
Overview of Oracle Process Manufacturing

Student Guide

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Authors

Zouheir Stockman
Elaine Butler
Laurel Dale

Technical Contributors and Reviewers

Andy Hyers
Mike Litt

Publisher
Shane Mattimoe

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Overview of OPM and Oracle Applications

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Course Objectives

- **Describe Oracle Process Manufacturing (OPM), the interrelationship between the OPM modules, and how it interacts with Oracle Financial Applications**
- **Introduce navigation concepts and Internet computing architecture**
- **Describe the process flow of materials**
- **Explain concepts of process manufacturing**
- **Provide a functional overview of the OPM modules**

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Course Agenda

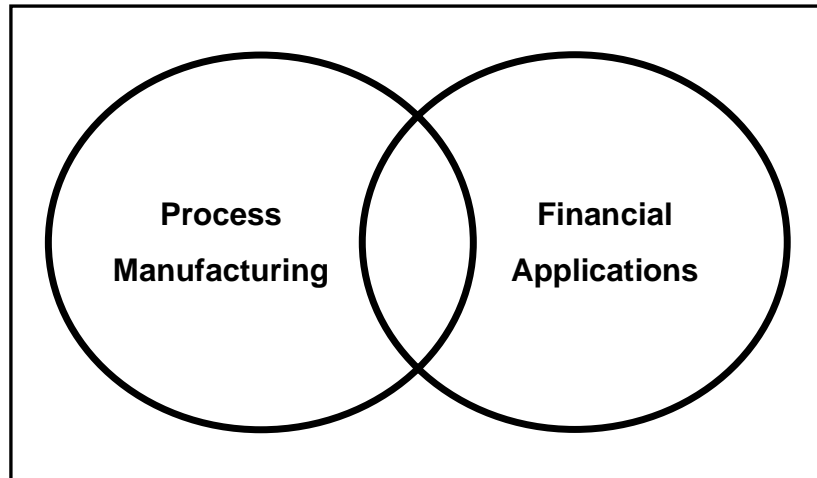
- Overview of OPM, Release 11*i*
- A day in the life of a raw material:
 Demonstrate the process, from receiving to shipping
- Concepts of process manufacturing
- Functional overview of OPM modules
- Summary (JeOPMardy game)

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Oracle Process Manufacturing

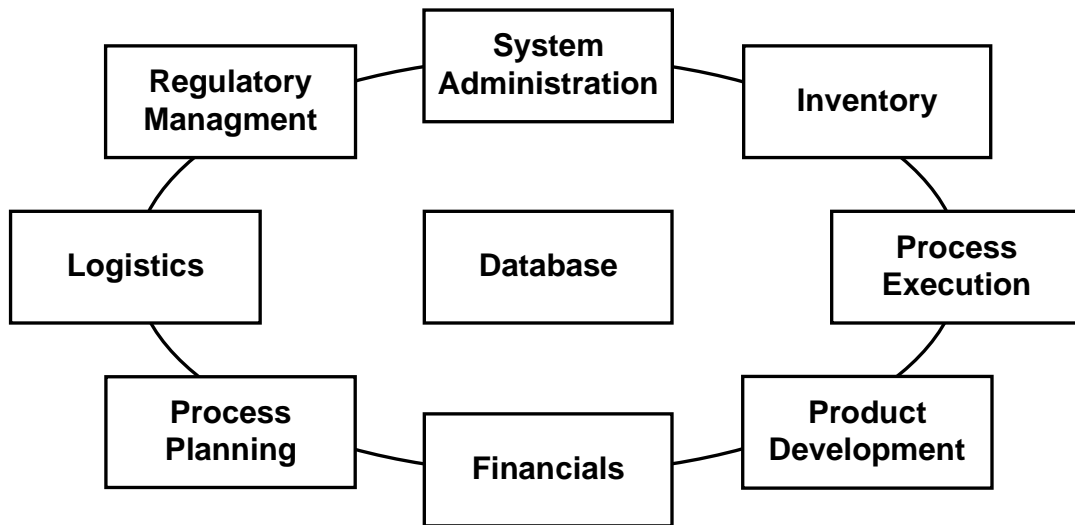
Oracle Applications



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Overview of OPM 11i



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OPM System Administration

**System
Administration**

System setup examples:

- **Units of Measure**
- **Organizations**
- **Document Ordering**
- **Inventory Transaction Reasons**

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Inventory

Inventory

- **Inventory Management**
- **Physical Inventory**
- **European Community (EC) Intrastat**

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Process Execution

Process
Execution

- **Production Management**
- **Process Operations Control**

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Product Development

**Product
Development**

- **Formula Management**
- **Laboratory Management**
- **Quality Management**

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OPM Financials

Financials

- **Cost Management**
- **Manufacturing Accounting Controller (MAC)**
- **Financials Integration**
- **Accounting Setup**

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Process Planning

Process
Planning

- **Master Production Scheduling**
- **Material Requirements Planning**
- **Forecasting**
- **Capacity Requirements Planning**
- **Advanced Planning and Scheduling**
- **Global Available To Promise (ATP)**

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Logistics

Logistics

- **Purchase Order Management**
- **Order Fulfillment**

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Regulatory Management

**Regulatory
Management**

- **Hazardous material documents**
- **Multiple languages**

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Responsibilities

Responsibilities allow access to:

- **A specific application or applications**
- **A set of books**
- **A customized list of forms that you can navigate**
- **A customized list of functions that you can perform**
- **Reports in specific applications**

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Choosing a Responsibility

A responsibility is a level of authority in Oracle Applications that lets you access only those Oracle Applications functions and data appropriate to fulfill your role in an organization.

After you sign on to Oracle Applications, one of the following occurs:

- The Navigate window appears listing your current responsibility in the window title.
- A window containing a list of responsibilities appears.
- A window displaying the form you are authorized to use appears.

Each user has at least one responsibility and several users can share the same responsibility.

Summary

In this lesson, you should have learned how to:

- **Explain Process Manufacturing: OPM + Financials**
 - **Describe the OPM Applications**
 - **Describe how OPM interacts with the Oracle Financial Applications**
- **Navigate Oracle Applications**
 - Choose a Responsibility**

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Describing the Process Flow of Materials

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Objectives

After completing this lesson, you should be able to describe a day in the life of a raw material:

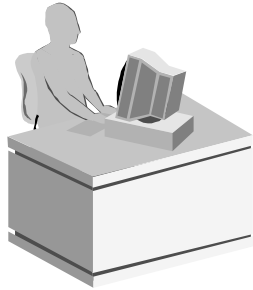
- **Receiving**
- **Inventory**
- **Production**
- **Order Fulfillment**
- **Quality**

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The Start of a Day in Life

FG demands: Iced tea



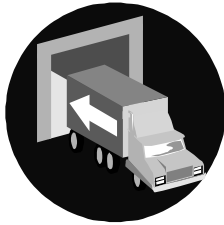
SCP results: Buy bulk tea

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A Day in the Life of a Raw Material

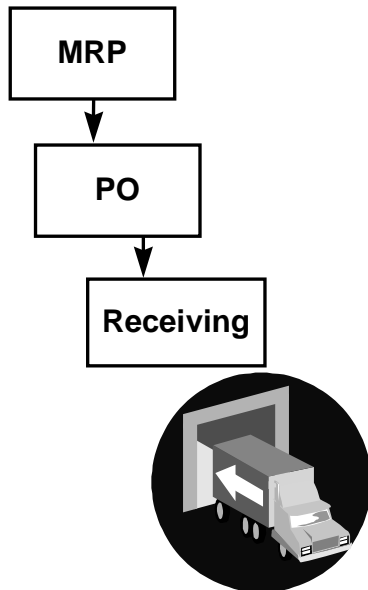
Receiving



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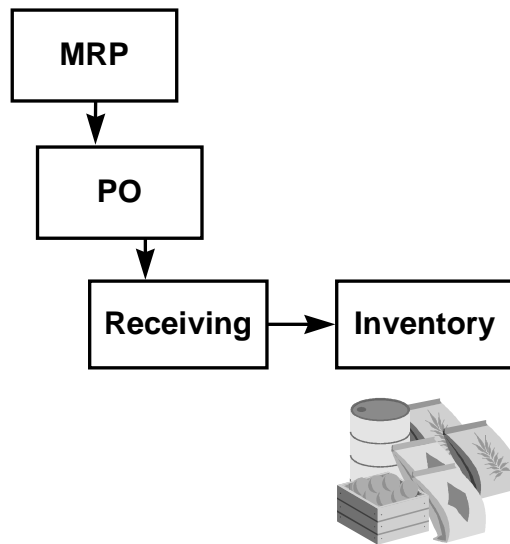
A Day in the Life of a Raw Material



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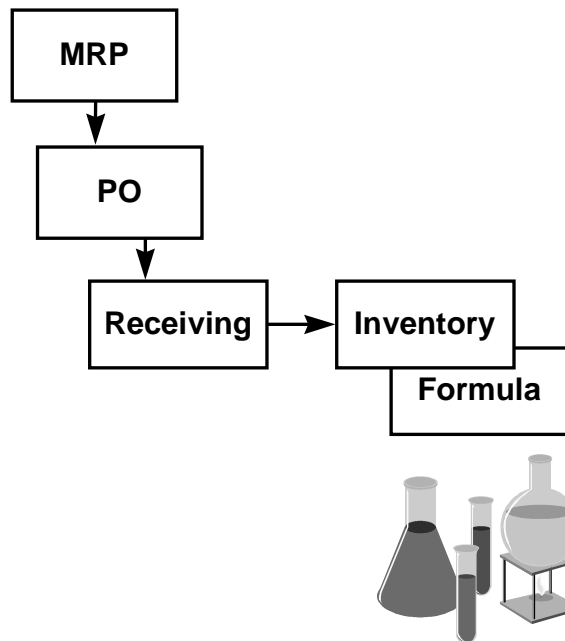
A Day in the Life of a Raw Material



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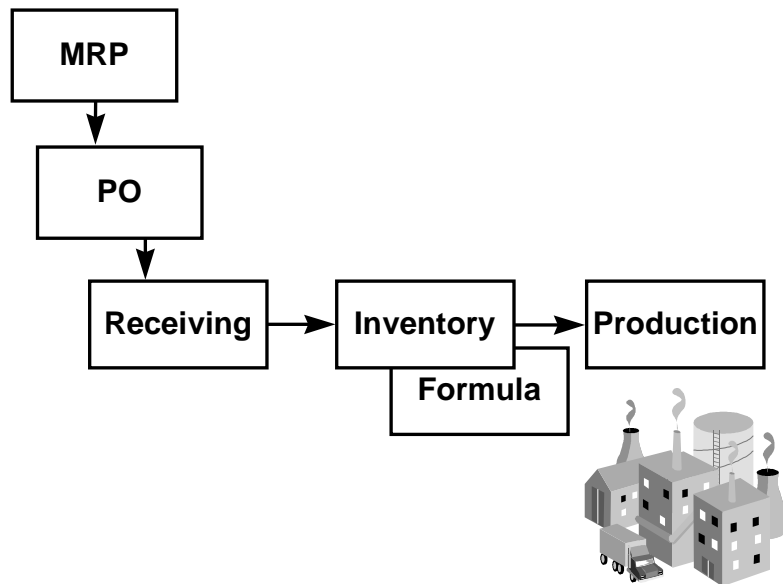
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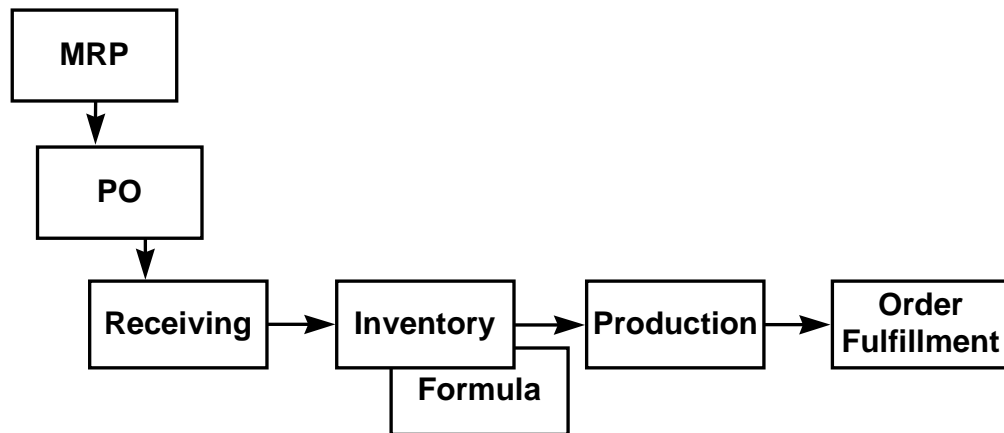
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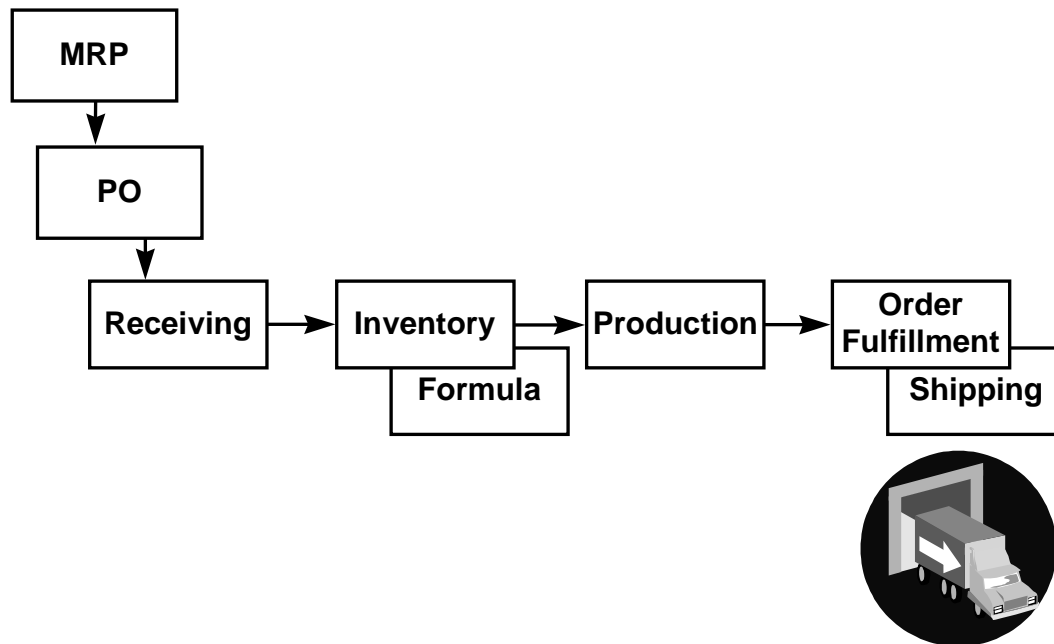
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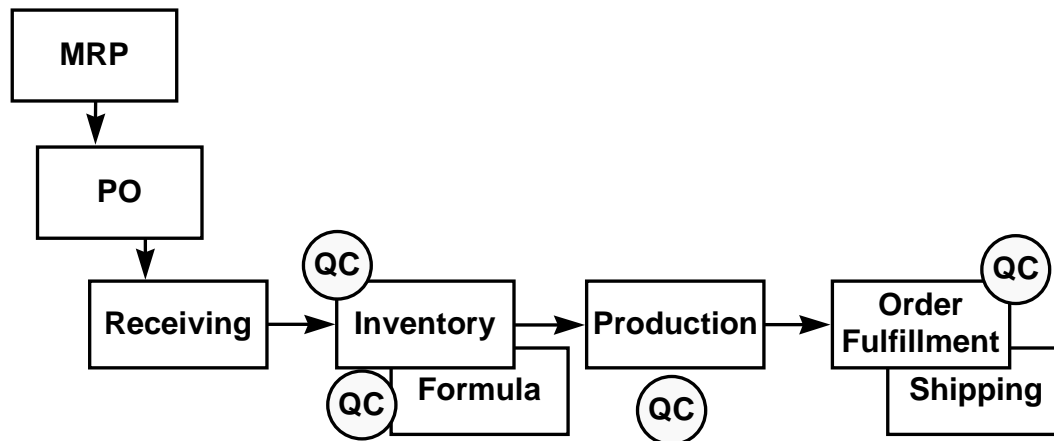
A Day in the Life of a Raw Material



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A Day in the Life of a Raw Material

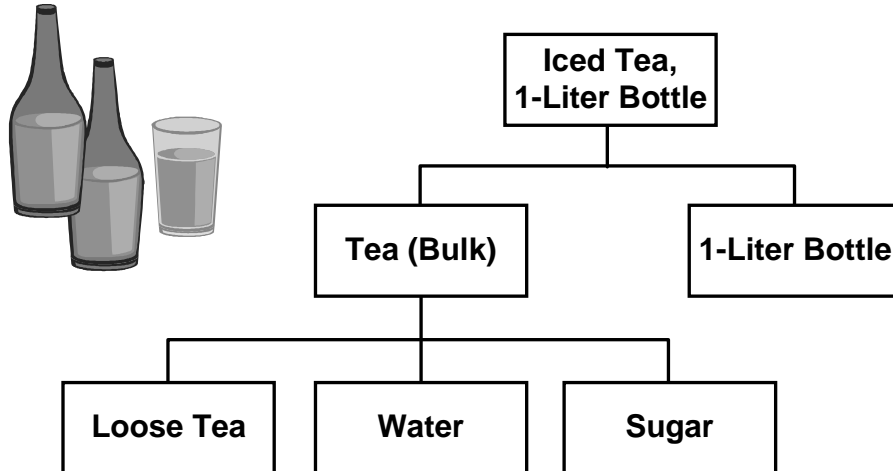


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Our Product

1-Liter Bottles of Iced Tea



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Summary

In this lesson, you should have learned how to describe a day in the life of a raw material:

- **Receiving**
- **Inventory**
- **Production**
- **Order Fulfillment**
- **Quality**

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Concepts of Process Manufacturing

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Objectives

After completing this lesson, you should be able to do the following:

- **Describe the characteristics of process manufacturing**
- **Explain process terminology**
- **Differentiate between process and other types of manufacturing**

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Characteristics of Process Manufacturing

- Chemical reactions
- Blending
- Mixing
- Disassembly



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Describing the Characteristics of Process Manufacturing

Discrete manufacturers fabricate and assemble with a bill of material-based architecture. Examples are the high tech, electronics, and aerospace industries. In contrast, process manufacturers create products by controlling chemical reactions, blending, and mixing. The raw materials are powders, liquids, and commodity grains, fruits, vegetables, and even livestock. Examples of products are dairy, paint, and paper products. A couple of analogies for discrete versus process are making “stuff” versus “things,” or if it spills it’s process, if it breaks it’s discrete.

The process industries include the food and beverage, consumer packaged goods, chemical, pharmaceutical, pulp and paper, metals, rubber, and plastics industries.

Process Terminology

Process	Discrete
Batch	Work order
Lot/Sublot	Lot/Serial number
Certification	Completion
Formula	Bill of materials

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Explaining Process Terminology

The process industry has different terms for describing tasks that are similar to discrete manufacturing tasks. The above table shows some of these terms and the corresponding discrete manufacturing term. The following example explains the differences between the terms lot number and serial number.

Example

A discrete manufacturer who produces bicycles uses serial numbers to identify parts in case of a recall, but a canned fruit producer cannot attach a serial number to each piece of fruit put into a can. This process manufacturer assigns a lot number to a quantity of fruit instead.

Features Which Can Be Unique to Process Manufacturing

- **Yield**
- **Potency**
- **Inventory tracking using dual units of measure (UOM)**
- **Transact in multiple units of measure**
- **By-products and co-products**
- **Grade/shelf life**
- **Rule-based formulations**
- **Lot/sublot genealogy**
- **Material Safety Data Sheets (MSDS)**
- **FIFO and FEFO inventory allocation**
- **The keyword is variability!**

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Yield

The product yield can vary according to the:

- **Chemical composition of raw materials**
- **Ambient conditions of the production area**
- **Maturation time of the batch**



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Examples of Varying Yields

A potato chip maker buys potatoes to make potato chips. When potatoes are fried, the oil displaces the water in the potato, so as the percentage, of water, and the percentage of solid varies from shipment to shipment, the oil consumption and product yield also varies. The lower the percentage of solid, the lower the yield, and the higher the oil consumption.

A soft drink maker has plants all over the world. Each plant uses a different version of the soft drink formula, yet wherever you are in the world, the soft drink tastes the same. Each plant uses a different version of the formula to counteract differences in ambient temperature and humidity and differences in raw material composition. For example, a plant in a hot, dry location such as Phoenix, Arizona has a lower yield due to evaporation than a plant in a cool, humid location such as Bangor, Maine.

A bread maker uses yeast to make dough. The volume of the dough keeps increasing the longer it is allowed to rise.

Potency

Different lots of the same material can have different potencies.



80.0%



81.3%

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Potency Example

Assume that the two soft drink plants in Arizona and Maine each buys raw materials locally. The sweetness factor of the sweetener purchased in Arizona may differ from the sweetener purchased in Maine. A lower yield would be produced when a sweetener with a lower sweetness factor is used.

Dual Units of Measure

- Classic UOM conversion; for example, specific gravity
- Track liquids, solids products in different containers with different weights and volumes
- Track on-hand inventory in two units of measure simultaneously
- Item, lot, and subplot level conversions



5 eggs = 5 EA = .88 LB



5 eggs = 5 EA = .94 LB

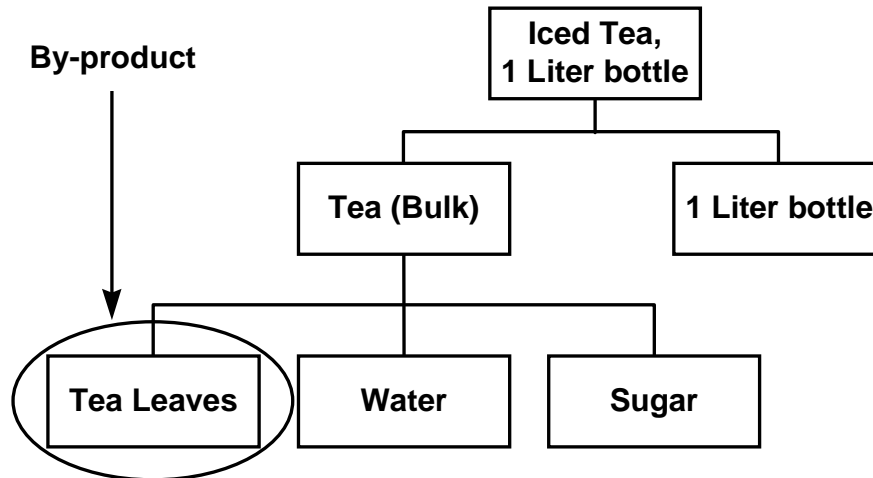
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Dual Units of Measure Example

A bread manufacturer buys eggs in eaches, but measures the eggs in pounds when mixing dough because eggs come in different sizes.

By-products and Co-products



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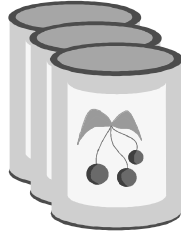
Difference Between By-products and Co-products

Anything that is not totally consumed when making the final product can be a by-product or co-product. In the above example, the tea bag is not totally consumed. It must be disposed of after the bulk tea is made. Because you must pay someone to haul away the used tea bags as trash, the tea bags can be considered a by-product, but if you could sell the used tea bags to someone, you might want to consider them a co-product.

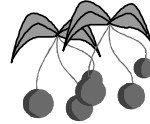
The following system constraints can help you decide whether to label an item as a by-product or as a co-product:

- You can plan for the production of co-products, but not for by-products.
- The system calculates how much it costs to produce a co-product, but not a by-product.

Grades/Shelf Life



**Grade A fruit goes
into cans.**



**Grade B fruit gets
made into juice.**

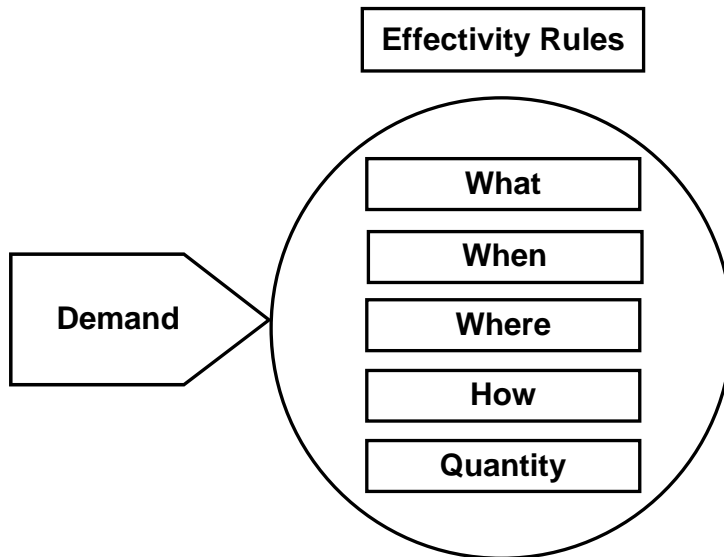
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Grades Example

A fruit canning operation receives several grades of fruit. The highest grade fruit is used to produce canned slices of fruit. A lower grade is used to produce fruit juice.

Rule-Based Formulations



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Using Multiple Formula Versions

With OPM, you can define multiple formula versions to make an item, and define usage rules for each formula and version to ensure that the appropriate version is used in production. For example, you can establish multiple formula versions to compensate for variations in your raw materials. This is important for metals and plastics manufacturers who use recycled materials whose quality characteristics can vary dramatically, affecting processing.

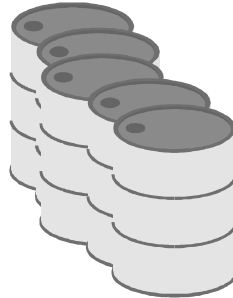
Formula versions can also exist to ensure product consistency when production equipment or facilities vary.

OPM validates that the formulations used are the right ones based on what you are making, when and where you are making it, the processing equipment available at that location, and the quantity being produced.

Lot/Sublot Genealogy

The relationship between material lots and product lots are recorded during lot allocation to batches.

Lot 123



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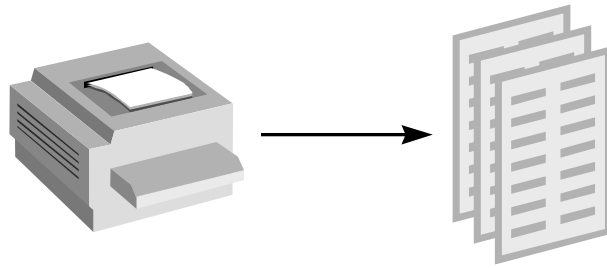
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Tracing Lots

You can find out what ingredients from which lots went into a product lot, or you can find out in which product lots a particular material lot was used.

Material Safety Data Sheets

Generate the documents required when you supply hazardous materials.

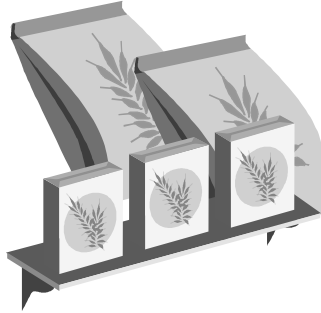


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FIFO or FEFO Inventory Allocation

Allocate inventory to production or to sales orders based on the first in, first out (FIFO) or first expired, first out (FEFO) principle.



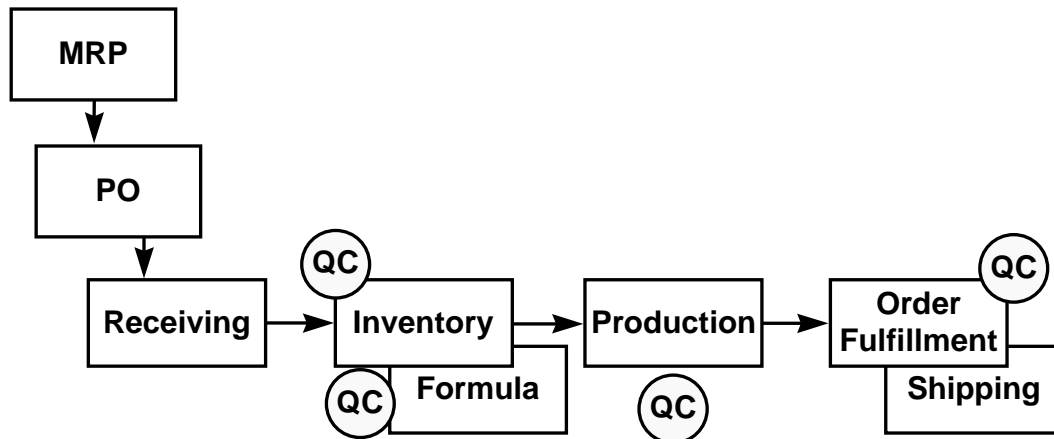
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Allocating Inventory

To help maximize inventory usage and minimize costs, you can establish rule-based allocation procedures. At the item and warehouse level, OPM can automatically allocate inventory on a first in, first out or first expired, first out basis. This is necessary in the food and beverage industry where shelf life is a critical consideration.

Quality Testing



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Controlling Quality

Perform quality tests at multiple points in the process:

- When materials are received
- When materials are placed into inventory
- After producing a batch
- Before fulfilling a sales order

Summary

In this lesson, you should have learned how to:

- **Describe the characteristics of process manufacturing**
- **Explain process terminology**
- **Differentiate between process and discrete manufacturing**

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Functional Overview of OPM Foundation Modules

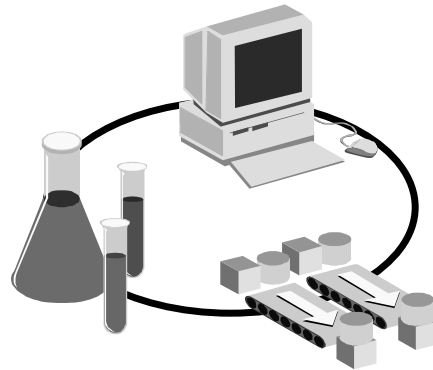
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Objectives

After completing this lesson, you should be able to describe specific functions within the following modules:

- **OPM System Administration**
- **Inventory Control**
- **Formula Management**
- **Production Management**



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System Administration Overview

Using the Oracle System Administration and OPM System Administration modules, you can do the following:

- **Define an application user and assign responsibilities**
- **Define human resource organizations, organizations, and assign user organizations**
- **Establish unit of measure types and units of measure**
- **Define geography codes, reason codes, and document ordering**
- **Change session parameters, such as default organization**

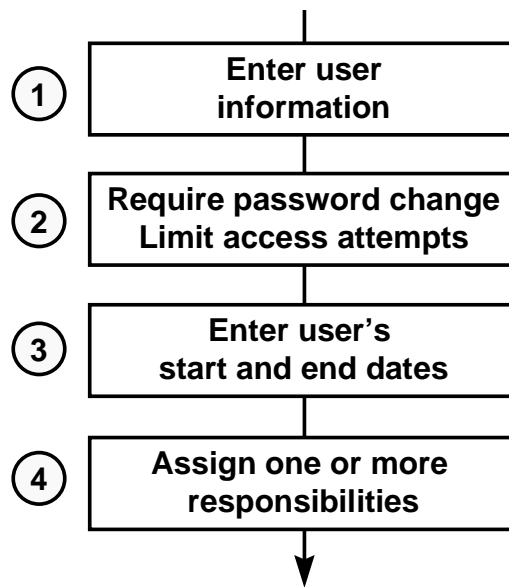
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Oracle Applications Security

One of the most important functions of a system administrator is to manage security for the Oracle Applications environment. In Oracle Applications security is implemented by creating user sign-ons and relating them to a responsibility. The responsibility specifies the actual access authorizations. This lesson shows you how to define both user sign-ons and responsibilities.

Defining a New Application User



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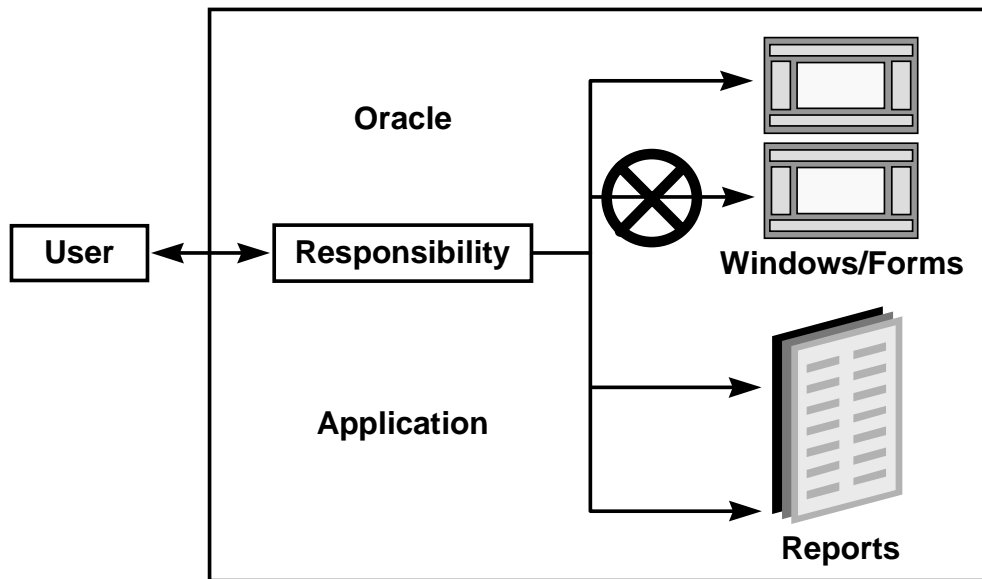
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Defining a New User

The slide shows the steps you follow to define a new application user. You define an authorized user of Oracle Applications by specifying a username and password and assigning one or more responsibilities to the application user.

Note: Only the first and last steps are required.

Managing Application Security



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Managing Application Security

In an Oracle Application, the system administrator manages security by creating user sign-ons and assigning them to one or more responsibilities. Users then have access to all the functionality associated with that responsibility.

User Security

You authorize a user to sign on to Oracle Applications by defining an application user. You then assign one or more responsibilities to the new user.

Responsibility Security

A responsibility is a collection of authorizations that allow access to:

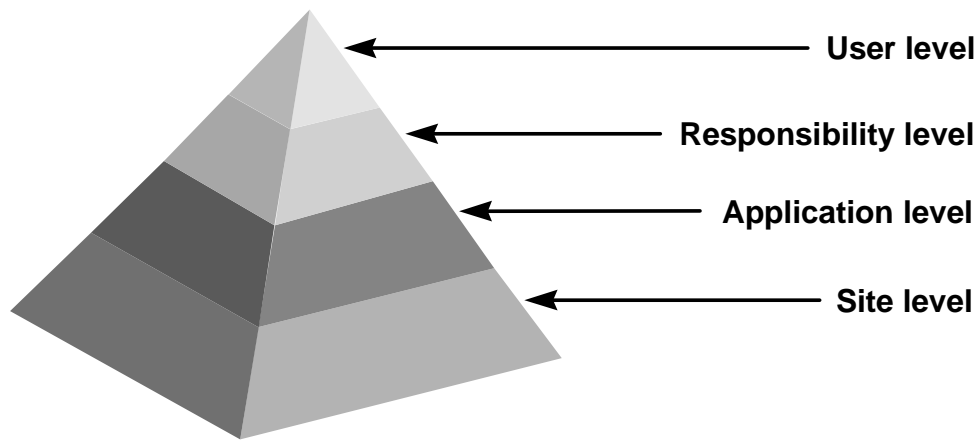
- A specific application or applications
- A set of books
- A restricted list of forms, functions, and reports

Each user has one or more responsibilities, and several users can share the same responsibility.

A system administrator can assign users any of the standard responsibilities provided with Oracle Applications or create new custom responsibilities as needed.

The slide shows a user sign-on linked to a hypothetical responsibility that has access to one form and both of the reports for a particular application.

Profile Hierarchy Levels



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Profile Hierarchy Levels

Setting a user profile affects application users across one of four different levels.

Site level: Site level settings apply to all users at an installation site. To display the name of your installation site, select About Oracle Applications from the Help menu.

Application level: Application level settings apply to all users of the specified application. For example, a profile could be set that applies to all Oracle General Ledger users. Profile options that can be set at the application level override options set at the site level.

Responsibility level: Responsibility level settings apply to all users currently signed on under the responsibility. For example, a profile could be set that applies to all users of the Oracle General Ledger GL budget supervisor responsibility. Profile options that can be set at the responsibility level override options set at the site and application levels.

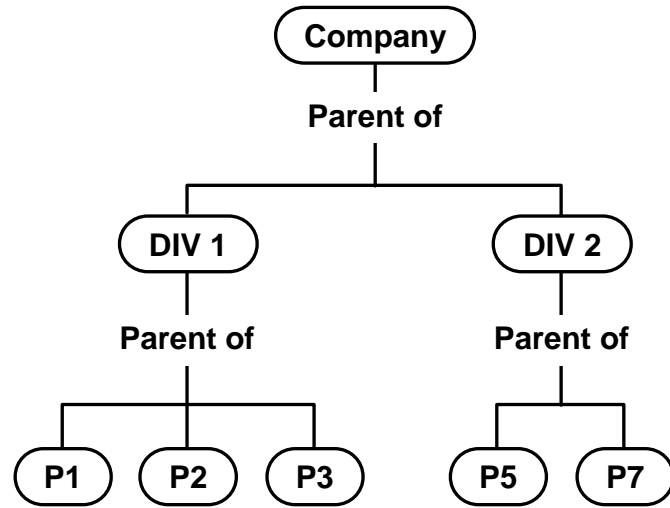
User level: User level settings apply to individual users, identified by their application usernames. For example, a user profile could be set that only applies to user JDoe. Profile options set at the user level override all other options.

Organizational Hierarchy


**Organization
and company**


**Organization
(not a plant)**


**Organization
and plant**



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Unit of Measure Types and Units of Measure

Type	Mass	Volume	Length	Count	Time	PVol	Package
BASE	LB	GAL	FT	EA	HR	PGL	CASE
	KG	LT	M	DOZ	MIN		PLT
	TON	MLT	IN		SEC		DRUM
	MTON	FOZ	YD		DAY		
	OZ						

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Converting Between Units of Measure

UOM Type = Mass



Reference
(base) unit
of measure →

Mass	Conversion
LB	1 LB = 1 LB
KG	1 KG = 2.205 LB
TON	1 TON = 2000 LB
MTON	1 MTON = 2205 LB
OZ	1 OZ = .0625 LB

} Convert all UOMs
within a UOM type
to the reference
UOM

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Defining Geography Codes

Use Geography codes to reference geographical areas on purchase orders, customer receipts, and other documents that contain addresses. Go to the Geography Codes form to set up geography codes.

**(N) OPM Systems—>OPM System Setup—>
Geography Codes**

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(Help) Oracle Manufacturing Applications > Oracle Process Applications >
Oracle Process Manufacturing Systems > OPM System Administration User's
Guide > OPM System Setup > Editing Geography Codes

../ > Geography Code Procedure

../ > Geography Code Field Reference

Defining Reason Codes

Reason codes provide information about increases or decreases in inventory. They are used to flag transactions and attach reasons to them. Go to the Reason Codes form to set up reason codes.

**(N) OPM Systems—>OPM System Setup—>
Reason Codes**

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(Help) Oracle Manufacturing Applications > Oracle Process Applications >
Oracle Process Manufacturing Systems > OPM System Administration User's
Guide > OPM System Setup > Editing Reason Codes

../ > Reason Code Procedure

../ > Reason Code Field Reference

Reason Codes

- Certain inventory transactions require a valid reason code.
- You can define as many reason codes as are needed.
- Reason codes can be used for sorting and reporting.

Identifying Document Types

OPM documents are categorized by type, each recording different kinds of information related to different transactions. Go to the Document Types form to set up document types.

**(N) OPM Systems—>OPM System Setup—>
Document Types**

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(Help) Oracle Manufacturing Applications > Oracle Process Applications >
Oracle Process Manufacturing Systems > OPM System Administration User's
Guide > OPM System Setup > Editing Document Types

../ > Document Types Procedure

../ > Document Types Field Reference

Establishing Document Ordering

Use the Document Ordering form to determine the document number assignment for each type of document. Go to the Document Ordering form to set up document ordering.

**(N) OPM Systems—>OPM System Setup—>
Document Ordering**

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(Help) Oracle Manufacturing Applications > Oracle Process Applications >
Oracle Process Manufacturing Systems > OPM System Administration User's
Guide > OPM System Setup > Editing Document Ordering

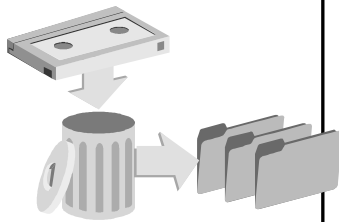
../ > Document Ordering Procedure

../ > Document Ordering Field Reference

Purge and Archive Functionality

Feature

Purge and Archive System Administration setup



Function

- Creating customizations for purging and archiving
- Executing a purge or archive

Business Value

User can maintain database more efficiently by user

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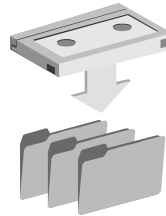
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Purge and Archive Definitions

- **Purge:** Removes selected data from database completely and moves to an archive
- **Archive:** Copies selected data from database to another location but leaves original information on the active database



Purge



Archive

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OPM Workflow Setup

Feature

OPM Workflow setup



Function

Establishing criteria for Workflow

Business Value

- **Provide enterprise-wide view**
- **Improve decision-making**

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OPM Workflow

In establishing criteria for Workflow, you have the following abilities:

- Use the seeded data that comes with the system
- Create your own workflow activities, column definitions, and role associations
- Activate and deactivate a workflow activity from the Workflow Activation form

Inventory Overview

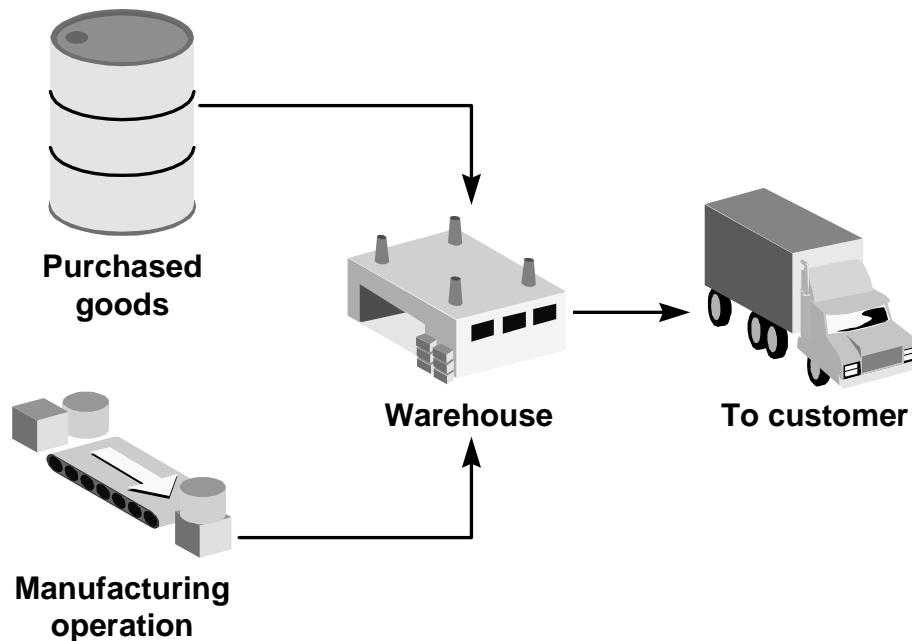
Using the Inventory Control module, you can do the following:

- **Create inventory items**
- **Set up stock locators**
- **Process inventory transactions**
- **Perform inventory inquiries and submit reports**

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Inventory Movements



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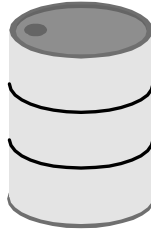
Inventory Movements

Oracle Process Manufacturing (OPM) Inventory provides you with visibility and control of your inventory across your enterprise. This course explains the different options available when setting up inventory items, warehouses, and locations, how to process inventory transactions, and how to query the inventory database. Some of the main inventory options available to you include:

- Lot control, which is optional and turns on the additional options of subplot, lot status, and quality control (QC) grade information
- Dual unit of measure control, which gives you the ability to store inventory in two units of measure
- Locations defined by item, lot, and warehouse so that you can split and track lots and sublots in multiple locations, tanks, and warehouses

Item Definition

- UOM
- Dual UOM control?



- Noninventory item?
- Location control?
- Lot control?

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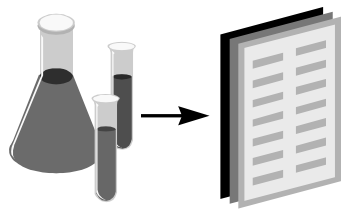
Item Definition

You have the following options when defining items:

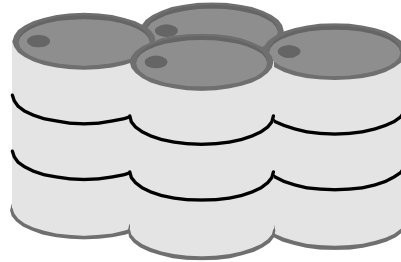
- Define items controlled by lots. If an item is lot controlled, you have the additional options:
 - Define items by subplot and lot status in addition to more basic information
 - Incorporate QC grade/shelf life and expiration date information into item definitions.
 - Establish retest requirements and actions applied to expired lots
 - Group items with similar characteristics into user-defined classes
- Identify noninventory items such as pallets or water

Lot Control

An item lot can represent a quantity of an item that shares the same specifications, for example quality specifications.



**Quality
test results**



Lot 123

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Lot Control

Lot status and quality control (QC) grade control are independent flags, so each can be used independently from the other. Lot status and QC grade control both require that lot control be used. Using lot control, each item lot can be divided into sublots that can reflect whatever characteristics you choose for items within the lot, such as potency or age of the inventory of the item.

Specifying QC grade control activates quality control characteristics for the item. Using quality control, you can specify item characteristics such as shelf life, how often to test the item's quality, and the number of days until an item expires.

A lot status indicates if lots are usable for sales, production, or shipping. You can also define lot statuses to indicate that a lot is on hold or is rejected.

Organizational Structures

OPM Organization	Other Oracle Applications
Company	Operating Unit
Organization	
Warehouse	Inventory Organization
Warehouse Address	HR Location
Warehouse Location	Stock Locator

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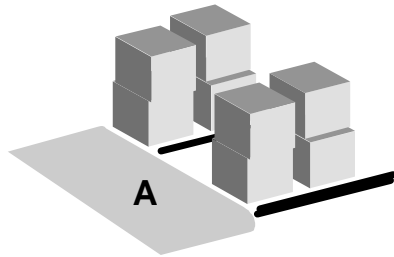
Organizational Structures

The first step in creating a warehouse is to create a new inventory organization. To indicate that the inventory organization is an OPM warehouse, you will need to designate it as a process organization warehouse by selecting the Process Organization check box in the Organization Parameters form.

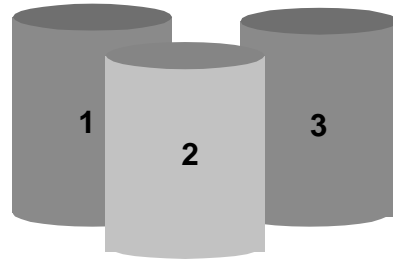
The main advantage to relating the organizational structures for Oracle Process Manufacturing and Oracle Applications is the benefit of added functionality for order management and shipping capabilities available in Oracle Applications.

- An OPM company is equivalent to an Oracle Applications (OA) Operating Unit.
- An OPM warehouse is the equivalent of an OA Inventory Organization.
- The OPM warehouse address is the equivalent of an OA Human Resource Location.
- The OPM warehouse location is the equivalent of an OA Stock Locator.

Stock Locators



Aisle A, Rows 1 and 2



Tanks 1, 2, and 3

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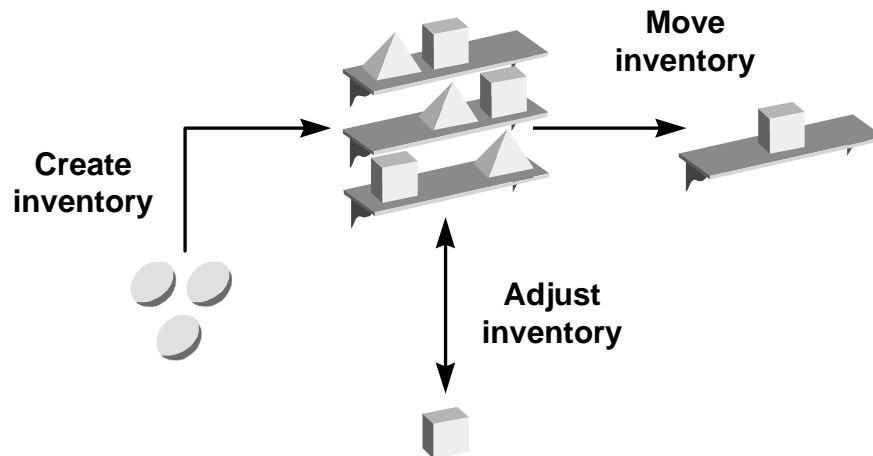
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Stock Locators

Define each inventory organization in which you stock your inventory, including consignment warehouses. If you need to keep a record of where in a warehouse each item is held set up a warehouse as location controlled, then divide your warehouse into areas called locations. A location can be a shelf, a pallet, a space on the floor, a tank, or anything you choose. Benefits of using warehouse locations include the ability to:

- Define location by item, lot, and warehouse throughout the enterprise
- Specify item storage sites and inventory control rules
- Split and track lots and sublots in multiple locations
- Establish default information such as staging requirements for each location
- Locate customer-owned or consigned inventory in its own “warehouse”

Changing Inventory Quantities



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Changing Inventory Quantities

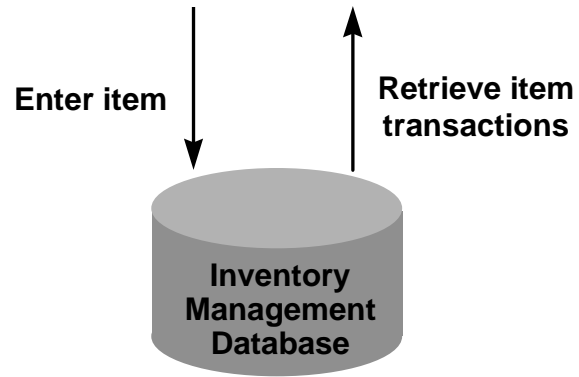
Other OPM responsibilities have a direct effect on inventory quantities. Transactions from other OPM responsibilities that affect inventory quantities include:

- Sales orders
- Shipments
- Purchase orders
- Purchase order receipts
- Production batch transactions
- Cycle count and physical inventory count adjustments

Within the OPM Inventory responsibility, you can create, move, or adjust inventory in addition to changing the QC grade or lot status of item quantities for individual items and warehouses. You can perform inventory move, grade change, and lot status change transactions on a range of items and warehouses at once using mass transactions.

OPM Inventory offers two ways to process quantity transactions, an immediate format and a journal format. The journal format entries are written to a journal. The item quantity updates are made when you post the journal.

Find Items and Inventory Transactions



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Online Inquiry Options

The following online inquiry options are available to display items, quantities, and transaction:

- Item Inquiry
- Transaction Inquiry
- Query Item Master
- Allocated Summary
- Unallocated Inventory
- Lot Genealogy

Inventory Reports

- **Inventory Location Detail**
- **Lot Status Master**
- **Inventory Valuation**
- **Lot Inventory**
- **Lot Master**
- **Warehouse Detail**
- **Warehouse Inventory**
- **Post Journal**
- **Daily Transaction Detail**
- **Trial Pick List**
- **Daily Item Usage**
- **Item Usage Detail**
- **Inventory Adjustments Journal**
- **Inventory Edit Journal**
- **Lot Genealogy**

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Oracle Workflow

- **Oracle Workflow routes information according to rules that you define.**
- **An established Oracle application user or anyone with Internet access can be included in the workflow process.**
- **The workflow engine, along with the notification system, carries out the defined rules.**

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Oracle Workflow

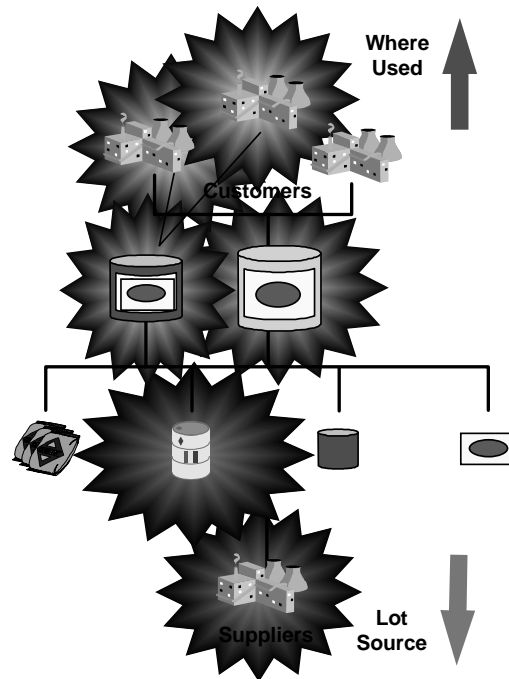
Using Oracle Workflow you can automate and continuously improve business processes, routing information of any type to people inside and outside your company according to business rules that you can easily change. In OPM Inventory you can use three workflows:

Item Activation: When you create an item, it is immediately inactivated as the first step in the workflow. The item created requires approval before it is activated. The Item Activation Workflow notifies the individual who needs to approve the item's creation. The result of the routing is that the item will become active if it is approved, or remain inactive if it is not approved.

Lot Expiry: A user is notified a defined number of days in advance of the lot expiration date then notified again if inventory exists for an expired lot.

Lot Retest: A user is notified a defined number of days in advance of the lot retest dates, then notified again if inventory exists for a lot that needs retesting.

Enhanced Lot Genealogy



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Formula Management Overview

Using the Formula Management module, you can do the following:

- **Create formulas, routings, and effectivities**
- **Define formula modifications**
- **Use Formula Management online inquiries and reports**
- **Streamline new product development**
- **Integrate research and development operations**

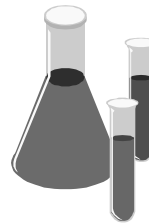
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Formula Management Overview

Using the Formula Management module, you can control and establish the following:

- **Standard formulas**
- **Co-products and by-products**
- **Formula calculations, scaling, and theoretical yield**
- **Formula effectivities**
- **Routings**
- **Phantoms and shrink factors**



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Formula Management

You use the Formula Management responsibility to define the formulas that drive your manufacturing process. Formulas form the basis of production. Every batch created in the Production Management responsibility is based on a formula created in Formula Management. Formulas are lists of products and ingredients, and their associated quantities.

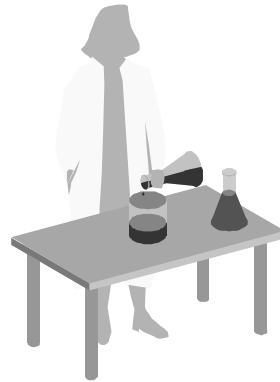
Goal Definitions

The following is a list of requirements and definitions that you will need to understand and be able to establish in the Formula Management responsibility.

- **Products:** Items that are created from a process
- **Co-products:** Multiple items created from a process
- **By-products:** Unplanned items created from a process
- **Formula use:** The area of the process that uses the formula
- **Routings:** The machine process that the items go through to create a product
- **Effectivities:** The who, what, where, when, and how of the formula

Formula and Product Terms

- **Formula**
- **Formula version**
- **Product**
- **Ingredient**
- **By-product**
- **Co-product**
- **Effectivity**
- **Formula use**

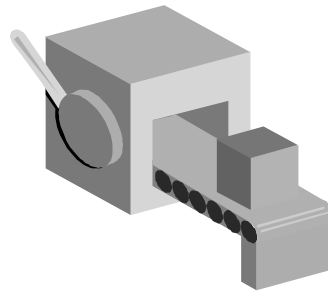


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Formula Routing Terms

- **Routing**
- **Resource**
- **Activity**
- **Cost analysis code**
- **Component class**
- **Operation**

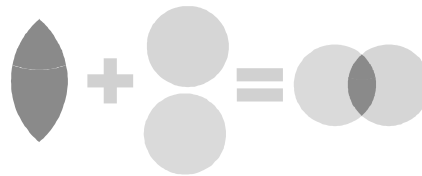


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Ingredient and Product Modification Terms

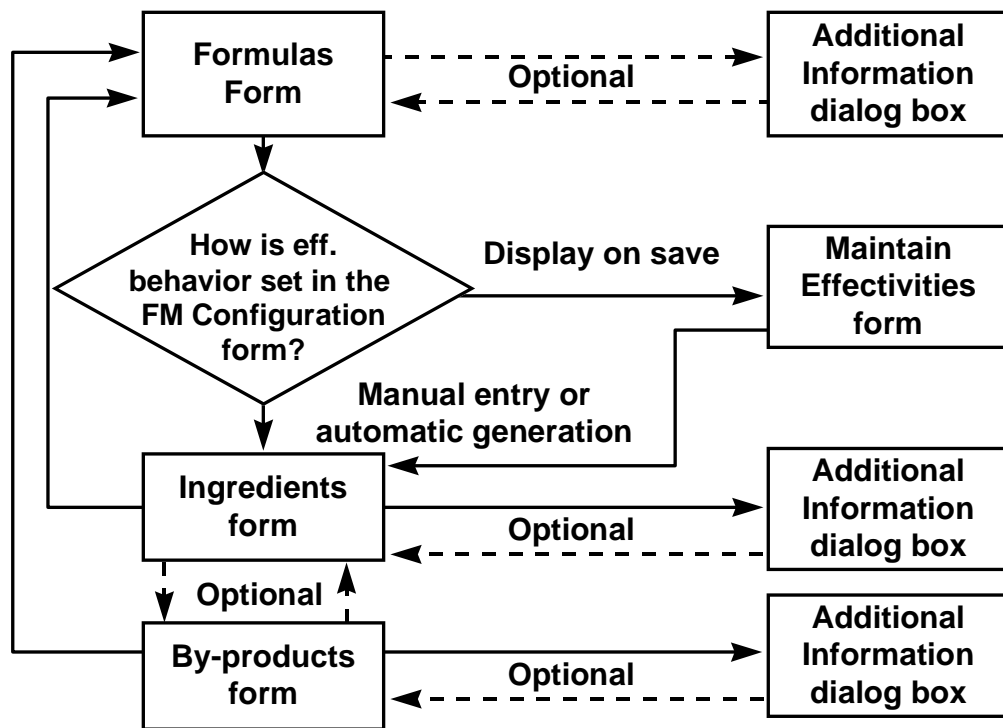
- **Scaling**
- **Theoretical yield**



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Data Entry Form Flow



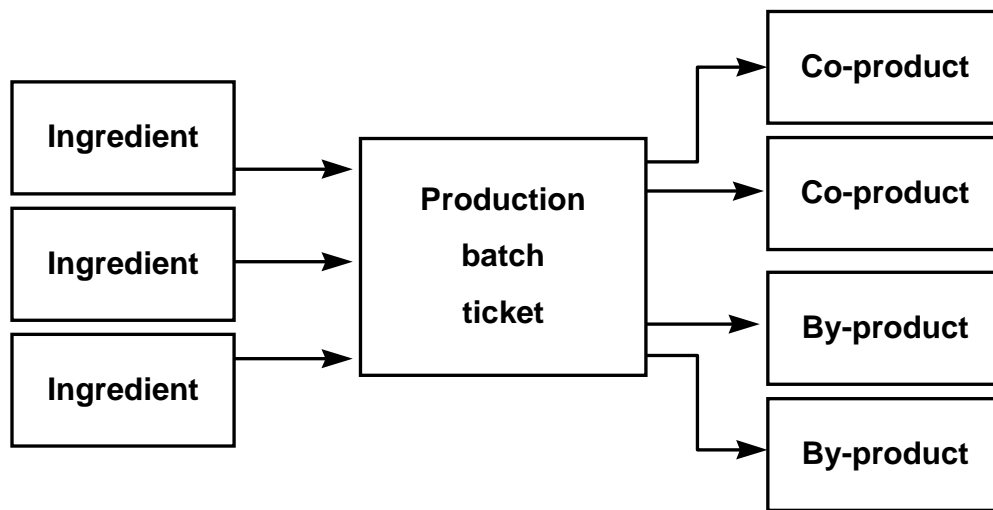
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Data Entry Form Flow

Several forms are used to define a formula. The diagram above depicts the forms that are used and the flow of data entry within Formula Management.

Formula Flow



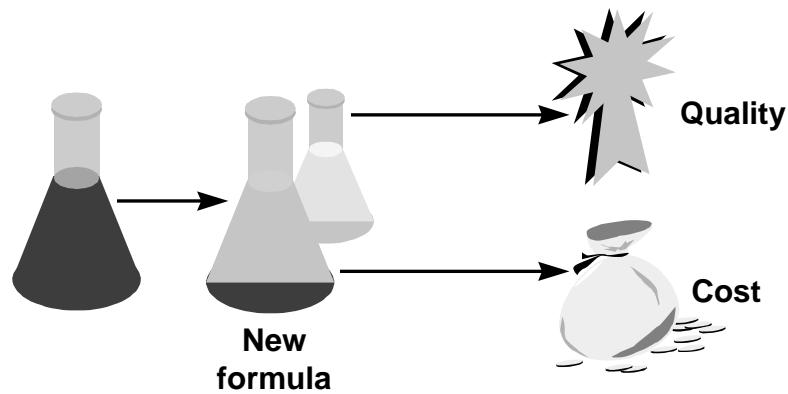
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Formula Flow

- A formula establishes the relationship between ingredients and products.
- A batch record is a working copy of a formula.
- A batch ticket represents a production batch.
- Ingredients are consumed by production.
- Products, co-products, and by-products are yielded by a production batch.
- Material planning is driven by products and co-products.
- Process/Material Requirements Planning (P/MRP) does not consider by-products when suggesting material replenishment.
- The cost of production can be distributed over co-products.

New Formulations with Quality and Cost Implications



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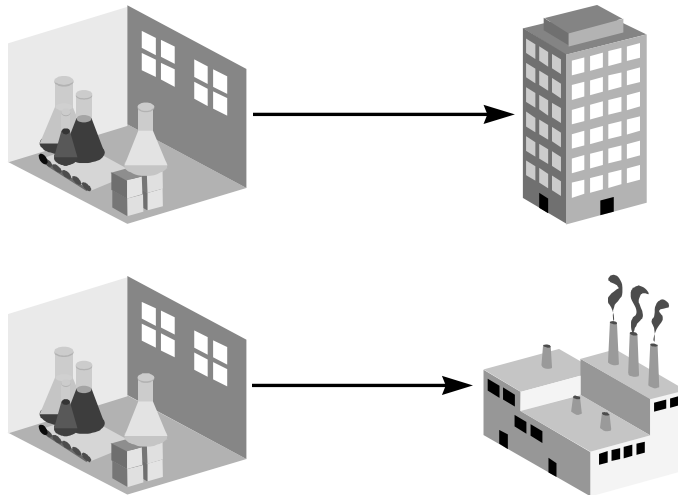
Modeling and Analyzing with OPM Laboratory Management

OPM Laboratory Management (Lab Management) provides process manufacturers with the functionalities to develop new products and revise existing formulas based on reported experience with manufacturing batches.

Using OPM Lab Management, you can quickly and easily model new formulations and analyze the quality and cost implications of specific formula changes before production.

You have the flexibility to define the technical properties your products must demonstrate, ensuring your ability to respond to changing market or regulatory requirements.

Supports Multiple Laboratories for an Enterprise



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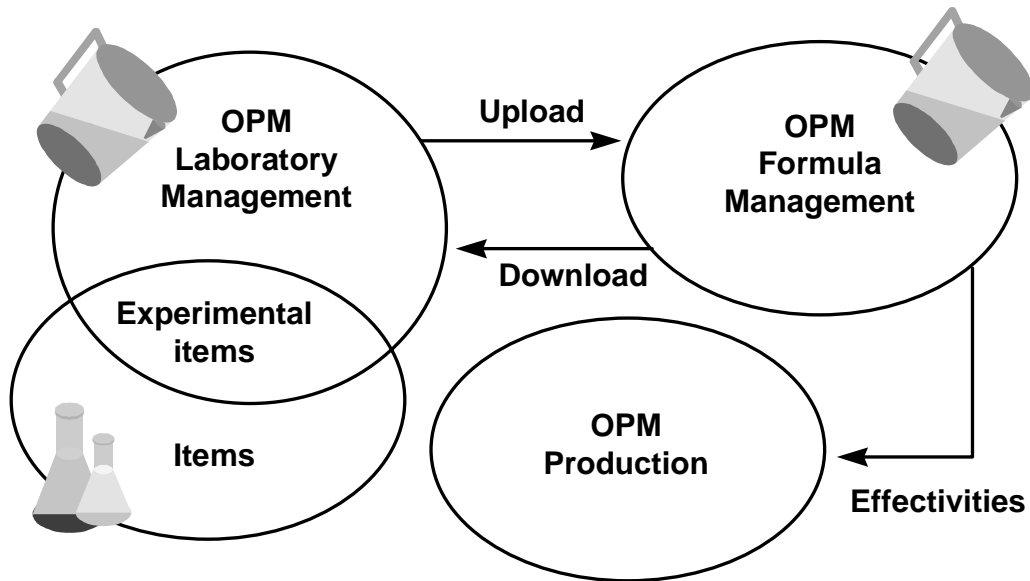
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Supporting Multiple Laboratories

Using OPM Lab Management, you can support multiple laboratories within a single enterprise. You can then standardize your global laboratory network on a single formula development platform and gain the following advantages:

- Easier data administration
- Greater information integrity
- More efficient maintenance of multiple products and product lines

Laboratory Management Process



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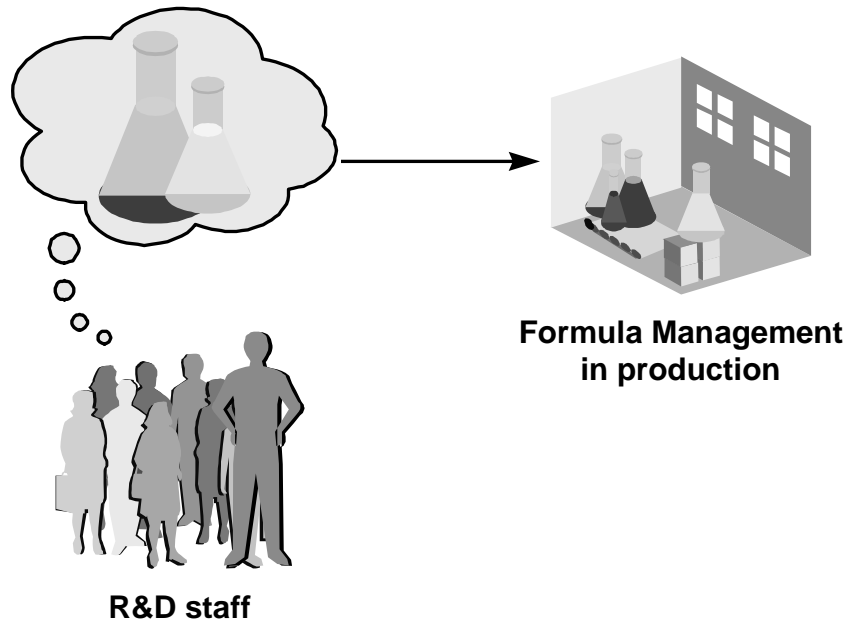
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The Laboratory Management Process

Using the OPM Laboratory Management, you can reduce the costs associated with creating and modifying formulas. By integrating with OPM Formula Management, you can characterize and simulate the properties of formula ingredients and their effects on formulas.

By using multiple laboratory types across the organizations, you can provide a collection of grouped technical parameters.

Experimental Items



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Formula Experimentation

Using OPM Lab Management, you can designate experimental items that are maintained independently of your live formulation and production areas. This way, you can model new formulations without inadvertently sending experimental formulas to production. When you are ready, you can upload the formula developed with OPM Lab Management to Formula Management for use in production.

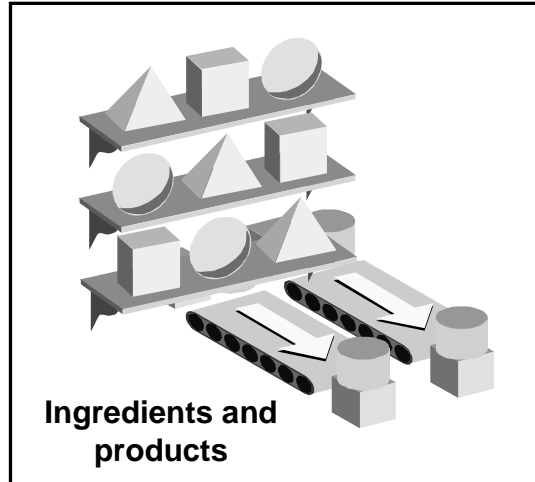
Your research and development (R&D) staff can use OPM Lab Management to achieve the following:

- Establish new formulations
- Adjust ingredient quantities
- Experiment with new ingredients
- Calculate product specifications before producing expensive, time-consuming lab test batches

Reformulation or revision of existing formulas can be based on the existing product formulations in OPM Formula Management, which can be sent directly to OPM Lab Management.

Technical Properties

Parameters



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Defining Relevant Measurable Technical Properties

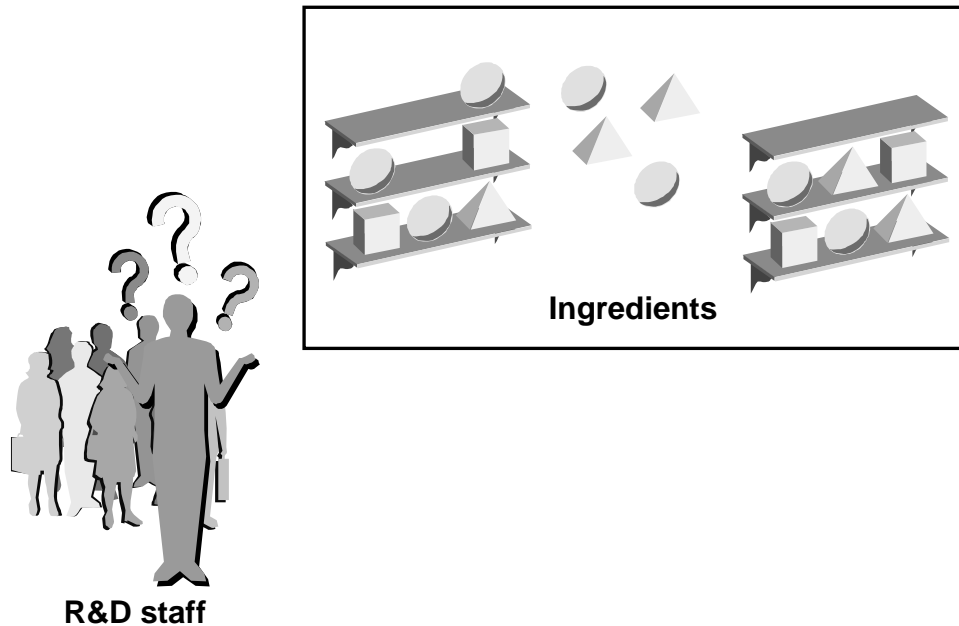
OPM Lab Management enables you to define relevant, measurable technical properties for your own ingredients and products.

These technical parameters can include density, viscosity, acidity and concentration, and quality control assays defined in OPM Quality Management. This feature simplifies the calculation of technical parameters for finished products and the calculation of the contributions of individual ingredients.

With technical parameters you can do the following:

- Calculate the contributions of individual ingredients to overall technical parameters
- Specify acceptable minimum and maximum value ranges for technical parameters
- Change technical parameters to respond to new market demands or regulatory requirements

What-If Analysis



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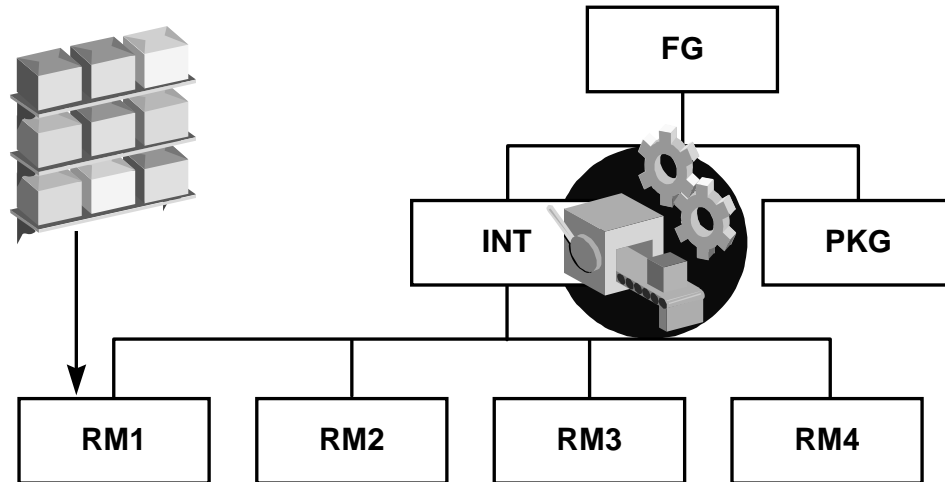
Performing What-If Analysis

With OPM Lab Management, your R&D staff has a laboratory spreadsheet. Using this, the staff can manipulate ingredient quantities, substitute ingredients, or add new ingredients to the formulation while measuring the effects of each change on product quality and technical properties.

OPM Lab Management enables R&D to do the following:

- Model multiple lab formula versions by calculating ingredient changes on a laboratory spreadsheet
- Project product technical and quality specifications before producing test batches
- Adjust formulations based on quality and technical characteristics of inventory ingredients from OPM Inventory Management
- Perform cost analyses during formulation or reformulation

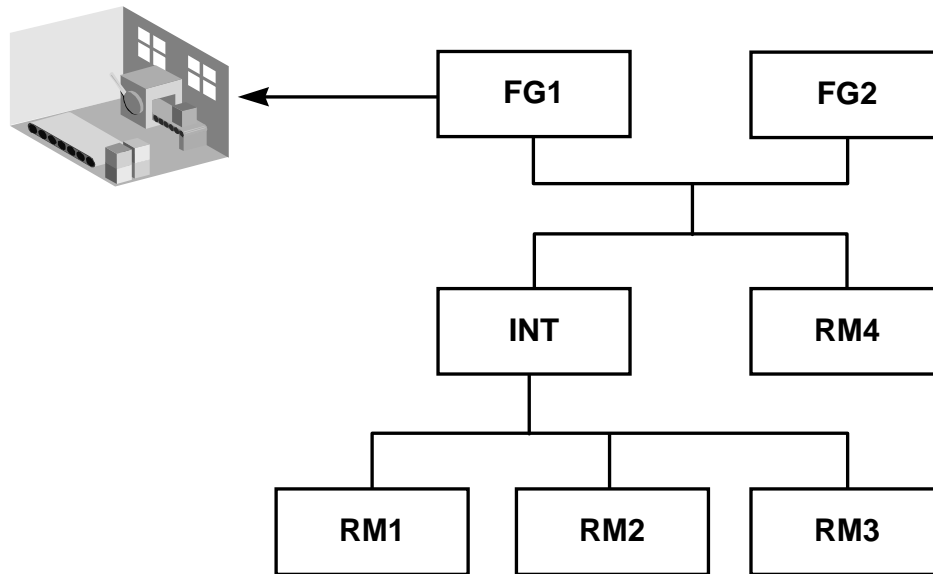
The Basics of Making a Product



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The Basics of Making a Product



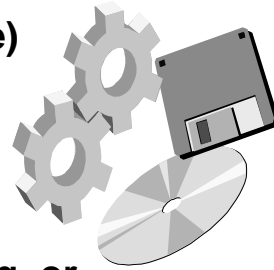
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Effectivity Rule-Based Execution

Rule-based execution determines formulas and routings for a formula by:

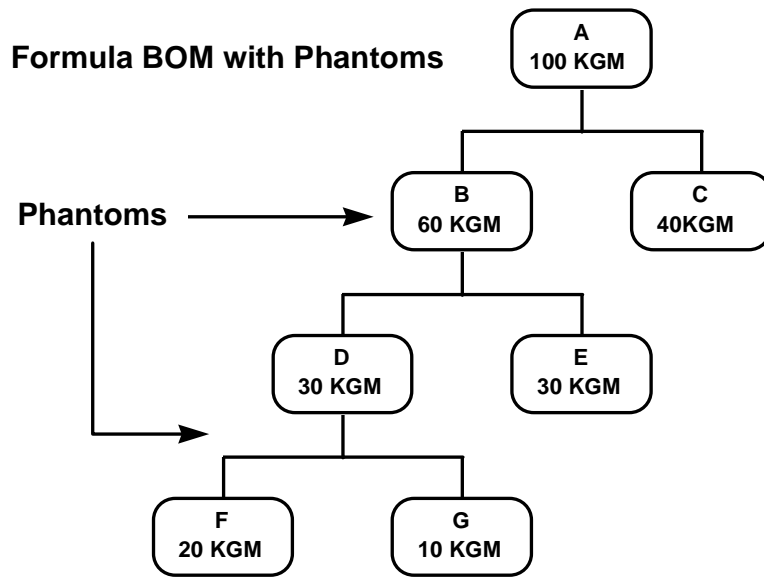
- **Organization (plant and warehouse)**
- **Date range**
- **Min/Max and standard quantity**
- **Preferences**
- **Formula types (Production, Costing, or Planning)**



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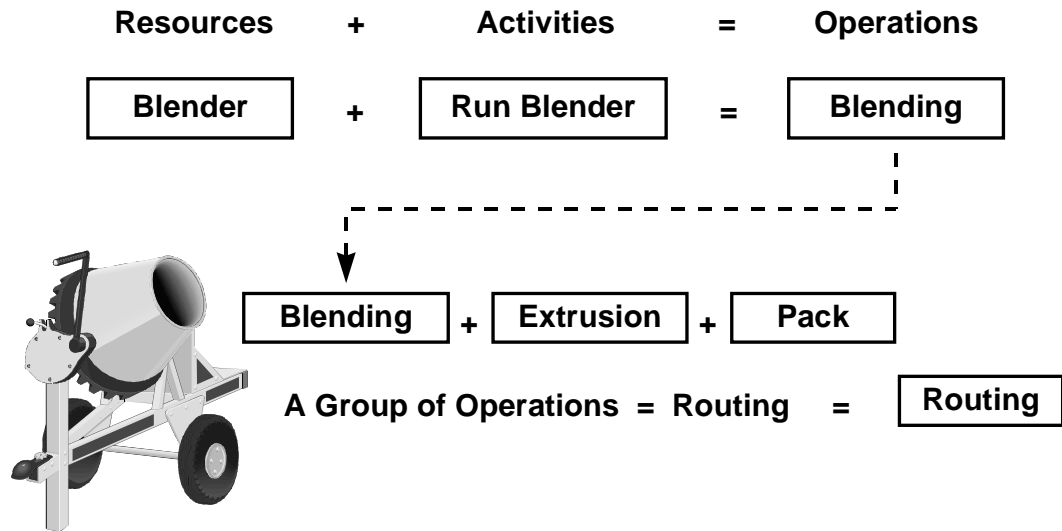
Phantom Formulas



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Process Routings



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Production Management Overview

Using the Production Management module, you can do the following:

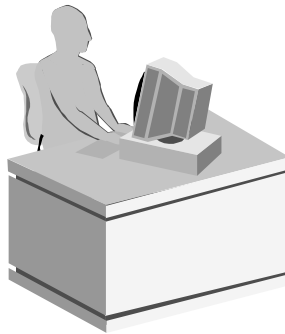
- **Process production batches**
- **Manage production**
- **Use Production Management reports**
- **Use Process Operations control**

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Production Management Setup Steps in Other Modules

- **Basics and system setup**
- **Inventory control**
- **Formula management**
- **Master Production Scheduling (MPS)**

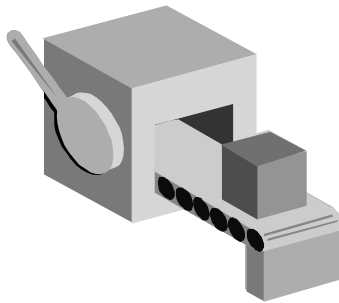


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Batches

- **Entered when a planner is confident that the batch will be executed**
- **Establish commitments against on-hand inventory**

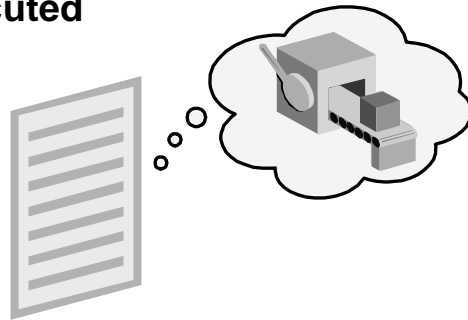


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Firm Planned Orders (FPO)

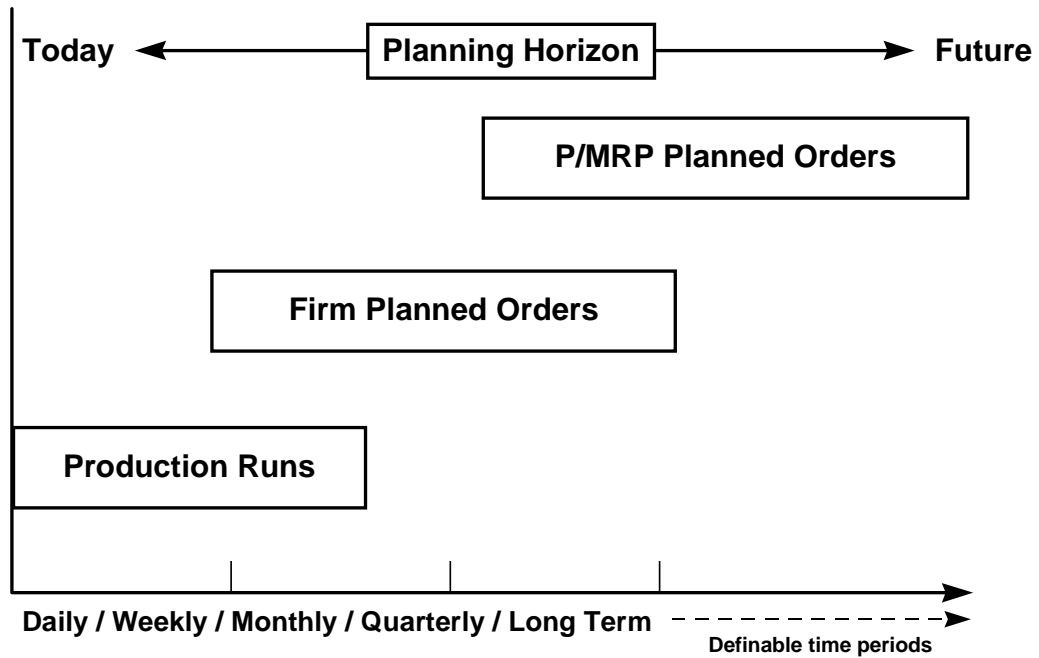
- Represent a plan to manufacture a product
- Represent a demand of an item
- Do not establish commitments against current on-hand inventory
- Convert to batches when the planner is confident that the batch will be executed
- Do not explode resource requirements



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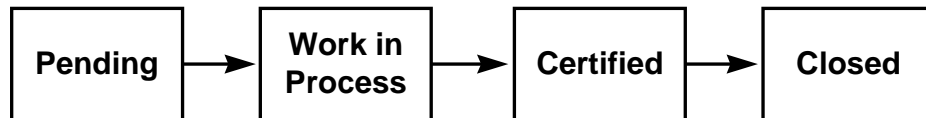
Production Scheduling



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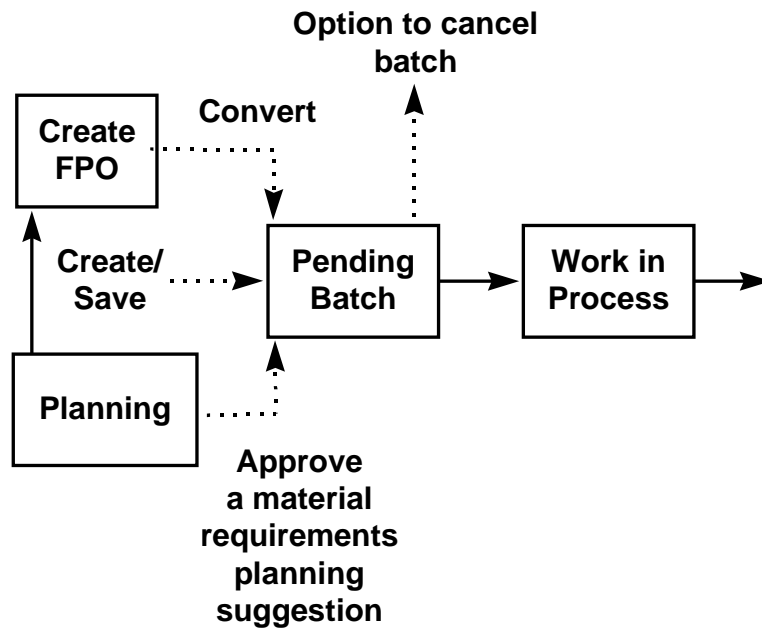
Production Batch Processing Steps: Life Cycle of a Batch



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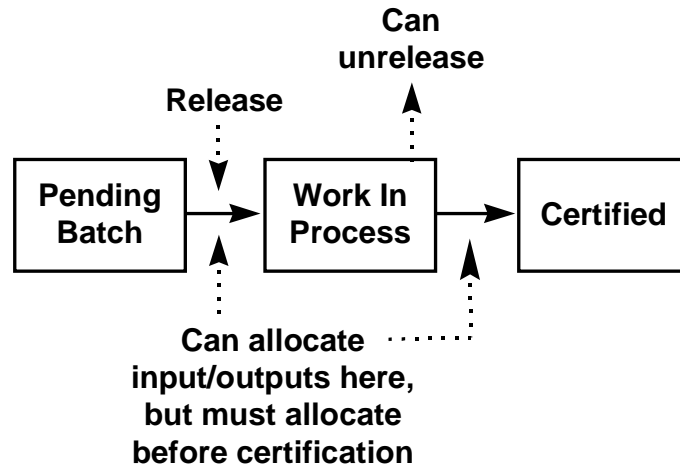
Pending Batch Status



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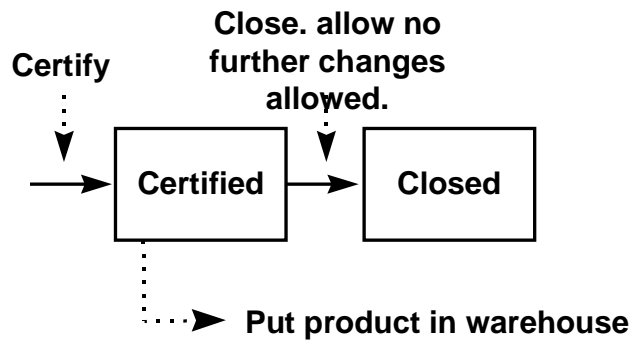
Work in Process Batch Status



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Certified and Closed Batch Statuses

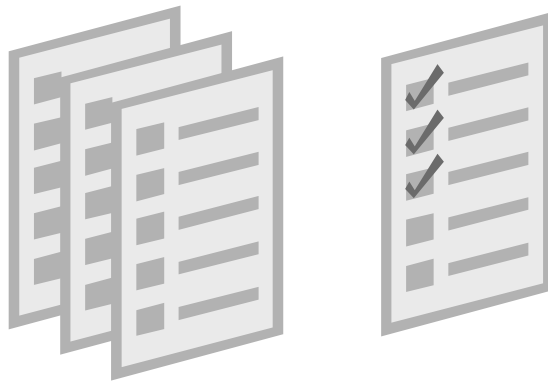


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Partial Certification

Certify part of a batch when the batch is long, or when you are continuously processing.

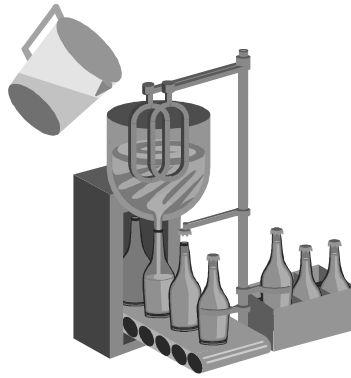


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Phantom Batches

A phantom is an intermediate item that usually does not exist by itself and is not generally inventoried.



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Production Management APIs

- **Create Batch or FPO**
- **Release Batch**
- **Partially Certify Batch**
- **Reschedule Batch**
- **Reroute Batch**
- **Manually Release Material**

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Production Management APIs

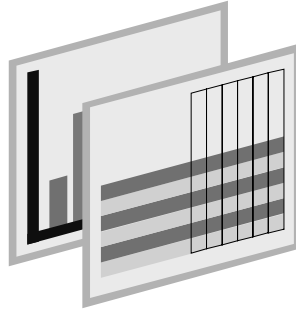
- **Certify Batch**
- **Close Batch**
- **Cancel Batch**
- **Save Batch**
- **Insert Product, By-Product, or Ingredient (11i+)**

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Production Management Reports

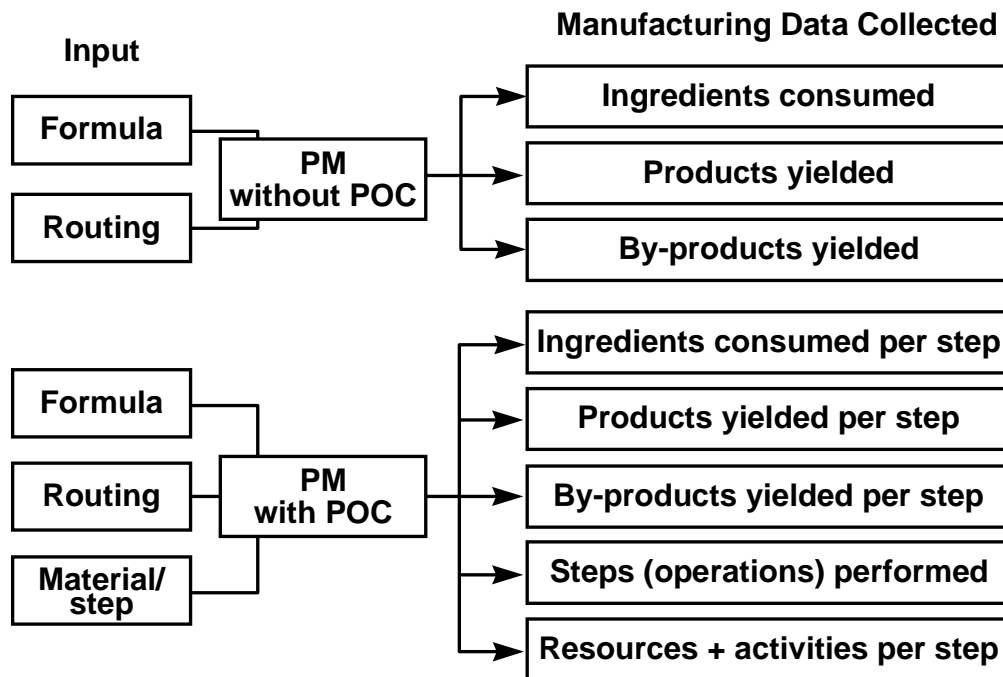
- **Batch Pick List**
- **Batch Ticket**
- **Batch Yield Variance**
- **Material Usage and Substitution Variance**
- **Production Activity**



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Process Operations Control



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POC APIs

- **Release, Certify, and Close Step**
- **Actual Resource Transaction**
- **Incremental Resource Transaction**
- **Resource Transaction Start**
- **Resource Transaction End**
- **Timed Resource Transaction**

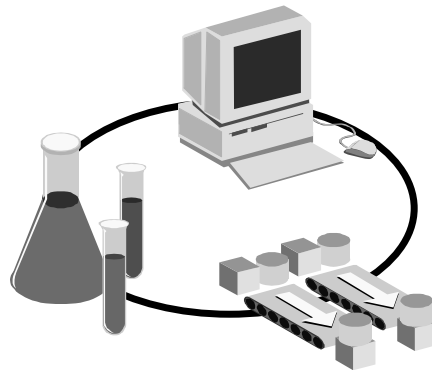
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Summary

In this lesson, you should have learned how to describe specific functions within the following modules:

- **OPM System Administration**
- **Inventory Control**
- **Formula Management**
- **Production Management**



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Functional Overview of OPM Logistics and Product Development Modules

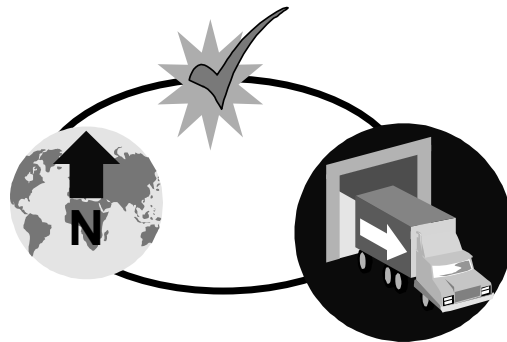
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Objectives

After completing this lesson, you should be able to describe specific functions within the following modules:

- **OPM Purchasing**
- **Order Fulfillment**
- **Quality Control**



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Oracle Purchasing

- **Provides the foundation of the Internet Procurement solution**
- **Processes requisitions initiated from other Oracle ERP modules**
- **Creates requisitions using sourcing rules and approved supplier list**
- **Uses supplier item catalog for selection of items**



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Overview of Purchase Requisitions

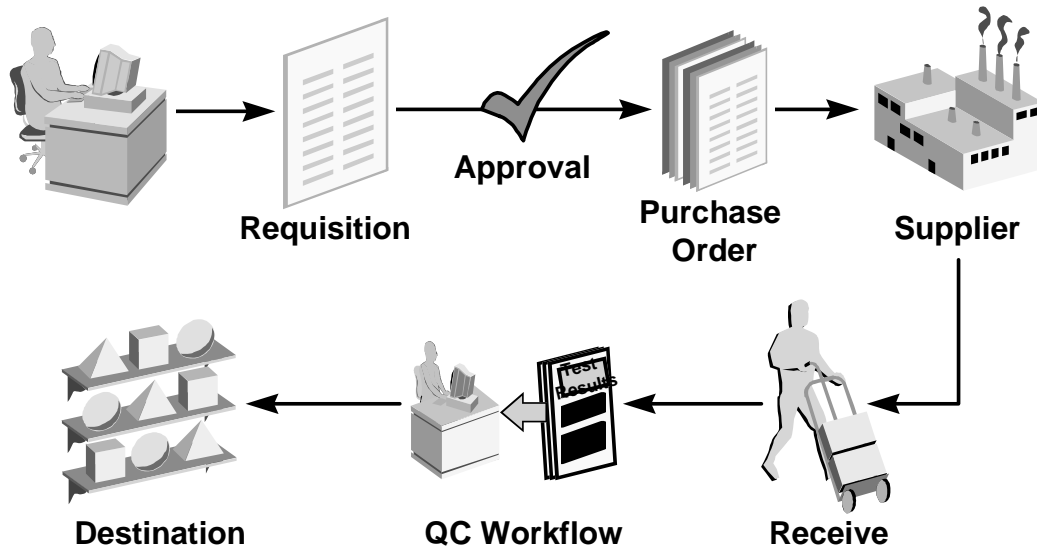
Using Oracle Purchasing, you can do the following:

- **Create, edit and review requisitions online**
- **Review status and action history of your requisitions**
- **Automatically source requisitions from open blanket purchase agreements and quotations**
- **Utilize requisition templates for items you purchase frequently**
- **Create internal requisitions**
- **Distribute expenses across multiple cost centers**

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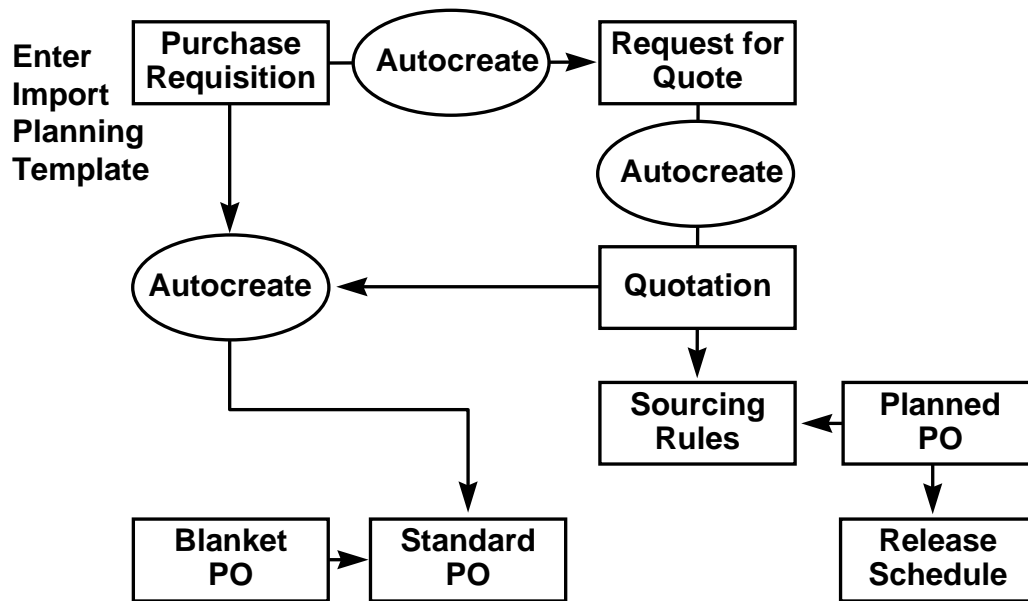
Where Receiving and Inspection Fits in the Procurement Cycle



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Purchasing Flow



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Overview of Order Fulfillment

Using the OPM Order Fulfillment module, you can do the following:

- Define pricing structures
- Create sales order profiles
- Enter and ship sales orders
- Run Order Fulfillment reports



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Order Fulfillment Goals

- **Simplify sales order entry**
- **Reduce order cycle time**
- **Provide the most accurate sales order processing possible**

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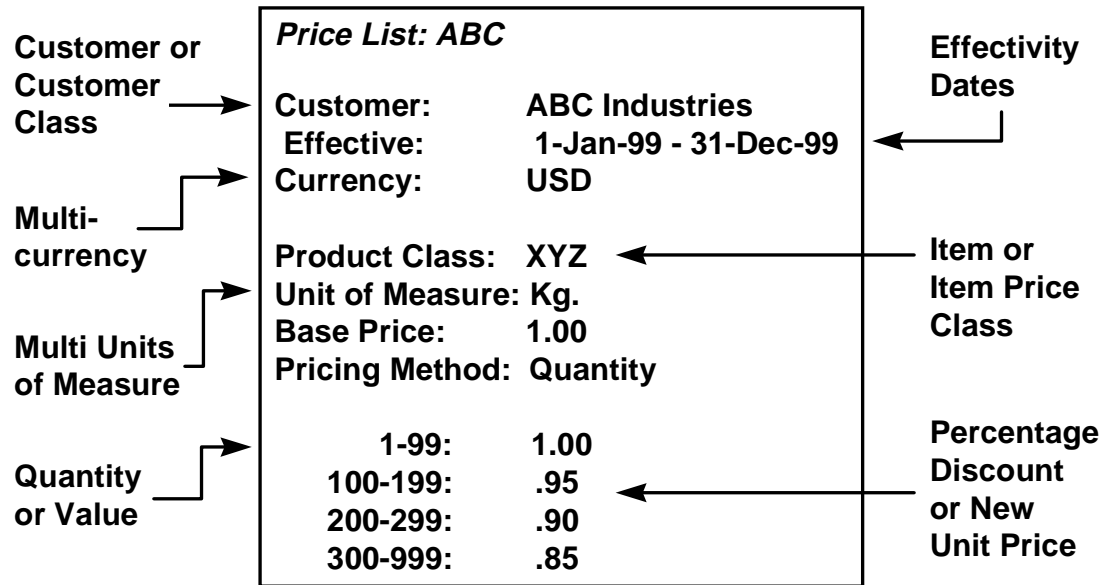
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Order Fulfillment

OPM Order Fulfillment is designed to:

- Reduce order entry time and overall order cycle time by using predefined pricing schedules and order templates
- Calculate scheduled order ship and delivery dates automatically
- Determine when materials should be processed or ordered to satisfy demand automatically based on the automatic calculation of scheduled order ship dates
- Provide order processing predictability
- Assist order entry personnel in apprising customers of scheduled delivery dates and pricing (including discounts, allowances, and surcharges) at order entry time
- Inform customers as to when an order will be delivered, and at what cost, at the beginning of the sales order process
- Enable users to easily determine order and order line status

Price Lists and Contracts



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Price List Definition

Customer-Specific, Item Price Class

Price List: ABC
Customer: ABC Industries
Effective: 1-Jan-99 - 31-Dec-99
Currency: USD
Product Class: XYZ
Unit of Measure: Kg.

Customer Class, Item-Specific

Price List: Industrial
Customer Class: Industrial
Effective: 1-Jan-99 - 31-Dec-99
Currency: USD
Product: XYZ-100
Unit of Measure: Kg.

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Further Price List Classification

Warehouse-Specific

Price List: ABC-NY
Customer: ABC Industries
Effective: 1-Jan-99 - 31-Dec-99
Currency: USD
Product Class: XYZ
Warehouse: New York
Unit of Measure: Kg.

Grade-Specific

Price List: ABC
Customer: ABC Industries
Effective: 1-Jan-99 - 31-Dec-99
Currency: USD
Product Class: XYZ
Warehouse: Chicago
Grade: AAA
Unit of Measure: Kg.

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Pricing Engine

Volume-based pricing calculations:

- **Price breaks**
 - Quantity ordered
 - Value ordered
- **Price determination**
 - Percentages
 - New unit price

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Quantity Discounts: New Unit Price

Price List: ABC

Customer: ABC Industries
Effective: 1-Jan-99 - 31-Dec-99
Currency: USD
Product Class: XYZ
Unit of Measure: Kg.
Base Price: 1.00
Pricing Method: Quantity
1-99: 1.00
100-199: .95
200-299: .90
300-999: .85



Order: 12345 Customer: ABC Industries

Line	Item	Qty	UOM	Price
1	XYZ-100	210	Kg.	.90

Total Order Price:
189.00

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Value Discounts: Percentages

Price List: ABC

Customer: ABC Industries
Effective: 1-Jan-99 - 31-Dec-99
Currency: USD
Product Class: XYZ
Unit of Measure: Kg.
Base Price: 1.00
Pricing Method: Value
\$1-\$100: + 5 %
\$101-\$199: 0
\$200-\$299: - 5 %
\$300-\$999: -10%



Order: 23456 Customer: ABC Industries

Line Item	Qty	UOM	Price
1 XYZ-100	210	Kg.	.95

Total Order Price:
199.50

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Multiple Price Lists

- Seasonal pricing
- Contract pricing
- Deactivate price lists
- Customer classes
 - Buying groups
 - Regional groups
- Item price classes
 - Commodities

Price List: Industrial
Customer Class: Industrial
Effective: 1-Jan-99 - 31-Dec-99
Currency: USD

Contract #: ABC-02
Customer: ABC Industries
Effective: 1-Jul-99 - 31-Aug-99
Currency: USD

Price List: ABC-01
Customer: ABC Industries
Effective: 1-Jan-99 - 31-Dec-99
Currency: USD
Product: ABC
Unit of Measure: Kg.

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Price Override Controls

Price List: ABC

Customer: ABC Industries
Effective: 1-Jan-99 - 31-Dec-99
Currency: USD
Product Class: XYZ
Unit of Measure: Kg.
Base Price: 1.00
Pricing Method: Quantity
1-99: 1.00
100-199: .95
200-299: .90
300-999: .85



Order: 34567 Customer: ABC Industries

Line Item	Qty	UOM	Price
1 XYZ-100	210	Kg.	.85

Reason Code: Competitive
Total Order Price:
178.50

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Pricing Features

- Pricing by territory
- Total order quantity pricing
- Discounts, charges, allowances
- Global price list changes
- Price override tolerances

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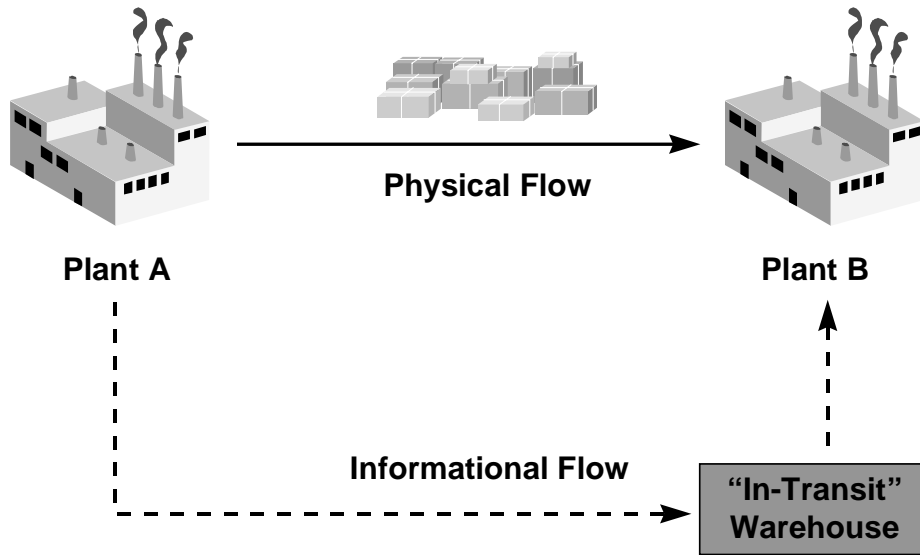
Order Cycle Time Reductions

- **Order profiles**
- **Order types**
- **Copy orders**
- **Interplant orders**

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Interplant Orders



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Flexibility of Order Fulfillment

- **Establish order-level and line-level charges**
- **Grant discounts on an as-needed basis**
- **Use mass price changes**
- **Select the lowest available price**
- **Use order types to determine the level of processing for each order**

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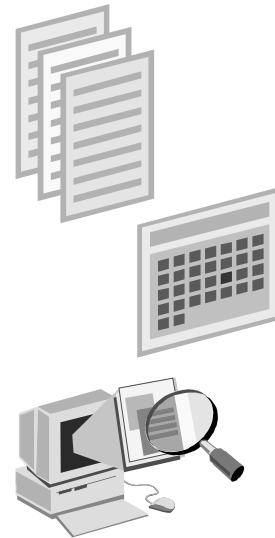
Order Fulfillment's Flexibility

You can use the flexibility of OPM Order Fulfillment to give the best possible price to each customer, because you can:

- Establish order-level and line-level charges, discounts, and allowances on a percentage, flat-rate, or per-unit basis
- Grant discounts on an as-needed basis
- Use the mass price change feature to update price modifications onto price lists and contracts
- Flag OPM to select the lowest available price effective for selected ship-to customers
- Use order types to determine the behavior of processing for each order
- Associate an order type with different inventory transactions—consignment and transfer
- Add an order charge as a special charge each time a specific customer or all customers order a particular item
- Generate pro forma invoices that provide the shipping documents used for international environments

Functions of Sales Orders

- **Flexible order types**
- **Scheduled ship date calculation**
- **Audit trails**
- **Blanket sales orders**
- **Electronic data interchange (EDI)**



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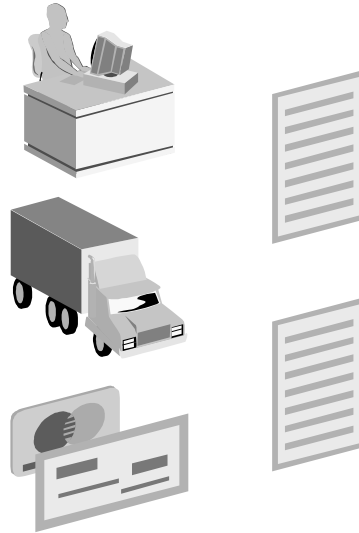
Order Entry

You can create sales orders from a sales order profile or an existing order.
You can use the following functions:

- Flexible order types that determine which processing steps are appropriate for an order and allow mapping of orders to different general ledger accounts
- Scheduled ship date calculation, based on carrier lead time
- Audit trails using inquiries available within OPM, including Lot Genealogy (Lot Source and Where Used) and Credit Checking using the Oracle Accounts Receivable application
- Blanket sales orders to help manage long-term customer commitments
- EDI transactions using Oracle EDI Gateway to exchange business transactions electronically

Integration of Order Fulfillment

- Sales representatives
- FOB codes
- Freight bill methods
- Carriers
- Terms codes
- Credit checking
- Customers



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Integration Overview

OPM Order Fulfillment's tight integration with Oracle Financials creates a central repository of customer-specific and general financial information. This includes currency codes and exchange rates, free on board (FOB) codes, shipping terms, charts of accounts, and fiscal calendars. In addition, OPM uses information from Oracle Accounts Receivable and performs credit checking to suspend or defer inventory commitments.

Overview of Quality Management

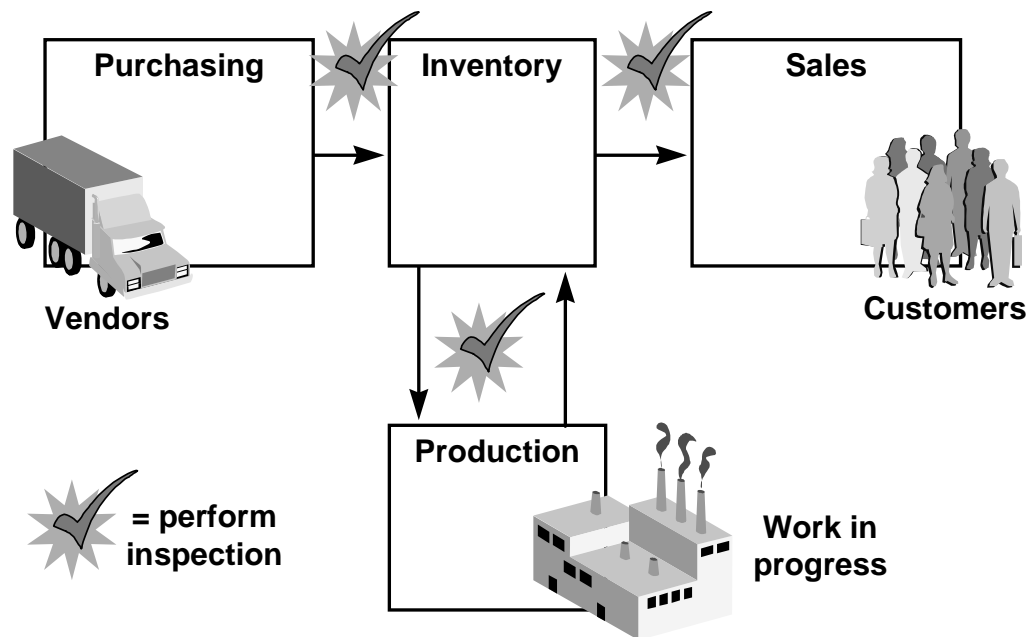
Using OPM Quality Management features, you can do the following:

- Define specifications
- Identify assay requirements
- Identify sampling requirements
- Record quality control (QC) testing results
- Define inventory lot status
- Assign grade codes
- Trace materials

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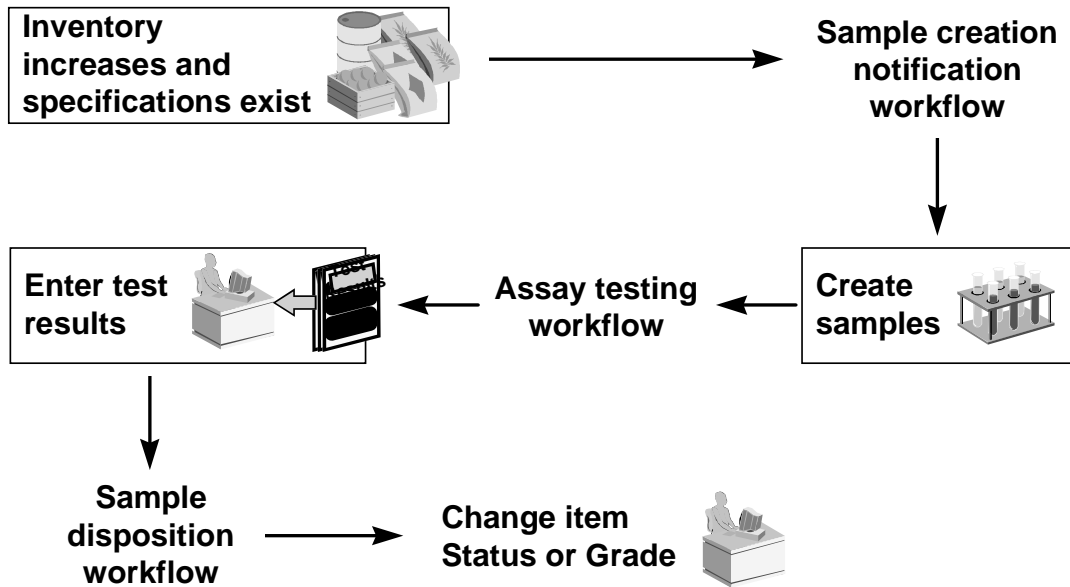
Quality Control Process



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OPM Quality Sample Approval Workflows



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Controlling Quality

Perform quality tests at multiple points in the process:

- When materials are received
- When materials are placed into inventory
- After producing a batch
- Before fulfilling a sales order

Quality Features

- **Test definition, specifications, and result recordings**
- **User-defined test result validation ensures data accuracy**
- **User-defined status and grade codes**
- **Recording of iterative test results**

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Hold Status

A lot may be placed on hold for any of the following reasons:

- **Quarantine (not yet tested)**
- **In-test**
- **Released but still in test (for example, bacterial growth)**
- **Rejected**
- **Work-off, rework, salvage**
- **Approved only for specific customers**



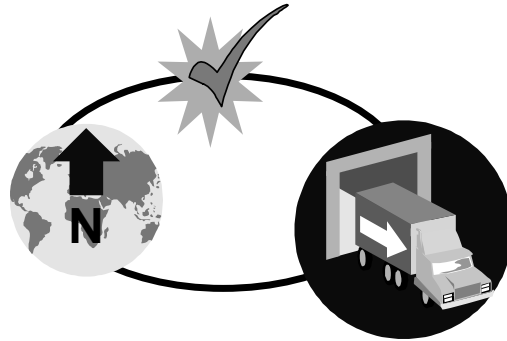
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Summary

In this lesson, you should have learned how to describe specific functions within the following modules:

- OPM Purchasing
- Order Fulfillment
- Quality Control



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Functional Overview of OPM Financials Modules

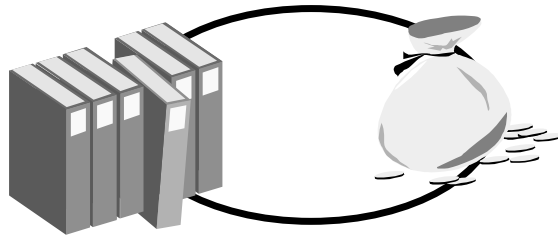
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Objectives

After completing this lesson, you should be able to describe specific functions within the following modules:

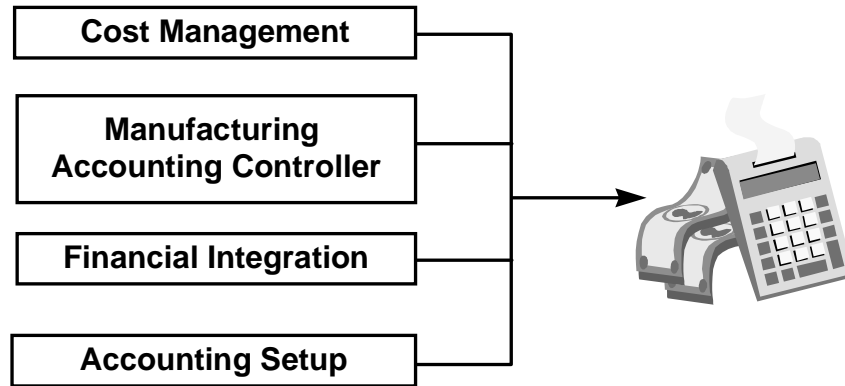
- **Cost Management**
- **Manufacturing Accounting Controller**
- **Financial Integration**



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OPM Financials Modules



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Cost Management Overview

Using the Cost Management module, you can do the following:

- **Establish OPM Cost Management costing parameters**
- **Construct and calculate standard costs**
- **Establish and calculate actual costs**
- **Execute the final cost update and adjustments**

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Introducing OPM Cost Management

With Oracle Processing Manufacturing Cost Management (OPMCM), you can perform the following:

- Value the cost of goods sold on shipments
- Calculate inventory valuations
- Assign values to inventory transactions
- Calculate purchase price variance in work in progress
- Revalue inventory for appreciation and depreciation
- Monitor and simulate costs

Using OPMCM, you can develop and maintain multiple cost models, standard costs, average actual costs, and composite costs.

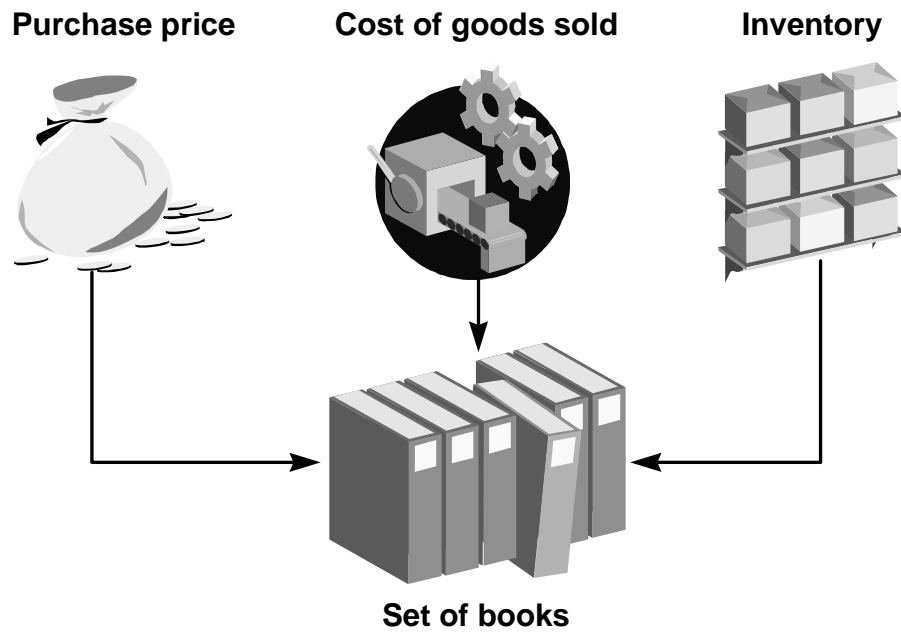
Cost Management Overview

- **Standard costing and actual costing**
- **Allocate general ledger (GL) expenses**
- **Assign value to inventory transactions**
- **Revalue inventory cost**
- **Freeze costs for the general ledger**

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OPM Cost Management

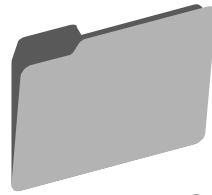


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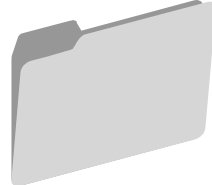
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Multiple Cost Methods Options

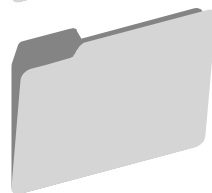
- **Standard**
- **Target or budget**
- **Current average**
- **Rolling average**
- **Pricing simulation**
- **Composite for GL**



**Cost Method A
for GL Posting**



**Cost Method B
for sales price
projection**



**Cost Method C
uses actual data
to develop new
standards**

**Company uses current data with actual
costing to create next year standard cost**

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Defining Costs

You can define costs using the following parameters:

Item: Defines costs for individual items

Warehouse definition: Used to define costs by:

- Items in the warehouse
- Inventory in the warehouse that has a financial owner
- Warehouse association that eliminates the need for duplicate data

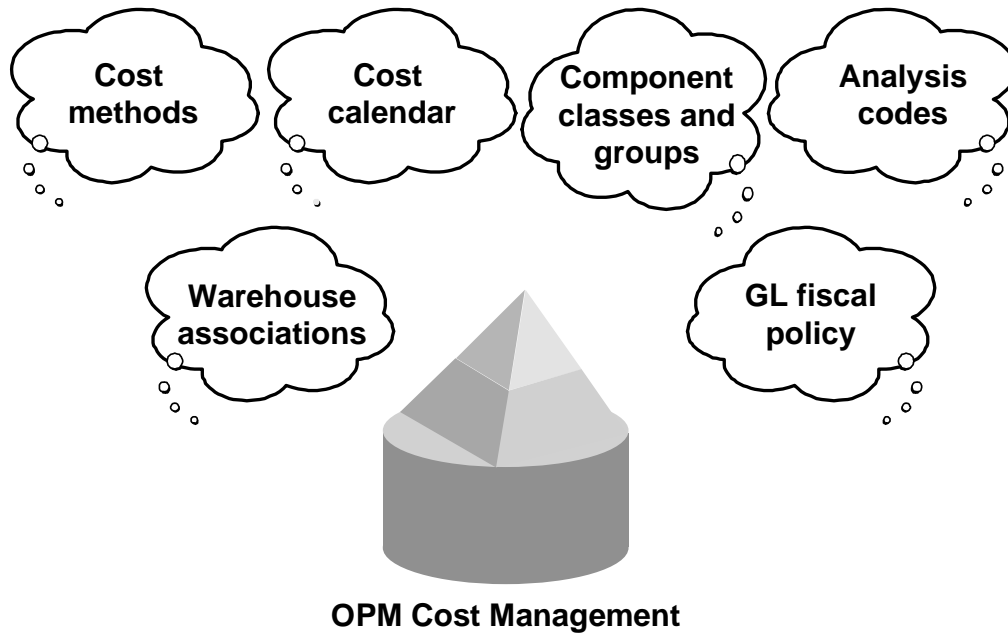
Cost calendar and period: Defines cost for each period in the cost calendar

Multiple cost methods: A file that holds item costs, of which only one is used to build journal entries for the general ledger (GL)

Cost component: Maps to the general ledger by the component cost

Analysis code: Maps to the general ledger by the analysis code

Cost Management Setup



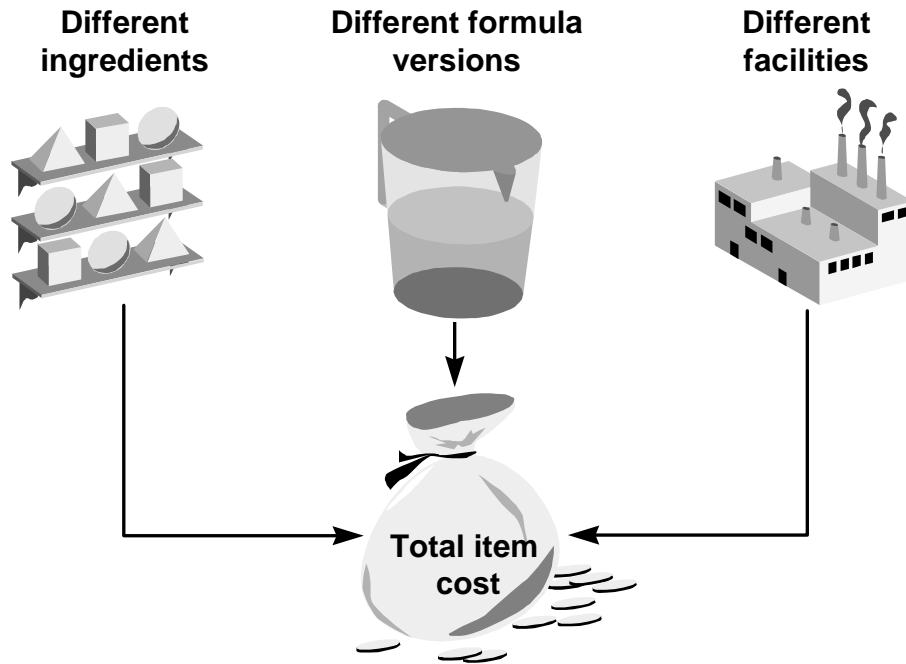
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Global Cost Management Setup

To use the OPMCM application for cost management, you must define certain basic, global data values, regardless of whether you plan to use the standard or the actual costing method. You can then use the information in the OPMCM database as a foundation to which standard or actual additional cost parameters can be added.

Calculating Standard Costs



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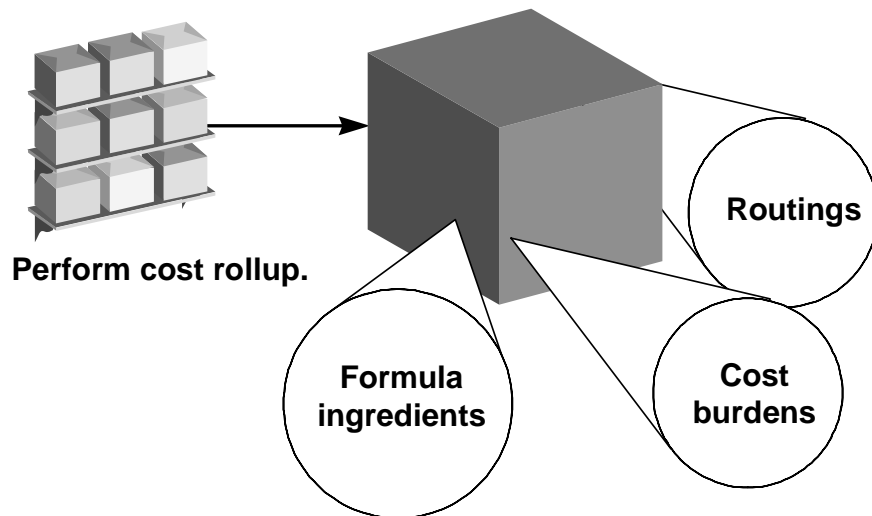
Calculating Standard Costs

You can calculate the standard costs of items based on formula cost rollups. You define the static costs, such as raw material and resource costs, for each component used during production. You define the static costs, using the cost of ingredients in each specific warehouse during a specific period of time.

You define the costs for purchased items, formulas, formula ingredients, and resources used during the production process. The cost of a produced item is then calculated based on:

- Different ingredients stored at different locations
- Different formula versions
- Different facilities at which overhead and associated cost vary

Calculating Standard Costs



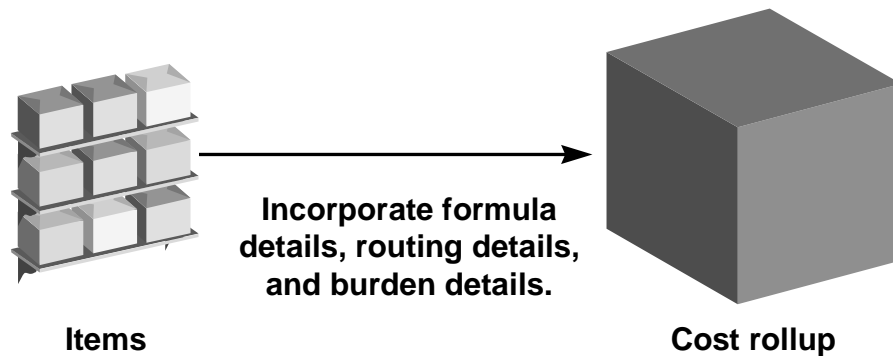
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Calculating and Viewing Standard Costs

To generate a standard cost for a product ingredient, you need to perform a cost rollup. You can view standard and actual costs for items, formula ingredients, cost burdens, and routings. You access all of the cost view options from the Cost Details window.

Executing a Standard Cost Rollup



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The Standard Cost Rollup Process

The rollup incorporates formula details, routing details, and burden details for each item selected, as follows:

- You must roll up the standard cost of components into product costs whenever standard item cost components are changed.
- Whenever you add a new product, you need to perform a cost rollup.
- The standard cost rollup runs as a background process, so you can initiate the rollup, then continue with other OPM functions while it is executing.
- After standard costs for all component items are defined, you should perform an initial rollup for all items. A rollup reference number is automatically assigned to the rollup during the process every time you initiate a rollup. You should make a note of this reference number for future inquiries.

Overview of Manufacturing Accounting Controller (MAC) and Financial Integration

Using the MAC and Financial Integration modules, you can do the following:

- **Perform global and account-mapping setups**
- **Define the account mapping**
- **Update General Ledger (GL)**
- **Synchronize data**
- **Perform concurrent processes within the OPM Financials module**
- **Identify accounting units and accounting relationships for recording transactions**

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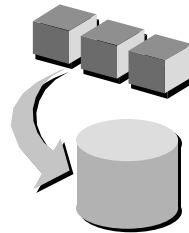
Global and Account Mapping Setups

Before you begin using the OPM Manufacturing Accounting Controller (MAC), you must perform some initial setup tasks:

- **Global setups include setups for ledger codes and fiscal policy.**
- **An account-mapping setup defines the account distribution retrieved from OPM subsystems into the OPM Financials module.**



and



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Account Mapping

After you define the account selection priorities, you must define the specific accounts associated with each account title. These are the accounts that ultimately are selected during transaction posting and in which the account distributions for subsystem transactions are devised. You define and specify accounts in the following order:

- 1. Define account selection priorities.**
- 2. Define specific accounts.**
- 3. Access account segment lookup.**

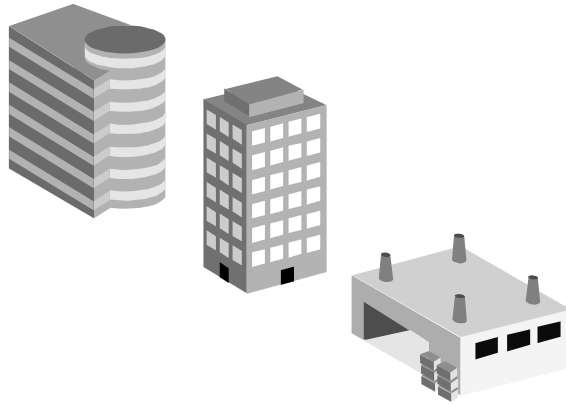
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Account Unit Mapping

You select accounting units during transaction posting. There are three predefined selection criteria in priority order:

- 1. Company**
- 2. Organization**
- 3. Warehouse**



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Updating the Subsidiary Ledger

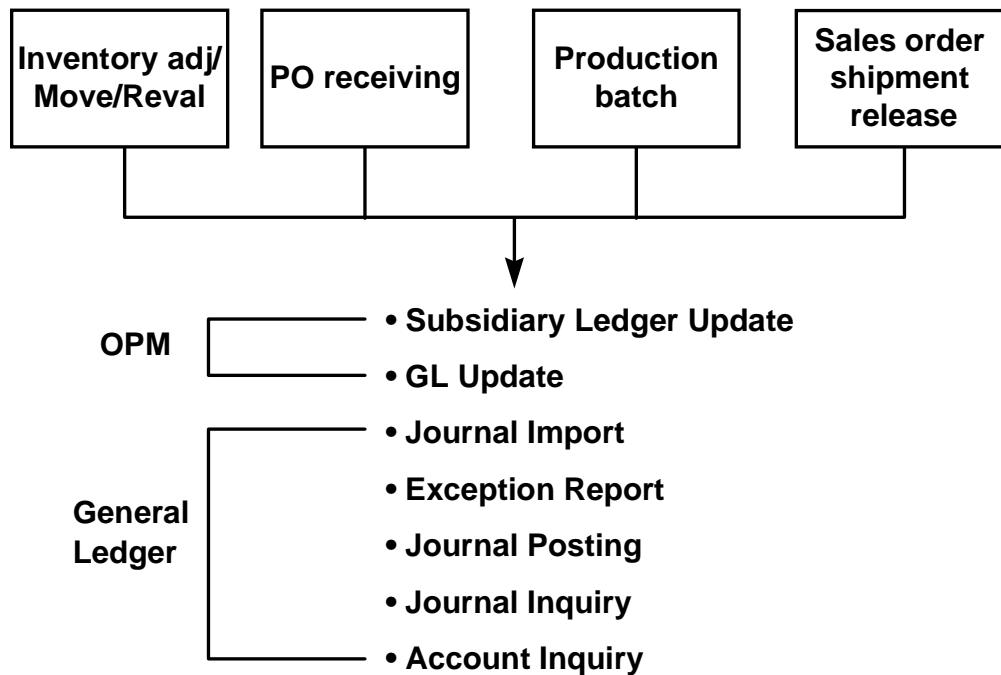
- **Performed after the Test Mapping Setups and Test Subsidiary Ledger Update processes**
- **Provides a detailed transaction table of all journal entries that support OPM subsystem transactions**



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General Ledger Update



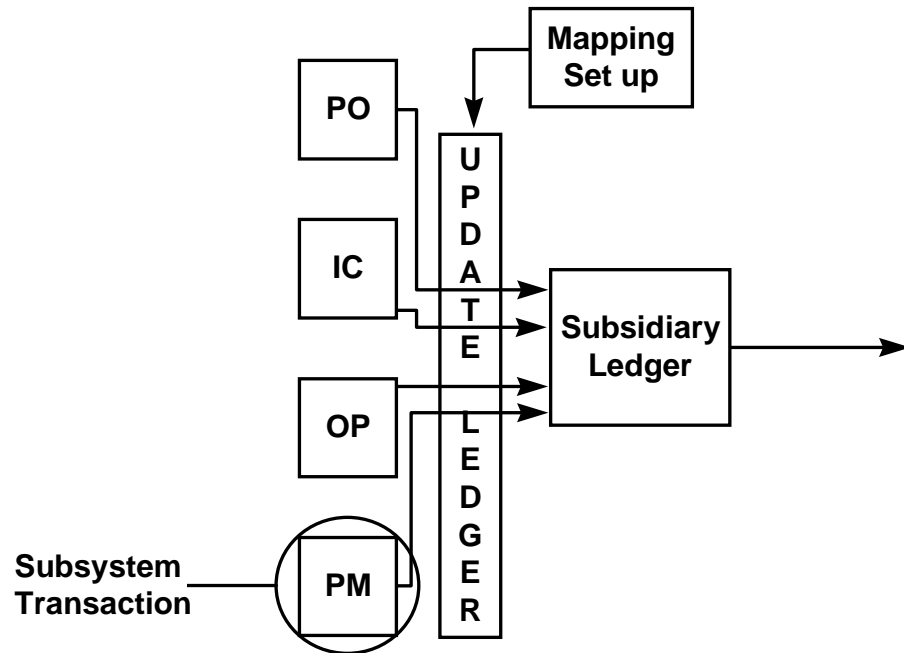
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General Ledger Update

The GL Update process takes the transaction journal entries from the updated Oracle OPM subsidiary ledger table and populates the Oracle General Ledger interface table. This process makes the data ready for retrieval into the Oracle General Ledger module. After this process runs, you must run the Journal Import process from within Oracle General Ledger to import the journal entries into the Oracle module for use by the integrated financial applications.

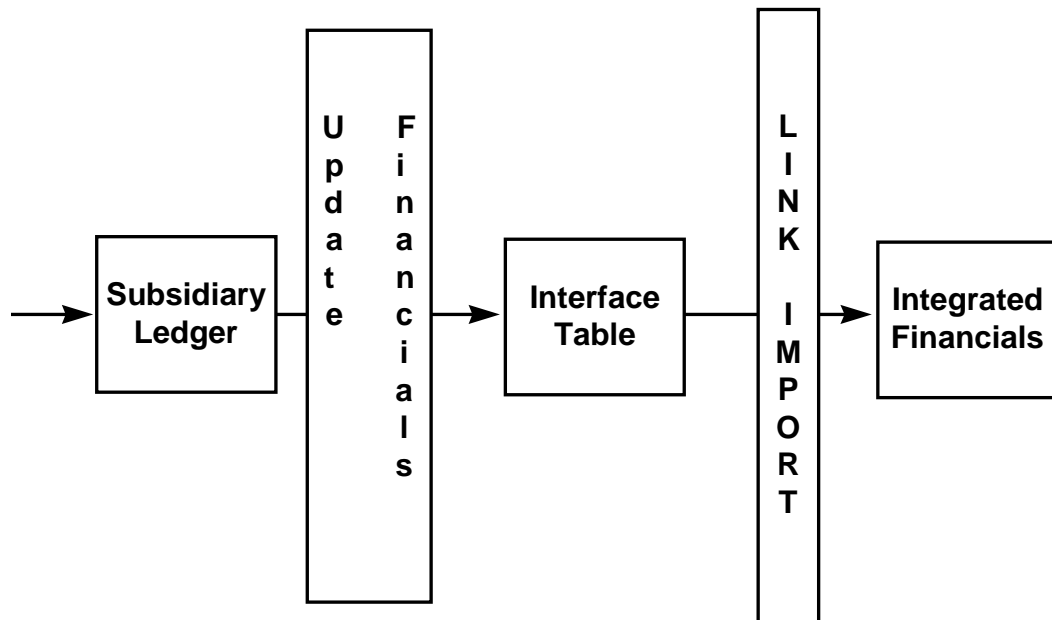
OPM to Financial Applications Integration Data Flow



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OPM to Financial Applications Integration Data Flow

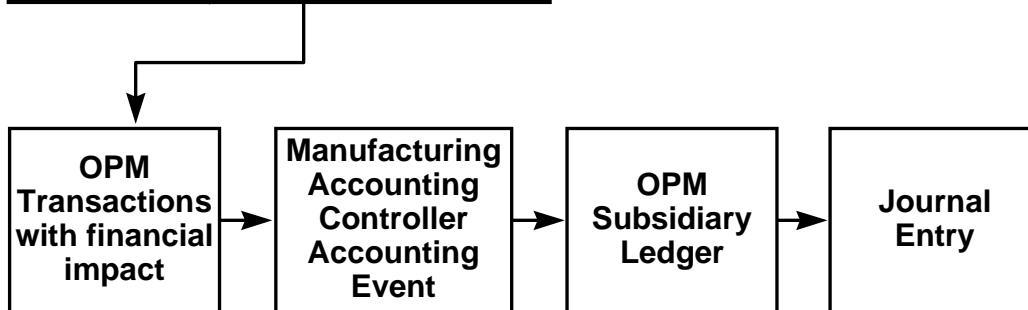


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OPM Financial Flow

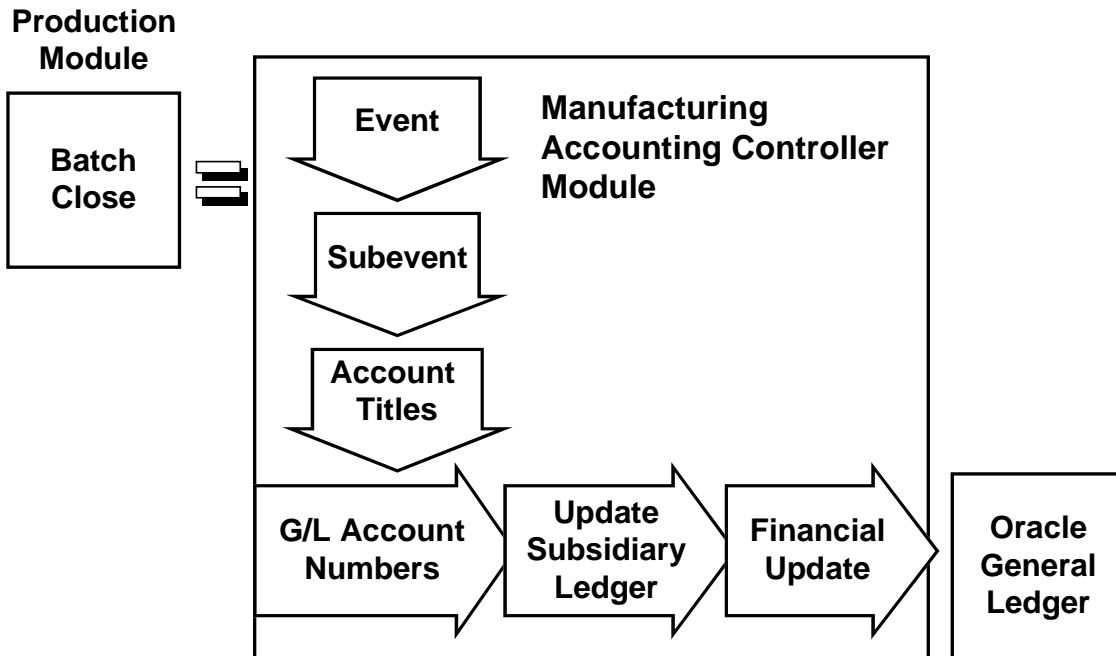
Module	Transaction/Event
Purchasing	PO Receipt
Inventory	Movement/Ajustment
Production	Batch Process
Sales Order	Shipment Release
Costing	Revaluation



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Transaction Flow



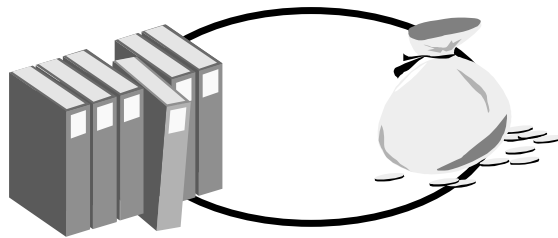
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Summary

In this lesson, you should have learned how to describe specific functions within the following modules:

- **Cost Management**
- **Manufacturing Accounting Controller**
- **Financial Integration**



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Functional Overview of OPM Planning and Regulatory Modules

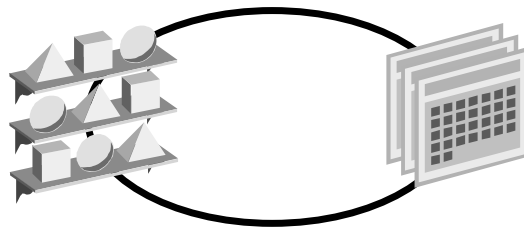
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Objectives

After reviewing this section, you should be able to describe specific functions within the following modules:

- **Material Requirements Planning**
- **Advanced Planning and Scheduling**
- **Regulatory Management**



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Overview of Material Requirements Planning

Using the Process Planning applications, you can do the following:

- **Describe planning schedule parameters**
- **Define planning classes**
- **Identify MRP run considerations**
- **Define MRP and Firm Planned Orders (FPO)**
- **Identify Blanket Purchase Orders (BPO)**
- **Define MRP and MRP rescheduling**

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Product Overview

- The OPM planning products are MPS, MRP and Forecasting.
- Oracle OPM Process Planning assists you with:
 - Forecasting
 - Scheduling
 - Orders
 - Planning



**OPM
Advanced Planning**

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MPS and MRP Setup

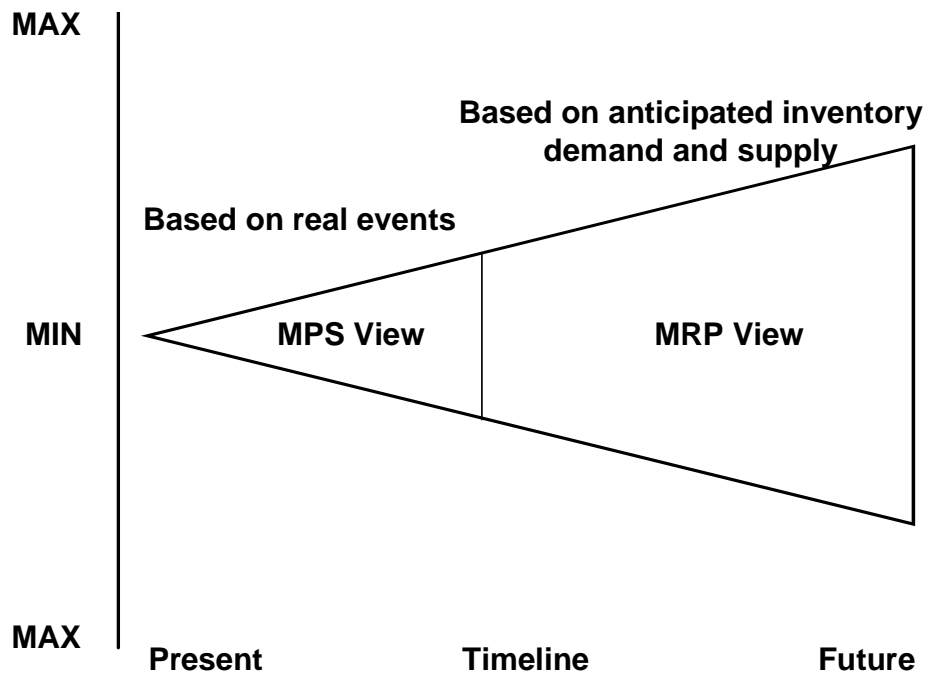
The setup and processing forms in the MPS module include:

- Schedule
- Material Activity (Online Inquiry and Report)
- Bucketed Material (Online Inquiry and Report)
- Plant Warehouse
- Reorder Point Report

The setups and processing forms in the MRP module include:

- Shop Days
- Shop Calendar
- Action Messages (Online Inquiry and Report)
- MRP Run
- MRP Bucketed Material (Online Inquiry and Report)
- MRP Material Activity (Online Inquiry and Report)
- Error Messages (Online Inquiry and Report)

Planning



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MPS and MRP

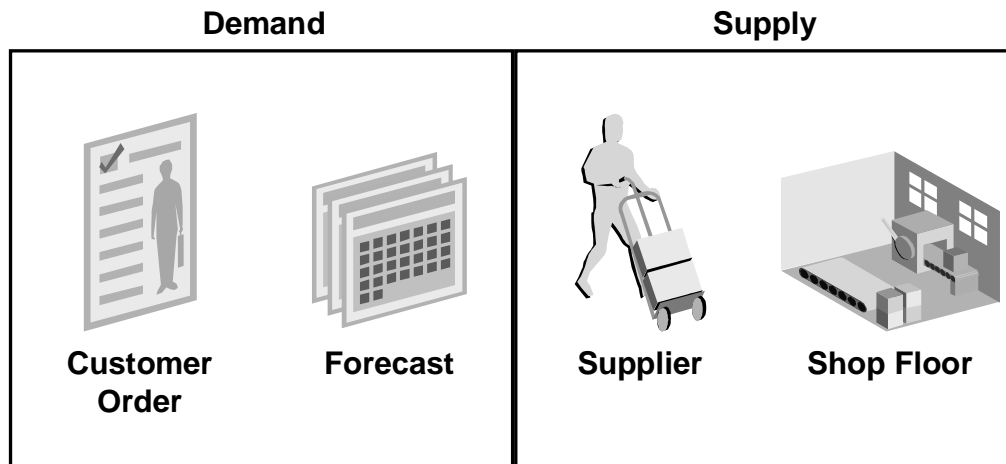
One way to differentiate between MPS and MRP in OPM is to describe MPS as providing the more short-range, dynamic view of material activity. MPS can give you and other planners a view (weekly, daily, or even hourly) of the production that is scheduled to meet immediate requirements.

MRP provides the more long-range view of material. It is therefore the less dynamic of the two material activity viewing tools.

The illustration above shows how both MRP and MPS can give you the view of material activity, starting from the present time. However, MPS gives you an accurate view of material activity over a short time horizon.

Another basic difference between MPS and MRP is that MPS deals solely with real events, such as firm-planned orders and batches already entered. MRP can plan activity based on anticipated inventory demands and supplies. Note the following discussions for more on the differences between the two material planning tools.

Demand and Supply



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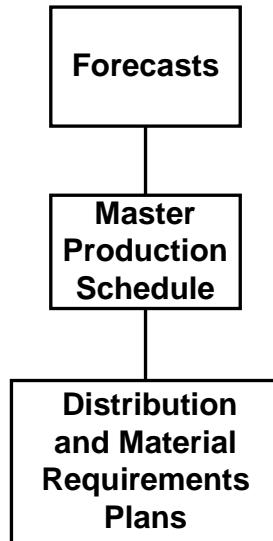
The Master Planner

The master planner (planner) is responsible for timely balancing of production demand and supply. Separate individuals may schedule production and purchasing in a company, or a single planner may handle both purchasing and production supply scheduling. The planner may also be responsible for leveling production, scheduling efficient batch sizes, and keeping stock balances to a minimum.

Master Scheduling Using OPM

MPS gives the planner the tools to plan production and react to changing supply and demand. MPS allows the planner to view both supply and demand for one or more specific items in a specified time frame. This view, specific to only those items over which the planner has authority, indicates when demand requires production or purchase of an item. When production, or purchase, of the item is planned, the planner may view the impact immediately. If the purchase or production is delayed, the impact of that delay is also visible immediately.

The Planning Process



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Master Production Schedules

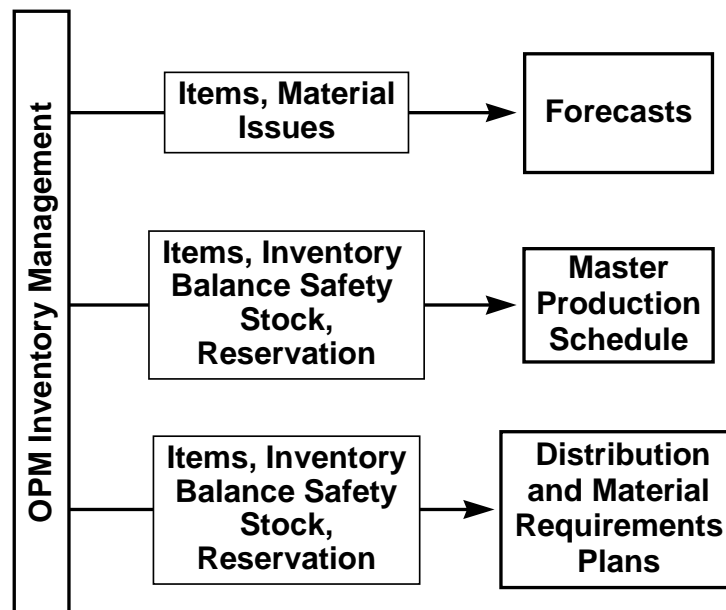
MPS and MRP

Before you can use either the MPS or MRP modules, you must create one or more schedules. The schedule is the list of the inventory transactions, plants, and warehouses that you control as the planner. You are responsible for managing a specified portion of inventory. As a planner you do not necessarily buy the raw materials for production (this may be left to a separate buyer). However, you may, because of the schedules you define, generate requests for raw materials; the buyer then creates requisitions or purchase orders for the items.

After you define a schedule, you can use it to create a link between organizations and plants and warehouses. Procedures to define these links are discussed in this course.

The production schedule is a list of material activity (firm-planned orders, batches, warehouse transfers, and cancellations) for production. Each MRP report, and the resulting material replenishment scheduling actions, is based on a specific master production schedule. Each master production schedule defines a separate set of criteria by which MRP will suggest replenishment of materials (for example, whether sales forecasts and sales orders will be viewed by MRP as demand when the schedule is used).

The Planning Process



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Master Production Schedule and MRP Run

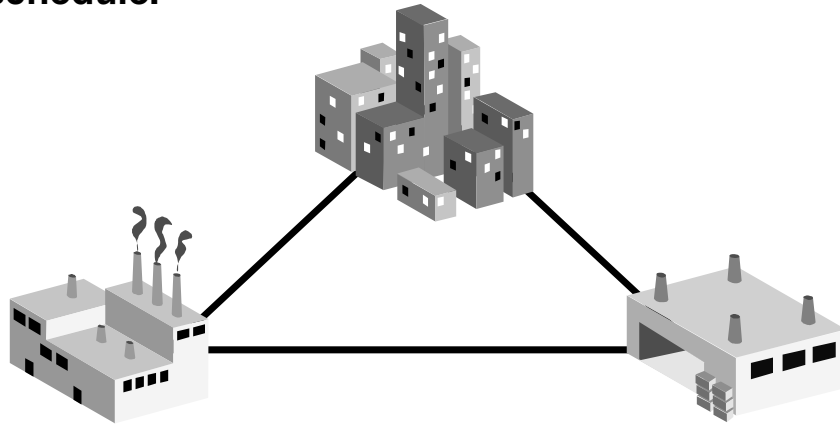
The master production schedule is a list of firm-planned orders (FPOs) and planned production batches (PROD). An FPO represents potential work for production, and indicates a source of supply for manufactured goods and a source of demand for processing ingredients.

Multiple Schedules

A company can have numerous buyers and planners responsible for various areas of production. Each buyer and planner can create a separate, desired schedule, with its own parameters. The planner may then selectively act on MRP suggestions for replenishing inventory and generate FPOs, batch tickets, and reports for that schedule.

Defining Schedules

After you define a schedule, you can use it to create a link between organizations and the plants or warehouses that contain the item the planner wants to schedule.



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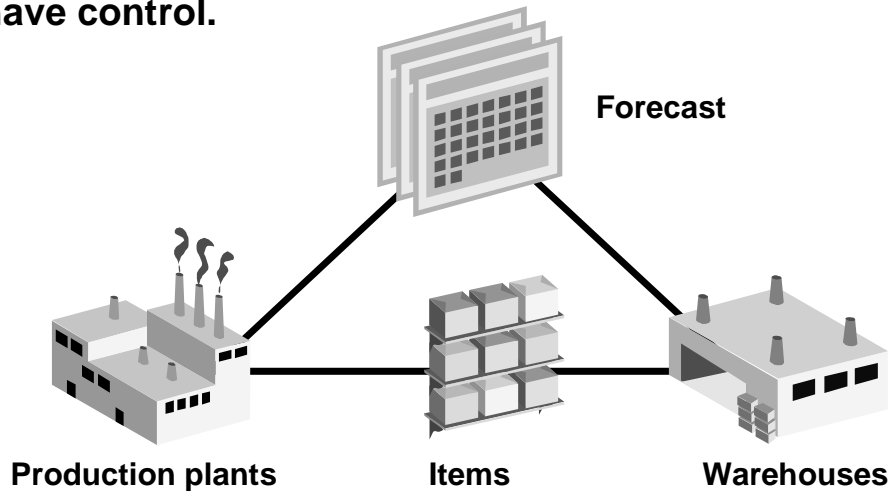
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Defining Schedules

In OPM, a schedule (as a stand-alone reference) refers to the transactions, plants, and warehouses for which a planner desires to view material activity. Each planner is responsible for managing a specified portion of inventory. A schedule also refers to the specific planning parameters assigned to a planner. These parameters determine the format in which material demand and supply quantities for specific items appear on MRP and MPS inquiries and reports.

MRP Forecasts

MRP makes suggestions only for the items, warehouses, and production plants over which you have control.



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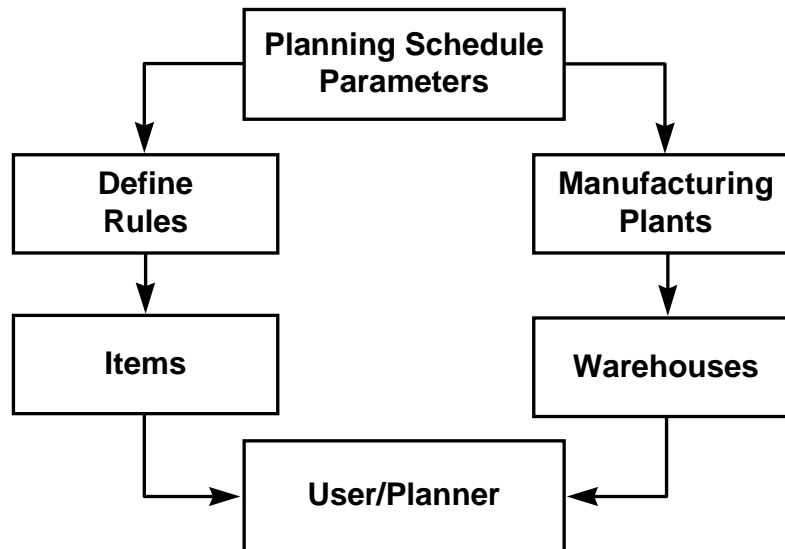
MRP suggests specific actions to keep supply and demand quantities in balance. If you define your setup criteria properly, MRP makes suggestions only for the items, warehouses, and production plants over which you have control.

You must first define shop days and the appropriate shop calendars used by MRP to calculate the dates on which production batches for inventory replenishment should begin.

You must then define the conventions for reordering based on timefences. A timefence is a policy or guideline created to note where various restrictions or changes in operating procedure take place. You define timefences in the Inventory module to establish reorder, production, and warehouse transfer guidelines. You also define (on the MPS Schedule form) a timefence specific to each schedule; MRP refers to the most restrictive schedule when more than one exists.

MRP reports indicate the effects of MRP's suggested resupply transactions on current and future inventory levels.

Planning Schedule Parameters



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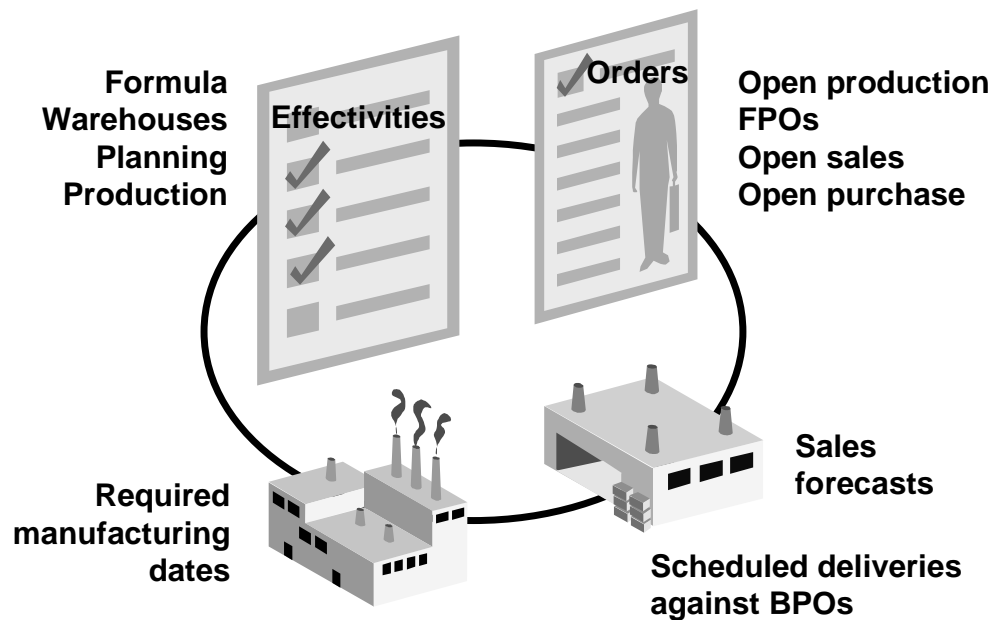
Schedules

Before you can use the Process Material Requirements Planning module (hereafter called MRP) to make replenishment suggestions, you must define the planning schedule parameters. The schedule parameters define the rules by which MRP will make replenishment suggestions when that particular schedule is used.

You define schedule parameters in the Master Production Schedule (MPS) module. You then link the schedule parameters to yourself (and other planners) and to the inventory items in which you have scheduling interests.

Note: OPM enables you to assign each planner (operator) a default set of schedule parameters. However, each planner may be assigned access to any valid set of schedule parameters.

Describing Run Considerations



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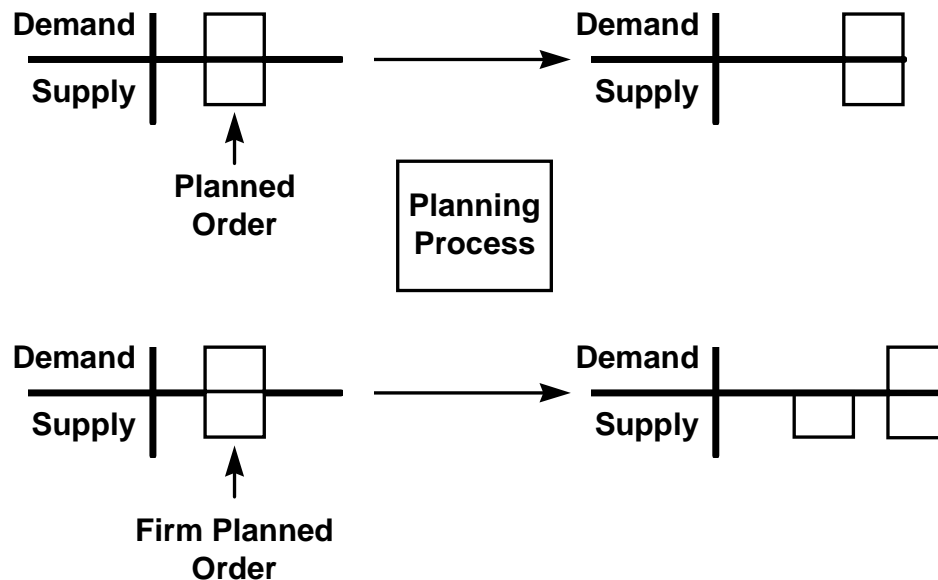
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Describing MRP Run Considerations

A MRP run is a time-phased projection that considers the following:

- Formula and warehouse effectivities
- Planning effectivities (considered first)
- Production effectivities (considered second)
- Required manufacture start and end dates
- Open production orders
- FPOs (firm-planned orders)
- Open sales orders
- Open purchase orders
- Scheduled deliveries against blanket purchase orders
- Sales forecasts

MRP and Firm Planned Orders



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Defining MRP and Firm Planned Orders

The production schedule is a list of production batches and FPOs. The planner manually enters a firm planned order, or converts a planned order (suggested by MRP) to a firm planned order. Each firm planned order represents batches you definitely intend to make.

An FPO represents potential work for production and indicates a source of supply for manufactured goods and a source of demand for processing ingredients. The planner can change an FPO at any time. FPOs can (at the planner's discretion) become production batches.

After you review MRP suggestions, you may want to plan some production in the future. An FPO enables you to perform mid- to long-range planning, without committing inventory. Each FPO can be converted into one, or many, simultaneous or consecutive batch tickets as you approach actual production dates.

MRP and Rescheduling

The basis of rescheduling in OPM is that an order can be moved to meet the demand needs of a schedule. To do this, MRP does the following:

- **Locates a net safety stock requirement**
- **Uses the reschedule interval from either the Warehouse Rules for purchasing or Production Rules for production.**
- **Incorporates the order and action messages and suggestions made to meet the demand.**

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MRP assumes that when a demand exists, there is a way to resupply that demand. When insufficient lead time exists according to the rules defined, MRP knows that demand will be met, or the demand date will be moved. MRP handles this situation with exception messages that tell you to do something outside of the planning rules. The following are assumptions or properties involved with rescheduling:

- Will not increase the size of an existing order
- Does not have the ability to actually move an order
- Can only use an order once for rescheduling
- Will only use one order to reschedule with
- Can reschedule with insufficient lead time as an exception

Oracle Advanced Planning and Scheduling

After reviewing this section, you should be able to do the following:

- **Describe how you can use Oracle Advanced Planning and Scheduling to improve supply chain planning**
- **Identify the changes in transaction flows and integration points as they relate to Oracle Advanced Planning and Scheduling**

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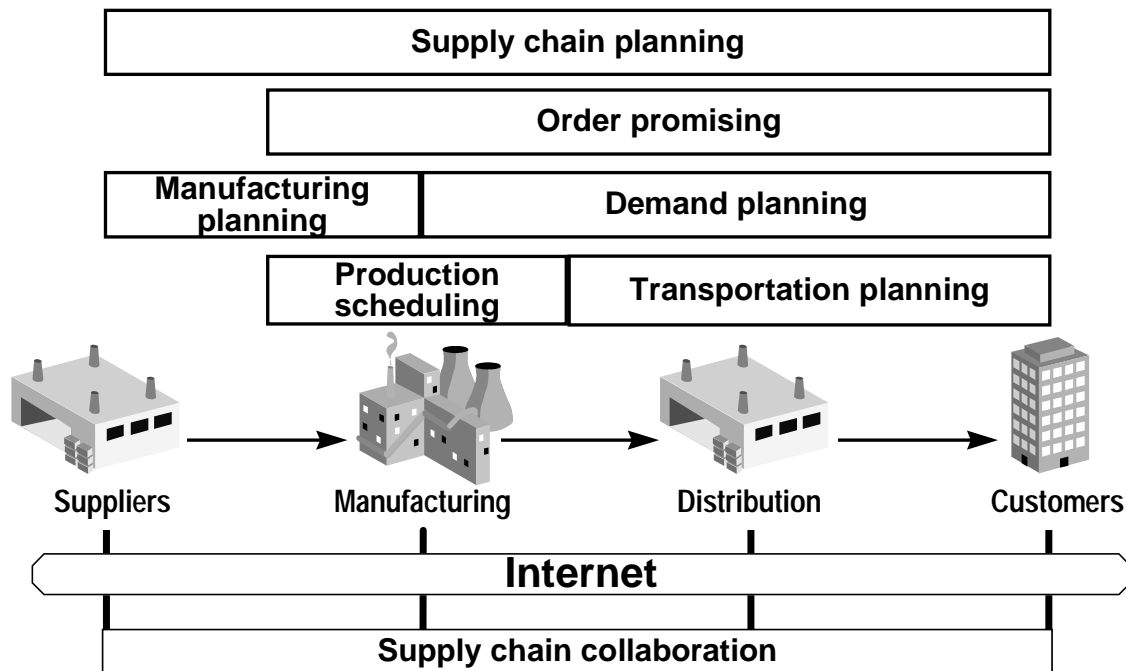
APS Overview

This section describes the business value of using Oracle Advanced Planning and Scheduling (APS) with Oracle Process Manufacturing (OPM).

After completing this lesson, you should be able to:

- Describe how APS improves supply chain planning by:
 - Creating coordinated plans for all supply chain activities
 - Generating constrained and optimized plans
 - Running plans for different scenarios and comparing them with performance measures
 - Accessing the supply and demand situation in real time across the entire supply chain
- Describe the benefits of using ASCP, such as:
 - Running all planning functions on a multiorganization planning server
 - Integrating the APS planning server with OPM, Oracle Applications, and Process Manufacturing Intelligence
 - Using a common data model for planning and execution

Advanced Planning and Scheduling



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What Is Oracle Advanced Planning and Scheduling?

Current supply chain planning technology coordinates a system that spans the supply chain from supplier to manufacturer to distribution to end user. The next generation technology, advanced planning and scheduling (APS), creates coordinated plans for all of the supply chain activities. Features of APS included:

- Rapid implementation
- Synchronized strategic, tactical, and operational planning and execution
- Global visibility, Internet-based collaboration
- “What-if” scenario comparison and analysis for decision support
- Sophisticated solving techniques to optimize benefits for the system
- Order-of-magnitude computer response performance improvement
- Control mechanisms provided for real-time monitoring of execution
- Immediate response to deviations from optimal performance

What Is Oracle Advanced Planning and Scheduling? (continued)

Oracle APS enables companies to generate constrained and optimized multifacility plans across their entire supply chain. Companies will have real-time access to determine their supply and demand positions across every facility and location in their supply chain, whether internal or external. Plans quickly generated by Oracle Advanced Supply Chain Planning (ASCP) can be reviewed and compared to other plans using advanced simulation capabilities. Most important, by integrating performance management capabilities, supply chain plans can be measured and evaluated based on charts and graphs of performance information, such as inventory turnover, on-time delivery, and resource utilization.

Benefits of ASCP

- **Coordinated plans for all supply chain planning activities**
- **Constrained and optimized plans**
- **Plans for different scenarios compared against performance measures**
- **Plan information in real time**
- **Multiple organization planning server**
- **Common data model for planning across OPM, Oracle Applications, and PMI**

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ASCP Benefits

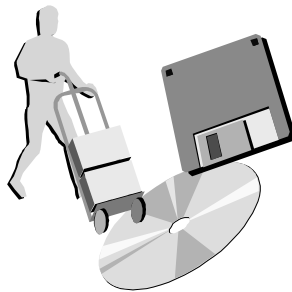
The ASCP component of Oracle Advanced Planning and Scheduling provides business value by allowing you to perform the following actions:

Create coordinated plans for all supply chain activities

- Generate constrained and optimized plans
- Run plans for different scenarios and compare them against performance measures
- Access the supply and demand situation in real time across the entire supply chain
- Run all planning functions on a multiple organization planning server
- Integrate the APS planning server with OPM, Oracle Applications, and Process Manufacturing Intelligence(PMI) through the use of a common data model for planning and execution

ASCP Features

- **Multiple-organization plans**
- **Rapid one-step supply chain planning**
- **Ability to plan a portion of the supply chain**



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ASCP Features

Multiple-organization plans: You can generate plans with materials and resource requirements that:

- Optimize business goals
- Do not exceed the availability of materials and resources

Rapid one-step planning: You can perform rapid one-step planning of multiple facilities in your supply chain. Planning outcome includes:

Planning decisions that optimize your global business objectives

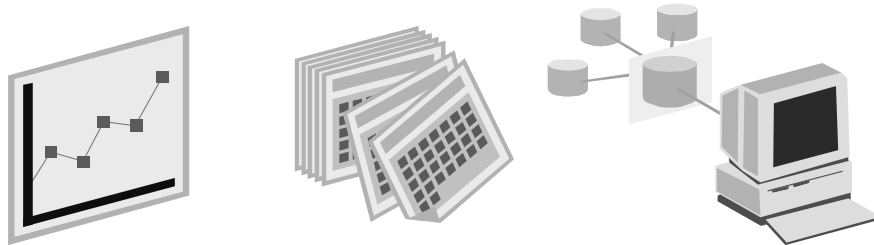
- A set of supply schedules, one at each planned facility

Plan a portion of your supply chain: You have the ability to:

- Specify the set of facilities and their relationships in your supply chain
- Generate optimal plans for these facilities

ASCP Features

- **Constraints**
- **Flexible time granularity for planning and scheduling**
- **Planning product families**



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ASCP features (continued)

Define relative importance of constraints: You can generate plans using the following scenarios:

- optimize the plan with unconstrained materials and resources
- optimize the plan considering material constraints only
- optimize the plan considering resource constraints only
- optimize plan with respect to both material and resource constraints

Flexible time granularity: You can define flexible time granularity for planning and scheduling. This provides the ability to:

- specify material and resource availability in non-uniform time periods
- obtain material and resource availability at different levels of detail
- perform high level planning as well as detailed planning

Note: You must specify all of the parameters for days, weeks, and months. Unlike OPM, APS requires that you define these three time periods.

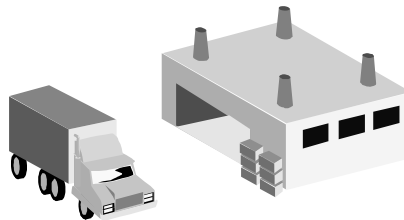
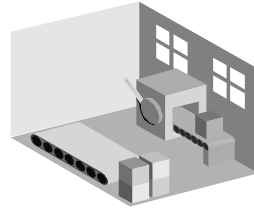
Planning Product Families: You can generate plans at the product family level. You have the ability to:

- Specify forecasts and sourcing rules at the product family level
- View item information for your plan aggregated into categories

Overview of Oracle Process Manufacturing, Release 11i 7-20

ASCP Features

- **Production planning**
- **Distribution planning**



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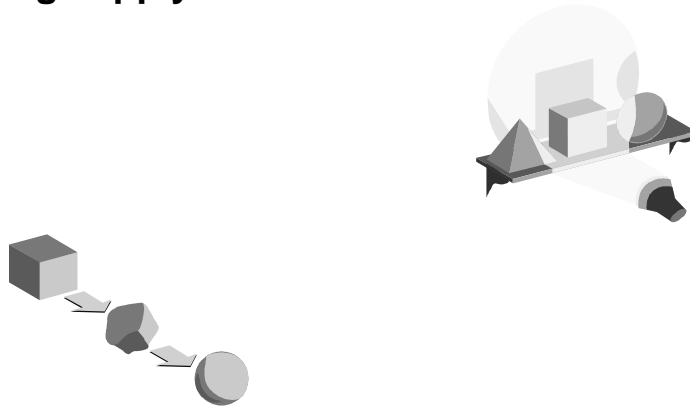
ASCP Features (continued)

Production Planning: The supply chain optimization tool generates a production plan which makes tactical sourcing decisions that optimize your objectives and determine the supplies that must be created in each time period to fulfill the demands. You can model demands, supplies, and other material information at different levels of detail in different time periods to facilitate efficient generation of plans.

Distribution Planning: You can generate an optimal distribution plan that will identify the assignment of distribution centers to customer demands and forecasts and identify the assignment of manufacturing facilities to the distribution centers. The plan determines how material transfer occurs between organizations and distribution centers, as well as between distribution centers.

ASCP Features

- **Performing sourcing decisions**
- **Pegging supply and demand**



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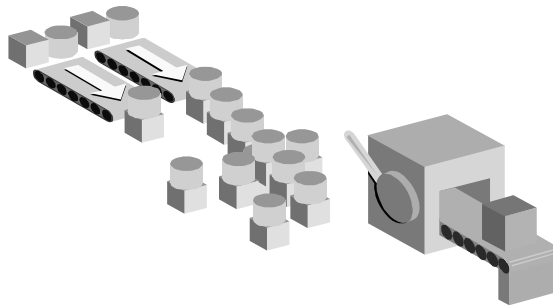
ASCP Features (continued)

Performing Sourcing Decisions: You have the ability to define sourcing rules that specify the sourcing percentage and priority for each source and then have the plan generate supplies according to these rules. You arrive at optimal sourcing decisions to determine the time-phased flow of materials in your supply chain.

Pegging Supply and Demand: Pegging lets you trace supply information for an item to its corresponding end demand. Purchasing activities and completion and movement of supply are specified. Pegging information is available at the level of aggregation specified for your time buckets, items, and demands.

ASCP Features

- **Order modifiers**
- **Time-phased constraints**



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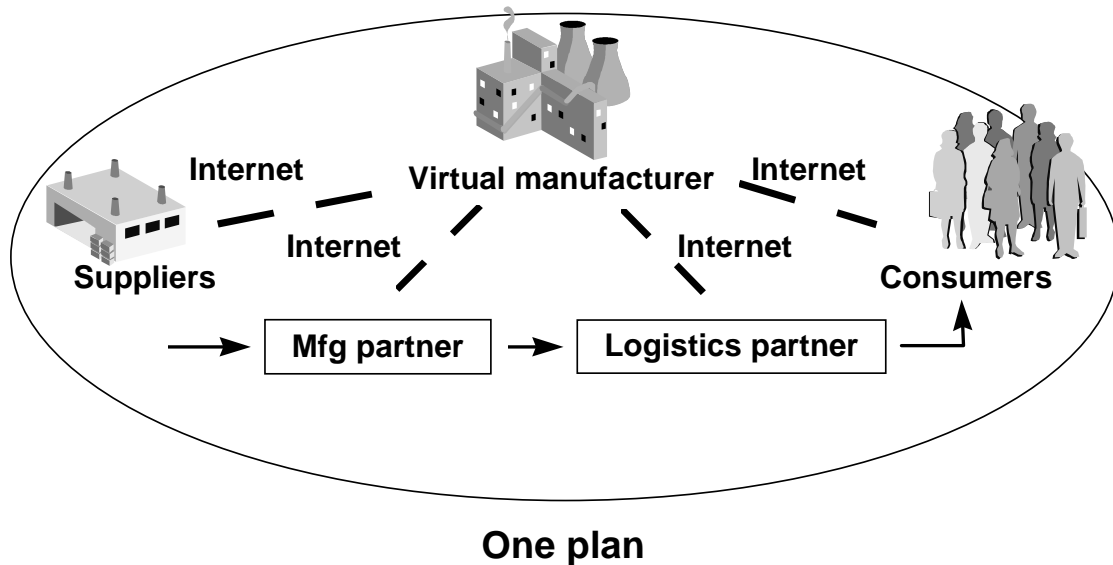
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ASCP Features (continued)

Specify order modifiers: You can define order modifiers and production quantities to mimic your inventory and operational policies.

View time-phased information of your key constraints: You can view how the plan satisfies your constraints along the scheduling horizon. Exceptions messages indicate when there are material or resource limitations. You can reschedule and reduce the number of orders that violate constraints.

Holistic Planning, Scheduling, and Optimization



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Global Planning Capability

Oracle ASCP is the only system that enables a company to plan, schedule, and optimize the entire supply chain in a single plan:

- All supply chain locations
- All time horizons
- All manufacturing methods
- All materials and resources

How Oracle Supports Holistic Planning and Scheduling

Holistic planning enables a company to create a single plan across the entire supply chain that supports high-level planning all the way down to factory scheduling. This planning capability is enabled by:

- A common data model for planning and execution that is shared to enable companies to aggregate all data at all levels
- Flexible controls to determine and tailor the granularity of all supply chain locations, time horizons, all manufacturing methods, all materials, all resources, and all constraints

How Oracle Supports Holistic Planning and Scheduling (continued)

- Support for mixed-mode manufacturing, enabling a company to create a single plan consolidating requirements across all aspects of the company, regardless of production method.
- Integrated planning and execution to create a single closed-loop plan and to support integration with legacy systems.
- Integrated performance management, enabling companies not only to create a single plan, but to use the plan to effectively manage their business, by integrating business intelligence and workflow to create a plan-execute-measure-improve framework.
- The tight integration of all the Oracle ASCP pieces works more efficiently than a non- integrated collection of components.

Optimization

- **ILOG solver and optimization technology**
- **Optimized plans to strategic objectives**
- **Incorporated with third-generation, memory-based planning**
- **Optimal sourcing decisions and production and distribution plans for each organization**

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Oracle APS and ILOG

Oracle APS employs advanced ILOG solver and optimization techniques. You can optimize your plans to meet financial and other enterprise strategic objectives. The memory-based planner creates coordinated production and distribution plans for each organization. In addition, a constraint-based scheduling engine ensures that the plan is feasible and respects all of your constraints.

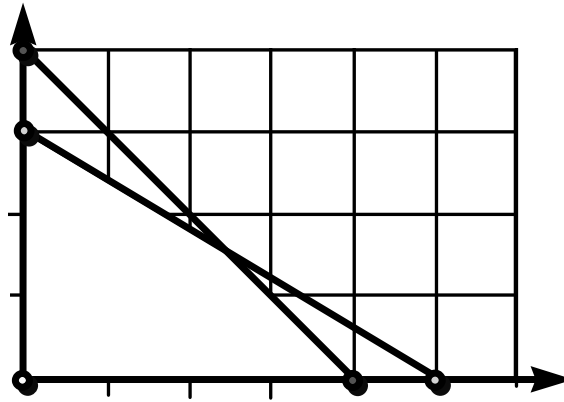
Note: ILOG is a company that specializes in optimization algorithms.

Business Requirements

Oracle APS meets business needs, including capability to:

- Plan for material and capacity constraints
- Create plans that achieve selected goals
- Minimize inventory costs
- Maximize on-time shipment
- Maximize overall plan profit

Constraint-Based Planning Option



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Constraint-based Planning and Scheduling Option

Constraint-Based Planning and Scheduling (CBP) is a new approach for balancing material and plant resources while meeting customer demand. CBP takes into account constraints at the enterprise level as well as at the plant level. Material and capacity issues are considered simultaneously, and factory, distribution and transportation issues are integrated.

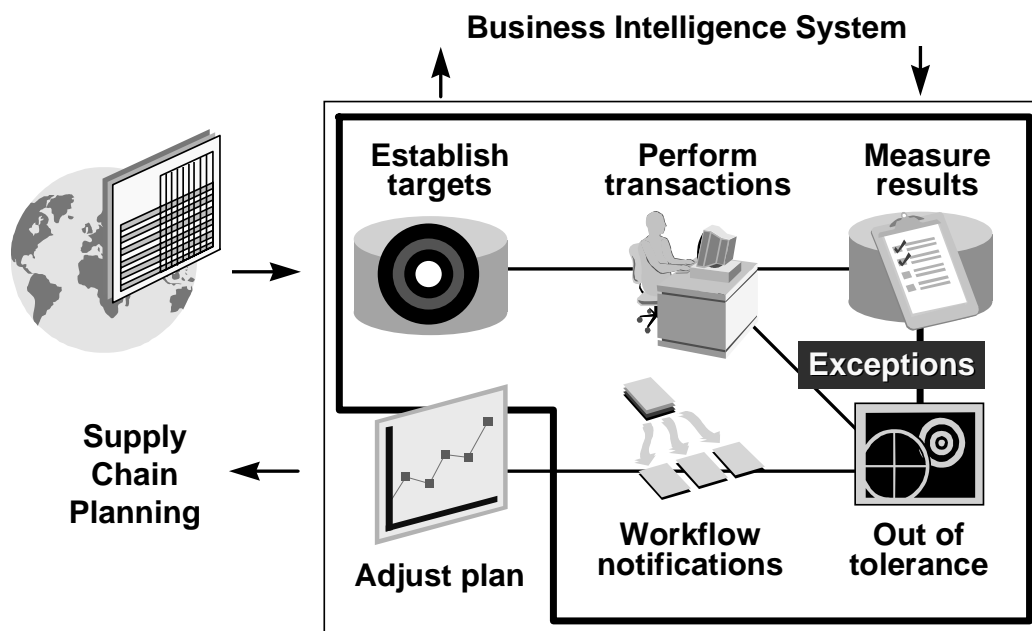
Constraint-Based Planning (CBP) delivers a rich set of features for tactical as well as operational planning and scheduling. The CBP solution consists of two new modules, namely Supply Chain Optimization (SCO) and High Level Scheduling (HLS) interspersed with the existing Memory Based Planner (MBP).

Business requirements

- A feasible plan that respects all constraints
- Real-time plan and schedule generation with net-change capabilities by leveraging memory-resident architectures.
- Aggregation at multiple levels of detail (e.g. bill of resources, product families)
- Real-time simulation and decision support
- Manual and interactive planning and scheduling

Overview of Oracle Process Manufacturing, Release 11i 7-27

Integrated Performance Management



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Overview

Integrated Performance Management encompasses supply chain planning and Oracle BIS and is the link between a plan and its impact on the enterprise. It completely integrates planning and execution with no redundant data. The integrated performance management system allows you to monitor and improve supply chain performance. A plan can be directly evaluated based on its impact to defined performance measures.

Oracle APS integrates with Oracle BIS and Oracle Workflow to create a “plan-execute-measure-improve” continuous cycle.

Business Requirements

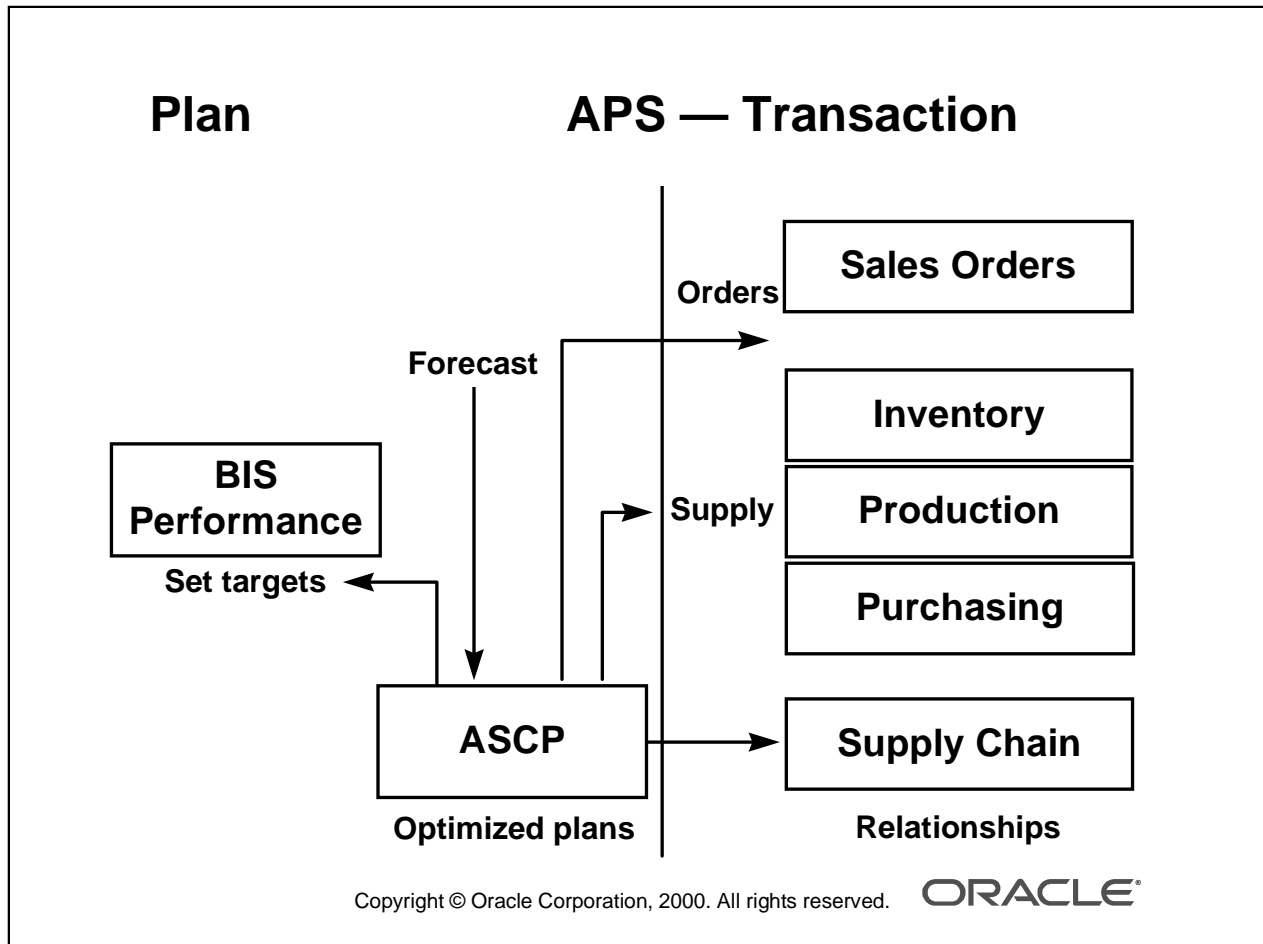
- Easily and quickly evaluate a plan based on its impact to target performance measures
- Manage by exception—receive notifications when corrective actions are required

Business Requirements (continued)

- Set organizational objectives to drive continuous improvement
- Optimize to performance targets
 - Industry standards
 - Corporate
 - Personal

Features

- Integration with Oracle BIS Performance Management System
 - Multiplan performance measure comparisons
 - Multiplan exception comparisons
- Integration with Oracle Workflow
 - Notification, or corrective action alerts

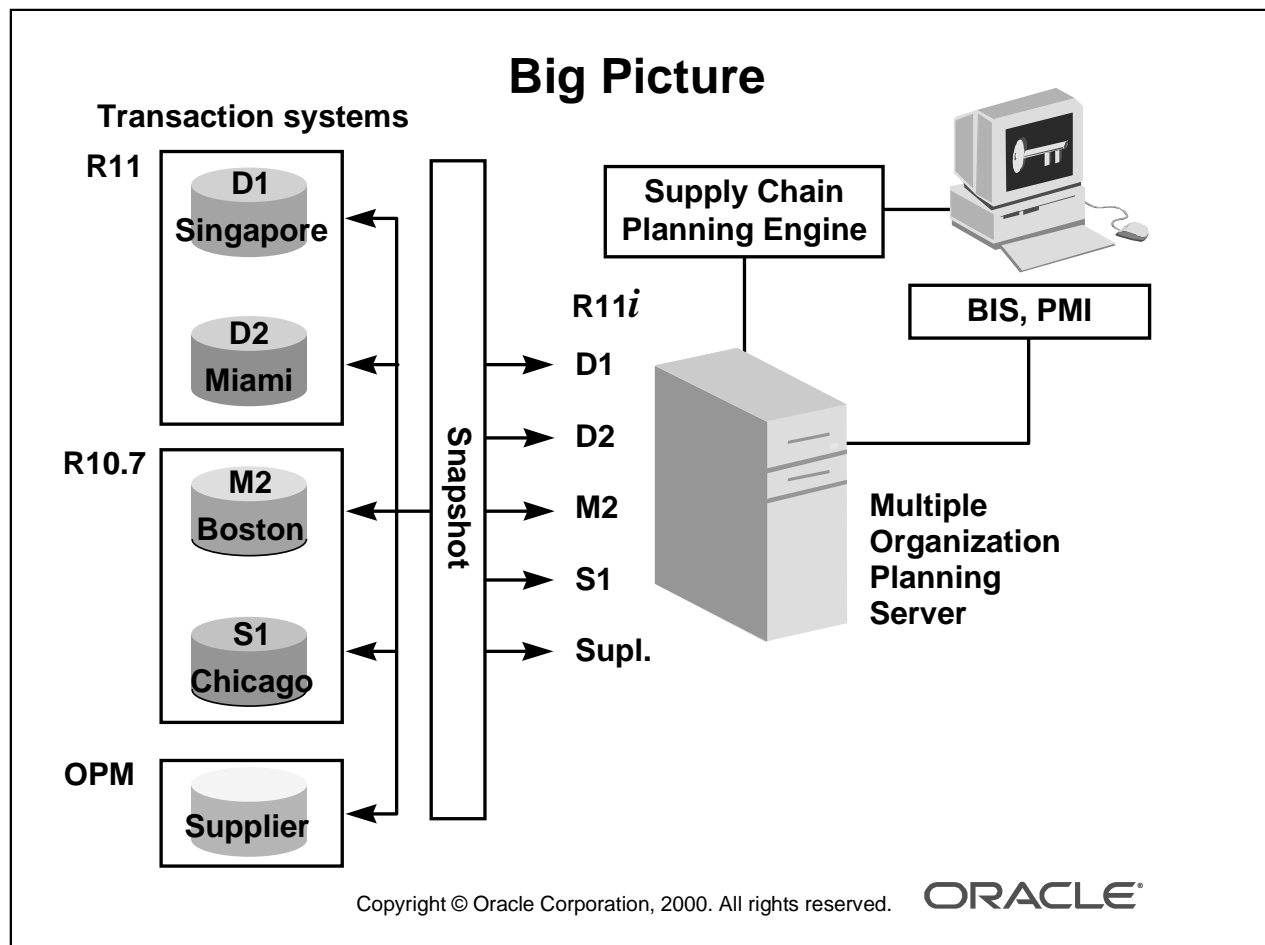


Planning Demand and Supply Across the Entire Supply Chain

To begin the planning cycle, Internet-based collaboration is used to collect demand information from supply chain partners and internal sources.

The demand planning process results in a demand forecast input to the ASCP engine.

- Collection programs obtain other input for planning, such as sales orders, finished good inventory, production batches, raw material on-hand inventory, released purchase orders, and supply chain sourcing information. All of this information is gathered in real time across the entire supply chain.
- ASCP then creates plans for the supply chain that are optimized to objectives such as inventory turnover, profit, on-time delivery, and resource utilization that are consistent with the performance measure targets that you have established.



Multiple Organization Planning Server

Oracle Advanced Supply Chain Planning introduces a completely new architecture for implementing planning on a separate server and integrating with current and previous Oracle Applications releases as well as legacy ERP transaction systems. Collection programs are provided to collect the data from applications instances and transmit the data to the planning server.

Quick Start of Return on Investment

Implementation occurs in hours or days instead of months or years. Implementation of the Advanced Planning System does not disrupt the existing transaction systems' operations.

Planning on Demand

With Oracle APS installed on a separate server, you can run planning processes and perform simulation, without impacting the performance of the transaction processing. The planning server captures a snapshot of the data from the transaction systems. The supply chain planning engine performs multiple organization planning and simulation calculations without impacting transaction server resources. Results of supply chain optimization are made available to the transaction systems so that planning suggestions can be implemented.

Integrated APS Modules

The BIS performance measurement system interfaces with the planning server.

Regulatory Management

Regulatory Management is the communication of hazard information to those in business and the community who have a need to know. In this overview of the Regulatory Management module, you should understand the following:

- **Business drivers for Oracle Process Manufacturing (OPM) Regulatory Management**
- **Dependencies and integration points with other OPM responsibilities**
- **Required data setups to use the OPM Regulatory Management responsibility**

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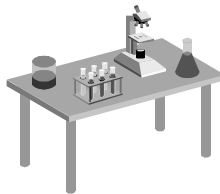
Regulatory Management

International, federal, and state regulations require increasingly stringent reporting on hazardous materials usage. Therefore, the need for an automated reporting tool to generate Material Safety Data Sheets (MSDSs) and other regulatory documents has grown dramatically.

The Oracle Process Manufacturing (OPM) Regulatory Management application generates the documents that you are required to provide to employees, customers, shippers, emergency workers, and those who have a need to know about the hazardous materials your company has, where they are located, and what to do in case of an accident.

Business Value of Regulatory Management

- Capturing of business rules
- Document generation
- Customer control
- Flexibility of ingredient disclosure



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Capturing of Business Rules

Each business or organization demands specific wording on the documents they distribute in the marketplace.

Specific business rules include ingredient disclosure, preferred wording, interpretation of hazards, selection of text to accurately represent hazards, compliance with the regulatory requirements of the document recipient's jurisdictions and automated document generation and maintenance.

When these and other business rules are part of the application functionality, then consistency, accuracy, and efficiency are achieved in producing and managing hazardous material safety information.

Document Generation

OPM Regulatory Management automates your document creation and management processes, such as version control, helping ensure your employees' well-being, and your business' compliance with government regulations.

With OPM Regulatory Management, you can create standard MSDS documents that you can modify to fit your business requirements. The documents defined include:

- United States American National Standards Institute (ANSI) Z.400 16 Section
- Canada Workplace Hazardous Material Information System (WHMIS) 16 Section
- European Union 16 Section

OPM Regulatory Management supports multiple document formats to meet specific business needs. In addition, documents other than MSDSs, such as Technical Data Sheets can be created.

The ability to generate user-defined documents allows you to show only relevant business and legislative information on the document.

To meet legislative requirements, OPM Regulatory Management allows you to manage these documents by retaining previous versions of documents.

Note: Release 11i does not seed US Occupational Safety and Health Administration (OSHA) 10 Section or Canadian WHMIS 9 Section, as these formats have largely been replaced by the respective 16-Section documents. However, you can define any type of document through document structures. The seeded document structures can be modified to meet individual requirements or new document structures can be created.

Customer Control: OPM Regulatory Management allows you to print documents in the languages of the user. Based on region codes, you can print in all languages required by the region. For example, you can set up the region code North America which includes the US and French Canadian languages. This meets the business requirement dictated by legislation and customers who may require documents printed in the language the safety manager is most comfortable speaking and reading.

While the frequency of dispatch of documents is dictated by legislation, some customers will have additional requirements or may require periodic updates of the documents whether or not they have changed. OPM Regulatory Management handles these customer-specific requirements.

Note: You don't have control over the "As Required" option for a time span greater than one year.

Document Generation (continued)

Customer Control (continued): The ability to send the documents to more than one address satisfies the business requirement of large corporations that require the MSDS to be sent to both the shipping destination and the corporate safety department in addition to the customer destination.

Flexibility of Ingredient Disclosure: The requirements to disclose the presence of ingredients in a product can vary from country to country, as well as business to business. Regulatory management information can be set up so that different disclosure requirements can be managed with a minimum of disruption.

Overview of Regulatory Management

Using OPM Regulatory Management, you can do the following:

- **Generates required documents regarding hazardous materials**
- **Manages critical information about hazardous materials**
- **Automates document creation and management processes**



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Regulatory Management Documents

The OPM Regulatory Management application generates the documents that you are required to provide to customers when you supply hazardous materials. In your plants, warehouses, laboratories, transportation centers, head offices, and other organizations such as hospitals and poison centers, managers and safety officers must know:

- What types of hazardous materials your company has
- Where they are located
- What to do in case of an accident

Managing this information is critical as these materials are moved throughout your organization or are combined to create new ones.

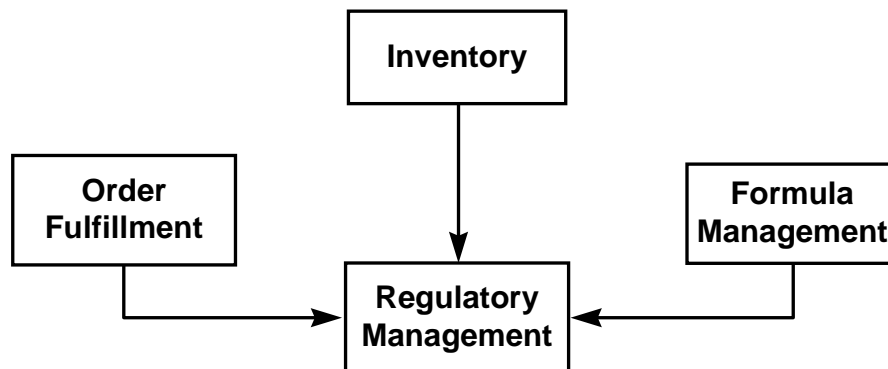
Additional documents can be created as required, either for specific customer requirements or for additional technical information such as Worker Safety Sheets.

Documents can be generated either as a result of ad hoc requests or from orders, shipments, or invoices entered in the OPM Order Fulfillment responsibility.

You can use OPM Regulatory Management to query and report on current documents. Inquiries to determine which products use a specific ingredient can be run quickly and easily.

Information Sources

OPM Regulatory Management gets its information from other OPM responsibilities.



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Regulatory Sources

Inventory, Formula Management, and Order Fulfillment provide OPM Regulatory Management with information on items, formulas, sales orders, and shipments. If you don't want to enter items and formulas in the Inventory and Formula responsibilities, you can enter this information in the OPM Regulatory Management responsibility and use it as a stand-alone responsibility.

Information sources of Inventory, Formula Management, and Order Fulfillment allows you to:

- Reuse information, such as customer addresses
- Ensure that appropriate documents are created when new products are developed or manufactured
- Be assured that all required documents are sent to your customers

You can create documents from the items that you set up in Regulatory Management and those set up in OPM Formula Management with Regulatory or Production effectivities. In addition, you can generate documents for generic items by assigning OPM Inventory Management Item Master items to a Regulatory Management template item.

Regulatory Sources (Continued)

Formula composition information can be printed on documents based on your specifications. Effective Regulatory and Production formulas identify all ingredients that may print on a document. The disclosure codes allow this list to be further refined based on the concentration of the ingredient in the finished product.

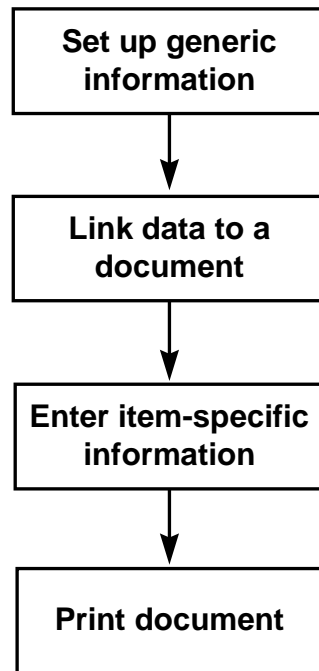
All items must be defined in Regulatory Management before you can generate documents for them. Documents can then be generated from within Regulatory Management either by selecting the worksheets, documents, or recipient documents that you want to generate or by generating documents based on sales orders and shipments processed in OPM Order Fulfillment. In all cases, you can limit the documents that are generated by entering specific criteria.

Note: The ability to manage an inbound MSDS is not a current feature. In 11i.1, the following five attachments are added:

- Document Structures
- Items - General Item Information, Toxic Information and Exposure Information
- Recipients

These attachments allow you to scan in a vendor MSDS and attach it to the item in Item Regulatory.

Regulatory Management Business Flow



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Business Flow

This OPM Regulatory Management business flow includes the following steps:

1. Set up generic information including headings, phrases, and field names.
2. Link data to a document, such as a US-16 MSDS .
3. Enter item-specific information, such as physical properties and phrases.
4. Print the document.

1. Set Up Generic Information

Headings:

Section 1 - Company Information

Phrases:

Disclaimer: To the best of our knowledge, this MSDS presents...

Field Names:

Boiling Point:
Color:

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2. Link Data to a Document

Headings:

Section 1 - Company Information



Phrases:

Disclaimer: To the best of our knowledge, this MSDS presents...



Field Names:

Boiling Point:
Color:



US 16 MSDS

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3. Enter Item Specific Information

Data

Physical Properties
Exposure
Toxicity
Disclosure Requirements

Phrases

Causes skin irritation. Always wear gloves when handling this material.

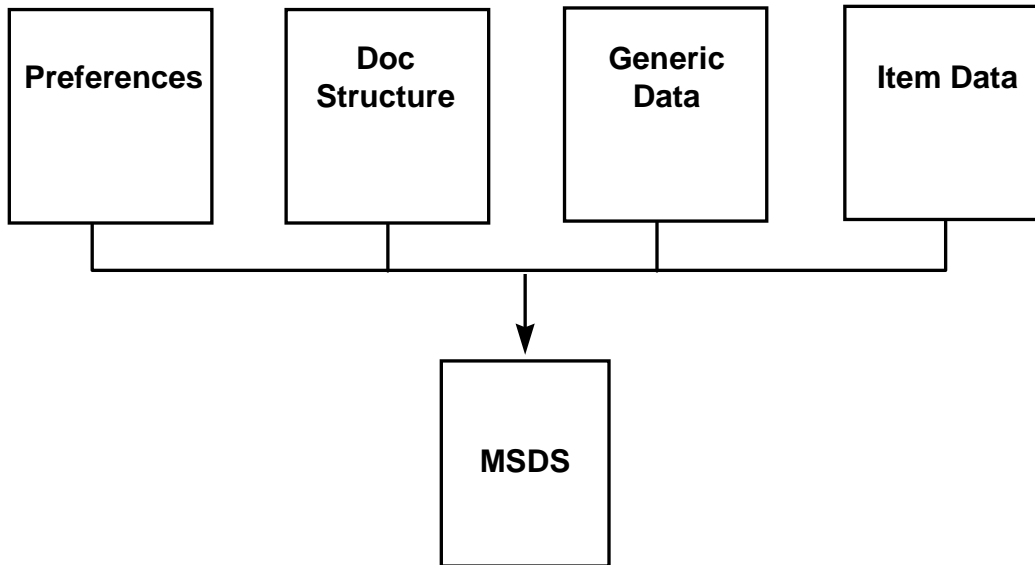


US 16 MSDS

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4. Print Document



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MSDS Document - Example

Section I - Company and Product Information	
Product name:	Product LC-1234567
Company identification:	Washington International 100 West Summit Lake Drive Seattle, WA 99456-9234
Contact	John L. Beardsley
Telephone / Fax:	(206) 455-2900 or (206) 455-2700
Emergency Phone (24hrs)	(206) 455-2943

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Note: Section I of the MSDS contains company and product information.

MSDS Document

Section II - Hazardous Ingredients			
Ingredient Name	CAS Number	Percent	TSCA
Ethanol	64-17-5	3.34	Y
Hydrochloric Acid	7647-01-0	1.67	Y

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Note: Section II of the MSDS contains hazardous ingredient information, such as the Chemical Abstract Service (CAS) number and whether the ingredient must be reported according to the Toxic Substance Control Act (TSCA). The format of the columns is under the control of the user.

MSDS Document

Section III - Hazards Identification

Eye contact

Liquid, aerosols and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/ or a feeling like that of fine dust in the eyes.

Skin contact

May cause skin sensation, an allergic reaction, which becomes evident on reexposure to this material. Harmful if absorbed through the skin.

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Note: Section III of the MSDS contains hazards identification. Eye contact and Skin contact were set up as subheadings. The text beneath the subheadings are phrases.

MSDS Document

Section IV - First Aid Measures

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes.

Skin contact

Immediately flush with large amounts of water. Use soap if available. Remove contaminated clothing, including shoes, after flushing has begun. Get prompt medical attention.

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Note: Section IV of the MSDS contains first aid measures. These are subheadings and phrases used in a different section of the MSDS.

Implementation Considerations

Before you can use the OPM Regulatory Management responsibility, you must set up the following data:

- **Languages**
- **Human Resource Business Group and General Ledger Set of Books Name**
- **User Organization**
- **OPM Regulatory Management Default Organization Code and Default Warehouse Code**

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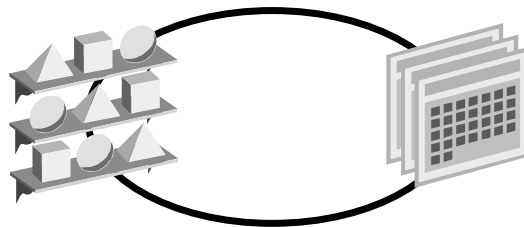
Note: Before you can use the OPM Regulatory Management responsibility, the following data must be set up:

- Languages must be installed through the System Administrator responsibility
- Human Resource Business Group and General Ledger Set of Books Name profile values for the OPM Regulatory Management responsibility
- User Organization profile value for the OPM Regulatory Management responsibility
- Default Organization Code and Default Warehouse Code profile values for the OPM Regulatory Management responsibility if you're printing from Order Fulfillment
- For complete information on implementation considerations, see the *Oracle Process Manufacturing Implementation Guide*.

Summary

After completing this lesson, you should now be able to describe specific functions within the following modules:

- **Material Requirements Planning**
- **Advanced Planning and Scheduling**
- **Regulatory Management**



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Course Summary

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Course Summary

After completing this course, you should now be able to:

- **Describe OPM, the interrelationship between the OPM modules, and how it interacts with Oracle Financial Applications**
- **Navigate Oracle Applications and use the Internet computing architecture**
- **Describe the process flow of materials**
- **Explain concepts of process manufacturing**
- **Provide a functional overview of the OPM modules**

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Let's Play JeOPMardy!

- **Divide into three teams and select a spokesperson for each team**
- **The team spokesperson that signals first gets the first chance to earn the points for the question.**
- **If a team answers a question incorrectly, the points are subtracted from their score. The other team can then choose whether or not to answer the question and win or lose the points.**
- **The team that answers a question correctly gets to choose the next question.**

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Page for Notes

Page for Notes: