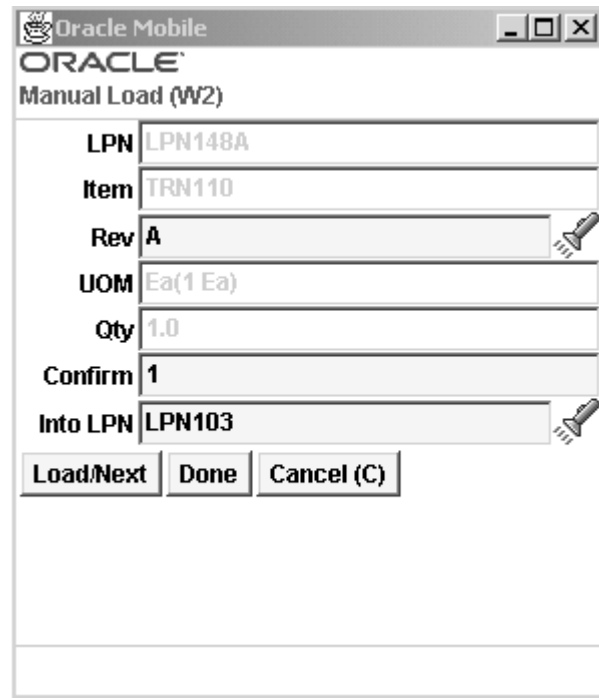
4. Select <Load Full LPN> to nest the loaded LPN in the to LPN, select <Transfer Contents> to transfer the contents from one LPN to another LPN, or choose <Select Contents> to open the Item Load page and select loose content from the loaded LPN.

If you select <Transfer Contents> or <Select Contents> you must enter an into LPN. The into LPN is used to transfer the contents of the original LPN, or individual items if you select <Select Contents>.

5. If you selected <Load Full LPN> or <Transfer Contents> repeat the previous steps to load or transfer additional LPNs. If you selected <Select Contents>, complete the following steps.
6. Enter the item number to load.
7. Enter the revision information if required.
8. Confirm the quantity to load in the Confirm field. If the item is under dual unit of measure control, the system displays the secondary unit of measure, and secondary quantity.

**Note:** You must set a form function parameter for the secondary quantity and unit of measure to appear.

**Note:** If you set Lot Divisible to No on the Item Master, then you can receive any quantity in to the locator as long as no reservation exists, and you receive the entire lot quantity in to the same locator. You can continue to receive the lot into an existing indivisible lot provided that it is in the same locator. If the lot exists in a locator then you cannot receive that lot into a different locator.



Oracle Mobile

ORACLE

Manual Load (W2)

LPN LPN148A

Item TRN110

Rev A

UOM Ea(1 Ea)

Qty 1.0

Confirm 1

Into LPN LPN103

Load/Next Done Cancel (C)

9. Enter and confirm the lot and serial number information if applicable. If the item is under dual UOM control, then the secondary lot quantity defaults based on how you defined the item in the Item Master.
10. Select <Load/Next> to load another item, select <Done> to complete the task, or select <Cancel> to cancel the task.

## Explaining Directed Drops

Directed drops allow you to drop any LPN loaded by the manual load page and the pick load page. For a directed drop, the system selects the drop location using the Oracle Warehouse Management Rules Engine put away rules.

1. Navigate to the Drop Loaded LPNs page.
2. Enter or select the current task.

```

Drop LPN (W1)
Current Ta>LPN100
<Drop>
<Cancel>

```

3. Choose <Drop> to drop the LPN, or Cancel to cancel the LPN drop. If you choose <Drop>, the drop LPN page opens.

## Move any LPN

You can use Move any LPN to drop any loaded LPNs or perform an implicit load followed by a drop. This is applicable only to inbound LPNs.

1. Navigate to the Move Any LPN page.
2. Scan or enter the LPN in the LPN field.

```

Move LPN (W1)
LPN >LPN10027A
<Drop>
<Cancel>

```

3. Choose <Drop> to drop the LPN, or Cancel to cancel the LPN drop. If you choose <Drop>, the drop LPN page opens. For information on dropping LPNs, see: How to Perform Receiving Transactions Using the Oracle Warehouse Management Mobile User Interface, page 5-16



## Drop All LPNs

You can drop multiple loaded LPNs and the system directs you to drop the LPNs in the optimal drop sequence.

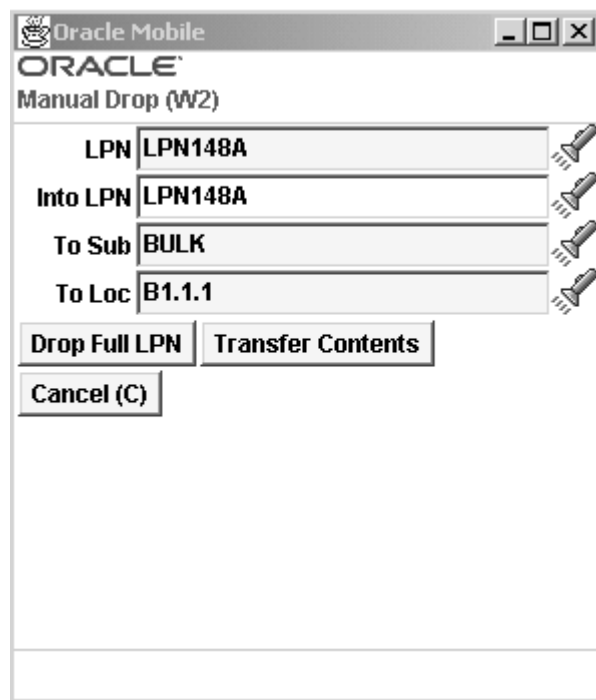
To drop all LPNs:

1. Navigate to the Drop All LPNs window.
2. The Drop LPN page opens. For information on dropping LPNs, see: How to Perform Receiving Transactions Using the Oracle Warehouse Management Mobile User Interface, page 5-16

## Explaining Manual Drops

You can use the manual drop page to drop items loaded using the Manual Load. page.

1. Navigate to the Manual Drop page.
2. Enter or scan the LPN to drop.
3. Optionally, enter the to LPN, to nest the LPN.
4. Enter the subinventory and locator information. See Locator Alias, page 3-41.



Oracle Mobile  
ORACLE  
Manual Drop (W2)

LPN	LPN148A	
Into LPN	LPN148A	
To Sub	BULK	
To Loc	B1.1.1	

Drop Full LPN   Transfer Contents

Cancel (C)

5. Choose <Drop Full LPN> to drop the entire LPN in to the subinventory and

locator, choose <Transfer Contents> to transfer the contents of the LPN to the subinventory and locator, or choose <Cancel> to cancel the task.

## Multi-Step Putaway and Replenishment

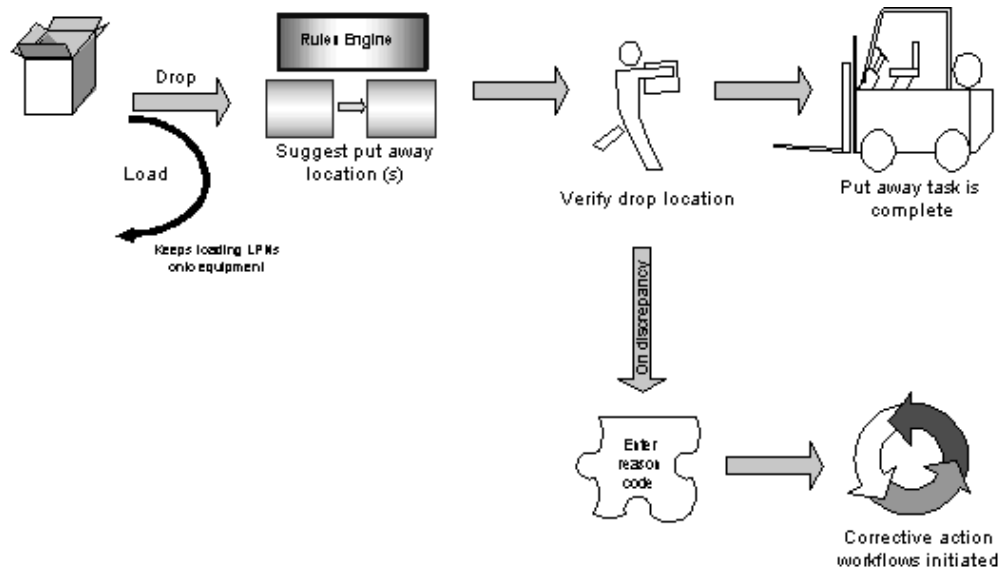
If the suggested put away location is not accessible, you can drop the LPN into a temporary area for the suggested subinventory. Like any discrepancy of a suggested put away location, a reason code must be given. Based on that reason code the system can execute a workflow that assigns a task to the appropriate operator to put the LPN away to its original suggested location. For example, the suggested put away location for a particular LPN is a VNA (Very Narrow Aisle) location that is serviced by a special fork truck. When you scan the LPN at the inbound lane, it tells you to put it away to the VNA locator. However, you can only bring it as far as the head of the VNA lane because you don't drive the fork. You put it away to the VNA lane 'temporary' area. When you do that, you give a reason, for example 'Multi-Step', that is attached to a workflow. The workflow creates a task for the fork driver to move the material from the VNA lane 'temporary' area into the VNA locator itself.

To set up multi-step put away and replenishment, you need to create a subinventory as your 'temporary' area or lane to temporarily drop the material into. A workflow must be created to assign a task to the operator that needs to put the material into the appropriate location. The multi-step put away and replenishment process can be repeated any number of times on an LPN.

Multi-step replenishment does not guarantee the original LPN dropped into an intermediate location, is carried forward to the final destination. It only ensures that the material is transferred from intermediate to the final location.

Multi-step replenishment does not create any reservations. The workflow background engine creates the replenishment task from the intermediate to the original destination. Once the replenishment suggestion is created, the material is automatically reserved from other processes using it. There is a time gap between the material originally getting dropped and workflow process creating the replenishment, during which that material would be available for other processes. You need to schedule the workflow background engine concurrent request appropriately and do not allow pickers to pick material from these subinventories for other processes.

The following figure illustrates the LPN put away process.



## Explaining LPN Based Returns

Oracle Warehouse Management offers a one step or a two step process for returns. This option is determined by the WMS:Express Returns profile option. By enabling this option you can perform a two step return process where, for example, a manager can initiate the return (step 1) and a picker can retrieve the material and deliver it to shipping (step 2). Otherwise the return transaction is initiated and completed in one step.

Returns to suppliers can be based on the LPN that the material was put away into. Rather than searching for the material by supplier, or by subinventory, you can search by LPN which will direct you immediately to the needed material.

**Note:** When you create returns from the desktop, the system allows you to enter the lot number of the parent transaction. The lot number does not need to be in the selected LPN. However, when you submit, and confirm the transaction from the mobile device, the system validates the lot, and you cannot return a lot that does not reside in the LPN.

**Note:** When you set express returns to no, the system does not know to restrict LPNs because the previous transaction is not committed. If you commit the first transaction though the mobile and then try the return, the system does not suggest a new LPN.

1. To initiate the two step LPN based return, navigate to the Returns, page A-1 window.

2. Select the Transaction Details tab.

The screenshot shows a web application window titled "Find Returns (W1)". It has two tabs at the top: "Supplier and Internal" (selected) and "Customer". Below the tabs is a form with various input fields. The "Supplier and Internal" tab contains fields for "Operating Unit" (Vision Germany), "Source Type" (Supplier), "Purchase Order", "Line", "Requisition", "Supplier", "Receipt", "Release", "Shipment", "Shipment", "Supplier Site", and "Current Location". The "Transaction Details" tab is selected, showing fields for "Transaction Dates" (13-NOV-2006 00:00), "Transaction Type", and "LPN". At the bottom right are "Clear" and "Find" buttons.

3. Enter the LPN to be returned and select Find.
4. In the Receiving Returns window, enter the quantity to be returned, where you want the material returned to (Supplier or Receiving) and any other applicable information, for example an RMA number.
5. Select the check box of the line that you are returning.
6. Save your work.

Step two, of the return process, takes place on the mobile device. After the return is initiated on the desktop, an operator with a hand held device scans the LPN to be returned and delivers the material to the appropriate location.
7. You begin the second step by navigating to the returns menu on the hand held device.
8. You can either scan the LPN or select the LPN from the list of values. Only those LPNs to be returned will be in the list of values.

9. The Item field will populate automatically. The UOM and the quantity to be returned will populate as well. You must confirm the quantity to be returned. If the item is under dual unit of measure control, the system may display the secondary unit of measure and secondary quantity. To display the Sec Uom and Sec Qty fields, you must set a form function parameter. If you set the form function parameter to display the Sec Uom and Sec Qty fields, then you can modify them based on the parameters you set on the Item Master.

**Note:** When the entire quantity in the LPN is being returned, you are not prompted to confirm the material. You only have to enter the LPN and select Done. Only when a partial quantity is being returned in the LPN are you prompted to confirm the item, lot, serial, and quantity information.

If the item is under dual UOM control, then the secondary lot quantity defaults based on how you defined the item in the Item Master. Either the remaining quantity is displayed indicating the quantity yet to be received or the total quantity received to date, depending on the setting of the QTYTRG form function parameter. If the lot is under child lot control, you enter the parent lot, and the child lot appears automatically in the Lot field.

```
&Return(W1)
LPN      >LPN173A
Item     >JPF100
Desc     :JPF PLAIN
UOM      >Ea
Ret Qty  :10
Confirm  :10
<Save/Next>
<Done>
<Cancel>
```

10. Select *Save/Next* to continue with another return, or select *Done* to complete the return process.

## Related Topics

Performing Receipts using the Oracle Warehouse Management Mobile Single Receiving Common User Interface, page 5-33

Quality Results, *Oracle Quality User's Guide*

## LPN Transactions

You can complete jobs, perform, work order-less completions and flow completions with License Plate Number (LPN) information. You can uniquely identify each container in the supply chain by the assigned LPNs to these containers. Also, you can commit the contents to inventory by initiating a move order in the Put Away Drop window. If the assembly is under lot and serial control, you are prompted to enter the lot and serial information.

There are three types of LPNs:

- Pre Packed: Completing a quantity into an existing LPN.
- Packing: Generating an LPN when entering the completion transaction. This is initiated using a hot key.
- Pre-Generate: Submitting a concurrent request to generate the LPN in advance of completing the assembly

**Note:** To access and perform LPN transactions, you must have Oracle Warehouse Management System installed, be in a Oracle Warehouse Management enabled organization, and choose the Whse Management responsibility within the mobile application. You can perform LPN transactions only within a standard costing organization.

### To complete jobs and assemblies for an LPN without drop:

1. Navigate to the Assy Completion Page
2. Choose Assy Completion.
3. Enter the LPN in the LPN field, or select it from the list of values.
4. Enter the Job in the job field, or select it from the list of values.

The Assembly, UOM, Job Qty, Compl Qty, and Avail Qty fields populate automatically.

5. Enter the quantity to complete in the Qty field.

Oracle Mobile  
ORACLE®  
Complete Assy(W1)

LPN	LPN29A
Job	90304
Assembly	AVSASSY
UOM	Ea
Job Qty	10.0
Compl Qty	0.0
Avail Qty	10.0
Qty	1

Next Assm Done Cancel (C)

6. Choose <Next Assm> to enter another assembly, <Done> to complete the transaction, or <Cancel> to cancel the transaction.

### To complete jobs and assemblies for LPN with directed drop:

Directed drops allow you to drop a completed assembly loaded into an LPN. For a directed drop, the system selects the drop location using the Oracle Warehouse Management Rules Engine.

1. Navigate to the Assy Completion Page.
2. Choose Assy Compl w/ Directed Drop.
3. Enter the LPN in the LPN field, or select it from the list of values.
4. Enter the Job in the job field, or select it from the list of values.

The default values display for the job, assembly number, unit of measure, job quantity, quantity previously completed, and quantity available to complete.

```

Complete Assy(W1)
LPN      >LPN096
Job      >J1
Assembly :A1
UOM      :Ea
Job Qty  :200.0
Compl Qty:0.0
Avail Qty:0.0
Qty      :1
<Next Assm>
<Drop>
<Cancel>

```

5. Enter the quantity completed in the QTY field.
6. Enter the Lot and Serial information if applicable.
7. Choose <Drop> to drop the assembly or <Cancel> to cancel the transaction.

When you select <Drop> the Drop page appears. See: Describing the LPN Put Away Process, *Oracle Warehouse Management User's Guide*.

### To complete jobs and assemblies for LPN with manual load:

A Manual load is a pull task that you create. You can use the Manual Load page to fully load the contents of one LPN into another LPN as well as transfer the contents of an LPN to another LPN. You can also use the Manual Load page to perform item based loads. For efficient warehouse operation it is necessary to putaway individual contents of the LPN and consolidate them at various warehouse storage locators. The process used to putaway such LPNs into warehouse involves loading the mixed LPN and specifying the item for putaway.

1. Navigate to the Assy Completion Page.
2. Choose Assy Completion w / Load.
3. Enter the LPN in the LPN field.



Oracle Mobile  
ORACLE  
Complete Assy(W1)

LPN	LPN100045
Job	90304
Assembly	AVSASSY
UOM	Ea
Job Qty	10.0
Compl Qty	0.0
Avail Qty	10.0
Qty	2

Next Assm Load Cancel (C)

4. Enter the Job in the Job field. The Assembly, UOM, Compl Qty, and Avail Quantity fields populate automatically.
5. Enter the quantity completed in the QTY field.
6. Enter the Lot and Serial Information if applicable.
7. Choose <Load> to Load the assembly or <Cancel> to cancel the transaction.

When you select <Load> the Manual Load page appears. See: Describing the LPN Put Away Process, *Oracle Warehouse Management User's Guide*.

### To complete jobs and assemblies for LPN with manual drop:

You can bypass the rules engine, and manually drop a loaded LPN.

1. Navigate to the Assy Completion Page.
2. Choose Assy Completion w / Manual Drop
3. Enter the LPN in the LPN field, or select it from the list of values.
4. Enter the Job in the job field, or select it from the list of values.

The default values display for the job, assembly number, unit of measure, job quantity, quantity previously completed, and quantity available to complete.

```

Complete Assy(W1)
LPN      >LPN096
Job      >J1
Assembly :A1
UOM      :Ea
Job Qty  :200.0
Comp1 Qty:0.0
Avail Qty:0.0
Qty      :1
<Next Assm>
<Drop>
<Cancel>

```

5. Enter the quantity completed in the QTY field.
6. Enter the Lot and Serial information if applicable.
7. Choose <Drop> to drop the assembly or <Cancel> to cancel the transaction.

When you select <Drop> the Manual Drop page appears. See: Describing the LPN Put Away Process, *Oracle Warehouse Management User's Guide*.

## To perform work orderless completions without drop

1. Navigate to the Work Order-Less Page.
2. Choose WOL (Work Order-Less) Completion.
3. In the LPN field—enter or select from the list of values.
4. Enter the assembly number in the Assembly field.  
The UOM field populates automatically.
5. If applicable enter the sales order number in the So Num field. If you enter a sales order the system creates a reservation as part of the mobile work orderless completion transaction, and transfer this reservation to inventory. Sales order number and sales order line fields are available, and when these fields are populated, the completed assemblies are reserved against the sales order and line specified.
6. Enter the quantity to complete in the Qty field.

Oracle Mobile

ORACLE

WOL Completion(W1)

LPN LPN40005

Assembly AVS100

SO Num

UOM Ea

Qty 5

Next Assm Done Cancel (C)

7. Choose <Next Assm> to enter another Assembly, <Done> if complete, or <Cancel> to cancel the transaction.

### To perform work orderless completions for LPN with directed drop:

1. Navigate to the Work Order-Less Page.
2. Choose WOL Compl w/ Directed Drop
3. In the LPN field—enter or select from the list of values.
4. In the Assembly field—enter, select from the list of values, or scan the assembly.  
The default value displays for the unit of measure.

The screenshot shows a terminal-style interface for 'WOL Completion(W1)'. It contains the following text:

```

WOL Completion(W1)
LPN      >LPN575
Assembly >A1
SO Num   ]
UOM      :Ea
Qty      :2
<Next Assm>
<Drop>
<Cancel>
  
```

5. If applicable enter the sales order number in the So Num field. If you enter a sales order the system creates a reservation as part of the mobile work orderless completion transaction, and transfer this reservation to inventory. Sales order number and sales order line fields are available, and when these fields are populated, the completed assemblies are reserved against the sales order and line specified.
6. Enter the quantity completed in the QTY field.
7. Choose <Drop> to drop the assembly or <Cancel>to cancel the transaction.

When you select <Drop> the Drop page appears. See: Describing the LPN Put Away Process, *Oracle Warehouse Management User's Guide*.

### To perform a work order-less completion with manual load:

1. Navigate to the Work Order-Less Page.
2. Choose WOL Compl w/ Directed Drop
3. In the LPN field—enter or select from the list of values.

WOL Completion(W1)	
LPN	>LPN573
Assembly	>A1
SO Num	]
UOM	:Ea
Qty	:2
<Next Assm>	
<Load>	
<Cancel>	

4. In the Assembly field—enter, select from the list of values, or scan the assembly.  
The default value displays for the unit of measure.
5. If applicable enter the sales order number in the So Num field. If you enter a sales order the system creates a reservation as part of the mobile work orderless completion transaction, and transfer this reservation to inventory. Sales order number and sales order line fields are available, and when these fields are populated, the completed assemblies are reserved against the sales order and line specified.
6. Enter the quantity completed in the QTY field.
7. Choose <Load> to Load the assembly or <Cancel>to cancel the transaction.  
When you select <Load> the Manual Load page appears. See: Describing the LPN Put Away Process, *Oracle Warehouse Management User's Guide*.

### To perform work order-less completions with manual drop:

1. Navigate to the Work Order-Less Page.
2. Choose WOL Compl w/ Directed Drop
3. In the LPN field—enter or select from the list of values.
4. In the Assembly field—enter, select from the list of values, or scan the assembly.  
The default value displays for the unit of measure.

The screenshot shows a terminal-style interface for 'WOL Completion(W1)'. It contains the following text:

```

WOL Completion(W1)
LPN      >LPN575
Assembly >A1
SO Num   ]
UOM      :Ea
Qty      :2
<Next Assm>
<Drop>
<Cancel>
  
```

5. If applicable enter the sales order number in the So Num field. If you enter a sales order the system creates a reservation as part of the mobile work orderless completion transaction, and transfer this reservation to inventory. Sales order number and sales order line fields are available, and when these fields are populated, the completed assemblies are reserved against the sales order and line specified.
6. Enter the quantity completed in the QTY field.
7. Choose <Drop> to drop the assembly or <Cancel>to cancel the transaction.

When you select <Drop> the Manual Drop page appears. See: Describing the LPN Put Away Process, *Oracle Warehouse Management User's Guide*.

### To perform a flow completion without drop:

1. Navigate to the Flow Completion Page.
2. Choose Flow Completion.

```

Flow Completion
1<Flow Completion
2<Flow Compl w/ Dir>
3<Flow Compl w/ Loa>
4<Flow Compl w/ Man>
5<Logout          >

```

3. Choose the method to complete the flow schedule. The available choices are By Schedule, By Assembly, and Express Flow Compl (Express Flow Completion).

```

Flow Completion
1<By Schedule
2<By Assembly   >
3<Express Flow Comp>
4<Logout        >

```

4. Enter or scan the LPN in the LPN field, or select it from the list of values.
5. Scan or select the Sched Num (Schedule Number) from the list of values. If you selected by Assembly from the Flow Completion page, enter the assembly number.  
The Assembly field, or the Sched Num field populates automatically accordingly.
6. Enter the flow line in the Line field.
7. Enter the quantity to complete in the Qty field.

Flow Completion(W1)	
LPN	>100
Sched Num	>79291
Assembly	>DR10702
Line	>Door Line
UOM	:Ea
Qty	:1.0
<Next Assm>	
<Done>	
<Cancel>	

8. Choose <Next Assm> to enter another Assembly, <Done> if complete, or <Cancel> to cancel the transaction.

### To perform express flow completions:

1. Navigate to the Flow Completion Page.
 

**Note:** You can only perform express flow completions without drops. If the assembly or any of the components are under lot or serial control, you cannot perform an express flow completion.
2. Choose Express Flow Compl
3. Enter, select or scan the LPN.
4. Enter the schedule number in the Sched Num field. You can continue to complete as many flow schedules into the same LPN as necessary.



### To perform flow completions with directed drop:

1. Navigate to the Flow Completions Page
2. Choose Flow Compl w / Directed Drop
3. Choose the method to complete the flow schedule. The available choices are By Schedule or By Assembly.
4. Enter, Scan or select the LPN from the list of values.
5. Scan or select the Assembly from the list of values. If you selected By Schedule, enter the schedule number.

The Assembly field, or the Sched Num field populates accordingly.

6. Enter the flow line number in the Line field.
7. Enter the quantity to complete in the Qty field.
8. Choose <Drop> to drop the assembly or <Cancel> to cancel the transaction.

When you select <Drop> the Drop page appears. See: Describing the LPN Put Away Process, *Oracle Warehouse Management User's Guide*.

### To perform flow completions with manual load:

1. Navigate to the Flow Completions Page
2. Choose Flow Compl w / Directed Drop
3. Choose the method to complete the flow schedule. The available choices are By Schedule or By Assembly.
4. Enter, Scan or select the LPN from the list of values.
5. Scan or select the Assembly from the list of values. If you selected By Schedule, enter the schedule number.  
  
The Assembly field, or the Sched Num field populates accordingly.
6. Enter the flow line number in the Line field.
7. Enter the quantity to complete in the Qty field.
8. Choose <Load> to Load the assembly or <Cancel> to cancel the transaction.  
  
When you select <Load> the Manual Load page appears. See: Describing the LPN Put Away Process, *Oracle Warehouse Management User's Guide*.

### To perform flow completions with manual drop:

1. Navigate to the Flow Completions Page
2. Choose Flow Compl w / Directed Drop
3. Choose the method to complete the flow schedule. The available choices are By Schedule or By Assembly.
4. Enter, Scan or select the LPN from the list of values.
5. Scan or select the Assembly from the list of values. If you selected By Schedule, enter the schedule number.  
  
The Assembly field, or the Sched Num field populates accordingly.
6. Enter the flow line number in the Line field.
7. Enter the quantity to complete in the Qty field.
8. Choose <Drop> to drop the assembly or <Cancel> to cancel the transaction.  
  
When you select <Drop> the Manual Drop page appears. See: Describing the LPN

### To perform serial completions without drop:

1. Navigate to the Serialized Assy Completion page:
2. Scan, Enter, or select the LPN.
3. Scan, enter, or select the serial number of the assembly in the SN field. The Job and Assembly fields populate automatically.

Complete Assy(W1)	
LPN	>100
SN	>SN00001
Job	:TC7
Assembly	:SN103
<Next Assm>	
<Done>	
<Cancel>	

4. Choose <Next Assm> to enter another assembly, <Done> to complete the transaction, or <Cancel> to cancel the transaction.

### To perform serial completions with directed drop:

1. Navigate to the Serialized Assy Completion w/Drop page.
2. Scan, enter, or select the LPN.
3. Scan, enter, or select the serial number of the assembly in the SN field. The Job and Assembly fields populate automatically.

Complete Assy(W1)	
LPN	>100
SN	>SN00005
Job	:TC7
Assembly	:SN103
<Next Assm>	
<Drop>	
<Load>	
<Cancel>	

4. Choose <Next Assm> to enter another assembly, <Drop> to open the drop the assembly, or <Cancel> to cancel the transaction.
5. When you select <Drop> the Drop page appears. See: Describing the LPN Put Away Process, *Oracle Warehouse Management User's Guide*.

### To perform serial completions with manual load:

1. Navigate to the Serialized Assy Completion page:
2. Scan, Enter, or select the LPN.
3. Scan, enter, or select the serial number of the assembly in the SN field. The Job and Assembly fields populate automatically.
4. Choose <Next Assm> to enter another assembly, choose <Load> to open the manual load page and complete the transaction, or <Cancel> to cancel the transaction.

### To perform serial completions with manual drop:

1. Navigate to the Serialized Assy Completion w/Drop page.
2. Scan, enter, or select the LPN.
3. Scan, enter, or select the serial number of the assembly in the SN field. The Job and Assembly fields populate automatically.

Complete Assy(W1)	
LPN	>100
SN	>SN00005
Job	:TC7
Assembly	:SN103
<Next Assm>	
<Drop>	
<Load>	
<Cancel>	

4. Choose <Next Assm> to enter another assembly, <Drop> to open the drop the assembly, or <Cancel> to cancel the transaction.
5. When you select <Drop> the Manual Drop page appears. See: Describing the LPN Put Away Process, *Oracle Warehouse Management User's Guide*.

## Explaining Pre-Generated Putaways

Oracle Warehouse Management pre-generated put away functionality allows incoming material to have space allocated for the put away as a background process, immediately after the receipt has been completed. This enables a put away suggestion to be created before the operator requests to put the material away. Pre-generated suggestions can be given an expiration time. Oracle Warehouse Management will attempt to re-allocate expired suggestions if, for example, warehouse conditions have changed before the put away is requested. The pre-generated put away functionality is integrated with barcode label printing functionality enabling barcodes to be printed as soon as a put away allocation has been suggested.

Pre-generated put away is especially useful in two scenarios:

1. It offers potential performance gains by enabling the put away allocation process to run in the background
2. It enables the users to print labels containing the put away suggestion so that material can be routed to that location in order to expedite put away processing.



---

# Oracle Warehouse Management Crossdocking

This chapter covers the following topics:

- Overview of Crossdocking
- Planned Crossdocking
- Opportunistic Crossdocking
- Crossdocking and Change Management
- Crossdocking Exceptions
- Crossdocking Criteria
- Crossdock Execution

## Overview of Crossdocking

Crossdocking is the use of inbound receipts to satisfy outbound demands. You can use crossdocking to match outbound shipments to scheduled receipts in advance. This enables you to achieve faster flow-through times and optimize warehouse resources. Oracle Warehouse Management supports two types of crossdocking, planned crossdocking and opportunistic crossdocking. Planned crossdocking matches expected receipts to a demand source, and opportunistic crossdocking matches demands to received supply.

Crossdocking occurs during a period of time known as the crossdock planning horizon. The crossdock planning horizon is the time period within which the system considers demands with a schedule shipment date for crossdocking.

The earliest crossdock time is the beginning of the crossdock planning horizon. This is the maximum time difference that a scheduled receipt can lag with respect to the scheduled shipment time. For example, if the earliest crossdock time is four hours, and a demand exists with a scheduled shipment time of 6:00 p.m., then the system does not consider material with a scheduled receipt time that is earlier than 2:00 p.m.

The latest crossdock time is the end of the crossdock planning horizon. This is the minimum time difference that a scheduled receipt can lag with respect to the scheduled shipment time. For example, if the latest crossdock time is one hour, and a demand exists with a scheduled shipment time of 6:00 p.m., then the system does not consider material with a scheduled receipt time that is later than 5:00 p.m.

The crossdock window is the difference between the earliest and latest crossdock time. For example, if the earliest crossdock time is four hours, and the latest crossdock time is one hour, then the crossdock window is three hours.

## Planned Crossdocking Versus Opportunistic Crossdocking

You use planned crossdocking and opportunistic crossdocking for different scenarios. Planned crossdocking works best when you know your supply in advance. It enables you to control the throughput of your warehouse and matches known demand with expected supplies. Opportunistic crossdocking helps with uncertainties. It uses the rules engine to match newly arriving supply to existing demands. This helps in cases in which a supply or demand source is changed, modified, or cancelled.

## Related Topics

Planned Crossdocking, page 6-2

Opportunistic Crossdocking, page 6-5

Crossdocking Criteria, page 6-13

## Planned Crossdocking

Planned crossdocking occurs during pick release. Oracle Warehouse Management uses release sequence rules to sequence demand sources, and fulfills the demand based on the allocation method that you specify during pick release. When you run pick release, the system uses the allocation method to determine whether crossdock should be planned. If crossdock should be planned, then the system uses the crossdock criteria that you specified to determine the eligible supply. If you did not define the crossdock criteria during pick release, then the system uses the rules workbench to determine the appropriate planned crossdock criteria to use for the demand.

If the system identifies a supply source other than inventory for fulfillment, then it determines the scheduled ship time for the delivery lines, and assigns the scheduled ship date and times to delivery lines as follows:

- If an outbound trip exists, then the system bases the departure time on the dock schedule.
- If the sales order is associated with a delivery, then the system checks to see whether a carrier exists. If a carrier exists, then the system bases the departure dated on the carrier time and dock door appointment.



If multiple dock door appointments for the carrier exist, then the system selects the dock door and appointment that is closest to the scheduled ship date and time.

- If the sales order has a specified ship method, then the system determines the carrier and the exact time for the carrier if the carrier has a dock door appointment for the same day. If multiple appointments exist, then the system selects the appointment that is closest to the scheduled ship time and date.
- If none of these conditions apply, then the system uses the departure time as the scheduled ship time for the order; however, if the crossdock criteria allow scheduling flexibility, then the system assumes the order can ship anytime during the day.

To perform planned crossdocking Oracle Warehouse Management:

- Determines supply eligibility
- Performs pegging
- Creates delivery
- Links reservation to supply and demand
- Assigns crossdock operation plan
- Changes delivery line status to Planned for Crossdock

## Supply Eligibility

The available supply sources for planned crossdocking are approved PO, ASN, internal requisition, intransit shipments, and material in receiving. You can peg material in receiving only if the material is not associated with a putaway suggestion. To peg material in receiving, you must turn off the organization parameter Pregenerate after Receipt. See *Warehouse Organization Setup, Oracle Warehouse Management Implementation Guide* for more information. When the system identifies the eligible supply lines, it performs the following checks:

- The supply and demand items must be the same. You cannot use a substitute item.
- If a delivery line is associated with a project and task, then the system does not allow fulfillment across projects and tasks. It considers only material that belongs to the same project and task, or common stock.

**Note:** If the organization allows fulfillment across projects and tasks, then crossdock planning ignores the project and task information on supply and demand sources.

- The scheduled receipt time of the supply must be within the crossdock window. The system automatically assumes that all past-due supply lines are available for crossdocking if they satisfy the past-due supply cutoff. The system assigns scheduled receipt lines a receipt date and time as follows:
  - If an inbound trip exists, then the system assigns the arrival time based on the dock appointment.
  - If an ASN exists, then the system assigns the arrival time based on the ASN.
  - If neither condition applies, then the system assigns the receipt date and time based on the PO promise date. If the crossdock criteria are flexible, then the system assumes the receipt can occur anytime during the day.

## Pegging

After Oracle Warehouse Management creates the eligible supply list, it runs the crossdocking algorithm to perform pegging. It then selects one or more supply sources for crossdocking. If you select the prioritize document on the Crossdock Criteria window, then the system considers the document with the highest priority first.

If a demand is already pegged to a supply, then the system considers only the reserved supply for crossdocking. It uses the crossdock criteria to check whether the supply is eligible for crossdocking and whether the scheduled receipt date occurs within the crossdock window. If the supply meets the criteria, then the system considers the prior reservation and modifies the reservation record to enable crossdocking.

## Reservation Linking

Oracle Warehouse Management creates a reservation that links the supply to an existing demand. For more information about reservations, see Item Reservations, *Oracle Inventory User's Guide*.

## Create Delivery

If the delivery lines are linked to a delivery or crossdock planning run, Oracle Warehouse Management does not create a delivery. If no link exists, then it merges the delivery lines with the outbound crossdock delivery if it occurs within the crossdock window. If the delivery does not occur within the crossdock window, then it creates a new delivery for the crossdocked lines.

## Assign Operation Plan

After Oracle Warehouse Management creates the delivery, it assigns the appropriate operation plan to the material. For more information about operation plans see Set Up Operation Plans, page 4-3.

## Change Delivery Line Status

After Oracle Warehouse Management pegs the supply, creates the reservation and delivery, and assigns an operation plan, it changes the status of the crossdock lines to Planned for Crossdock. It ignores these lines in future pick releases and planned crossdocking runs.

## Related Topics

Overview of Crossdocking, page 6-1

Crossdocking Criteria, page 6-13

## Opportunistic Crossdocking

Opportunistic crossdocking is supply initiated. Oracle Warehouse Management considers material in receiving to fulfill a demand if you enable Opportunistic Crossdocking on the Organization Parameters window. See *Warehouse Organization Setup, Oracle Warehouse Management Implementation Guide*. Oracle Warehouse Management uses the rules workbench to determine the appropriate crossdock criterion to use for supply. Depending on the eligible demand sources, crossdocking goal, and time fences that you specify in the opportunistic crossdock criteria, the system determines to which demand to crossdock the supply. It then stamps an operation plan on the material. To perform opportunistic crossdocking, the system:

- Validates supply source
- Determines eligibility pool
- Performs pegging
- Creates reservations
- Creates delivery

## Verify Supply Source Validity

The system determines the crossdock criteria for the received lines. Based on the crossdocking criteria, it determines whether you can crossdock the received material.

## Determine Eligibility Pool

If you can crossdock the supply, then the system identifies the eligible delivery lines for crossdocking based on the crossdock criteria. The available demand sources are scheduled sales orders, backordered sales orders, scheduled internal orders, backordered internal orders, and backordered WIP component demand. Oracle

Warehouse Management performs the following checks to determine eligible demand:

- The delivery line item and the received line item are the same.
- The crossdock criteria allow the demand document type.
- If the received items are associated with a project and task, and the organization does not allow fulfillment across project and tasks, then only demand that belongs to the same project and task, or common demand, is eligible for crossdocking.

**Note:** If the organization allows fulfillment across project and task, then Oracle Warehouse Management ignores the project and task on supply and demand sources for crossdocking.

- The scheduled ship time for the delivery lines must occur within the supply crossdock window. The system automatically considers all backordered lines with a past-due scheduled ship date for crossdocking if you enable opportunistic crossdocking for backordered lines. Oracle Warehouse Management uses the following guidelines to assign delivery lines a scheduled ship date and time:
  - If an outbound trip exists, then the system determines the arrival time based on the dock schedule. If a trip has a dock appointment, then the system uses the schedule shipment date as the earliest appointment time for the appointment window.
  - If a sales order is associated with a delivery, then the system checks to see whether it has an associated ship method or carrier. The system uses the ship method to determine the carrier, and the exact time for the carrier if the carrier has a dock appointment on the same day. If multiple dock appointments exist, then the system selects the dock appointment that is closest to the scheduled ship date and time.
  - If none of the preceding exists, then the system uses the arrival time as the scheduled ship time on the order.

## Pegging

After the system creates a list of eligible delivery lines, then the crossdocking algorithm performs pegging and selects one more demands sources for crossdocking. If you select the Document Priority check box, then the system considers the document type with the highest demand first.

## Reservation Linking

Oracle Warehouse Management creates a reservation that links the demand to incoming supply. For more information about reservations, see *Item Reservations*, *Oracle*

## **Create Delivery**

The system merges the delivery lines with an existing delivery if the outbound delivery is within the crossdock window. If no delivery is within the crossdock window, then the system creates a new delivery for the crossdocked items.

## **Opportunistic Crossdock Receipt Validations**

Crossdocking execution performs the following validations upon receipt:

- Verifies whether supply source is already planned for crossdocking: If the supply source is already planned for crossdocking and has a valid demand source, then the system chooses an operation plan for the item.
- Supply source is ineligible for crossdocking or crossdocking is not allowed: If the supply source is ineligible, or crossdocking is not allowed for the organization, then the system directs you to put away the material.
- Supply source is reserved to a demand source and opportunistic crossdocking is enabled: The system uses the crossdock criteria to validate the supply and demand sources. If both are eligible for crossdocking, then the system identifies the received material for crossdocking, and assigns an operation plan.
- Supply source is not reserved and opportunistic crossdocking is enabled: The system uses the crossdocking criteria to validate the supply source. If the supply source can be crossdocked, then the system identifies the appropriate demand source. The system then uses the crossdocking algorithm to identify the exact demand source.

## **Related Topics**

Opportunistic Crossdocking, page 6-5

## **Crossdocking and Change Management**

You can make changes to supply and demand sources after the system links the supply and demand. The following tables display the changes the system makes if you modify supply and demand sources.

### ***Changes to Demand Sources***

<b>Status</b>	<b>Negative Change to Demand Source</b>	<b>Positive Change to Demand Source</b>	<b>Change in Schedule of Demand Source</b>
Before Receipt	<p>This triggers a change to the reservation quantity. The system changes the reservation quantity to meet the new demand.</p> <p>If multiple supply sources are linked to multiple reservations, then the system first consumes the latest supply source.</p>	<p>The additional quantity becomes available for crossdocking with a different delivery line status.</p>	<p>This does not change the reservation quantity or existing crossdock link. If you enable exception management, then the system creates an exception if the changes in the schedule jeopardize crossdocking feasibility.</p>
After Receipt and During Execution	<p>Not Allowed</p>	<p>The additional quantity becomes available for crossdocking with a different delivery line status.</p>	<p>This does not change the reservation quantity or existing crossdock link. If you enable exception management, then the system creates an exception if the changes in the schedule jeopardize crossdocking feasibility.</p>
After Pick Confirm	<p>Not Allowed</p>	<p>The additional quantity becomes available for crossdocking with a different delivery line status.</p>	<p>This does not change the reservation quantity or existing crossdock link. If you enable exception management, then the system creates an exception if the changes in the schedule jeopardize crossdocking feasibility.</p>

### Changes to Supply Sources

Status	Negative Change to Supply Source	Positive Change to Supply Source	Change to Supply Source Schedule
Before Receipt	<p>Changes the reservation quantity. The system splits the delivery line and the balance quantity is in the Ready to Release status so the system can use other sources to fulfill the remaining demand.</p> <p>If you enable exception management, then the system creates an exception and notifies the planner to take corrective action.</p>	The additional quantity becomes available for crossdocking and the system leaves the reservation links intact.	This does not change the reservation quantity or the existing reservation link between supply and demand. If you enable exception management, then the system creates an exception and notifies the planner to take corrective action.
After Receipt and Before Load	This occurs if negative corrections or returns exists, or if the material fails inspection. The system splits the delivery line originally in the Crossdock Status, and the remaining quantity is in the Ready to Release status and the system terminates the operation plan.	<p>The available quantity becomes available for crossdock, and the system does not change the existing reservation link.</p> <p>The system terminates the existing operation plan because the material must be deconsolidated.</p>	N/A
After Receipt and Load, but Before Drop	Positive or negative corrections and inspections cannot be carried out for a loaded LPN.	Positive or negative corrections and inspections cannot be carried out for a loaded LPN.	N/A

Status	Negative Change to Supply Source	Positive Change to Supply Source	Change to Supply Source Schedule
After drop	Positive or negative corrections and inspections cannot be carried out for a dropped LPN.	Positive or negative corrections and inspections cannot be carried out for a dropped LPN.	N/A
After staging	You cannot make corrections to a staged LPN.	You cannot make corrections to a staged LPN.	N/A

#### ***Changes to Reservations***

Status	Negative Change in Reservation Quantity	Positive Change in Reservation Quantity	Cancellation of Reservation
Before Receipt	The system splits the delivery line and the balance quantity is in the Ready to Release status.	The system verifies the supply or demand source is not over-reserved	The delivery line is changed to ready to release.
After Receipt but Before Load	<p>The system splits the delivery line and the balance quantity is in the Ready to Release status.</p> <p>The system asks you to deconsolidate at the next drop and assigns a new operation plan to the items no longer needed for crossdock.</p>	<p>The system verifies the supply or demand source is not over-reserved</p> <p>The system asks you to deconsolidate at the next drop and assigns a new operation plan to the items no longer needed for crossdock.</p>	The system removes crossdock tasks and determines a new operation plan. The delivery lines revert to the ready to release.
After Receipt After Load and Before Drop	N/A	N/A	N/A
After Receipt and After Drop	N/A	N/A	N/A



After Crossdock	No changes to reservations are allowed.	No changes to reservations are allowed.	No changes to reservations are allowed.
-----------------	---	---	---

## Negative Changes to Supply After Receipt

Change management performs the following actions if negative changes occur to supply after receipt:

- Negative correction from receiving: A negative correction splits the reservation.
- Negative correction from inventory: The system reduces the reservation record, and does not create a reservation record for the corrected quantity.
- Returns: The system deletes the reservation for the returned quantity.
- Inspection rejection: The system splits the reservation quantity, and changes the reservation line status of the rejected quantity.

## Crossdocking Exceptions

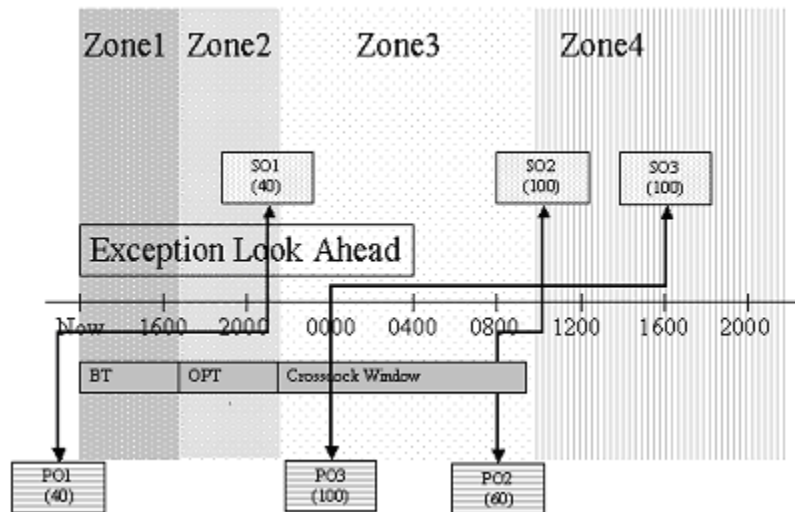
Crossdocking exceptions can occur if:

- The supply source is delayed and the document is not modified
- The supply source is delayed and the document is modified
- The supply source is canceled or reduced
- The supply source fails inspection
- The material is not available for crossdocking

The system generates the following types of crossdocking exceptions:

**Note:** Time initiated exceptions are more severe than schedule initiated exceptions.

- Time-initiated exceptions
- Schedule initiated exceptions



Oracle Warehouse Management uses a concurrent program to check for exceptions and assign an exception code to each exception. It uses the parameter Look-Ahead Time to check whether incoming supply is available for crossdocking. The concurrent program checks for all supply scheduled to arrive in the warehouse within the exception look-ahead time window. It considers the past-due supply and assumes the supply-scheduled receipt date and time is the current system date and time. It uses the supply source and the crossdocking reservation and determines the corresponding demand source. The concurrent program divides the future time window for the supply into four zones. The concurrent program uses these zones to categorize the different exception types.

If crossdocked demand lies in zone one, then the remaining time for crossdocking is less than the order processing time. The system cannot perform a crossdock and records an error. If the supply source is late, then the system records a late exception. If the supply is not late, then the system records a schedule exception.

If crossdocked demand lies within zone two, the remaining crossdock time is more than the order processing time, but less than the order processing time + buffer time. Though the system can still perform crossdocking, you may need to manually expedite the supply. In this case, the system records a warning exception code. If the supply source is past due, then the system records a late exception. If the supply is not late, then it records a schedule exception.

If crossdocked demand lies within zone three, the remaining crossdock time is more than the order processing time + buffer time, but less than the order processing time + buffer time + crossdock window. This implies that crossdocking is possible without manual expedite, and the system does not record an exception.

If crossdocked demand lies within zone four, the remaining crossdock time is more than the order processing time + buffer time + crossdock window. Though crossdocking is possible, an unnecessary wait time is required for the inbound material before you can ship the order; therefore, the system records a scheduled exception with the code

warning.

The following table shows the exception codes:

Exception Code	Severity	Description
LE	Error	Late Exception
LW	Warning	Late Exception
SE	Error	Schedule Exception
SW	Warning	Schedule Exception

## Time Initiated Exceptions

A concurrent program tracks crossdocked receipts and generates exceptions. The concurrent program checks for all past-due supply, and determines whether the material will arrive in time. A late exception occurs when incoming supply does not arrive on schedule. The system generates a warning if the time remaining for the planned crossdock is more than the buffer time, but less than the latest crossdock time. It generates an error exception if the time remaining to fulfill is greater than the buffer time.

## Schedule Initiated Exception

The system generates a system exception if the crossdock window is violated. A schedule exception occurs if the time remaining to fulfill the demand is more than the buffer time + order processing time + Crossdock window.

## Exceptions Corrective Action

Once the system records a crossdocking exception, it triggers one of the following corrective actions:

- Reschedule supply and demand: To change the supply and demand, you change either the document, or the dock door appointment.
- Delete reservation: You can manually delete the reservation and sever the link between the supply and demand.

## Crossdocking Criteria

You use the Crossdock Criteria window to determine the eligible supply and demand

sources for crossdocking. After you create a crossdock criterion, you enable it in the rules workbench.

### To Create a Crossdock Criterion:

1. Navigate to the Crossdock Criteria window.

The screenshot shows the 'Crossdock Criteria' window. The 'Name' field is 'TNC-1'. The 'Description' field is empty. The 'Criterion Type' is 'Opportunistic Crossdocking'. The 'Planning' tab is selected. The 'Crossdock Window' is '1 Days'. The 'Order Processing Time' is empty. The 'Crossdocking Goal' is 'Maximize Crossdock'. The 'Buffer Time' is '1 Hours'. The 'Past Due Supply Cut-Off' is empty. The 'Documents with no Dock Appointments' section has 'Schedule Demand any time on Shipment Date' checked. The 'Documents with Dock Appointments' section has 'Supply Schedule for Crossdock' and 'Demand Schedule for Crossdock' both set to 'Mean Appointment Time'. The 'Prioritize Documents' checkbox is checked.

2. Enter a name and a description for the crossdock criteria.
3. Select the Criterion Type. Planned crossdocking attempts to select a supply from among eligible supply sources and matches it to a given demand source. Opportunistic crossdocking selects from eligible demand sources, and matches it to a given supply source. See *Overview of Crossdocking*, page 6-1 for more information about opportunistic and planned crossdocking.
4. Enter the time bucket for which the system considers documents for crossdocking. You can enter a crossdock window in days, hours, or minutes.
5. Enter the Order Processing Time. This is the time required to process the order. If you do not enter a value in this field, then the system automatically assumes the value is zero. You can enter an order processing time in hours, days, or minutes.
6. Enter a Buffer Time. This is the time required to safely fulfill an order. The system uses the order processing time and the buffer time to trigger exceptions. The system does not consider supply and demand that occur within the buffer zone for crossdocking. If you do not enter a value in this field, then the system automatically assumes the value is zero. You can enter a buffer time in hours, days or minutes.

7. Enter a Past Due Supply Cut-Off. This is the offset time the system uses to determine the past due supply cut off time fence. This parameter is used for planned crossdocking. The system does not consider any supply that occurs beyond this time fence for crossdocking.

**Example**

The following demand exists for which crossdocking needs to be planned at 8:00 a.m. The order processing time is two hours, the buffer time is one hour, and the crossdock window is four hours. Shipment 1 has a shipment time of 3:00 p.m. and Shipment 2 has a scheduled ship time of 4:00 p.m. The time fences for the demand sources are:

Demand	Order Processing Time	Buffer Time	Crossdock Window	Past Due Supply Cut-Off
Shipment 1	3:00 p.m. - 1:00 p.m.	1:00 p.m. - 12:00 p.m.	12:00 p.m. - 8:00 a.m.	8:00 a.m. - 7:00 a.m.
Shipment 2	4:00 p.m. - 2:00 p.m.	2:00 p.m. - 1:00 p.m.	1:00 p.m. - 9:00 a.m.	8:00 a.m. - 7:00 a.m.

For Shipment 1, the system considers supply sources with a scheduled receipt time later than 12:00 p.m. or earlier than 8:00 a.m. ineligible for crossdocking. The system automatically excludes any supply more than one hour late from crossdock planning.

8. Enter the Crossdocking Goal. You can choose to maximize crossdock, minimize wait, or create custom crossdocking logic.
9. Check Prioritize Documents if you want the rules engine to consider document priority during crossdocking.
10. Check the Integer Quantities only check box. You use this option if your receiving Unit of measure is different from the demand unit of measure, and you want to ensure that you crossdock the received units as a whole.
11. Check the Schedule Demand anytime on Shipment Date check box if the demand does not have a dock door appointment. This enables the system to assume the sales order is scheduled anytime during a one-day window.
12. Check the Schedule Supply anytime on Promise Date check box if an inbound dock schedule does not exist for incoming supply. This enables the system to assume the purchase order is scheduled anytime during one-day window.

**Note:** This parameter is available only for planned crossdocking.

13. For documents with dock door appointments, select the demand and supply schedule for crossdock. The choices are:
  - Earliest Appointment Time: If an appointment is from 2:00 p.m. to 4:00 p.m., the system recognizes 2:00 p.m. as the scheduled receipt or shipment time for crossdock.
  - Mean Appointment Time: If an appointment is from 2:00 p.m. to 4:00 p.m., the system recognizes 3:00 p.m. as the scheduled receipt or shipment time for crossdock.
  - Latest Appointment Time: If an appointment is from 2:00 p.m. to 4:00 p.m., the system recognizes 4:00 p.m. as the scheduled receipt or shipment time for crossdock.
14. Select the Supply tab to enter supply sources for planned crossdocking, or select the Demand tab to enter demand sources for opportunistic crossdocking.

#### **To Enter Supply Sources**

15. Select an available supply source for planned crossdocking from the Available Supply Sources region. Click the greater than button to make the supply source eligible. You can click the button with two greater than symbols to make all supply sources eligible for planned crossdocking. The available supply sources are:
  - Approved PO
  - ASN
  - Internal Requisition
  - Intransit Shipments
  - Material in Receiving

**Crossdock Criteria**

Name: TNC-2

Description:

**Criterion Type**

☐ Opportunistic Crossdocking ☒ Planned Crossdocking

**Planning Supply Demand**

**Available Supply Sources**

- Internal Requisition
- Material in Receiving

**Eligible Supply Sources**

Priority	Supply Type
1	Approved PO
2	ASN
3	Intransit Shipments

Navigation buttons: >, <, >>, <<

### To Enter Demand Sources

16. Select an available demand source for opportunistic crossdocking from the available Demand Sources region. Click the greater than button to make the demand source eligible. You can click the button with two greater than symbols to make all demand sources eligible for crossdocking. The available demand sources are:

- Sales Order (Scheduled)
- Sales Order (Backordered)
- Internal Order (Scheduled)
- Internal Order (Backordered)
- WIP Component Demand (Backordered)

**Crossdock Criteria**

Name: TNC-1

Description:

**Criterion Type**

☒ Opportunistic Crossdocking ☐ Planned Crossdocking

**Planning Supply Demand**

**Available Demand Sources**

- Internal Order (Scheduled)
- Internal Order (Backordered)
- WIP Component Demand (Backordered)

**Eligible Demand Sources**

Priority	Demand Type
1	Sales Order (Scheduled)
2	Sales Order (Backordered)

Navigation buttons: > < >> <<

17. After you enter the supply or demand source information, save your work.

## Related Topics

Describing the Rules Workbench, page 2-24

Overview of Crossdocking, page 6-1

Planned Crossdocking, page 6-2

Opportunistic Crossdocking, page 6-5

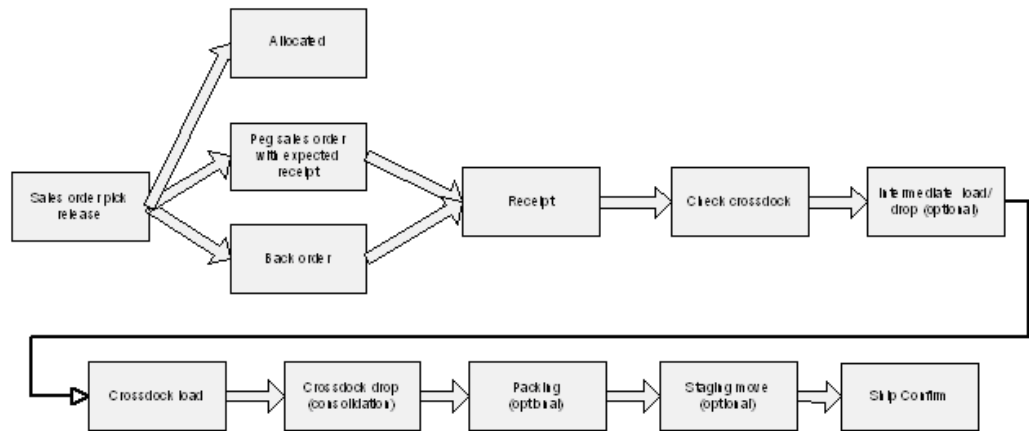
## Crossdock Execution

Crossdock execution occurs after you identify supply and demand. Oracle Warehouse Management uses a predefined crossdocking operation plan to stage the material to an outbound staging lane. You can perform intermediate loads and drops if you define them in the operation plan before you drop the material in outbound staging. The crossdock drop follows the seeded outbound operation plans, and either drops the material at a staging lane, or consolidates the material in a consolidation location. For more information about setting up operation plans, see Setup Operation Plans, page 4-3. You can optionally perform a staging move to move material between the consolidation location and the staging lane, or between staging lanes. The following figure depicts the crossdock execution flow.

To determine staging lanes for material, the system uses the following criteria:



- If any line of the same delivery exists in a staging lane, then the system directs you to drop the current crossdock in to the same staging lane. If the delivery is spread across multiple staging lanes, then the system suggests that you drop the material in the last dropped staging lane.
- If any pending tasks remain for the same delivery drop, then the system suggests the same staging location for both the pending tasks, and the crossdock line.
- If dock door appointments exist for the delivery, then the system suggests the staging lane for the dock door that is associated with the delivery.





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# Oracle Warehouse Management Outbound Logistics

This chapter covers the following topics:

- Overview of the Material Picking Process
- Explaining Pick Task Grouping
- Describing Pick Methodologies
- Performing Picks
- Bulk Picking
- Setting Up Case Picking
- Explaining Over Picking
- Setting Up Over Allocation For Pick Release
- Under Picking Without Exception
- Lot Substitution During Picking
- Describing Task Loading and Dropping
- Pick Load Page Setup
- Express Load
- Express Picking
- Manifest Picking
- Pull Replenishment
- Push Replenishment
- Forward Pick Replenishment
- How to Perform Move Order Transactions
- Explaining Oracle Warehouse Management Picking for Manufacturing

- Dock Scheduling and Load Sequencing

## Overview of the Material Picking Process

Pick release is the process of selecting orders for release to the warehouse for picking and shipping. After the orders are released, Oracle Warehouse Management uses the Rules Engine to determine the appropriate material allocations. After the system completes the allocations, the Task Type Assignment engine assigns the appropriate task types, and the system can then suggest packing configurations.

At this point, the task is now ready for dispatching to an operator. The operator can then log onto the system, optionally sign onto a material handling device, and accept pick tasks. Optionally, the operator can accept all pick tasks for a specific task grouping as a bundled set of tasks. Oracle Warehouse Management enables the operator to pick multiple partial LPNs, full LPNs, and loose picks for a single task. Loose material and material packed in an LPN can be picked in any sequence for a given task. Operators can continue to load material as long as there is capacity on the equipment. After the material is loaded, it can be dropped into staging lanes for further packing and labeling before shipment. This completes the material picking process. At this time, order lines are also split or merged based on equipment capacity defined for the equipment and pick methodology defined by pick slip grouping rules

### Related Topics

Overview of Pick Release, *Oracle Shipping Execution User's Guide*

### Explaining Pick Release

The pick release process selects sales order lines to release to the floor for picking and shipping. A pick release rule stores the criteria that will be used to select sales orders for release. If trips are not scheduled for dock doors, then the release rule also determines the staging lane to which the material should be delivered.

### Related Topics

Release Sales Orders for Picking, *Oracle Shipping Execution User's Guide*

### Explaining the Pick Allocation Process

After orders have been selected for release and prioritized for allocation, the rules engine makes the material allocations. Recall that material allocations might be based on characteristics such as, customer requirements, organization-wide business directives, stock rotation policies, item handling restrictions, item category, or by some other business attribute. The rules engine can also divide the allocations by pick unit of measure.

The output of the pick allocation is a task that includes the subinventory and locator

from which to pick, and if applicable, the revision and lot to be picked.

After the system performs allocations, it must determine the task type so that the job to pick the allocated material can be dispatched to an appropriately trained user.

## Explaining the Picking Process

Operators can accept a picking task, or a set of tasks, directly from the mobile device. The system dispatches tasks through the mobile user interface. Through this user interface, the picker can view the item, quantity, subinventory, and locator from which they can pick the load. If the item were revision or lot controlled, the system would also display those details.

The picking tasks assigned by the system to a user might include any of the following:

- Pick loose items into an LPN
- Pick whole LPNs
- Pick multiple LPNs, for example, pick 5 boxes of 10 each to fulfill a task to pick 50
- Pick from LPNs, for example, pick 5 items out of a box of 10
- Pick multiple partial LPNs, full LPNs, and loose picks for a single task
- Build larger LPNs
- View cartonization suggestion

The user can confirm a pick by scanning one or more LPNs to load. If the material in the storage locator is not identified with an LPN, then the user must confirm the item, quantity, and the storage subinventory, and locator to confirm the pick.

The user can also unpack an LPN to fulfill the pick, however if the pick units of measure are appropriately established during system setup, unpacking an LPN to fulfill a pick, should not be necessary. The user can also pick the items or the whole LPN into another larger LPN (like a pallet or carton), thus building a package that can be shipped during the picking process. If Cartonization is enabled, the user will also see the container suggestion in his or her task queue.

## Auto Pick Confirm

You can select Auto Pick Confirm in a Oracle Warehouse Management enabled organization. In this case, even if Oracle Warehouse Management Pick Rules specify LPN allocation, no LPNs will be picked. Only loose material will be moved to staging. It is imperative the inventory be available loose (not packed in LPNs). The system does not perform this check before running auto pick confirm. You must enforce that when using auto pick confirm, material is picked from Non LPN Controlled Subinventories.

## Pick Confirmation Support for Process Manufacturing

If an item is under dual UOM control, and located in an LPN, you do not have to confirm the secondary quantity information. If the material is not associated with an LPN, you must comply with the following requirements:

- You must manually confirm the primary and secondary quantities. The primary or secondary UOM may default when you confirm the partner quantity, or you can enter the partner quantity as long as the quantity is within the conversion deviation range.
- The inventory profile option INV: Target Preferred Grade determines if you can allocated grade controlled inventory on a sales order line. If you set the profile option to no, then you can select any grade, and the system disregards the preferred grade on the sales order line. If you set the profile option to Yes, then you can only pick material that has the grade specified on the sales order line. If the sales order line does not specify a grade, then you can pick material of any grade.

## Related Topics

Implementing Profile Options Summary, *Oracle Inventory User's Guide*

## Explaining Pick Task Grouping

Oracle Warehouse Management enables users to perform all pick tasks, for a specific task grouping, as a bundled set of tasks. This functionality is only available through a mobile RF device and is not available through the desktop windows.

Upon Pick Release, pick tasks can be generated and grouped by a number of Pick Slip Grouping Rules, for example Order Picking. Typically, this grouping represents a discrete bundle of work to be performed by a single user.

All functionality of the pick task screen remains unchanged, except that when the task has been completed (either dropped or loaded), a determination will be made whether more tasks remain in the current grouping. If so, the Pick Load screen is presented for the next task in the grouping, with a message indicating that the pick has been completed. If no more tasks remain for the grouping, the Task Menu is presented, with a message indicating that the last pick for the grouping has been completed.

## Related Topics

Defining Pick Slip Grouping Rules, *Oracle Inventory User's Guide*

## Describing Pick Methodologies

Pick methodologies refer to the different ways in which you might select to perform picking tasks. For example, you might select to pick an order by itself, or to pick

multiple orders at the same time. The type of picking methodology that a warehouse uses depends on the kinds of operations that they run. For example may opt to use cluster picking in order to pick multiple orders in one pass.

Oracle Warehouse Management supports the following pick methodologies:

- Discrete picking: The system dispatches discrete groups of tasks, grouped by pick slip grouping rules.
- Order picking: The system assigns picks for one order or job/schedule at a time to a user. Thus, when a user accepts a task for the first line of a job/schedule or sales order, all other picking tasks associated with that job/schedule or order are automatically assigned to the user as well, regardless of the task type or subinventory.
- Wave picking: The system dispatches tasks line by line, regardless of the subinventories where those tasks are picked from, or to whom other lines on the order have been dispatched.
- Pick and pass/label picking: LPNs are generated by the system during cartonization and the labels are printed prior to picking. To pick, the user scans the LPN and is dispatched the picking task associated with that LPN. The user can then "pass" the LPN to the next user or continue picking all material for the LPN and will not be prompted to drop the LPN in the staging lane, until all the lines have been picked.

**Note:** If you select order picking as the pick release methodology, and specify an order picking rule type at pick release, the system bypasses all bulk picking checks at the subinventory and the item and does not bulk pick any material as part of that pick release.

- Bulk picking: The system groups tasks to pick the same items that are sourced from the same locator so you only see one task that might represent picks for several order lines. Deconsolidation of order lines occur at pick drop. Oracle Warehouse Management automatically splits bulk tasks based on equipment constraints during the pick release process. You can choose to bulk pick items at pick release via the pick slip grouping rules, or choose to use the concurrent program to bulk pick across pick waves after pick release. You can also bulk pick within a delivery or across deliveries. The following bulk pick exceptions apply:
  - The system does not allow bulk picking for cartonized items
  - The bulk picked item must be the same revision.
- Case picking: The case labels printed at order release can be assigned to pick operators. The operator can perform case picks and either perform *Pick to Belt* or *Pick to Pallet* by scanning multiple case labels. This enables warehouse workers to simply scan a case already packed with items and move it directly onto a pallet or

belt.

To streamline the data entry process, Oracle Warehouse Management will create a single task if multiple cases from a single location need to be picked to fulfill an order.

- Paper-based picking: Users pick according to a paper pick slip that is printed at pick release. This enables a user to dispatch tasks to themselves when working in a paper-assisted environment.
- Cluster picking: A specified number of clusters is dispatched to a single user at once. A cluster is defined as all the tasks related to a sales order delivery, or a manufacturing job or schedule. The number of clusters can be set for the organization, or controlled by each user individually. Cluster picking offers significant levels of optimization by enabling a user to pick multiple orders at a time by interleaving the pick tasks for various orders and sequencing them in ascending locator/optimal travel sequence. This enables the user to pick orders in its entirety before proceeding to pick more orders.

*Cluster picking by labels:* Enables you to pick directly into shipping cartons by picking into cartonized LPNs. The pick labels are generated at order release, and are manually assigned to pick operators. A cartonized LPN is also generated for each pick slip grouping (for example, by order, delivery, zone). The operator scans the LPN barcode in each assigned label and the tasks for the cartonized LPN are displayed just like the regular cluster pick.

- Zone Picking: Zone picking enables you to utilize all of the picking methodologies but restricts to a specific subinventory. You designate the subinventory before you begin your picking tasks.
- User-defined pick grouping: See: Defining Pick Slip Grouping Rules, *Oracle Inventory User's Guide*.

**Note:** Multiple device sign-on is only allowed for discrete and wave picking.

For more information on specifying the maximum number of clusters, see Warehouse Organization Setup, *Oracle Warehouse Management Implementation Guide*.

### **Example of Cluster Picking**

The following figure shows an example of cluster picking. There are three sales orders SO 1, SO 2, and SO 3 for items A,B,C,D, and E. All three sales orders are to be delivered against different deliveries: Del 1, Del 2, and Del 3.

Individual deliveries needs to be shipped against individual LPNs. Delivery 1 needs to be dispatched against Tote/LPN 1. Delivery 2 needs to be dispatched against Tote/LPN 2. Delivery 3 needs to be dispatched against Tote/LPN 3.

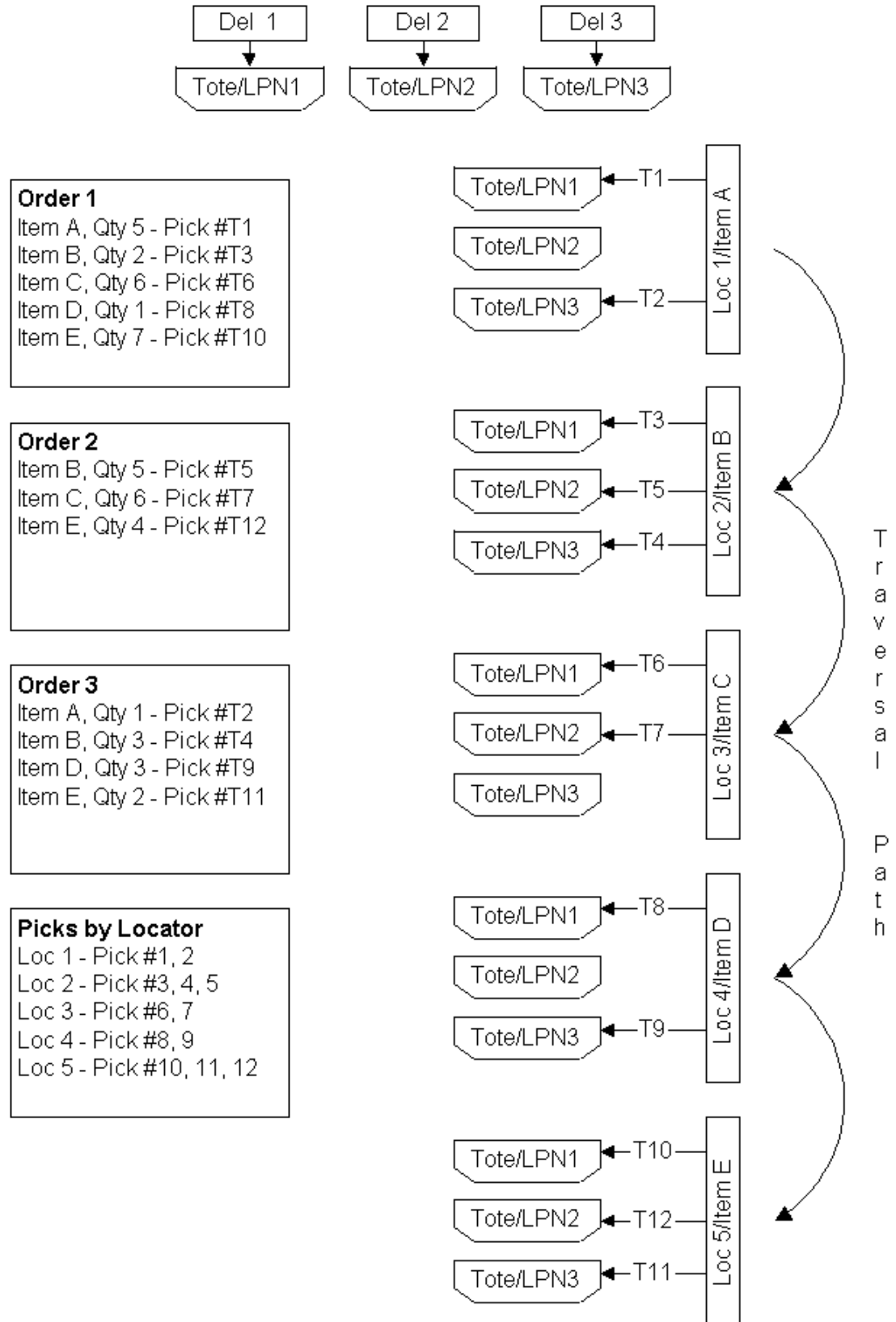
Oracle Warehouse Management will generate 5 tasks for SO 1, 3 tasks for SO 2, and 4



tasks for SO 3.

Tasks are sequenced as shown in the figure based on the minimal traverse path to collect material for SO 1, SO 2, and SO 3 from locations 1,2,3,4,5.

- Pick Item A against SO 1: Task T1, Del 1, Tote/LPN1
- Pick Item A against SO 3: Task T2, Del 3, Tote/LPN3
- Pick Item B against SO 1: Task T3, Del 1, Tote/LPN1



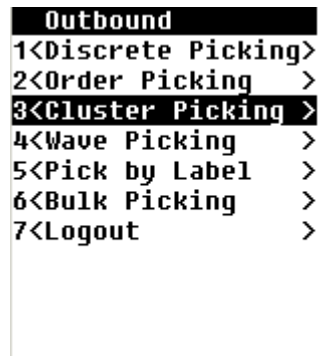
## Performing Picks

The following procedures lists the steps to perform the following pick types:

- Cluster Picks
- Discrete Picks
- Order Picks
- Wave Picks
- Pick by label

### To perform cluster picks:

1. Log onto the mobile device.
2. Navigate to the Task menu.
3. Select Cluster Pick from the Task menu.



4. If you pre-specified the maximum number of clusters to pick in the warehouse parameters window, the number will default into the Cluster Picking page. The number of clusters cannot be updated.

If the number of clusters is not pre-specified, you will be required to enter a positive number that depicts the number of maximum clusters you will potentially pick.

```

Cluster Picking (W1)
Clusters:3
<Accept Tasks>
<Cancel>

```

5. Choose <Accept Tasks> to invoke the Pick Load page.

```

Load (D) (W1)
Sub      :TC-Store1
Confirm  :
Loc      :TC.1.1
Loc/LPN  :
Item Desc: Catch Weig
Item     :TC-Catch1
Confirm  :
UOM      >Ea(1 Ea)
Req Qty  :5.0
Confirm  :
<Exception>
<Skip Task>
<Info>

```

6. In the Pick Load page, you confirm the required fields setup during pick load setup. See: Explaining Pick Load Setup, page 7-26 . After you confirm the necessary fields, the Item Information page appears.

```

Item Details (W1)
Item     :TC-Catch1
UOM      :Ea
Req Qty  :5.0
Picked   :5
Sec UOM  :BG
Sec Qty  :5
<Done>
<Exception>
<Cancel>

```

7. Choose <Done> to open the Load page, <Exception> to log an exception, or <Cancel> to cancel the task.

```

Load (D) (W1)
Item Desc: Catch Weig
Item      : TC-Catch1
Confirm   : TC-Catch1
UOM       : Ea(1 Ea)
Req Qty   : 5.0
Picked    : 5
Remaining : 0
Confirm   : 5
Confirm   : lpn100
<Load>
<Load & Drop>
<Exception>
<Skip Task>
<Info>

```

8. Confirm the necessary fields on the Load page, and choose <Load> to load the task, <Load & Drop> to load and drop the task <Exception> to enter an exception, <Skip Task> to skip the task, or <Info> to view the order information. If there is another task in the cluster, the system advances to the next task. If there are no more tasks in the cluster, the system returns to the Outbound task menu.

**Note:** For tasks with the attribute honor case pick enabled you must scan an LPN for each case. You can optionally scan the pallet LPN that contains the case LPNs. See Setting Up User Task Type Attributes, page 4-8 for more information.

### To Perform Discrete Picks:

1. Navigate to the Outbound menu
2. Choose Discrete Picking
3. In the Pick Load page, you confirm the required fields setup during pick load setup. See: Explaining Pick Load Setup, page 7-26 . After you confirm the necessary fields, the Item Information page appears.
4. Choose <Done> to open the Load Page, <Exception> to enter an exception, or <Cancel> to cancel the task.
5. Confirm the necessary fields on the Load page.
6. Choose <Load> to load the task, <Load & Drop> to load and drop the task, <Exception> to enter an exception, <Skip Task> to skip the task, or <Info> to view the order information.

7. If you choose <Load>, or <Load & Drop> the system completes the task, and advances to the next task.

### **To Perform Order Picks:**

1. Navigate to the Outbound menu
2. Choose Order Picking.
3. In the Pick Load page, you confirm the required fields setup during pick load setup. See: Explaining Pick Load Setup, page 7-26 . After you confirm the necessary fields, the Item Details page appears.
4. Choose <Done> to open the Load Page, <Exception> to enter an exception, or <Cancel> to cancel the task.
5. Confirm the necessary fields on the Load page.
6. Choose <Load>to load the task, <Load & Drop> to load and drop the task, <Exception>to enter an exception, <Skip Task> to skip the task, or <Info> to view the order information.
7. If you choose <Load>, or <Load & Drop> the system completes the task, and advances to the next task.

### **To Perform Wave Picks:**

1. Navigate to the Outbound menu
2. Choose Wave Picking.
3. In the Pick Load page, you confirm the required fields setup during pick load setup. See: Explaining Pick Load Setup, page 7-26 . After you confirm the necessary fields, the Item Details page appears.
4. Choose <Done>to open the Load Page, <Exception> to enter an exception, or <Cancel>to cancel the task.
5. Confirm the necessary fields on the Load page.
6. Choose <Load>to load the task, <Load & Drop> to load and drop the task, <Exception> to enter an exception, <Skip Task> to skip the task, or <Info> to view the order information.
7. If you choose <Load>, or <Load & Drop> the system completes the task, and advances to the next task.

### To Pick by Label:

1. Navigate to the Task Outbound menu
2. Choose Pick by Label.



3. Enter or select the LPN.
4. Choose <Done>.

## Related Topics

Explaining Task Exceptions, page 4-15

Capturing Catch Weight Information, page 11-40

Defining Pick Slip Grouping Rules, *Oracle Inventory User's Guide*

Defining Pick Methodologies, *Oracle Warehouse Management Implementation Guide*

## Bulk Picking

Bulk picking will reduce the number of times goods are processed and returned to a user. After pick release occurs for both outbound sales orders and internal orders, or for manufacturing component picks, Oracle Warehouse Management consolidates tasks of similar characteristics into a single bulk task. This process can be initiated either at the time of pick release, or through a concurrent program separate from the pick release process.

An advantage to bulk picking is that a typical warehouse operation will benefit from a reduced replenishment effort once bulk picking is employed. Replenishment is the process by which material from a packed or overstock bulk location refills the forward

or fast picking area for high velocity items.

## Order or Job Profile

Bulk picking only works effectively if the same item is picked repeatedly from the forward pick location causing frequent replenishments. You must perform analysis to determine how many times each item is picked from the forward stock location and the size of those picks per pick release batch. If in a single pick release the same item is ordered over 100 times, and the size of the entire forward pick face only holds 20 items, then bulk picking the item eliminates 5 replenishment transactions and numerous picks transactions depending on the quantity ordered per order or job.

## Device Integration

If picking requires device integration, such as a carousel or ASRS, then the actual movement of the device is far more costly than the cost of deconsolidation. Bulk picking is an effective pick methodology to prevent the device performing the same operation repeatedly. For example, imagine that 101 customers each order 1 of the same item, and that the carousel takes approximately 30 seconds to arrive at a particular location. Then by bulk picking the entire 100 quantity at once, the picker has eliminated  $100 \times 0.5\text{min} = 50$  minutes of unusable carousel travel time - time in which the worker cannot perform other tasks. While deconsolidating the bulk pick would require extra time, another person who is not dependent on the movement of the carousel can perform the deconsolidation.

## Warehouse Layout

If the warehouse is very large, and requires pickers to travel long distances to take material from the forward pick locations to the outbound staging or manufacturing staging locations, then it is important to evaluate whether or not the deconsolidation of material can be delayed as late as possible in the movement flow. The advantage is that employees need not traverse the same lengthy path through the warehouse over and over when transporting the same item.

## Value Added Services

If a particular business has value added services, such as repackaging or kitting, it makes sense to bring a large bulk quantity of material to the value added service work stations so each station does not have to travel far to pick the item. This way, the deconsolidation is done automatically and left to the packager or kitting employee.

## Grouping Criteria

The bulk picking grouping criteria defines which tasks are candidates for bulking together. The following are hard rules of when bulking can occur. Anything outside this is not a candidate for bulk picking.



- Same source subinventory
- Same source locator
- Same item
- Same revision

All of the four above criteria must be satisfied in order for a particular task to be part of a bulk pick task. Thus if two different items need to be picked, the two corresponding tasks cannot be bulked together. Furthermore, any task that does not satisfy the following restrictions list is immediately excluded as a bulk picking candidate.

- Item is not cartonized
- Allocated tasks have the same operation plan
- An LPN is not allocated for the pick

Once a task has satisfied the above criteria, the task is ready to be grouped with other tasks.

### **Setup Grouping Criteria**

The Pick Slip Grouping Rules window enables a warehouse to setup bulk picking. The entire organization can have only a single bulk picking setup rule, and this rule is the default that is used throughout the warehouse. On the setup window, there are three values that the bulk picking setup can take: Bulk entire wave, Honor item/sub, and Disable bulk picking. For a given pick slip grouping rule, bulk picking can take on one of the three values above. If at time of pick release, you select Bulk entire wave, every line in a pick wave is a candidate for bulk picking. If you select Honor item / sub only items and subinventories that are bulk pick enabled are candidates. If you select disable bulk picking, bulk picking does not occur.

Delivery is the only criteria you can configure. If the box is checked, then bulking of tasks does not occur across deliveries. If the box is unchecked, then two tasks with the same item that occur in two different deliveries can be bulked together as one task.

If you select the grouping rule of order picking, bulk picking cannot be enabled. This ensures that material released with order picking as the pick slip grouping rule is not bulked with other tasks that are not part of the same order.

Material that is grouped together into a bulk pick task has a parent and child relationship. The associated lines that are grouped together are the "child" lines and the final bulk task is often referred to as the "parent" line.

### **When to Perform Bulk Picking**

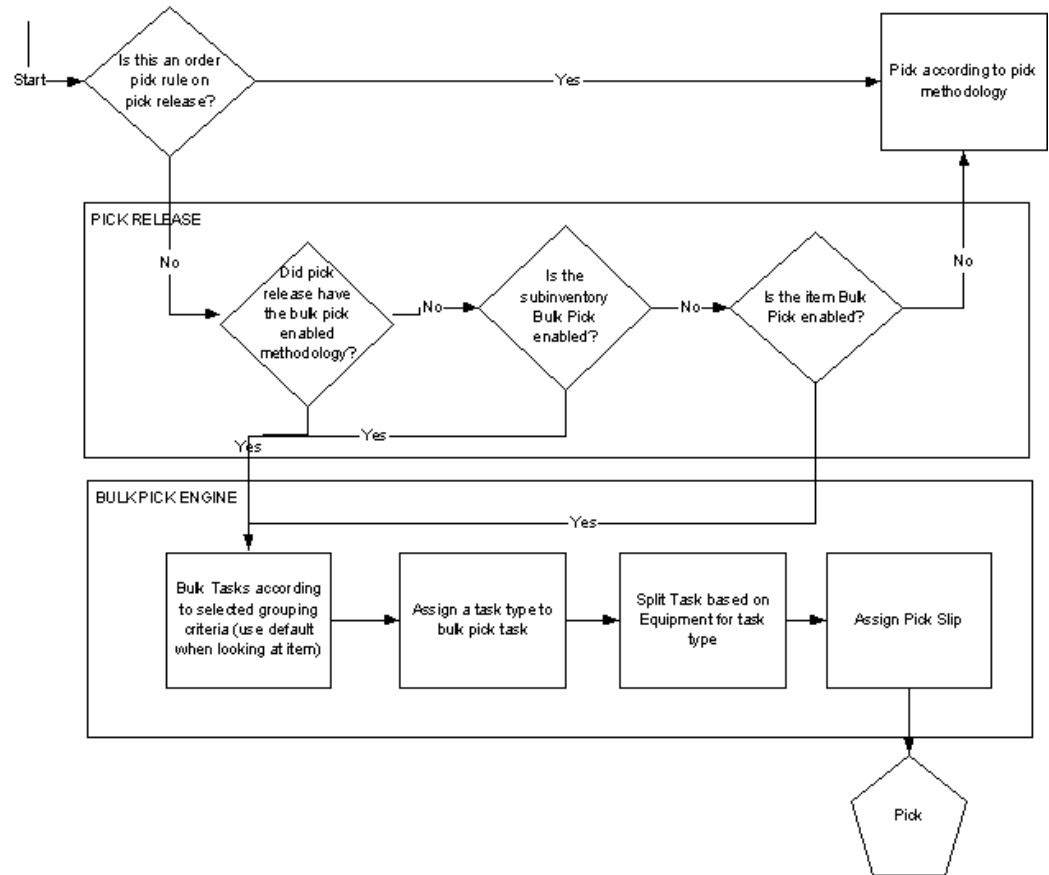
Bulk picking can be invoked via pick release or via a concurrent program independent

of the pick release process. When run during pick release, the system first examines the configuration setup and thus determines which lines are candidates for bulk picking. These lines are then bulked and a new parent task is created. This parent task corresponds to the unit of work that needs to be performed

## Pick Release Versus Concurrent Program

Oracle Warehouse Management allows the flexibility to support bulk picking at the time of pick release, or as a separate concurrent program that can be run independently from the pick release process. Bulk picking should be selected at the time of pick release if the release batch size is very large. The profile options INV Pick Slip Batch Size and INV Component Pick Batch Size determine the amount of order lines that are processed together. See: If the number is set very low, say 5 or 10, then only 5 or 10 lines will be considered together as candidates for bulk grouping. Thus, if the batch size is low, then the concurrent program should be used after all of pick release has run. However, if the batch size is fairly large, such as 10,000, then it is safe to bulk at the time of pick release because all 10,000 can be considered as candidates for bulking. Please note however that enabling bulk picking at the time of pick release will increase the time required for pick release to complete.

The following diagram depicts the pick release process and the picking process. If the bulk picking engine is run at the time of pick release, the above flow executes. If the bulk picking engine is run as a concurrent program after pick release has completed, then the bottom portion of the diagram will occur separately and will occur across pick release batches. Please note that if run separately, pick release still incurs a cost of assigning task types and pick slip numbers to all the children lines even if later they become merged together.



## Item Level

An item can be bulk pick enabled, and thus the item is always a candidate for bulk picking. That does not imply that it will always be bulk picked, but it will always be considered. This is useful if a business has seasonal items where the cost of deconsolidation is less than the cost of travel and picking. Thus, these items should be bulk pick enabled during the peak season and disabled when velocity is low.

## Subinventory Level

A subinventory can be bulk pick enabled, and thus all items that are present in that subinventory are candidates for bulk picking. Subinventories that are the source of replenishments to the forward pick should be candidates for bulk picking, and thereby reducing the necessity to replenish the forward pick zone.

## Printing Pick Slips

There are instances where printing paper pick slips is still a desired form option, either to supplement the mobile screens or to facilitate user movement. In order to print the pick slip after pick release, the Move Order Pick Slip Report should be added to the pick

release document set. For both bulk and non bulk pick tasks, the move order pick slip report will be printed. Please note that by performing bulk picking, a distribution center automatically forgoes the usage of the pick slip report as the packing slip report, primarily because bulk picking is most commonly used with bulking across delivery lines.

## Related Topics

Oracle Warehouse Management Bulk Task Generation, page 14-16

Describing Pick Methodologies, page 7-4

## Setting Up Case Picking

Case picking enables businesses to streamline the pick release process by labeling cases and pallets directly. Case picking enables you to assign case labels printed at order release to pick operators who can perform case picks such as *Pick to Belt* or *Pick to Pallet* by scanning multiple case labels. This enables warehouse workers to simply scan a case already packed with items and move it directly onto a pallet or belt.

### To set up case picking:

Complete the following steps to set up case picking. After the pick release process starts, if the Enable Case Picking check box is selected, then the labels will be printed and the mobile UI will be dynamically generated to capture the label information.

#### Set up the pick UOM

A different Pick UOM can be selected for different subinventories to allow customers to configure Oracle Warehouse Management to meet different needs for different warehouses.

1. Select either Case or Pallet as the Pick UOM.
2. Set up the Pick UOM for each sub-inventory where case picking should be enabled.

#### Set up the task type attributes

3. Navigate to the User Task Type Attributes page
4. Select the Honor Case Pick check box to enable case picking for the selected User Task Type. If the Honor Case Pick check box is selected, a label will be printed for each case or pallet. For example, assume the pick UOM is case and there are 10 each per case. If the operator is picking 50 each, five labels will be printed: one for each case of 10.

You can enable case picking for one or more task types. If you enter a value in the Pick Load Page type field, it overrides the form function parameter you set

### To set up the pick load page

5. Navigate to the Pick Load Page Setup page.
6. Ensure that Pick Load Page Template is set up to capture LPN label information.

The mobile user interface will automatically render the appropriate fields. In a *pick to pallet* scenario, the pallet LPN field will be displayed so that the warehouse worker can capture the correct information.

## Explaining Over Picking

Over picking enables you to over pick an item on a dispatched task as long as the item is within the same subinventory and locator. Over picking may be required to:

- Compensate for shrinkage during shipment
- Compensate for item damages
- Compensate for imprecise measurements
- Compensate for shipment quantity or UOM variance
- Avoid scarcity of material
- Minimize LPN breaks

## Over Picking for Sales Orders

You can over pick sales orders as long as the over picked quantity falls within the over shipment tolerances for the order. Lot substitution is allowed, and you can over pick for lots other than those allocated to the task. You can choose to treat over picking as an exception and enter a reason code on the mobile pick load page, or configure the Pick Load Page to accept over picks without exception if the pick quantity is within tolerance. If you choose to configure the mobile pick load page to accept over picks within tolerance without exception, then the system considers the over pick as an exact match, and does not require you to confirm the quantity. If you want to change the confirmed quantity, you can select partial pick, and enter the new quantity.

## Over Picking for Bulk Pick

You can over pick bulk pick items within the same subinventory and locator. Over picking of bulk items is based on the constraint percentage of the available quantity within subinventory and locator. When you perform over picking on a bulk task, the system creates an extra subinventory transfer for the over picked quantity, and the control board displays the number of child tasks with an increment of one. Once you load the task, the system deletes the subinventory transfer task, and the number of child

tasks changes back to the original value.

The system examines any tolerance levels to perform the pick. This applies when you pick material for sales orders, internal orders, or wip picks. Therefore, if you pick material for any of those demand types, and over picking is enabled, then you can pick as much overage quantity as you want. This typically means picking a full pallet or a full case instead breaking the pallet or case at its source location. When you drop the material the system checks the tolerance levels. It is important that you return over picked material to either the source location or place it in an over pick bucket.

To use an over pick bucket model, create a non-LPN controlled over pick location next to the outbound staging lane or the manufacturing staging lane. When over pick quantity exists, the system suggests that you drop the material in the over pick location in which you deliver the necessary material for jobs and orders. You can then return the material in the over pick location to inventory.

## Over Picking for Replenishment Move Orders

You can use a mobile device to over pick replenishment tasks if available quantity of the item exists, and resides in the same subinventory and locator. Lot substitution is not allowed. You can over pick only within the lot allocated to the task. You can also over pick serial controlled items.

## Over Picking for Move Order Requisitions

You can use a mobile device to over pick for move order requisitions if available quantity of the item exists, and resides in the same subinventory and locator. Lot substitution is not allowed. You can over pick only within the lot allocated to the task. You can over pick serial controlled items. If you check Allocate Serials on the Organization Parameters window, then the system forces you to first pick the allocated serials before you can pick from additional serials located within the subinventory and locator. If you do not check Allocate Serials on the Organization Parameters window, you can select any available serials within the subinventory and locator.

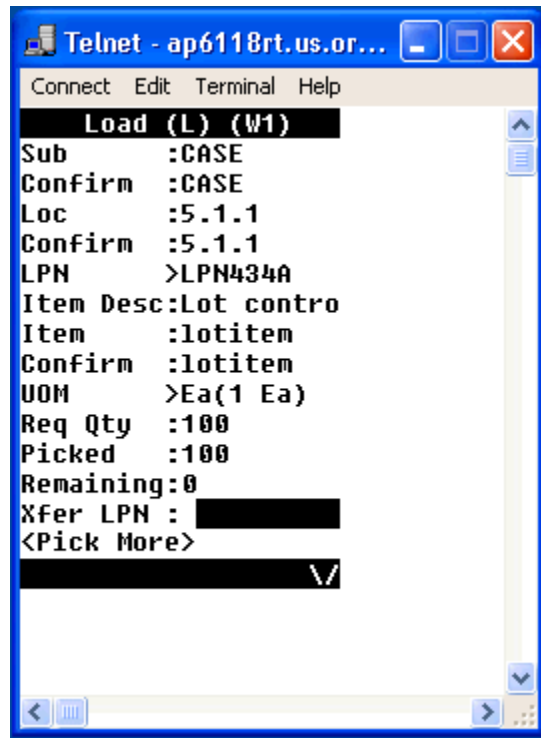
## Over Picking Components

You can over pick WIP components once they are pick released. No quantity constraint exists as long as the components reside within the same subinventory and locator. You can pick an entire LPN if the additional quantity within the LPN is not reserved or allocated for another order. Lot substitution is not allowed. You can over pick only for the lot allocated to the task.

**Note:** You can set over picking at the organization level for manufacturing replenishment and requisition move orders.

### 3.2.4 Over Picking from a Different Location with a Different Lot Number

You can over-pick material from a different location with a different lot number. To pick a lot from a different LPN or location, you can raise an exception from the Advanced Pick Load page, and then click <Pick More> on the Pick Load page to select a new lot to pick from in a different location.



### Related Topics

Explaining Bulk Picking, page 7-13

Explaining Oracle Warehouse Management Picking for Manufacturing, page 7-50

Overview of Inventory Transactions, *Oracle Inventory User's Guide*

Overview of Move Orders, *Oracle Inventory User's Guide*

### Setting Up Over Allocation For Pick Release

Shipment tolerances govern the permissible amounts that can be over shipped or under shipped for a shipment:

- Over shipment tolerance: Determines the amount of the shipment you can exceed at the time of ship confirmation.

- Under shipment tolerance: Determines the amount of the shipment you can ship below at the time of ship confirmation. Governs when the original order line should be considered completely fulfilled from an order shipment instead of creating a backordered shipment.

Oracle Warehouse Management enables you to over allocate a quantity at pick release when the on-hand quantity is greater than the ordered quantity in the following situations:

- The Over Ship Tolerance is set at the order line level on the Shipping tab.
- The allocation mode for the picking rule is Allocate Entire LPN Only. (Allocation modes for a pick rule are set up in the WMS Rules window.)

The over allocation at pick release feature enables you to over allocate material booked on an order when it falls within shipments tolerances. (The tolerance limits are set at the order line level or on the Strategy Definition window.) The over allocation feature is useful because the system automatically allocates an entire LPN instead of backordering an order (the allocation method of Strict Pick UOM or Allocate Entire LPN must be selected for this feature). This reduces material handling and enables you to ship quantities in standard packs.

#### ***Example of Over Allocation***

<b>Ordered Quantity</b>	<b>On-hand Quantity</b>	<b>Allocated Quantity</b>
45 +	50 packed into an LPN	50 allocated

## **Prerequisites**

- ☐ Define picking rules in the WMS Rules window and select an allocation method of either Strict Pick UOM or Allocate Entire LPN.

The system will not over allocate if you choose to use any other rules. You can use over allocation with any type of item except lot indivisible items. Lot indivisible items are governed by OPM allocation logic.

- ☐ Define the pick strategy in the WMS Strategies window.
- ☐ Select the over allocation mode for the strategy.
- ☐ Enable the strategy on the Rules Workbench window.



### To set up over allocation for pick release:

1. Navigate to the WMS Strategies window.
2. Define the pick strategy. Select the allocation settings:
  - None: No over tolerance (default value). The system does not over allocate material for this strategy, regardless of the allocation method selected.
  - Using Order Line Tolerance: The system uses the Order Line Tolerance that you set at the sales order line.
  - Using Constant Tolerance: Uses the percentage entered in the Tolerance Value field.
    - Tolerance Value: Enter a percentage value for the shipment tolerance. This field is enabled only if you selected Using Constant Tolerance in the Over Allocation Mode field.

**Note:** Applies only to rules with picking strategies defined with the allocation modes of Allocate Entire LPN or Strict Pick UOM (select allocation modes in the WMS Rules window). For picking rules defined with other allocation modes, the over tolerance is not used for determining the quantity to be allocated. If you have rules that use allocation methods other than Strict Pick UOM and Allocate Entire LPN within the strategy, then the system applies these rules, if they are the most appropriate to use, but does not over allocate material.

## Under Picking Without Exception

Under picking without exception enables you to under pick an item on a dispatched task without raising an exception. To enable under picking without exception, you must set the pick load page level parameter Allow Under Pick Without Exception to Yes. Oracle Warehouse Management does not check the under tolerance during picking, but checks it at ship confirm. If the requested pick is from an LPN that contains only the requested item, the system treats this pick as an exact match, and you do not have to confirm the quantity. If you use Under pick without Exception, then system backorders the under picked quantity. If you do not enable under pick without exception, then you must press F4 to raise an exception and enter the picked quantity.

After you enter the pick, you select from one of the following options: pick partial to change the confirmed quantity, pick more to pick the remaining quantity, curtail pick to back order or reallocate the remaining quantity, or load or load & drop to complete the task. If you select curtail pick, load, or load then the system backorders the remaining

quantity for sales order picks and WIP tasks. If the reason code you select for curtail pick is associated with a pre-seeded exception workflow, such as cycle count, then the system attempts to create an alternate pick suggestion instead of backordering the remaining quantity.

If the requested quantity is a loose pick, then you must confirm the picked quantity. After you confirm the picked quantity, you have the same options as LPN picks.

## Related Topics

Pick Load Setup, page 7-26

## Lot Substitution During Picking

Lot substitution enables you to substitute allocated lots with available lots from the same SKU during a picking operation. This is useful when the allocated lot is placed at the back of the stocking locator and is difficult to pick. A user can substitute another lot for the SKU which resides in the same locator instead of selecting the allocated lot. If you change locators during the picking process, then when you substitute a lot, the new available lots are from the locator to which you changed for picking. You can select the new lot from either the *unallocated* or *unreserved* lot associated with the SKU. The system does not re-run picking rules during this operation.

Two types of lot substitutions are available in the system:

- Lot substitution during picking *with* exception
- Lot substitution *without* exception

If you select to perform lot substitution with exception, then you register an exception in the lot field during picking. After you raise the exception, you can then select an alternate lot. If you perform a lot substitution without exception, then you can enter a substitute lot in the lot field during the picking process.

## Prerequisites

### ☐ *Setting up Lot Substitution with Exception*

To set up lot substitution with exception, you must create an exception to use during the picking process. When you create the exception, you must use the Reason Type value = *Load*, and the Reason Context value = *Change Lot Number*.

See also, Task Exceptions, page 4-15.

### ☐ *Setting up Lot Substitution without Exception*

To set up lot substitution without exception, you must enable the parameter *Allow Lot substitution without exception* on the Page Level tab of the Pick Load Page Setup window. If you enable this parameter when you create a pick load page template,

then you can substitute lots during the picking process without entering an exception during the pick.

See also, Pick Load Page Setup, page 7-26.

**To perform a lot substitution with exception:**

1. Navigate to the Load page.
2. Confirm the Subinventory, Locator, and Item information as necessary.
3. Click the Lot field.
4. Click the Exception button. When you select the exception you are able to enter an exception to the pick that allows you to select a new lot. You can title this exception anything you like, but it must be associated with the Reason Type value = *Load* and the Reason Context value = *Change Lot Number*.
5. Select the exception which enables you to perform a lot substitution.
6. Enter or select a substitute lot from the list of values.

**Note:** The system honors existing allocations and reservations when authorizing substitute lots.

7. Confirm the new lot and lot quantity.
8. Enter the desired LPN for the pick.
9. Proceed with the Load or the Load and Drop as normal.

**To perform a lot substitution without exception:**

1. Navigate to the Load page.
2. Confirm the Subinventory, Locator, and Item information as necessary.
3. Click in the Lot field.
4. Enter a substitute lot or select a substitute lot from the list of values.

**Note:** The system honors existing allocations and reservations when authorizing substitute lots.

5. Confirm the new lot and lot quantity.

6. Enter the desired LPN for the pick.
7. Proceed with the Load or the Load and Drop as normal.

## Describing Task Loading and Dropping

Task loading and dropping includes the following and completes the Oracle Warehouse Management picking task process.

- Loading material onto equipment
- Dropping material directly into a staging lane or consolidation locator

After the operator picks the load, they can either drop it directly into a staging lane, or load it on to their equipment. They can then proceed to the next pick location. The operator can view the current LPNs at any time, including information on the customer and the destination address, on the equipment that are waiting to be dropped.

When the operator is ready to drop the material into a staging lane, the system directs the operator to an appropriate staging lane (as determined by the dock appointment or pick release rule). The operator confirms the drop by scanning the staging lane.

If an LPN for the same delivery has already been dropped into the staging lane, the operator will be shown that LPN as a suggested drop LPN. The operator can select another LPN in that lane, if multiple LPNs have been staged for the same delivery. Alternatively, the operator can enter a new LPN to drop into, or drop without packing the LPN from the task into another LPN. The final pack can also be competed as a user-initiated packing transaction.

Task dropping completes the Oracle Warehouse Management picking task process.

## Pick Load Page Setup

Use the Pick Load Page Setup window to create templates that define configurations for the mobile pick load pages. The parameters on the pick load template dictate the behavior of the fields and buttons on the mobile pick load pages. You can set different levels of control for each of the fields as well as tailor the page to a location or a user. You can set different display and confirmation control for serial controlled items and non-serial controlled items. This allows you to avoid unnecessary data confirmation. You can customize the order information page to display the information you need, and retrieve any fields from the database.

The Pick Load Setup Page window also contains default system templates. You may choose to use these templates, create your own templates, or modify existing templates. . The Pick Load Page Setup window contains the following default templates:

- Express Load: Default express load configuration

- Express Pick: Default express pick load and drop configuration
- Default Configuration: Default pick load configuration

### To create a new template:

1. Navigate to the Pick Load Page Setup window.

The screenshot shows the 'Pick Load Page Setup' window. The 'Template' section has the following fields:

- Name: JS\_ADS\_GENERAL
- Org: Vis
- Description: ADS General Format-Subinventory Display Only No Confirm

Below these fields are three checkboxes: ☒ Common to all Orgs, ☒ Enabled, and ☒ User Created.

The 'Properties' section has four tabs: General Fields, LPN Fields, Buttons, and Page Level. The 'General Fields' tab is selected, showing a table with the following columns: Field, Property For Non-Serial Items, and Property For Serial Items.

Field	Property For Non-Serial Items	Property For Serial Items
Container	Hide fields	Hide fields
Container Id	Hide fields	Hide fields
Project	Display only, no confirmation	Display only, no confirmation
Task	Display only, no confirmation	Display only, no confirmation
Subinventory	Hide fields	Hide fields
Locator	Show both fields Confirm second	Show both fields Confirm second
Outer LPN	Display only, no confirmation	Display only, no confirmation
Allocated LPN	Display only, no confirmation	Display only, no confirmation
Item Description	Display only, no confirmation	Display only, no confirmation

2. Enter a name for the template in the Name field.
3. Enter a template description in the Description field.
4. Optionally, select Common to all Orgs to enable this template for all organizations.
5. Optionally, select Enabled to enable this template.
6. Select the display properties for the general fields. The available fields are as follows:
  - Display only, no confirmation: Displays the field on the page, but does not require you to confirm the field.
  - Hide fields: The field does not display on the page.
  - Show both fields Confirm second with no LOV: Displays both fields and requires you to confirm the second field, but does not have an associated LOV. An example of this is the Subinventory and the Subinventory Confirm field. If

you choose this option the subinventory displays as well as the subinventory confirm field. You must confirm the subinventory, but you cannot select it from a list of values.

- **Show both fields Confirm second with LOV:** Displays both fields and requires you to confirm the second field, but allows you to pick the confirmation value from the list and LOV. An example of this would be the locator field and locator confirm field. If you choose this option the locator displays as well as the locator confirm field. You may either enter the locator, or select it from the LOV.
- **Single line input with no LOV value default:** Allows you to enter a single line of information, but does not have an associated LOV.

The following table lists the available configurations:

#### **Configurations**

<b>Field</b>	<b>Display Only, no confirmation</b>	<b>Hide Fields</b>	<b>Show both fields Confirm second with no LOV</b>	<b>Show both fields Confirm second with LOV</b>	<b>Single line input with no LOV, value default</b>
Container	Yes	Yes	No	No	No
Container ID	Yes	Yes	No	No	No
Project	Yes	Yes	No	No	No
Task	Yes	Yes	No	No	No
Subinventory	Yes	Yes	Yes	No	No
Locator	Yes	No	Yes	No	No
Out LPN	Yes	Yes	No	No	No
Allocated LPN	Yes	Yes	No	No	No
Item Description	Yes	Yes	No	No	No

Field	Display Only, no confirmation	Hide Fields	Show both fields Confirm second with no LOV	Show both fields Confirm second with LOV	Single line input with no LOV, value default
Item	Yes	No	Yes	No	No
Revision	Yes	No	Yes	No	No
UOM	Yes	No	Yes	Yes	No
Requested Quantity	Yes	No	Yes	No	No
Container	No	Yes	No	No	Yes
Lot	Yes	Serial only	No	Yes	No

7. Select the LPN Fields tab. The information you enter on the LPN Fields tab determines the way the system retrieve, transfers, nests, and transacts on the material on the Mobile Pick Load page. You can set different configurations for loose picks and fully consumable LPN scans. A fully consumable LPN is an LPN that is entirely consumable by a pick. Whereas, if an LPN is partially consumed, material remains in the LPN. The fields are as follows:

- WMS\_REM\_LPN: The remaining LPN.
- WMS\_LAST\_LPN: The last LPN.
- Transfer LPN: Transfers the contents of the LPN to another LPN.
- Into LPN: Nests the LPN within the into LPN.
- PALLET\_LPN: The outer LPN for all cases for which a task type with honor case pick enabled.

**Note:** The Transfer LPN field and the Into LPN field cannot be visible at the same time.

The following table lists the main fields, and the available choices.

Field	Display only no confirmation	Hide fields	Show both fields Confirm second with no LOV	Single line input with no LOV, value defaulted
Transfer LPN	Yes	Yes	Yes	Yes
Into LPN	Yes	Yes	Yes	Yes
PALLET_LPN	No	Yes	No	Yes

**Pick Load Page Setup**

Template

Name: JS\_ADS\_GENERAL Org: Vis

Description: ADS General Format-Subinventory Display Only No Confirm

☒ Common to all Orgs ☒ Enabled ☒ User Created

Properties

General Fields LPN Fields Buttons Page Level

Field	Full LPN	Partial LPN or Loose
WMS_REM_LPN	Hide fields	Hide fields
WMS_LAST_LPN	Hide fields	Hide fields
Transfer LPN	Show both fields Confirm second	Show both fields Confirm second
Into LPN	Hide fields	Hide fields
PALLET_LPN	Hide fields	Hide fields

8. Select the Buttons tab. This tab enables you to define the button behavior on the mobile device. You can choose the button display order, as well as hide the buttons from view. The available choices are 10, 20, 30, 40, 50, 60, 70, and 80. The button with the lowest number appears first on the mobile device. Select the Visible check box if you want the button to appear on the mobile device. The available buttons are:
  1. <Load>
  2. <Load and Pass>
  3. <Pass>
  4. <Load and Drop>



5. <Attachment>
6. <Exception>
7. <Skip Task>
8. <Info>

**Pick Load Page Setup**

Template

Name: JS\_ADS\_GENERAL Org: Vis

Description: ADS General Format-Subinventory Display Only No Confirm [ ]

☒ Common to all Orgs ☒ Enabled ☒ User Created

Properties

General Fields LPN Fields **Buttons** Page Level

Button	Display Order	Visible
Load	10	<input checked="" type="checkbox"/>
Load and Pass	20	<input type="checkbox"/>
Pass	30	<input type="checkbox"/>
Load and Drop	40	<input type="checkbox"/>
Attachment	50	<input type="checkbox"/>
Exception	60	<input checked="" type="checkbox"/>
Skip Task	70	<input type="checkbox"/>
Info	80	<input type="checkbox"/>
		<input type="checkbox"/>

9. Select the Page Level tab. This tab enables you to control the behavior of attachments, catch weight, and exceptions when picking partial lot quantities.

**Pick Load Page Setup**

Template

Name:  Org:

Description:  [ ]

☒ Common to all Orgs ☒ Enabled ☒ User Created

Properties

General Fields LPN Fields Buttons **Page Level**

Property	Value	[ ]
Bypass Exception When Picking Partial Lot Quantity	No	
Allow Negative Balance	No	
Show Task Quantity in Pick UOM	No	
Allow Over Pick without Exception	No	
Allow Under Pick without Exception	No	
Display Picked Quantities in Secondary UOM	Enterable Only	
Hide 'Load and Drop' Button until Last Task	No	
Hide 'Load' Button On Last Task	No	
Allow Lot substitution without exception	No	

10. Select the Show Attachments display option. The available choices are:
  - Always: The attachment button always appears
  - By Request: The attachment button appears by request
  - Never: The attachment buttons never appears
11. Select the Catch Weight Entry and Field Behavior. The available choices are:
  - Hide: Catch weight entry is hidden
  - Mandatory: Catch weight entry is mandatory
  - Optional: Catch weight entry is optional
12. Select the Bypass Exception When Picking Partial Lot Quantity behavior. The available choices are:
  - No: Prompts for an exception when you try to pick a partial amount of the task, this facilitates picking lots out of order.
  - Yes: Does not prompt for the exception when you try to pick a partial amount of the task.
13. Select the Allow Negative Balance behavior. The available choices are:

- No: Does not allow you to pick a quantity that is greater than the quantity that exists in the location.
  - Yes: Allows you to pick a quantity that is greater than the quantity that exists in the location.
14. Select the Show Task Quantity in Pick UOM behavior. The available choices are:
- No: Displays the task quantity in the default item UOM. For example, if the default UOM is each and the task UOM is box, then the system displays the task quantity in eaches.
  - Yes: Displays the task quantity in the pick UOM. For example, if the default UOM is each and the task UOM is box, then the system displays the task quantity in boxes.
15. Select the Allow Over Pick without Exception behavior. The available choices are:
- No: Requires you to enter a task exception when you pick more than the requested quantity of an item for a task that is within shipment tolerance.
  - Yes: Does not require you to enter a task exception when you pick more than the requested quantity of an item for a task that is within the shipment tolerance.
16. Select the Allow Under Pick without Exception behavior. The available choices are:
- No: Requires you to enter a task exception when you pick less than the requested quantity of an item for a task that is within shipment tolerance.
  - Yes: Does not require you to enter a task exception when you pick less than the requested quantity of an item for a task that is within the shipment tolerance.
- Note:** Oracle Warehouse Management does not check shipment tolerances until ship confirm for items that you under pick.
17. Select the Display Picked Quantities in Secondary UOM. The available choices are:
- Always: Always displays the picked quantities of an item in the secondary UOM if the item is dual UOM controlled.
  - Never: Does not display the picked quantities of an item in the secondary UOM.
  - Enterable Only: Enables you to enter the picked quantity of an item in the secondary UOM if the item is dual UOM controlled.

If you choose to display the secondary quantity, then the requested quantity field on the General Fields tab controls the behavior of secondary quantities as well. If the item is under dual UOM control, then the system retrieves the value of the Display Picked Quantities in Secondary UOM field. If the value is Always or Enterable, then the system checks the value of the requested quantity field. The Requested Quantity field determines whether you need to confirm the secondary quantity field, or whether the system displays it. If the item is tracked in the primary UOM and priced in the secondary UOM, then the catch weight fields control the display fields. If the item is tracked in both units of measure, then the Display Picked Quantities in Secondary UOM field takes precedence.

18. Select the Hide "Load and Drop" Button until Last Task behavior:

**Note:** You must enable the Load and Drop button to set values for this field.

- Yes: The Load and Drop button will not be displayed until the last task of the picking group is complete.
- No: The Load and Drop button appears for all picking tasks. (The default value is No.)

**Note:** You need to first enable the Load and Drop button before it can be hidden.

19. Select the Hide "Load" Button On Last Task behavior:

The *Hide "Load" button on Last Task* field shows the user that the last task for the picking group has been reached. This value works in tandem with the *Hide Load and Drop Button until Last Task* field and should be set accordingly.

- Yes: The Load button will not appear on the mobile device if it is the last task of the pick grouping.
- No: The Load button appears on the mobile device even if it is the last task of the pick grouping. (The default value is No.)

**Note:** You must enable the Load button to set values for this field.

20. Select the Allow Lot substitution without exception behavior:

- Yes: You can enter a substitute lot during picking without raising an exception.
- No: If you enter a substitute lot during picking, an exception is raised.

During picking, you can select an alternate lot for the item from a list of values. The system does not re-run the picking rules for this process. However, the system does honor existing allocations and reservations for lots. You cannot select a lot for which allocations and previous reservations exist.

21. Save your work.

#### To copy an existing pick load template:

1. Navigate to the Pick Load Page Setup window.
2. Select Copy Template from the Tools menu.
3. Modify the template as needed.
4. Save your work.
5. Close the window when finished.

## Related Topics

Explaining Oracle Warehouse Management Task Exceptions, page 4-15

Defining Transaction Reasons, *Oracle Inventory User's Guide*

## Express Load

Express load is used for more efficient picking, or by more experienced pickers. Express load enables you to load material without confirming all fields. The express load page uses the EXP\_LOAD default template on the Advanced Pick Load page. If you perform an express load the only field you need to confirm is the To LPN field.

Use the following instructions to perform an express load.

1. Navigate to the mobile interface Express Load, page A-5 form.

```
Load (D) (W1)
Sub      :BULK
Loc      :B1.1.1
LPN      > 
Item Desc: Catch Weig
Item     :TC-Catch1
UOM      :Ea(1 Ea)
Req Qty  :5.0
<Attachment>
<Exception>
<Skip Task>
<Info>
```

2. Optionally enter a from LPN in the LPN field. When you advance past the LPN field the Item Details page opens.

```

Item Details (W1)
Item      :TC-Catch1
UOM       :Ea(1 Ea)
Req Qty   :5.0
Picked    :5
Sec UOM    :BG
Sec Qty    : 
<Done>
<Exception>

```

3. On the Item Details Page choose <Done> to invoke the Load page, or choose <Exception> to enter an exception.

```

Load (D) (W1)
Sub       :BULK
Loc       :B1.1.1
LPN       >
Item Desc: Catch Weig
Item      :TC-Catch1
UOM       :Ea(1 Ea)
Req Qty   :5.0
Picked    :5
Remaining:0
Into LPN  :Scan LPN
Confirm   :LPN2002
<Load>
<Attachment>
<Exception>

```

4. Choose <Load> to load the material, <Attachment> to view the attachments associated with the task, <Exception> to enter an exception reason, <Skip Task> to skip the task, or <Info> to view the item information.

## Related Topics

Describing Task Loading and Dropping, page 7-26

## Express Picking

Express picking is used by experienced pickers or for more efficient picking. Express pick enables you to load and drop material without confirming all fields. The express pick page uses the EXP\_PICK default template on the Advanced Pick Load page. If you perform an express pick the only field you need to confirm is the To LPN field.

1. Log onto the mobile device.
2. Navigate to the mobile interface Express Pick, page A-5 form.

```
Load (D) (W1)
Sub      :TC-Store1
Loc      :TC.1.1
LPN      > 
Item Desc: Catch Weig
Item     :TC-Catch1
UOM      :Ea(1 Ea)
Req Qty  :5.0
<Attachment>
<Exception>
<Skip Task>
<Info>
```

3. The Load page displays containing all of the information except the LPN.
4. Optionally, enter the LPN. After you enter the LPN the item details page displays.

```
Item Details (W1)
Item     :TC-Catch1
UOM      :Ea(1 Ea)
Req Qty  :5.0
Picked   :5
Sec UOM   :BG
Sec Qty   :
<Done>
<Exception>
```

5. On the Item details page, choose <Done> to invoke the Load page, or choose <Exception> to enter a transaction exception.

```

Load (D) (W1)
Sub      :TC-Store1
Loc      :TC.1.1
LPN      >
Item Desc: Catch Weig
Item     :TC-Catch1
UOM      :Ea(1 Ea)
Req Qty  :5.0
Picked   :5
Remaining:0
Xfer LPN :
<Load & Drop>
<Attachment>
<Exception>
<Skip Task>

```

6. Enter the transfer LPN in the Xfer LPN field.

**Note:** After the XferLPN is scanned and nested into a pallet LPN, it is not available for nesting again. Even if the Honor Case Pick check box is active for the task (the Honor Case Pick check box is selected in the User Task Type Attributes page), you need to enter a new LPN or a LPN with a status of *Defined but not used* or *Packing* in the XferLPN field.

7. Select <Load & Drop> to load and drop the attachment, <Attachment> to view the attachments, <Exception> to enter a task exception, or <Skip Task> to skip the task.

```

Drop (W1)
From LPN :LPN200
To Sub   :STA
Confirm  >STA
To Loc   :L1.1.1
Confirm  ]L1.1.1
Drop LPN >
<Done>
<Cancel>

```

8. Confirm the required fields as necessary.



9. Choose <Done> to drop the task, or choose <Cancel> to cancel the drop.

## Related Topics

Describing Task Loading and Dropping, page 7-26

## Manifest Picking

You can use the Oracle Warehouse Management mobile user interface to perform manifest picking by scanning (or entering) a list of order numbers or a list of pick slip numbers.

**Note:** If multiple users simultaneously select the same sales order number (or the same pickslip number) when manifest picking, the tasks that are dispatched to the first user will not be dispatched to other users.

## Prerequisites

- ☐ Labels must be assigned to a user prior to performing picking tasks.
- ☐ Dispatch picking tasks must be set up.

### To use manifest picking to scan sales order or pick slip barcodes:

1. Navigate to the Manifest Picking page.
2. Scan the sales order or pick slip barcode for each label. Either the Order Slip Picking page or Pick Slip Picking page appears depending on the type of pick slip you scanned:
  - Order Picking page:

Oracle Mobile

Order Picking

Order Number

Last Order

Total 0

Done Cancel (C)

- Order Number: Enter the order number (either by scanning or manually entering the number).
- Last Order: Displays the last order scanned by the user.
- Total: Displays the total number of orders scanned so far.
- Pick Slip Picking page:

- Pickslip Number: Enter the pick slip number (either by scanning or manually entering the number).
- Last pickslip: Displays the last pick slip scanned by the user.
- Total: Displays total number of pick slips scanned so far.

3. Choose one of the following actions:

- Click the Done button to return to the Outbound Menu page.

Based on the order numbers or pick slip numbers scanned, all the eligible tasks (based on criteria such as task type, sub inventory, equipment and so on) from the sales order/pick slip numbers are selected then sorted in ascending order by locator and travel sequence.

**Note:** The current task displays as Active on the mobile device while other eligible tasks assigned to users display as Dispatched on the Warehouse Control Board window.

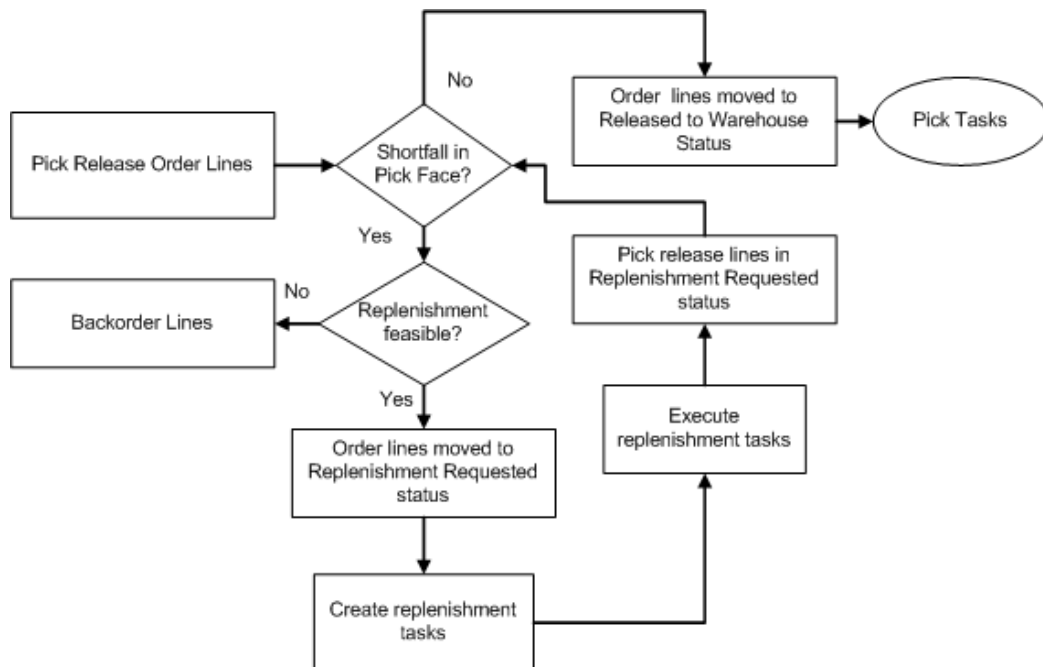
- Click the Cancel button to exit the page without saving your changes.

**Note:** If you exit then return to the manifest picking page, all

previously entered sales orders and pick slip numbers are cleared from the page so you can enter new sales order numbers or pick slip numbers.

## Pull Replenishment

During pick release, pull replenishment is initiated when there is not enough on-hand quantity in the lower-level pick area to fulfill demand. If pull replenishment is enabled as the allocation mode, then the pick release allocation logic does not allocate material from the bulk or reserve area. Instead the system combines the remaining demand from all demand lines creates a replenishment task to replenish the pick area from the bulk area. If you enable the Pull Replenishment parameter then pick release automatically generates the replenishment task after pick release if a shortfall in the forward pick area is detected. The following diagram details the pull replenishment process.



When you initiate pick release, the system checks to see if there is a demand shortage in the pick face. If a shortage exists, then it verifies if replenishment is feasible. If it can replenish the pick face it changes the states of the deliver line to Replenishment Requested and creates a replenishment task. It collects the replenishment information as each order line is subjected to allocation and determines the answer to the following questions: Does the pick face have enough available quantity to fulfill this order line? If the pick face does not have enough available quantity to fulfill this order line, what is the replenishment demand and what is the destination subinventory? The system needs this information before it can generate the replenishment tasks.

The system automatically executes replenishment after pick release for items with replenishment setup at item-sub inventory level with the supply source subinventory. The replenishment demand is aggregated and netted off and with on-hand quantity. The system then uses min-max parameters to create a replenishment move order.

The total replenishment quantity = maximum quantity + sum (replenishment demand for all sales order lines) - on-hand quantity - sum (all replenishment move orders outstanding).

Pull Replenishment uses picking and putaway rules to allocate replenishment move orders. The rules engine determines the final pick and putaway locators for the replenishment move order.

## Related Topics

Picking Rule Allocation, page 2-13

Assigning Items to a Subinventory, *Oracle Inventory User's Guide*

Delivery Lines Statuses, *Oracle Shipping Execution User's Guide*

## Push Replenishment

Push replenishment occurs prior to pick release and involves replenishing the forward pick area to meet anticipated demand. Push replenishment is used for items that have a high demand for a given period of item. To initiate push replenishment, run the concurrent request Push Replenishment. The system consolidates and replenishes the demand for all items specified in the replenishment parameters to the forward pick subinventory. It then changes the delivery line status to *Replenishment Requested*.

The system calculates the replenishment quantity as follows: replenishment quantity required = total demand using criteria - On-hand quantity - sum (all open replenishment move orders with destination subinventory as forward pick subinventory)

After the system executes all replenishment lines, you must manually pick release the replenishment lines. This will manually allocate the lines into pick tasks. You also need to ensure that the pick rules used to allocate the sales orders also allocate the items to the forward pick area. The following example illustrates push replenishment.

### ***Item and Sales Order Information***

<b>Item</b>	<b>Sales Order</b>	<b>Quantity</b>	<b>Delivery Line Status</b>
AAA	SO1	100 EA	Ready to Release
AAA	SO2	100 EA	Ready to Release

Item	Sales Order	Quantity	Delivery Line Status
BBB	SO3	19 EA	Ready to Release
CCC	SO4	18 EA	Ready to Release
AAA	SO5	65 EA	Ready to Release
BBB	SO6	12 Ea	Ready to Release
DDD	SO7	10 EA	Ready to Release

***Push Concurrent Request Parameters***

Parameters	Value
Scheduled to Ship Date To	+3
Forward Pick Subinventory	REPL
Replenishment UOM	PLT
Replenishment Lot Size	1 PLT
Minimum Threshold for Replenishment	2 PLT
Minimum Threshold for Order Lines	2
Item Limit	3
Sort Criteria	Total Demand
Auto Allocate	Yes
Plan Tasks	Yes

The push replenishment program calculates the net demand as follows:

Item	Net Demand in Replenishment UOM	UOMs
AAA	265 EA (2.65 PLT)	PLT = 100 EA
BBB	31 EA (3.1 PLT)	PLT= 10 EA
CCC	18 EA (1.8 PLT)	PLT= 10 EA
DDD	10 EA (0.5 (PLT)	PLT = 20 EA

The net demand is sorted as:

Item	Net Demand in Replenishment UOM	UOMs
BBB	31 EA (3.1 PLT)	PLT= 10 EA
AAA	265 EA (2.65 PLT)	PLT = 100 EA
CCC	18 EA (1.8 PLT)	PLT= 10 EA
DDD	10 EA (0.5 (PLT)	PLT = 20 EA

The system considers items BBB, AAA, and CCC for replenishment because the replenishment criteria limits the number of items to three. Because the minimum replenishment threshold is 2 PLT item CCC is not considered for replenishment. The system also disregards item CCC because only on sales order line requested the item, and the minimum threshold for orders lines is 2.

The system generates the following move orders for the push replenishment area based on the replenishment lot size.

- Item BBB 4 PLT (To Destination Sub REPL)
- Item AAA 3 PLT (To Destination Sub REPL)

The system uses pick and putaway rules to determine the final source and destination locators for the items. The delivery lines for items AAA and BBB are changed to Replenishment Requested. You must then manually pick release the lines. This allocates the material for picking.

## Forward Pick Replenishment

Forward pick replenishment is an important activity in a warehouse. By replenishing a forward pick area, a distribution center disaggregates material stored in a reserve or bulk area and moves it to a pick area that is optimized for unit picking. Replenishment to a forward pick area allows a distribution center to reap the benefits of bulk procurement and optimized storage in a reserve area as well as optimized picking for order profiles with smaller quantities. The following types of forward pick replenishment are available:

- **Pull Replenishment:** A replenishment suggestion is auto-created as soon as a shortfall is detected during the order release process. This type of replenishment is useful for items with high uniform demand in forward pick areas.
- **Push Replenishment:** Using push replenishment, the aggregated future demand for an item is replenished to a forward pick area for future picking activity. This type of replenishment is useful for items with irregular demand in a forward pick area.
- **Dynamic Execution:** Dynamic execution orchestrates the warehouse tasks so that a pick task to a forward pick area will be dispatched only when replenishment has been completed. Similarly, a replenishment task will be dispatched only when a forward pick area has enough capacity to receive the replenished material.

## Setting Up Forward Pick Replenishment

The following steps are required for forward pick replenishment:

### **To define the item-subinventory relationship:**

To use push/pull replenishment, then complete the following steps:

- For push replenishment, the Forward Pick subinventory must have the source subinventory defined for your item. If needed, you can specify Fixed Lot Multiplier and Maximum Item of min-max fields.
- For pull replenishment, the forward picking subinventories must have a source subinventory defined for your item. (The rule engine ultimately determines which of these picking subinventories will get selected at the pick release time). If needed, you can specify Fixed Lot Multiplier and Maximum Item of min-max fields.

### **To define the pick UOM for the source subinventory for replenishment:**

To use pull/push replenishment, select the Pick UOM on the Subinventory window.

## How to Perform Move Order Transactions

Oracle Warehouse Management dispatches tasks associated with move orders, both move order transfers and move order issues, directly to the mobile user. Move order subinventory transfers utilize the unique system task type of MOXfer, while move



order issues utilize the unique system task type of MOIssue.


**Note:** Transacting move orders must be done through mobile task dispatching. You cannot transact move orders in the mobile or desktop transact move order forms in Oracle Warehouse Management enabled organizations.

A move order task can be fulfilled with a different LPN than the one that was allocated, or via loose material. The allocated subinventory or locator can be overridden. The task can be under picked, which will leave the missing quantity on the move order line as unfulfilled; the missing quantity on the move order can be automatically picked up by the next Move Order Pick Slip report and re-allocated (and a new task created), or the move order line can be manually closed. The allocated lots, and if serial allocation is enabled, serials cannot be overridden. See, Task Management Setup, *Oracle Warehouse Management Implementation Guide*.

**Note:** Move orders are restricted to transactions within an organization.

### **Performing Move Order Subinventory Transfers:**

1. Log on to the mobile device.
2. Navigate to the Tasks page. You can retrieve a move order task by either navigating to the Slotting page, or accepting the next task from the Interleaved Tasks menu. The Load page appears. This is the load page you configured using the Pick Load setup page. The fields that display on this page are determined by the pick load setup. See: Explaining Pick Load Setup, page 7-26

Sub	TPSUB
Confirm	
Loc	TPS.1.1
Loc/LPN	
Outer LPN	TP-01
Alloc LPN	TP-01
Item Desc	Plain Item
Item	VAR100
Confirm	
UOM	Ea(1 Ea) 
Req Qty	2

Required Field

3. Scan or enter LPN if necessary.
4. Confirm the required fields
5. Enter the transfer LPN in the Xfer LPN field. You can enter an existing LPN, or generate a new LPN.
 

**Note:** After the XferLPN is scanned and nested into a pallet LPN, it is not available for nesting again. Even if the Honor Case Pick check box is active for the task (the Honor Case Pick check box is selected in the User Task Type Attributes page), you need to enter a new LPN or a LPN with a status of *Defined but not used* or *Packing* in the XferLPN field.
6. Choose <Load> to load the material, <Load and Drop> to load and drop the material, <Attachment> to view attachments to the move order, <Exception> to enter a task exception, <Skip Task> to skip the task, and move on to the next task, or <Info> to view the order information.

**Note:** Move order issues cannot be loaded, they must be dropped.  
Move order transfers can either be loaded or dropped.

When you select <Drop> the system displays the Drop page.

Oracle Mobile

Drop (W1)

From LPN TP-01

To Sub TPSUB1

Confirm

To Loc TPS1.1.1

Confirm

Done Cancel (C)

7. Confirm the drop subinventory and locator.

8. Select <Done>

If you choose <Load> the Task Menu displays.

In the case of a generated move order for an account issue, <Drop> is the only option after you confirm the necessary fields on the Pick Load page. The Drop page that displays for an account issues displays the Account Number. Select <Done> to complete the issue.

### To transact reserved LPNs:

During normal warehouse operations you may need to move an LPN (license plate number) from one subinventory to another because of space constraints or normal warehouse operations. Oracle Warehouse Management enables you to transact hard-reserved lot controlled items within an LPN. The reservation guarantees the supply for the order, while enabling you to move the LPN throughout the warehouse. The following steps describe the process for transacting reserved LPNs:

1. Reserve the lot-controlled item packed within an LPN.
2. Perform the transaction.

**Note:** No additional setup steps are required for this feature.

1. Navigate to the Sales Order window.
2. Create and book a sales order for the lot controlled item.

**Note:** You do not have to create a sales order to reserve an LPN.

3. Navigate to the Item Reservation window.
4. Create a hard-level reservation at the lot-level. The LPN will be associated automatically with the lot because the lot is packed within an LPN.
5. Process the transaction, for example, by using an Oracle Mobile device, to transfer the LPN to the desired subinventory. After the transaction occurs, the lot is still reserved, but the reservation is transferred to the desired subinventory. You can transfer the lot packed within an LPN anywhere within the organization, and the reservation remains intact.

**Note:** Oracle Warehouse Management interacts with the following applications for transacting reserved LPNS:

- Oracle Order Management for entering and booking sales orders.
- Oracle Inventory for creating and processing reservations.

## Related Topics

Locator Alias, page 3-41

Oracle Inventory User's Guide

## Explaining Oracle Warehouse Management Picking for Manufacturing

Inventory will create move orders and allocations for material requirements on a job or a schedule. The component pick release process supports discrete jobs, repetitive schedules, lot-based jobs, and flow schedules.

- Describing picking for manufacturing within Oracle Warehouse Management
- Explaining manufacturing component pick release
- Explaining manufacturing picking tasks
- Explaining opportunistic crossdocking for manufacturing

- Explaining manufacturing label printing
- Explaining paper-assisted manufacturing picking
- Explaining change management

## **Describing Picking for Manufacturing within Oracle Warehouse Management**

Oracle Warehouse Management enables you to utilize the Rules Engine and the Task Dispatching Engine to pick component requirements for jobs and schedules. Four manufacturing modes are supported with this process:

- WIP job
- Repetitive schedule
- Lot-based job
- Flow schedule

Instead of using a paper-based report to direct operators to retrieve material for the job, picking for manufacturing enables operators to be sent directly to the best material for the job and for the picking transactions to be recorded directly on the mobile device. Manufacturing picking also supports opportunistic crossdocking and label printing.

The bill of material, routing, job, and schedule are set up as indicated in the respective users guides; no change in manufacturing setup is required to use these features. Instead, the component picking process is triggered by using a new desktop form, called Component Pick Release. Different forms for each of the four supported manufacturing modes are provided and described in the respective users guides.

Once a job or schedule has been pick released and material has been allocated, the allocated material cannot be used for any other transaction. The allocations can be viewed or updated on the Transact Move Orders form, and the tasks can be viewed or updated on the Warehouse Control Board.

Migration to task based picking for manufacturing is optional. The process is triggered by Component Pick Release of the job or schedule. If pick release is not performed, then an organization can continue to use the component picking process in place unchanged.

## **Explaining Manufacturing Component Pick Release**

Selecting jobs and schedules to pick release in a warehouse-enabled organization is no different than the process in an inventory organization. However, once the process is triggered, different actions are taken by the system.

In a warehouse-enabled organization, component pick release uses the Oracle Warehouse Management Rules Engine to allocate the material required for the job. As part of the component pick release process, tasks are also created and assigned a task

type for automatic dispatching at a later point. Backordered components are available for re-release, or can be crossdocked if crossdocking is enabled for the organization.

## Explaining Manufacturing Picking Tasks

Once the push or pull allocation has been made via Component Pick Release, the Rules Engine is used again to determine the task type. These tasks are then dispatched to qualified operators who sign on with the required equipment, in the same way that replenishment and sales order tasks are dispatched. For a detailed description of the differences between how Push and Pull supply types are treated see: *Defining Pick Slip Grouping Rules*, *Oracle Inventory User's Guide*

You can load the material to their equipment and then drop the task at a later point, or the task may be loaded and dropped in a single step. The load and drop process are identical to that for a sales order requirement, except that a push requirement is dropped to a job instead of a supply subinventory. You use the same methodologies to pick manufacturing tasks, as you do outbound tasks. You can perform a manufacturing task by selecting manufacturing tasks from the task menu, or by accepting any task from the Interleaved Tasks menu. For information on performing picking tasks see: *Describing Pick Methodologies*, page 7-4.

## Explaining Opportunistic Crossdocking for Manufacturing

If crossdocking is enabled for the organization, then you can crossdock newly received material directly to backordered component requirements. The system considers supply from expected receipts such as purchased orders, internal requisitions, and LPN-based completion, and considers demand from both push and pull component requirements. The system crossdocks a push requirement directly to the job, and a pull requirement to the supply subinventory and locator. For more information on opportunistic crossdocking see, *Opportunistic Crossdocking*, page 6-5.

To configure crossdocking for manufacturing, you must define several parameters on the Organization Parameters, page A-1 window.

## Explaining Manufacturing Label Printing

Oracle Warehouse Management can print labels during the picking process. Labels will be printed when the operator performs the pick load if label types have been assigned to the WIP Pick Load business flow. Similarly, labels can be printed during pick drop if label types have been assigned to WIP Pick Drop. Note that these are different business flows than those used for sales order label printing, because they can print different label types. Specifically, the WIP business flows can print the WIP Contents label, which includes details about the job, schedule, routing, operation, and department.

You can also use the Oracle Manufacturing Execution System (MES) to print labels for serialized and non-serialized jobs and automatically print labels as part of move or completion transactions.

## Explaining Paper-Assisted Manufacturing Picking

A warehouse can use paper-directed picking if operators should not be automatically dispatched tasks by the system. The Move Order Pick Slip report includes a task id. Rather than navigating to "Accept Next Task" on the task menu, the operator can instead select "Manual Pick" and enter this task id. The specified task will then get dispatched directly to that operator, bypassing any restrictions via task type or required equipment, as well as any sequencing logic.

## Explaining Change Management

If the job or schedule is cancelled, then all the pending and queued tasks are cancelled and the allocations are relieved. Tasks that have been loaded to an operators equipment can be unloaded or dropped if the components have supply type of pull, but must be unloaded if they have supply type of push. Tasks that have already been completed require user intervention to return the components from the job or schedule. Additional support is also provided when the component requirements on the job or schedule change due to a change in the quantity of final assemblies to produce, or a change in the material requirements for that particular job. Please refer to the Oracle Inventory User's Guide for additional details on this type of change management.

## Dock Scheduling and Load Sequencing

Organizations with both Oracle Warehouse Management and Oracle Transportation Management (OTM) installed can schedule shipments to dock doors and sequence the loading of trailers at the doors based on the following criteria: time required, door availability, and stop sequence for drop-offs. You can synchronize the dock doors, dock door appointments, and load sequence with Oracle Warehouse Management. Oracle Warehouse Management uses the additional information to plan outbound activities such as:

- Releasing shipments for pick execution based on dock door schedule.
- Sequencing of drops in the staging area for multi-stop shipping itinerary.
- Sequencing of tasks for picking when a multi-stop shipping itinerary is being used.

### **To set up data for Oracle Transportation Management Integration:**

This feature relies on the Oracle Shipping Execution – Oracle Transportation Management Integration for sales order and outbound integration flows; the related setup is described in the integration guide *Integrating Oracle Transportation Management with Oracle E-Business Suite*.

In addition, the following setup is required in the Oracle E-Business Suite:

1. Navigate to the Shipping Parameters window.
2. On the Delivery tab, select the Dock Appointment Scheduling check box to enable dock appointment scheduling.
3. Run the concurrent program *Synchronize Dock Doors with Transportation Management*. This program is a master reference data synchronization program that can be run either for an organization or for all organizations or for a given date range. This program synchronizes data with OTM and will be run every time the dock doors have been changed.

#### **Troubleshooting the Synchronize Dock Doors with Transportation Management Feature**

- Concurrent Request Log: The concurrent request should complete normally. The parameters that are passed display in the log file and the BPEL Process instance ID is displayed in the log file. To view complete debugging information, set the Inventory Debug Profiles before launching the concurrent program.
- BPEL Process *WmsSendDockDoorToOTM*: View the instance of the BPEL process created and the BPEL Console to debug any issues. The BPEL PM logs can be found at `\integration\orabpel\domains\default\log`. To debug any PL/SQL API calls, set the Inventory Debug Profiles at the Site Level and bounce the BPEL Process Manager for the new settings to take effect. The inventory debug log file is created in the directory defined in the *Inventory Debug* profile option. You can review this in conjunction with the BPEL process instance information to troubleshoot any issues.

## **Related Topics**

See the *Integrating Oracle Transportation Management with Oracle E-Business Suite* integration guide.



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# Wave Planning

## Overview of Wave Planning

Warehouse managers use warehouse planning to group and plan the work in a warehouse. Warehouse planning tasks include:

- Selecting and grouping orders for fulfillment.
- Checking material availability for fulfillment.
- Performing labor planning to fulfill orders.
- Monitoring the progress of the orders during order fulfillment.

Warehouse planning includes *wave planning* which enables you to group orders and lines for better visibility and control during order fulfillment. Wave planning provides real-time monitoring and exception reporting and flexibility during the order fulfillment process. Using wave planning, you can:

- Create, plan, and release a wave in one step or multiple steps.
- Schedule the entire wave planning process to be run at certain intervals based on specified criteria.
- Monitor and correct exceptions that may occur (exception handling).

The wave planning process consists of the following steps:

1. Creating a Wave

When you create a wave, you select the criteria that determines the orders to include in the wave. For example, you can create a wave that enables you to pick all orders with a dock appointment within the next  $x$  number of hours, all UPS orders, or all high priority orders.

## 2. Planning a Wave

Planning the wave involves determining the item availability and labor requirements for the wave. You can select the default actions to occur when unexpected events happen, for example, when stock is not available to fulfill orders. You can also add and remove lines from a wave during the planning phase if the fill rate or labor requirements do not match your expectation or for any other reason. Optionally, you can re-plan it later. A warehouse manager can plan a wave multiple times. Multiple people can plan waves, and orders can be included in multiple waves during the planning process.

## 3. Releasing a Wave

When you release the wave, the pick release process is initiated and material is allocated to orders.

## 4. Monitoring a Wave

You view a wave (and related wave activity) before and after it is released:

- Use the *Wave Workbench* window to view order and order line level details, track progress of orders in the warehouse, manage tasks, review labor planning criteria, and manage exceptions.
- Use the *Wave Dashboard* window to search for waves by wave number or other criteria, view high-level summary information about waves, monitor all picking activity in a warehouse, view automatic and recurring requests, and view the wave status for specific dates.

**Note:** You cannot monitor progress for individual waves in the Wave Dashboard window.

## Related Topics

Planning a Wave, page 8-8

Creating a Wave, page 8-2

Viewing Waves Using the Wave Dashboard, page 8-16

Viewing Waves Using the Wave Workbench, page 8-19

Setting Up Task Release Options, page 8-33

Using Concurrent Requests with Wave Planning, page 14-19

## Creating a Wave

Creating a wave involves selecting the criteria that determines the orders to include in

the wave. You can select *simple* criteria to create waves based on order, customer, carrier, item, trip and delivery information. For example, you could create a wave that picks all orders with dock appointments within the next x number of hours, all UPS orders, or all high priority orders.

If desired, you can also select *advanced* criteria for releasing waves. For example, you can select criteria to pick all single line orders or pick orders when a total tare weight or dollar value is greater than a specific threshold.

You can create one or more waves, compare them, and then after you run the planning process, decide which wave(s) to release. You can also automate the process.

### To create a wave:

1. Navigate to the Create Wave window.

The screenshot shows the 'Create Wave (W1)' window. At the top, there are fields for 'Wave Template', 'Wave Description', 'Estimated Start Time' (set to '02-NOV-2009 12:09:56'), and 'Wave Number'. Below these is the 'Planning Criteria' section with three tabs: 'Simple Criteria' (selected), 'Advanced Criteria', and 'Wave Options'. The 'Simple Criteria' tab contains two columns of input fields. The left column includes 'Order', 'Order Type', 'Ship Method', 'Ship Priority' (a dropdown menu), 'Trip', 'Item', and 'Project'. The right column includes 'Customer' (set to 'SmartBuy'), 'Customer Class', 'Carrier', 'Delivery', 'Trip Stop', 'Item Category', and 'Task'. At the bottom of the 'Simple Criteria' section, there are two summary lines: 'Orders with scheduled ship dates within next [ ] Days [ ] Hours' and 'Orders with dock appointment within next [ ] Days [ ] Hours'. At the very bottom of the window are three buttons: 'Save as Wave Template', 'Launch Online', and 'Launch Concurrently'.

2. In the Wave Template field, you can query an existing wave template, or create and save a new template to be reused. For more information, see To create a wave template, page 8-7.
3. Estimated Start Date: This date is used during labor planning to plan resources and tasks and to determine a target completion date. When the wave is created, the system uses the current system date as the default value for the Estimated Start

Time. However, you should enter a date later than the current system date because to plan the wave, the estimated start time must be later than the current system date.

- The estimated wave start date cannot be changed after you create the wave.
  - The Wave Planning Release Wave concurrent request can also release a wave based on an estimated start time.
4. In the Simple and Advanced Criteria tabs, enter the criteria to create the wave:
- Simple Criteria tab: Define the criteria for waves based on order, customer, carrier, item, trip and delivery information.
  - Advanced Criteria tab: Select criteria that defines rules that must be fulfilled to create a wave (similar to defining rules in the WMS Rules window). Multiple rules within a template can be linked using and/or conditions. For example, the wave can be created if the delivery value is 755091 AND the sales order number is 16446.

**Note:** The system creates waves for order fulfillment across all booked sales orders.

[illegible]

Wave Template

Estimated Start Time 02-NOV-2009 12:09:56

## Planning Criteria

### Simple Criteria

### Advanced Criteria

Wave Options

[illegible]

Save as Wave Template

Launch OneLaunch Concurrently

- Click the Wave Options tab.

**Create Wave (W1)**

Wave Template:  Wave Description:

Estimated Start Time: 02-NOV-2009 12:09:56 Wave Number:

**Planning Criteria**

Simple Criteria Advanced Criteria **Wave Options**

Pick Slip Grouping Rule: Customer, Delivery Release Sequence Rule: All Standard Orders

Auto Create Delivery: Yes Auto Create Delivery Criteria: Across Orders

Append Deliveries:  Allocation Method: Inventory Only

Staging SubInventory: STA Staging Locator: L1.1.1..

Pick Subinventory:  Crossdock Criteria:

Plan Tasks: No Task Priority:

☐ Firm Wave ☐ Pull Replenishment

Include Assigned Lines: Include all Lines

☐ Plan Wave ☐ Release Wave

Planning Criteria:

Save as Wave Template Launch Online Launch Concurrently

6. On the Wave Options tab, you can select the criteria to define the planning criteria for the wave, determine the pick slip grouping rule, and the release sequence rule to use when creating the wave. You can also choose to auto create deliveries for the wave. For example, if the orders are going to the same customer, you can choose to auto create a delivery across orders.

- **Auto Create Delivery:** Select Yes to auto-create a delivery based on the delivery grouping criteria that you select.
- **Append Deliveries:** Appends the order lines to an existing delivery based on the delivery grouping criteria that you specify. For more information, see the *Oracle Shipping Execution User's Guide*.
- **Crossdock Criteria:** Enable cross-docking by selecting the crossdock criteria option.

**Note:** Ensure that you have already created the crossdocking setups. For more information, see *Oracle Warehouse Management Crossdocking*.

- **Pull Replenishment:** During pick release, pull replenishment is initiated when

there is not enough on-hand quantity in the lower-level pick area to fulfill demand. If you select Pull Replenishment, then pick release automatically generates the replenishment task after pick release if a shortfall in the forward pick area is detected.

**Note:** If you select Pull Replenishment, verify that all replenishment setups have been completed. (There are multiple replenishment types and pull replenishment is one type.) For more information on pull replenishment, see the section *Oracle Warehouse Management Outbound Logistics*.

- Include Assigned Lines: Choose either to include all lines or to exclude lines assigned to a delivery.
  - Plan Wave: This option is selected by default if a template was defined for the wave in the Plan Wave window.
  - Release Wave: This option is selected by default if the Plan Wave option and Release Wave options were selected in the Plan Wave window.
7. To create the wave, choose one of the following options:
- Click the Launch Online button to create the wave. If you select this option, the wave is created immediately but you will be unable to complete other activities on your terminal until the process has completed.
  - Click Launch Concurrently to run the *Wave Planning Initiate Process* concurrent request that creates the wave. The concurrent request runs in the background so you can run other processes while the request is running.
8. After you have created the wave, you can review it in the Wave Workbench window, select wave planning criteria in the Plan Wave window, and then release the wave. You can also create or update planning criteria in the Wave Workbench window and then re-plan the wave (before releasing the wave).

**Note:** If the Plan Wave box is selected, then the wave will already be planned. If desired, you can replan the wave.

#### **To create a wave template that can be reused:**

1. Enter a name and description for the wave template.
2. Enter your criteria for creating the wave.

3. Click Save as Wave Template to save the template.

## Related Topics

- Overview of Wave Planning, page 8-1
- Planning a Wave, page 8-8
- Viewing Waves Using the Wave Dashboard, page 8-16
- Viewing Waves Using the Wave Workbench, page 8-19
- Setting Up Task Release Options, page 8-33
- Using Concurrent Requests with Wave Planning, page 14-19

## Planning a Wave

After the wave is created, you can plan it using the Plan Wave window. Planning a wave involves selecting the criteria that further defines the fulfillment process. For example, you can set default actions to occur when stock is unavailable, or reserve material so it is not allocated or promised to other orders.

**Note:** You reserve material and then allocate it. The material is allocated only after the wave is released.

You can create and plan multiple waves until you achieve the optimum labor and fulfillment conditions.

**Note:** You can also re-plan the fulfillment and labor planning criteria on the Wave Workbench window.

### Additional Considerations

The following table describes how setups in the Create Wave window can affect wave and release planning:

If this option is selected in the Create Wave window:	Then the following conditions apply in the Wave Workbench window:
The Release Wave check box is selected.	When you click either the Release Online or Release Concurrently button, the wave will be released.
Plan Wave option is selected.	The wave will be planned automatically; otherwise, you can plan the wave.



### To plan a wave:

1. Navigate to the Wave Dashboard window.
2. Search for the wave that you want to plan. Enter a number in the Wave Number field to search by wave number, then click Find.
3. From the navigation tree, click the plus sign next to the Waves item, then select the desired wave number.

Wave Workbench (W1)

Waves  
141  
Personal Shortcuts  
Public Shortcuts

Wave Attributes Orders Lines Tasks Exceptions Labor Statistics

Wave Information

Wave Number **141** Status **Created**

User Name **MFG** Total Weight **16660 Lbs**

Creation Date **14-JUL-2009** Total Value **883480**

Total Lines **37** Total Number of Orders **9**

Total Cube **5059.42** Planned Fill Rate **0**

Earliest Schedule Ship Time **01-JUN-2009 23:59:00** Release Fill Rate **54.44**

Latest Schedule Ship Time **14-JUL-2009 23:59:00** Actual Fill Rate **0**

☐ Firm Wave Estimated Start Time

Attributes

Pick Slip Grouping Rule **Customer, Delivery** Release Sequence Rule **All Standard Orders**

Auto Create Delivery **Yes** Auto Create Delivery Criteria **Across Orders**

Append Deliveries Allocation Method **Inventory Only**

Pick Subinventory Crossdock Criteria

Staging Subinventory **STA** Staging Locator

Plan Tasks **No** Task Priority

☐ Pull Replenishment Include Assigned Lines **Include All Lines**

Plan Wave Cancel Wave Release Concurrently Release Online

4. On the Wave Attributes tab, you can review information about the wave such as the number of orders in the wave, total number of lines, and the release information used to create the wave.
5. Click the Orders tab to review the status of the order, for example, Ready to Release.
6. Click the Plan Wave button to display the Plan Wave window.

### To enter fulfillment planning criteria in the Plan Wave window:

1. Select the planning criteria, or query an existing template that contains the desired planning criteria. Alternatively, you can enter new planning criteria and save it as a template. For more information, see To create a planning criteria template, page 8-

The screenshot shows the 'Plan Wave (W1)' window. At the top, there are fields for 'Planning Criteria' (set to 'SmartBuy Wave Planning') and 'Picking Subinventory' (empty). Below these is a 'Planning Method' dropdown set to 'Availability Check' and a checked 'Enable Labor Planning' checkbox. The main area has two tabs: 'Fulfillment Planning' (selected) and 'Labor Planning'. Under 'Fulfillment Planning', there are two sections: 'Planning Action for Lines with Insufficient Stock' and 'Planning Action for Lines with Sufficient Stock'. The first section has five options, with 'Backorder Line' checked. The second section has two options, both unchecked. Below these is a 'Planning Criteria for Crossdocked Lines' section with an 'Allocation Method' dropdown set to 'Inventory Only' and a 'Crossdock Criteria' field. At the bottom, there are three buttons: 'Save as Planning Criteria', 'Plan Concurrent', and 'Plan Online'.

2. Select the Picking Subinventory such as Storage Subinventory.
3. Select a planning method:
  - Availability Check: The system considers the total on-hand availability of an item when performing fulfillment and labor planning. It does not consider existing low-level reservations.
  - Rule Based Planning: The system runs a simulation of the material allocation process and simulates the WMS rules engine to determine planned fill rate. If you select rule based planning, then crossdocking criteria will also be considered in planning.
4. (Optional step.) Select the Enable Labor Planning check box to enable the Labor Planning tab where you can define labor planning requirements.
5. In the *Planning Action for Lines with Insufficient Stock in Inventory* region, select the planning actions to occur when there is insufficient stock in inventory. When stock is unavailable, you can select a default action such as back ordering the line, or removing it from the wave.
6. In the *Planning Action for Lines with Sufficient Stock in Inventory* region, select the default planning action(s) when there is sufficient stock in inventory:
  - Reserve Stock for order line: Creates reservations when you plan the wave.

After the wave is firm, reserved material cannot be allocated to other orders.

**Note:** Although you can plan and re-plan the wave multiple times, you should select the *Reserve Stock for order line* option only during the final planning of the wave. For more information, see also the *Oracle Inventory User's Guide*, On-hand and Availability, and Item Reservations.

- Auto-Create Deliveries: Select this option to auto-create deliveries.
7. Select crossdock options on the *Planning Criteria for Crossdocked Lines* region:
- Note:** If availability check is selected as the planning method, it will not plan the labor for the wave but it will consider the following: a) only the high level material available for the wave 2) inbound cross-docked material at an organization level.
- Allocation Method: Select from Inventory Only, CrossDock Only, Prioritize Inventory, or Prioritize CrossDock.
  - Crossdock Criteria: Select the crossdock criteria.

**Note:** The fulfillment rates for crossdock tasks also appear on the Wave Workbench window.

For more information on crossdocking, see Oracle Warehouse Management Crossdocking, page 6-1.

8. Select the Remove Lines with Credit Hold check box to remove any order lines from the wave if a credit hold exists on the customer.

**To enter labor planning criteria:**

1. Click the Labor Planning tab.

Plan Wave (W1)

Planning Criteria: SmartBuy Wave Planning

Picking Subinventory:

Planning Method: Availability Check

☒ Enable Labor Planning

Fulfillment Planning: Labor Planning

☐ Bulk Labor Planning

Department: Picking

Staging Subinventory: STA

Time Uom: MIN

Labor Setup Mode: Subinventory-to-Subinventory

Item Category	Operation Plan	Source Type	Source	Destination	Pick Uom	Resource	Transaction Time (per Pick UOM)	Travel Time	Processing Overhead Duration
COMPUTER.NI		Inventory	EACH	STA	Ea	EACH_EMP	10	20	
COMPUTER.MIS		Inventory	CASE	STA	C10	CASE_EMP	15	25	
NEW.MISC		Inventory	BULK	STA	EA	BULK_EMP	20	30	

Save as Planning Criteria

Warehouse managers can use labor planning to estimate the labor required to fulfill picking tasks before the tasks are released to the warehouse. For example, if there are not enough operators available, the warehouse manager can change the wave to match labor availability:

2. Select the Bulk Labor Planning check box to plan the orders in bulk for the wave. Bulk Planning is available for both availability check and rules-based planning. This plans for bulking of items during the wave fulfillment process.
3. In the Department field, select a department such as Picking.

**Note:** Labor resources, and picking departments must be set up before they can be selected from this window. For labor planning to work, you must specify the shift (if you are not operating on a 24-hour shift) or the instance (if you are operating in a 24-hour environment). You need to set up resource, shift, and capacity information. For more information on setting up shifts, see the *Oracle Bills of Material User's Guide, Using the Workday Calendar*.

4. Select the staging subinventory.
5. Select the time unit-of-measure (UOM) that defines how time is measured for picking such as in minutes or seconds. For more information, see the *Oracle Inventory User's Guide, Defining Units of Measure*.

**Important:** The Pick UOM may differ depending on the planning method that you have selected:

- If the planning method of availability check is selected, then the system uses the pick UOM for the subinventory.
- If rule based planning is selected, then the system considers the rules allocation methods.

6. Select the labor setup mode to plan based on either subinventory or zone. Planning based on zones provides more detailed control over the picking process:

- Subinventory to Subinventory (default value): Enables you to select the source and destination subinventory for picking.
- Zone-to-Zone: Enables you to select the source and destination zones for picking. Zones consist of locators but can contain an entire subinventory. For more information on setting up zones in the Zones Summary window, see *Setting Up Locator Zones, Oracle Warehouse Management Implementation Guide*.

7. In the Labor Planning region, select your planning options:

- Item Category: Select an item category to determine the type of items to pick. Selecting an item category can also help reduce the amount of labor required to perform the pick. For example, it may take an operator longer to pick material from the HAZMAT item category than picking items from the NAILS item category (although both categories may exist in the forward picking area).
- Operation Plan: This option is available only if rule based planning is selected as the planning method. Select one of the following standard eight outbound operation plans to be automatically included in the planning calculations:
  - LPN-based consolidation in staging lane within delivery.
  - Direct consolidation in staging lane across deliveries.
  - Direct consolidation in staging lane within delivery.
  - LPN-based consolidation in consolidation locator, across deliveries in staging lane.
  - LPN-based consolidation in consolidation locator within delivery within delivery in staging lane.
  - LPN-based consolidation in staging lane across deliveries.

- Locator based consolidation in consolidation locator, across deliveries in staging lane.
- Locator based consolidation in consolidation locator within a staging lane.
- Source Type: Select the source of the material from which you will pick the order: Crossdock or Inventory. Crossdock is available only as the initial choice.
- Source: Select the location from which you will pick inventory. If the Source Type is Subinventory, then this will be a subinventory. If the source type is Zone, then this will be a zone.
- Destination: Select the destination which is either a subinventory or a zone (depending upon the source type selected). For example, the destination could be the packing zone, or the staging subinventory.

**Note:** The destination subinventory does not always have to be the staging subinventory.

- Pick Uom: Select the pick unit of measure.
- Resource: Select a resource.
- Transaction Time (per Pick UOM): Defines the picking time required (per the pick unit of measure selected).
- Travel Time: Specifies the time it takes to get from the source subinventory to the destination subinventory.
- Processing Overhead Duration: Optionally, enter a value that defines the amount of time required to perform additional transactions such as packing, consolidation, and staging.

#### **Example of Planning Setup Values in the Labor Planning tab**

The following example shows what values could be selected for a typical labor planning setup:

- Bulk Labor Planning: Selected
- Department: Picking
- Time Uom: Min
- Staging Subinventory: STA

In the Labor Planning region (Labor Planning tab), you could select the following values to define labor planning criteria (Source Type: Inventory; Operation Plan:

not entered):

Item Category	Source	Destination	Pick Uom	Resource	Transaction Time	Travel Time	Processing Overhead Duration
COMPUTER.NOTEBOOK	EA CH	STA	EA	EACH_ EMP	7	20	7
COMPUTER.MISC	CASE	STA	C10	CASE_ EMP	6	25	5
NEW.MISC	BULK	STA	EA	BULK_ EMP	5	30	9

8. Click the Fulfillment Planning tab to choose one of the following options:
  - Click Plan Concurrently to run a concurrent program to plan the wave. The system runs the concurrent request in the background so you can run other processes while the request is running.
  - Click the Plan Online button to plan the wave. If this option is selected, the wave planning process is performed immediately but you will be unable to complete other activities on your terminal until the process has completed.

**Note:** The Plan Online button is grayed out when Rule Based Planning is selected.

After the wave planning has completed successfully, you can preview the wave to review the expected fill rate and labor criteria. Then you can release the wave which releases the orders for picking and pull replenishment (pull replenishment is one of many replenishment types).

#### To create a planning criteria template:

1. In the Planning Criteria field, enter a name for the template.
2. Define your planning criteria in the Fulfillment Planning tab, and optionally, labor requirements in the Labor Planning tab.
3. Click Save as Planning Criteria to save the planning criteria.

## Related Topics

Overview of Wave Planning, page 8-1

Creating a Wave, page 8-2

Viewing Waves Using the Wave Dashboard, page 8-16

Viewing Waves Using the Wave Workbench, page 8-19

Setting Up Task Release Options, page 8-33

Using Concurrent Requests with Wave Planning, page 14-19

*Oracle Inventory User's Guide*, On-hand and Availability and Item Reservations

## Viewing Waves Using the Wave Dashboard

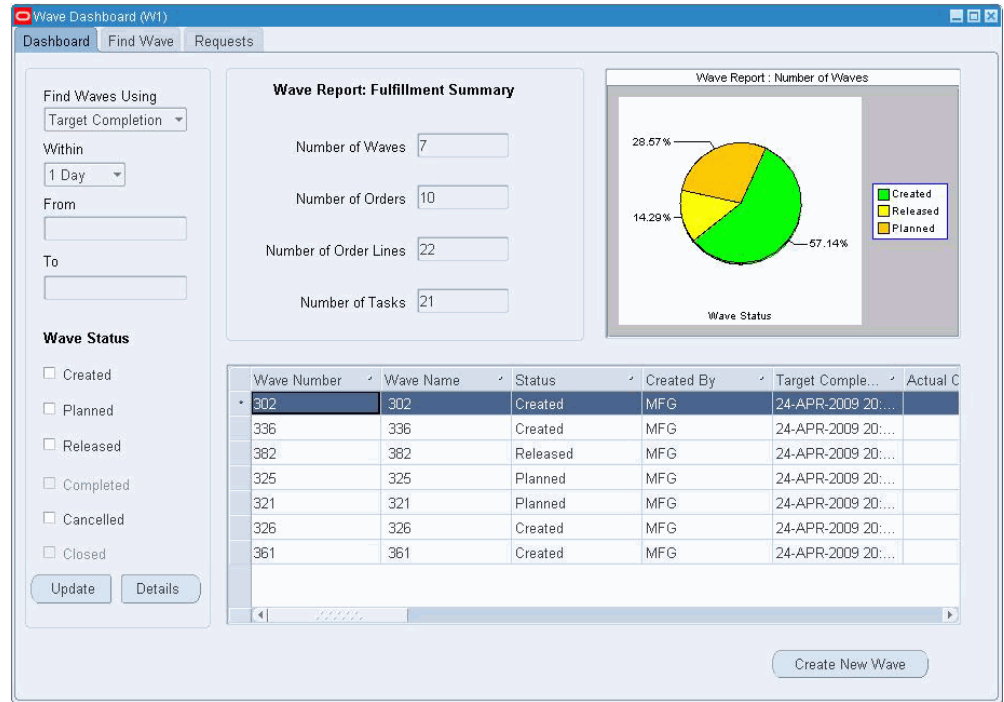
Use the Wave Dashboard window to view an overall summary of waves and wave activity for created, planned, or released waves. You can find any wave, or view multiple waves based on search criteria such as completion dates or wave status. For example, you can view released waves that have a target completion of today's date.

You can also view all picking activity in the warehouse, view a specific wave, or review waves for a given time period. On the Requests tab, you can view recurring requests or automatic concurrent requests such as requests that have been run overnight.

### **To view waves using the wave dashboard:**

1. Navigate to the Wave Dashboard window.





2. On the Find Wave tab, enter your search criteria to find individual or multiple waves. For example, you can choose to view all released waves for a customer *SmartBuy* that are being shipped by the carrier *DHL*.

3. In the Find Waves Using field , select one of the following options:
  - Target Completion: Find waves that are targeted for completion within the time range specified in the Within field (for example, within 1 Day, or 1 Week). Alternatively, leave the Within field blank to enter a specific date range in the From/To fields.
  - Actual Completion: Find waves that were completed during the time range specified in the From/To fields.
  - Estimated Start Date: Find waves where the estimated start date is planned for the time range specified in the Within field. Alternatively, leave the Within field blank to enter a specific date range in the From/To fields.
4. In the Within field, select the time period defined in hours, days, weeks, month, or null (no time selected). The field is disabled if you select Actual Completion in the Find Waves Using field.
 

If you select Target Completion in the Find Waves Using field and select a time period, then all waves scheduled to complete within that range appear. For example, if you select *1 Day* in the Within field, the Wave Dashboard displays all waves that will complete in the 24 hours after the query criteria is selected.
5. In the From/To fields, select a date range to filter the results of the waves shown in the Wave Dashboard.

**Note:** The field is enabled when the null option is selected in Within field.

6. Click Find to display the search results in the Dashboard tab.
7. Click the Requests tab to view automatic and recurring requests.

Wave Dashboard (W1)

Dashboard Find Wave Requests

From Date  To Date  Status Category All

Requests

Wave Description	Request Id	Phase	Status	Template	Create
	9772757	Completed	Error		MFG
	9772779	Completed	Normal		MFG
	9772781	Completed	Normal		MFG
	9772784	Completed	Normal		MFG
	9772795	Completed	Normal		MFG
	9772796	Completed	Normal		MFG
	9772805	Completed	Normal		MFG
	9772807	Completed	Normal		MFG

Recurring Requests

Wave Description	Template	Run The Job	Start At	End At	Re Run
Department of Defence Critical Items	DoD Premium It...	Periodically	27-APR-2009 13:...	04-MAY-2009 00:...	Every 7

Create New Wave

## Related Topics

Overview of Wave Planning, page 8-1

Planning a Wave, page 8-8

Creating a Wave, page 8-2

Viewing Waves Using the Wave Workbench, page 8-19

Setting Up Task Release Options, page 8-33

Using Concurrent Requests with Wave Planning, page 14-19

## Viewing Waves Using the Wave Workbench

After you create and plan a wave, you can preview it in the Wave Workbench window. Multiple planners can create and plan waves, or you can create and plan multiple waves to compare which is the most feasible to release to the warehouse. Viewing the

wave enables you to preview the work to perform, and provides an estimate of the labor required to perform the work. You can also add or delete lines from the wave if necessary.

After you release a wave, you can use the Wave Workbench window to view the order and order line status, track the progress of operators as they pick tasks, or remove lines from the wave.

Before releasing the wave, use the Wave Workbench window to complete the following tasks:

- Plan and create waves concurrently with multiple planners.
- Modify and re-plan a wave before it is firmed.

**Note:** Select the reservations options only when you re-plan the wave *for the final time*.

- Add or delete order lines from the wave. For information on adding priority orders to a wave (unreleased or released), see *To add priority orders to a wave*, page 8-25.
- Preview the work to perform.
- Estimate the labor required to perform the work (labor requirements).

After you plan the wave, you can *firm* the wave which ties the orders to that wave for release. Order(s) associated with the firmed wave can no longer be part of any other wave. You can choose to firm a wave prior to release, or at release. When you release the wave, it is automatically firmed.

#### **To view a wave (before releasing the wave):**

1. Navigate to the Wave Workbench window.
2. From the navigation tree, click the plus sign next to the Waves item to display the available waves, then select the wave.

Wave Workbench (W1)

Waves  
141  
Personal Shortcuts  
Public Shortcuts

Wave Attributes | Orders | Lines | Tasks | Exceptions | Labor Statistics

Wave Information

Wave Number	141	Status	Created
User Name	MFG	Total Weight	16660 Lbs
Creation Date	14-JUL-2009	Total Value	883480
Total Lines	37	Total Number of Orders	9
Total Cube	5059.42	Planned Fill Rate	0
Earliest Schedule Ship Time	01-JUN-2009 23:59:00	Release Fill Rate	54.44
Latest Schedule Ship Time	14-JUL-2009 23:59:00	Actual Fill Rate	0

☐ Firm Wave Estimated Start Time

Attributes

Pick Slip Grouping Rule	Customer, Delivery	Release Sequence Rule	All Standard Orders
Auto Create Delivery	Yes	Auto Create Delivery Criteria	Across Orders
Append Deliveries		Allocation Method	Inventory Only
Pick Subinventory		Crossdock Criteria	
Staging Subinventory	STA	Staging Locator	
Plan Tasks	No	Task Priority	
<input type="checkbox"/> Pull Replenishment		Include Assigned Lines	Include All Lines

Plan Wave Cancel Wave Release Concurrently Release Online

3. On the Wave Attributes tab, you can review or update criteria for the wave:

- Firm Wave check box: Select this option to firm the wave. When you firm a wave, the orders are tied to that wave for release. You can choose to firm a wave prior to release or during release. When the wave is released, it is automatically firmed (if you have not already firmed the wave).

**Note:** If you selected the *Reserve Stock for order line* check box on the Fulfillment Planning tab in the Plan Wave window, then reservations are created during wave planning and material cannot be allocated to other orders.

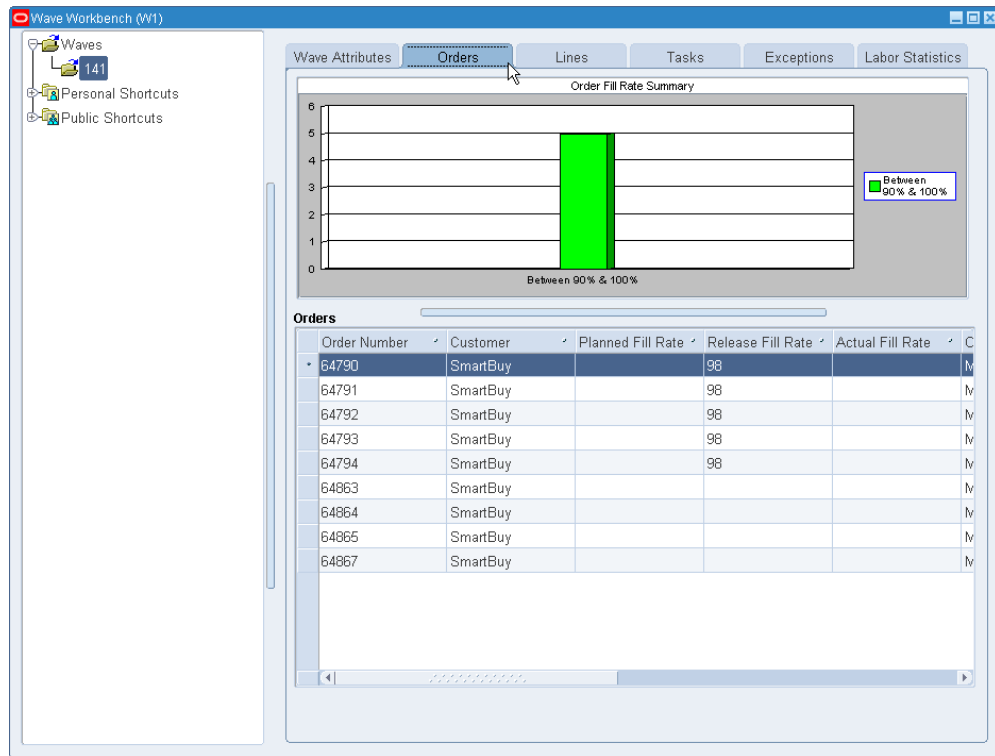
- Estimated Start Time: The system uses the date entered during labor planning to plan resources and tasks and to determine a target completion date.
- Pull Replenishment: Select this option to enable pull replenishment for the wave. (When creating the wave, you can also select the Pull Replenishment check box on the Wave Options tab in the Create Wave window).

**Note:** After the wave is released, you cannot select these options.

4. To plan the wave (after you have reviewed the remaining tabs in the Wave Workbench window), click the Plan Wave button. If you already selected the Plan Wave check box in the Create Wave window then you do not need to re-plan the wave. For more information, see Planning a Wave, page 8-8.

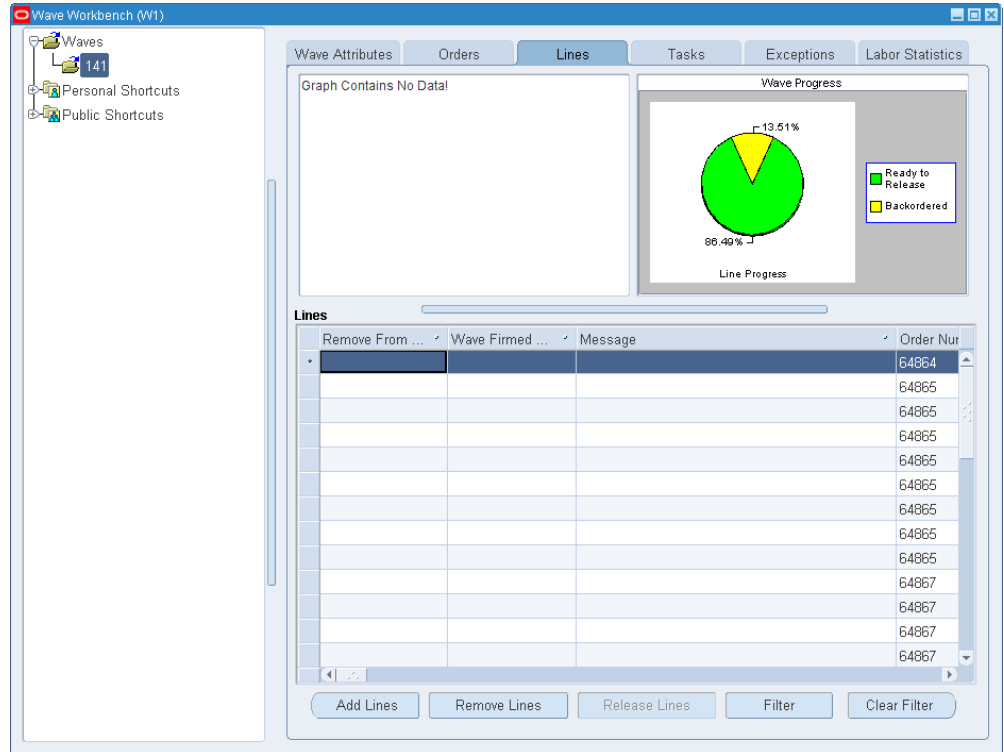
### Orders tab

5. Click the Orders tab to view information about individual orders for the wave. The graph shows the fill rate summary for all of the orders within the wave.



### Lines tab

6. Click the Lines tab.



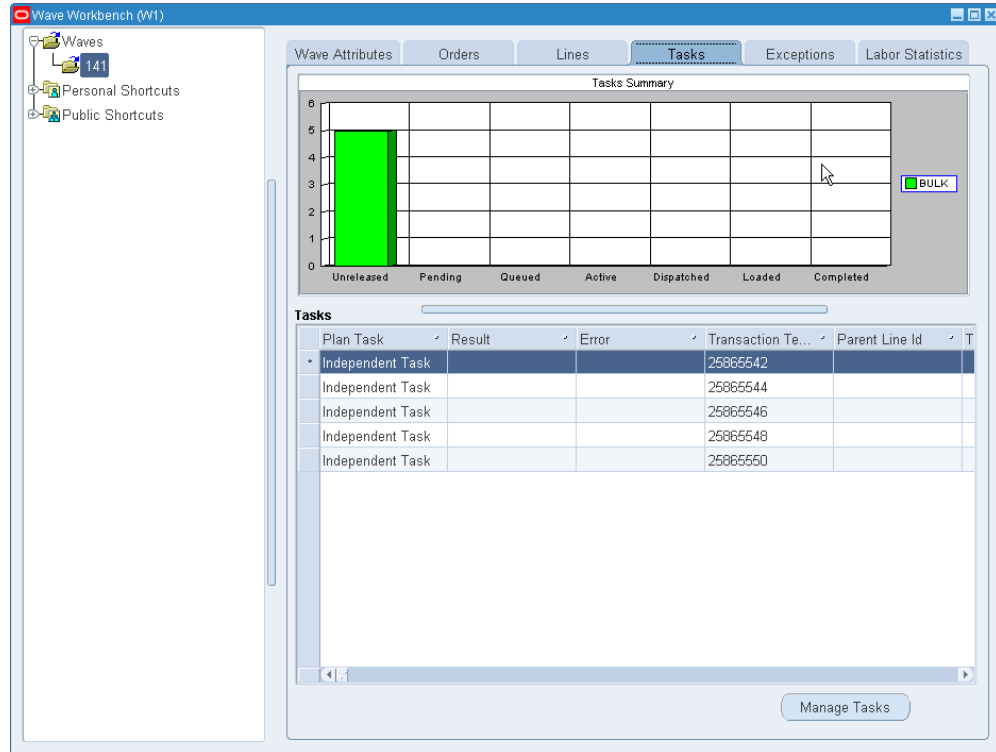
On the Lines tab, you can complete the following actions:

- View the order lines within a wave, the overall progress of a wave, and information about individual order lines such as item, line status, and delivery information.
- Click Add Lines (on the Lines tab of the Wave Workbench) to add additional orders or lines to the wave. For information on adding priority orders to a wave (unreleased or released), see To add priority orders to a wave, page 8-25.
- Click Remove Lines to remove a line from a wave that has been created or planned.
- Click Filter to filter lines by criteria such as order number or item to see specific details.

### Tasks tab

7. Click the Tasks tab to view a real-time monitoring of waves and the status of the tasks in the picking process.

**Note:** To refresh the Tasks tab, you need to navigate to a different tab and return to the Tasks tab.



When a wave is unreleased, tasks may or may be created depending on the wave. Most of the time, tasks do not exist because the material has not been allocated to fulfill the orders. If the material has already been allocated to fulfill the orders, then a pending or an unreleased task may exist for the wave prior to release.

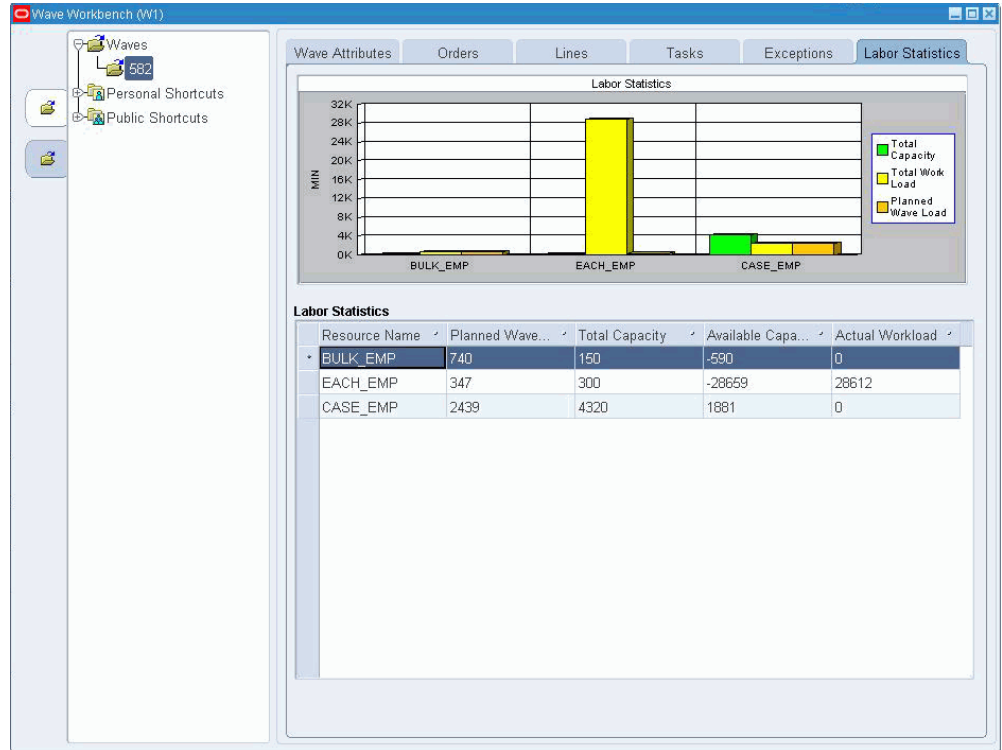
**Note:** Tasks can have the status of pending and unreleased.

8. Click Manage Tasks to change the priority, assignment, and status of tasks. For more information on managing tasks, see To manage tasks, page 8-29.

#### Exceptions tab/Labor Statistics tab

9. Click the Exceptions tab to display exceptions (for released waves only).
10. Click the Labor Statistics tab to preview the labor planning information set up during wave planning such as planned wave load, net and available capacity, and workloads for various resources.





### To add priority orders to a wave (released and unreleased waves):

When action on a priority sales order is required, a warehouse manager must be able to manually add a priority order to a wave so that it can be dispatched to a user who can pick and stage it for immediate delivery. Warehouse management enables you to add a priority order (and lines) to a wave. The wave can be either in unreleased or released status.

**Note:** If replenishment has completed, backordered lines may also be added back into the wave using the Add Lines button. If you add the line after the wave has been planned, but before the wave is released, then you can re-plan the wave, and the system will consider the newly-added lines. If you add the line after the wave is released, then the system does not consider the line in planning calculations.

1. Navigate to the Lines tab of the Wave Workbench window.
2. Click Add Lines.
3. On the Create Wave window, enter the criteria to determine which lines or orders you want to add to the wave.

**Note:** After you add lines or orders to the system, the system recalculates the following values based on the new number of tasks: total lines, total cubic volume, total weight, total value, actual fill rate, and total number of orders.

### **To release the wave:**

1. Select the wave to be released.
2. On the Wave Attributes tab, choose one of the following options:
  - Click Release Concurrently to run the *Wave Planning Release Wave* concurrent request to release the wave. You can release the wave immediately or schedule a different release time. The system runs the concurrent request in the background so you can run other processes.
  - Click the Release Online button to release the wave. If you select this option, the wave is released immediately but you will be unable to complete other activities on your terminal until the process has completed.

**Note:** If you add orders or lines to a released wave, you will be able to release the wave again. In this case the lines or orders are added to the wave.

### **To view a wave (after releasing the wave):**

After you release a wave, you can view the order and order line status, and track the progress of operators as they pick tasks. You can also remove lines from the wave.

1. Navigate to the Wave Workbench window.
2. From the navigation tree, click the plus sign next to the Waves item to display the available waves, then select a wave.

You can view detailed information about the selected wave on the following tabs:

#### **Wave Attributes tab**

3. Click the Wave Attributes tab to review the criteria used to release the wave.
  - Firm Wave check box: The Firm Wave check box is unavailable (grayed out) because the wave was firmed when it was released.
  - Pull Replenishment: Shows if pull replenishment is enabled for the wave.
  - Plan Wave, Release Concurrently, and Release Online buttons (bottom of the

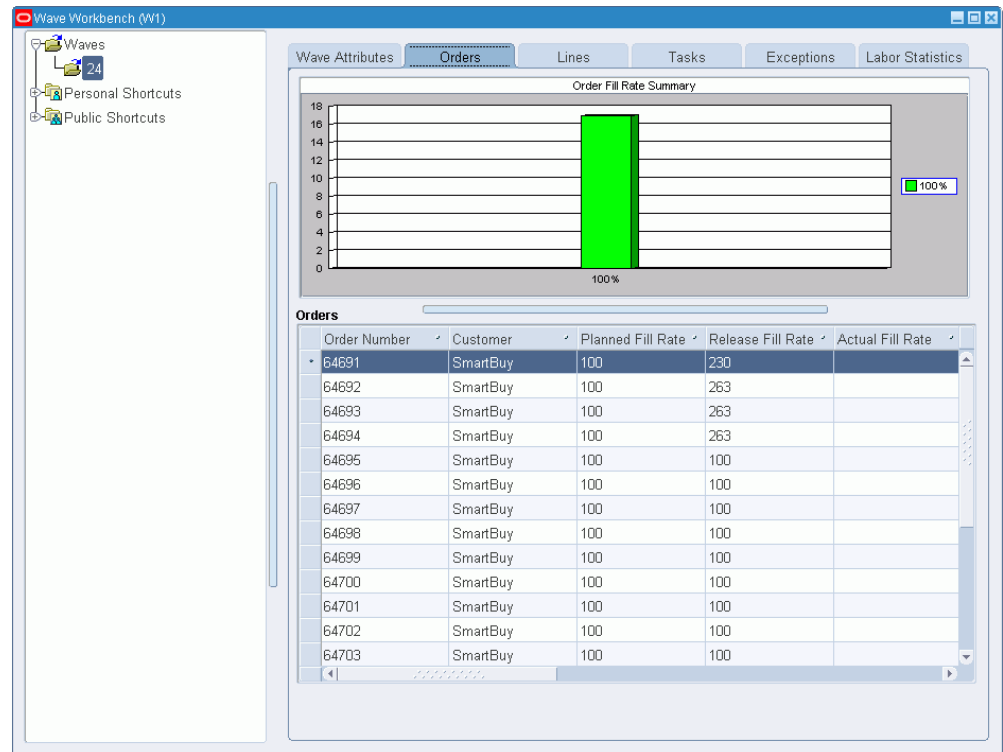
Wave Attributes tab): After the wave is released, these buttons are grayed out.

4. If you add orders or lines to a released wave, you will be able to release the wave again. In this case the lines or orders are added to the wave.

### Orders tab

5. Click the Orders tab to view lines that have been released within the wave.

The graph on the Orders tab shows the fill rate summary for all of the orders within the wave. The table below the graph displays information about individual orders.

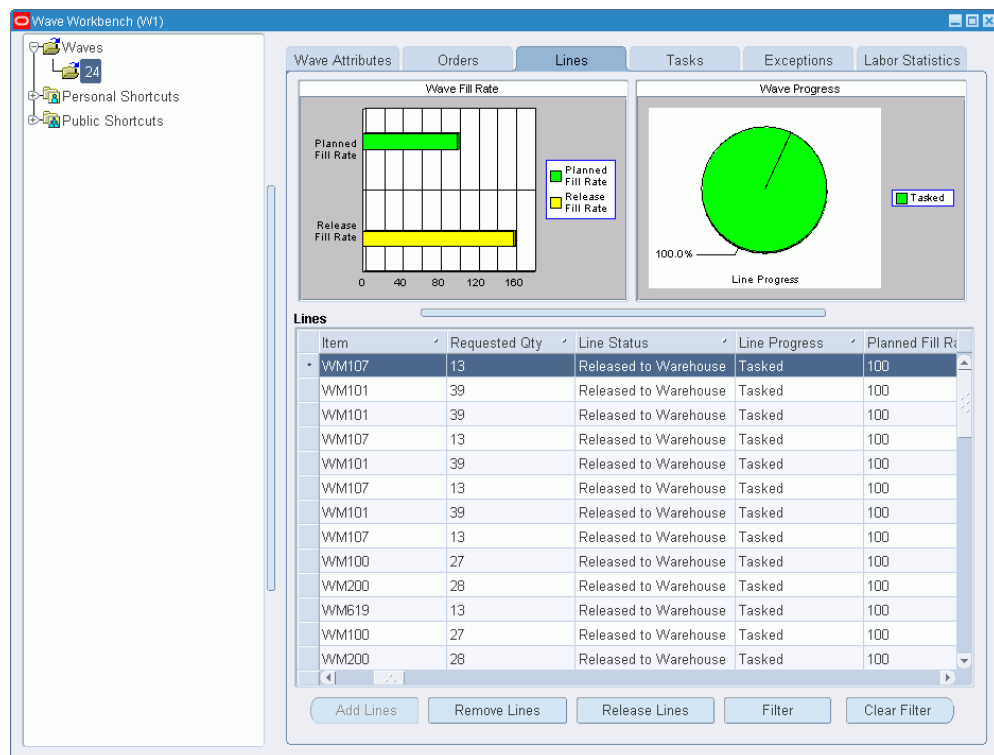


6. On the Orders tab, you can also complete the following actions:
  - View order and order line level details to track progress of orders in the warehouse.
  - Track the progress of operators as they pick tasks.
  - Track the fill rate.
  - Track the status of various lines in the warehouse, for example, Picked, Queued, Staged.

## Lines tab

- Click the Lines tab to view the order lines within a wave, the overall progress of a wave, and information about individual order lines such as item, line status, and delivery information.

**Note:** The system updates the fill rate summary when new lines are added to the wave. When you release the new lines for picking then the new lines will be considered as well. The system differentiates between cross docked tasks and inventory tasks.



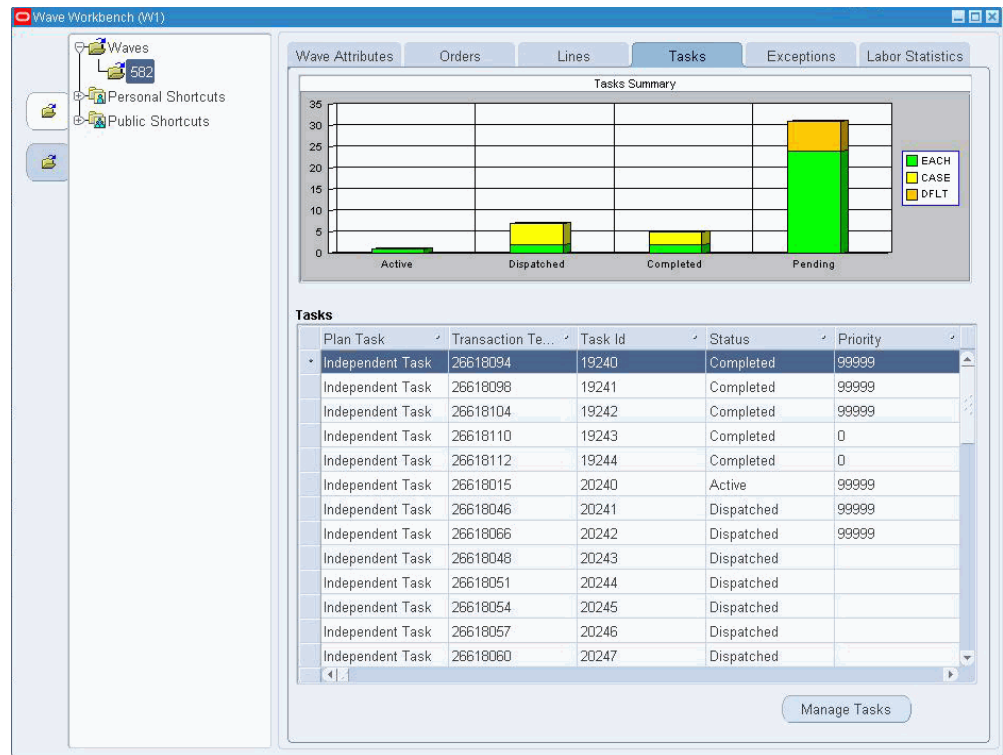
- Complete your entries as required:
  - Add Lines: Click to add lines to a wave even after it has been released.
  - Remove Lines: Click Remove Lines to remove a line from a wave after it has been released to the warehouse.
  - Filter: Click Filter to filter lines by criteria such as order number or item to see specific details.

## Tasks tab

- Click the Tasks tab to monitor tasks that have been released to the warehouse and

the progression of tasks through the picking process. For example, as an operator progresses through picking tasks, the warehouse manager can monitor the task progress in the Tasks tab.

In addition, you can run the *Launch Task Release* concurrent process to release tasks to users over time. You can release tasks only after a location has been replenished based on reverse trip sequence, release all tasks for a consolidation locator, or tasks that will be cartonized together. Finally, you can manage tasks by changing their priority, assignment, and status.



**Note:** To refresh the Tasks tab, you need to navigate to a different tab and return to the Tasks tab.

When a wave is unreleased, tasks may or may be created depending on the wave. Most of the time, tasks do not exist because the material has not been allocated to fulfill the orders. If the material has already been allocated to fulfill the orders, then a pending or an unreleased task may exist for the wave prior to release.

**Note:** Tasks can have the status of pending and unreleased.

### To manage tasks in the Manage Tasks window

Tasks are created when a wave is released. Occasionally, warehouse managers may need to cancel tasks but still associate the task to the sales order; for example, during

work stoppages in the warehouse.

10. Click Manage Tasks to update the priority, assignment, and status of tasks, or to cancel tasks.

The screenshot shows the 'Manage Tasks' window. It has a title bar with a red 'O' icon and the text 'Manage Tasks'. The window is divided into several sections. The 'Task Summary' section contains a dropdown menu with three options: 'Picks', 'Replenishments' (which is highlighted), and 'Putaway'. Below this is the 'Action' section, which has two radio buttons: 'Update' (which is selected) and 'Cancel'. Under the 'Update' radio button, there is a sub-section with several fields: 'Status' is a text box containing 'Queued'; 'Priority' is a text box that is empty; below 'Priority' is a checkbox labeled 'Clear Task Priority' which is checked; below that is a text box for 'Employee' containing 'Smith, Mr. Kevin'; below the employee name is an unchecked checkbox labeled 'Override Employee Eligibility Check'; and at the bottom of this section is a text box for 'User Task Type' which is empty. At the very bottom of the window are three buttons: 'Cancel', 'Clear', and 'Submit'.

11. In the Task Summary field, select the category whose tasks you want to update or cancel: Picks, Replenishments, or Putaway.
12. Complete the following steps to update or cancel the associated tasks.

#### To update tasks

13. In the Action field, select Update.
14. Select the update criteria:
  - Status: Restricts task updates to only those tasks in the selected status such as

pending, queued, or unreleased. For example, select *Unreleased* to update unreleased tasks only. Alternatively, leave the Status field blank to update tasks regardless of status.

- **Priority:** Restrict task updates to the selected priority level, or select the Clear Task Priority check box to disregard task priority.
- **Employee:** To update tasks for a selected employee, select the employee name. Select the Override Employee Eligibility Check box to override eligibility checks.

### **To cancel tasks**

15. In the Action field, select Cancel.

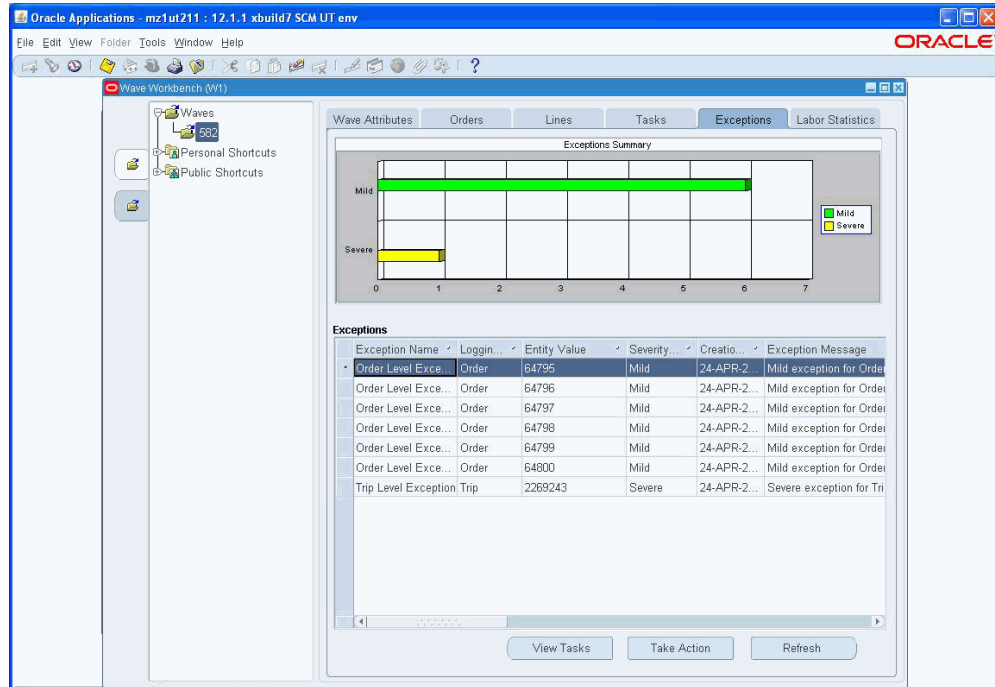
**Note:** Tasks with the following statuses can be cancelled: unreleased, queued, pending, and dispatched.

When you cancel a task, the system backorders the task quantity and, if necessary, splits the sales order line. The system automatically recalculates the following measures based on the new number of tasks:

- Total number of lines.
- Total cubic volume.
- Total weight.
- Total value.
- Actual fill rate: When fulfilling the remaining tasks, the actual fill rate will reflect the deleted tasks.
- Total number of orders: The total number of orders is recalculated. This number may or may not change depending on if all tasks for a sales order are deleted.

### **Exceptions tab**

16. Click the Exceptions tab:



To view wave exceptions in the Exceptions tab, run the *Wave Planning - Catch Exceptions* concurrent request. Review the wave exceptions and the severity level associated with the wave, and if required, you can take actions on the exceptions. As with other concurrent requests, you can schedule this request to run on a periodic basis. The system bases exceptions on a hierarchical order using dock door appointments, scheduled ship date, and expected ship date.

Exceptions can be logged for waves, trips, deliveries, orders, and order lines as described in the following examples:

- Wave: You can set up the system to log an exception when 80% of the orders for a wave are not staged two hours prior to the dock door appointment time.

**Note:** When logging a wave or a trip level appointment, the system looks at the earliest basis (such as dock door appointment) to log the exception.

- Trip: You can create trip level appointments if all order lines for a trip are not loaded one hour prior to the end of the dock door appointment time.
- Order: You can log order level line exceptions for example if 100% of the lines for an order are not packed three hours prior to the end of a dock door appointment.
- Order line: You can also log exceptions for individual order lines. This can be



useful if an line is in the replenishment requested status for more than a specified amount of time.

17. Click the Take Action button to take corrective actions such as incrementing the task priority, or dispatching tasks directly to a user to speed up the picking process. For example, if you take an action such as incrementing the task priority, the task with the increased priority will now take precedence over other tasks in the queue (after you refresh the view).

You can also perform actions on the exceptions detected by the concurrent request. You can perform automatic corrective actions when you run the concurrent request, or take action on the exceptions in the Wave Workbench window. You can release backordered lines, release planned tasks, change the priority of a task, place a hold on pending task, and view existing tasks.

## Related Topics

Overview of Wave Planning, page 8-1

Planning a Wave, page 8-8

Creating a Wave, page 8-2

Viewing Waves Using the Wave Dashboard, page 8-16

Setting Up Task Release Options, page 8-33

Using Concurrent Requests with Wave Planning, page 14-19

## Setting Up Task Release Options

In the Task Release Setup window, you can create one or more templates that define default options for releasing tasks; for example, you could define a template to release tasks when:

- All tasks in a carton group are replenished.
- All tasks for next trip stop are loaded to the truck.
- All tasks for a delivery at consolidation locator are completed.

For each option, you can also specify a release tolerance percentage by entering a value from 0 to 100. For example, a tolerance of 20 percent enables tasks to be released within a margin of 20 percent above or below the actual release value.

To run the task release process, select the desired template in the Launch Task Release concurrent request window, then run the request. When the request runs, the tasks are released according to the conditions defined in the selected template.

**Note:** The Launch Task Release concurrent request can cartonize the tasks across pick release batches based on the default cartonization options selected in the Organization Parameters window (Warehouse tab). Cartonization eliminates suboptimal packing configurations by suggesting the best cartons to use based on grouping rules, carton weight capacity, carton volume, and the dimensions of the items to be packed in comparison to the carton's dimensions. For more information, see the *Oracle Warehouse Management Implementation Guide*, Warehouse Organization Setup.

### To set up task release options:

1. Navigate to the Task Release Setup window.

2. Enter a name and description to create a new task release template.
3. In the *Release Tasks if* region, select the default option(s) for releasing tasks. A task can be released when it meets the set criteria.
4. For each selected option, you can enter a release tolerance percentage to define acceptable release tolerance margins for that task.
5. Alternatively, if you select *Custom conditions are satisfied*, you can enter a release

tolerance percentage; however, the Default Options will be grayed out.

6. Save your work.
7. After you create the template, use the Launch Task Release concurrent request to select the appropriate task release template, then run the concurrent request.

## **Related Topics**

[Launch Task Release Concurrent Request, page 14-20](#)

[Using Concurrent Requests with Wave Planning, page 14-19](#)

[Overview of Wave Planning, page 8-1](#)

[Planning a Wave, page 8-8](#)

[Creating a Wave, page 8-2](#)

[Viewing Waves Using the Wave Dashboard, page 8-16](#)

[Viewing Waves Using the Wave Workbench, page 8-19](#)



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# Logistic Service Providers (LSPs) Management

## Overview of Logistic Service Providers (LSPs) Management

Logistic service providers management is the outsourcing of logistics operations to a third party. Companies, or clients, use these third parties known as logistics service providers (LSPs) to provide logistics services. LSPs may provide logistic services to one or more clients at any given time. Clients may choose to outsource a portion, or all of their logistics services to one or more LSPs. When sending information to an LSP, the client communicates the receipts or shipment to the LSP, which then runs the transaction on behalf of the client. Therefore, the client may be a buyer or seller for a transaction.

A client typically outsources the following services to an LSP:

- Warehousing
- Inventory management
- Cross docking
- Transportation
- Freight forwarding

## Setting Up Logistics Service Provider Services

For information on setting up logistics service provider (LSP) services and defining client parameters, see *Oracle Inventory Implementation Manual*, Setting Up Logistics Service Provider Services.

## Multi-Tenancy within a Warehouse

*Multi-tenant warehousing* refers to an arrangement where an LSP provides third party logistics (3PL) services to more than one client at a time within the same warehouse. When LSPs engage in multi-tenant warehousing, they must be able to differentiate between each client's material, and support the same purchase order number, sales order number, and item number of different clients in the same warehouse.

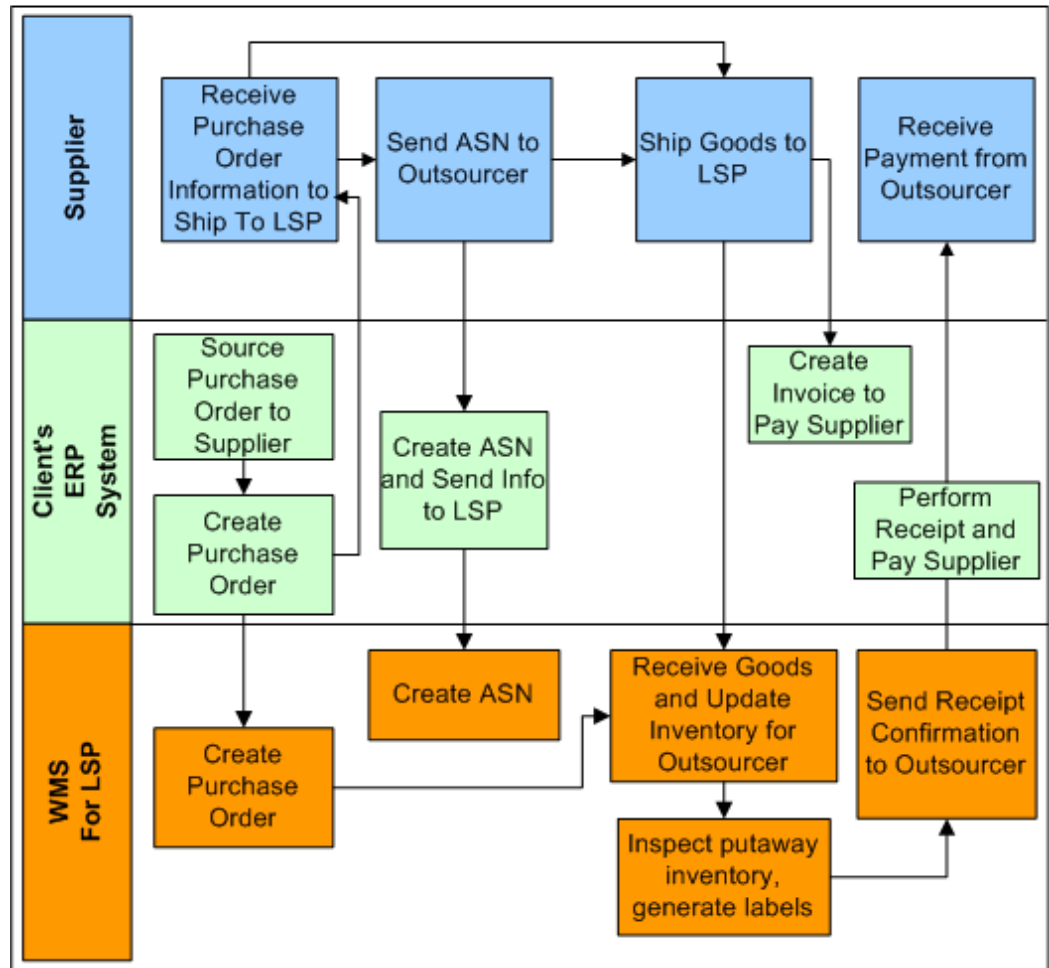
### **Example of LSP Services and Multi-Tenancy**

The following example illustrates the services provided by a logistics service provider. Warehouse Corp. Inc is a third party logistics company that provides warehousing services to multiple clients. ABC Stores Inc and Jmart Corporation are two clients that enter into an agreement with Warehouse Corp. for logistics support. ABC Stores and Jmart procure material from their suppliers. Warehouse Corp. receives the material and stores it in its facilities. Finally, ABC Stores and Jmart send delivery information to Warehouse Corp., and Warehouse Corp. picks, packs, and ships the desired material to the final destination specified in the delivery details by respective clients.

## Inbound Flow

In a typical third party logistics (3PL) scenario, clients synchronize the master data such as items and UOMs with the LSP before the inbound and outbound outsourcing activities begin. In the inbound process, the client communicates the purchase order (PO) information to the LSP, which provides advanced communication about the supplies to receive. The LSP creates a client purchase order reference, and when the material arrives, the receiving clerk receives the material with reference to the client's purchase order and item information. On completion of receipt, the LSP sends a receipt confirmation to the client which signals to the client to proceed with the supplier invoicing process. The following diagram depicts the 3PL inbound process:

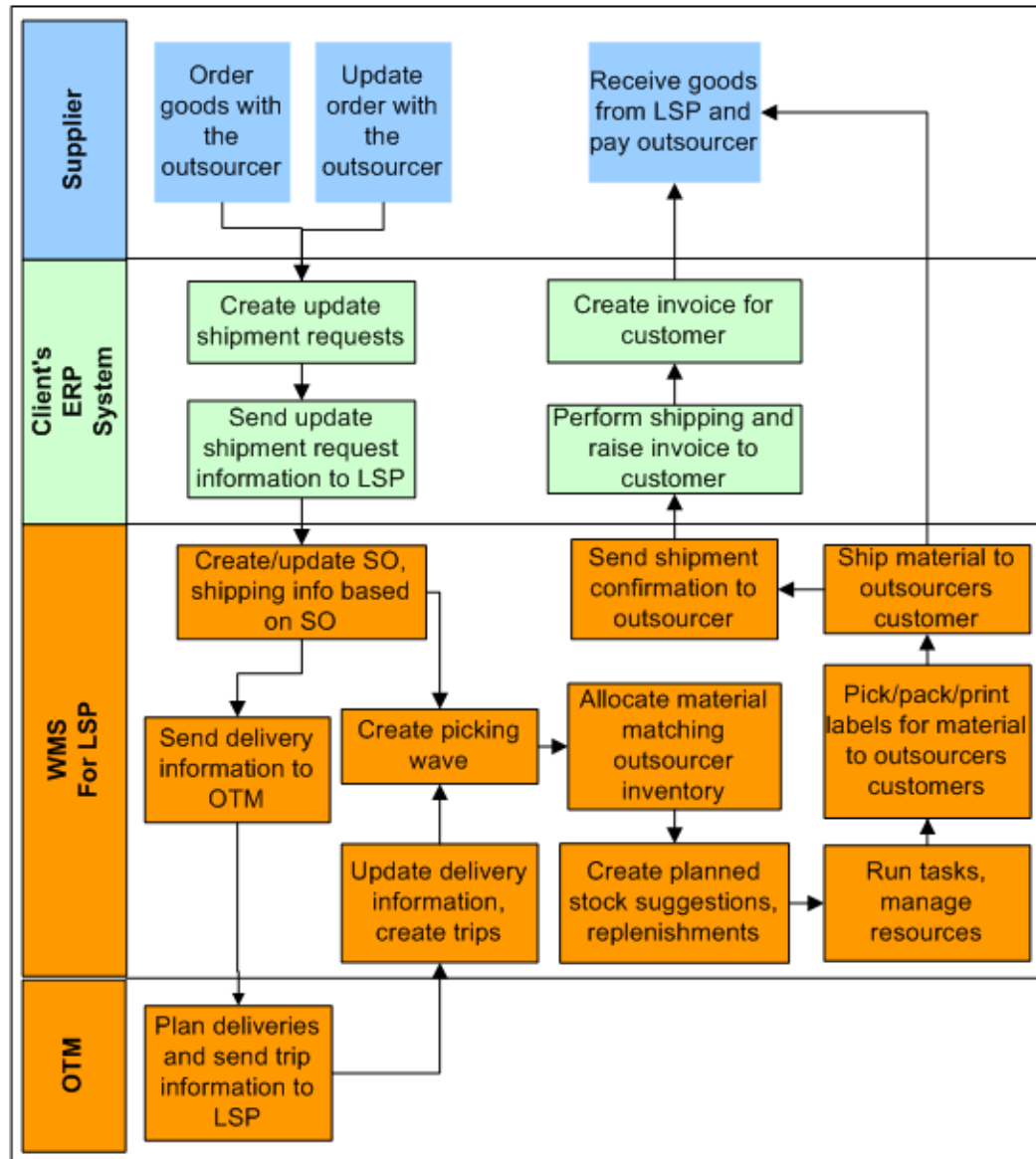
### Third Party Logistics Inbound Process



### Outbound Flow

Similarly for the outbound flow, the client sends the shipment request to the LSP to ship the material to its customer. The LSP performs the picking, packing, and shipment transactions and sends a shipment confirmation to the client. Note that all of the outbound documents such as the packing slip and bill of lading have client-specific information. The client updates the inventory in its system and raises an invoice to bill the customer. The following diagram depicts the third party logistics (3PL) outbound process.

### Third Party Logistics Outbound Process



### Returns Process

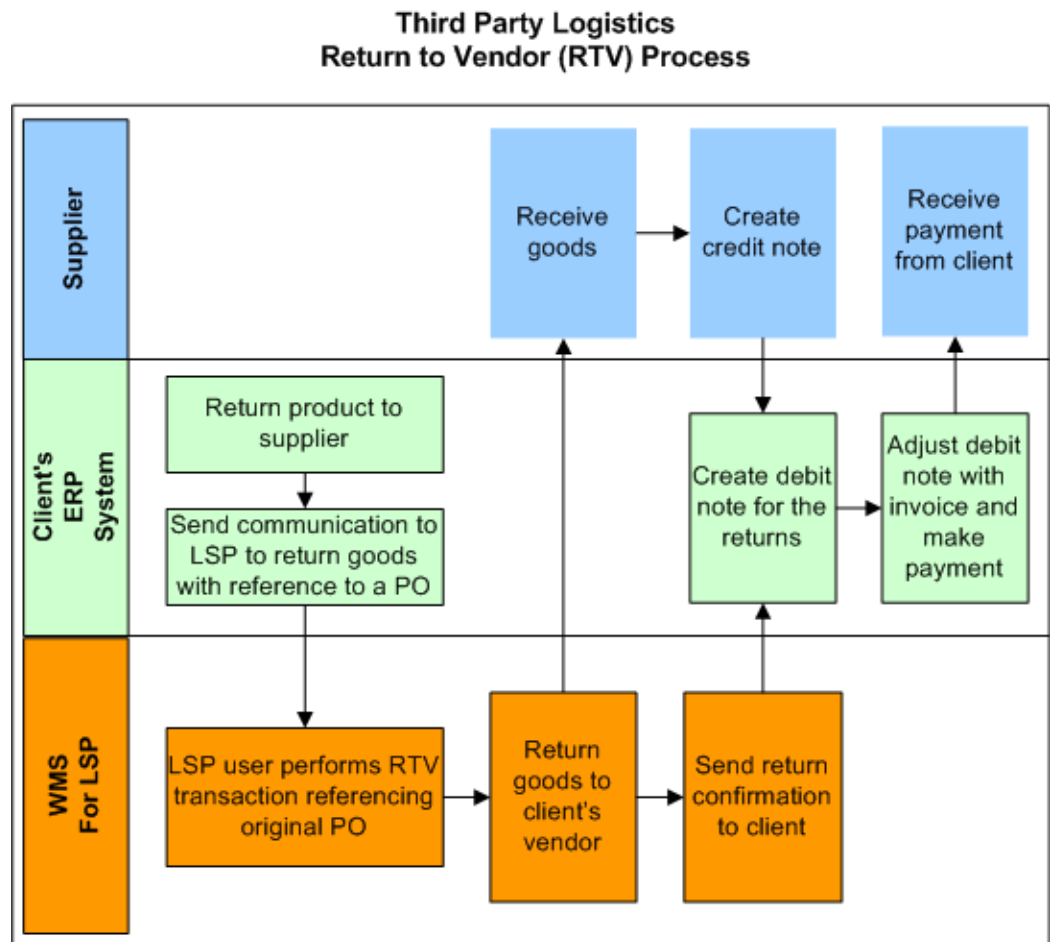
Logistics service providers can also perform returns for their clients by either returning material to suppliers or handling customer returns. In the return to supplier process, the LSP notifies the client of the need to return goods to a supplier. The client sends a return request to the LSP and requests the LSP to return the goods to supplier.

When returning the goods to the supplier, the LSP references the client's purchase order. The LSP performs a return-to-vendor (RTV) transaction and returns the material to the client's supplier based on the return request and sends the return confirmation to the client. The client receives the return confirmation from the LSP and a material



receipt confirmation and credit note information from the supplier. The client then creates a debit note, which will be adjusted in the future payments.

The following diagram depicts the third party logistics RTV process:



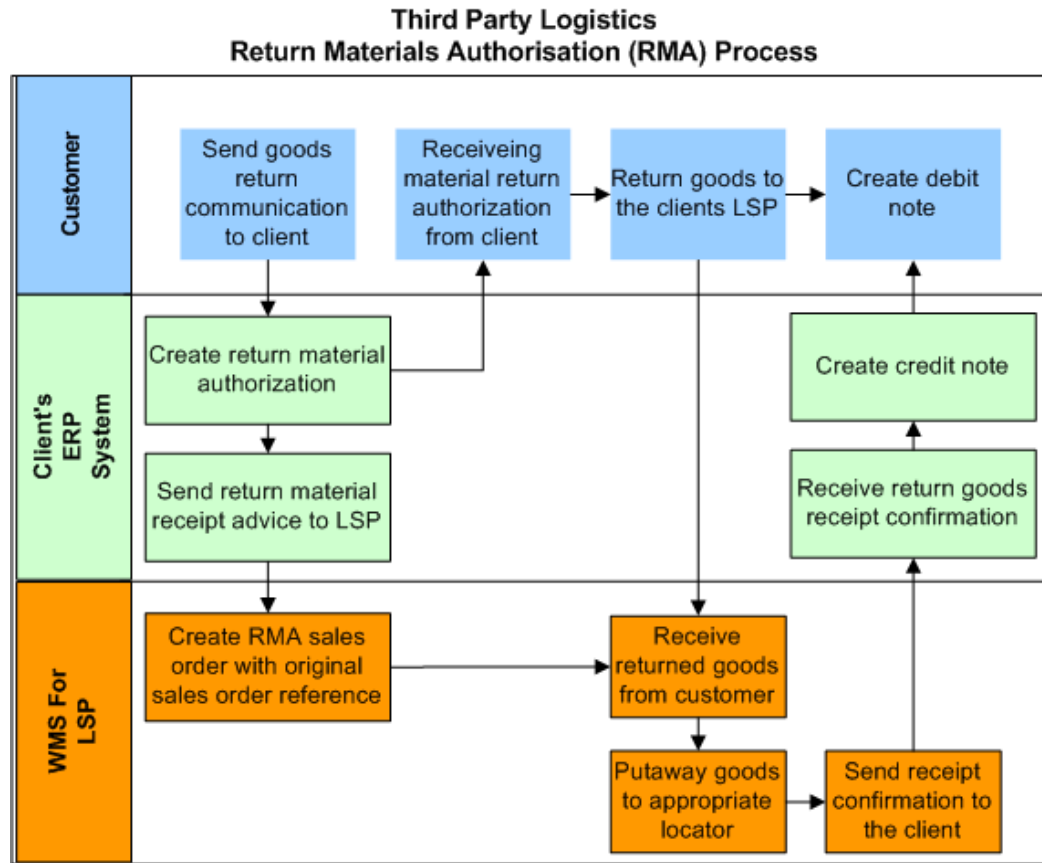
### Customer Returns Process

The customer returns process is similar to the return to vendor process:

1. The client's customer advises the client about returning the goods due to poor quality or rework.
2. The client asks the customer to return the goods to the LSP, and at the same time sends a shipment return request to the LSP.
3. The LSP receives the communication and creates the RMA sales order.
4. The customer sends the material to the LSP.
5. The LSP then receives the material and sends the confirmation to the client.

6. The client receives the communication and creates the credit note and sends it to the customer.
7. The debit note is registered in the customer's system to adjust against future payments.

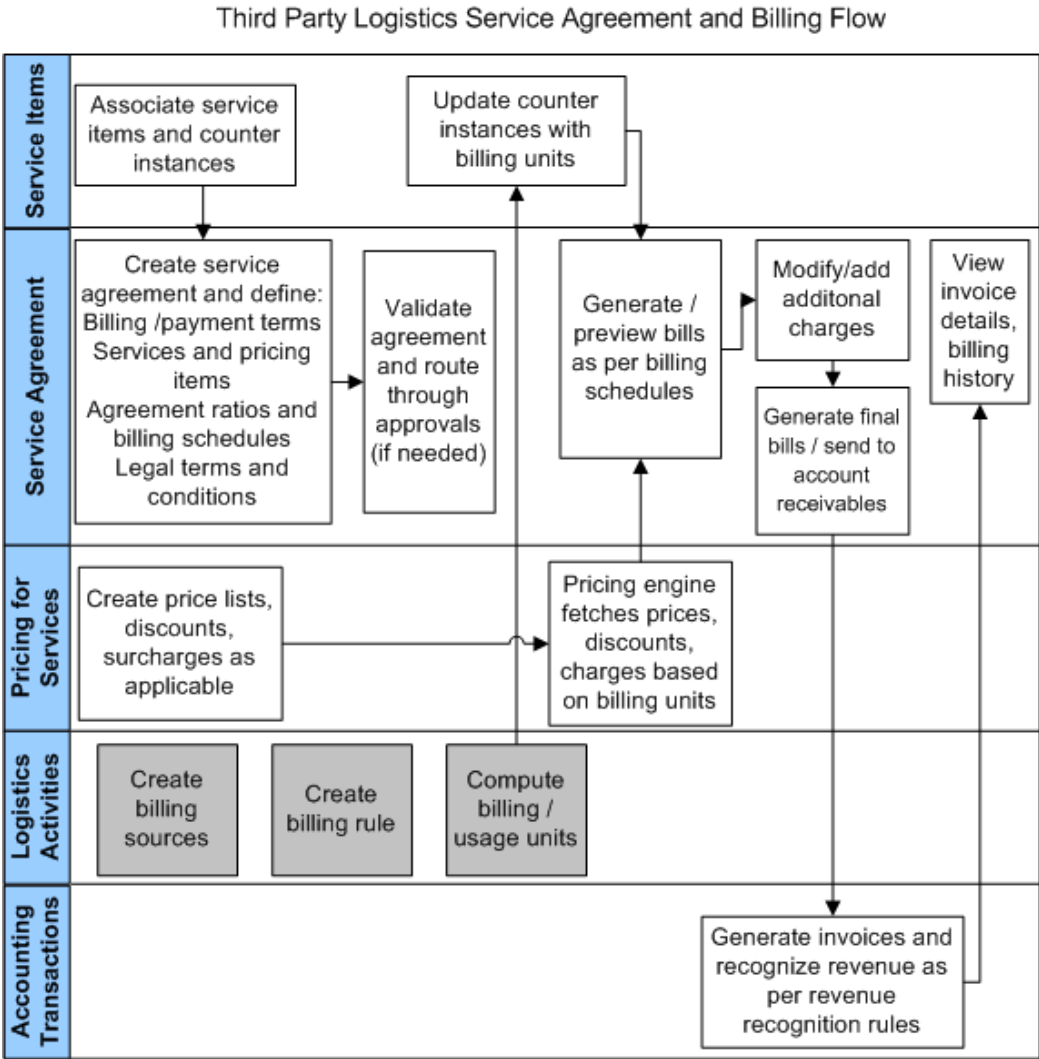
The following diagram shows the third party logistics RMA process:



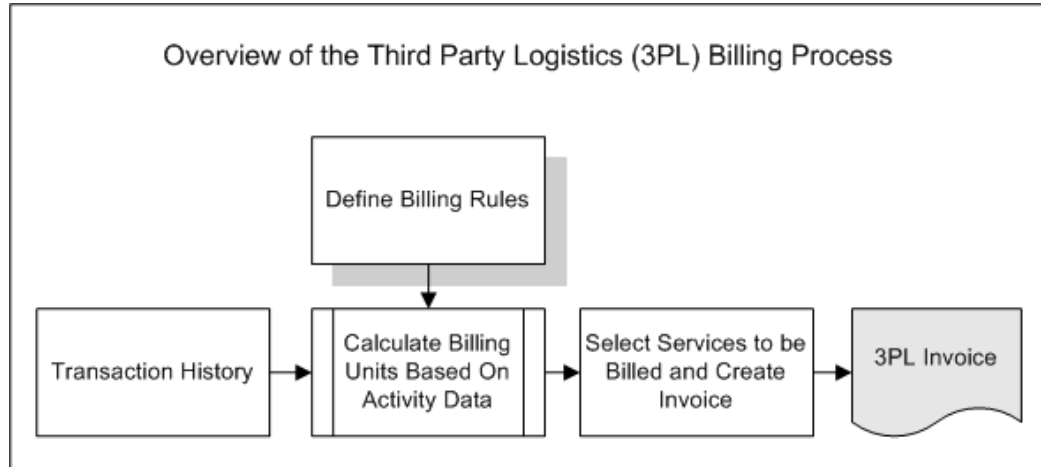
## Overview of Third Party Logistics (3PL) Billing

Logistics service providers provide logistic services for clients and bill them periodically for services rendered. An LSP may handle the logistics services for one or more client at any given time. The LSP establishes an agreement with an individual client for the warehousing, services provided, rates, and billing frequency. Third-party billing for LSPs within Oracle Warehouse Management enables you to bill by activity. It uses service contracts, pricing of logistics services, and activity data in WMS to produce an itemized bill based on the actual services an LSP performs on behalf of its clients. WMS provides billing sources for common logistics services such as receiving, put away, storage, staging and shipping of goods. It also enables you to identify your own billing sources such as sweeping and processing of hazmat (hazardous) material.

The following diagram shows an overview of the third party logistics service agreement and billing flow:



The following graphic outlines the billing process from defining billing rules to invoicing:



The following steps describe the basic 3PL billing process:

1. Define the billing rules for the client in the Billing Rules window.
2. Retrieve transactional and inventory data, time and labor reporting data, work orders, purchase order receipts, sales order shipments and other warehousing services provided for a given outsourcing client.
3. Generate billing units by updating counter values based on activity usage data.
4. Select the desired services to be billed and create invoice.
5. Generate 3PL invoice and import into Oracle Receivables to process the payment receipt.

## Related Topics

Creating Billing Sources, page 9-8

Creating Billing Rules, page 9-10

Calculate Billing Units concurrent program, page 14-13

## Creating Billing Sources

Oracle Warehouse Management uses billing sources to calculate billing units for an activity. You use a billing source to create billing rules which are associated to a particular client. WMS provides the following eight seeded billing sources which you can use when creating business rules:

- Calculate Number of Receive transactions performed
- Calculate Number of SO issue transactions performed

- Calculate Number of Staging Transfer transactions performed
- Calculate Quantity of Receive transactions performed
- Calculate Number of Putaway transactions performed
- Calculate number days locators were occupied for a Client
- Calculate the total Volume utilized by Client
- Calculate the total Area utilized by Client

You can also use PL/SQL to write your own billing sources and import them into the system.

### To create billing sources:

1. Navigate to the Billing Sources window.

2. Enter a unique name and a description for the billing source.
3. Select the associated procedure:
  - Custom: To use a custom PL/SQL procedure that you created.
  - Seeded: To select a seeded procedure supplied by Oracle Warehouse Management.

**Note:** You cannot change the name of a procedure of a billing source if:

- A seeded procedure was used to create the source.
  - A custom procedure was used to create the source and the source has been referenced in one of the billing rules.
4. Select the procedure name.
- Important:** Ensure that the billing source procedure performs any required UOM conversion so that the actual billing unit of measure (UOM) is reflected.

## What's Next

After you define a billing source, you associate it with an existing service agreement (service contract) in the Billing Rules window.

## Restrictions

You cannot delete a billing source if it is associated with any active billing rule.

## Related Topics

Overview of Third Party Logistics (3PL) Billing, page 9-6

Creating Billing Rules, page 9-10

Calculate Billing Units concurrent program, page 14-13

## Creating Billing Rules

Oracle Warehouse Management uses the service agreement and the services rendered to establish billing rules. When you establish billing rules for activities, WMS uses the billing rules to determine which transactions and on-hand balances to use as a billing basis. The billing rules act as query criteria on the source transactions to determine which transactions to consider for billing.

You can also create billing rules to charge clients based on their space usage. For example, you can create a rule to charge for a fixed-space usage, and then bill the client on a monthly basis. You can also establish a minimum usage area for which to bill clients, and charge them an additional fee for additional space used. Finally, you can bill the client based on actual space used.

In the Billing Rules window, you select an existing service agreement, and then enter a billing source for the service item lines associated with the service agreement. When the concurrent program Calculate Usage/Billing Units is run, the system identifies the

service item lines for each billing rule and calculates the usage for each service item based on the billing source logic.

**To create billing rules:**

1. Navigate to the Billing Rules page.

Client Code	Client	Service Item	Billing UOM	Start Date	End Date	Counter Name	Billing Source	Last Computation Date
AT&T Unive	1005 - AT&T Universal Ca	Receiving Servi	CTN	01-OCT-2009	30-SEP-2012	Tem_Receicing	Number_RCV	25-JAN-2010 03:
AT&T Unive	1005 - AT&T Universal Ca	Storage-Service	FT3	01-OCT-2009	30-SEP-2012	Tem_Storage-S	Area Source	25-JAN-2010 03:

2. Select the values on the Billing Rules page (header and Service Agreement region):

Field	Description
Rule Name	Enter a unique rule name.
Operating Unit	<div>The operating unit value defaults from one of the following sources:<ul style="list-style-type: none"><li>When MOAC is not enabled, the operating unit value defaults from the profile option MO: Operating Unit.</li><li>When MOAC is enabled, the value defaults from the profile option MO: Default Operating Unit. If no value is set for this profile option, then no value defaults in the operating unit field.</li></ul></div> <div><b>Note:</b> You cannot update this field after you save the billing rule.</div>
Service Agreement	Select an active service agreement.

Field	Description
Start/End Dates	Displays the start and end date of the service agreement (defined in Oracle Service Contracts).

- Click the Fetch Lines from Agreement button to insert the new usage-based service item lines from the service agreement. If multiple counters are attached to the usage line, then only the first available counter is retrieved. Only one counter per usage service is permitted.
- The following table describes the main service line information that displays on the Billing Rules page when you click the Fetch Lines from Agreement button:

Field	Description
Client Code	Displays the client code corresponding to the bill-to account on the contract line.
Client	Displays the concatenated account number and client name corresponding to the bill-to account on the contract line.
Service Item	Displays the service item name.
Start Date / End Date	Displays the start and end dates of the service item.
Counter Name	Displays the counter associated to the service item in service agreement.
Billing Source	Select the billing source for the service agreement line. In this set up, each service line of the agreement is associated to a billing source so billing units can be calculated for each service as desired. (You define the billing source in the Billing Sources window.)
Last Computation Date	Displays the date and time when the concurrent program sources the value for the service item.

## What's Next

When you need to calculate usage and billing units, run the concurrent program Calculate Billing Units.



## Restrictions

- You cannot create multiple billing rules for the same service agreement. A warning message appears if you try to create a new billing rule when another already exists for the service agreement.
- You cannot manually add or delete service item lines, but only update the billing source on the lines.
- Only one counter can be associated with a service item.

## Related Topics

Overview of Third Party Logistics (3PL) Billing, page 9-6

Creating Billing Sources, page 9-8

Calculate Billing Units concurrent program, page 14-13



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## Label Printing and Material Handling Equipment

This chapter covers the following topics:

- Labeling Overview
- Customer Labeling Requirements
- Defining Label Formats and Sets
- Defining Custom Label Fields
- Defining Labels for Clients
- Setting Up Label Format Assignment Rules
- Associating Label Types to Business Flows
- Label Printing for Pallets and Cases Without Cartonization
- Defining Printer IP
- Viewing Label Requests
- Explaining Material Handling Devices
- Material Handling Devices and Business Events
- Defining Devices
- Explaining Device History Requests
- Warehouse Control System
- Searching for Tasks Within the Directive Queue
- Carousel Configuration
- Defining Device Response Messages

## Labeling Overview

Oracle Warehouse Management labeling helps you to move inventory more efficiently through the warehouse. Supplier labeling speeds-up the receiving process by enabling bar code scanning of inbound purchase orders, that results in less receipt processing time, immediate recognition of available materials, and higher receiving accuracy.

Labeling also enables you to comply with customer requirements for barcoding. You can produce customer-specific labels on demand for each shipment and for advanced shipment notices (ASNs).

You can also use labeling in manufacturing. You can generate labels for WIP jobs and flow manufacturing. You can also use the Oracle Manufacturing Execution System (MES) to generate labels from the desktop.

- Prior to the start of the first operation: For example, you can create a label that contains routing information.
- During any operation: The location of the next assembly routing maybe dynamically determined based on the outcome of the operation. For example, material may need to be scrapped during an operation. A label can be printed to route the material to the scrap subinventory.
- After quality inspection of an operation: Material may not be of quality; therefore, it might be sent to a prior operation, or to scrap, or sent forward to the next operation.
- At completion: An organization may build items to stock, in which case the finished product requires a label for stocked material. An organization may also assemble to order, in which case finished products are not stored in inventory, rather they are sent directly to shipping. A label can be printed with shipping instructions, address, sales order number, and so on.

Oracle Warehouse Management labeling features enable you to:

- Produce supplier or customer bar code labels for products and containers
- Produce partner-compliant shipping labels that are specific to the carrier and customer
- Add the material status to certain types of labels.

## Related Topics

Manually Printing Labels Using the Manual Interface , page B-7

Customer Labeling Requirements, page 10-3

Defining Label Formats and Sets, page 10-4

## Customer Labeling Requirements

Customer labels are typically centered on the following major requirements:

- Label format
- Label data
- Bar code specifications
- Symbol content

Oracle Warehouse Management labeling features enable all of these requirements to work together to meet customer guidelines. It supports the following label types:

- Materials label: Provides information about an item, including the item's lot information, if applicable.
- Serial label: Provides information that is specific to a serial of an item.
- LPN label: Provides information about the License Plate Number (LPN). This label does not contain content information. You typically use the LPN label to identify LPNs as they travel throughout the warehouse.
- LPN Contents label: Provides information about the LPN contents. You typically use this label to identify LPNs as they travel throughout the warehouse.
- LPN Summary label: Provides information about the LPN and a summary view of the LPN contents. If an LPN contains multiple LPNs, then all of the contents of all the nested LPNs are summed by item, revision, and lot.
- Location label: Provides information about specific warehouse locators.
- Shipping label: Provides information for an outbound shipment. It does not include information about the contents of the shipment. It includes only addresses and information that is pertinent to the shipment itself.
- Shipping Contents label: Provides information about outbound shipment. It includes information about all of the contents that are part of the shipment.
- WIP Content label: Provides information about the WIP components that are picked for a WIP job. It includes component number, serial, lot, job number, assembly number, and start date.
- Flow Content label: Provides information about flow components. It includes the component number, serial, lot, job number, assembly number, and start date.

- **Dispense Pallet label:** Provides information about a pallet. It includes batch information, batch completion information, quantity, and formula information.
- **Process Dispense Material label:** Provides information about dispensed material. It includes the organization, batch number, batch step number, security tag, dispense number, dispense quantity, dispense UOM, and return to stock quantity.
- **Process Material label:** Provides information about material remaining from the dispense operation. It includes weight, container, dispensing type, and hazard class information.
- **Process Product label:** Provides information about a finished product. It includes batch information, batch completion information, quantity, and formula information.
- **Process Sample label:** Provides information about a product sample.
- **WIP Move Contents:** Provides information about the attributes associated with a WIP move transaction. You print this label type when you perform a move transaction within the Oracle Manufacturing Execution System (MES).

## Electronic Product Code

If you selected LPN, LPN Contents, or LPN Summary as the label type, you can create Electronic Product Code (EPC) information for the label. Some retailers require EPC information from their supplier. Oracle Warehouse Management models EPCs after LPNs. You can generate EPCs while LPNs are completed, packed, or staged.

## Related Topics

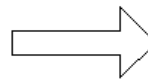
Labeling Overview, page 10-2

## Defining Label Formats and Sets

When you define label formats and sets, you are setting up the data fields to include on a particular label. You can use system-seeded fields or create custom fields to include on a label. The following figure provides an example of the data that might appear on a small hazardous items LPN content label. To define this label, you set up the following label fields in the system: serial number, item description, LPN volume, and unit of measure.

Label format assignment rule:

If hazardous class equals HZ,  
generate the Hazardous Item  
LPN Contents label



**Hazardous Item LPN  
Contents**  
Serial Number:  
Item Description:  
LPN Volume:  
Unit of Measure:

When you create a label set, you can associate multiple label formats of the same label type together. When you select the label set for printing, then the system prints all of the formats within the label set. You can create label sets for the following label types: LPN, LPN content, material, and serial.

## Setting Up Label Formats and Sets

Before you can specify label generation points and construct label format rules, you must define label formats and sets. You can use label sets to print multiple label formats of the same label type. You define labels in the Define Label Field Variables window.

1. Navigate to the Define Label Formats and Sets window.

Name	Description	Disable Date	Default Format
<input type="checkbox"/> LPNContent.lwl	Software LPN Content Label Format		<input type="checkbox"/>
<input type="checkbox"/> Seeded Label Default for LPN Content	Seeded Label Default for LPN Content		<input checked="" type="checkbox"/>
<input type="checkbox"/> LPNCONT.ZPL	Zebra LPN Content Label		<input type="checkbox"/>
<input checked="" type="checkbox"/> LPN_CONTENT_EPC_ENABELED	LPN_CONTENT_EPC_ENABELED		<input type="checkbox"/>
<input type="checkbox"/> LPN CONTENT EPC SSCC96	LPN CONTENT EPC SSCC96		<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/>

2. In the Label Type field, use the list of values to select the label type for which you want to define label formats.
3. Select the entity type. If you select format, you can create a label format. If you

select Set, then you can create a label set.

4. In the Label Formats region, Name field, enter a name for the label.  
This name should be the name that is recognized by the third-party printing software.
5. Enter an optional description to describe the label format.
6. In the Disable Date field, enter an optional date on which this label format can no longer be used.
7. Select the Default Label check box to identify that this label format will be used as the default label type if the system cannot find a rule that determines the label format.

**Note:** You can specify only one label format as the default label.

8. Save your work.

**Note:** You must disable printer assignments for label formats before you can delete individual label formats.

9. Click Label Fields to open the Define Label Field Variables window, or click Define Sets to define sets to open the Label Sets window.

## Defining Label Field Variables

These instructions assume you defined a label format and that you clicked the Label Fields and Variables button.

**Note:** You cannot print labels for which you do not define label fields.



Label Type: LPN Content ☒

Label Format: LPN\_CONTENT\_EPC\_ENABELED

**Label Fields**

Field Name	Field Description	Field Variable Name	Description
License Plate Number	License Plate Number	OLPN	
Item	Item	ITEM	
Item Description	Item Description	item des	
Lot	Lot	LOT	
Parent LPN	Parent LPN	PLPN	
Outermost LPN	Outermost LPN	LPN	
Serial Number	Serial Number	SLN	
GTIN	Global Trade Item Numb	GTIN	
GTIN Description	GTIN Description	GTIN DES	
EPC	EPC	EPC	

EPC Generation Rule: EPC\_SGTIN\_96 Filter Value: Load/Pallet

Regenerate EPC ☒

1. In the Label Fields region, Field Name field, use the list of values to select the data element that represents the field on the label.

The label type that you selected in the Define Label Formats window determines the list of values for this field.

**Note:** Custom label fields that you created also appear in this list. A value of Yes in the Custom SQL column indicates the field is a custom SQL field.

2. In the Field Variable Name field, enter a unique text string that will be used as a variable to represent the data field on the label format.
3. Enter an optional description for the field variable name.
4. If you selected EPC as the field name, select an EPC generation rule from the list of values.
5. If you entered an EPC generation rule, select the Regenerate EPC checkbox to always generate a new EPC for this label type. The new EPC replaces all cross-reference associations. If you do not select the Regenerate EPC check box, then the system checks for a previously generated EPC. If found, the system uses that EPC. If an EPC does not exist, the system uses the current EPC rule, and generates a

new EPC.

6. Select a filter value for the EPC generation rule.
7. Repeat steps 1 through 3 to enter additional label fields.
8. Save your work.

## Adding Label Formats to a Set

To add label formats to a set you select from previously defined label formats. When you print the label set, the system prints all of the labels assigned to the set. You can add a label format to a set more than once. If you do so, the label prints more than once.

The screenshot shows a window titled "Define Label Sets". At the top, there are two input fields: "Label Type" with the value "LPN Content" and a checked checkbox, and "Label Format" with the value "Test". Below these is a section titled "Label Formats" which contains a table with two columns: "Label Format Name" and "Format Desc". The table has two rows of data. The first row has "LPNCONT.ZPL" in the first column and "Zebra LPN Content Label" in the second. The second row has "LPNContent.lwl" in the first column and "Software LPN Content Label Format" in the second. The second row is highlighted in yellow. There are several empty rows below these. A vertical scrollbar is on the right side of the table.

Label Format Name	Format Desc
LPNCONT.ZPL	Zebra LPN Content Label
LPNContent.lwl	Software LPN Content Label Format

## Related Topics

Defining Custom Label Fields, page 10-9

Associating Label Types to Business Flows, page 10-13

Warehouse Organization Setup, *Oracle Warehouse Management Implementation Guide*

## Defining Custom Label Fields

You can create custom label fields and associate them with label formats. This enables you to have additional control over the values that are listed on a label. You can write a custom SQL statement to create the custom label field. For example, if you have a requirement to show the carrier PRO number, and the system does not seed this field, then you can write a custom SQL statement that creates this field. For more information about creating the custom SQL statement and SQL restrictions see Custom Label Fields in the *Oracle Warehouse Management Implementation Guide*.

The custom label field that you create appears in the Define Label Fields window along with the seeded values. You should restrict this window from certain responsibilities; only users with knowledge of SQL should have access to this window. You can use any field that you create on this window in a label. To define custom label fields:

1. Navigate to the Define Custom Labels window.

Field Name	Description	SQL Query
PRO_NUM	Carrier PRO Number	select wc.attribute1 from wsh_carriers wc, wsh_

select wc.attribute1 from wsh\_carriers wc, wsh\_delivery\_details wdd, wms\_label\_requests wlr where wc.carrier\_id = wdd.carrier\_id and wlr.delivery\_detail\_id = wdd.delivery\_detail\_id

2. Select the label type. This associates the fields with the appropriate label type.
3. Enter the field name, description, and SQL query statement.
4. Save your work.

## Related Topics

Defining Label Formats and Sets , page 10-4

## Defining Labels for Clients

If you are operating in a third party logistics environment, you can create and assign labels by client to insure that the materials are associated with the proper client. When you create a label format, you can assign the client code and client item code information.

**Note:** You can use the flexfield attribute you created during setup to assign the client code information.

You can define client and client item information for the following label types:

- Material
- Serial
- LPN Content
- LPN Summary
- Shipping Contents

After you have created the label, then you can assign it to the appropriate business flow. After you have assigned it to the business flow, you can then create a label format rule based on the label format.

**Note:** When you generate the shipping contents label, the system uses the name of the client instead of the code used in the warehouse to segregate material.

## Related Topics

Defining WMS Rules, page 2-8

Associating Label Types to Business Flows, page 10-13

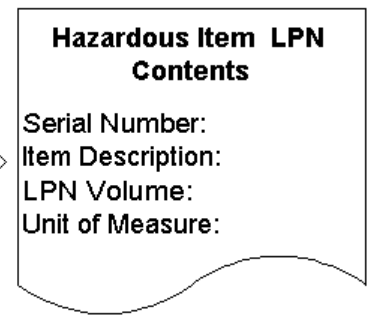
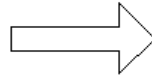
## Setting Up Label Format Assignment Rules

After you define label formats and sets and associate them with the appropriate business flows, you can define label format assignment rules. Label format assignment rules associate a particular label with a business object based on the parameters and restrictions that you specify. For example, assume that you have defined an LPN Content label for small hazardous items. The following figure provides an example of a rule that you might create to generate an LPN Content label. When Oracle Warehouse Management executes this rule, it returns the value LPN\_HAZ if all of the rule's

restrictions are met that represent the label format for the LPN Content label.

Label format assignment rule:

If hazardous class equals HZ,  
generate the Hazardous Item  
LPN Contents label



## How to Define Label Format Rules

After you associate label types with business flows, you can create label format assignment rules. You use the Oracle Warehouse Management Rules window to create these rules.

**Note:** Before you set up label format rules, you should manually plan and design your rule.

1. Navigate to the Oracle Warehouse Management Rules window.

The screenshot shows the 'WMS Rules (W1)' window. The 'Type' is 'Label Format'. The 'Name' and 'Description' are both 'BigMart Shipping Label'. The 'Activity' is empty, and 'Plan Type' is also empty. The 'Return Value' is 'Walmart\_Shipping\_Label.lwl', and the 'Allocation Mode' is 'Walmart Shipping Contents Label'. The 'User Defined' checkbox is checked, and 'Enabled' is also checked. 'Common to All Orgs' is unchecked. Below these fields are three tabs: 'Restrictions', 'Sort Criteria', and 'Consistency'. The 'Restrictions' tab is active, showing a table with columns: Seq, And/Or, Object, Parameter, Operator, Object, Parameter / Value / LOV, Value, and a closing parenthesis. The first row has Seq=10, And/Or=(, Object=Customers, Parameter=Customer Number, Operator=, Object=Constant chara, Parameter / Value / LOV=1168, Value=, and a closing parenthesis. At the bottom, the 'Weight' is set to 100.

Seq	And/Or	Object	Parameter	Operator	Object	Parameter / Value / LOV	Value	)
10	(	Customers	Customer Number	=	Constant chara	1168		)

Weight: 100

2. In the Type field, select Label Format.
3. Enter a name for the label format assignment rule.  
Note that the Sort Criteria and Consistency tabs are disabled for this type of rule.
4. Enter a description for the label format assignment rule.
5. In the Return Value field, use the list of values to select the label format that you want the system to generate whenever the rule is executed.  
**Note:** The User Defined check boxes User Defined, Enable, and Common to All Orgs are explained following the instructions on the rule definition.
6. In the Weight field (located at the bottom of the window), enter a weight that specifies the rule processing priority in relation to other label rule execution priorities.  
Higher-weighted rules receive a higher priority and will be processed first.
7. On the Restrictions tab, in the Seq field, enter a sequence number for the first restriction.
8. In the Object field, use the list of values to select the first business object for the rule.
9. In the Parameter field, enter the value that is associated with the business object.

10. In the Operator field, select the operator that represents the rule conditions.
11. In the second Object field, use the list of values to select the appropriate business object.
12. In the second Parameter field, either use the list of values or enter the parameter value that is associated with the second business object.
13. Repeat steps 7 through 12 to add more restrictions to your rule; however, in the Seq field, enter a subsequent sequence number and in the And/Or field, join the new restriction with the previously defined restriction.
14. If the Common to All Orgs check box is selected, then clear it.

Rules should not be selected across organizations because task types, resources, and departments are all organization specific.
15. If more than one restriction is specified, select the options for the restriction.

This determines how the restrictions should be considered during execution of the rules.
16. Select the Enabled check box if you want to enable the rule.

**Note:** When you enable a rule, the system compiles the rule and checks for possible syntax errors.
17. Save your work.

## Related Topics

Defining Label Formats and Sets, page 10-4

## Associating Label Types to Business Flows

After label formats are set up, you must assign them to a specific warehouse business flow so they can be printed automatically as part of that business flow. For example, if a miscellaneous transaction is done through the mobile device then the associated label type can be printed.

**Note:** Labels are printed mainly from transactions using mobile devices. The only transactions from the desktop that trigger labels are PO Receiving and Oracle Work in Process completion transactions.

You can also print the same label type from different business flows with a different format used at each flow. For example, many times a package is labeled with a carton

label when it is picked (Shipping Contents label type at Pick Load business flow), but is then labeled with a shipping label when it is shipped (Shipping Contents label type at Ship Confirm Business flow.) This enables you to set up a label format selection rule that is based on the business flow that the label print request was generated from.

The following table provides a list of the various business flows and the types of labels that you can associate with each flow. The horizontal header row of the table lists the various label types that are available. The far left vertical column lists the warehouse-related business flow. Yes indicates that the system can generate the label type for that business flow. No means that the system does not generate that label type for the business flow.

***Discrete Label Types and Business Flows***

<b>Bus. Flow</b>	<b>Mat'l</b>	<b>Seria l</b>	<b>LPN</b>	<b>LPN Cont.</b>	<b>LPN Sum</b>	<b>LOC</b>	<b>Ship</b>	<b>Ship Cont</b>	<b>WIP Cont</b>	<b>Flow Cont</b>	<b>WIP Mov e Cont</b>
Receipt	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	
Inspection	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	
Delivery	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	
Receiving Put away drop	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	
LPN Correc tion / update	Yes	No	Yes	Yes	Yes	No	No	No	No	No	
Sales order Cross- Dock	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	
Replen . drop	Yes	No	Yes	Yes	Yes	No	No	No	No	No	



<b>Bus. Flow</b>	<b>Mat'l</b>	<b>Seria l</b>	<b>LPN</b>	<b>LPN Cont.</b>	<b>LPN Sum</b>	<b>LOC</b>	<b>Ship</b>	<b>Ship Cont</b>	<b>WIP Cont</b>	<b>Flow Cont</b>	<b>WIP Mov e Cont</b>
Cycle count	Yes	No	Yes	Yes	Yes	No	No	No	No	No	
Phys. Count	Yes	No	Yes	Yes	Yes	No	No	No	No	No	
Mat. Stat. Updat e	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	
Cost Group Updat e	Yes	No	Yes	Yes	Yes	No	No	No	No	No	
Lot Split / Merge	Yes	Yes	Yes	Yes	No	No	No	No	No	No	
Misc / Alias Receip t	Yes	No	Yes	Yes	Yes	No	No	No	No	No	
Inter-o rg Xfer	Yes	Yes	Yes	Yes	No	No	No	No	No	No	
Sub. Xfer	Yes	Yes	Yes	Yes	No	No	No	No	No	No	
LPN Gen.	No	No	Yes	No	No	No	No	No	No	No	
Serial Gen.	No	Yes	No	No	No	No	No	No	No	No	
Pick Load	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	No	

<b>Bus. Flow</b>	<b>Mat'l</b>	<b>Seria l</b>	<b>LPN</b>	<b>LPN Cont.</b>	<b>LPN Sum</b>	<b>LOC</b>	<b>Ship</b>	<b>Ship Cont</b>	<b>WIP Cont</b>	<b>Flow Cont</b>	<b>WIP Mov e Cont</b>
Pick Drop	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	No	
Pack / unpac k / update LPN	Yes	No	Yes	Yes	Yes	No	No	No	No	No	
Ship Con.	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	
Carton ization	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	No	
Misc. / Alias Issue	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	
Dyn. Loc	No	No	No	No	No	Yes	No	No	No	No	
Import ASN	No	No	Yes	Yes	Yes	No	No	No	No	No	
WIP Comp.	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	
Put. Pregen	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	
WIP Pick Load	Yes	No	Yes	Yes	No	No	No	No	Yes	No	
WIP Pick Drop	Yes	No	Yes	Yes	No	No	No	No	Yes	No	

Bus. Flow	Mat'l	Serial	LPN	LPN Cont.	LPN Sum	LOC	Ship	Ship Cont	WIP Cont	Flow Cont	WIP Mov e Cont
Inv. Put. drop	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	
Flow Line Start	No	No	No	No	No	No	No	No	No	Yes	
Flow Line Op.	No	No	No	No	No	No	No	No	No	Yes	
Flow / Work ord. Assem. Comp.	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	
Replen. Load	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	No	
WIP / Flow Put Away Drop	No	No	No	No	No	No	No	No	No	Yes	
Pck. Wrkbk h	No	No	Yes	Yes	Yes	No	Yes	Yes	No	No	
Manuf acturin g Cross- Dock	Yes	Yes	No	No	No	No	No	No	Yes	No	
Pick Releas e	No	No	No	No	No	No	No	Yes	No	No	No

<b>Bus. Flow</b>	<b>Mat'l</b>	<b>Seria l</b>	<b>LPN</b>	<b>LPN Cont.</b>	<b>LPN Sum</b>	<b>LOC</b>	<b>Ship</b>	<b>Ship Cont</b>	<b>WIP Cont</b>	<b>Flow Cont</b>	<b>WIP Move Cont</b>
Replen . Drop	No	No	No	Yes	No	No	No	No	No	No	No
Flow Line Start	No	No	No	No	No	No	No	No	No	Yes	No
WIP Move Job Txn	No	No	No	No	No	No	No	No	No	No	Yes

***Process Label Types and Business Flows***

<b>Process Business Flow</b>	<b>Dispense Pallet</b>	<b>Process Dispense Material</b>	<b>Process Material</b>	<b>Process Product</b>	<b>Process Sample</b>
Process Dispensing	Yes	Yes	Yes	No	No
Process Production	No	No	No	Yes	No
Process Quality	No	No	No	No	Yes

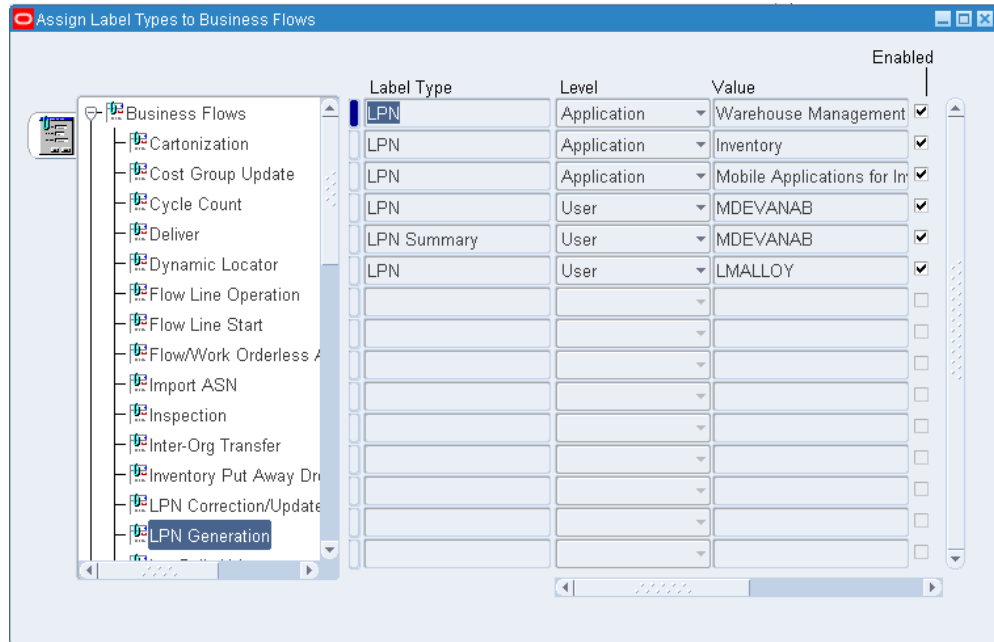
From the previous tables, the following business flows are also supported in the Mobile Supply Chain Applications (MSCA):

- Receipt
- Inspection
- Delivery
- Replenishment Drop

- Cycle Count
- Physical Count
- Miscellaneous/Alias Receipt
- Inter-Org Transfer
- Subinventory Transfer
- Serial Generation
- Pick Load
- Pick Drop
- Ship Confirm
- Miscellaneous/Alias Issue
- Dynamic Locator
- WIP Completion
- Process Dispensing
- Process Production
- Process Quality
- WIP Move Contents

## **How to Associate Label Types to Business Flows**

1. Navigate to the Assign Label Types to Business Flows window.



2. In the left panel of the window, Expand the Business Flows icon to display a list of business flows.
3. Select the business with which you want to associate a label type.
4. In the Label Type field, use the list of values to select the label type that you want to associate with the business flow.

**Note:** The list of values displays only those label types that are valid for the business flow.

5. In the Level field, select the level at which you want to control printing for this label type.

Valid values are Site, Application, Responsibility, and User.

6. In the Value field, select the value for the level that you selected in step 5.

The Value field is disabled if you selected Site as the level in step 5. If you selected Application, then the list of values displays a list of valid applications. If you selected User, then the list of values displays a list of valid users. If you selected Responsibility, then the list of values displays a list of valid responsibilities.

The Enabled check box indicates that you can use this label type to generate the label associated with the business flow. Clearing this check box disables this association, and the label type will not be generated for the business flow.

7. In the Comments field, enter any comments about the association that you just created.
8. Save your work.

**Note:** Not all label fields for a given label type are available during all business flows. In some situations, the data is available only at certain times and cannot be obtained during other business flows. In other situations, the data is located in different places depending on the business flow and not all locations of the data have been implemented yet.

**Note:** The Delivery business flow is triggered by the delivery of material from receiving to inventory. If you want to use LPN label types, then you should use the Receiving Put Away Drop business flow.

## Related Topics

Defining Label Formats and Sets, page 10-4

## Label Printing for Pallets and Cases Without Cartonization

You can also print a shipping contents label for a case or pallet if you do not enable cartonization. The system produces labels for the case or pallet based on the Pick UOM, quantity and the user task type stamped on the task. To set up printing by picking by case or pallet you must enable the following:

- Setup the pick UOM (Required): You must enable the pick UOM on the Subinventories window.
- Setup the label format and assign it to the Pick Release business flow (Required): You must setup the shipping contents label format and assign it to the Pick Release business flow.
- Setup the user task type attributes (Optional): You can use the User Task Type Attributes window to specify the task type, if the task should honor the pick UOM, and specify the pick load page template to use.

## Label Printing for Cases and Pallets

The pick release business flow ensures label printing occurs with or without cartonization. The system produces labels for cases or pallets on the task quantity and user task type. The pick release and label printing logic verifies if the User Task Type

Attribute Honor Case Pick is enabled. If the attribute is enabled, then the system generates a unique LPN for each case without any associated contents.

For example, if you pick 50 Ea and 10 Ea and create a case that resides in subinventory that has Pick UOM of Ca. If you do not enable cartonization, and a label printing setup exists for the pick release business flow, you can still print a label for the case. However, if you want to print five labels each with a unique LPN and want to pick it as one task, then you must associate this task with the associated task type parameters. After you enable the pick release or cartonization business flow, then you can generate as many labels as the nearest whole number in the pick UOM.

When you select an honor case pick task type, the pick UOM of the subinventory controls the number of labels printed even if you use the allocation mode Allocate Entire LPN, pick an entire LPN, or pick an indivisible lot.

## Related Topics

Setting Up User Task Type Attributes, page 4-8

Defining Label Formats and Sets, page 10-4

Associating Label Types to Business Flows, page 10-13

Defining Subinventories, *Oracle Inventory User's Guide*

## Defining Printer IP

You can define the IP addresses for label printers.

1. Navigate to the Define Printer IP window.
2. Select the printer name from the list of values.  
The printer type, and a description of the printer are provided automatically.
3. Enter the IP address in the IP Address field.
4. Enter the port number the printer uses in the Port field.
5. Select Test to test the printer.
6. Save your work.

## Related Topics

Defining Label Formats and Sets, page 10-4

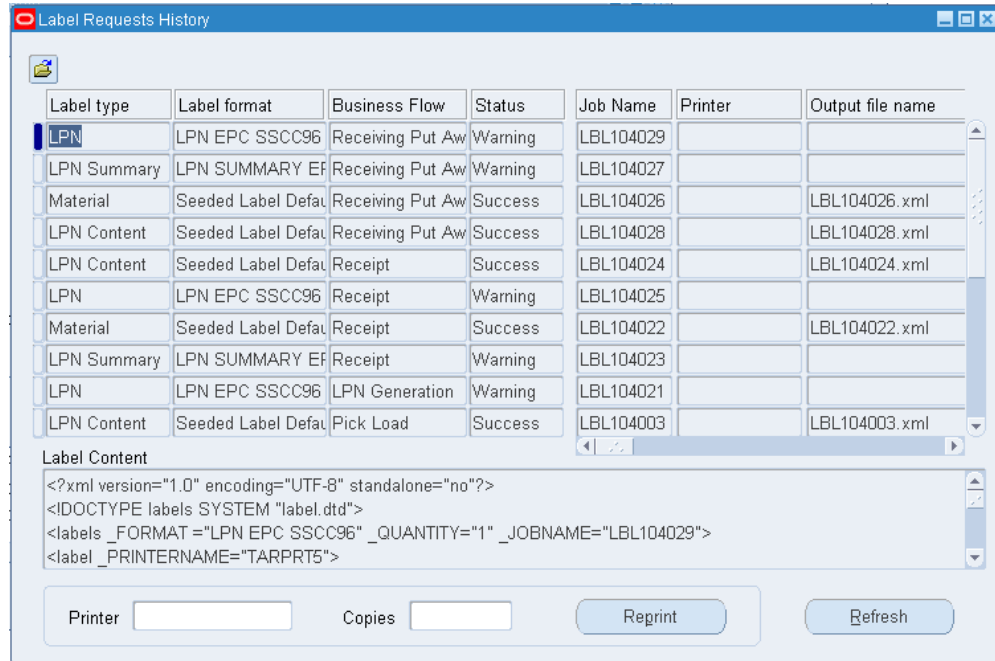


## Viewing Label Requests

Every request for label printing creates a history record. You can analyze records of the label requests that have been generated. The history contains the XML data that was generated as part of the label request as well as other information regarding that label request. You can query the history of requests based on any of the relevant attributes of the request. You can also resubmit the label request. You can query, view, and resubmit label requests using the Label Requests History window.

### How to View Label Request History:

1. Navigate to the Label Requests History window.
2. Enter the query information on the Request Related or Label Info tab.  
Request Related
  - User
  - Printer
  - Business Flow
  - Label Type and Label Format
  - Request Status: Success/Error
  - Request Date: To/FromLabel Info Tab
  - Organization
  - Item
  - Subinventory
  - Locator
  - LPN
  - Sales Order
  - Delivery
3. Click Find.
4. Results appear in the Label Requests History window.



### How to Resubmit Label Print Requests:

You can resubmit a particular label request to be printed. This resubmission sends the XML as a new label request through the printing mode that has been specified. You can resubmit the job to a different printer than the original printer it was sent to. You can also specify the number of copies of the labels. You may need to resubmit a label for any of the following reasons:

- The original label is unreadable.
  - The Original label was lost or destroyed.
  - The problem occurred with the integration between Oracle Warehouse Management and the third-party label printing software.
1. When resubmitting a label request, specify the printer and the number of copies.
  2. Select Reprint.

### Mobile Label Requests:

You can use the mobile user interface to print labels.

1. Navigate to the Label Printing page.

```

Label Printing (W1)
Label Type>Material
Format   >Material.
Item     >03CR Item
Qty      :
Printer  >
Copies   :1
<More>
<Done>
<Cancel>

```

2. Enter the label type and format.
3. Enter the information associated with the label type you selected. For example, if you selected material as the label type, you must enter the item and item quantity. If you selected location as the label type, you must enter the subinventory and locator.
4. Enter the printer and number of label copies to print.
5. Choose <More> to print additional labels, <Done> to finish printing, or <Cancel> to cancel the print job.

**Note:** You can print labels based on label format. The printer selection logic searches for printers at the format level prior to searching for printers at the user level.


### Mobile Resubmission of Label Requests:

You can use the mobile interface to view labels that you recently printed and reprint those labels. You can resubmit labels for printing that you originally printed with the user id with which you are currently logged onto the system. You can select label requests to be reprinted based on the following criteria:

- Last number of labels printed for an active user
- Last number of labels of a certain label type printed for an active user
- Business flow, label type, or LPN

You can resubmit the job to a different printer than the original printer it was sent to through the mobile user interface.

1. Navigate to the mobile Label Requests History page.
2. On the Find page, enter any of the following search criteria:
  - Printer
  - Business Flow
  - Label Type
  - LPN
  - Requests
3. Choose <Find>.



The screenshot shows a mobile application interface with a menu titled "Label Reprint (W1)". The menu contains the following options: "Printer >", "Bus. Flow >", "Label Type>", "LPN >", "Requests :1", "<Find>", and "<Cancel>". The "<Find>" option is highlighted with a cursor.

4. The Label Requests History page displays information about the label and enables you to resubmit the label request.

The page displays the following information:

- Date and Time
- Printer
- Business Flow
- Label Type

- Format
- Item

You can navigate through the labels with the <Next> and <Previous> buttons.

```

Label Rep. Dt1 (W1)
Date       :26-MAR-03
Time       :12:07:38
Printer    :PAX
Bus. Flow  :WIP Pick
Label Type:WIP Conte
Format     :WIP conte
Item       :SDU_COMP0
<Next>
Printer    >PAX
Copies     :1
<Reprint>
<Cancel>

```

5. To resubmit the job to a different printer than the original printer it was sent to, specify the printer and number of copies.
6. Choose <Reprint>.

## Explaining Material Handling Devices

The Oracle Warehouse Management integration tool kit enables you to integrate with material handling devices such as conveyors, carousels, pick-to-light systems and RFID readers.

Oracle Warehouse Management can export task information to material handling devices in the form of a PL/SQL API, an XML flatfile, or a CSV flatfile. Material handling devices use the Device Response PL/SQL API to return completed task information to Oracle Warehouse Management.

The following steps detail the material handling device process:

1. Oracle Warehouse Management sends information about the tasks created at pick release to the Warehouse Control System through the device integration toolkit.

2. The Warehouse Control System manages the tasks that Oracle Warehouse Management generates. The tasks may be picked through an automated storage and retrieval system (ASRS), a pick-to-light system, or other automated equipment. The Warehouse Control System coordinates the transacting of the tasks via the material handling device.
3. After the tasks are transacted, the Warehouse Control System calls the Oracle Warehouse Management Device Response API to notify Oracle Warehouse Management the tasks are complete. Discrepancy information, such as quantity information, drop locations, and reason codes, is included if necessary.
4. Oracle Warehouse Management updates the tasks according to the information received through the Oracle Warehouse Management Device Response API.

## Related Topics

Explaining RFID Device Integration, page 10-28

Defining Devices, page 10-32

Material Handling Devices and Business Events, page 10-29

Defining Devices, *Oracle Warehouse Management Implementation Guide*

Assigning Devices to Business Events, *Oracle Warehouse Management Implementation Guide*

## Explaining Radio Frequency Identification Device Integration

Radio frequency identification (RFID) enables you to tag any physical item with a unique identifier that a scanner can read. You can associate the identifier with a system representation of the object that contains all associated item records.

An RFID device uses a PL / SQL API to export an RFID event to Oracle Warehouse Management. Oracle Warehouse Management returns the success or failure of the transaction to the device in the form of PL/SQL API, XML, or CSV. This is in contrast to material handling integration.

The following steps detail the RFID device integration process:

1. The RFID device sends the RFID device name that interrogates the object and the LPN number to the Oracle Warehouse Management system through the device integration tool kit.
2. The Oracle Warehouse Management system determines the business event and automatically performs the associated task.
3. After the tasks are completed, Oracle Warehouse Management system sends the success or failure of the message to an output device (usually a light stack or

computer beep) by calling PL/SQL API, XML, or CSV.

## Electronic Product Code

Certain retailers and government organizations require suppliers to label pallets, cases, and items, with an Electronic Product Code (EPC). An EPC relates to a Global Trade Identification Number (GTIN) or a Serial Shipping Container Code (SSCC). The GTIN is a unique identifier given to each class of product, such as a 12-ounce bottle of pink soap. The EPC uses the GTIN as a base, and extends it one step further so you can uniquely identify each bottle of soap. That is, each 12-ounce bottle of pink soap in a box would have the same GTIN, yet a different EPC. Many components that comprise an EPC, such as an EPC Manager and Object Class are identical in meaning to the manufacturer code and product code that comprise a GTIN. Where the labeled unit does not correspond to a standard pack represented by a single GTIN, an SSCC encoding would be used instead. EPC generation is built on the foundation for GTIN & SSCC generation. To provide flexibility to meet the multiple mandates and to change as the standards bodies change, EPCs are defined using an extensible framework

## Related Topics

Defining Devices, page 10-32

Material Handling Devices and Business Events, page 10-29

Defining Devices, *Oracle Warehouse Management Implementation Guide*

Assigning Devices to Business Events, *Oracle Warehouse Management Implementation Guide*

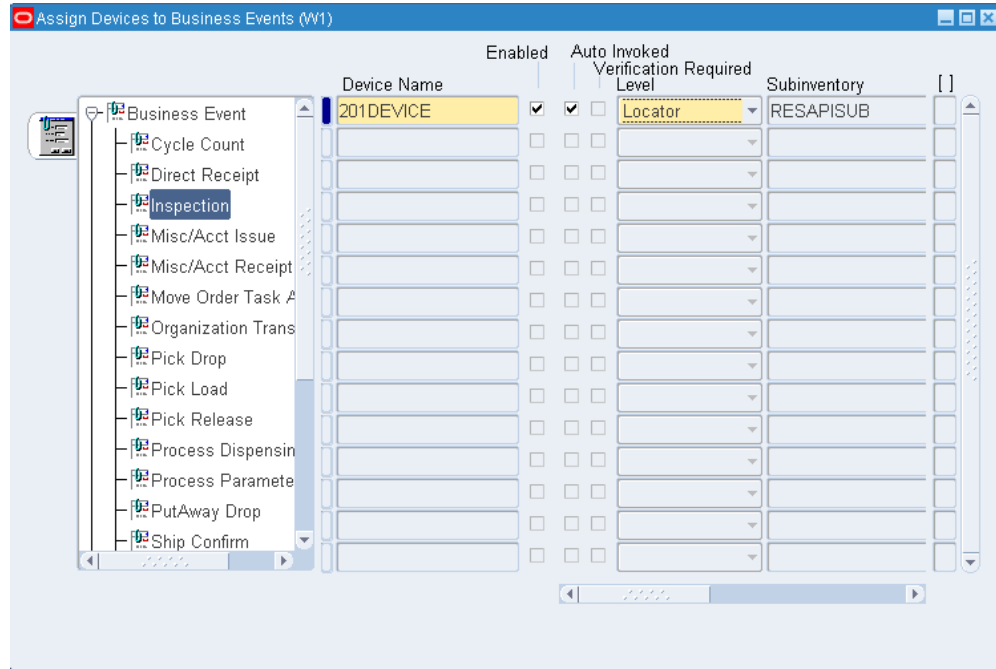
## Material Handling Devices and Business Events

Oracle Warehouse Management enables you to associate material handling devices to business events so Oracle Warehouse Management can automatically export the task information during business event processing.

For example, you can set up Oracle Warehouse Management to automatically export a list of totes and pick locations to a conveyor at pick release.

## To Assign Devices to Business Events

1. Navigate to the Assign Devices to Business Events window.
2. Select a business event, the available choices are:



- Cycle Count- Cycle count entry
- Direct Receipt- PO receipt with direct routing
- Inspection- PO receipt with inspection routing
- Misc./Acct. Issue- Miscellaneous issue transaction or account alias issue transaction.
- Misc./Acct. Receipt- Miscellaneous receipt transaction or account receipt transaction.
- Move Order Task Allocation- Move order line allocation.
- Organization Transfer- Organization transfer transaction.
- Pick Drop- Warehouse management task drop.
- Pick Load-warehouse management pick load.
- Pick Release- Release sales orders.
- Putaway Drop-Warehouse management putaway drop.
- Ship Confirm-Ship confirm transaction.
- Standard/Inspection Receipt- PO receipt with standard or inspection routing.



- Subinventory Transfer- Subinventory transfer transaction.
  - Truck Load- Truck load for ship confirm.
  - Truck Load and Ship- Truck Load and Ship- Load truck; close and ship transaction.
  - WIP Pick Release- Work in process component pick release.
  - Process Dispensing Event- Process manufacturing material dispense transaction.
  - Process Parameter Event- Process manufacturing process parameter transaction.
3. Select the device to associate to the business event. The available types of devices depend on the business event you select.
  4. Uncheck the Enabled check box to disable the device.
  5. Uncheck the Auto Invoked check box to disable Auto Invoke.
  6. Uncheck the Verification Required check box if you do not want to system to verify the minimum required percentage of EPC-tagged cases are present on an EPC-tagged pallet for RFID-enabled business flows.
  7. Select the control level from the drop down list.
 

**Note:** If the device you selected is an RFID, the control level is always locator, and the system assigns the value automatically.
  8. If applicable, enter the subinventory.
  9. If applicable, enter the associated value. If you select organization as your control level, the value field is populated automatically with the current organization. If you select locator, the value is the locator number. If you select user, the value is the associated user.

## Material Handling Device Sign On

Oracle Warehouse Management enables you to sign onto a particular device in order to restrict the tasks you receive. When you navigate to the Tasks page, you can sign onto devices. You can use the Choose Eqp/Sub, page A-5 page to change the devices you are signed onto.

You may only sign onto devices that are associated with subinventories. When you are

signed onto a device, you receive tasks from only the subinventory with which the device is associated.

## Multiple Device Sign On and Carousel Pods

Oracle Warehouse Management enables you to sign onto more than one device. When you sign on to multiple devices, you receive tasks from the subinventories associated to the devices. You receive tasks from the devices in the order in which you signed onto the devices. In addition, Oracle Warehouse Management dispatches tasks into your queue so you always have tasks from each device in your queue. The system sends device integration information when it dispatches a task to a device.

For example, suppose you sign onto devices Carousel\_1, Carousel\_2, and Carousel\_3 in that order. When you attempt to accept the next task, you receive one task from each carousel dispatched into your queue (assuming there are available tasks from each carousel). At that time, the integration information is sent so all three carousels begin rotating for the first series of picks. The system displays the task information for Carousel\_1 on the mobile device and requests you to confirm the pick. Once you complete the task, the system requests you to confirm the pick for the task from Carousel\_2. At the same time, the system dispatches you another task from Carousel\_1, and sends integration information for that task in order for Carousel\_1 to continue rotating while you confirm the tasks for Carousel\_2 and Carousel\_3. You continue to receive tasks from Carousel\_1, Carousel\_2, and Carousel\_3 in that order, and the system continues to send integration information in advance.

## Related Topics

Defining Devices, page 10-32

Material Handling Devices and Business Events, page 10-29

Defining Devices, *Oracle Warehouse Management Implementation Guide*

Assigning Devices to Business Events, *Oracle Warehouse Management Implementation Guide*

## Defining Devices

Use the following procedure to define devices. You can also use the Define Devices window to manually sign off employees from a device.

### To define devices:

1. Navigate to the Define Devices window.

The screenshot shows a software window titled "Define Devices" with a table of device definitions. The table has columns for Name, Description, Type, Enabled, Lot/Serial, Org, and Subinventory. The first row is highlighted in yellow.

Name	Description	Type	Enabled	Lot/Serial	Org	Subinventory
GMO Dispense De	GMO Scale Device	Scale	<input checked="" type="checkbox"/>	<input type="checkbox"/>	SUG	SUSI
GMO Process Par	GMO Process Parameter Device	Manufacturing E	<input checked="" type="checkbox"/>	<input type="checkbox"/>	SUG	SUSI
ASRCY	ASRCY	Carousel	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	WCS	ASCY
ASCY	AS RS DEVICE FOR CYCLE CO	Carousel	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	WCS	ASCY
ADS	ADS	ASRS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	W1	
ADV	ADV	Carousel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	W1	
MANRFD	MANRFD	RFID	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RFI	STA
MANRFI4	MANRFI4	RFID	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RFI	
MANRFI3	MANRFI3	RFID	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RFI	STA
EASR2	EASR2	ASRS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ASR	EASUB1
EASR1	EASR1	ASRS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ASR	EASUB1
MANRFI2	MANRFI2	RFID	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RFI	
MANRFI1	MANRFI1	RFID	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	W1	STA

2. Enter a name and a description for the device.
3. Enter or select the device type from the list of values. The available device types are:
  - Carousel
  - Scale
  - Conveyor
  - Pick-to-light
  - Pick-to-audio
  - ASRS
  - RFID
4. Select the Enabled check box to enable the device.
5. Select the Lot/Serial check box if this device can track by lot number or serial number.

**Note:** RFID devices do not support lot or serial information.
6. Enter the Organization to assign the device to in the Org field.
7. Optionally, enter the subinventory in the Sub field.

**Note:** If you assign an RFID device to a subinventory, you are required to assign the RFID device to a locator.

8. Optionally, enter the locator.
9. Enter the output method in the Output Method field. The available choices are:
  - XML
  - API
  - CSV
10. Enter the output directory. If you selected API as your output method, this field is not available.
11. Enter the prefix. If you selected API as your output method, this field is not available.
12. Optionally, enter the batch limit
13. Optionally, enter the input method. For an RFID device, the device input method is always API.
14. Optionally, enter the device model.
15. Select the Notify on Task Completion check box to notify you when the task is complete. This is not applicable for RFID devices.
16. Select the Force Sign On check box to force employees to sign onto the device. If employees do not sign on to the device the system does not dispatch tasks to that employee. This is not applicable for RFID devices.
17. Optionally, enter an employee to assign to the device.
18. Select the Multi Sign on check box to allow multiple employees to use the device.
19. Optionally, specify the message template for the device. The system uses this template to interpret response messages from the device.
20. Save your work.

**To manually sign off an employee from a material handling device:**

1. Navigate to the Define Devices window.

2. Select the desired device.
3. Select Sign Off from the Tools menu. This signs off the employee assigned to the selected device.
4. Save your work.

## Related Topics

Material Handling Devices and Business Events, page 10-29

Explaining RFID Device Integration, page 10-28

Defining Device Response Messages, page 10-45

Assigning Devices to Business Events, *Oracle Warehouse Management Implementation Guide*

Defining Devices, *Oracle Warehouse Management Implementation Guide*

## Explaining Device History Requests

The Device Requests History window enables you to view the device history across the system. You can view which device was, which user used the device, and the task type as well as other additional information.

1. Navigate to the Device Request History window.
2. Enter the desired search criteria in the Find Device Requests window.
3. Choose Find.

Request ID	Business	Device	Task Type	Item	Orgar	Subinvento	Locator	Transl	Transfer St	Trans
4634	Pick Re	ADV	Putaway	SA400	W1			W1	ANRSTA	ANR
4634	Pick Re	ADV	Pick	SA400	W1	SABULK	SA1.1.1	W1		
4634	Pick Re	ADV	Putaway	SA400	W1			W1	ANRSTA	ANR
4634	Pick Re	ADV	Pick	SA400	W1	SABULK	SA1.1.1	W1		
4634	Pick Re	ADV	Putaway	SA400	W1			W1		
4634	Pick Re	ADV	Pick	SA400	W1	SABULK	SA1.1.1	W1		
4632	Pick Re	ADV	Putaway	TPU-100	W1			W1	ANRSTA	ANR
4632	Pick Re	ADV	Pick	TPU-100	W1	CASE	C3.1.1	W1		
4628	Pick Re	ADV	Pick	AAL-100	W1	BULK	B1.1.1	W1		
4628	Pick Re	ADV	Pick	AAL-100	W1	ANRSTA	ANRL.1.1	W1		

Request Date: 13-NOV-2006 02:55:47      Status: S

Resubmit Date:      Message:

Refresh      Resubmit      Lgt/Serial

4. The Device request window displays the following fields. The fields populate depending on the different task types.
5. The Oracle Warehouse Management Device Requests History window displays the Request Date, Status, Resubmit Date and Message of the selected task.
6. Choose Lot/Serial to view the lot and serial information associated with the device request.
7. Close the window when finished.
8. Choose Refresh to refresh the Oracle Warehouse Management Device Requests History window.

**Note:** Viewing Serial Genealogy, *Oracle Inventory User's Guide*

## Warehouse Control System

The Warehouse Control System provides a bridge between devices and Oracle Warehouse Management. You can use it to push tasks to devices and receive real-time information about the status of devices. For example, if a particular device becomes inactive, the Warehouse Control system cancels all tasks assigned to the device and informs Oracle Warehouse Management the device is inoperative. The complexity of the Warehouse Control system depends on:

- Device type
- Device communication mechanisms and protocols
- Number of automated devices and implemented systems

**Note:** To enable the Warehouse Control System you must enable the WCS field on the Organization Parameters window. See Defining Default Inventory Parameters, *Oracle Inventory User's Guide*.

## Warehouse Control System Dashboard

The Warehouse Control System Dashboard contains a table that shows the devices defined in the current organization, total number of messages, and the total number of message attempts. In an ideal case, the total number of messages equals the total number of attempts. If the total number of attempts is more than the total number of messages, the device is busy, over loaded, or not responding.

The Device Level Directive Queue Status region lists the message information for devices that reside in the organization. It contains the following information:

- Pending: Number of received and attempted pending task messages.
- Current: Number of received and attempted current task messages.
- Success: Number of successfully completed tasks and the number of message attempts for those tasks.
- Failure: Number of failed tasks and the number of message attempts for those tasks.
- Cancelled: Number of canceled tasks and the number of message attempts for those tasks.
- Job Status: The status of the job. The green upwards arrow indicates the device is operational. The red downwards error indicates the device is not operational.
- Listener Status: The status of the listener. The green upwards arrow indicates the listener is operational. The red downwards error indicates the listener is not operational.

Last Refreshed 03-Nov-2006 14:03:06

#### Device Level Directive Queue Status

	Message Status									
	Pending		Current		Success		Failure		Cancelled	
	Messages	Attempts	Messages	Attempts	Messages	Attempts	Messages	Attempts	Messages	Attempts
100DEVICE	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0
AMODEV2	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0
ADV	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0
ADS	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0
101DEVICE	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0
AMODEV1	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0
CYC	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0
201DEVICE	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0	<a href="#">Q</a>	0

#### Active Signon Employees

Device	Employee	Sign off
No active signed on employees found.		

#### Notifications

Below is a list of your most important notifications. Select the subject to respond or select "Full List" to see all your notifications.

From	Type	Subject
Covington, Sonia	PO Approval	<a href="#">Standard Purchase Order 6435 has been approved</a>
Covington, Sonia	PO Approval	<a href="#">Standard Purchase Order 6408 has been approved</a>
Covington, Sonia	PO Approval	<a href="#">Standard Purchase Order 6407 has been approved</a>
Covington, Sonia	PO Approval	<a href="#">Standard Purchase Order 6406 has been approved</a>

✓ [TIP Vacation Rules](#) - Redirect or auto-respond to notifications.

✓ [TIP Worklist Access](#) - Specify which users can view and act upon your notifications.

## Directive Queue

The Directive Queue enables you to view task and device information. You can navigate to the Directive Queue from either the Setup tab or the links on the Warehouse Control System Dashboard.

## Carousel Configuration

You can search and view carousel information. If you have administrator privileges you can create and update configurations.

## Log Information

You can use the Log window to view and export log information to a CSV file.

## Related Topics

Searching for Tasks within the Directive Queue, page 10-38

Carousel Configuration, page 10-42

## Searching for Tasks Within the Directive Queue

You can use the Directive Queue to view task information. It displays task and device



information.

### **To perform a basic search for task information:**

1. Optionally, enter the Request Id. This is the ID for the concurrent request you submitted. See *Submitting Concurrent Requests, Oracle Applications User's Guide*
2. Optionally, enter the Task Id. This is the Id associated with the task.
3. Optionally, enter the business event. See *Material Handling Devices and Business Events*, page 10-29.
4. Select the Device type to search from the drop down list. See *Explaining Material Handling Devices*, page 10-27.
5. Select the Device from the drop down list. See *Defining Devices*, page 10-32.
6. Optionally, enter a directive.
7. Optionally, enter a task status. The available choices are:
  - Cancel
  - Current
  - Pending
  - Failure
  - Success
8. Click Go to view the task information.

### **To perform an advanced search for task information:**

1. Select Advanced Search from the Directive Queue page.

Home Setup

Configuration  
**Directive Queue**  
 Message Templates  
 Message Components

**Directive Queue**

**Advanced Search**

Specify parameters and values to filter the data that is displayed in your results set.

☒ Show table data when all conditions are met.  
☐ Show table data when any condition is met.

Request Id is   
 Task Id is   
 Business Event is   
 Device Type is

Go Clear Add Another Business Event Add

Export

Details	Request Id	Task Id	Sequence	Business Event
No search conducted.				

2. Select the desired search filter.
3. Optionally, enter the concurrent request Id information in the Request Id field. You can limit the search are based on the following criteria:
  - Is
  - Starts with
  - Greater than
  - Less Than
4. Optionally, enter the task Id information in the Task Id field. You can limit the search based on the following criteria:
  - Is
  - Starts with
  - Greater than
  - Less Than
5. Select the business event. See Material Handling Devices and Business Events, page 10-29.
6. Select the Device type. See Explaining Material Handling Devices, page 10-27.

7. Click Go to perform the search, Clear to clear the search criteria, or select another search limitation based on the previous criteria.

The Directive Queue contains the following information:

- Details: You can show or hide the Task information details. If you choose to show the details the system displays the following information:
  - Zone: Area of the warehouse where you perform picks.
  - Prev Id: Previous Task Id is used to associate dependencies within a task directive set and across task directive sets. When a previous Id is present in this column, the dispatching queue waits for completion of the previous task before dispatching the next task.
  - Last Attempt: The date and time of the last dispatch attempt.
  - Task Group: Group of tasks dispatched within a single batch set of task directives.
  - Task Count: Number of tasks dispatched in the current task group.
  - Task Left: Number of tasks remaining to dispatch in the task group.
  - Attempts: The current number of dispatched attempts for the queue entry. This is the value that appears on the dash board. The system automatically cancels the task if it reaches the maximum number of attempts.
  - Addr: The task address value for the associated task zone.
  - Response Timeout: The interval the system waits for a device response.
  - Segment: 1 through 10 Segment locators that contain the subinventory segment locator values in positional order.
  - Last Updated: Last time the queue entry was updated.
- Request Id: The concurrent request Id.
- Task Id: The Id of the task.
- Sequence: The sequence number of the task.
- Business Event: The business event associated with the task
- Device Type: The type of device associated with the task.
- Directive: The task directive.

- Request: The directive created for dispatch to the device. It may contain the subinventory, locator, LPN, item, quantity to pick, or other directives.
- Response: The response message Oracle Warehouse Management receives from the material handling device.
- Status: The status of the task.

## Related Topics

Warehouse Control System, page 10-36

Carousel Configuration, page 10-42

## Carousel Configuration

You can view carousel configuration information. You can conduct a simple search or an advanced search. To search for configuration information complete the following steps:

### Performing Configuration Searches

#### **To perform a configuration simple search:**

1. Select the configuration name from the list of values.
2. Optionally, enter the configuration value.
3. Select the Device type. See Explaining Material Handling Devices., page 10-27
4. Select the Business Event. See Material Handling Devices and Business Events, page 10-29.
5. Click Go to conduct the search, or click Clear to cancel the search.

#### **To perform a configuration advanced search:**

1. Select Advanced Search from the Configuration page.
2. Select the search filter.
3. Select the configuration Name from the drop down list.
4. Optionally, Enter the configuration Value. You can limit the search are based on the following criteria:

- Is
  - Contains
  - Starts with
  - Ends with
5. Select the Device Type from the drop down list.
  6. Select the Business Event from the drop down list.
  7. Click Go to perform the search, Clear to clear the search criteria, or select another search limitation based on the previous criteria.

The Configuration Page contains the following information:

- Name: The configuration name.
- Value: The configuration value.
- Device Type: The device type associated with the configuration.
- Sequence Number: The configuration sequence number.
- Business Event: The business event associated with the configuration.
- Active: If this box is checked, the configuration is active.

**Note:** If you have administrator privileges you can edit the configuration.

**Simple Search**

Note that the search is case insensitive

Name

Value

Device Type

Business Event

Select Object:  |

Select	Name	Value	Device Type	Business Event
<input type="radio"/>	Directive Name	Pick_Drop	ASRS	Pick Drop
<input type="radio"/>	Directive Request Query	SELECT CHR(2)    '61.'    SUBSTR(SUBINVENTORY_CODE,5,1)    '0.0.0.0.0000.ACTION.'    LPN    'C'    SEGMENT1    ' '    SEGMENT2    ' '    SEGMENT3    ').'    CHR(3) FROM WMS_DEVICE_REQUESTS_WCSY WHERE REQUEST_ID = :P_REQUEST_ID AND TASK_ID = :P_TASK_ID	ASRS	Pick Drop
<input type="radio"/>	Directive Response Timeout	99999	ASRS	Pick Drop
<input type="radio"/>	Directive Queue Update	99999	ASRS	Pick Drop

## To Edit device configurations:

1. Select the Configuration to edit on the configuration page.
2. Select Edit.

### Edit Configuration

\* Indicates required field

Name **Directive Request Query**

\* Device Type

\* Business Event

\* Sequence

\* Value

```
SELECT CHR(2)
|| '61.' || SUBSTR(SUBINVENTORY_CODE,5,1)
|| '0.0.0.0.0000.ACTION.'
|| LPN
|| 'C' || SEGMENT1
|| ' ' || SEGMENT2
|| ' ' || SEGMENT3
|| ').' || CHR(3)
```

☒ Active

3. Select the Device type. See Explaining Material Handling Devices., page 10-27
4. Select the Business Event. See Material Handling Devices and Business Events, page 10-29.
5. Enter the Sequence number.
6. Enter or modify the Value with either single configuration parameter values or with SQL syntax used for creating directive requests and associated responses for device communication.

7. Select the Active check box to activate the configuration.
8. Select Apply to apply the changes, or Cancel to discard the changes to the configuration.

### Related Topics

Warehouse Control System, page 10-36

Searching for Tasks within the Directive Queue, page 10-38

## Defining Device Response Messages

You can use the Warehouse Control System to create response messages that different devices can send. You can define the response messages to include various pieces of information as well as determine the information sequence. You create message templates and add components to the templates to create the response messages. The information you can include in a message is provided as a list of seeded components. You can create three types of message templates XML, message with delimiter, and message without delimiter. A message with delimiter uses a character such as a comma or semi colon, to separate the components of the message. In a message without delimiter, the component length separates each component in the message.

### To create a message template:

1. Navigate to the Message Templates page.

Message Templates

---

Simple Search

Note that the search is case insensitive

Name

Start Message Delimiter

End Message Delimiter

Template Type

Parameter Delimiter

Go

Clear

XML Message

Export

Select Name	Start Message Delimiter	End Message Delimiter	Template Type
No results found.			

2. Click Create.

**Edit Message Template**

\* Indicates required field

* Template Name	<input type="text" value="XML_TEMP"/>
* Start Delimiter	<input type="text" value="69"/>
* End Delimiter	<input type="text" value="70"/>
* Template Type	<input type="text" value="XML Message"/>
Parameter Delimiter	<input type="text"/>

3. Enter the Template Name, Start Delimiter, End Delimiter, and Template Type. If you select message with delimiter as the template type, then enter the Parameter Delimiter.
4. Click Apply to save your work.

**To add message components to the template:**

1. Navigate to the Message Components page and select a Message Template.

**Simple Search**

Note that the search is case insensitive

Message Template

Message Component

Select Object:  |

Message Select Template	Component Sequence	Message Component	Message Component Length	L / R Padded	Padding Character	Start Component Delimiter
<input type="radio"/> XML_TEMP	10	Organization ID				

2. Click Create.
3. Enter the Sequence number. The sequence number determines the order the components appear in the response message.



## Edit Message Components

\* Indicates required field

* Template Name	XML_TEMP ▼
* Sequence	1
* Component	Destination Subinventory ▼
Component Length	3
L / R Padded	4
Padding Character	0
Start Delimiter	
End Delimiter	
XML Tag	

Home Setup Home Layout Preferences

4. Select a component from the list of values.
5. Optionally, enter the component length. This value determines how to separate the components in the message if you choose message without delimiter as the template type.
6. Optionally, enter the L / R padding.
7. Optionally, enter the start and end delimiters.
8. Optionally, enter the XML tag.
9. Click Apply to save your work.



---

## Cartonization, Consolidation, and Packing

This chapter covers the following topics:

- Describing Cartonization Features
- Describing Carton Groups
- Describing Container-Load Relationships
- Using Cartonization
- Consolidation
- Describing the Consolidation Report
- Describing User-Initiated Consolidation
- Explaining Oracle Warehouse Management Packing Options
- Using the Desktop Application to Pack Material
- Performing Packing Processes
- Performing Unpacking Processes
- Performing Splitting Processes
- Performing Consolidation Processes
- Capturing Catch Weight Information
- Mobile Bulk Packing

### Describing Cartonization Features

With container management features, Oracle Warehouse Management can automatically suggest packing configurations for groups of items. Optionally, cartonization may be based on the following packing requirements, Oracle Warehouse Management cartonization routines suggest the best carton selection for a grouping of items:

- Container weight capacity
- Volume
- Item and container dimensions
- Item's packaging restrictions

The system can determine the best carton size in which to pack the material being picked for shipment. It can also suggest the packed configuration for material being manufactured on a work order.

Using cartonization eliminates suboptimal packing configurations by always suggesting the best cartons to use based on grouping rules, carton weight capacity, carton volume, and the dimensions of the items to be packed in comparison to the carton's dimensions.

To use cartonization, you must setup carton groups and container load relationships. These concepts are described in more detail in the following sections.

## Related Topics

Describing Container-Load Relationships, page 11-4

Cartonization Setup Steps, *Oracle Warehouse Management Implementation Guide*

## Describing Carton Groups

You assign items to one or more carton groups. Carton groups represent a group of similar-type cartons that can carry a category of items. For example, a carton group that you define as miscellaneous might contain flashlights and stereos, while a liquid carton group might contain paint and oil.

**Note:** The system will never suggest packing an item of one type into a carton of a different type. For example, it will not suggest packing a liquid item into non-liquid carton type.

## Explaining Carton Selection

First Oracle Warehouse Management separates items by carton group, and, in the case of sales order cartonization, by delivery. This step is not performed for WIP prepack, as WIP prepack is always performed on only a single item at a time, while bulk pack and sales order cartonization are performed on groups of items.

Within each carton group, the system first attempts to pack all of the items into a single carton. The total weight and volume of the items is compared with the weight capacity and volume of each carton. If the dimensions of any of the items will not fit into the dimensions of a container, then that container is not selected. If there are several

potential matches, then the system selects the smallest container, verifying that Minimum Percent Fill of the container item has been met. If all of the items cannot fit into a single carton, then the system selects the largest carton, again verifying that Minimum Percent Fill of the container has been met. If the Minimum Percent Fill cannot be met, then the cartonization algorithm will look for a smaller container. The system repeats this step by trying to fit the remaining items into a single carton, and then suggesting subsequent cartons based on the carton sizes and capacity.

**Note:** "Smallest" and "largest", as well as Minimum Percent Fill, can be based on either weight or volume. The Percent Fill Basis flag, in the Shipping Parameters form, is used to determine whether weight or volume should be used. If this flag is set to Quantity, then Weight will be used.

For pick release cartonization, the system tries to pack items into the container in the sequence in which the operator will be directed to pick them. When the next item in the picking sequence cannot fit into the container, the container is considered full.

## Carton Selection Example

Assume that an item is 1 foot wide, 5 feet long, 3 feet high, and weighs 60 pounds. Also assume that five containers are available in which to pack this item. The Oracle Warehouse Management cartonization feature uses the following methodology to determine the optimal container in which to pack the item.

Container	Width (feet)	Length (feet)	Height (feet)	Capacity (pounds)
A	1	1	1	40
B	2	4	4	60
C	6	2	2	75
D	2	4	6	80
E	4	4	6	100

- Container A is disqualified because with a capacity of 40 pounds, it does not have sufficient weight capacity to hold the item, which weighs 60 pounds.
- Container B, with a capacity of 60 pounds, can hold the weight of the item, so the system checks its dimensions. The largest dimension of the item, its length (5 feet), cannot fit into any dimension of container B, so it is disqualified.

- Container C's largest dimension, its width of 6 feet, can hold the item's largest dimension of 5 feet, but container C's next largest dimension, its width and height of 2 feet cannot hold the item's next largest dimension, its height of 3 feet.
- Container D's dimensions and capacity can hold the item.
- Container E's dimensions and capacity can hold the item.

Both Container D and E can hold the item, however, the system chooses container D, because it has the smaller weight capacity of the two containers. Thus, the system selects the smallest container possible that will fill the entire order.

**Note:** If the order exceeds the weight or volume capacity of the largest carton in the carton group, the largest carton is chosen and then filled to capacity. At that point, based on the criteria stated above, the system selects the next carton in the group.

**Note:** Non integer quantities cannot be cartonized. Also note, that if no container can hold a particular item, then that item will not be cartonized.

## Describing Container-Load Relationships

You can define a container-load relationship for items that require more specific packing than what Oracle Warehouse Management would suggest. Container-load relationships specify the maximum quantity and required container to use whenever the item is packed. Container-load relationships apply to items that can only be packed in one type of container, or require a certain packing configuration.

Oracle Warehouse Management honors container-load relationships, regardless of the container group or physical characteristics of the container item or contained item.

### Container-Load Relationship Example

For example, assume that a warehouse ships roses. For these items, quality assurance dictates that only small coolers be used to ship the roses. Furthermore, while 180 roses might fit into the small cooler by weight, volume, and size, experience has shown that any more than 144 roses causes damage in route. In this scenario, you can set up a container-load relationship that overrides the standard cartonization logic, so that only 144 roses are packed into each small container.

### Multi Level Cartonization

Oracle Warehouse Management cartonization can consider multiple levels of packaging as well as single level packaging using cartonization. For example, a warehouse may

have items that are packed into boxes, boxes packed into cases, and the cases packed into pallets. A packaging hierarchy can be build and the system will generate content and summary labels for each level of the hierarchy. However, only the outermost package generated by the system (in this case the pallet) will be considered an LPN. The cartonization process is triggered in one of three places:

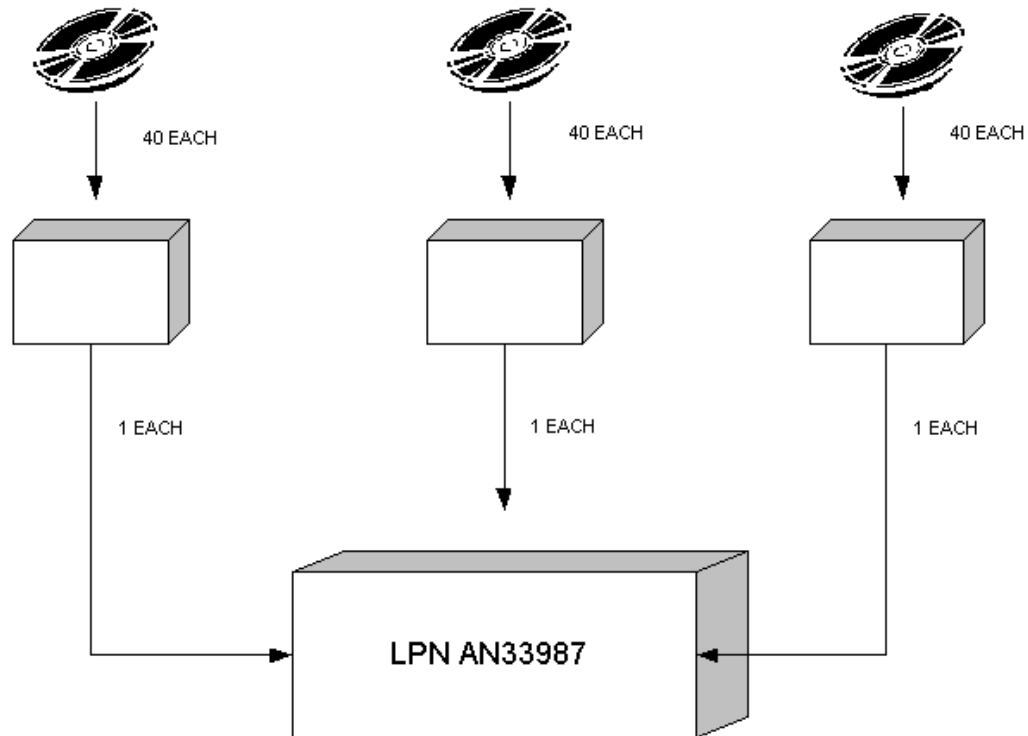
- Bulk pack
- Prepack
- Pick release

The bulk pack process can be set to stop at an arbitrary level for deep packaging hierarchies.

Multi-level cartonization enables multiple labels to be printed for a single cartonization request, thereby assisting with building pallets or complex packaging configurations. Different label formats can be produced at each of the levels, ensuring warehouse labels are formatted properly for the container on which they will be placed. In addition, summary labels are printed at every level of the cartonization hierarchy. One summary label is printed for each package and each LPN created by the cartonization process.

Like standard cartonization, multi-level cartonization can utilize either container groups relating a set of items to a set of containers, or specific container load relationship indicating exactly how much of an item can be packed into each container.

The following graphic illustrates an example of multi-level cartonization.



In this example, forty disks can fit into each box and three boxes can fit into each case. The case is the outermost container, therefore it is associated with an LPN. Each box is labeled with a summary label identifying the boxes contents and the LPN of the case that they are packed into.

Multi-level cartonization builds on the setup already defined for cartonization. The two inner boxes from the single level setup can now be assigned a category code in the Contained Item category set, and similarly, an outer box can be given a category code in the Container Item category set. This indicates that, for instance, forty disks can be packed in a small inner box, and three small inner box can, in turn, be packed into an outer box.

## Using Cartonization

Oracle Warehouse Management uses cartonization for the following tasks:

- Sales order and manufacturing picking (pick release)
- Cartonization prior to WIP completion
- Mobile bulk packing
- Cartonization at task release



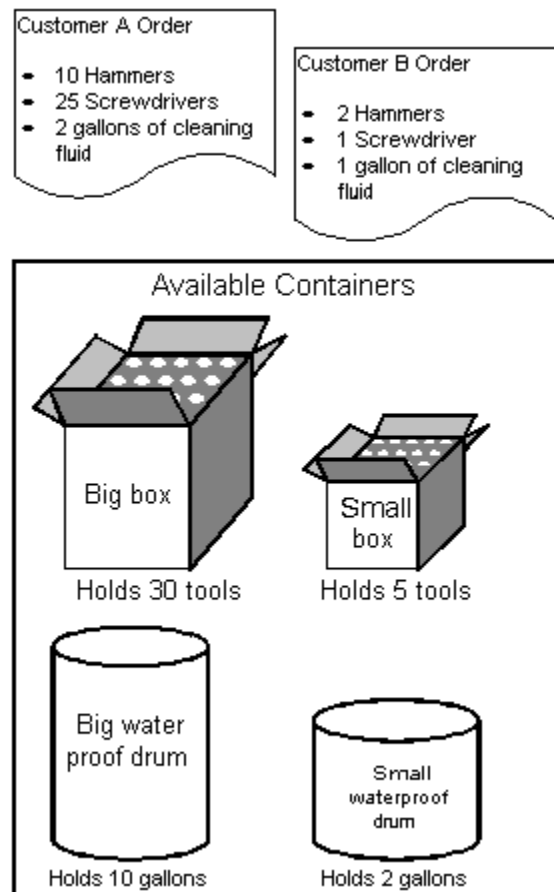
## Cartonization at Pick Release

Cartonization is automatically performed when sales order or manufacturing jobs or schedules are released for picking, if the option is turned on for the organization and subinventory. After the lines are allocated using the Rules Engine, sales order lines are grouped by delivery, or by the delivery grouping rule if no deliveries are created prior to or at pick release. Manufacturing allocations are grouped by job or schedule. Cartonization is then performed on each grouping. This may be used to suggest the carton the operator should pick into, or the box that should be placed on the conveyor belt if conveyor-based picking is performed.

Without cartonization, at the beginning of the picking process, operators must guess the carton size to use. With cartonization, the system selects the best cartons to use, before the operator performs the first pick.

### Sales Order Line Picking Example

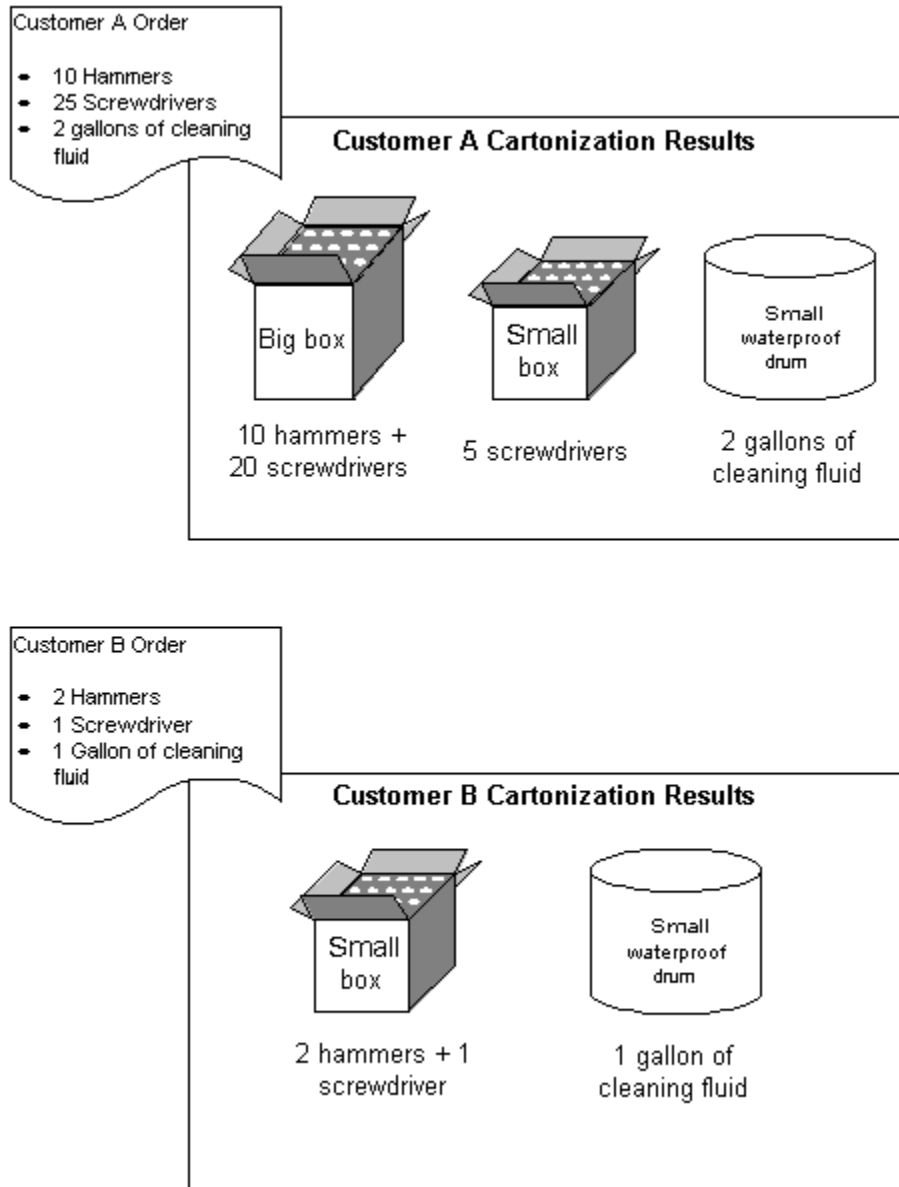
The following figures provide an example of cartonization results for two sales order picks.



In this example, assume that two customers, A and B, submit the sales orders (shown in

the figure) to your warehouse. Also assume that you have two boxes (one large, one small), and two drums (one large and one small) into which sales orders can be packed.

Based on the sales order requirements for customers A and B, the system suggests the packing suggestions shown in the following graphic.



Of the 35 tools, and 2 gallons of cleaning fluid on Customer A's sales order, the system suggests the following packing configurations:

- The 10 hammers plus 20 screwdrivers, for a total of 30 tools should be packed in the box, that has a capacity of the 30 tools
- The remaining 5 tools should be packed in the small box—which has a capacity of 5

tools

- The 2 gallon of cleaning fluid should be packed in the big drum—which has a capacity of 2 gallons

Of the 3 tools, and 1 gallon of cleaning fluid on Customer B's sales order, the system suggests the following packing configurations:

- The 2 hammers and 1 screwdriver should all be packed in the small box
- The 1 gallon of cleaning fluid should be packed in the small drum

A license plate number will be generated for each container suggested above. Even if both orders are released together, the system will not cartonize them together. Thus, the picker will not be directed to put 12 hammers in the same box.

## Cartonization Prior to WIP Completion

Container prepack is used to suggest appropriate cartons and LPN labels prior to a WIP completion. By entering the quantity of an item that is nearing completion, Oracle Warehouse Management can print LPN content labels that specify how many of the assembly should be packed into each container. The transaction that is associated with the WIP completion can be performed by scanning the LPN labels and putting the containers away into inventory.

If the item is serial controlled, the serial numbers must be pregenerated, and only a consecutive sequence of serial numbers can be prepacked. If the item is lot controlled you can enter the lot number directly into the form, or a lot number can be generated by the system.

### WIP Completion Example

Assume that a WIP job or schedule exists to produce 305 hammers. Assuming the same available containers as presented in the above example (big box with a capacity of 30, small box with a capacity of 5, a large waterproof drum with a capacity of 2 gallons, and a small waterproof drum with a capacity of 1 gallon), when prepack is run, the system will suggest the following cartons in which to pack the 305 hammers:

10 big boxes (10 big boxes X 30 tools per box) = 300 hammers  
1 small box (1 small box X 5 tools per box) = 5 hammer

The system will also generate license plate numbers and pack those license plates with their anticipated contents.

**Note:** The license plates and their contents will not be considered on-hand or available until they are completed from WIP.

When users are ready to complete the WIP job or schedule, he or she can scan the license plate rather than entering the item, quantity, and any required revision, lot, or serial number.

## Cartonization Features to Pack Material

After the system performs allocations and the appropriate task types have been identified, the system must determine the appropriate packing configuration for the subject item. The system makes this determination for those items that are not already packed in cases or pallets for shipment. Thus, it is only advisable to use cartonization in subinventories where material is stored loose and not packed into LPNs.

At pick release, the system's cartonization engine selects the appropriate container items category for the item on the picking line and then determines a packed configuration, based on the number of items to be packed, their dimensions, weight, and capacity of the container, that minimizes the total number of containers that need to be used.

For more information about setting up cartonization see, *Cartonization Setup Steps, Oracle Warehouse Management Implementation Guide*.

## Using Cartonization with Picking

If cartonization was used on the picking lines, you will see a slight change in the standard picking user interface. Now, the To LPN field, will already be determined, based on the LPN suggestion generated by the system during cartonization. Furthermore, the container item that was suggested will be displayed after the To LPN. Also, the system will not display the <Drop> option, until all lines have been picked into that LPN.

When all lines have been picked into a given LPN, the <Drop> option will be enabled. If you decide to load again, and later enter the drop form by viewing current tasks, the system will direct you to drop the material into the appropriate staging lane.

**Note:** Pick and pass picking can only be used with sales order lines that have been cartonized.

## Using Cartonization at Task Release

The Launch Task Release concurrent request can cartonize tasks across pick release batches based on the cartonization options selected in the Organization Parameters window (Warehouse tab). There are four methods of cartonization:

- Single item cartonization: 1-1 relationship of the same item in a container.
- Mixed item cartonization: Multiple items in a carton based on item category relationships.
- Pick slip grouping cartonization: One carton per pick slip.
- Custom Cartonization: Based on an API customers can determine their own cartonization.

## Related Topics

*Oracle Inventory User's Guide, Organization Parameters Window*

*Launch Task Release Concurrent Request, page 14-20*

## Consolidation

Consolidation is the process of bringing material from various parts of the warehouse together for the purpose of packing and shipping. Consolidation can occur at one or more points during the outbound flow of material. Most warehouses perform consolidation of picked material so it can be packed prior to shipment. Some warehouses perform subsequent consolidations such as building pallets of packed items and then shipping the pallets.

Oracle Warehouse Management allows eight types of system-directed consolidation based on the following key factors:

- Should material be consolidated in a consolidation locator or directly in a staging lane?
- Should consolidation occur at the LPN level?
- Can material from different deliveries be consolidated based on the operation plan while upholding the consolidation rules such as no loose material is allowed in the outermost LPN?

### LPN Based Consolidation in Staging Lane Within Delivery

This is the default consolidation method. This consolidation method enables you to consolidate material for a single delivery directly to an LPN in a staging lane. The system suggests the last LPN that is dropped off for delivery in the staging lane.

### Direct Consolidation in Staging Lane Across Deliveries

This consolidation method enables you to consolidate material across deliveries in a staging lane. In this consolidation method, you do not consolidate material in a consolidation LPN within the staging lane. The system does not suggest a drop into LPN for the material.

### Direct Consolidation in Staging Lane Within Deliveries

This consolidation method enables you to consolidate material for a single delivery directly in a staging lane. The system does not suggest a drop into LPN for the material.

## **LPN Based Consolidation in Consolidation Locator Across Deliveries in Staging Lane**

This consolidation method enables you to consolidate material across deliveries into a consolidation LPN in a consolidation locator. After you consolidate the material, you can use the mass move functionality to move all the material to the staging lane.

## **LPN Based Consolidation in Consolidation Locator Within Deliveries in Staging Lane**

This consolidation method enables you to consolidate material within a delivery into a consolidation LPN in a consolidation locator. After you consolidate the material, you can use the mass move functionality to move all the material to a staging lane.

## **LPN Based Consolidation in Staging Lane Across Deliveries**

This consolidation method enables you to consolidate material across multiple deliveries into a consolidation LPN directly in the staging lane.

## **Locator Based Consolidation in Consolidation Locator Across Deliveries in Staging Lane**

This consolidation method enables you to consolidate material for each delivery in a separate consolidation locator and then consolidate material for multiple deliveries in the same staging lane.

## **Locator Based Consolidation in Consolidation Locator Within Delivery in Staging Lane**

This consolidation method enables you to consolidate material for a delivery in a consolidation locator and then move the material to a staging lane.

## **Setting Up Consolidation**

To use consolidation, you need to perform the following setup steps:

- Define Default Consolidation Mode in the Organization Parameters window
- Define Consolidation Locators
- Define Locator Dropping Orders (optional)
- Define Operation Plan Selection Rules

## **Consolidation Validation**

When you perform a Pick Drop, Staging Move, or LPN Mass Consolidate for material consolidated across deliveries, the following conditions apply:

- All lines in the From and To LPN, if the material resides in an existing LPN, must be assigned to a delivery.
- The destination LPN must be in a locator of type Staging.
- The destination LPN must not have any loose material. If LPNs are nested, the nested LPNs can contain loose material.
- All tasks loaded into the From LPN and To LPN must have an operation plan with the consolidation method set to Across Deliveries.

## Shipping Validation

Transportation Execution validates material consolidated across deliveries and determines if a valid deconsolidation point exists, and if the ship-from location are the same. After consolidation, and at ship confirm, Shipping Execution automatically creates a trip for the second leg, from the deconsolidation point to the final ship-to destination as follows:

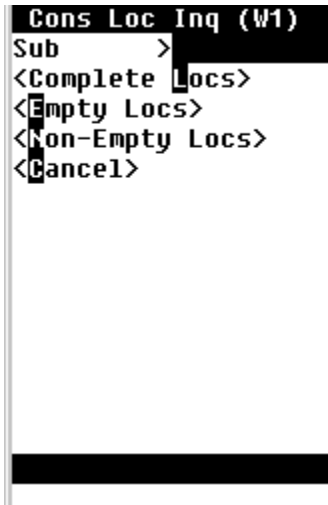
- If no trips associated to the deliveries exist for the second leg, Shipping Execution creates a trip for each delivery from the deconsolidation point to the final ship-to destination.
- If deliveries for the second leg exist, Shipping Execution deletes the delivery from the associated trip, and creates a new trip from the deconsolidation point to the final ship-to destination.

## Consolidation Inquiry

Once material is consolidated, it is ready for further processing such as packing, shipping, or loading. It is essential that you know the status of consolidated material so you can make a decision on what material is eligible for further processing.

## Consolidation Locators Inquiry

The Consolidation Locators Inquiry page serves as the gateway to view consolidation locators with material in various states so that you can make a determination on what material is ready for further processing.



Three inquiries can be performed in the Consolidation Locators Inquiry mobile page.

- Complete Locators

The Complete Locators mobile page enables you to view consolidation locators that have completely consolidated material.

It displays the following information:

- Subinventory and locators that have consolidated material
- Total number of deliveries that currently exist in the displayed locator
- Number of deliveries that have been completely consolidated
- Number of LPNs that exist in the locator

It also has a <Find LPNs> button that invokes the Consolidated LPNs page and displays LPNs that exist in the displayed locator.



```

Complete &Locs (W1)
Sub      :STA
Loc      ]L1.1.1
Totl Dels:181
Comp Dels:105
LPN Count:258
Loc Count:3
<Find LPN>
<Cancel>

```

- **Empty Locators**

The Empty Locators mobile page enables you to view empty consolidation locators.

It displays subinventory and locators that are empty, one locator at a time. The total number of empty locators displays at the bottom of the page.

```

&Empty Locs (W1)
Sub      :SHCASE
Loc      ]
Loc Count:0
<Cancel>

```

- **Non-Empty Locators**

The Non-Empty Locators mobile page enables you to view consolidation locators that have at least one staged LPN in it. It includes locators with either completely or partially consolidated material or both.

It displays subinventory and locators that have at least one LPN with a status of Staged. It shows all locators that have material in them regardless of whether material has been completely consolidated or not.

It also has a <Find LPNs> button that invokes the Consolidated LPNs page and displays LPNs that exist in the displayed locator.

```
&Non-Empty Locs (W1)
Sub      :STA
Loc      ]L1.1.1
Totl Dels:181
Comp Dels:105
LPN Count:258
Loc Count:3
<Find LPN>
<Cancel>
```



## Consolidated LPNs Inquiry

### Consolidated LPNs Inquiry

The Consolidated LPN Inquiry page serves as the gateway to view consolidated LPNs with deliveries in various states so that you can make a determination on what material is ready for further processing. The Consolidated LPN Inquiry can be performed against any staged LPN, delivery, or order number or any combination of the three.

Oracle Mobile

ORACLE

Cons LPN Inq (W2)

LPN DROP56852-1

Deliv Num 69900

Order Num

Find LPN (F) Cancel (C)

Two key inquiries can be performed in the Consolidated LPN Inquiry window:

- **Find LPNs**

The Consolidated LPNs page enables you to view consolidated LPN(s) depending on the query criteria.

It displays the following information:

- Subinventory and locator that have the queried LPN(s)
- Number of LPNs that were returned by the query criteria
- Delivery number that the LPN belongs to if a delivery has been created
- Consolidation status of the delivery with Complete or Incomplete indicating if the delivery has been completely consolidated or not
- Order Number if material belongs to a single order

If the LPN contains material belonging to more than one order, it displays Multiple.

This page also has <Next LPN>, <Previous LPN>, <Query by Delivery> and <LPN Contents> buttons. The <Next LPN> and <Previous LPN> buttons enable navigation to the various LPNs that were returned. The <Query by Delivery> button returns the same page with all LPNs belonging to the selected delivery. The <LPN Contents> button invokes the LPN

Contents page.

The image shows a screenshot of the Oracle Mobile application interface. The title bar at the top reads "Oracle Mobile" with standard window control buttons. Below the title bar, the text "ORACLE" is displayed in a large, bold font, followed by "Cons LPNs (W2)" in a smaller font. The main area of the screen is a form with several fields, each with a label and a value:

LPN*	DROP56852-1
LPN Count	1 Of 1
Sub	BULK
Loc	B1.1.1
Deliv Num*	69900
Del State	Incomplete
Order Num	56852

At the bottom of the form, there are three buttons: "Query By Delivery", "LPN Contents", and "Cancel (C)".

- **Query by Delivery**

It is recommended that you press the <Query by Delivery> button for every inquiry in order to get an accurate picture of all LPNs for that delivery.

Oracle Mobile	
<b>ORACLE</b>	
Cons LPNs (W2)	
LPN	DROP56852-1
LPN Count	1 Of 1
Sub	BULK
Loc	B1.1.1
Deliv Num*	69900
Del State	Incomplete
Cons Lines	3 Of 6
Order Num	56852
<input type="button" value="LPN Contents"/> <input type="button" value="Cancel (C)"/>	
Loc count 1	

## Related Topics

Explaining Consolidation, page 11-11

Staging Moves, page 11-19

LPN Mass Moves, page 11-20

Describing the Consolidation Report, page 11-22

## Staging Moves

A staging move is used to perform system-directed moves of consolidated or consolidated and packed material to the final staging lane. It can also be used to move material from a consolidation, stock, packing, or staging locator to a system suggested staging locator. You can override the suggested locator and drop the LPN in any LPN controlled locator with locator type of staging or packing.

LPNs that have to be moved and further consolidated at the staging lane can be loaded using the Staging Move mobile page and dropped at the staging lane.

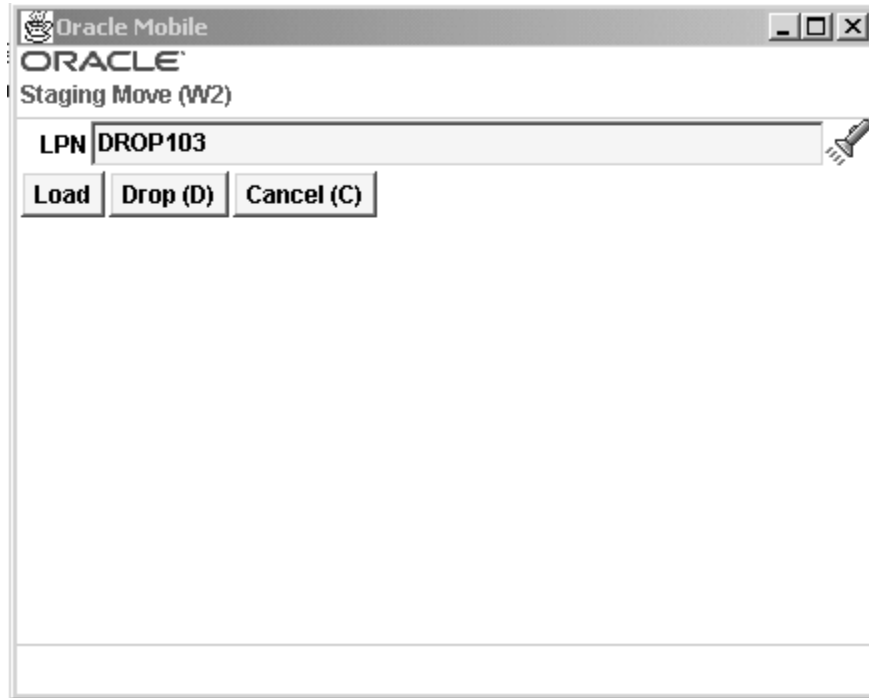
Staging Moves are performed using two mobile pages:

- Loading is performed in the Staging Move page
- Dropping/consolidation is performed in the Pick Drop page

The Pick Drop page can be accessed by selecting <Drop> in the Staging Move page

or by selecting <Current Tasks> in the Task Menu.

Staging moves require material be license plated and have a status of staged. A staging move cannot be performed on loose and unstaged material, or both. Drops for staging moves are performed as whole LPNs only.



## Related Topics

Explaining Consolidation, page 11-11

LPN Mass Moves, page 11-20

Consolidation Inquiry, page 11-13

## LPN Mass Moves

The LPN Mass Move mobile page can be used to move staged LPNs from one LPN controlled staging, consolidation, or packing locator to another LPN controlled staging, consolidation, or packing locator. When you enter the source subinventory and locator, the system displays a count of valid LPNs at the bottom. If at least one valid LPN exists, you can enter the destination subinventory and locator. When you select <Move All LPNs>, all valid LPNs are moved to the destination locator.

```
LPN Mass Move (W1)
From Sub>
From Loc]
To Sub >
To Loc ]
<Move All LPNs>
<Cancel>
```

**Note:** If any loose material or unstaged LPNs exist in the source locator, they are left behind.

## Related Topics

Explaining Consolidation, page 11-11

Consolidation Inquiry, page 11-13

Staging Moves, page 11-19

## Mass Consolidate

You can use the Mass Consolidate page to enter LPNs to consolidate at the destination locator. You can enter a source locator and perform a mass move and consolidate multiple LPNs into a single LPN in a staging lane. You use this page to consolidate LPNs across deliveries. If you enter a new consolidation LPN, you need to enter a subinventory and locator. If the LPN is an existing consolidation LPN, the subinventory and locator appear automatically.

```

LPN Mass Move (W1)
From Sub>
From Loc]
To LPN >
To Sub >
To Loc ]
<Move All LPNs>
<Cancel>

```

## Related Topics

Locator Alias, page 3-41

## Describing the Consolidation Report

A consolidation report is available to help direct manual consolidation based on sales order, delivery, or trip. This report displays all staged LPNs for a given sales order, delivery, or trip.

Use the following instructions to run the Consolidation Report:

## Running the Consolidation Report

1. Log into the application.
2. Navigate to the Submit Request, page A-1 window.
3. Enter, or select from the list of values, Consolidation Report in the Name field.
4. In the Parameters window, enter, or select from the list of values, the organization that you want to run the report against.
5. Enter one of the criteria in the Parameters window and submit your request.

**Note:** Only one of the following criteria should be entered per request: Trip, Delivery, Sales Order Type and Sales Order Number, and Customer Name. While the report supports entering any combination of criteria, the report will only include LPNs that meet all the criteria. Therefore, entering multiple criteria will likely not



return data.

## Consolidation Report Parameters

The Consolidation Report parameters include the following:

- Organization - The organization that you want to run the report against
- Trip - The trip for which staged LPNs should be included
- Delivery - The delivery for which staged LPNs should be included
- Sales Order Type and Sales Order Number - The sales order for which staged LPNs should be included
- Customer Name - The customer for which staged LPNs should be included
- Check LPN Multiple Association - Include additional data on whether the LPNs have been staged for other sales orders, deliveries, and trips in addition to that which has been queried

## Consolidation Report Fields

The Consolidation Report displays the following fields:

- Trip Number
- Delivery Number
- Sales Order Number
- All LPNs that belong to the search criteria
- Current location (subinventory and locator)
- Items (Item Number)
- Unit of Measure (UOM)
- Quantity in the primary UOM (Qty)
- A flag which lets the user know whether the LPN contains items that either belong to multiple sales orders, multiple deliveries, or multiple trip stops
- Trip Stop Location (if a trip exists)

**Note:** It is only possible for LPNs to be staged for multiple sales orders, deliveries, or trips if bulk picking has been used. Therefore, if bulk picking is not used in the organization, the output will be easier to read and also will complete faster if this option is disabled.

## Describing User-Initiated Consolidation

Based on the output of the Consolidation Report, the business processes might require that LPNs be consolidated into larger pallets or shipping containers. Consolidation of LPNs is supported via the mobile Consolidate form, by specifying a parent and a child LPN. Consolidation is ordinarily restricted to LPNs that reside in the same locator. However, LPNs that have been picked for a sales order can be consolidated even if they are in different locators. The child LPN will be moved to the locator of the parent LPN.

For instance, using the output of a consolidation report, the operator may note that there are two LPNs staged for the same delivery, and that should be consolidated into one LPN. Even though these LPNs are in two different staging lanes, the consolidation can be performed using a single transaction.

Use the following instructions to perform an LPN consolidation.

## Performing LPN Consolidation

1. Log onto the mobile device.
2. Navigate to the mobile interface Consolidate, page A-5 form.

ParentLPN	LPN16B
Sub	BULK
Locator	B1.1.1
Next LPN	DROP56851-2

More Merge Cancel (C)

3. Enter, or select from the list of values, the parent LPN.
4. Enter, or select from the list of values, the Next LPN.
5. Enter or select the Subinventory from the list of values if applicable.
6. Enter or select the Locator from the list of values if applicable. See Locator Alias, page 3-41.
7. Select <Merge> to complete the consolidation.

**Note:** You can merge as many LPNs as required provided they belong to the same delivery. If the LPN does not belong to the same delivery, the system will generate an error and consolidation will not be completed.

## Pick Drop Consolidation

Oracle Warehouse Management supports consolidation in the Pick Drop process. This is especially useful during palletization. In the "DROP" activity of the picking task, the operator drops the loaded material into an LPN, which could be a pallet in a subinventory and locator. If the operator is performing DROP task in the same subinventory and locator as the user did in the previous drop, the system will suggest the same drop LPN. Because the system cannot know if the pallet is full, the operator

will have to make the determination. The operator can choose to drop in a different LPN if:

- the operator is dropping in the same subinventory and locator
- and the system suggests the same LPN
- and the LPN is full

## Consolidation Using Putaway Rules

In Oracle Warehouse Management one of the operations where the Oracle Warehouse Management Rules Engine is called is during pick release process. Once pick release is complete, Put Away tasks are generated using the Rules Engine. You can build consolidation Put Away rules that consolidate into particular staging lanes. Various objects on the sales order header, or sales order lines, can be used to construct different rules. Examples of frequently used sales order header objects are as follows:

- Customer
- Shipment Priority
- Shipment Method
- Order Type

**Note:** Do not commingle these rules with inbound put away rules. The non-inbound put away rules should have the lowest number in the strategy search order.

Similar rules can be built for other transaction types, for example internal orders. Different put away rules can be built for this transaction type and then assigned to strategy. Again this strategy is given a number that is lower than the inbound put away rules.

## Related Topics

How to Set Up Warehouse Organizations, *Oracle Warehouse Management Implementation Guide*

Defining Subinventories, *Oracle Inventory User's Guide*

Defining Stock Locators, *Oracle Inventory User's Guide*

## Explaining Oracle Warehouse Management Packing Options

Packing involves transferring of loose items into a container. You can pack items either

on receipt, while they reside in inventory, and during outbound shipment to customers. Oracle Warehouse Management allows you to pack items into containers. Packing can satisfy one or more of the following objectives. You can use both the desktop and the mobile to pack material. While desktop packing enables you to pack inbound and outbound material, mobile packing enables you to pack only outbound material and material that resides in inventory.

- Consolidate items into suitable containers based on criteria such as item, delivery, sales order, or warehouse location
- Confirm and record the contents of containers while packing
- Transact by container
- Protect packed items from damage

Oracle Warehouse Management includes several packing options. With these options, you can perform the following:

- Packing tasks, page 11-33
- Unpacking tasks, page 11-35
- Splitting tasks, page 11-36
- Consolidation tasks, page 11-39
- Capture catch weight information, page 11-40

**Note:** You can use the Material Workbench, page A-1 to view the summary results of packing tasks.

## Using the Desktop Application to Pack Material

The Packing Workbench enables you to use a desktop window to pack material. You can pack an item, LPN serial number, or GTIN. You can enter or scan contents to perform pack, unpack, or split material.

- Material in receiving not delivered to inventory
- Inventory staged for an outbound sales order

### To initialize material to pack:

1. Navigate to the Packing Initialization window.

Packing Station PAC.1.1 PAC.1.1.

Source

☐ Inbound

☒ Outbound

Packing Process

☒ LPN Pack

☐ LPN Split

☐ LPN Unpack

☐ LPN Reconfigure

☐ Serial Triggered

☐ Each Pack

☐ Kitting

Material Source

Subinventory

Locator

From LPN

Project

Task

Item

Document Source

Delivery

Sales Order

Carrier

Trip

Delivery State

Customer

Cancel Clear Find

2. Enter the packing location in the Packing Station field. The packing station is a physical location where you pack material. The information you enter in to this field is the stock locator that corresponds to the packing station.

The packing station you enter determines the transaction source type. The transaction source types are inbound and outbound.

3. Select the Packing process. The packing process indicates the packing operation. You can perform the following packing processes:
  - LPN Pack- This process enables you to pack contents into an LPN. You typically use this process when you perform locator based consolidation. You pick the contents from the consolidation locator and pack them into a container. If you select material already located in an LPN it will be nested inside the To LPN.
  - LPN Split- This process enables you to unpack items from one container, and pack them into another container. You use this process during LPN consolidation. If you unpack a consolidated LPN (From LPN) and pack them into another LPN (To LPN), if the content is an LPN, it is nested inside the To LPN.
  - LPN Unpack-This process involves unpacking contents from a container. If the

content is a nested LPN, it is de-nested.

- LPN Reconfigure (Outbound only)- This process involves reconfiguring an LPN.
    - LPN-Merge-Up This process merges inner LPNs and their contents within the outermost LPN.
    - Break-Down LPN This process breaks the LPN apart in to LPNs that contain only items. It removes all nested LPNs.
  - Serial Triggered- If you select this box, when you scan the serial numbers the item, quantity, and lot information default. When you set up lot and serial attributes, verify the required attribute segments have a default value. If they do not have a default value, then the transaction manager fails.
  - Each Pack- If you select this check box then the primary default quantity is 1. This option is available if the item is not lot or serial controlled.
  - Kitting (Outbound only)- This check box provides visibility to BOM for a Kit/PTO Model in the kitting activity tab. When you scan a component of a BOM the packing workbench determines the PTO Model/Kit item for the competent and shows the complete BOM in the kitting activity tab. The kitting activity tab is not enabled if you do not select this check box.
4. Optionally, enter the following information in the Material Source alternate region:
- Subinventory- The source subinventory for the material.
  - Locator- The source locator.
  - From LPN- The from LPN.
  - Project- The source project. This field is editable only if you are in a project manufacturing enabled organization.
  - Task- The source task. This field is editable only if you are in a project manufacturing enabled organization.
  - Item- The item to pack.
5. Optionally, in the Document Source alternate region enter the following information:

**Note:** The selections in the Document Source alternative region change based on the transaction source type.

- Document Type (Inbound)
- Document Number (Inbound)
- Vendor (Inbound)
- Receipt (Inbound)
- Document Line (Inbound)
- Receiving Location (Inbound)
- Delivery (Outbound)
- Sales Order (Outbound)
- Carrier (Outbound)
- Trip (Outbound)
- Delivery Status (Outbound)
- Customer (Outbound)

6. Click Find to find available items to pack.

### **Packing Workbench:**

The packing workbench displays after you enter the packing initialization information. The packing workbench displays the items available to pack. The information you entered in the initialization window determines the information on the packing workbench.

1. Enter an LPN in the To LPN field, or click Generate to generate a new LPN.



LPN Pack: PAC.1.1(W1)

Scanned Value

Packing Message  
To LPN LPN1492A entered  
Please enter Content

Content Information

Contents  Revision

Sub  Locator

Lot  Serial

Quantity  UOM

Secondary Qty  Secondary UOM

Into LPN LPN1492A

LPN Content - Operations

Content	Qua...	Secondary Quantity	UOM	Secondary UOM
LPN1231A				

Eligible Material

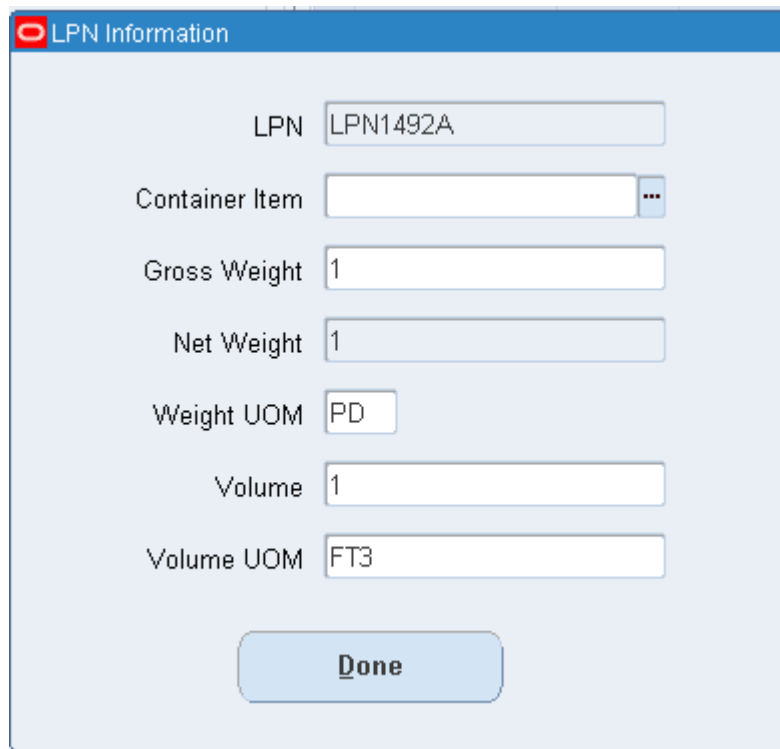
Subinventory	Locator	Item	Item Description	Revision	UOM	Secondary UOM	LPN	Parent LPN
ANRSTA	ANRL 1.1	SMI-101	Lot Item		Ea		LPN1172A	
ANRSTA	ANRL 1.1	ARU-100	Plain item		Ea		LPN1231A	
SUB-STA	STA.1.2	ARU-102	SER AT REC		Ea		XLPN-3	
AMOSTA	AMOL 1.1	AMO-100	Plain Item		Ea		LPN2C	
ANRSTA	ANRL 1.1	DEB-100	Plain Item		Ea		LPN1177A	
ANRSTA	ANRL 1.1	ANR-100	Plain Item		Ea		LPN1002A	

- Enter or scan the contents to pack in the Scanned Value field and click enter. If the content is an LPN, the LPN is nested in the To LPN. If the content is an item, you must enter the subinventory, locator, and quantity in the Content Information section. If the content is a serial number, then the item, subinventory, locator, and the quantity 1 appears. If you scan a GTIN, the item and UOM appear. Content Information section contains the following fields:
  - Contents- The LPN contents.
  - Revision- The item revision if applicable.
  - Lot- The item lot information if applicable. If a lot is indivisible, then you must pack the entire lot quantity. If a lot-level UOM conversion exists for the lot, the system honors the lot-level UOM conversion.
  - Serial- The item serial number if applicable.
  - Quantity- The item quantity based on the UOM.
  - UOM- The primary unit of measure.
  - Secondary Qty- The quantity based on the Secondary UOM.
  - Secondary UOM- The secondary unit of measure.
- You can scan more contents to continue packing. The packed LPN appears in the LPN Content-Operations tab.

**Note:** You can also highlight a row and right-click and choose pack selected rows to pack the material.

**Note:** If you want to pack both loose items, and items that reside in a subinventory you must enter a subinventory and locator when you scan the items that reside in the subinventory.

4. Select the Kitting Activity tab to view the kitting information.
5. Click Close LPN to complete the packing. The LPN Information window appears.

The image shows a software window titled "LPN Information". It contains several input fields for data entry. The "LPN" field is pre-filled with "LPN1492A". The "Container Item" field is empty and has a dropdown arrow. The "Gross Weight" and "Net Weight" fields are both pre-filled with the number "1". The "Weight UOM" field is pre-filled with "PD". The "Volume" field is pre-filled with the number "1". The "Volume UOM" field is pre-filled with "FT3". At the bottom of the window is a large blue button labeled "Done".

LPN	LPN1492A
Container Item	
Gross Weight	1
Net Weight	1
Weight UOM	PD
Volume	1
Volume UOM	FT3

Done

6. Enter the LPN information.
7. Click Done when complete. The packing workbench refreshes automatically after you close the LPN. You can also click Refresh to manually refresh the packing workbench.

### To Organize Information within the Packing Workbench:

1. Select the column within the Eligible Material alternative region on which you want to sort. This sorts the column according to your selection.

2. Select the column within the Content Information alternative region on which you want to sort. This sorts the column according to your selection. The selected column contains an arrow in the header. The available choices are:
3. Optionally, to hide a column, place the cursor in the header row of the table, right-click the mouse, and select Hide Column.
4. After you organization your information, place the cursor in the header of the table, right-click the mouse and select Customization then Save to save the customizations.
5. Close the window when finished.

## Related Topics

Inventory Attribute Group, *Oracle Inventory User's Guide*

Lot-Specific Unit of Measure Conversions, *Oracle Inventory User's Guide*

## Performing Packing Processes

You can use the Packing page to move loose material into an LPN. Use the following instructions to perform a standard packing task.

1. Log onto the mobile device.
2. Navigate to the mobile interface Packing, page A-5 page.
3. In the To LPN field, enter, select, or generate ([CTRL]+[G]) the LPN.  
This LPN can be any LPN that exists in the locator, or that is defined but not used.
4. Enter the subinventory and locator. See Locator Alias, page 3-41.

**Note:** If the LPN is already associated with a locator, then the value in the From Loc field takes on the current locator of the LPN and cannot be changed; however, if the LPN has been defined, but not used, then you must enter a from locator.

5. Enter the item.
6. If the material to pack is under revision control, enter the item revision.
7. Enter the quantity in the Qty field. If the item is under dual unit of measure control, enter the secondary quantity.

**Note:** You cannot pack more than the quantity of the item or revision available in the location from which you are packing.

```

Pack (W1)
To LPN  >LPN1160A
Sub      >SC0BULK
Loc      ]SC01.1.1
Item     >DUOM100
UOM      >Ea(1 Ea)
Avail Qty:25
Qty      :10
Sec UOM   :BX5
Sec Qty   :
<More>
<Pack>
<Cancel>

```

8. If the material is lot controlled, in the Lot field, enter or select the lot number. Continue entering the lot and associated quantity for each lot controlled item. If the material is under dual unit of measure control, you must also enter the secondary lot quantity.

If the lot is indivisible, then you must pack the entire lot quantity into the LPN. See *Inventory Attribute Group, Oracle Inventory User's Guide* for more information.

If the lot has specific lot-level unit of measure conversions, then you must honor those conversions during packing. For more information about lot-specific unit of measure conversions see *Lot-Specific Unit of Measure Conversions, Oracle Inventory User's Guide*.

9. If the material is under serial controlled, in the SN field, enter or select the serial number for each serial item being packed.
10. Select the <More> option to save the current transaction and refresh the screen.

**Note:** The To LPN, Sub, and Loc fields remain visible. This enables you to pack more items into the same LPN without having to rescan those values. All pack transactions that you enter will be saved to the database when you select the <Pack> option.

11. Select the <Pack> option to save this transaction and return to the main packing window.

## Performing Unpacking Processes

You can use the Unpack page to unpack material from an LPN.

1. Log onto the mobile device.
2. Navigate to the mobile interface Unpack, page A-5 page.

The screenshot shows a mobile interface titled "Unpack (CLS)". It contains the following fields and values:

From LPN	>C23A
Sub	>CLS_EACH3
Loc	>E3.1.1
LPN	>
Item	>CLS_RADIO3
UOM	>Ea
Avail Qty	:15
Qty	:16

At the bottom, there are two options: "<Unpack>" and "<Cancel>".

3. In the From LPN field, enter or select the LPN to unpack.

**Note:** After you select the LPN, the system displays the subinventory and locator where the LPN is stored.

4. In the Item field, select the item to unpack.

**Note:** If only one item is associated with the From LPN, when you select the list of values, the system automatically displays the associated item.

5. In the Qty field, enter the amount of the item to unpack. If the item is under dual unit of measure control, enter the secondary quantity.

6. Select <Unpack> to perform the unpacking transaction.

**Note:** You can use the mobile interface unpack option to also unpack an LPN from another LPN.

7. If the material is lot controlled, in the Lot field, enter or select the lot number.

Continue entering the lot and associated quantity for each lot-controlled item. If the material is under dual unit of measure control, you must also enter the secondary lot quantity.

If the lot is indivisible, then you must unpack the entire lot quantity into the LPN. See *Inventory Attribute Group*, *Oracle Inventory User's Guide* for more information.

If the lot has specific lot-level unit of measure conversions, then you must honor those conversions during unpacking. For more information about lot-specific unit of measure conversions see *Lot-Specific Unit of Measure Conversions*, *Oracle Inventory User's Guide*.

8. If the material is under serial controlled, in the SN field, enter or select the serial number for each serial item.
9. Select the <Unpack>option to save this transaction.

## Performing Splitting Processes

You use the mobile user interface Splitting page to move material from one LPN to another. Splitting tasks involve performing an unpacking transaction from the source LPN and then performing a packing transaction to the destination LPN. You can also split an LPN by sales order if the LPN contains more than one sales order.

### To Split an LPN:

1. Log onto the mobile device.
2. Navigate to the mobile interface Split, page A-5 page.

From LPN	LPN22B
To LPN	LPN159A
Item	BPL100
UOM	Ea(1 Ea)
Avail Qty	40
Qty	3

Save/Next   Split   Cancel (C)

3. In the From LPN field, use the list of values to select the LPN to split.
4. In the To LPN field, enter, select, or generate the LPN to which you want to move the split contents.
5. In the Item field, select the associated item from the list of values.

**Note:** If only one item is associated with this LPN, when you select the item from the list of values, the system automatically displays the item in the Item field. The default UOM associated with the item is automatically displayed.

6. In the Qty field, enter the quantity that you want to split. If the item is under dual unit of measure control, enter the secondary quantity information.
7. If the material being split is lot controlled, in the Lot field, enter the lot number and lot quantity. If the material is under dual unit of measure control, then you must enter the secondary lot quantity. If the lot is indivisible, then you must split the entire lot quantity in to the new LPN. See *Inventory Attribute Group, Oracle Inventory User's Guide*

If the lot has specific lot-level unit of measure conversions, then you must honor those conversions during splitting. For more information about lot-specific unit of measure conversions see *Lot-Specific Unit of Measure Conversions, Oracle Inventory*

*User's Guide.*

8. If the material being split is serial controlled, in the SN field, enter or select the serial number for each serial item being split.
9. Select <More> if you want to split additional quantities of this LPN, otherwise, go to step 10.
10. Select <Split> to split this LPN into the To LPN.

### **To split an LPN by sales order:**

1. Log onto the mobile device.

The screenshot shows a mobile application interface titled "Split(W1)". It contains several input fields with their respective values: "From LPN" is "LPN1268A", "To LPN" is "001045", "Sub" is "AACASE", "Locator" is "AAC1.1.1", "Order Numb" is "58600", "Line Num" is "1.1", "Item" is "SRE100", and "UOM" is "Ea(1 Ea)". Below these fields, "Avail Qty" is "10" and "Qty" is "5". At the bottom, there are three navigation options: "<Save/Next>", "<Split>", and "<Cancel>". The "<Split>" option is highlighted with a black background.

2. Navigate to the Split by Order page.
3. Enter the source LPN in the from LPN field.
4. Enter the destination LPN in the To LPN field.
5. Enter the subinventory in the Sub field.
6. Enter the locator in the Locator field. See Locator Alias, page 3-41.
7. Optionally, enter the sales order in the Order Number field.
8. Optionally, enter the sales order line in the Line Number field. The Item and the UOM field are populated automatically.
9. Enter the item number in the Item field if you did not enter the sales order or sales line. The UOM field is populated automatically.



10. Enter the quantity to move to the new LPN in the Qty field. If the item is under dual unit of measure control, enter the secondary unit of measure.
11. If the material being split is lot controlled, in the Lot field, enter the lot number and lot quantity. If the material is under dual unit of measure control, then you must enter the secondary lot quantity. If the lot is indivisible, then you must split the entire lot quantity in to the new LPN. See Inventory Attribute Group, *Oracle Inventory User's Guide*  
  
If the lot has specific lot-level unit of measure conversions, then you must honor those conversions during splitting. For more information about lot-specific unit of measure conversions see Lot-Specific Unit of Measure Conversions, *Oracle Inventory User's Guide*.
12. If the material being split is serial controlled, in the SN field, enter or select the serial number for each serial item being split.
13. Choose <Save/Next> to split another LPN. Choose <Split> to split the LPN, or choose <Cancel> to cancel the LPN split.

## Performing Consolidation Processes

In the mobile interface LPN Consolidation form, you can consolidate, or pack an LPN into another LPN.

1. Log onto the mobile device.
2. Navigate to the mobile interface LPN Consolidate, page A-5 page.

Oracle Mobile  
ORACLE  
Consolidate(W2)

ParentLPN LPN103

Next LPN LPN160A

More Merge Cancel (C)

3. In the Parent LPN field, enter or select the LPN *to* which you want to consolidate.
4. In the Next LPN field, enter or select the LPN *from* which you want to consolidate.
5. Select <More> to enter additional to and from consolidation LPNs.
6. Select <Merge> to complete the consolidation transaction.

**Note:** You can view the results of the consolidation in the Material Workbench. Query on Parent LPN to view the results of the consolidation task. The Next LPN, which is the LPN that you consolidated from, should not be displayed as a node under the parent LPN.

## Capturing Catch Weight Information

Catch weight permits the capturing of a secondary quantity and unit of measure in addition to the primary quantity and unit of measure. You can then use this secondary unit of measure for billing and pricing to the customer. The secondary quantity is captured for the purpose of pricing and invoicing. Perpetual inventory is not kept in the secondary quantity. You can enter item catch weight information at the following points of the outbound process:

- After you load the LPN as a task, but prior to task drop
- After you drop the LPN but prior to loading it to the truck for ship confirm.
- As part of a task on the task page.
- As part of the shipping process on the direct ship page.

**Note:** You must define a secondary unit of measure, and the pricing as secondary to enable secondary billing and pricing to the customer. The Item parameters Default and No Default control if the secondary quantity defaults based on the primary unit of measure when you enter the quantity for the first time. The upper and lower tolerance limits the values that can be populated for the secondary quantity based on the deviation from the nominal quantity. See: Main Attribute Group, *Oracle Inventory User's Guide*.

**Note:** You must enter the secondary quantity prior to shipping if you set the item to No Default. If you do not enter a secondary quantity, the value defaults at shipping, and sets the item value to default.

There are two pages on which you can enter catch weight information, the Catch Weight entry page, and the Catch Weight update page. The catch weight entry page shows only those order lines for which you have not entered catch weight information. The Catch Weight Update page shows all lines.

#### **To enter catch weight information:**

1. Navigate to the Catch Weight Entry page.
2. Optionally, Enter or Scan the LPN.
3. Enter or scan the item number. The rest of the item information populates automatically.
4. Change the secondary quantity in the Sec Qty field if necessary.

```

Catch Weight (W1)
LPN      >LPN111A
Item     >CW-DEF-101
Lot      :LT#6201
UOM      :Ea
Entry    :New
Qty      :2
Sec UOM  :KG
Sec Qty  :1.81159
<Save/Next>
<Done>
<Cancel>

```

5. Choose <Save/Next> to enter catch weight information for another item, <Done> when finished, or <Cancel> to cancel.

#### To update catch weight information:

1. Navigate to the Catch Weight Update page.
2. Optionally, Enter or scan the LPN.
3. Enter or scan the item number. The rest of the item information populates automatically.
4. Change the secondary quantity in the Sec Qty field if necessary.
5. Choose <Save/Next> to enter catch weight information for another item, <Done> when finished, or <Cancel> to cancel.

## Related Topics

Defining Items, *Oracle Inventory User's Guide*

Defining Unit of Measure Classes, *Oracle Inventory User's Guide*

Defining Units of Measure, *Oracle Inventory User's Guide*

## Mobile Bulk Packing

Mobile bulk packing is used to suggest containers into which you can pack material in a particular locator in the warehouse. Mobile bulk packing also automatically generates the appropriate LPN labels. With bulk packing, you enter an item and quantity to pack. You can enter a container item if you want the system to suggest the appropriate

quantity of that container, or you can let the system suggest both the type and quantity of containers.

You can use this method to pack any material for which there is a positive on-hand balance. For example, operators might use mobile bulk packing if they find a large amount of loose material of an item that should be packed.

You access and perform mobile bulk packing tasks from the mobile user interface Bulk Pack, page A-5 option.

**Note:** Before performing bulk packing tasks, make sure that you have set up the appropriate container items and their related dimensions. Also, make sure that the items you want to pack are included in the Contained Item category.

For example, locator 1.1.1 in the Finished Goods subinventory contains 305 hammers. When you run mobile bulk packing, the system suggests 10 big boxes and 1 small box (assuming that a big box has a capacity of 30 tools and a small box has a capacity of 5 tools) for packing. It then generates LPNs and then packs those LPNs with the suggested contents. The LPNs and the associated contents appear in on-hand the quantity.

## Related Topics

Locator Alias, page 3-41

Inventory Attribute Group, *Oracle Inventory User's Guide*

Lot-Specific Unit of Measure Conversions, *Oracle Inventory User's Guide*



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## Shipping

This chapter covers the following topics:

- Describing Shipment Planning
- Overview of Shipping Confirmation Transactions
- Explaining Shipment Transaction Integration
- Describing Mobile User Interface Shipping Methods
- Explaining Direct Shipping Without Picking
- How to Perform Direct Shipping With LPN Reservations
- Setting Up Dock Door Appointments
- Setting Up Dock Door Synchronization with Oracle Transportation Management
- Synchronizing Dock Doors with Oracle Transportation Management
- Synchronizing Dock Appointments with Oracle Transportation Management

### Describing Shipment Planning

Shipment planning is an optional step in the outbound logistics process that enables you to plan deliveries and trips. Use the Shipping Transaction window to complete the shipment planning process.

The Shipping Transactions, page A-1 window is an Oracle workbench window that consolidates the three major shipping windows from Release 11: the Departure Planning window, the Ship Confirm window, and the View Shipping Information window. In addition to the consolidation of these three windows, the Shipping Transactions window supports the following processes:

- Trips
- Stops

- Delivery legs
- Deliveries
- Delivery lines

The Shipping Transaction window enables you to plan trips and deliveries, confirm shipments, explain and enter sourcing material information for delivery lines, support multi-leg shipments, and access all shipping functionality; however, if Oracle Warehouse Management is enabled, in the organization, because LPNs are managed either through cartonization or through user-initiated packing, none of the Shipping Execution container features are enabled in this window.

If an item is under dual UOM control, and you issue the full primary quantity, then the secondary quantity is set to zero. Similarly, if you use the return to stock option for Quick Ship, and the reservation of the full primary quantity is relieved, then the secondary reserved quantity is set to zero as well.

In an Oracle Warehouse Management enabled organization, it is possible to ship delivery details for the following items:

- Non Reservable items
- Non Transactable items
- Non Order Management Sourced Items (for example, delivery details that are created by Oracle Contracts)

These items do not use the mobile picking or shipping process in Oracle Inventory or Oracle Warehouse Management. To ship confirm these items, you must indicate the inventory information in the Shipping Transactions window in Oracle Shipping Execution. In this window, you enter the quantity, subinventory, locator, lot, and serial information for the ship confirm transaction.

The Shipping Transactions window will not allow you to:

- Indicate the LPNs from which the material is being issued in Oracle Warehouse Management enabled organizations where Oracle Warehouse Management task based picking is not used. The material to be issued must be loose (unpacked) prior to ship confirming.
- Perform material status checks on the lot, serial, subinventory, or locator. You must verify the material can be shipped.
- Perform availability checks. You must verify the material is available for the issue transaction. If the availability check fails during the processing of the transaction in Oracle Inventory, the transaction must be corrected in the Material Transactions Interface window in Inventory.



## Related Topics

Overview of Shipping, *Oracle Shipping Execution User's Guide*

## Overview of Shipping Confirmation Transactions

Shipments can be made on the mobile device for individual order lines, for order lines grouped into a common destination, and for entire trips that consist of multiple deliveries. The shipment confirmation process is the final step in the outbound process.

Shipping represents the point at which picked material leaves the warehouse (to fulfill an order). All material is packed into containers, that are uniquely identified by a LPN that is assigned during the pick confirmation process. Shipment confirmation then confirms that all of the LPNs picked for a particular order or trip, are loaded onto the truck.

Before performing ship confirmation transactions, you should be familiar with the following definitions:

Term	Definition
Delivery	A collection of order lines that are going to the same customer and delivery address. A delivery can have many different items on it, and can span multiple orders, if those orders have the same customer and delivery address. One order can be split among different deliveries.
Trip	A collection of deliveries that will be shipped on the same outbound truck.
Trip Stop	Represents each pick up and delivery address on the trip.
Staging Lane	A special type of inventory locator where picks are dropped off. A warehouse can have multiple staging lanes, which model the physical lanes in the warehouse. Packed inventory is temporarily stored here until the actual ship confirmation removes it from the staging lane and issues the inventory. See, <i>Warehouse Setup, Oracle Warehouse Management Implementation Guide</i> .

Term	Definition
Dock Door	A special type of inventory locator where LPNs are loaded. A warehouse can have multiple dock doors, which model the doors in the warehouse. All LPNs in a dock door will be shipped together after all validation has been performed.
Ship Set	A group of order lines that are linked by a common number, for which you want the full quantity to ship all together.

## Explaining Shipment Transaction Integration

The actual shipment confirmation transaction impacts the following Oracle modules:

- Order Management
- Shipping Execution
- Inventory

In Order Management, the order line is updated as shipped. In Shipping Execution, the delivery is closed and the pick up trip stop is closed. In Inventory, the on-hand balance is decremented, serial numbers are generated, if necessary, and LPNs are issued.

## Describing Staging and Consolidation

After orders are picked, the system needs to direct the operator to the appropriate staging lane to drop off the product. The appropriate staging and consolidation location depends on the customer order and the shipping requirements. As part of outbound planning, an order can be linked to an outbound standing lane, which in turn, is linked to a dock door as the shipping dock.

If multiple operators are picking an order for one customer, then the order might need to be consolidated at the staging lane. Depending on how many partial pallets are on the dock for an order, Oracle Warehouse Management enables operators to consolidate an order from multiple LPNs onto a single LPN.

To perform the consolidation, use the LPN consolidation form. The system will not allow consolidation of LPNs that are staged for different deliveries. See: Performing Consolidation Processes, page 11-39.

## Describing the Loading and Shipping Process

Before beginning the loading process, the operator must scan the dock door when he or she arrives. After orders are scanned into a staging lane, and consolidated, if necessary, the order must be loaded into the appropriate shipping vehicle, such as a truck. Oracle Warehouse Management includes a loading function, which provides the operator with a prompt from the system to scan the dock door to which he or she wants to load. The system then prompts the loader to scan the first pallet LPN and load it into the designated vehicle. This process continues until all of the LPNs for that shipment have been loaded.

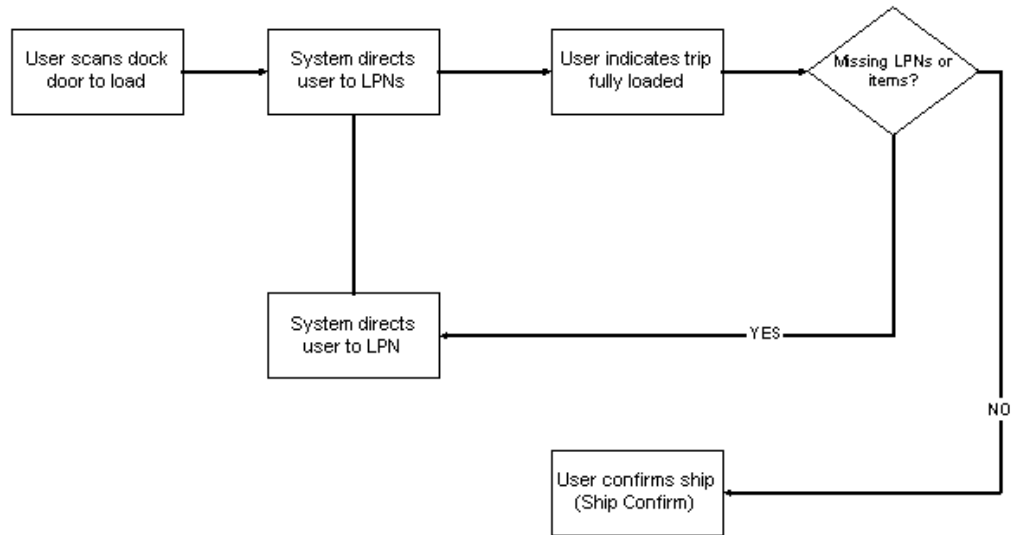
After all of the subject LPNs have been loaded, the system prompts the loader if he or she wants to confirm the shipment. Shipment confirmation triggers the printing of the following shipping documents:

- Bill of lading
- Packing list
- Outbound ASN
- Any additional paperwork that you have set up to print on ship confirm

## Shipping by Trip

With shipping by trip, the operator begins the shipping process by scanning the dock door. Because that dock door is scheduled for a trip, the system knows which LPNs need to be loaded onto the dock. The system then directs the operator to the LPNs that need to be loaded. The system does not require loading in any specific order. When the user is ready to close the shipment and ship all of the loaded LPNs, he or she selects the <Ship> option. At this point, the system checks for incomplete ship sets, missing LPNs, and missing items. A missing LPN is a LPN that has been staged for shipment, but not loaded on the truck. A missing item is an order line that is associated with the trip, but has not yet been pick confirmed. After all LPNs are loaded, the user can enter any header level information about the shipment, and the trip is then ship confirmed.

The following figure provides an illustration of shipping by trip.



## Shipping by LPN

If no trips have been planned and scheduled by the time that the operator is ready to ship confirm, then there are no dock appointments that need to be honored. However, if deliveries have been created, then the system can still determine when missing items or missing LPNs need to be found for a delivery. LPN Ship can be performed even if deliveries have not been created prior to shipment; the only difference is that the system cannot direct the operator to missing items or missing LPNs, because it does not know which additional items need to go on the same delivery. As in shipping by trip, the operator begins by scanning the dock door to which they are loading the truck. The operator then scans each LPN that he or she wants to ship confirm, and select `<Done>` to confirm the shipment.

At this point, Oracle Warehouse Management will still check for existing trips (if a trip was selected through this method) or deliveries that have not been fully shipped by the operator. The system checks include the following:

- Missing LPN
- Missing item
- Ship set

If all of the information has been entered appropriately, the operator can enter any header level information, such as weight, waybill, or carrier (if it was not known before) and then select the Ship Confirm option to confirm the shipment.

## Describing Mobile User Interface Shipping Methods

With the mobile user interface, you can perform the following three types of shipment

confirmation:

- Quick Ship
- LPN Ship
- Dock Door Ship

## Quick Ship

LPN Ship and Dock Door Ship provide the ability to unload the LPN, which allows reversing part of the shipping process so long as the shipment has not yet been ship confirmed.

You use Quick Ship to ship an entire delivery, without confirming the individual LPNs. Because it is triggered by the deliver number, EZ ship requires that deliveries be set up. Furthermore, prior to performing a quick ship, all of the order lines on the delivery must be staged. The material statuses of the staging subinventory, locator, lots, and serials contained in the delivery should allow the shipment confirmation transaction. Also, no serial at sales order issues items can be on the delivery. All ship sets must be completely contained within the single delivery, or the system will not allow the delivery using quick ship method.

1. Log in to the mobile device and navigate to the Quick Ship Page.

The screenshot shows a mobile application window titled "Oracle Mobile" with a sub-header "ORACLE Quick Ship(W1)". The form contains the following fields and values:

Deliv Num	69882
Weight	4
Deliv UOM	Lbs
Waybill	
Ship Method	DHL

At the bottom of the form, there are two buttons: "Done (D)" and "Return to Stock (R)".

2. Enter or select a delivery number.

3. Enter an optional weight for this delivery.  
The Delivery UOM field defaults to the UOM specified on the delivery.
4. Enter an optional waybill number.
5. In the Ship Method field, select an optional shipping method.
6. Select <Done> to complete the transaction.

The Quick Ship process includes a <Return to Stock> option, which releases the reservations on all items that are contained on a delivery. Selecting the Return option is the quickest way to cancel an outbound process, if the customer order is canceled after all lines have been staged for shipping. In addition to releasing the item reservations, the <Return to Stock> option does the following:

- Change the delivery line status from Staged to Ready to Release
- Disassociate the LPNs with the delivery lines
- Unassigns the delivery detail lines from the delivery

## LPN Ship

You use LPN Ship to individually confirm the shipment of all LPNs on a delivery, or to create new deliveries and confirm the shipment of LPNs that do not yet have a delivery. You begin the LPN Ship transaction by scanning the dock door from which the LPNs will be shipped. Next, you scan each LPN. If the LPN cannot be ship confirmed because of a material status assigned to a lot or serial contained in the LPN, or the staging subinventory and locator, then the system displays a message with this information.

**Note:** Multiple operators can load LPNs for LPN Ship transactions to the same door.

At any point during the LPN Ship process, you can check for missing LPNs, or missing items that are required at any dock door. However, when you try to continue to the next step, shipping all loaded LPNs, the system will not allow you to continue the transaction, if there are missing LPNs, or missing items. Missing LPNs are LPNs that have been staged, but not yet loaded. Missing Items are lines that have not yet been pick confirmed or pick released.

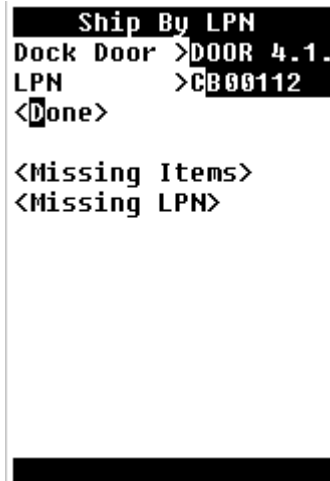
**Note:** If you use trip planning, but select LPN ship for shipment confirmation, the system extends its LPN check to all deliveries that are attached to any trip that is currently loaded at that dock door.

You have the option of unassigning missing items from the delivery and continuing with the transaction, or continuing with loading, but waiting for the missing items.

**Note:** You cannot use the mobile user interface to remove missing LPNs. Instead, you must remove them using desktop forms.

After all validation has been successfully performed, the system uses delivery grouping rules to create the deliveries and trips for LPNs that do not already have deliveries created. For each delivery that is at the dock, you can optionally enter the shipment weight, shipment method, waybill number, and other delivery-specific information.

1. Log into the mobile and navigate to the Ship by LPN page.



```
Ship By LPN
Dock Door >D00R 4.1.
LPN >CB00112
<Done>

<Missing Items>
<Missing LPN>
```

2. Select the Dock Door to ship from.
3. Select the LPN to ship.
4. Select <Done> to complete the LPN shipment.

If this LPN is missing items or LPNs, or is restricted by material status, the system issues an appropriate warning. You can also select the <Missing Items> or <Missing LPN > to check for missing items or LPNs, respectively.

## Dock Door Ship

You use Dock Door Ship to load and ship entire trips. Dock Door Ship uses a dock schedule and dock door appointments to intelligently suggest the best staging lane for the material. In order to take advantage of these features, the trip and a dock door appointment must be set up prior to pick release. The mobile user interface form for Dock Door Ship is similar to the LPN Ship form.

```

Dock Ship(W1)
Dock Door >
Sub      :
Staging La:
LPN      >
<Load/Exit>
<Continue/Ship>
<Missing Items>
<Missing LPN>

```

An LPN that has been loaded during the shipping process via either LPN Ship or Dock Door Ship can be unloaded. This simply reverses the load transaction and makes the LPN available to be loaded again. This is particularly useful if a shipment was mistakenly loaded to a truck or a dock door, or a shipment that was partially loaded must be backed out so that the dock door can be used for other transactions.

The list of dock doors is restricted to those doors which have LPNs loaded to them and the list of LPNs is restricted to those loaded at that dock door. The subinventory and locator display the staging lane from which the LPN is loaded, therefore, where the system will return the LPN if the unload transaction is completed.

## Explaining Direct Shipping Without Picking

Oracle Warehouse Management enables you to ship confirm material for a sales order line without having to pick release or pick confirm the delivery lines. This feature is enabled by selecting the Direct Shipping Allowed check box located on the Warehouse tab of the Organizational Parameters desktop window. Selecting this check box does not disallow normal pick release shipping methods. Both Direct Shipping and normal pick release shipping can be utilized by selecting Direct Shipping Allowed.

The normal process flow for manufacturing operations when pick release is used assumes two material handling stages:

1. Put material away from manufacturing completion
2. Bring the same material from storage to the staging areas to prepare for packaging and loading to trucks

The second stage is initiated by the pick release process.

Pick release is the system to select the correct material to allocate for a particular sales order based on any user defined rules. However, in environments where product is built to customer order in a "just in time" mode, this decision is already made by the



production schedule, and pick release is redundant and unnecessary. In such manufacturing modes, material is completed off of an assembly line ready to be loaded onto trucks for shipment. The assumption that forms the premise of pick release is that material is on hand in a warehouse storage location when the warehouse is ready to begin processing for shipment. This does not hold true for these scenarios. The additional step to pick material and deliver it to the staging lane is unnecessary because the material is brought to an outbound preparation area directly from manufacturing.

**Note:** The Direct Shipping Without Picking business process may only be applicable for some operations. In the automotive industry, for example, production jobs are shipped directly after finished goods completion, while after market service orders are fulfilled through a parts inventory that is built to stock and therefore requires picking activity.

### How to Perform Direct Shipping Without Picking:

1. Log into the mobile user interface and navigate to the Load Truck, page A-1 page.

The screenshot shows the Oracle Mobile application interface for the 'Load Truck(W1)' screen. The title bar indicates 'Oracle Mobile' and 'ORACLE'. The screen contains a form with the following fields and values:

Dock Door	AMOD.1.1
LPN	LPN108A
Container	WMC100
Net Wt	200
Gross Wt	200
UOM	Lbs
Order Num	56704
Line Num	

Below the form fields are several buttons: 'Freight Cost', 'Next LPN', 'Load/Exit', 'Continue/Ship', and 'Cancel (C)'.

2. Enter, or scan, the Dock Door.
3. Enter, or scan, the LPN for the shipment.

**Note:** The LPN must be in inventory or be loaded to the same dock

via Direct Ship; it cannot reside in receiving or WIP, be picked or prepacked, or loaded to a different dock door or via a different shipping method. After entering the LPN, the user will have to enter a sales order and sales order line for all of the LPN contents. The user will be required to enter at least one sales order and line for an LPN before allowing the next LPN to be loaded or ship confirmed. An LPN that has already been loaded to the same dock door for Direct Ship can be entered and additional sales order lines can be assigned to that LPN so long as there is additional available material in the LPN. If the LPN contains a greater quantity than the sales order lines require, then the sales order lines will be overshipped, so long as they are within shipping tolerances. If the LPN contains a smaller quantity than the sales order lines require, then the sales order lines will be undershipped.

4. Optionally, enter the Container, Net Wt, and Gross Wt.
5. UOM field will be populated by the Weight UOM code that is defaulted from the LPN.
6. Enter, or scan, the order number. This is the sales order against which you are shipping the LPN. The list of values will display all booked orders. If the LPN is reserved against an order or line then it will restrict the LPN for the same order or line.
7. In the Line Num field, select the order line number from the list of values. This is the sales order line against which the user is shipping the LPN. It is a list of values containing all open lines for the sales order selected in the Order Num field in ready for release or backordered status. Lines in Staged, Released, and Shipped statuses are excluded. Upon exiting the field, the system must validate that the order line item is found within the LPN.

**Note:** All sales order/sales order lines loaded in a single LPN must be for a single delivery. If deliveries have been created in advance, then only sales order lines associated to one delivery can be assigned to one loaded LPN. If deliveries have not been created in advance, then sales order lines will be assigned to deliveries as they are loaded in the Direct Ship page based on the Delivery Grouping rules and the user will be prevented from loading lines that would result in different deliveries to the same LPN.

**Note:** The direct ship process is facilitated by the Scheduled Shipment report. The Scheduled Shipment report displays sales

order lines that meet certain user-defined criteria and are ready to be shipped. Because the sales order and order line fields are embedded in a single barcode, the user can scan one barcode from the Scheduled Shipment report to enter data into both fields.

## What's Next

At this point, the user will be required to enter any serial details for items that have serial at sales order issue control.

The user can select Next LPN to move on to the next LPN to be loaded. The dock door will remain the same, but all other fields will be cleared to enter the new LPN data.

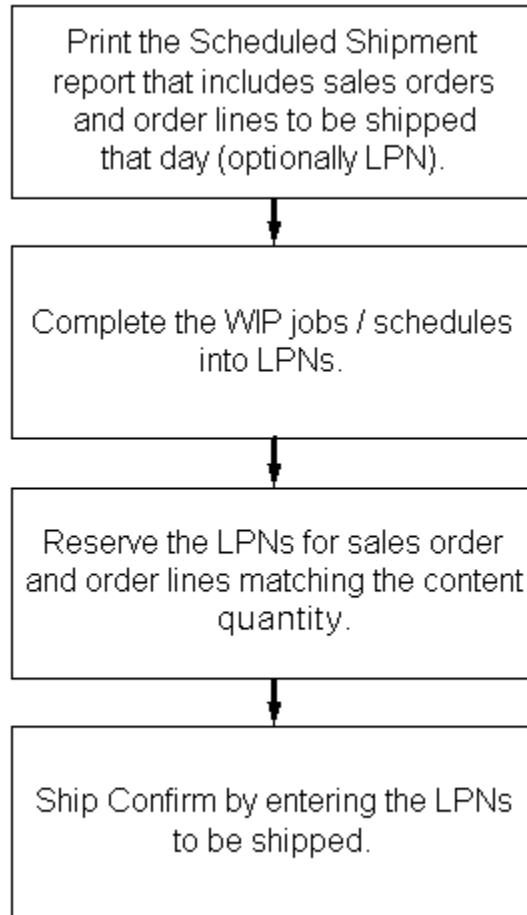
The user can select Load/Exit at which time the system commits the loading of the LPN on to the Dock Door (changes the LPN context to Loaded to Dock) and instead of refreshing the screen for accepting more LPNs, it exits from the Load Truck form and returns to the menu. This can be used if multiple users are loading the same truck or if further verification must be done before the final ship confirm is done.

**Note:** With direct ship functionality, when you are brought to the delivery information page, you can choose Confirm or Trip. The Confirm option is used when there is more than one delivery loaded to the truck so you can cycle through the deliveries, updating the relevant information for each. The Trip option takes you directly to the trip page without requiring you to visit the delivery information page for all other deliveries also loaded to that truck.

## How to Perform Direct Shipping With LPN Reservations

### How to Perform Direct Shipping with LPN Reservations

A detailed reservation can be made at the LPN level, either manually, or via an LPN based completion of a job that is reserved to a sales order. You can reserve an entire LPN against sales order demand if the quantity does not exceed the unreserved quantity for the sales order line. You cannot reserve an entire LPN with a quantity greater than the order line quantity. When you are using direct ship with a reserved LPN, rather than re-entering the sales order data, the system can automatically derive the sales order number and sales order lines tied to the LPN. You only need to scan the LPN, enter any details about the delivery or freight costs, and the shipment is complete.



- Fully reserved LPNs may be shipped via Direct Ship without entering any sales order details. The LPNs may be reserved to one or more sales order lines.
- Partially reserved LPNs may be shipped via Direct Ship without entering any sales order details for the reserved contents. You must still enter sales order details until the unreserved material is consumed.
- Unreserved LPNs may be shipped via Direct Ship by entering sales order details. You can ship only when the entire unreserved material in the given LPN is consumed by the entered sales order lines.

The Order and Line Number fields are hidden in the Load Truck page of Direct Ship if the LPN is entirely reserved. Once you enter a LPN, a check will be made to see whether the LPN is fully reserved or not. If the LPN is fully reserved then you can accept Next LPN or directly go ahead to load it. If the LPN is not reserved or is partially reserved then the Sales Order and Order Line fields are visible.

```

Load Truck(W1)
Dock Door>
LPN      >
Container>
Net Wt   :
Gross Wt :
UOM      >
<Freight Cost>
<Next LPN>
<Load/Exit>
<Continue/Ship>
<Cancel>

```

### Serial Controlled Items at Sales Order Issue

Serial numbers for serial controlled items at sales order issue are entered only after you have completely loaded an LPN. The Serial Entry page is displayed after you select <Next LPN>, <Load/Exit>, <Continue/Ship>, or <Close Truck>.

### Verify Lines are within Tolerances

When you load LPN against a sales order line, the system calculates the quantity to be loaded as well as the over-ship quantity. It considers the over-ship tolerance you specify and applies it to the selected sales order line. The system loads the maximum material against the last sales order line. If any material remains, then it prompts you to enter another sales order and order line. You can also select another sales order for which the required quantity has already been loaded.

### Project Management Controls

- If the LPN scanned belongs to project inventory, the system enables the selection of only those sales order lines that belong to the same project and task.
- If the LPN is for a project and has serial controlled items with End Unit Effectivity, the system only allows the order lines that have the same project and end unit number.
- If the project organization parameter is set for cross-unit number transactions, any serial can be selected irrespective of the end unit number.
- If the project organization parameter is set for cross project issues, any sales order can be shipped against a project LPN. Sales order/ lines will not be filtered on project and task.

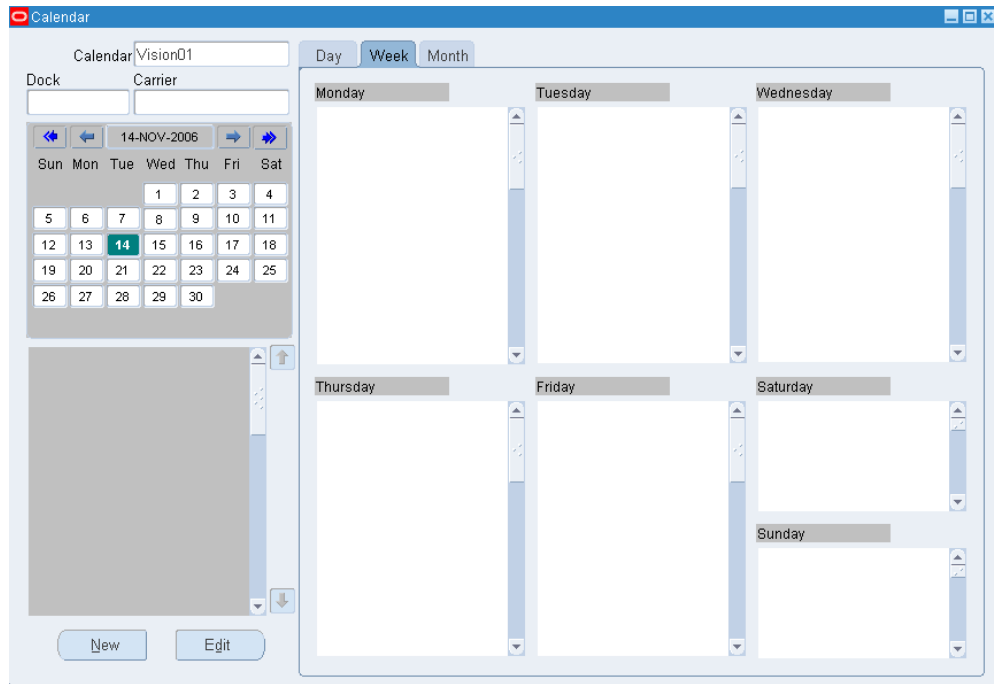
## Setting Up Dock Door Appointments

Prior to creating appointments for dock doors, the dock doors and associated staging lanes must be set up. Both dock doors and staging lanes are modeled as locators; the

only difference between these locators and standard locators is that the locator type for each is different. For more information about setting up dock doors and staging lanes, see *Warehouse Setup, Oracle Warehouse Management Implementation Guide*. After you set up dock doors and staging lanes, you must also set up dock door to staging lanes relationships.

For the system to suggest the appropriate staging lane for the material, prior to pick release, a dock door appointment must be set up for the trip. You make appointments for the trip using the Oracle Warehouse Management Dock Appointment window.

1. Navigate to the Calendar, page A-1 window.



2. In the Calendar field, select the calendar that you want to use to schedule this dock appointment.
3. Click New to open the Create/Edit Dock Appointment window.

The screenshot shows a 'Create/Edit Dock Appointment' dialog box. It features the following fields and controls:

- Subject:** A text input field.
- Appointment Type:** A dropdown menu currently set to 'Outbound Shipment'.
- Dock:** A text input field.
- Carrier:** A text input field.
- Trip:** A text input field.
- Status:** A dropdown menu.
- Time Window:** Two text input fields separated by a hyphen.
- Repeating Frequency:** A dropdown menu currently set to 'Don't repeat'.
- Repeating from:** Two text input fields separated by a hyphen.
- Description:** A large text area for additional details.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom right.

4. Enter the subject (or brief descriptor) for this appointment.
5. In the Appointment type field, select the type of appointment that you are scheduling.  
The default is Outbound Shipment.
6. In the Dock field, use the list of values to select the dock door associated with this appointment.
7. In the Time Window field, use the list of values to select the times for which you are scheduling this dock appointment.
8. If this is a repeating appointment, complete the Repeating Frequency and Repeating From fields.
9. Enter optional appointment information in the following fields:
  - Carrier
  - Trip
  - Description

**Note:** When you initially define an appointment, the trip is an optional field. This enables you to set up repetitive appointments, without having to tie any of the appointments to a trip, as the trip data will change from appointment to appointment. However, prior to pick release of sales orders for a given trip, the trip must be entered for the relevant appointment

10. When you are finished, save your work.

The system displays the results of your appointment schedule in the Calendar window.

After you set up the appointment, at pick release, the system checks the trip to determine if any dock door appointments exist, and then assigns a staging lane to the pick up trip stop.

After the trip has a staging lane and a dock door assigned to it, the actual shipment loading is identical to that for LPN Ship, except that the process is initiated by the selection of a dock door with appointment, rather than by selecting any dock door.

Thus, rather than display all of the available dock doors, the system only displays the dock doors that have open trips during the current time.

At this point, the mobile user interface is identical to that of the LPN Ship. One or more operators can load LPNs on the trip, and missing LPNs or missing items can be viewed at any point. Because all outbound transactions with this process re-assigned to a trip, the validation is also performed at the trip level. After the validation is completed, the <Ship> option enables the operator to enter delivery specific details, and then ship confirm the delivery. At this time, the system issues LPNs, decrements inventory, completes order lines, and close the trip stop.

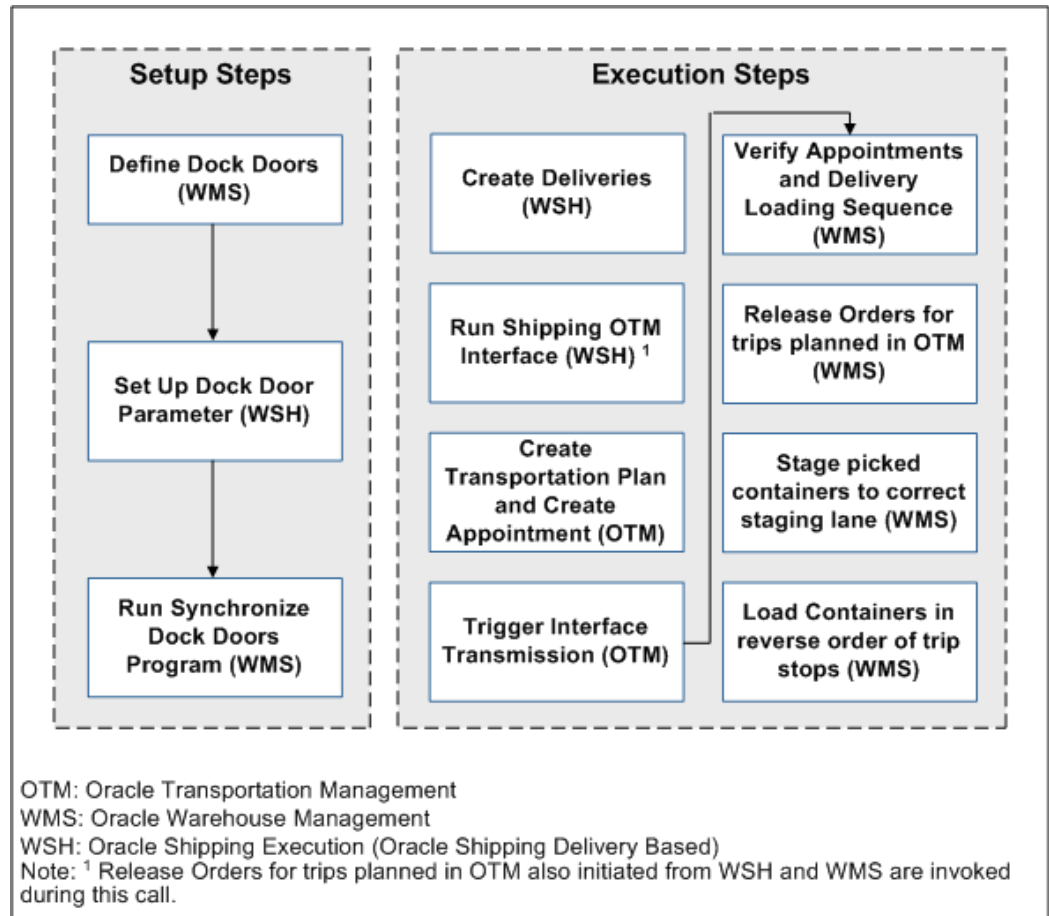
## Setting Up Dock Door Synchronization with Oracle Transportation Management

The following steps describe how to synchronize dock door information from Oracle Warehouse Management to Oracle Transportation Management by using setups in both Oracle Warehouse Management and Oracle Transportation Management. For setting up Oracle Warehouse Management features, see the Oracle Warehouse Management documentation.

The following graphic shows the steps for integrating Oracle Warehouse Management with Oracle Transportation Management:



## Management



1. Define dock doors (Oracle Warehouse Management).
2. Enable dock door parameters (Oracle Shipping Execution).  
Select the *Enabling the Dock Door Appointment Scheduling* check box on the Shipping Parameters window for the organization. Even if the organization is enabled for Oracle Transportation Management, if this option is not selected, the dock door appointments from Oracle Transportation Management will not be synchronized with the Oracle E-Business Suite.
3. Run the *Synchronize Dock Doors with Transportation Management* concurrent program (Oracle Warehouse Management).

## Related Topics

*Oracle Warehouse Management Implementation Manual, Setting Up Dock Door to Staging Lane Relationships*

## Synchronizing Dock Doors with Oracle Transportation Management

In Oracle Transportation Management, dock doors are linked to a location. When the dock door information is synchronized between Oracle Warehouse Management and Oracle Transportation Management, the default location of the organization is also sent with the dock door to Oracle Transportation Management. After the dock door information is synchronized with Oracle Warehouse Management, you can complete the following actions in Oracle Transportation Management:

- Select staging lane based on dock appointment.
- Select lines for wave creation based on dock appointment.

### Prerequisites

- ☐ Dock doors must already be set up before you can synchronize them with Oracle Transportation Management. For more information see, *Oracle Inventory User's Guide, Defining Stock Locators*

### To synchronize dock doors using the Synchronize Dock Doors with Transportation Management concurrent program:

1. Navigate to the Submit Request window.  
  
(N) From the Warehouse Manager responsibility, select Outbound Logistics, then select *Synchronize Dock Doors with OTM*.
2. Enter the parameters such as the Organization and update dates.
3. Click Submit to run the concurrent request to synchronize the dock doors.  
  
The *Synchronize Dock Doors with Transportation Management* concurrent program sends all the selected dock doors and their corresponding location information from Oracle Warehouse Management to Oracle Transportation Management.
4. After you run the concurrent program, verify that it has completed successfully by reviewing its status in the Requests window.  
  
After the dock door information is synchronized, you can view the dock doors in Oracle Transportation Management when viewing or setting up appointments (typically in the Manage Appointments page).

## Synchronizing Dock Appointments with Oracle Transportation Management

When Oracle Transportation Management is integrated with Oracle Warehouse Management, you can optimize dock door usage, ensure dock doors are synchronized with the transportation plan, and stage material accurately to the correct dock door. You can use Oracle Transportation Management to maintain all dock door appointments and send the trip-related appointments to Oracle Warehouse Management.

The following steps outline the process for synchronizing dock door appointments with Oracle Transportation Management:

Step Number	Step	Set Up/Run This Step in Following Oracle Application
1	Create deliveries.  Create deliveries and view delivery information associated with the trip in the Shipping Transactions window.  <b>Important:</b> Deliveries must be in the status of <i>Ready to Release</i> . Do not pick release the deliveries otherwise if you want to send .	Oracle Shipping Execution
2	Run the <i>Shipping-Transportation Outbound Interface</i> program to send the delivery information to Oracle Transportation Management.	Oracle Shipping Execution
3	Create appointments in Oracle Transportation Management.  After the appointment is created, you can view the available appointment in the Manage Appoints page.	Oracle Transportation Management
4	Running the interface transmission.  Oracle Transportation Management maintains all dock door appointments and sends the trip-related appointments to Oracle Warehouse Management.	Oracle Transportation Management

Step Number	Step	Set Up/Run This Step in Following Oracle Application
5	<p>View or change dock door appointments.</p> <p>You can use Oracle Warehouse Management to modify the dock appointments at any time. If the material has been loaded to the dock door or staging lane, you will have to manually modify the dock appointments. This may include changes to Dock Door.</p>	Oracle Warehouse Management
6	<p>Load Sequencing: Verify appointments and delivery load sequencing</p> <p>Load Sequencing is the order in which the LPNs are loaded onto a carrier's truck or vehicle. Usually, the LPNs that need to be dropped off first are loaded last onto the vehicle (last-in first-out method). As part of the existing integration between Oracle Shipping Execution and Oracle Transportation Management, the stop sequence numbers are sent from Oracle Transportation Management to create the trip stops in shipping. The same sequence will be used as the Loading Sequence (in reverse).</p>	Oracle Shipping Execution
7	<p>Load Sequencing: Release the trip for pick release execution.</p> <p>After the load sequence is determined and the trip stops are returned to Oracle Shipping Execution, you can then release the order for picking.</p>	Oracle Shipping Execution
8	<p>Load Sequencing: Associate the staging lane to dock door.</p>	Oracle Warehouse Management
9	<p>Load Sequencing: Stage the delivery.</p>	Oracle Warehouse Management

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## Labor Management

This chapter covers the following topics:

- Overview of Labor Management
- Labor Management Setup
- Labor Management Process
- Labor Management Summary
- Warehouse Productivity Details
- Labor Management Analysis
- Viewing Expected Resources Requirements
- Labor Productivity Analysis
- Standardize Nonstandard Lines
- Viewing Labor Standards
- Concurrent Requests

### Overview of Labor Management

The labor used in a warehouse accounts for a significant portion of warehouse operating expenses. Warehouse managers constantly try to optimize the amount of staff they employ and ensure employees are productive. If warehouse managers have too many employees and not enough work, then they have to pay employees to wait for work. If too much work exists and not enough employees are available, then customer orders are not shipped on time, or warehouse accuracy suffers. Labor Management enables warehouse managers to track the amount of time each user takes to complete a set of tasks. It records this information at specific levels and generic levels. It also records the task type, material transacted, and material source and destination locations.

After Labor Management records the information, it analyzes it for resource planning and employee evaluation. Because the system knows the amount of time and expected

work that is required to complete each task, it can predict how much time or staff is necessary to complete the work in the warehouse.

Labor Management can also assist you in employee evaluation. It compares the time performance of each employee against colleagues or engineered standards for labor productivity, and rates each employee on performance level. The performance rating enables the warehouse manager to make decisions about staffing, compensation, training, and work assignment.

## **Resource Planning**

Resource planning is the ability to predict expected times or the amount of staff you need to complete a set of tasks. Resource requirements are the number of employees or time that you require to complete the outstanding work in the warehouse. Labor Management provides you with the estimated resource requirements. These estimations enable you to make decisions in order to optimize the efficiency of the warehouse operations. You can hire the proper amount of employees to complete outstanding work and provide customers with accurate estimates for delivery times.

## **Labor Productivity**

Labor Management improves your understanding of employee productivity. It provides detailed information about the productivity of individual employees and warehouses. It breaks down the information into the following four functional areas, inbound, warehousing, outbound, and manufacturing. It provides a score and a rating for each individual to determine productivity level. You can use this information to make compensation, incentive, staffing, and training decisions.

## **Labor Management Definitions**

### **Labor Standards**

Labor Standards are the standards that you establish for a specific work unit. You can define a work unit at different levels of specificity. One labor standard may refer to general picking tasks, another may refer to picking tasks from the CASE subinventory to the STAGING3 staging lane for quantities between 15 and 50 Eaches using a rolling cart. A labor standard includes expected times for transaction time, travel time, and idle time.

### **Nonstandardized Transactions**

Nonstandardized transactions are transactions the system cannot match to an existing labor standard.

### **Transaction Time**

Transaction time is the time the user takes to scan the appropriate fields and physically

perform the work. The system measures it from when the user first receives the task on the mobile device screen to when the final the user presses the <Done> button on the transaction page.

## **Travel Time**

This is the amount of time the user takes to travel from one location to another during a transaction. The system measures travel time from the time the operator completes a task to the time the operator begins the second task, up to the travel time threshold.

## **Idle Time**

Idle time is the time in between tasks when the user is not performing work. The system uses a travel time threshold to differentiate between travel time and idle time. If a user completes a task, the time before the user begins another task may be a combination of travel time (walking to the next task) and idle time (waiting around, bathroom break). Each labor standard includes a travel time threshold, which lists the maximum travel time needed to arrive at the location for that work unit. If the travel time threshold for a task from the CASE subinventory is 30 seconds and the user takes 45 seconds to begin a task from the CASE subinventory after completing the previous task, then the system calculates the travel time as 30 seconds and the idle time as 15 seconds. If the users takes 20 seconds to begin a task, then the travel time is 20 seconds and the idle time is zero seconds because the user did not exceed the travel time threshold.

## **Ratings Algorithm**

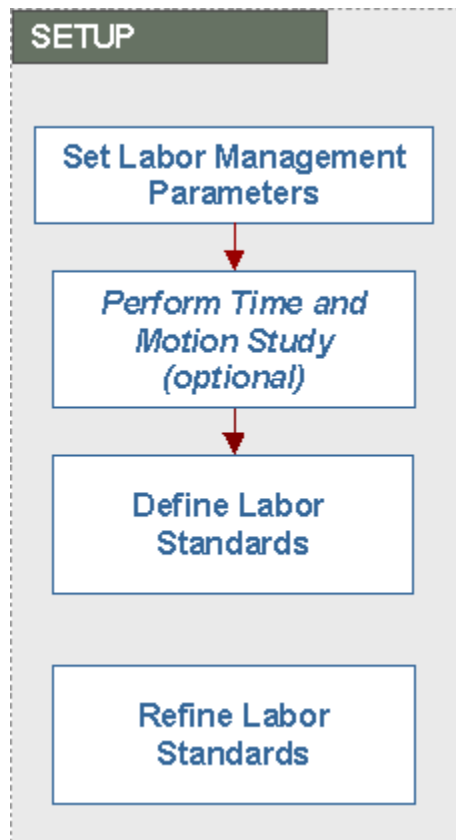
The ratings algorithm is a grading rubric the system uses to assign scores and performance levels to individuals. Each work unit in the warehouse has an expected time it takes to complete within Labor Management. The ratings excellent, standard, slow, and unacceptable correspond to the expected time that each activity takes to complete. You define the expected percentage that determines how close an operator needs to be to the expected task completion time to achieve a certain score. For example, if you define 80% as excellent, then a user must complete the task in 80% or less than the expected time it takes to complete a task to receive an excellent rating.

When you determine the expected percentage, you also assign a score to the expected percentage. If you assign 80% as excellent, you can award a user a score of 100 for every task he or she completes with an excellent rating.

## **Labor Management Setup**

To set up Labor Management, you must first set up the Labor Management parameters. You must enable Labor Management on the organization parameters window, and set up parameters within Labor Management. After you set up the Labor Management parameters, you can optionally perform a time and motion study. You use the time and motion study to determine the labor standards that Labor Management uses. If you do not want to conduct a time and motion study, you can operate under normal conditions

for a period of time, and then import existing transaction data into Labor Management to use as labor standards. You must continue to refine labor standards to ensure accurate reporting.



## Non-Tracked Users

You can optionally set up non-tracked users in the system. Non-tracked users are typically supervisors or other specialty employees who sometimes perform tasks in the system.

## Related Topics

*Oracle Warehouse Management Implementation Guide, Setup Labor Management Parameters*

*Oracle Warehouse Management Implementation Guide, Managing Non-Tracked Users*

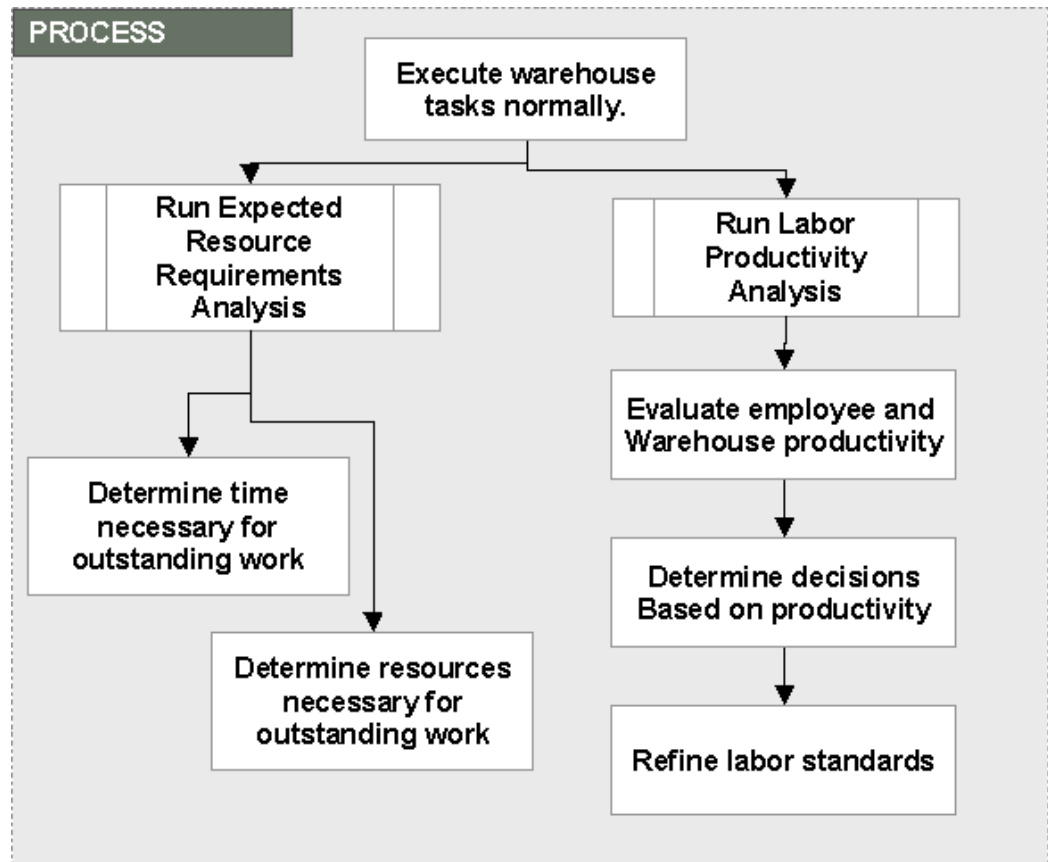
## Labor Management Process

Labor Management begins to capture data after you set up the Labor Management parameters and you proceed with normal warehouse operations. To view information



in Labor Management, you must run two different reports, the Expected Resource Requirements Analysis report, and the Labor Productivity Analysis report. You use the Expected Resource Requirements Analysis report to determine the time that is necessary to complete the outstanding work in the warehouse if the resource levels are fixed.

After you run the Labor Productivity Analysis report, you can evaluate employee and warehouse productivity. The system assigns each employee and warehouse a rating and a score to show how the productivity compares with the standards established within Labor Management. Based on that evaluation, you can make decisions regarding staffing, compensation, incentive, and work assignment. You can also refine the labor standards based on the employee evaluations in order to achieve more accurate standards.



## Expected Resource Requirements

Labor Management bases resource requirements on work outstanding within the organization according to the setup parameter that determines how far into the future to look to consider outstanding work. Labor Management compares the amount of work with the existing Labor Management standards, and assumes that all tasks are performed at the expected levels. This results in resource requirements for how much

time and labor are required to perform the outstanding work. Labor Management does not include outstanding work in the analysis if it does not match existing labor standards.

## **Labor Productivity Analysis**

Labor Management enables you to evaluate the productivity of individuals as well as the organization as a whole. It measures the performance of each individual for completed tasks against existing labor standards to determine how the time spent performing each task compares with expected task completion time. It then scores that performance against the ratings algorithm and assigns the user a score of excellent, standard, slow or unacceptable. Labor Management then assigns an average rating for a user across all recent transactions along with an overall score for the user.

## **Refine Labor Standards**

You can continue to refine labor standards while using Labor Management. You can add new labor standards as users perform non-standardized transactions, and delete labor standards for transactions that users no longer perform in the warehouse. If you continue to modify labor standards, your employee productivity reports will be current and you will have a more accurate picture of labor productivity in your warehouse.

## **Labor Management Summary**

The Labor Management Summary page is a concise view of all of the key Labor Management statistics. It contains resource requirement information, warehouse labor productivity information, a list of the work outstanding, and graphical representations of resource estimations and labor productivity. The Labor Management Summary page includes the same information on the Analysis tab, but condenses it into a single view.

## **Resource Requirements**

The Resource Requirements alternative region displays the number of resources required and time needed to complete the outstanding work in the warehouse. The Variable Time table depicts the time needed with a constant resource level. The Variable Resource table depicts the resources required for the given time period for the work outstanding.

## Labor Management Summary

\* Choose Organization

\* Indicates required field

Time = Seconds

### Resource Requirement

#### Variable Time

Activity	Available Resource	Available Time	Time Required	Time Overload Factor(%)	Additional Time Required
Inbound	5	122400	116740	-4.62	-5660

#### Variable Resources

Activity	Available Time	Available Resource	Resource Required	Resource Overload Factor(%)	Additional Resources Required
Inbound	122400	5	4.769	-4.62	-0.23

### Warehouse Productivity - August, 2006

User	Overall Rating	Total Score	Travel Rating	Travel Score	Transaction Rating	Transaction Score	Work Unit Rating	Work Unit Score	Idle Rating	Idle Score
W1 - Kansas City Distribution	Excellent	31475	Excellent	14300	Excellent	17175	Excellent	31475		

## Variable Time

The Variable Time table breaks down the amount of time required to complete the outstanding work in the warehouse. It contains the following information:

- **Activity:** The types of tasks performed in the warehouse, including inbound, outbound, manufacturing, and warehousing. The chart breaks down the amount of time into these subgroups.
- **Available Resource:** The number of available resources listed by task type. For example, you could have six available resources to perform outbound tasks, and zero available resources to perform inbound tasks. The system pulls this information directly from the Labor Management set up information for available resources.
- **Available Time:** The available time based on the standard work schedule. The system uses the available resources, working hours, and expected employee utilization to calculate the available time. You configure the available resources, working hours, and expected employee utilization on the Labor Management setup page.
- **Time Required:** The time required to complete the tasks based on activity. For example, you may need 2000 hours to complete the outstanding manufacturing tasks.
- **Time Overload Factor:** The percentage of additional time required to complete the outstanding tasks broken down by activity.
- **Additional Time Required:** The additional amount of time required to complete the

outstanding work broken down by activity.

## Variable Resources

The variable resource table displays the resources that are required for the given time period for the work outstanding. It contains the following information:

- **Activity:** The types of tasks performed in the warehouse, including inbound, outbound, manufacturing, and warehousing. The chart breaks down the amount of time into these subgroups.
- **Available Time:** The available time based on standard working scheduled.
- **Available Resource:** The number of available resources listed by task type. For example, you could have six available resources to perform outbound tasks, and zero available resources to perform inbound tasks. The system retrieves this information directly from the Labor Management setup information for available resources.
- **Resources Required:** The resources required to complete the outstanding work in the warehouse based on activity type. The system uses the time required to complete outstanding work, the working hours, and the expected employee utilization to calculate the required resources. You configure these parameters on the Labor Management setup page.
- **Resource Overload Factor:** The percentage of additional resources required to complete the outstanding work in the warehouse broken down by task type.
- **Additional Resources Required:** The additional number of resources required to complete the outstanding work in the warehouse broken down by task type.

## Warehouse Productivity

The Warehouse Productivity table shows the productivity performance of the entire organization. You can click the warehouse to show the productivity listing detail by activity area. It contains the average ratings and scores for the organization based on the ratings algorithm that you define in the Ratings Algorithm setup page. The available ratings are excellent, standard, slow, and unacceptable. This table contains the following information:

- **User:** The current organization.
- **Overall Rating:** The overall rating for the organization. It is the average of other ratings in the organization.
- **Total Score:** The overall score for the organization. It is a combination of the travel score, transaction score, and idle score.

- **Travel Rating:** The travel rating for the organization. This is the average travel rating of all the users in the organization.
- **Travel Score:** The total travel score for the warehouse.
- **Transaction Rating:** The overall transaction completion rating for the organization. This is the average transaction rating for all the users in the organization.
- **Transaction Score:** The total transaction score for the organization.
- **Work Unit Rating:** The overall work unit rating for the organization. The work unit rating includes the travel and transaction time, but not the idle time.
- **Work Unit Score:** The overall work unit score for the organization. The work unit score includes the travel and transaction time, but not the idle time.
- **Idle Rating:** The overall idle time rating for the organization. It is the average idle rating of all the users in the organization.
- **Idle Score:** The total idle score for the organization.

## **Related Topics**

Labor Management Definitions, page 13-2

## **Work Outstanding**

The Work Outstanding table shows a listing of all the outstanding work in the warehouse, broken down by functional activity. It breaks down the number of tasks left to complete, and provides you with details about the task. It lists the following activities and task types:

- **Inbound:** Displays information about putaway and receiving tasks. For receiving tasks, it displays the number of purchase orders, RMAs, internal requisitions, and internal shipments.
- **Manufacturing:** Displays information about putaway and picking tasks.
- **Outbound:** Displays information about picking and staging move tasks.
- **Warehousing:** Displays information about counting, inventory move, move order issue, and move order tasks.

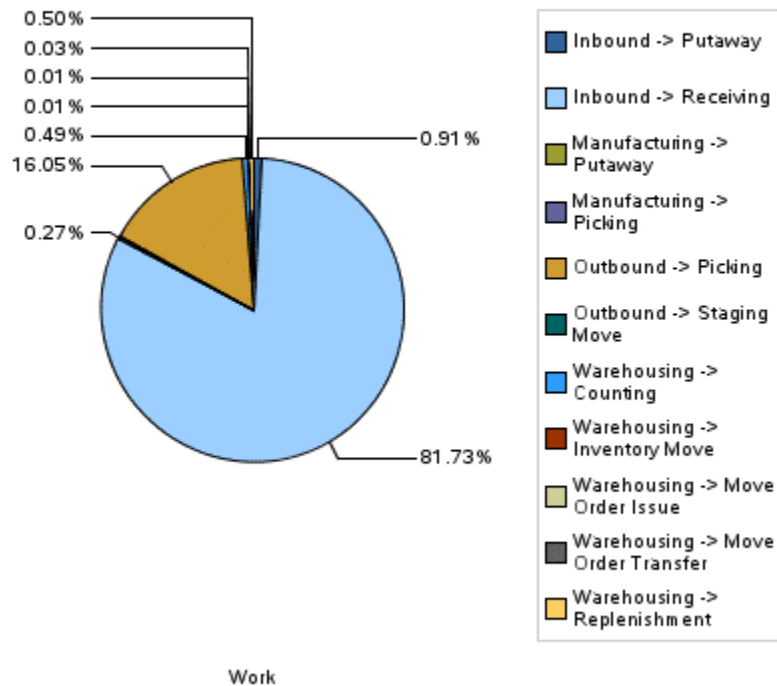
Work Outstanding		
Activity ▲	Activity Details	Work
Inbound	Putaway	65 Task(s)
Inbound	Receiving	210 PO, 103 RMA, 5507 REQ, 17 SHIPMENT
Manufacturing	Putaway	0 Task(s)
Manufacturing	Picking	19 Task(s)
Outbound	Picking	1146 Task(s)
Outbound	Staging Move	0 Task(s)
Warehousing	Counting	35 Task(s)
Warehousing	Inventory Move	1 Task(s)
Warehousing	Move Order Issue	1 Task(s)
Warehousing	Move Order	2 Task(s)

## Graphical Analysis

Two graphical charts are available for Warehouse Productivity and Work Outstanding on the Labor Management Summary page. The Warehouse Productivity bar chart shows the relative performance for each functional activity within the warehouse, and the Work Outstanding pie chart shows the remaining work in the warehouse, split by functional activity areas.



## Work Outstanding



## Warehouse Productivity Details

The Labor Productivity Analysis Details page provides you with detailed task completion information for the warehouse. The Productivity Summary alternative region contains the productivity ratings and scores for the organization. It displays the overall, travel time, transaction time, work unit, and idle time score associated for each rating.

The Productivity detail section breaks down productivity information by task and operation. It shows you the average rating and score for each operation type in the organization as well as the number of transactions for each operation type.



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Labor Management System

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Summary >

Labor Productivity Analysis: Details

Date Last Run11-Aug-2006 13:14:52

UserW1 - Kansas City Distribution

Productivity Summary

Ratings

OverallExcellent

TravelExcellent

TransactionExcellent

Work UnitExcellent

IdleExcellent

Score

Total53310

Travel21960

Transaction25650

Work Unit47610

Idle5700

Productivity Details

Activity	Activity Details	Operation	Number of Transactions	Overall Rating	Overall Score	Travel Rating	Travel Score	Transaction Rating	Transaction Score	Work Unit Rating	Work Unit Score	Idle Rating	Idle Score
Inbound	Receiving	Receipt	232	Excellent	32520	Excellent	14520	Excellent	18000	Excellent	32520		
Inbound	Putaway	Load	10	Excellent	1475	Standard	500	Excellent	975	Excellent	1475		
Inbound	Putaway	Drop	66	Excellent	12995	Excellent	4370	Excellent	2925	Excellent	7295	Excellent	5700
Outbound	Picking	Load	32	Excellent	3295	Standard	1320	Excellent	1975	Excellent	3295		
Outbound	Picking	Drop	29	Standard	2085	Standard	760	Excellent	1325	Standard	2085		
Outbound	Staging	Load	11	Slow	225	Unacceptable	150	Slow	75	Slow	225		
Outbound	Staging	Move											
Outbound	Staging	Drop	2	Standard	255	Standard	130	Excellent	125	Standard	255		
Warehousing	Move	Issue	1	Slow	75	Slow	50	Slow	25	Slow	75		
Warehousing	Order	Issue											
Warehousing	Inventory	Drop	3	Excellent	385	Standard	160	Excellent	225	Excellent	385		
Warehousing	Inventory	Move											

SummaryAnalysisWorkbenchHomeLogoutPreferencesDiagnostics

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## Labor Management Analysis

The Labor Management Analysis page displays the two primary analysis reports that Labor Management uses: the Expected Resource Requirements Analysis report, and the Labor Productivity Analysis report. You cannot run these reports from these windows, but Labor Management displays information about these reports such as the last run time, last run status, scheduled to run, and parameters for last run. You can click on the Expected Resource Requirements Analysis link, or the Labor Productivity Analysis link to display the resulting information from the last time you ran these reports.

You run these reports through the standard Oracle Warehouse Management report windows.

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Analysis

Name	Last Run Time	Last Run Status	Scheduled to Run	Parameters for Last Run
<a href="#">Expected Resource Requirement Analysis</a>	Program Not Run	Program Not Run	Program Not Scheduled to run	
<a href="#">Labor Productivity Analysis</a>	Program Not Run	Program Not Run	Program Not Scheduled to run	

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## Viewing Expected Resources Requirements

Labor Management uses the Expected Resource Requirements Analysis concurrent request to analyze Labor Management data and create resource estimates. Labor Management bases resource requirements on work outstanding within the organization according to the setup parameter, which determines how far into the future to consider outstanding work. It then compares the outstanding work with existing Labor Management standards, and assumes that tasks are performed to acceptable levels. This

results in how much time and labor is required to complete outstanding work.

After you run the Expected Resource Requirements Analysis concurrent request, you can view the Expected Resource Requirement report in Labor Management. It lists the resources required to complete a set of warehouse tasks over the time frame that you defined in the concurrent request. This report, however, may not include all outstanding work because some work may not match existing labor standards. The Time Frame field shows the time period for which this report is used as a valid estimate.

This report breaks down the outstanding work by functional activity. The Available Time column shows the available time that you have to complete the work before the need by date. The Time Required column shows how much time is required to perform the necessary work assuming that you do not change the current level of resource staffing. The Overload Factor % shows the percentage of time required to complete the outstanding work in the given time period. The Available Resource column lists the available resources by activity. The Resource Required column shows how many resources you need to complete the outstanding work by the required date.

The non-standardized lines number represents transactions that Labor Management could not match to existing labor standards. A large number of non-standardized lines leads to inaccurate resource estimation. You need to create labor standards for these transactions to increase the accuracy of resource estimation as well as labor productivity analysis.

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Analysis >

Expected Resource Requirement

Time = Seconds

Date Last Run14-Aug-2006 09:51:51

Time Frame1 Days

Activity ^	Activity Detail	Available Time	Time Required	Overload Factor(%)	Available Resource	Resource Required	Overload Factor(%)
Inbound	Receiving	73440	1186200	1515.196	3	48.456	1515.196
Inbound	Putaway	48960	5600	-88.562	2	0.229	-88.562
Outbound	Picking	146880	80098	-45.467	6	3.272	-45.467

Non-Standardized Lines528

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## Related Topics

Labor Productivity Analysis, page 13-14

## Labor Productivity Analysis

Labor Management enables you to evaluate the productivity of individuals in your organization. It evaluates the performance of each individual on completed tasks and measures their performance against existing labor standards to determine how the individual compares with expected times. Labor Management then scores the performance against the ratings algorithm and gives each transaction score a rating of excellent, standard, slow, or unacceptable. Labor Management then calculates the average rating and overall score for the individual across all recent transactions.

The Labor Productivity Analysis report shows each user in the warehouse along with their performance ratings. This report displays the overall rating as well as ratings for each of the three tracked times within Labor Management: travel, transaction, and idle. You can search for ratings based on user, time frame, or overall rating. The Time Frame query parameter enables you to see productivity data for users for the current day, the current month, or all dates. This data is accurate only for the date that you last ran the report. This report also lists the number of non-standardized transactions for the organization in the selected time frame.

You can click Non-Standardized Transactions to list the transactions performed in the organization that do not match existing labor standards.

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Summary Analysis Workbench

Analysis >

Labor Productivity Analysis

Indicates required field

Date Last Run 14-Aug-2006 09:51:02

Search

User All Users

Time Frame This Month

Overall Rating

Go Clear

User	Overall Rating	Total Score	Travel Rating	Travel Score	Transaction Rating	Transaction Score	Work Unit Rating	Work Unit Score	Idle Rating	Idle Score
<a href="#">Doddapaneni, Ms. Sujatha</a>	Excellent	3280	Excellent	1330	Excellent	1350	Excellent	2680	Excellent	600
<a href="#">Devanaboyina, Mr. Manoj</a>	Excellent	1515	Standard	590	Excellent	625	Standard	1215	Excellent	300
<a href="#">Alaghu, Mr. Anand</a>	Excellent	110	Unacceptable	10	Excellent	100	Excellent	110		
<a href="#">Tilton, Mr. Candice</a>	Excellent	3850	Standard	2000	Excellent	1750	Excellent	3750	Excellent	100
<a href="#">Smith, Mr. Jonathan</a>	Excellent	11355	Excellent	4580	Excellent	5375	Excellent	9955	Excellent	1400
<a href="#">Mony, Mr. Arunraj</a>	Excellent	380	Excellent	180	Excellent	200	Excellent	380		
<a href="#">Raut, Mr. Abhijit</a>	Excellent	1895	Excellent	720	Excellent	1175	Excellent	1895		
<a href="#">Jains, Mr. Rahul</a>	Excellent	3180	Standard	1230	Excellent	1450	Excellent	2680	Excellent	500
<a href="#">Smith, Mr. Jonathan</a>	Excellent	4985	Excellent	2060	Excellent	2625	Excellent	4685	Excellent	300
<a href="#">Chopde, Ms. Vaishali</a>	Standard	190	Standard	90	Excellent	100	Standard	190		

Non-Standardized Transactions 316

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You can click an individual user to view the performance for the user broken down by activity. This helps you decide which tasks to assign to certain users based on how the user performs different activities. The Productivity Summary alternative region displays the overall performance of the user.

## Standardize Nonstandard Lines

The Non-Standardized Transactions page enables you to import existing transactions to create new labor standards. You can access this page from the Productivity Analysis page. When you access this page, Labor Management lists the non-standard transactions and you can accept the transaction as a new labor standard or delete the transaction. If you choose to standardize the transaction, Labor Management creates a labor standard according to the actual time recorded for the transaction. If you delete the record, then Labor Management removes the record from the Non-Standardized Transactions list. It does not remove it from Inventory, or any other future transactions.

Non-Standardized Transactions

Time = Seconds

Non-Standardized Transactions 215

Select Transactions and... Standardize (1) Delete (2) Previous 1-10 Next 10

Select All Select None

Select	Analysis	Activity	Activity Detail	Operation	Transaction	Subinventory		UOM	Quantity	Task Method	Operation Plan	Actuals	
						Source	Destination					Travel Time	Transaction Time
<input type="checkbox"/>	Both	Warehousing	Move Order Issue	Issue	Directed Issue	VCW1		Ea	10			96	48
<input type="checkbox"/>	Both	Warehousing	Move Order Issue	Issue	Directed Issue							154	63
<input type="checkbox"/>	Both	Outbound	Staging Move	Drop	Drop Loaded LPN's		ANRSTA					45	21
<input type="checkbox"/>	Both	Outbound	Picking	Drop	Drop Loaded LPN's		AAASTA					115	37
<input type="checkbox"/>	Both	Outbound	Picking	Drop	Drop Loaded LPN's		ANRSTA					62	15
<input type="checkbox"/>	Both	Outbound	Picking	Drop	Drop Loaded LPN's		ANRSTA					127	362
<input type="checkbox"/>	Both	Manufacturing	Picking	Drop	Drop Loaded LPN's			Ea	5			0	3
<input type="checkbox"/>	Both	Manufacturing	Picking	Drop	Drop Loaded LPN's			Ea	5			11	6
<input type="checkbox"/>	Both	Outbound	Picking	Drop	Drop Loaded LPN's		ANRSTA					927	146
<input type="checkbox"/>	Both	Outbound	Staging Move	Drop	Drop Loaded LPN's		ANRSTA					7	13

Select Transactions and... Standardize (1) Delete (2) Previous 1-10 Next 10

The Select Transactions Alternate region contains the following information:

- **Activity:** The activity type. The available choices are inbound, outbound, warehousing, and manufacturing.
- **Activity Detail:** The activity a worker performs within the activity type. For example, an outbound activity detail is picking, and a warehousing activity detail is counting.
- **Operation:** The operation that the worker performs, for example, an outbound picking drop, or a warehousing counting count.
- **Transaction:** The actual transaction type the worker performs, for example, an outbound picking drop, drop loaded LPNs, or a warehousing counting count, cycle count.
- **Subinventory:** Subinventory where the user performs the transaction. This column contains both the source and destination subinventories.
- **UOM:** The transaction unit of measure.
- **Quantity:** The transaction quantity in the primary unit of measure.
- **Task Method:** the type of picking methodology uses, for example, discrete, order, cluster, or wave.
- **Operation Plan:** The operation plan associated with the task, for example, inbound, inspection, or crossdock.
- **Actuals:** The actual travel and transaction time.

## To Create or Delete Labor Standards

1. Select the non-standard transaction.

2. Select the analysis type to create a labor standard. The available choices are:
  - Resource Planning: Creates a labor standard for resource planning.
  - Productivity: Creates a labor standard for labor productivity.
  - Both: Creates a labor standard for both resource planning and labor productivity.
3. Click Standardize create new labor standard, or click Delete to remove the non-standard transactions from Labor Management.

## Viewing Labor Standards

You can use the Labor Management workbench to view, add, update, or delete labor standards. Labor Management assigns each labor standard a sequence, which it uses to match to a particular warehouse task. When you create a sequence, the more granular labor standards should come before the more generic standards. This enables you to use specific standards for unique work and general standards for other work, and does not require you to define every different type of work in the warehouse.

### To Search for Labor Standards

1. Optionally enter the following query information.
  - Task Execution Mode:
    - Manual and User-Directed: Tasks that are initiated by the user and completed to a location that the user specifies. These include all receipts, putaway load tasks, and manual drop tasks.
    - Manual and System-Directed: Tasks that are initiated by the user and completed to a location that the system chooses. These include most drop tasks (except for manual drop) and user-initiated pick load tasks (pick by label or manual pick).
    - Individual and System-Directed Tasks: Tasks that are dispatched individually by the system and completed to a location that the system chooses. These include most pick load tasks, counting tasks, and replenishment load tasks.
    - Grouped and System-Directed Tasks: Tasks that are dispatched as part of an execution group of tasks by the system and completed to a location that the system chooses. These labor standards include only travel time and are used to compare task-grouping methodologies.

**Note:** Not all of the subsequent parameters are available for records of this task execution type.

- Analysis Type: The labor standard analysis type. You can view all labor standard types, both labor productivity and work outstanding, labor productivity, or work outstanding.
  - Source Zone: The source subinventory zone.
  - Destination Zone: The destination subinventory zone.
  - Travel Deviation % Greater than: Enables you to search for labor standards for which actual values for travel time are above a certain percentage of expected values.
  - Transaction Deviation % Greater Than: Enables you to search for labor standards for which actual values for transaction time are above a certain percentage of expected values.
  - Idle Deviation % Greater Than: Enables you to search for labor standards for which actual values for idle time are above a certain percentage of expected values.
2. Click Go to run the query, or Clear to clear the search criteria. The system displays the following information:
- Sequence: The labor standard sequence.
  - Activity: The activity type, inbound, outbound, warehousing, or manufacturing.
  - Activity Detail: The activity to perform such as putaway or receipt.
  - Operation: The operation to perform such as putaway load or receiving receipt.
  - Subinventory: The task source and destination subinventories.
  - UOM: The transaction unit of measure
  - Quantity: The transaction from and to quantities.
  - Item Category: The item category if applicable.
  - Expected Time: The expected travel, transaction, and idle time for the labor standard.

- **Number of Matched Transactions:** The number of matched transactions for the labor standard.

**ORACLE** Labor Management System  
W1 - Kansas City Distribution

Home Logout Preferences Diagnostics

Summary Analysis Workbench

**Engineered Labor Standards**  
\* Indicates required field

**Search**

\* Task Execution Mode: Manual and User Directed

\* Analysis Type: All

Source Zone:

Destination Zone:

Go Clear

Travel Deviation % greater than:

Transaction Deviation % greater than:

Idle Deviation % greater than:

☐ Show Workbench Setup History

Time = Seconds

Add (1)

Sequence	Activity	Activity Detail	Operation	Subinventory		UOM	Quantity		Item Category	Expected Time			Number of Matched Transactions	Update	Delete
				Source	Destination		From	To		Travel	Transaction	Idle			
10	Inbound	Receiving	Receipt							100	100	0	6101		
20	Inbound	Putaway	Drop							60	60	0	11		
30	Inbound	Putaway	Load							30	30	0	16		
40	Outbound	Staging Move	Load							14	1	0	12		

Time = Seconds

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Summary Analysis Workbench Home Logout Preferences Diagnostics

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3. Select a labor standard and click Update to modify the labor standard, or click Delete to delete the labor standard. For information about updating labor standards, see Standardize Non-Standard Lines, page 13-15 and the *Oracle Warehouse Management Implementation Guide*, Defining Labor Standards.

## Labor Standard History

You can view the labor standard history for manual and user-directed, manual and system-directed, and individual and system directed task execution modes.

<b>ORACLE</b> Labor Management System W1 - Kansas City Distribution			Home Logout Preferences Diagnostics		
Summary Analysis Workbench					
Workbench >					
View Manual & User Directed History Task					
Time = Seconds					
<b>Engineered Labor Standards Attributes</b>					
Sequence	10	Source Subinventory	none	Item Category	none
Activity	Inbound	Destination Subinventory	none	Transaction	Receiving
Activity Detail	Receiving	Equipment	none	Task Type	none
Operation	Receipt	UCM	none	Task Method	none
Source Zone	none	Quantity From	none	Operation Plan	none
Destination Zone	none	Quantity To	none	Travel Time Threshold	none
<b>Time Component Details</b>					
<b>Travel Time</b>		<b>Transaction Time</b>		<b>Idle Time</b>	
Expected	194.737	Expected	66.632	Expected	none
Actual	none	Actual	none	Actual	none
Deviation	none	Deviation	none	Deviation	none
Deviation %	none	Deviation %	none	Deviation %	none
<b>Ratings</b>					
Performance	Travel			Transaction	
	From Time	To Time	Score	From Time	To Time
Excellent	0	155.79	100	0	53.306
Standard	155.79	194.737	80	53.306	66.632
Slow	194.737	253.158	50	66.632	83.29
Unacceptable	253.158		10	83.29	0
<b>Other Details</b>					
Number of Matched Transactions			36		
Comments			none		
About this Page Privacy Statement			Summary Analysis Workbench Home Logout Preferences Diagnostics		
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## Concurrent Requests

The Labor Management System includes seven concurrent requests. These concurrent requests fall into three groups, those that define labor standards, those that perform analysis, and those that purge data.

### Define Labor Standards

The labor standards concurrent requests enable you to define labor standards.

### Standardize Lines

The Standardize Lines concurrent request creates new Labor Management standards based on all existing transactions for the organization. The system converts each transaction to a Labor Management standard. You can use a filter to standardize only certain transactions.

### Calculate Average of Actual Times

The Calculate Average of Actual Times concurrent request supplies the actual values within each of the Labor Management standards rows. This enables the user to compare actual to expected times and manually make necessary adjustments.

### Standardize Actual To Expected Times

The Standardize Actual to Expected Times concurrent request automatically updates all Labor Management standards so that expected times become current actual recorded times for transactions.



## **Labor Analysis**

The labor analysis concurrent requests enable you to analyze Labor Management data.

### **Expected Resource Requirement Analysis**

The Expected Resource Requirement Analysis concurrent request calculates the outstanding work for the warehouse. The system then compares that work against the existing Labor Management standards and estimates for resources, time, or both that are required to complete all outstanding work.

### **Labor Productivity**

The Labor Productivity Analysis concurrent request compares actual transactions to existing Labor Management standards. The system calculates productivity scores and ratings for each employee and the warehouse as a whole.

## **Purging Concurrent Requests**

You use the purging concurrent requests to purge Labor Management data.

### **Purge Labor Setup History**

The Purge Labor Setup History concurrent request clears the Labor Management labor standards tables. When you modify a Labor Management standard, the system creates a history record of the previous standard. This concurrent request purges all historical records and retains only current standards.

### **Purge Labor Transactions**

The Purge Labor Transactions concurrent request clears the Labor Management transaction tables. When workers perform transactions, Labor Management creates corresponding entries in the Labor Management System tables. This concurrent request purges those tables. No Labor Management statistics will be available for the time period purged by this request.



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## Oracle Warehouse Management Reports

This chapter covers the following topics:

- Overview of Reports
- Material Status Change History Report
- Material Status Where Used Report
- Cycle Count Reports
- ASN Discrepancy Report
- Consolidation Report
- Space Utilization Report
- Scheduled Shipment Report (Without Barcodes)
- Concurrent Requests
- Archiving Tasks
- Calculate Billing Units
- Dynamic Replenishment
- How to Purge Tables
- Generate LPN
- Oracle Warehouse Management Bulk Task Generation
- Push Replenishment
- Synchronize Dock Doors with Transportation Management
- Un-archive Oracle Warehouse Management Tasks
- Wave Planning Concurrent Requests

## Overview of Reports

Oracle Warehouse Management provides you with reports, intended for different business needs. Detailed information on submitting and analyzing Oracle Warehouse Management reports is provided in the following topics:

- Material Status Change History Report, page 14-2
- Material Status Where Used Report, page 14-3
- Cycle Count Reports, page 14-3
- ASN Discrepancy Report, page 14-6
- Consolidation Report, page 14-7
- Space Utilization Report, page 14-9
- Scheduled Shipment Report (Without Barcodes), page 14-10

## Material Status Change History Report

Material Status Change History Report provides a history of every material status change that has occurred on a given serial, lot, locator, or subinventory. If no lot number is entered, but a lot controlled item is entered on the report parameters, then the history of all lots of that item will be included on the report. Similarly, if no serial number is entered, but the serial controlled item is entered on the report parameters, then the history of all serials of that item will be included on the report.

### Report Submission

Navigate to the Submit Request window and enter, or select from the list of values, Material Status Change History Report in the Name field.

### Report Parameters

- Organization Code
- Subinventory Code
- Locators From and To
- Item (Lot Controlled)
- Lot Number
- Item (Serial Controlled)

- Serial Number
- Date From and To

## Material Status Where Used Report

Material Status Where Used Report provides a detailed list of serials, lots, locators, and subinventories that have been assigned a particular material status.

### Report Submission

Navigate to the Submit Request window and enter, or select from the list of values, Material Status Where Used Report in the Name field.

### Report Parameters

- Organization
- Material Status From and To
- Search in Subinventories
- Search in Locators
- Search in Lots
- Search in Serials

## Cycle Count Reports

### Cycle Count Listings

The Cycle Count Listing report shows all of the scheduled requests for a specified time period. This report includes both manually and automatically scheduled items.

### Report Submission

Use the ABC and Counting Reports or Submit Requests window and enter Cycle count listing in the Name field to submit the listing.

### Report Parameters

#### Cycle Count Name

- Select a cycle count name.

The report shows cycle count items included in this cycle count.

#### Start/End Date

- Enter a starting and/or ending date to restrict the report to a range of schedule dates.

#### Include Recounts Only

- Select Yes or No to indicate whether to print recounts only.

#### Subinventory

- Select a subinventory to restrict the report to a single subinventory.

#### Display Serial Numbers

- Select Yes or No to indicate whether the report will include serial numbers for the items listed.

### **Cycle Count Pending Approval**

The Cycle Count Pending Approval report shows those counts that were entered and are currently pending approval. The supervisor or manager with the authority to approve cycle count adjustments would typically run this report to monitor the approval queue.

#### **Report Submission**

Use the ABC and Counting Reports or Submit Requests window and enter Cycle counts pending approval report in the Name field to submit the report.

#### **Report Parameters**

##### Cycle Count Name

- Select a cycle count name.

The report shows cycle count items included in this cycle count.

##### Sort Option

- Select one of the following options:
  - By Item  
Sort the report by subinventory and then by item within the subinventory.
  - By Locator  
Sort the report by subinventory, then by locator within the subinventory, and then by item within the locator.

##### Display Serial Numbers

- Select Yes or No to indicate whether the report will include serial numbers for the items listed.

## **Cycle Count Entries and Adjustments**

The Cycle Count Entries and Adjustments report shows all cycle count entries for a specified time period. It analyzes the number of cycle counts transactions that you make against an item, and the number of units that you actually adjust. This report also calculates the value, in your functional currency, of the adjustments to inventory.

### **Report Submission**

Use the ABC and Counting Reports or Submit Requests window and enter Cycle count entries and adjustments report in the Name field to submit the report.

### **Report Parameters**

Cycle Count Name

- Select a cycle count name.

The report shows cycle count items included in this cycle count.

Subinventory

- Select a subinventory to restrict the report to a single subinventory.

Start/End Date

- Enter a beginning and/or ending transaction date to restrict the report to a range of cycle count transaction dates.

Display Serial Numbers

- Select Yes or No to indicate whether the report will include serial numbers for the items listed.

## **Cycle Count Hit/Miss Analysis**

The Cycle Count Hit/Miss Analysis report shows, for each cycle count class, the total number of count entries and the number of counts outside the limits of the user-specified hit/miss tolerances. The report also calculates the overall accuracy percentage, broken down by cycle count class and subinventory. This report is based on the first count only, not recounts.

### **Report Submission**

Use the ABC and Counting Reports or Submit Requests window and enter Cycle count hit/miss analysis in the Name field to submit the report.

### **Report Parameters**

Cycle Count Name

- Select a cycle count name.

The report shows cycle count hit/miss analysis associated with this cycle count name.

Start/End Date

- Enter a starting and/or ending date to restrict the report to a range of dates.

## ASN Discrepancy Report

The ASN discrepancy report enables users of Oracle Warehouse Management to generate a report that details any discrepancies between the material information that a supplier sent on their ASN, and the material information that was collected at the time of actual receipt. The ASN Discrepancy Report is only valid for material that was not received through an Express Receipt, but through a Confirmed Receipt instead.

At the time of Confirmed receipt, you can enter different LPNs, Items, Quantities, Lots and Serials than what was shipped on the ASN. This report enables you to see the difference between the expected information and the actual information. The report also enables you to specify what types of discrepancies to report on and other parameters to control the behavior of the report.

### Report Submission

Log into the application and navigate to the Submit Request window. In the Name field, enter, or select from the list of values, Oracle Warehouse Management ASN Discrepancy Report.

### Report Parameters

Organization

- The organization for which Oracle Warehouse Management ASN Discrepancy Report will be executed.

Shipment Num

- The shipment number to query for ASN Confirm Receipts.

Item

- The item number to query for ASN Confirm Receipts.

From Date

- The earliest date ASN receipts should be searched for ASN Confirm Receipts.

To Date

- The latest date ASN receipts should be searched for ASN Confirm Receipts.

Supplier

- The supplier that should be searched for.

Supplier Site



- The supplier site that should be searched for.

#### Check LPN

- Include expected and received LPNs on the report.

#### Check Revision

- Include expected and received revisions on the report.

#### Check Lot Number

- Include expected and received lot numbers on the report.

#### Check Serial Number

- Include expected and received serial numbers on the report.

#### Show Only Discrepancies

- Display all ASN Confirm Receipts that met the selection criteria, or display only those that had discrepancies.

## Consolidation Report

A consolidation report is available to help direct manual consolidation based on sales order, delivery, or trip. This report displays all staged LPNs for a given sales order, delivery, or trip.

### Report Submission

Use the following instructions to run the Consolidation Report.

1. Navigate to the Submit Request window.
2. Enter, or select from the list of values, Consolidation Report in the Name field.
3. In the Parameters window, enter, or select from the list of values, the organization that you want to run the report against.
4. Enter one of the criteria in the Parameters window and submit your request.

**Note:** Only one of the following criteria should be entered per request: Trip, Delivery, Sales Order Type and Sales Order Number, and Customer Name. While the report supports entering any combination of criteria, the report will only include LPNs that meet all the criteria. Therefore, entering multiple criteria will likely not return data.

### Report Parameters

The Consolidation Report parameters include the following:

Organization

- The organization that you want to run the report against.

Trip

- The trip for which staged LPNs should be included.

Delivery

- The delivery for which staged LPNs should be included.

Sales Order Type and Sales Order Number

- The sales order for which staged LPNs should be included.

Customer Name

- The customer for which staged LPNs should be included.

Check LPN Multiple Association

- Include additional data on whether the LPNs have been staged for other sales orders, deliveries, and trips in addition to that which has been queried.

The Consolidation Report displays the following fields:

- Trip Number
- Delivery Number
- Sales Order Number
- All LPNs that belong to the search criteria
- Current location (subinventory and locator)
- Items (Item Number)
- Unit of measure (UOM)
- Quantity in the primary UOM (Qty)
- Secondary unit of measure
- Quantity in the secondary UOM.
- A flag which lets the user know whether the LPN contains items that either belong to multiple sales orders, multiple deliveries, or multiple trip stops

- Trip Stop Location (if a trip exists)
- Status of the delivery detail (Staged, Released to Warehouse, and so on)

**Note:** It is only possible for LPNs to be staged for multiple sales orders, deliveries, or trips if bulk picking has been used. Therefore, if bulk picking is not used in the organization, the output will be easier to read and also will complete faster if this option is disabled.

## Space Utilization Report

The Warehouse Space Utilization report provides a current snapshot of the capacity and percentage fill of a location in the warehouse. Querying by percentage of space used will show all the locators below or above a certain percentage. It can also be used to find empty locators. The percentage usage can be queried by units, volume, and weight.

Distribution managers may use this information to create replenishment transactions, run the min-max report, or analyze item locator storage relationships.

### Report Submission

Log into the application and navigate to the Submit Request window. In the Name field, enter, or select from the list of values, Warehouse Space Utilization Report.

### Report Parameters

- Organization
- Subinventory
- Locator
- Detail Level: Subinventory or Locator
- Weight Fill %
- Weight Operator: <, =, >
- Output Weight UOM
- Volume Fill %
- Volume Operator: <, =, >
- Output Volume UOM
- % Utilization by Units

- Units Operator: <, =, >
- Order By: Subinventory, Locator, Travel Sequence
- Include Non Convertable Stock: Yes/No

The Space Utilization report displays the following information:

- Subinventory
- Detail Level Quantity Unpacked
- Detail Level Quantity Packed
- Total On-Hand Quantity for Detail Level
- Locator (if the detail level is locator)
- Detail Level Weight (UOM)
- Detail Level Weight Fill %
- Detail Level Volume (UOM)
- Detail Level Volume Fill %

## Scheduled Shipment Report (Without Barcodes)

The direct ship process is facilitated by the Scheduled Shipment report. The Scheduled Shipment report displays sales order lines that meet certain user-defined criteria and are ready to be shipped. The report includes details of the sales order line, delivery, and trip stop. The report also displays several additional fields specific to the customer's manufacturing line: customer production line, customer production sequence, customer dock code, customer job, and customer model serial.

### Report Submission

Log into the application and navigate to the Submit Request window. In the Name field, enter, or select from the list of values, Scheduled Shipment Report or Scheduled Shipment Report without Barcodes.

### Report Parameters

- Organization
- Customer
- Sales Order Type

- Sales Order Number
- Sales Order Line Number
- Schedule Date From
- Schedule Date To
- Requested Date From
- Requested Date To
- Delivery
- Trip
- Project
- Task
- Print Prior Reservations Only
- Print Customer Production Details

The Scheduled Shipment report displays the following fields:

- Trip
- Delivery
- Ship To
- Intermediate Ship to Location
- Schedule Shipment Date
- Requested Date
- Barcode
- Sales Order
- Order Line No
- Item, Revision, Description, UOM, and Secondary UOM
- Ship Set
- Requested Quantity

- Secondary Requested Quantity
- Reserved Quantity
- Secondary Reserved Quantity
- Shipment Tolerance Above and Below
- Project
- Task
- LPN
- Customer Production Sequence
- Customer Production Line
- Customer Dock Code
- Customer Job
- Customer Model Serial

## Concurrent Requests

You can also run concurrent requests within Oracle Warehouse Management. Concurrent requests are similar to reports in that you must submit a request for the process to run. You can run the following concurrent requests.

- Archive Oracle Warehouse Management Tasks, page 14-12
- Dynamic Replenishment, page 14-14
- Oracle Warehouse Management Bulk Task Generation, page 14-16
- Purge Oracle Warehouse Management History Tables, page 14-15
- Push Replenishment, page 14-17
- Synchronize Dock Doors with Transportation Management, page 14-18
- Un-archive Oracle Warehouse Management Tasks, page 14-19

## Archiving Tasks

You can use the Archive Oracle Warehouse Management Tasks to archive tasks. For

inbound tasks tied to an operation plan, you can archive only tasks that belong to a completed or aborted operation plan. You cannot archive an in progress plan. For other tasks types not associated with an operation plan, you can archive any completed task.

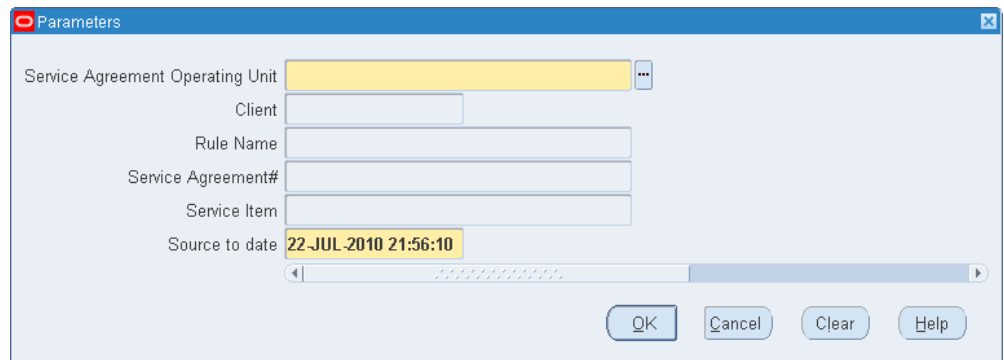
1. Navigate to the submit requests window.
2. Select Archive Oracle Warehouse Management Tasks as the request type.
3. Enter the following parameters:
  - Program Parameters
  - Organization Code
  - Past Exempt Days
  - Archive Batches
4. Submit the request.

## Calculate Billing Units

This concurrent program calculates the billing units for each service provided to a client on a periodic basis. This program is used in conjunction with the third party logistics billing service agreements where the services rendered are translated into billing rules, and applied on the transactional records to determine the invoice amount.

### To run the Calculate Billing Units concurrent program:

1. Navigate to the Calculate Billing Units concurrent program.



2. The Service Agreement Operation Unit field and Source to date fields are mandatory. However, if you leave the remaining fields blank, then the billing units are calculated for all the billing rules.

3. Enter the following parameters as desired:
  - Service Agreement Operation Unit (mandatory value): Select from the operating unit that you have access to. This Operating Unit field does not affect how the transactions are selected or evaluated by the Calculate Billing Units program.
  - Client: Select a client to restrict the calculation of billing units for the selected client.
  - Rule Name: Calculates the billing units for the rule name associated with the billing rules attached to active service agreements.
  - Service Agreement#: Calculates the billing units for the selected service agreement from the billing rules attached.
  - Service Item: Calculates the billing units for the unique list of active service items from the billing rule.
  - Source to date (mandatory value): To calculate the billing units, the date range between the *last computation date* parameter and the *source to date* parameter are evaluated. To identify the transactions completed in this date range, the Creation Date field is considered in the corresponding transaction tables rather than the transaction date. The timestamp will also be shown with the date.

## Related Topics

Creating Billing Rules, page 9-10

## Dynamic Replenishment

You use the Dynamic Replenishment concurrent request to restart the dynamic replenishment process if it fails. The Dynamic Replenishment concurrent request creates a replenishment move order that is generated after the pick release process. It contains the following parameters:

- Batch ID: The pick release batch ID
- Organization: The current organization
- Plan Tasks: The system uses the warehouse control board to plan the replenishment tasks
- Release Rule: The release rule to use to generate the replenishment move order



## How to Purge Tables

To prevent the history tables from growing too large, a concurrent request is provided to purge Oracle Warehouse Management tables. You can purge the Device, LPN, and Label history tables. You can also purge the LPN records tables. You have the option to specify how often this concurrent request runs, and request up to which day should be removed. The request takes a value of hours as a parameter and deletes any requests that are older than the number of hours entered.

1. Navigate to the Purge Oracle Warehouse Management window.
2. Enter the following parameters:
  - Purge Date
  - Purge Name
  - Purge Age
  - Purge Type (Device, LPN or Label)
3. Submit the request.

## Generate LPN

Use the Generate LPN concurrent program to generate LPNs based on client-specific LPN parameters.

### **To generate LPN:**

1. Navigate to the Submit Request window.
2. Select Generate LPN as the request type.

The screenshot shows a 'Parameters' dialog box with the following fields and values:

- Container Item: (empty)
- Org Parameters: No
- Total Length: (empty)
- LPN Prefix: bgwrx
- Starting Number: (empty)
- UCC-128 Suffix: No
- LPN suffix: 00123
- Quantity: 10
- Cost Group: (empty)
- Client: Bigmart

Buttons at the bottom right: OK, Cancel, Clear, Help.

3. Enter the following parameters as desired:

- Org Parameters: Select No or Yes.

**Note:** If you select Yes, only the Quantity and Client fields are enabled.

- Total Length: Defines total length of characters for the LPN.
- LPN Prefix:
- Starting Number
- UCC-128 Suffix
- LPN Suffix
- Quantity (mandatory field)
- Cost Group
- Client: Select the client for which you want to generate LPNs.

## Oracle Warehouse Management Bulk Task Generation

The concurrent program is a way to bulk tasks after creation across pick waves. If the pick release batch size is small then the current request program will be the most suitable option. The program will first examine the input parameter criteria, which is restriction criteria for what is suitable for bulk picking. The hard coded restriction criteria is that material has to be in a status of unreleased, should not have been released

with a status of order picking and should not be cartonized. The following table outlines the concurrent request program input parameters:

1. Navigate to the submit requests window.
2. Select Oracle Warehouse Management Bulk Tasks Generation as the request type.
3. Enter the following parameters:
  - Organization-The user may select any Oracle Warehouse Management enabled organization from where the units of work will be grouped together
  - Move Order (From) / Move Order (To)- The move order range will allow users to specify a from and to move order number. The move order number corresponds to the batch number for pick release.
  - Pick Release Date (From) / Pick Release Date (To)- This allows the user to specify the date range of when material was pick released. Thus the user may want to request that all orders that were pick released today can be batched together.
  - Pick From Subinventory- This is the subinventory from where material is allocated. If the user specifies a subinventory, then only material allocated from that subinventory is examined for bulk picking.
  - Item- If filled in, then only this particular item will be examined by the bulk picking grouping logic.
  - Delivery- This restricts the delivery that is examined for grouping.
  - Trip- This restricts the trip that is examined for grouping. Note that the trip and delivery are independent variables as part of this report.
  - Only bulk enabled items / subinventories- If marked with YES, then only items and subinventories that are bulk pick enabled will be contenders for bulking. If NO, then all items and subinventories are possible targets.
4. Submit the request.

## Push Replenishment

The Push Replenishment concurrent request determines the net replenishment quantity and creates replenishment move orders. It contains the following parameters:

- Item- Item for filtering demand
- Item Classification- Item classification based on ABC compile

- ABC Compile Group- ABC compile group
- Sales Order Type- Type of sales order
- Customer Class- Customer class for customer referred on the sales order
- Customer- Customer listed on the sales order
- Carrier- Carrier listed on the sales order
- Ship Method- Ship method listed on the sales order
- Scheduled Date To- Specified in days for example, +3 days
- Scheduled Ship Date From- Specified in days for example, -3 days
- Forward Pick Subinventory- The destination subinventory for push replenishment
- Replenishment UOM- The UOM used to calculate replenishment demand
- Replenishment Lot Size- Rounding quantity for replenishment. The system automatically rounds up to the next lot size.
- Minimum Order Lines Threshold- The minimum order of sales order lines needed for replenishment to occur
- Minimum Threshold for Replenishment-Net demand required to generate replenishment
- Number of items to be Considered for Replenishment- The number of items considered for replenishment. If you set this number, then only the top items considered based on sort criteria will be considered for replenishment.
- Sort Criteria- Total Demand Quantity and Number of Order Lines
- Auto Allocate- The system allocates the replenishment move orders
- Plan Tasks- The system uses the warehouse control board to plan the replenishment tasks

## Synchronize Dock Doors with Transportation Management

The *Synchronize Dock Doors with Transportation Management* concurrent program sends all the selected dock doors and their corresponding location information from Oracle Warehouse Management to Oracle Transportation Management.

1. From the Warehouse Manager responsibility, select Outbound Logistics, then select

*Synchronize Dock Doors with OTM.*

2. Enter the parameters such as the Organization and update dates.
3. Click Submit to run the concurrent request to synchronize the dock doors.
4. After you run the concurrent program, verify that it has completed successfully by reviewing its status in the Requests window.
5. After the dock door information is synchronized, you can view the dock doors in Oracle Transportation Management when viewing or setting up appointments (typically in the Manage Appointments page).

## Un-archive Oracle Warehouse Management Tasks

You can un-archive Oracle Warehouse Management tasks and return them to the Oracle Warehouse Management history tables. To un-archive Oracle Warehouse Management tasks

1. Navigate to the submit requests window.
2. Select Un-archive Oracle Warehouse Management Tasks as the request type.
3. Enter the following parameters:
  - From Date
  - To Date
  - Organization Code
  - Un-Archive Batches
4. Submit the request.

## Wave Planning Concurrent Requests

The following section describes the concurrent requests available for wave planning.

### Related Topics

Overview of Wave Planning, page 8-1

Planning a Wave, page 8-8

Creating a Wave, page 8-2

Viewing Waves Using the Wave Dashboard, page 8-16

Viewing Waves Using the Wave Workbench, page 8-19

Setting Up Task Release Options, page 8-33

## Launch Task Release Concurrent Request

In the Task Release Setup window, you can create one or more templates that define default options for releasing tasks. To run the task release process, select the desired template in the Launch Task Release concurrent request window, then run the request. When the request runs, the tasks are released according to the conditions defined in the selected template.

**Note:** You can create or modify task release conditions for a template the Task Release Setup window. You can create one or more templates.

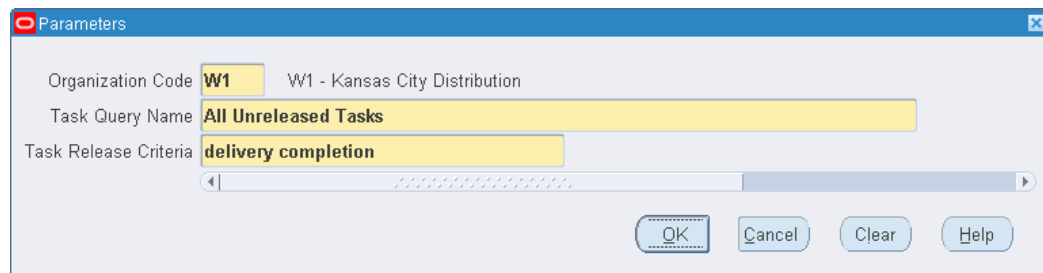
### Cartonization at Task Release

The Launch Task Release concurrent request can cartonize the tasks across pick release batches based on the cartonization options set up in the Organization Parameters window (Warehouse tab). Cartonization eliminates suboptimal packing configurations by suggesting the best cartons to use based on grouping rules, carton weight capacity, carton volume, and the dimensions of the items to be packed in comparison to the carton's dimensions.

### Submission

Navigate to the Launch Task Release window, select the parameters, and click OK. Then run the request by clicking the Submit button in the Submit Request window

### Parameters



- Organization Code: Select the organization.
- Task Query Name: Select the status of the tasks to be released such as completed, pending , uncompleted, or unreleased.
- Task Release Criteria: Select an existing template with the desired task release criteria.

## Related Topics

*Oracle Warehouse Management User's Guide, Cartonization, Consolidation, and Packing*  
*Oracle Warehouse Management Implementation Guide, Warehouse Organization Setup*  
Setting Up Task Release Options, page 8-33

## Wave Planning - Catch Exceptions Concurrent Request

The Wave Planning - Catch Exceptions concurrent request scans waves and logs exceptions based on the entity, progress, and threshold specified. You can create exceptions during any stage of the picking process; the system prioritizes the exceptions based on the following hierarchy:

1. Dock door appointment.
2. Scheduled ship date.
3. Excepted ship date (if neither a dock door appointment or scheduled ship date exists).

Optionally, you can take specific corrective measures. For example, you could create an exception that logs a severe exception if a wave is not 95% picked ten hours before a dock door appointment. You can choose to take corrective measures within the concurrent request, or later using the Wave Workbench window.

## Submission

Navigate to the Wave Planning - Catch Exceptions window and, after verifying the correctness of the parameters data, click OK. Then run the request by clicking the Submit button in the Submit Request window.

## Parameters

The screenshot shows a 'Parameters' dialog box with the following fields and values:

- Exception Name: Trip Level Exception
- Organization Code: W1 (W1 - Kansas City Distribution)
- Wave Number: (empty)
- Entity: Trip
- Progress Stage: Staged
- Completion Threshold ( 0% - 100% ): 80
- High Severity Exception Threshold ( Hrs ): 8
- Low Severity Exception Threshold ( Hrs ): 3
- Take Corrective Measures: (empty)
- Release Backordered Lines: (empty)
- Task Update Action Name: (empty)

Buttons: OK, Cancel, Clear, Help

- Organization Code: Select the organization.
- Wave Number: Optionally, select a wave number.
- Entity: Select the entity to base the exception on such as a delivery, order, order line, trip, or wave.
- Progress Stage: Select the stage during the wave's progress when exceptions should be logged; for example, to log exceptions at the picking stage, select Picked.
- Completing Threshold: Select the completion threshold value (from 0-100) to provide a margin of tolerance before an exception is logged.
- Low/High Threshold (Hrs): Enter the threshold tolerance values in hours to provide a margin of time before an exception is logged.
- Take Corrective Measures: Select whether you want the system to take corrective action when an exception is encountered.

## Wave Planning Initiate Process Concurrent Request

Use this concurrent request to create, plan, and release a wave based on the conditions specified on the wave template (you must have already created a wave template). You can schedule the wave manually with a template.

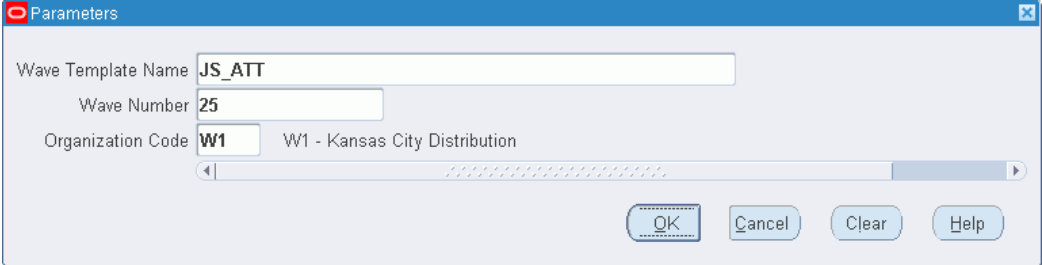
### Submission

Select the Wave Planning Initiate Process concurrent request, then run the request by



clicking the Submit button in the Submit Request window.

## Parameters



The Parameters dialog box contains the following fields and controls:

- Wave Template Name: JS\_ATT
- Wave Number: 25
- Organization Code: W1 (with a dropdown arrow) and W1 - Kansas City Distribution
- Buttons: OK, Cancel, Clear, Help

- Wave Template Name: Select a template name.
- Wave Number: Optionally, select a wave number to initiate wave planning for a specific wave.
- Organization Code: Select the organization.

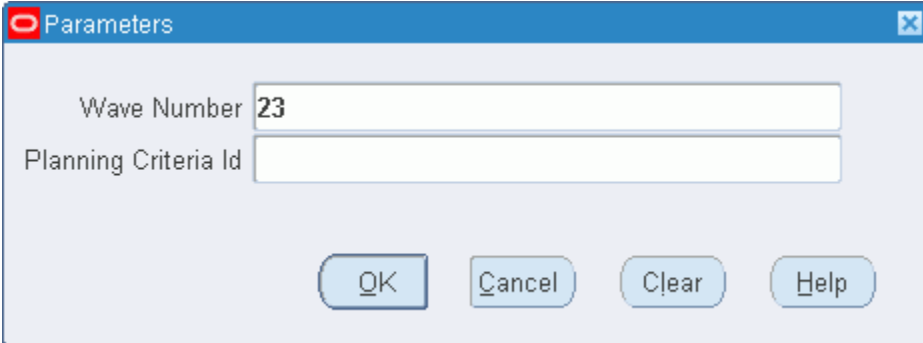
## Wave Planning Plan Wave Concurrent Request

Use this concurrent request to plan the wave for fulfillment and labor requirements based on a specific template name. You can run this request either by clicking the Plan Concurrently button in the Plan Wave window or running the concurrent request from the Submit Request window.

## Submission

Select the Wave Planning Plan Wave request, then run the request by clicking the Submit button in the Submit Request window.

## Parameters



The Parameters dialog box contains the following fields and controls:

- Wave Number: 23
- Planning Criteria Id: (empty field)
- Buttons: OK, Cancel, Clear, Help

- Wave Number: Select the wave to be planned.

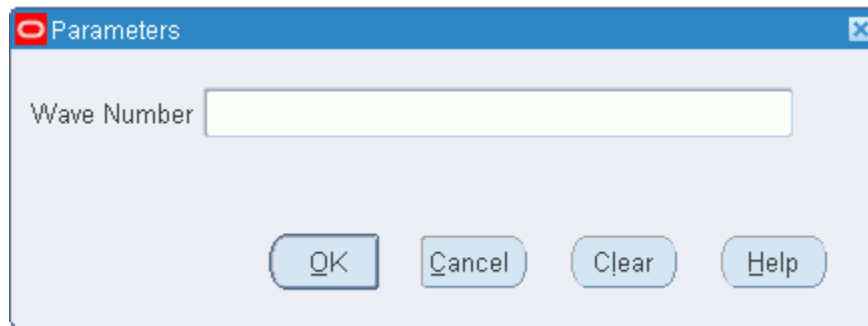
- Planning Criteria Id: Select the planning criteria for the wave by selecting an existing template.

## Wave Planning Release Wave

### Submission

Select the Wave Planning Release Wave concurrent request, then run the request by clicking the Submit button in the Submit Request window.

### Parameters



The image shows a Windows-style dialog box titled "Parameters". It has a blue title bar with a red icon on the left and a close button on the right. The main area is light gray and contains a label "Wave Number" followed by a white text input field. At the bottom, there are four buttons: "OK", "Cancel", "Clear", and "Help", each with a small underlined letter as a mnemonic.

Wave Number: Select the wave number to be released.

---

## Windows and Navigation Paths

This appendix covers the following topics:

- Windows and Navigation Paths

### Windows and Navigation Paths

This appendix provides the default navigator paths for the windows and mobile user interface used in the Oracle Warehouse Management system. The first table provides the default navigation paths for the standard Oracle Warehouse Management windows. The second table provides the default navigation paths for the mobile interface. Brackets [ ] indicate a button.

#### *Oracle Warehouse Management Related Windows and Navigation Paths*

Window Name	Navigation Path
Assign Cross References	Warehouse Manager: Inventory > Items > Cross References [Assign]
Assign Label Types to Business Flows	Warehouse Manager: Setup > Warehouse Configuration > Printing > Assign Label Types to Business Flows
Associate Staging Lanes to Dock Door	Warehouse Manager: Setup > Warehouse Configuration > Warehouses > Dock Door to Staging Lane Assignments
Billing Rules	Third Party Logistics Billing Administrator: Setup > Billing > Billing Rules
Billing Sources	Third Party Logistics Billing Administrator: Setup > Billing > Billing Sources

Window Name	Navigation Path
Calendar	Warehouse Manager: Outbound Logistics > Dock Assignment
Categories	Warehouse Manager: Setup > Material Setup > Items > Categories > Category Codes
Category Sets	Warehouse Manager: Setup > Material Setup > Items > Categories > Category Sets
Client Parameters	LSP Warehouse System Administrator responsibility: Setup > Client > Client Parameters
Consumption Set Up	Warehouse Manager: Inventory > Setup > Transactions > Consigned/VMI Consumption
Container-Item Relationships	Warehouse Manager: Setup > Material Setup > Items > Define Container Item Relationships
Create Wave	Warehouse Manager: Wave Planning > Create Wave
Crossdock Criteria	Warehouse Manager: Setup > Warehouse Configuration> Rules> Warehouse Execution > Crossdock Criteria
Cross Reference Types	Warehouse Manager: Inventory > Items > Cross References
Define Devices	Warehouse Manager: Setup> Warehouse Configuration > Printers and Devices > Define Devices
Define Label Formats	Warehouse Manager: Setup > Warehouse Configuration > Printers and Devices > Define Label Formats
Departments	Warehouse Manager: Setup > Warehouse Configuration > Resources > Departments
Descriptive Flexfield Context Mapping	Warehouse Manager: Setup > Material Setup > Flexfields > Descriptive > Segments
Descriptive Flexfields Segments	Warehouse Manager: Setup > Material Setup > Flexfields > Descriptive > Segments
Item Lots	Warehouse Manager: Inquiry > View Lot Numbers

Window Name	Navigation Path
Label Requests History	Warehouse Manager: Inquiry > View Label Requests History
Lot Genealogy	Warehouse Manager: Inquiry > View Lot Numbers > [View Genealogy]
Master Item	Warehouse Manager: Setup > Material Setup > Items > Master Items
Material Status Definition	Warehouse Manager: Setup > Transaction Setup > Inventory Transactions > Material Status
Material Workbench	Warehouse Manager: Inquiry > Material Workbench
Organization	Warehouse Manager: Setup > Warehouse Configuration > Warehouses > Define Warehouses
Organization Parameters	Warehouse Manager: Setup > Warehouse Configuration > Warehouses > Warehouse Parameters
Parameters (for LPN generation)	Warehouse Manager: Inventory Management > Material Maintenance > Generate License Plates
Pick Load Page Setup	Warehouse Manager: Setup > Warehouse Configuration > Tasks
Plan Wave	Warehouse Manager: Wave Planning > Wave Planning Setup
Pre-Pack LPNs	Warehouse Manager: Inventory Management > Material Maintenance > License Plate Prepack
Purge WMS	Warehouse Manager: Other > Purge WMS History Tables
Receiving Options	Warehouse Manager: Setup > Warehouse Configuration > Warehouses > Receiving Parameters
Release Rules	Warehouse Manager: Setup > Warehouse Configuration > Rules > Pick Wave > Release Rules
Resources	Warehouse Manager: Setup > Warehouse Configuration > Resources > Resources
Returns	Warehouse Manager: Inbound Logistics > Returns

Window Name	Navigation Path
Rule Execution Trace	Warehouse Manager: Setup > Warehouse Configuration > Rules > Warehouse Execution > Rule Execution Trace
Rule Where Used	Warehouse Manager: Setup > Warehouse Configuration > Rules > Warehouse Execution > Rule Where Used
Rules Workbench	Warehouse Manager: Setup > Warehouse Configuration > Rules > Warehouse Execution > Rules Workbench
Segments	Warehouse Manager: Setup > Material Setup > Flexfields > Descriptive > Segments > [Segments]
Segment Values	Warehouse Manager: Setup > Material Setup > Lot/Serial Attributes > Value Sets > Values
Shipping Parameters	Warehouse Manager: Setup > Warehouse Configuration > Warehouses > Shipping Parameters
Shipping Transactions	Warehouse Manager: Outbound Logistics > Shipment Planning & Transactions
Standard Operations	Warehouse Manager: Setup > Warehouse Configuration > Tasks > Standard Task Types
Stock Locators	Warehouse Manager: Setup > Warehouse Configuration > Warehouses > Stock Locators
Strategy Where Used	Warehouse Manager: Setup > Warehouse Configuration > Rules > Warehouse Execution > Strategy Where Used
Subinventories	Warehouse Manager: Setup > Warehouse Configuration > Warehouses > Subinventories (B) New
Submit Request	Warehouse Manager: Other > Requests > Requests > Run
Task Release Setup	Warehouse Manager: Wave Planning > Task Release Setup
Warehouse Control Board	Warehouse Manager: Setup > Inquiry
Wave Dashboard	Warehouse Manager: Wave Dashboard

Window Name	Navigation Path
Wave Workbench	Warehouse Manager: Wave Dashboard > [Find Wave] > Wave Workbench
WMS Rule Simulator	Warehouse Manager: Setup > Warehouse Configuration > Rules > Warehouse Execution > Rule Simulation
WMS Rules	Warehouse Manager: Setup > Warehouse Configuration > Rules > Warehouse Execution > Rules
WMS Strategies	Warehouse Manager: Setup > Warehouse Configuration > Rules > Warehouse Execution > Strategies
Value Sets	Warehouse Manager: Setup > Material Setup > Lot/Serial Attributes > Value Sets > Values
Zones	Warehouse Manager: Setup > Warehouse Configuration > Warehouses > Zones

#### ***Oracle Warehouse Management Mobile User Interface Forms***

Screen Name	Navigation Path
Bulk Pack	Whse Mgt: Warehousing > LPN Transactions > Bulk Pack
Choose Eqp/Sub	Whse Mgt: Warehousing > Tasks > Choose Eqp/Sub
Cluster Picking	Whse Mgt: Warehousing > Tasks > Cluster Pick
Cons/VMI Receipt	Whse Mgt: Warehousing > Inventory > Receipts > Cons/VMI Receipt
Consolidate	Whse Mgt: Warehousing > LPN Transactions > Consolidate
Consolidate LPN	Whse Mgt: Warehousing > LPN Transactions > Consolidate

Screen Name	Navigation Path
Consolidation Locators Inquiry	Whse Mgt: Inquiry > Consolidation > Cons Loc Inquiry
Consolidation LPN Inquiry	Whse Mgt: Inquiry > Consolidation > Cons LPN Inquiry
Current Tasks	Whse Mgt: Outbound > Tasks > Current Tasks
Cycle Counting	Whse Mgt: Warehousing > Inventory > Counting > Cycle Count
Express Load	Whse Mgt: Tasks >Directed Tasks> Interleaved Tasks> Express Load
Express Pick	Whse Mgt: Tasks >Directed Tasks>Interleaved Tasks> Express Pick
Item Inquiry	Whse Mgt: Inquiry > Item
Express Receive	Whse Mgt: Inbound > Express Receive
Quick Ship	Whse Mgt: Outbound > Quick Ship
Kanban Inquiry	Whse Mgt: Inquiry > Kanban
Label Printing	Whse Mgt: Warehousing > Labels > Label Request
Label Requests History	Whse Mgt: Warehousing >Labels > Label Reprint
Load Truck	Whse Mgt: Outbound > Shipping > Direct Ship > Load Truck
Lot Merge	Whse Mgt: Warehousing > Lot Transactions > Merge
Lot Split	Whse Mgt: Warehousing > Lot Transactions > Split
LPN Inquiry	Whse Mgt: Inquiry > LPN



Screen Name	Navigation Path
LPN Mass Move	Whse Mgt: Outbound > Outbound Move > LPN Mass Move
Manifest Picking	Whse Mgt: Outbound > Directed Tasks
Manual Drop	Whse Mgt: Tasks > Manual Tasks > Manual Drop
Manual Load	Whse Mgt: Tasks > Manual Tasks > Manual Load
Manual Unload	Whse Mgt: Tasks > Manual Tasks > Manual Unload
Misc Issue Txn	Whse Mgt: Warehousing > Inventory > Issues > Misc Issue
Move Orders - [Query all Move Orders]	Whse Mgt: Warehousing > Inventory > Move Orders
Org Transfer	Whse Mgt: Warehousing > Inventory > Transfers > Org Transfer
Pack	Whse Mgt: Warehousing > LPN Transactions > Pack
Pack LPN	Whse Mgt: Warehousing > LPN Transactions > Pack
Physical Count	Whse Mgt: Warehousing > Inventory > Counting > Physical Count
Pick Load	Whse Mgt: Outbound > Tasks > Acc Next Task > Pick Load
Putaway Load	Whse Mgt: Inbound > Put Away
Query Kanban Cards	Whse Mgt: Warehousing > Inventory > Kanban > Move Order
Receipt (standard receiving)	Whse Mgt: Inbound > Receiving > PO

Screen Name	Navigation Path
Receipt (single receiving common user interface)	Whse Mgt: Inbound > Receiving > All
Replenish Card (automatic)	Whse Mgt: Warehousing > Inventory > Kanban > Auto Replenish
Replenish Card (manual)	Whse Mgt: Warehousing > Inventory > Kanban > Replenish
Ship by LPN	Whse Mgt: Outbound > LPN Ship
Split LPN	Whse Mgt: Warehousing > LPN Transactions > Split
Staging Move	Whse Mgt: Outbound > Outbound Move > Staging Move
Status Inquiry	Whse Mgt: Inquiry > Status
Sub Transfer	Whse Mgt: Warehousing > Inventory > Transfers > Sub Transfer
Unpack LPN	Whse Mgt: Warehousing > LPN > Transactions > Unpack
User Task Type Attributes	Whse Mgt: Setup > Warehouse Configuration > Tasks > User Task Type Attributes
Update LPN	Whse Mgt: Warehousing > LPN Transactions > Update
Walkup Inquiry	Whse Mgt: Inquiry > Walkup Inquiry
Xfer to Regular	Whse Mgt: Warehousing > Inventory > Transfers > Xfer to Regular

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## Mobile User Interface and Oracle Warehouse Management

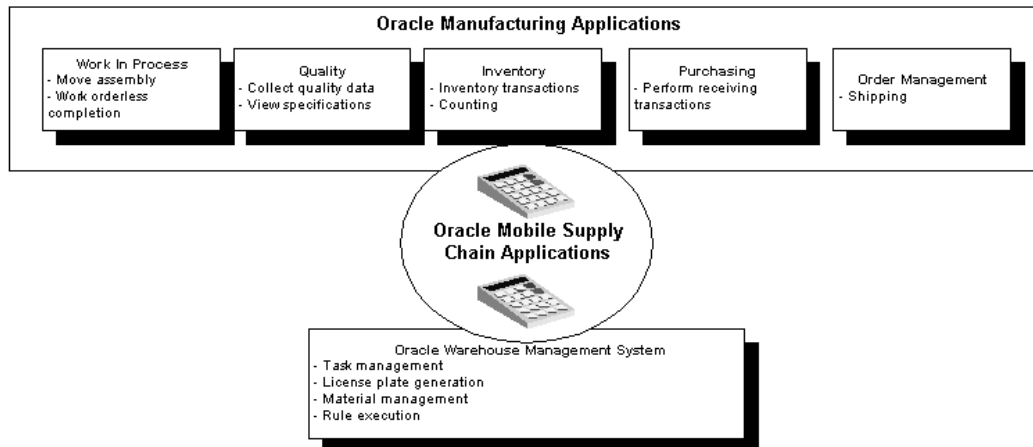
This appendix covers the following topics:

- Oracle Mobile Supply Chain Applications Overview
- Using Oracle Mobile Supply Chain Applications with Oracle Warehouse Management
- How the Oracle Warehouse Management System Builds on Oracle Mobile Supply Chain Applications
- Manually Printing Labels in the Mobile User Interface
- Mobile Support for Attachments
- Mobile List of Values (LOV)
- Mobile UOM List of Value (LOV) Conversions
- Configurable Barcode Delimiter
- Customized Barcode Scanning
- Global Trade Item Numbers (GTIN)
- Oracle Warehouse Management and GTIN's
- How to Set Up and Use GTINs
- Quality Integration

### Oracle Mobile Supply Chain Applications Overview

Oracle Mobile Supply Chain Applications enables you to perform a variety of manufacturing application transactions, without using a desktop computer. You can use Oracle Mobile Supply Chain Applications with the majority of Oracle's suite of manufacturing modules, including Oracle Warehouse Management system. The following figure illustrates how the Oracle Mobile Supply Chain Applications integrate

with Oracle's manufacturing modules. The example also shows just a few of the many transactions that you can perform using Oracle Mobile Supply Chain Applications.



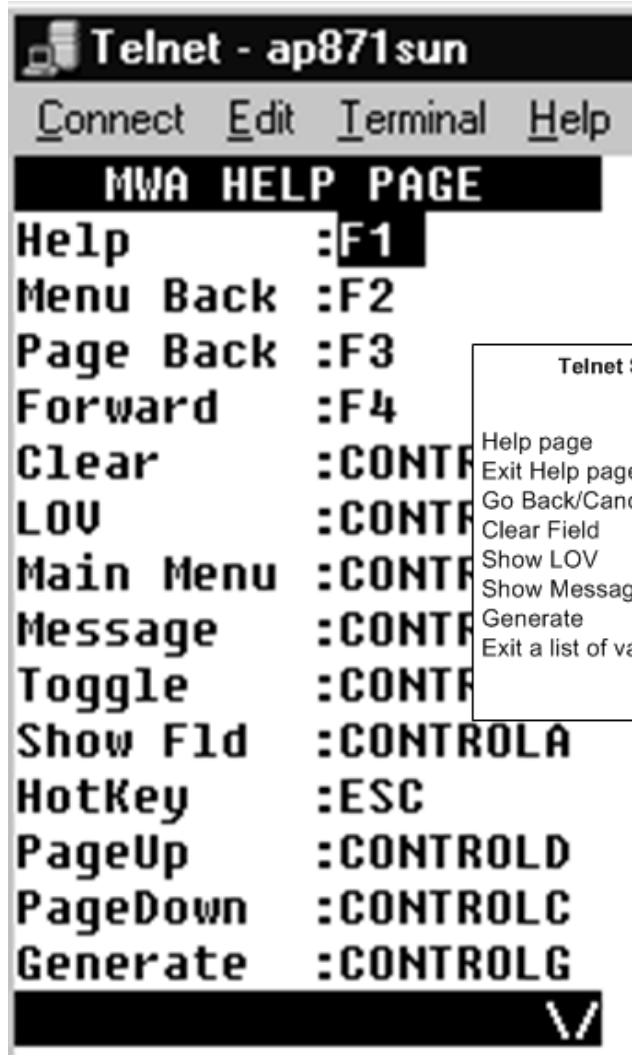
Oracle Mobile Supply Chain Applications run on hand-held devices manufactured by a variety of vendors. However, you can also emulate and use the Oracle Mobile Supply Chain Applications functions by logging into a telnet session. The following figure shows an example of a Oracle Mobile Supply Chain Applications telnet session for Oracle Warehouse Management help page.

The user interface for the telnet session is the same as what you would see on a mobile device. The simple user interface enables warehouse operators to see only the relevant information that they need.

**Note:** Because most Oracle Warehouse Management transactions are not available through the desktop forms, you must use a mobile device to run nearly all of the Oracle Warehouse Management related transactions. As an alternative, you can use a desktop telnet session to perform warehouse transactions.

How to Navigate the Oracle Mobile Supply Chain Applications Telnet Interface

Navigating Oracle Mobile Supply Chain Applications requires that you use a variety of keys on your keyboard. The following figure provides the basic navigation commands for using Oracle Mobile Supply Chain Applications in a telnet session.



**Note:** Navigation for different hand-held devices might deviate from the telnet navigation described in this section. Check the specific mobile device instructions about how to navigate vendor devices.

## Using Oracle Mobile Supply Chain Applications with Oracle Warehouse Management

For Oracle Warehouse Management, the Oracle Mobile Supply Chain Applications enable warehouse employees to use hand-held devices to perform a variety of warehouse transactions, including the following:

- Inbound transactions, such as receiving, inspecting, and putting away

- Outbound transactions, such as picking, packing, and loading transactions
- Warehousing transactions, such as cycle and physical counting, miscellaneous receiving, and moving inventory from one location to another (move orders)

With Oracle Mobile Supply Chain Applications, you can do the following:

- Record transactions while you work
- Eliminate duplicate data entry
- Eliminate documents and multipart forms

The Oracle Mobile Supply Chain Applications menu for Oracle Warehouse Management includes the following options:

- Inbound
- Outbound
- Warehousing
- Tasks
- Inquiry
- Labels

**Note:** All menus enable you to change responsibilities and log out of a Mobile Applications session.

## Inbound Menu

You use the Inbound menu to perform receiving transactions, such as receiving, inspecting, and put away tasks.

## Outbound Menu

You use the Outbound menu to perform picking, packing, and shipping tasks. You can also perform inventory transfers between organizations.

## Warehousing Menu

You use the Warehousing menu to perform tasks inside of the warehouse. You can use this menu to perform a variety of inventory transactions, such as issuing and receiving material. You can also perform move orders—moves within your organization—through this menu. The Warehousing menu also enables you to perform kanban replenishment.

## Task Menu

The Tasks menu enables you to retrieve the tasks that you are qualified to perform, based on your skill set and the equipment, if any, that you sign onto. After logging into the task menu, you can select your next task in the queue, or choose to perform a variety of other tasks, such as perform a manual pick or select different equipment.

## Inquiry Menu

You use the Inquiry menu to find an item or LPN, or to view the material status of a particular object, such as the material status assigned to a lot. You can also use the Inquiry menu to find a particular kanban card.

## How the Oracle Warehouse Management System Builds on Oracle Mobile Supply Chain Applications

All Mobile Supply Chain Applications forms are available in Oracle Warehouse Management. With some exceptions, the functionality of these forms is the same. The following table provides a list of the exceptions between the Mobile Supply Chain Applications forms and Oracle Warehouse Management.

### ***Mobile Transaction Differences between Oracle Inventory and Oracle Warehouse Management***

<b>Mobile Transaction</b>	<b>Oracle Inventory Organization</b>	<b>Oracle Warehouse Management Organization</b>
Put away suggestion	All transactions are performed as loose material, no LPNs are allowed.	Transactions may be performed on loose material, or by LPN (for packed material).
Cost group assignment	System always assigns the cost group associated with the subinventory. all material in a subinventory must have the same cost group.	Rules engine is used to suggest cost group. Thus, material in the same subinventory could have the different cost groups.

<b>Mobile Transaction</b>	<b>Oracle Inventory Organization</b>	<b>Oracle Warehouse Management Organization</b>
Replenishment	System uses inventory picking rules to allocate material for replenishment, users transact move orders to execute the replenishment.	System uses Oracle Warehouse Management picking rules to suggest allocation and creates a Oracle Warehouse Management task to pick the material.
Picking	System uses inventory picking rules to suggest allocation. Users transact move orders to execute the pick.	System uses Oracle Warehouse Management picking rules to suggest allocation and creates a Oracle Warehouse Management task to pick material.
Task type	Inventory does not dispatch tasks, pick confirm through move order or pick confirm forms.	Rules-based task type assignment. Tasks are then dispatched to the qualified user when he or she requests tasks.
Label format suggestion	One label format is supported per label type. This format is always selected.	Multiple label formats per label type are permitted. Label format (including content and layout) selection is rules based.
Cycle Counting	Cycle counts are generated and printed. The counter performs the count and returns paper work to be entered into the system.	Cycle counts are dispatched to qualified mobile users via a mobile RF device. The user enters the count and the system is updated.

The following table provides a summary of the functionality that you receive with Mobile Supply Chain Applications and Oracle Warehouse Management.



**Oracle Mobile Supply Chain Applications and Oracle Warehouse Management Functionality**

<b>Oracle Mobile Supply Chain Applications Only</b>	<b>Oracle Mobile Supply Chain Applications with Oracle Warehouse Management Installed, Not Enabled</b>	<b>Oracle Mobile Supply Chain Applications with Oracle Warehouse Management Installed, Enabled</b>
Mobile user interfaces for inventory transactions and material status control.	N/A	Tasks
Mobile user interfaces for receiving transactions (receipt, inspection, delivery)	Lot and serial attribute entry and tracking	Rules
Mobile user interfaces for shipping transactions (pick confirm, ship confirm)	Lot split and merge transactions	Cost group flexibility
Label print requests	Not applicable	All of the additional functionality included in this user's guide.

## Manually Printing Labels in the Mobile User Interface

There are situations when you may need to print labels to different printers than what has already been set up. For example:

- No setup has been performed, but a one-off label request is needed
- You need to print to a particular printer for a single request, but do not want to change the printer assignment setup
- The printer that has been assigned has a temporary problem, and you want to print to an alternate printer for a single request

The Label Printing screen enables you to manually submit requests to print labels using the mobile user interface. To manually print a label, you need to specify the label type, format, printer, and number of labels to be printed.

The fields that you can enter on the mobile device to drive the printing of a given label type differ per label type. For instance, Location label type allows you to specify the subinventory and optionally, locator, but does not query you for any information about items or serial numbers.

1. Navigate to the Label Printing screen.

2. Enter the following information:

- Label Type

Specify the label type for the label print request. You can select any label type.

- Format

Specify the label format to be used for the label print request. If it is left blank, the Oracle Warehouse Management Rules Engine will be used to determine the correct label format to be used.

- Printer

Specify the printer to be used for the label print request. If it is left blank, the printer assignment setup will be used to determine the correct printer to be used.

- Copies

Specify the number of labels you wish to print.

3. Select Done.

**Note:** For pick drop you cannot print multi-record format shipping content labels

```
Label Printing (W1)
Label Type>
Format      >
Printer     >
Copies      :1
<More>
<Done>
<Cancel>
```

The mobile Label Printing request screen enables you to manually request labels for locators and subinventories. These requests can be initiated one at a time, for each

subinventory and each locator, or they can be issued for all locators of a particular subinventory, or all locators of all subinventories (if the subinventory is locator controlled). This can be done by selecting the seeded values "All Subinventories" and/or "All Locators" in the mobile page. For each of the labels that will be printed, the label format will be selected by the Rules Engine.

## Mobile Support for Attachments

Oracle Warehouse Management enables you to display Attachments to mobile operator as part of certain business flows. Text notes can be attached to specific Items or Item Categories. The three types of attachments, specific to the mobile UI, include:

- To Mobile Receiver
- To Mobile Put Away
- To Mobile Picker

Attachments of type "To Mobile Receiver" are displayed during the mobile Oracle Warehouse Management Receipt transaction. Attachments of type "To Mobile Put Away" are displayed during the mobile Oracle Warehouse Management Put Away transaction. Attachments of type "To Mobile Picker" are displayed during the mobile Oracle Warehouse Management Pick Load transaction. Text notes can also be attached to Sales Order Lines of type "To Mobile Picker".

You can configure the mobile transactions to always show relevant attachments, display a button for relevant attachments, or to never show attachments via the form function parameter, ATTACHMENT\_DISPLAY\_MODE. This parameter can be given the values ALWAYS, REQUEST, and NEVER. All the attachments that apply to a given item for a given business flow are displayed together. Because this is controlled by a form function parameter, the parameter can be set differently for the different forms, or even for different individuals by setting up duplicate forms with different responsibilities.

## Mobile List of Values (LOV)

Mobile users need to be able to scan items with as few keystrokes as possible. Most mobile users scan data and do not manually enter it. A fully scanned environment does not need extra validation from LOVs to distinguish between two similar items. For example, if you scan item XX, you do not need to see the LOV for items XX and XXX. The system accepts item XX and takes you to the next field.

To minimize the keystrokes for data entry within the Oracle Warehouse Management mobile applications, you will have to explicitly ask for an LOV by entering Ctrl+L (or the key combination defined in default\_key.ini for LOV invocation). Selecting the Enter key in a LOV field will not bring up a list of values. This is beneficial in a fully scanned environment, where data entry accuracy is high. Scans represent exact values and LOVs do not need to display when the value scanned partially matches more than one record.

If you want to see the list of values after entering item XX, you need to select Ctrl+L after entering item XX.

An LOV has the following items available:

- MXG
- MXG100
- MXG200
- LEI10

The following table describes how LOVs in mobile screens behave within the Oracle Warehouse Management applications. In this example, assume Ctrl-L maps to the LOV.

<b>Data Keyed / Scanned</b>	<b>Press</b>	<b>Result Obtained</b>	<b>Reason</b>
Blank	Enter	No Result Found	Nothing has been entered. No results are found.
MX	Enter	No Result Found	MX is not a valid item. When you scan MX, no results are found.
MXG	Enter	MXG	MXG is a valid item in the system and is received.
MXG100	Enter	MXG100	MXG100 is a valid item in the system and is received.
Blank	Ctrl-L	LOV of MXG, MXG100, MXG200, LEI10	You asked to see all items available in the LOV.
MX	Ctrl-L	LOV of MXG, MXG100, MXG200	The LOV returns all items that start with MX.

Data Keyed / Scanned	Press	Result Obtained	Reason
MXG	Ctrl-L	LOV of MXG, MXG100, MXG200	The LOV returns all items that start with MXG. Even though an exact match exists, the LOV displays all items that begin with MXG.
MXG100	Ctrl-L	MXG100	Even though you selected Ctrl-L, there is only one item that matches MXG100. The system returns MXG100.

## Mobile UOM List of Value (LOV) Conversions

The Intra-Class UOM conversion defines the conversion factor between various UOMs in relation to the base UOM within a UOM class. The Inter-Class UOM conversion defines the conversion factor between two base UOMs belonging to different UOM classes.

In many businesses it is important that operators on the warehouse floor, not only know the various UOMs defined for an item but also know the quantity of material that should exist in the various UOMs. Some warehouses store material in standard packs and sell/ship them in standard packs. During the receiving or inspection process, operators verify the material is in desired standard packs. If they do not comply, items are repackaged to standard packs and then putaway/stored. In order to verify the material, it is essential that warehouse operator knows the quantities that should exist in a standard pack.

The mobile UOM list of values (LOV) displays the conversion quantity/data that exists in the base UOM, for every defined UOM for an item. The system concatenates the quantity/data in the base UOM, displayed within parenthesis, alongside all UOMs defined for that item.

The following table is an example of the mobile UOM list of values:

Name (Code)	UOM	Description
EA(0.08333 DZ)	Each	Each

Name (Code)	UOM	Description
BX6(0.5 DZ)	Box 6	Box of 6
BX(1 DZ)	Box	One Box
DZ(1 DZ)	Dozen	Dozen
GRS(12 DZ)	Gross	12 Dozen

For each UOM in the list of values, the brackets show the conversion factor with the primary UOM. The UOMs are arranged in ascending order by the conversion factor and then the UOM Code.

If 10 Eaches exist in a Case and 100 Eaches exist in a Pallet and 1 Each weighs 1 Gram for Item A, the UOM LOV would display as follows:

- Ea(1 Ea)
- CSE(10 Ea)
- PAL(100 Ea)
- GRM(1 Ea)

When any mobile page containing the UOM field is invoked, it displays the concatenated base UOM conversion along with the UOM that is displayed.

```

Misc Rcpt Txn(W1)
Acct      >01-000-10
LPN       >LPN5767A
Item      >DW100
Desc      :No contro
Sub       >AABULK
Loc       ]AAB1.1.1
UOM       >DZ(12 Ea)
Qty       :1
Reason    >Customer
<Save/Next>
<Done>
<Cancel>

```

## Configurable Barcode Delimiter

There are several occasions when two pieces of data must always be entered in sequence on the mobile device. For example, a subinventory and locator are always

entered together if the subinventory is locator controlled, an item is always followed by its revision if it is revision controlled, and a purchase order number is always followed by the line number.

An operator can make two scans to populate the data on the mobile device. Or a single scan of a barcode with an embedded carriage return can also be used to print the data. However, the embedded carriage return may not provide the desired appearance on the printed label. Oracle Mobile Supply Chain Applications and Oracle Warehouse Management enable a user-defined delimiter to be used for these pieces of data.

Three profile options are available for the user to indicate a single character which can serve as a delimiter, including:

- WMS: Item/Revision Delimiter
  - WMS: PO Number/Line Delimiter
  - WMS: Subinventory/Locator Delimiter

Each profile can be set at the site level and are applicable to both Oracle Mobile Supply Chain Applications and Oracle Warehouse Management. The character indicated by these profile options will be interpreted as a carriage return, enabling a single scan to populate two different fields on the mobile device.

For more information on Configurable Barcode Delimiters, see Using Bar Code Identifiers with Oracle Mobile Applications in the *Oracle Warehouse Management Implementation Guide*.

## Customized Barcode Scanning

There are several different types of label formats which may be put up by your suppliers and you may need to scan. You can scan these labels instead of entering the data or choosing from a list of barcodes corresponding to the product.

Oracle Warehouse Management supports scanning customer specific barcodes in the mobile user interface.

You can customize either a Java exit routine or a PL/SQL routine to pre-process the scanned data before the server interprets the data as the scanned data. The customized routine is accessed when the data is being scanned using a radio frequency device.

You can customize your scanning of barcodes by referencing any defined MWA method within the customized Java custom class. By calling the appropriate MWA method, you can reference and populate fields with the scanned data.

The site level profile INV: Customized Scan must be set to Yes for the server to use the customized routine. By default the profile is set to No. The customization routine is called only if the profile is set to Yes.

For more information on Customized Barcode Scanning see the *Oracle Warehouse Management Implementation Guide*.

## Global Trade Item Numbers (GTIN)

As businesses become interconnected using various technology options such as EDI and XML, there is a need for global product identification standards that are usable by all trading partners in the extended supply chain. A major goal of these standards is to guarantee unique and unambiguous identification of products and services across the supply chain. Regional and trade standard associations such as ISBN, NDC, EAN, and Uniform Code Council (UCC) govern the policies and standards for product identification. The following list shows some industries and the common product identification standards used:

- Automotive Aftermarket (GTIN)
- Books (International Standard Book Number - ISBN)
- MRO - Industrial Supply (GTIN)
- Paper (GTIN)
- Healthcare (GTIN)
- Periodicals (International Standard Serial Number - ISSN)
- Pharmaceutical (National Drug Code - NDC)
- Grocery (GTIN)
- General Merchandise (GTIN)

The widely used EAN.UCC product identification standards are industry neutral and global in scope. One of the main concepts of the EAN.UCC product identification standard is that any item used at any point in any supply chain can be allocated a unique identification number - the Global Trade Item Number (GTIN).

GTIN is an umbrella term used to describe the family of EAN.UCC data structures for trade item identification. The four data structures in the GTIN family are:

- EAN.UCC-13
- EAN.UCC-12
- EAN.UCC-14
- EAN.UCC-8

### **EAN.UCC-13**

EAN.UCC-13 is a superset of UPC-A. Any software or hardware capable of reading an



EAN.UCC-13 symbol will automatically be able to read an UPC-A symbol. The only difference between the two is that the number system code in UPC-A is a single digit from 0 through 9 and the EAN.UCC-13 number system code consists of two digits ranging from 00 through 99. The two digits are essentially a country code. Each country has a numbering authority that assigns manufacturer codes to companies within its jurisdiction. The EAN.UCC-13 number consists of the manufacturer code, which is five digits long, as is the product code, and a check digit.

## **EAN.UCC-12**

The EAN.UCC-12 symbol is a twelve-digit number that identifies trade items. It is commonly known as UPC. The EAN.UCC-12 number consists of a one-digit UCC prefix, a company number, an item reference, and a check digit. The EAN.UCC-12 number is represented using UPC-A (12 digit) or UPC-E (8 digit) barcode symbology. The UPC-A barcode shows all 12 digits in the EAN.UCC-12 number whereas the UPC-E symbol carries 8 digits of the EAN.UCC-12 number using zero suppression techniques.

Since the resulting UPC-E barcode is about half the size of an UPC-A barcode, UPC-E is generally used on products with very small packaging where a full UPC-A barcode couldn't fit. Additionally, UPC-E may only be used if the number system is 0 or 1.

## **EAN.UCC-14**

EAN.UCC-14 is used when identical consumer units are packaged into standard quantities of intermediate packs or shipping containers. The general EAN.UCC standards specify that these packing configurations should be assigned new, 14 digit numbers. Cartons containing ten units would be assigned a different 14-digit number than cartons containing twenty units of the same product.

Prefixing 2 digits of package level information to the base UPC number and recalculating the check digit generates the EAN.UCC-14 number. This 14-digit code identifies intermediate packs and shipping containers holding standard configurations of consumer units.

## **EAN.UCC-8**

An EAN.UCC-8 barcode is a 2 or 3-digit number system code followed by a 4 or 5-digit product code. The EAN.UCC-8 product codes are assigned directly by the numbering authority. This has the advantage that any company can request an EAN.UCC-8 code regardless of its EAN.UCC-13 manufacturer or product code. It has the disadvantage that the EAN.UCC-8 codes must be stored in each database as a separate product since there is not a way to translate an EAN.UCC-8 code to an EAN.UCC-13 equivalent.

## **UPC-E**

UPC-E is an 8-digit number that is barcoded on small items where a 12-digit UPC-A code will not fit on the item packaging. UPC-E code uses the same data structure as

EAN.UCC-12. A zero-suppression algorithm is used to convert the 12 digit EAN.UCC-12 to an 8 digit UPC-E barcode. Many barcode scanners automatically convert UPC-E to UPC-A and pass the scanned data.

## Oracle Warehouse Management and GTIN's

The Oracle Warehouse Management and Inventory Mobile Supply Chain Applications are capable of resolving items defined in the system using GTIN. You can scan a GTIN barcode and the system will translate the scanned value to an internal item.

### Cross Referencing GTIN's to Item Information

GTIN numbers translate to internal item references within an organization. You need to reference the GTIN family of numbers to items used in Oracle Applications. To conform to EAN-UCC standards, GTIN's are stored as 14-digit numbers. Data structures that require less than 14 digits are right justified and zero padded.

### Translating GTIN's to Transaction Data

Since GTIN's are a globally accepted EAN.UCC standard, they are widely used as barcodes in label formats and often pre-printed on item packaging. You can carry out transactions by making use of the GTIN barcodes available on the product or the packaging. Oracle Warehouse Management and Oracle Mobile Supply Chain Applications are capable of resolving the GTIN's based on the cross-reference information and defaulting the appropriate transaction data.

### Maintaining GTIN-Transaction Information Cross-References

Create a cross-reference type for GTIN. This cross-reference type will reference an item to a 14 character GTIN. Sample cross-reference data:

Item	GTIN	Description
ABCD10	00000012345678	EAN.UCC-8 Cross Reference
ABCD11	00223212345678	EAN.UCC-12 Cross Reference
ABCD12	04223212345678	EAN.UCC-13 Cross Reference
ABCD12	34223212345678	EAN-UCC-14 Cross Reference
ABCD12	54223212345678	EAN-UCC-14 Cross Reference

## How to Set Up and Use GTINs

1. Define an item cross-reference type in the Cross Reference Types window. The cross-reference type can be named anything meaningful to the user, but the same cross-reference type has to be specified in profile value INV: GTIN Cross Reference Type.
2. Specify profile value INV: GTIN Cross Reference Type. This is a site level profile. Specify this profile value as the GTIN cross-reference type defined in the previous step.
3. Set up mapping between the internal item and the GTIN code. Underneath the GTIN cross reference type, set up mapping between internal item numbers and their corresponding GTIN codes in the Assign Cross References window. One item may have more than one GTIN code, each maps to a different EAN.UCC structure. A structure that is less than 14 digits has to be right justified to 14 digits and padded by leading zeros.
4. Perform a mobile transaction with a GTIN code. In the Item field in any Oracle Mobile Supply Chain or Oracle Warehouse Management mobile page, you can scan in either an internal item number or a GTIN code. If a GTIN code is scanned the system will translate it to its internal item counterpart according to the cross-reference definition and display the internal item number in the field. If a GTIN code is exactly the same as an internal item number, both records will display in the LOV to enable you to select which item is to be transacted.

For more information on implementing Global Trade Item Numbers (GTIN), please see the Oracle Warehouse Management Implementation Guide.

## Quality Integration

You can scan an LPN number to trigger collection plans, based upon a combination of Item, Customer, and Ship-To Location. You can use this feature for special testing on Ship-To sites and packing verification.

For information and procedures on this feature, see: *Integration With Oracle Mobile Warehouse Management, Oracle Quality User's Guide*



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# Glossary

## **address validation**

The type of validation you want the system to use for your address, if you are not using a flexible address format for validation. Address validation can be implemented at three levels- Error, No Validation, or Warning. 'Error' ensures that all locations exist for your address before it can be saved. 'Warning' displays a warning message if a tax rate does not exist for this address (allows you to save the record). No Validation does not validate the address.

## **advanced ship notice (ASN)**

An electronic document that notifies the customer of a supplier shipment and its contents. This document can include a list of shipment contents, order information, product description, physical characteristics, type of packaging, marking carrier information and configuration of the goods within the transportation equipment.

The ASC X12 transaction name for this EDI document is the 856. The EDIFACT message name for this EDI document is DESADV. Also referred to as Ship Notice/Manifest.

## **advanced task framework**

The infrastructure that supports advanced task management and execution capabilities with the aid of tasks, operations, operation plans, activities and zones.

## **allocated ATP**

This term is used to describe the ability to allocate scarce supply, whether it's finished goods, or a key components or resources, to various demand channels. Whether you are performing ATP or CTP, the allocation is being considered for order promising. See Feature Highlight: *Allocation*.

## **areas**

Areas represent either a section of the plant floor or an entire plant facility. You can use inventory organizations to define areas.

## **ASN**

Advanced Shipping Notice

**assembly**

An item that has a bill of material. You can purchase or manufacture an assembly item.  
*see assemble-to-order, bill of material.*

**assembly completion transaction**

A material transaction where you receive assemblies into inventory from a job or schedule upon completion of the manufacture of the assembly.

**asset subinventory**

Subdivision of an organization, representing either a physical area or a logical grouping of items, such as a storeroom where quantity balances are maintained for all items and values are maintained for asset items.

**attribute**

A basic data element used by Oracle Pricing to control pricing activity. For example, Pricing uses attributes to define the eligibility of a customer order to receive a particular price or modifier. In Oracle Pricing, individual attributes are obtained from data sources that are called contexts. Pricing attributes may also be used as elements of a pricing formula.

**availability**

Availability means how much of the item is in stock (and not reserved) in the default location. Calculation is 'on-hand minus reserved.'

**available to promise quantity**

*See* available to promise (ATP).

**available to reserve (ATR)**

The quantity of on-hand stock available for reservation. It is the current on-hand stock less any reserved stock.

**available to transact (ATT)**

Quantity on hand less all reservations for the item which may be transferred within or out of inventory.

**backordered lines**

Unfulfilled order line details which have failed to be released at least once by Pick Release or have been backordered by Ship Confirm.

**business object**

An independent item of significance in the business world, such as an order.

**carrier**

*See freight carrier*

**cartonization**

A system generated suggestion of the use of a specific carton in which to pack material.

**category**

Code used to group items with similar characteristics, such as plastics, metals, or glass items.

**category set**

A feature in Inventory where users may define their own group of categories. Typical category sets include purchasing, materials, costing, and planning.

**common locator**

A locator without a project or project and task segment values. A common locator represents a physical location. *see project locator*.

**common subinventory**

Subinventory that does not have a project reference into which items can be delivered and out of which items can be issued and transferred.

**completion locator**

An inventory location within a completion subinventory where you receive completed assemblies from work in process.

**completion subinventory**

An inventory location at the end of your production line where you receive completed assemblies from work in process. Often this is the supply subinventory for subassemblies or finished goods inventories for final assemblies.

**container**

The receptacle (box, tank, etc.) in which items to be shipped are placed.

**cost group**

An attribute of a project which allows the system to hold item unit costs at a level below the inventory organization. Within an organization, an item may have more than one cost if it belongs to multiple cost groups. Item costing can be specific to a single project if each project has a distinct cost group, or specific to a group of projects if all projects in that group are assigned to the same cost group.

**cost group rule**

A user defined rule, based on business practices, that assigns a specific cost group to material based on criteria defined in the rules engine.

**cross docking**

Cross docking refers to when you have a shortage for a given item, and when you receive that item, you send it straight to the source of demand instead of putting it away in its usual storage location.

**cumulative received quantity**

The total quantity of goods (e.g. shipped or received) during a defined period of time, e.g. Model Year. This can be used by suppliers to represent year-to-date shipped and by trading partners as year-to-date received.

**current date**

The present system date.

**current on-hand quantity**

Total quantity of the item on-hand before a transaction is processed.

**customer**

As a party to a contract, the customer is responsible for oversight of the contract, payments and any agreed-to obligations with the contractor. The organization which is in the process of placing an order with the company.

**customer item**

Allows you to define specific attributes for items per customer class, customer and ship-to/bill-to location. Demand Tolerance is an example for such an attribute.

**customer item number**

Item Number used only by a particular customer, and it represents the item's name used in the customer's organization.

**cycle counting**

An inventory accuracy analysis technique where inventory is counted on a cyclic schedule rather than once a year.

**delivery**

A set of order lines to be shipped to a customer's ship-to location on a given date in a given vehicle. Multiple deliveries can be grouped into a single departure. A single delivery may include items from different sales orders and may include backorders as



well as regular orders.

**department**

An area within your organization that consists of one or more people, machines, or suppliers. You can also assign and update resources to a department.

**department class**

A group of departments.

**descriptive flexfield**

A feature used to collect information unique to your business. You determine the additional information you need and descriptive flexfield lets you customize your application to your needs without additional programming.

**direct receipt**

The receipt of an item directly to its final destination (either directly to the person who requested the item or directly to the final inventory location). It differs from a standard receipt in that it is received into a receiving location and delivered in one transaction, rather than received and delivered in two separate transactions.

**discrete manufacturing**

A manufacturing environment where you build assemblies in discrete jobs or batches. Different from a repetitive production environment where you build assemblies on production or assembly lines at a daily rate.

**document**

Any document that furnishes information to support a business object or an action on the business object. Examples include: a purchase order document, an invoice document, a word processing file listing receiving instructions, CAD files citing an item's specifications, or video instructions of an assembly operation.

**due date**

The date when scheduled receipts are currently expected to be received into inventory and become available for use.

**effective date**

Date when an Oracle Manufacturing function is available for use. For example, this could be the date a bill of material component or routing operation becomes effective, or the date you anticipate revised item changes become part of a bill of material and can no longer be controlled by an ECO.

**effective dates**

Start date and end date that a price, discount, surcharge, deal, promotion, or change is active.

**exception**

An occurrence of the specified condition found during an alert check. For example, an alert testing for invoices on hold may find five invoices on hold, or none. Each invoice on hold is an exception.

**express delivery**

An option that lets you deliver the entire quantity of a receipt without entering quantities for each shipment or distribution.

**express receipt**

A site option that lets you receive an entire purchase order or blanket purchase agreement release with one keystroke.

**flexfield**

A field made up of segments. Each segment has a name you assign and a set of valid values. *see* **descriptive flexfield** and **key flexfield**.

**flexfield segment**

One of the parts of your key flexfield, separated from the other parts by a symbol you choose (such as -, /, or \). Each segment typically represents a cost center, company, item family, or color code.

**flow manufacturing**

Manufacturing philosophy utilizing production lines and schedules instead of work orders to drive production. Mixed models are grouped into families and produced on lines balanced to the take time.

**freight carrier**

A commercial company used to send item shipments from one address to another.

**fulfillment**

Fulfilled sales order lines have successfully completed all Workflow processing activities up to the point of becoming eligible for invoicing.

**hard reservation**

Sales order demand that you *firm* by reserving selected inventory for the purposes of material planning, available to promise calculations, and customer service issues.

**inter-organization transfer**

Transfer of items from one inventory organization to another. You can have freight charges and transfer credits associated with inter-organization transfer. You can choose to ship items directly or have them go through intransit inventory.

**internal item number**

The internal representation of Item's Name within your organization.

**internal order**

A sales order in the Order Management system that is generated from an internal requisition in the Purchasing system and loaded into OM through Order Import.

**internal requisition**

*A requisition in the Purchasing system that will directly result in the generation of a sales order in the Order Management system through the Order Import process in OM.*

**internal sales order**

A request within your company for goods or services. An internal sales order originates from an employee or from another process as a requisition, such as inventory or manufacturing, and becomes an internal sales order when the information is transferred from Purchasing to Order Management. Also known as *internal requisition* or **purchase requisition**.

**intransit inventory**

Items being shipped from one inventory organization to another. While items are intransit you can view and update arrival date, freight charges, and so on.

**inventory allocation**

The act of assigning on hand inventory to specific orders.

**inventory controls**

Parameter settings that control how Inventory functions.

**inventory item**

Items you stock in inventory. You control inventory for inventory items by quantity and value. Typically, the inventory item remains an asset until you consume it. You recognize the cost of an inventory item as an expense when you consume it or sell it. You generally value the inventory for an item by multiplying the item standard cost by the quantity on hand.

**inventory organization**

An organization that tracks inventory transactions and balances, and/or that

manufactures or distributes products.

**inventory parameters**

The set of controls, default options, and default account numbers that determine how Inventory functions.

**inventory transaction**

A record of material movement. The basic information for a transaction includes the item number, the quantity moved, the transaction amount, the accounting flexfields, and the date. *See* **material transaction**.

**issue transaction**

A material transaction to issue component items from inventory to work in process.

**item**

Anything you make, purchase, or sell, including components, subassemblies, finished products, or supplies. Oracle Manufacturing also uses items to represent planning items that you can forecast, standard lines that you can include on invoices, and option classes you can use to group options in model and option class bills.

**item attribute control level**

To maintain item attributes at the item master attribute level or the organization specific level by defining item attribute control consistent with your company policies. For example, if your company determines serial number control at headquarters regardless of where items are used, you define and maintain serial number attribute control at the item master level. If each organization maintains serial number control locally, they maintain those attributes at the organization specific level.

**item attributes**

Specific characteristics of an item, such as order cost, item status, revision control, COGS account, etc.

**item category**

*See* **category**.

**item groups**

A group of related products that can be added to one or more price lists.

**item master level attribute**

An item attribute you control at the item master level as opposed to controlling at the organization level.

**item status**

Code used to control the transaction activity of an item.

**job**

A category of personnel in your organization. Examples of a typical job include Vice President, Buyer, and Manager. *see position.*

**kanban**

A method of Just-in-Time production that uses standard containers or lot sizes with a single card attached to each. It is a pull system in which work centers signal with a card that they wish to withdraw parts from feeding operations or suppliers. The Japanese word *kanban*, loosely translated, means *card*, *billboard*, or *sign*. The term is often used synonymously for the specific scheduling system developed and used by the Toyota Corporation in Japan.

**kanban card**

The visual replenishment signal. It corresponds to a kanban bin. Replenishable kanban cards are based on pull sequences; non-replenishable cards can be created manually.

**kanban items**

An item that is pulled through the Kanban system, rather than pushed by the planner, is called a Kanban-released item, or simply Kanban item. Your planning system can have Kanban items and items released by the planner.

**kanban pull sequence**

A body of information that defines the kanban location, source information, and planning parameters required to calculate the kanban size for a given kanban bin. Replenishment chains are created by multiple pull sequences.

**labeling rule**

A user defined rule, based on business practices, that directs the labeling of material based on criteria defined in the rules engine. A labeling rule may be defined to use a Hazmat label for all items that are hazardous.

**license plate number (LPN)**

License Plate Numbers uniquely identify each container in the supply chain. Contents of each container are tracked by this identifier. LPNs are used to store and transact inventory throughout the supply chain and may be individually transacted through its packed/unpacked, reservation and shipment sealing processing. A license plate number is a unique identifier for a collection of items in a single location. LPNs store their contents, including item, revision, lot and serial numbers, and the quantities. LPNs also

store their current location including organization, subinventory and locator.

**locator**

Physical area within a subinventory where you store material, such as a row, aisle, bin, or shelf.

**lot control**

An Oracle Manufacturing technique for enforcing use of lot numbers during material transactions thus enabling the tracking of batches of items throughout their movement in and out of inventory.

**lot genealogy**

In Oracle Shop Floor Management you can view the historical production information of a lot including the sectors lot has moved, stocking locations, and transactions.

**lot merging**

In Oracle Shop Floor Management you can combine multiple lots into one resulting lot. The starting lots must be the same revision level for the item, attributes values, intraoperation step, department, and resources.

**lot splitting**

The splitting of a parent lot into multiple child lots.

**material status**

Makes it possible to control the movement and usage of portions of on hand inventory that might have distinct differences because of grade, quality, or maturity level.

**material workbench**

A tool used to query item information, location information, cost group information, status information, LPN information, and lot and serial information. It is also used to perform some transactions including move order subtransfers, move order issues, material status updates, cost group changes and cycle count requests.

**min-max planning**

An inventory planning method used to determine when and how much to order based on a fixed user-entered minimum and maximum inventory levels.

**mobile devices**

Oracle Mobile Supply Chain Applications uses equipment with the ability to communicate to an application server by the Internet or local area networks. Also called mobile devices, this equipment includes hand-held Radio Frequency (RF) devices, wearable computing and ring scanner systems, lift truck mounted RF computers, and

personal digital assistants. (PDA).

**move transaction**

A transaction to move assemblies from operation to operation or within an operation on a discrete job or repetitive schedule.

**nested**

The placing of one, or many, LPNs into another LPN.

**new on-hand quantity**

The quantity on-hand immediately after the transaction is performed and saved. Equal to current on-hand quantity plus total quantity. *See* **current on-hand quantity, total quantity**.

**operating unit**

An organization that partitions data for subledger products (AP, AR, PO, OE). It is roughly equivalent to a single pre-Multi-Org installation.

**operation plan**

A plan that consists of sequential operations that depicts the zone, subinventory, or locator where each operation is performed. An operation plan defines the material movement path and sequence of operations

**organization**

A business unit such as a plant, warehouse, division, department, and so on. Order Management refers to organizations as warehouses on all Order Management windows and reports.

Internal organizations are divisions, groups, cost centers or other organizational units in a company. Organizations can be used to demonstrate ownership or management of functions.

**outbound consolidation**

**pack slip**

An external shipping document that accompanies a shipment itemizing in detail the contents of that shipment.

**parameter**

A variable used to restrict information in a report, or determine the form of a report. For example, you may want to limit your report to the current month, or display information by supplier number instead of supplier name.

**pending**

A status where a process or transaction is waiting to be completed.

**pick list**

A report that lists all component requirements sorted by supply type for a particular discrete job, repetitive schedule or production line.

**pick release**

An order cycle action to notify warehouse personnel that orders are ready for picking.

**pick slip**

Internal shipping document pickers use to locate items to ship for an order. If you use standard pick slips, each order will have its own pick slip within each picking batch. If you use the consolidated pick slip, the pick slip contains all orders released in that picking batch.

**picking**

The process of withdrawing items from inventory to be shipped to a customer.

**picking line**

An instruction to pick a specific quantity of a specific item for a specific order. Each pick slip contains one or more picking lines, depending on the number of distinct items released on the pick slip.

**picking rule**

A user defined rule, based on business practices, that directs the picking of material from a specified location in the warehouse.

**planned cross docking**

Cross dock opportunity between expected inbound receipted and outbound deliveries identified before material arrives at the inbound dock.

**PO**

*See* **purchase order**.

**predefined serial number**

To define an alphanumeric prefix and a beginning number for your serial numbers before you assign them to items. Predefined serial numbers are validated during receiving and shipping transactions.

**profile option**

A set of changeable options that affect the way your applications run. In general, profile



options can be set at one or more of the following levels: site, application, responsibility, and user.

**purchase order**

A type of purchase order you issue when you request delivery of goods or services for specific dates and locations. You can order multiple items for each planned or standard purchase order. Each purchase order line can have multiple shipments and you can distribute each shipment across multiple accounts. *See standard purchase order and planned purchase order.*

**purchase order receipt**

*See receipt.*

**put away rule**

A user defined rule, based on business practices, that directs the put away of material to a specified location in the warehouse.

**quantity remaining**

The quantity of an assembly remaining to be completed at an operation in a discrete job or repetitive schedule. This is the sum of the quantities in all intraoperation steps at all operations before the current operation, plus the quantities in the Queue and Run intraoperation steps at the current operation.

**quantity required**

The total quantity of a component item required to produce all the assemblies in a discrete job or repetitive schedule as determined by the usage quantity on the bill of materials, the production quantity, and the component yield.

**receipt**

A shipment from one supplier that can include many items ordered on many purchase orders.

**receiving and inspection**

A condition of a returned inventory item signifying it has been received but is being inspected for damage. If in acceptable condition, the items are transferred to stock and a credit can be issued. If unacceptable, the items can be returned to the customer or scrapped.

**reject**

An intraoperation step in an operation where you can record assemblies that require rework or need to be scrapped.

**report**

An organized display of Oracle Applications information. A report can be viewed on-line or sent to a printer. The content of information in a report can range from a summary to a complete listing of values.

**responsibility**

Determines the data, windows, menus, reports, and concurrent programs you can access in Oracle Applications. It is linked directly to a data group. Several users can share the same responsibility, and a single user can have multiple responsibilities.

**return material authorization (RMA)**

Permission for a customer to return items. Receivables allows you to authorize the return of your sales orders as well as sales made by other dealers or suppliers, as long as the items are part of your item master and price list.

**return to supplier**

A transaction that allows you to return to the supplier items from a fully or partially received purchase order and receive credit for them.

**revised item**

Any item you change on an engineering change order. Revised items may be purchased items, subassemblies, finished goods.

**revision**

A particular version of an item, bill of material, or routing.

**rule simulator**

Performs simulations, based on user defined information, of picking and put away rules for debugging purposes. The rules simulator also simulates strategies, or the entire process of the rules engine.

**rules**

Oracle Warehouse Management rules include put away rules, picking rules, cost group rules, task type rules, and labeling rules. Rules are used to enforce business policies and procedures for warehouse tasks.

**rules engine**

Provides a repository for restrictions and business policies related to your warehouse.

**serial number**

A number assigned to each unit of an item and used to track the item.

**serial number control**

A manufacturing technique for enforcing use of serial numbers during a material transaction. An Oracle Manufacturing technique for enforcing use of serial numbers during a material transaction thus enabling the tracking of serialized items throughout their movement in and out of inventory.

**ship confirm**

A process in Shipping Execution which allows you to identify shipped quantities, assign inventory control information for released lines, assign freight charges, and specify whether or not to backorder unfulfilled quantities of released line items.

**ship confirmation**

To enter shipped quantity and inventory controls for specific shippable lines. You can ship confirm the same delivery/departure repeatedly until you close the delivery/departure. Once it is closed, no more changes can be made into a delivery/departure.

**ship date**

The date upon which a shippable item is shipped.

**shipment**

An individual package sent to a customer. Thus, a shipment might contain an entire order, if all items in that order are pick released and packed together. A shipment might contain just part of an order that is pick released and packed. A shipment might also contain only part of a released order line, where some of the items on the picking slip are not in stock.

**shipping**

The function that performs tasks for the outgoing shipment of parts, components, and products. It includes packaging, marking, weighing and loading for shipment.

**shipping documents**

Shipping related reports, such as the Bill of Lading, Commercial Invoice, Mailing Label, Pack Slip, Vehicle Load Sheet Summary, and Waybill.

**shipping instructions**

Notes that print on the pick slip. These instructions are intended for internal use.

**sort criteria**

For picking and put away rules, the sort criteria determines in which order the system uses a rule to suggest an allocation

**standard item**

Any item that can have a bill or be a component on a bill except planning items, option classes, or models. Standard items include purchased items, subassemblies, and finished products.

**standard purchase order**

A type of purchase order you issue when you order delivery of goods or services for specific dates and locations for your company. Each standard purchase order line can have multiple shipments and you can distribute the quantity of each shipment across multiple accounts. *See* **purchase order**.

**standard receipt**

A receipt routing in which shipments are received into a receiving location and then delivered in a separate transaction. Standard receipts can be inspected or transferred before delivery.

**strategies**

An ordered sequence of rules that Oracle Warehouse Management uses to fulfill complex business demands.

**strategy assignment**

A strategy that is assigned to an instance of a particular business object.

**strategy search order**

The sequence in which various objects will be evaluated for associated strategies and rules.

**subinventory**

Subdivision of an organization, representing either a physical area or a logical grouping of items, such as a storeroom or receiving dock.

**sublot**

A subdivision of a lot which may be used when an entire lot is more than would be used or produced at any one time, but grouping of the material into a single lot is still desired. This maintains the integrity of the overall lot, but allows it to be consumed in manageable pieces.

**supplier**

Provider of goods or services.

**supply**

A quantity of materials available for use. Supply is replenished in response to demand

or anticipated demand.

**supply locator**

The specific location, such as shelves or containers, within a supply subinventory that you use as the default locator in a material transaction.

**supply subinventory**

The subinventory you use as a primary source of supply to meet a specific material requirement in a discrete job or repetitive schedule.

**task type rule**

A user defined rule, based on business practices, that assigns specific tasks to specific human resources and machine resources, if defined. Task type rules can be utilized to ensure that a specific employee picks specific material from a specific location.

**transaction quantity**

The quantity of a transaction.

**unit of measure**

The unit that the quantity of an item is expressed.

**unpack**

An LPN can be unpacked. This can be used effectively in an "Each" subinventory where LPNs are not utilized.

**UOM**

*See* **unit of measure**.

**vendor**

*See* **supplier**.

**warehouse**

*See* **organization**.

**warehouse control board (WCB)**

A tool used by Oracle Warehouse Management to monitor, control, and execute various warehouse operations.

**warehouse management system (WMS)**

The Warehouse Management System provides advanced distribution processes such as

value-added services, cross docking, order assembly postponement, and resource and task management to optimize the order fulfillment process. Oracle Warehouse Management System provides an easy to use automated interface for mobile Internet devices.

## **WIP**

*See* **work in process**.

## **work in process**

An item in various phases of production in a manufacturing plant. This includes raw material awaiting processing up to final assemblies ready to be received into inventory.

## **zone**

The area within an encompassing set of locations. A zone is used as a charging mechanism for deliveries and freight rating for the order quote. A collection of locations. The area within a concentric ring from a warehouse.

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