Oracle Engineering and BOM Release 11*i* New Features

Student Guide

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Lesson 1: Oracle Engineering and BOM Release 11*i* New Features

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Oracle Engineering and BOM Release 11*i* New Features

Course Introduction

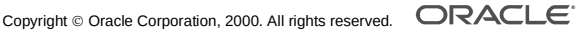
Course Agenda

1. Understanding the Business Value of New Features
2. Using New Features
3. Setting Up and Implementing New Features
4. Q&A

Objectives

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

- **Describe the business value of using new features**
- **Explain how new features work within the product family**
- **Identify key implementation considerations and how they affect setup**
- **Execute setup steps for new features**



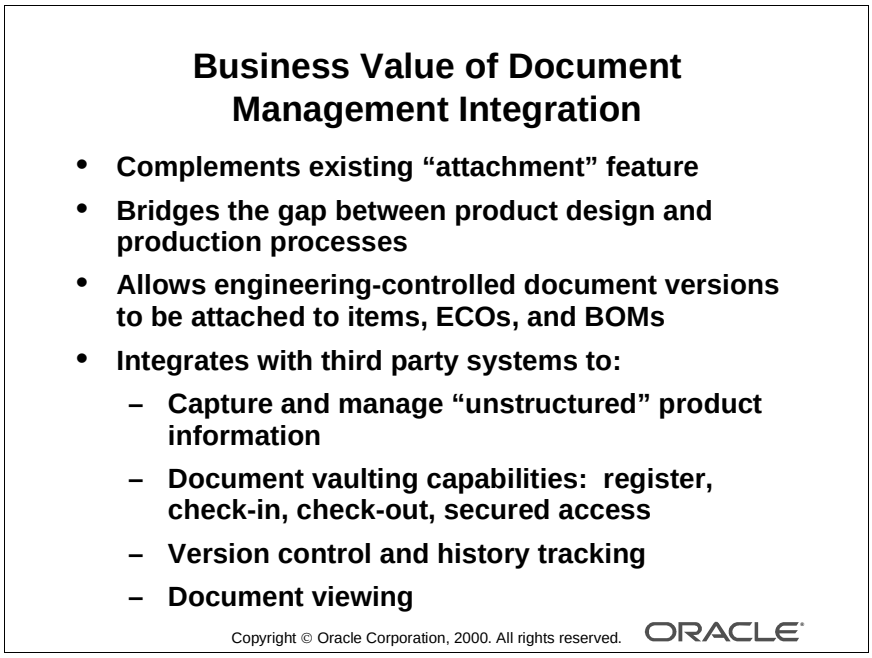
New Features in Oracle Engineering and Bill of Materials

- **Document management integration**
- **Model/unit effectivity**
- **Resources window changes**
- **ECO business object interface**

Document Management Integration

Course Agenda

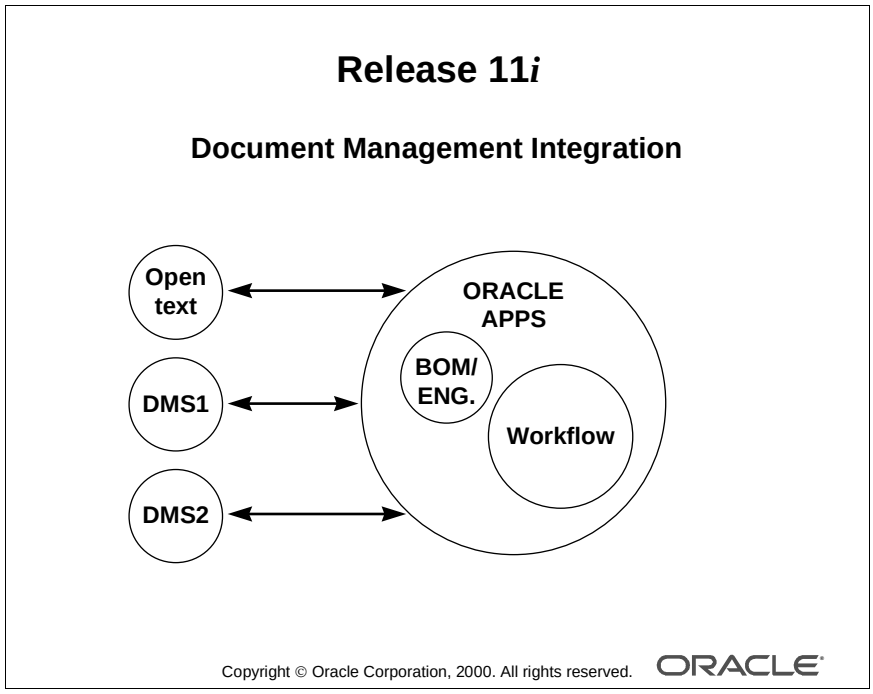
1. ***Understanding the Business Value of Document Management***
2. **Using Document Management Integration**
3. **Setting Up and Implementing Document Management Integration**
4. **Q&A**



Features of Document Management Integration

The Document Management Integration feature enables you to reference formal engineering-controlled document versions to items, engineering change orders (ECOs), and bills of material (BOMs). This feature is organization specific.

Product information management has long been considered critical in managing product design and changes in many industries, including automotive, utilities, aerospace, and defense. With release 11*i*, Oracle Engineering offers a suite of capabilities aimed at bridging the gap between product design and production process.



Document Management Integration

Oracle Document Management Integration supports multiple document vaults. It is integrated with Oracle's Workflow and Internet documents. These Internet documents will change to Oracle 8*i* File Server (FS) format. This integration works with third-party data management systems (DMS), for example open text.

This feature is organization specific and cannot be used for information between organizations.

The document management process will take advantage of any of your seeded or created workflows.

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1. **Understanding the Business Value of Document Management Integration**
2. ***Using Document Management Integration***
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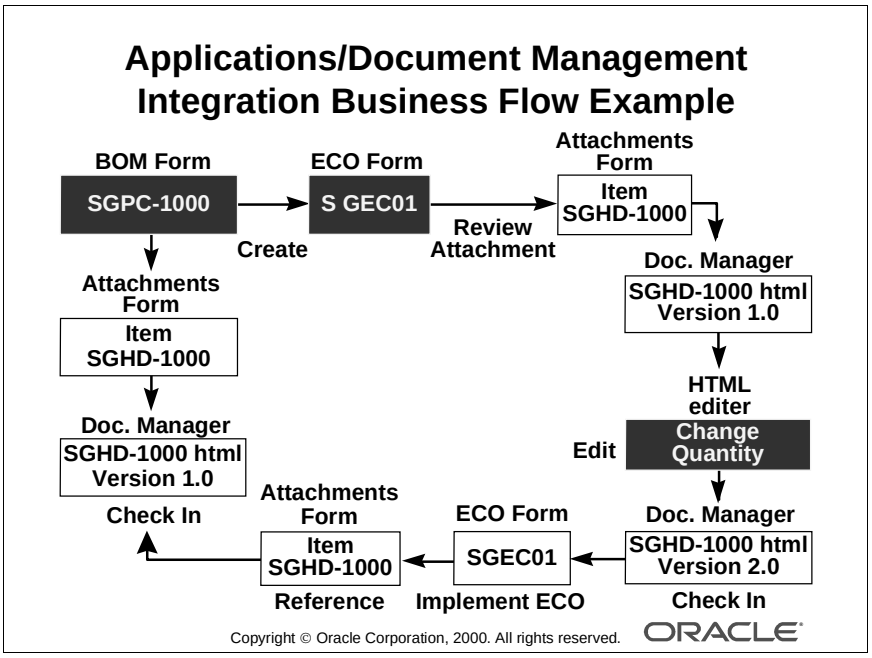
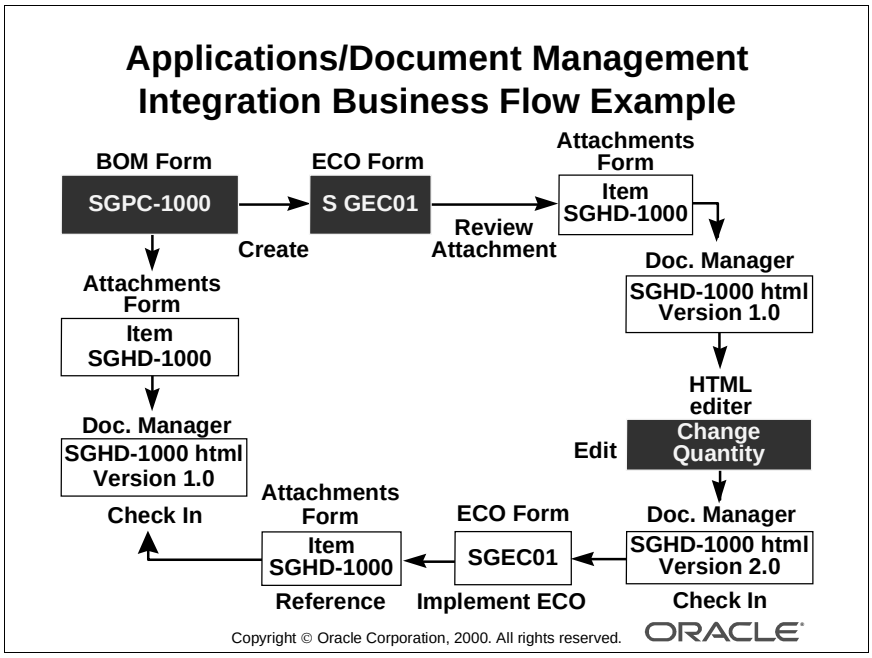


Document Management Integration Process

The flow diagram above depicts a sample business flow for a typical ECO process. This business flow illustrates a number of the key integration points between Oracle Applications and document management systems. The following steps are the process involved with an ECO in the example above.

1. Create a BOM #5000 with SGPC-1000 as the final assembly product.
2. Reference a new file SGHD-1000.pdf to BOM item SGHD-1000 identified in BOM #5000. Check file into document management system.
3. Create ECO SGECO1 to change the quantity of item SGHD-1000 from the existing quantity of 1 each to 2 each.
4. Modify Mark-up Specification Document SGHD-1000.html to reflect the quantity change. Check in and update the new version of document.
5. Attach the Marked-up Document to ECO SGECO1 and Modified (new version) document to item SGHD-1000.
6. Attach document SGECO1.html to a report for the changes made. Oracle Engineering updates the BOM and implements the ECO.
7. Notify individuals using Oracle Workflow Notification that SGECO1 has been implemented with the changes that were made.



ECO Business Flow

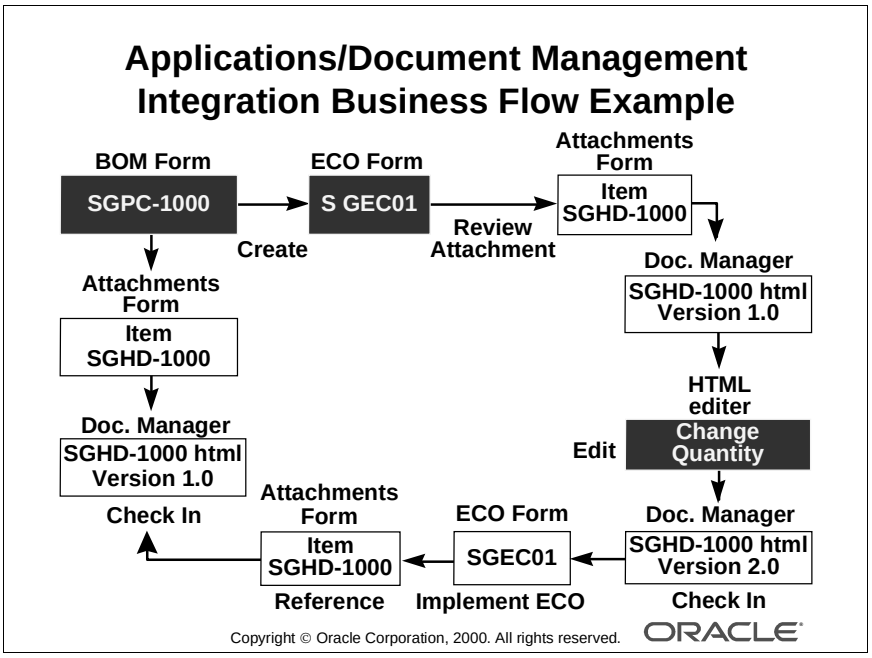
One of the keys to the success of the integration between applications and document management is utilization of native user interface APIs that are provided by the document management tools. This includes functions such as searching for a document using keyword and content searches, moving documents between folders, looking at the metadata that defines a document, and so on.

Additionally, you can use the document management funtionality to capture and manage “unstructured” product information.

Reference New Documents You can reference a local file stored on your file system as a new document. Once registered, the document can now be managed by the document management system. You can also use folders to navigate through and organize your documentation.

View Documents You can view documents in a number of formats supported by the underlying document management system.

Display Document History You can also view a document’s history and status information, for example, the document’s number, state, and size, and whether it is locked and if so by whom.



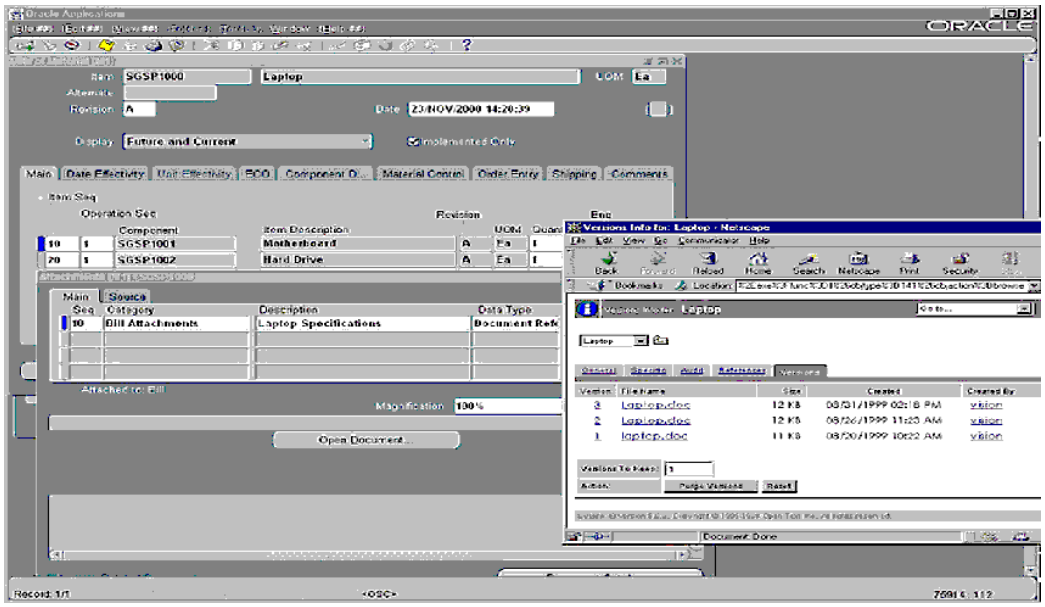
ECO Business Flow (continued)

Copy Documents You can copy a document and place it on your local file system without locking it. This facilitates concurrent storing of up-to-date product information.

Check Out Documents You can also lock documents so that no other user can check in new versions while you hold the lock. Using this feature, you can create a copy of the document on your local file system.

Check In Documents You can move a new version of a document from your local system into a vault controlled by the document management system, and then release your lock on it. This feature is also supported for compound documents.

View Document Properties You can view a variety of document properties that define the document and its status.



Versions Info For: Laptop

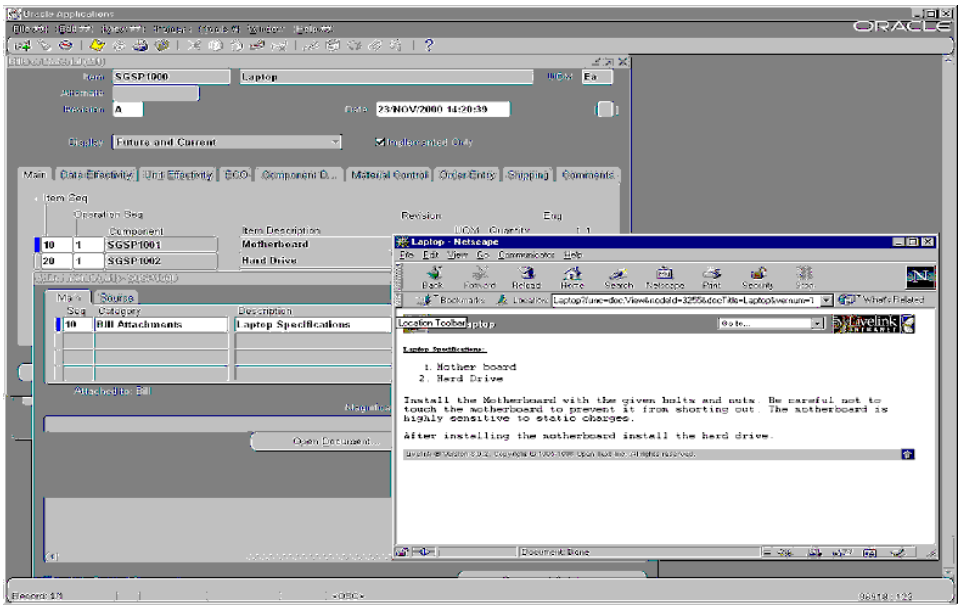
BOM: (N) Bills—>Bills (I) Attachment (B) Open Document
ENG: N) ECOs—>ECOs (I) Attachment (B) Open Document

Finding Documents with Document Management Integration

The Document Management Integration feature complements the existing attachment feature, where attachments are a “static” source of information. You can use this feature to capture unstructured, engineering-controlled, document versions to items, ECOs, and BOMs.

This example shows a BOM for SGSP1000. You are viewing an attachment that has already been added. When you click the Data Type tab and select Document Reference, a screen opens for you to log on to the document management system (not shown). After logging in you see the choices available for the specific item/BOM, as well as a variety of icons available for activities in the document management system. These choices are detailed in *Oracle Workflow User’s Guide Release 11i.*

When you add a new reference, and select the Data Type field for Document Reference, a caution window opens asking if your document downloaded properly. You do not answer this question at this time. When you have finished all document activities and close the document management system, you click either Yes or No.



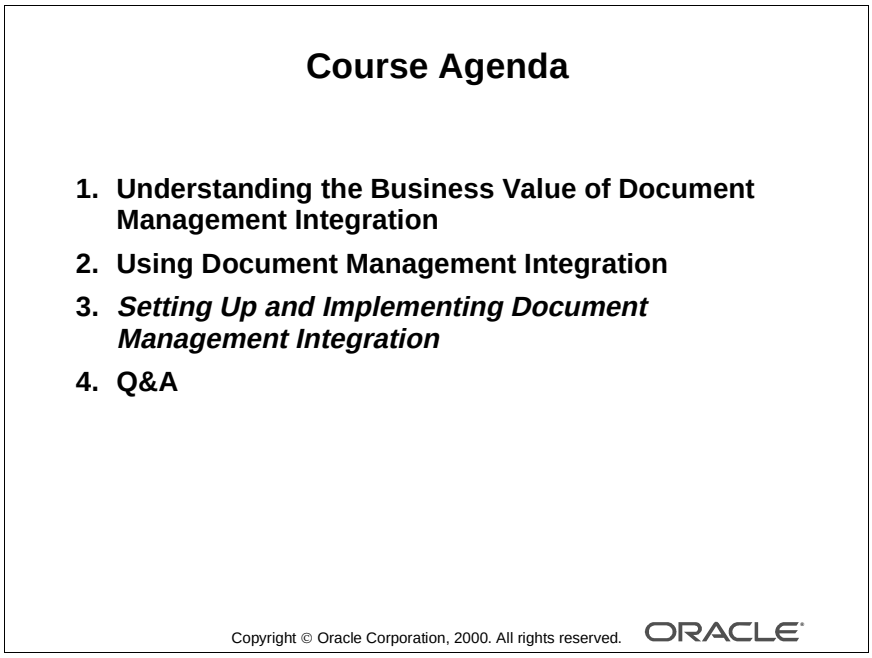
Laptop

BOM: (N) Bills—>Bills (I) Attachment (B) Open Document

Click on the link to the specific document you want to view.

Viewing Specific Documents

The Document Management Integration feature supports multiple document vaults within Oracle Engineering and BOM. You can use this navigation path to view third-party document management vendors through any browser that you have set up in your organization.



Setup and Implementation Considerations

The Document Management Integration feature integrates with the Oracle Workflow product and does not have any specific setup or implementation considerations in the Oracle Engineering and Bills of Material application.

You can review a complete set of Oracle Workflow setup and implementation steps for the document management system in the *Oracle Workflow User's Guide Release 11i*.

Demonstration of Document Management Integration

This demonstration shows you the process for referencing a document for a BOM to the document management system. This demonstration also shows you how to view the referenced document on a BOM with the document management system.

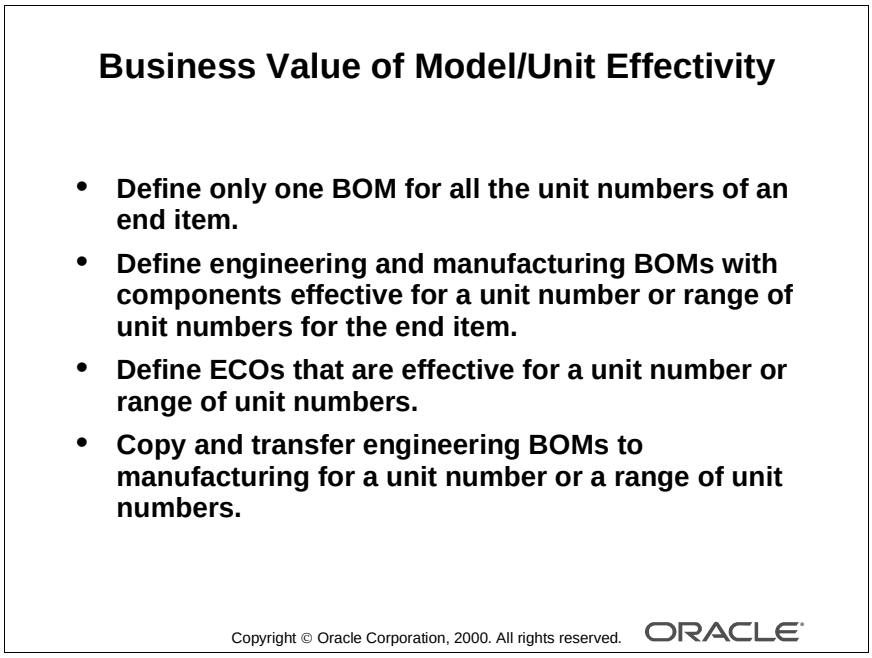
Document Management Demonstration Script

1. Find the BOM for item number SB10299.
2. Click on the Attachments icon.
3. Select Document Reference from list of values in the file Type field.
4. A dialog box is displayed stating the following: “Has the file been uploaded successfully?” Do not click either the “Yes or No” buttons. A browser window will be launched.
5. Enter a username and password for Livelink.
6. Click the Add Item icon.
7. Enter the name of the document: `Item Spec`.
8. Enter a description for the document: `Item SB10299 specifications`.
9. Select the file you want to add by clicking on the Browse button or directly entering the path where the file is located on your machine.
10. Select the Enterprise container in the Create In field. It should have defaulted automatically; if not, click the Browse Livelink button to select the container.
11. Click the Add Item button.
12. The document will be referenced on the BOM SB10299 and now can be checked in and out from the document management system.

Model/Unit Effectivity

Course Agenda

1. ***Understanding the Business Value of Model/Unit Effectivity***
2. **Using Model/Unit Effectivity**
3. **Setting Up and Implementing Model/Unit Effectivity**
4. **Q&A**



Model/Unit Effectivity

Unit effectivity is a method of defining product structure, where components are specified as effective for an end-item unit or a range of end-item units. This feature is used in a high engineering manufacturing environment such as aerospace and defense industries. Unit effectivity is generally used for high dollar or critical assemblies. You would usually have unit effectivity at top levels of BOM and date effectivity at lower levels of BOM.

This gives your business an alternative to date effectivity. You can define, plan, and produce unit effective BOMs and implement unit-effective ECOs. In addition to date effectivity, you can now define component effectivity for a range of unit numbers. During planning and production, the system “explodes” the unit-effective BOMs based on the unit number in the demand. The system also takes unit-effective ECOs into account during these processes. For example, you can use all available components before implementing the ECO.

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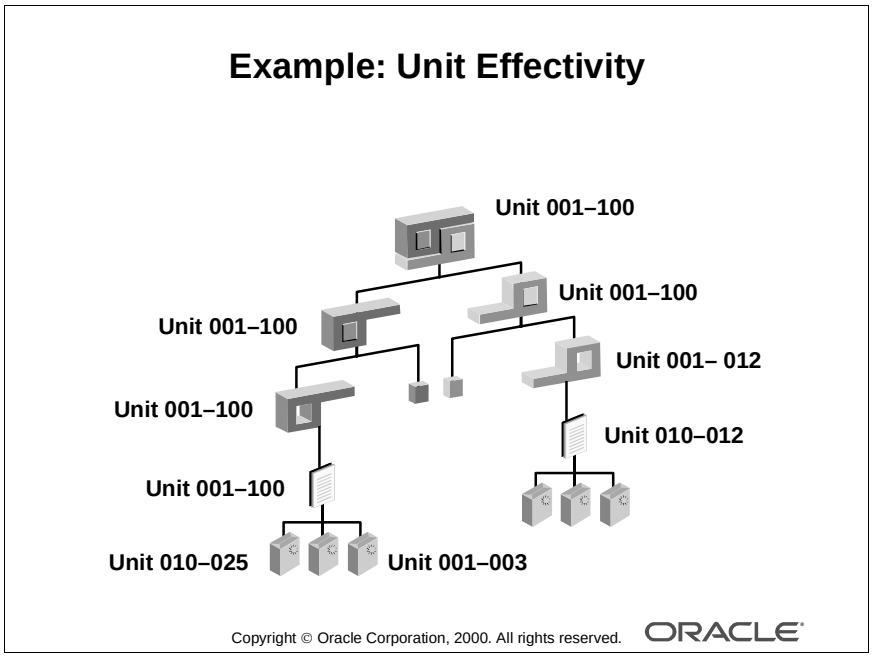
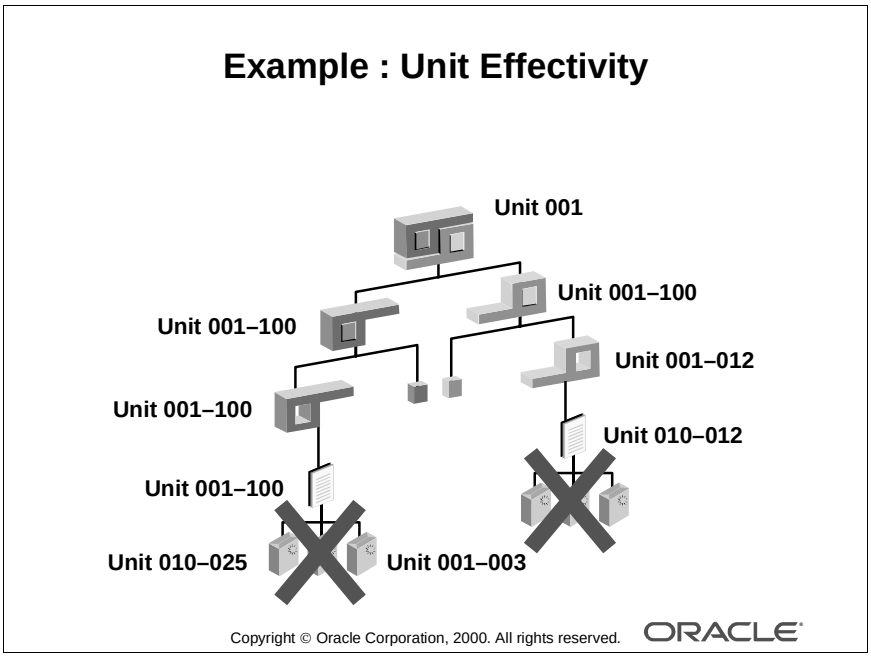


Model/Unit Effectivity

Unit effectivity introduces the concept of bills that are effective by an end-item unit number, as opposed to an effectivity by date. This example shows a unit-effective BOM (for simplicity we did not include date-effective components). The next slides illustrate the effectivity for certain unit numbers.

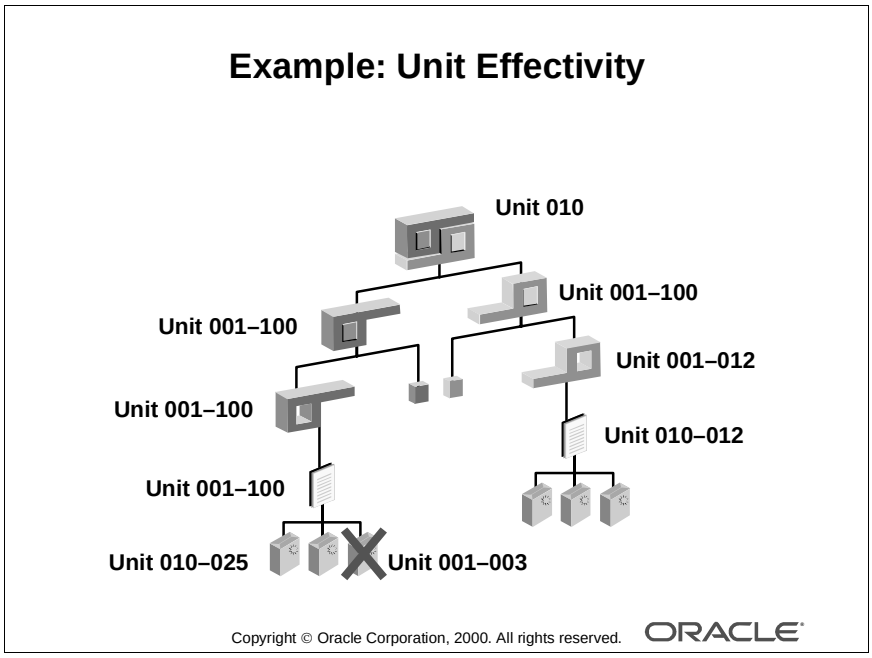
When defining a unit-effective BOM, you can have components with date effectivity and unit effectivity. When defining a date-effective BOM all components must be date effective; you cannot have components with unit effectivity.

If your parent has model/unit effectivity, you can have date- and unit-effective child components. If your parent has date effectivity, you can only have date-effective child components; you cannot have unit-effective child components.



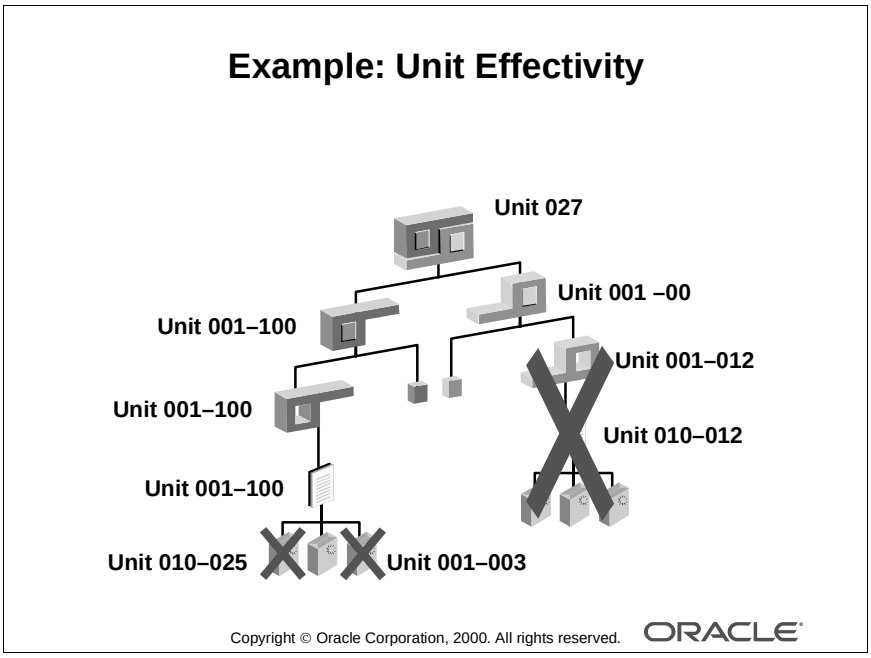
Model/Unit Effectivity: Unit 001

In this example, you are looking at the requirements for Unit 001. You can see that one component on the left side of the tree and four components on the right side of the tree are not needed for Unit 001.



Model/Unit Effectivity: Unit 010

In this example, you can see that to build Unit 010 you do not need the component on the left side of tree. This component is needed only on units 001–003.



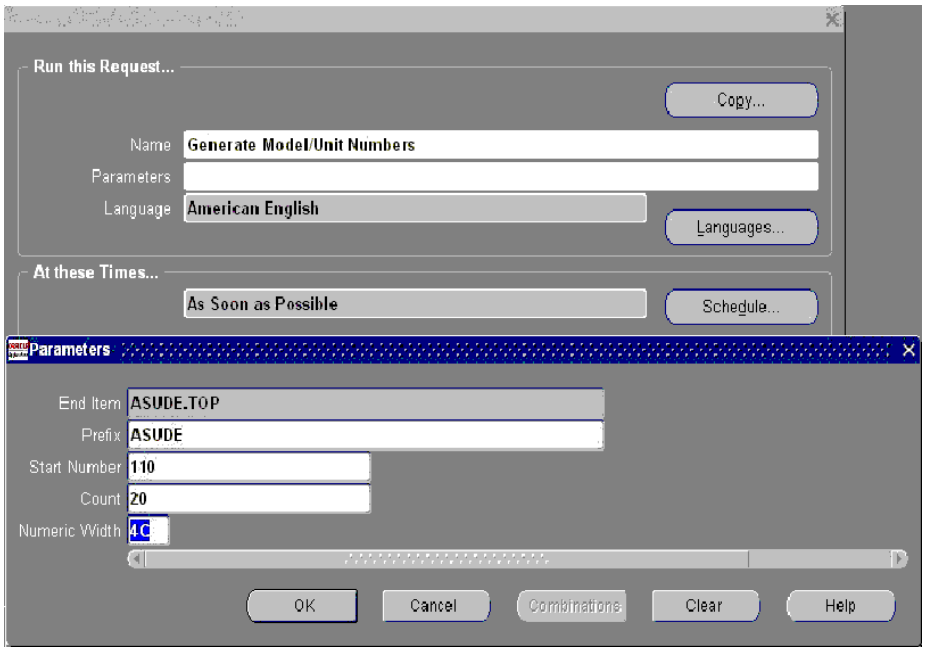
Model/Unit Effectivity: Unit 027

This example shows the requirements to build Unit 027. You can see that the components blocked out are the components needed for units 010–025, units 010–012, and units 001–012. All other components are needed to build Unit 027.

Model/unit effectivity allows discrete control over product structure change and less additions of a part numbers, as well as separating product structure from the schedule.

Note: You should still follow the “form/fit/function” rules that you have set up for your business needs.

The model/unit effectivity feature requires that you have Oracle Project Manufacturing installed, and it should be used in project-oriented manufacturing and with low-volume schedules. This feature can also be used by nonproject-oriented manufacturing, but you will still need to have Oracle Project Manufacturing installed in order to use the feature.

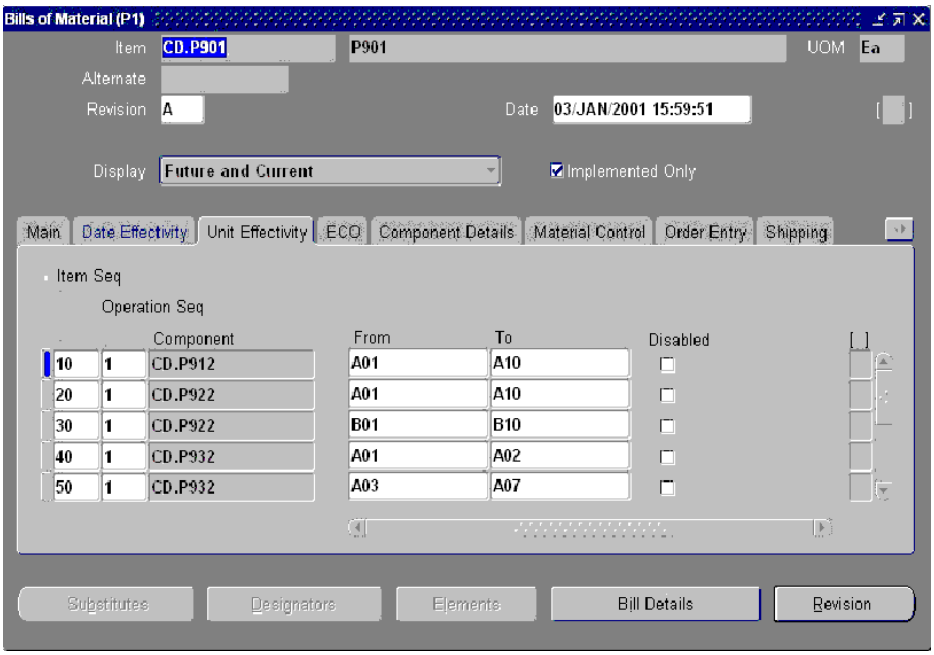


Generate Model/Unit Number: Parameters

(N) Projects—>Model-Unit Effectivity—>Generate Model-Unit Numbers

Generating Model/Unit Number Parameters

This program is run in Project Manufacturing. You need to run this report to generate your numbers. You generate your numbers before you have entered your BOMs with the From and To fields completed in the Unit Effectivity page.



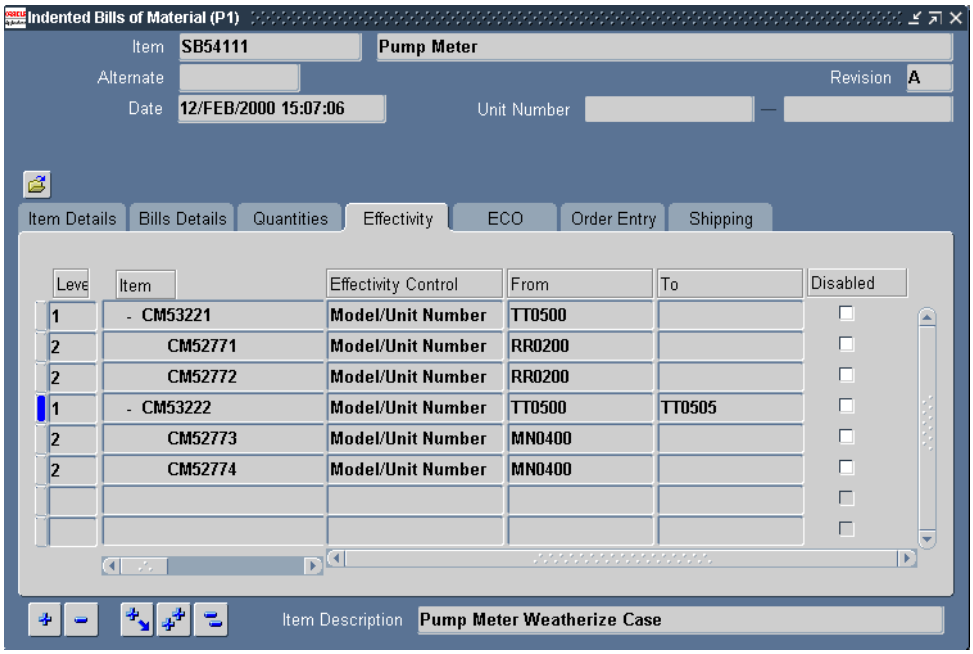
Bills of Material: Unit Effectivity

BOM: (N) Bills—>Bills (M) View (B) Find (B) Open

Viewing Unit Effectivity

Use this window to view your components and ranges of effectivity for the BOM. This example shows you one level of the BOM and the new page, Unit Effectivity.

You can have a quantity of more than 1pc for each unit. You would specify quantity on the sales order. Each quantity requires a unique serial number.

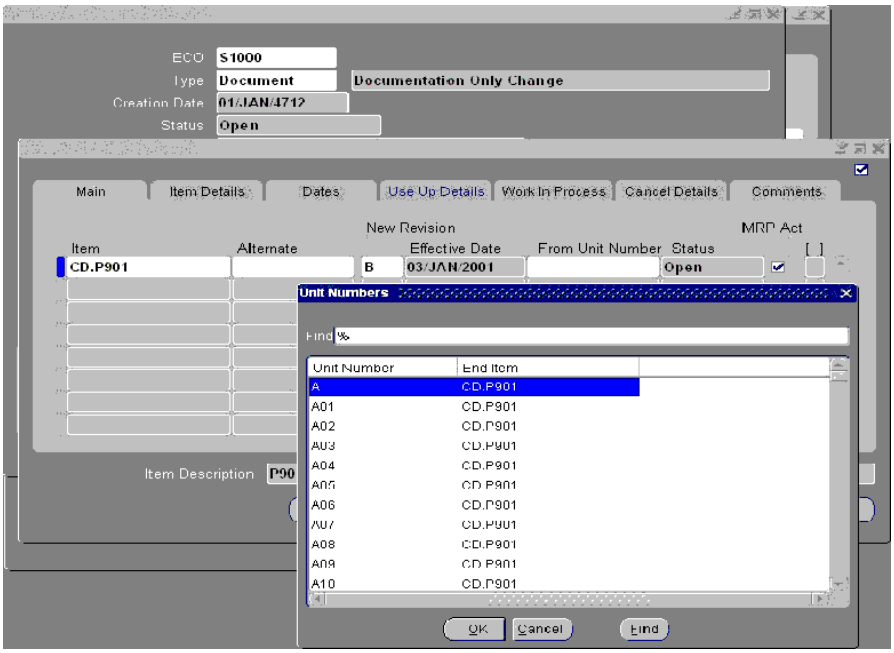


Indented Bills of Material: Effectivity

BOM: (N) Bills—> Indented Bills (B) Find

Viewing Unit Effectivity

Use this window to look at your indented BOMs. The new page, Effectivity, shows you the effectivity control for each component in the family tree and either the date or model/unit From and To values that you have designated for that component.



Engineering Change Orders: Unit Numbers

ENG: (N) ECOS—> ECOs (B) Find (B) Revised Items (LOV) From Unit Number

Selecting ECO Unit Numbers

You can now create an ECO for a specific unit number or a range of unit numbers. Use this window to select which unit number or range of unit numbers will be reflected in the ECO. This is a new window that opens when you click the From Unit Number field.

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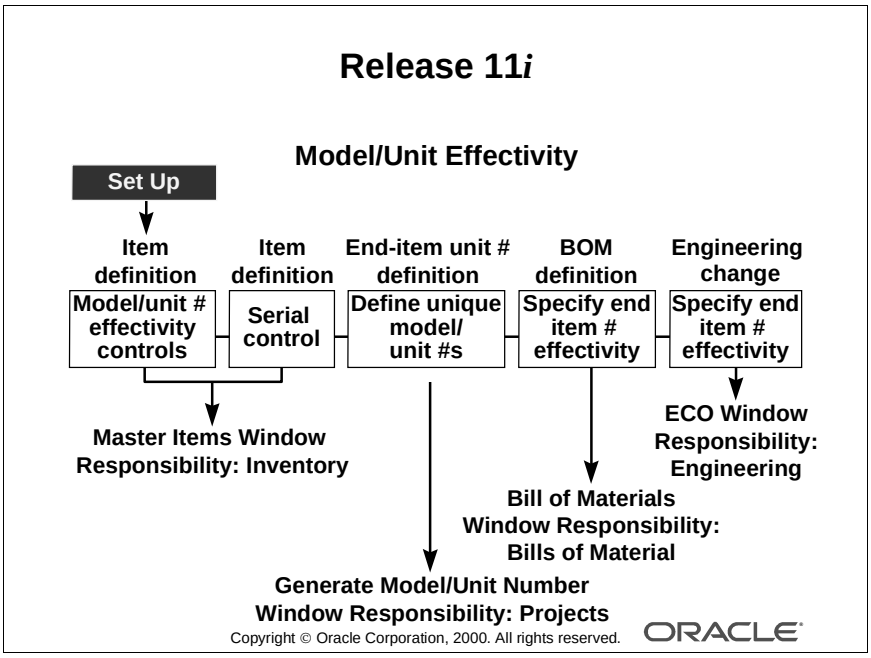


Setup Steps for Model/Unit Effectivity

The slide shows the steps needed to set up model/unit effectivity and the responsibilities for the windows that you will use.

The item needs to be defined Serial Controlled on the Inventory page.

Effectivity dates can be the same as or different from the item serial number.

The item effectivity control needs to be defined Model/Unit Number on the BOM page.

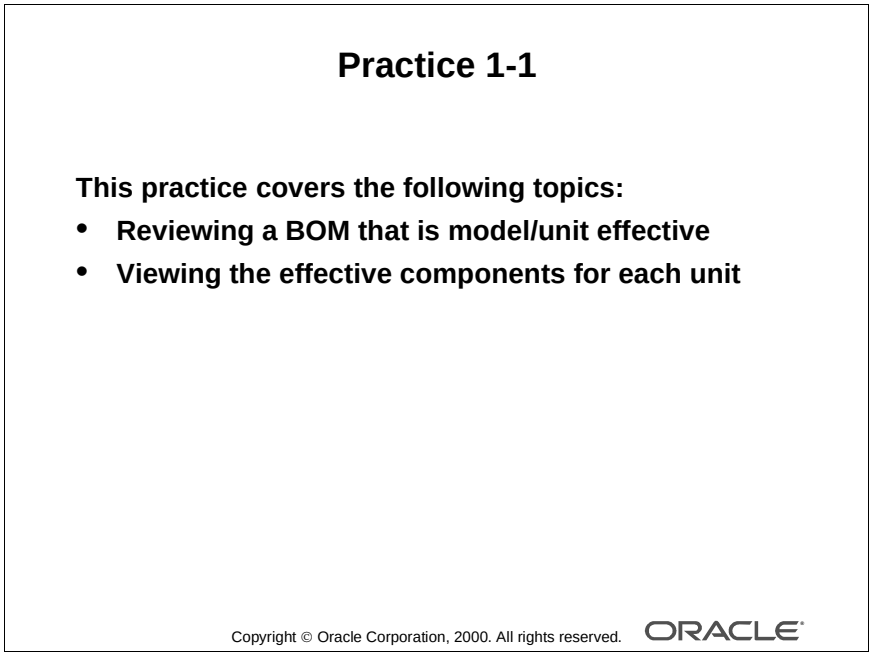
Implementing Considerations for Model/Unit Effectivity

You should ask the following questions to decide whether to implement model/unit effectivity.

- Does your business need to track your production by unit or date effectivity?
- Does your business need to plan, procure, or store by unit number?

When you plan by unit number, you are restricted to the master demand schedule DS and the MDS creates demand for the material requirement plan (MRP). You can manually change the MDS if necessary. Forecasts are not permitted for a model/unit effectivity item.

Practice 1-1 Overview

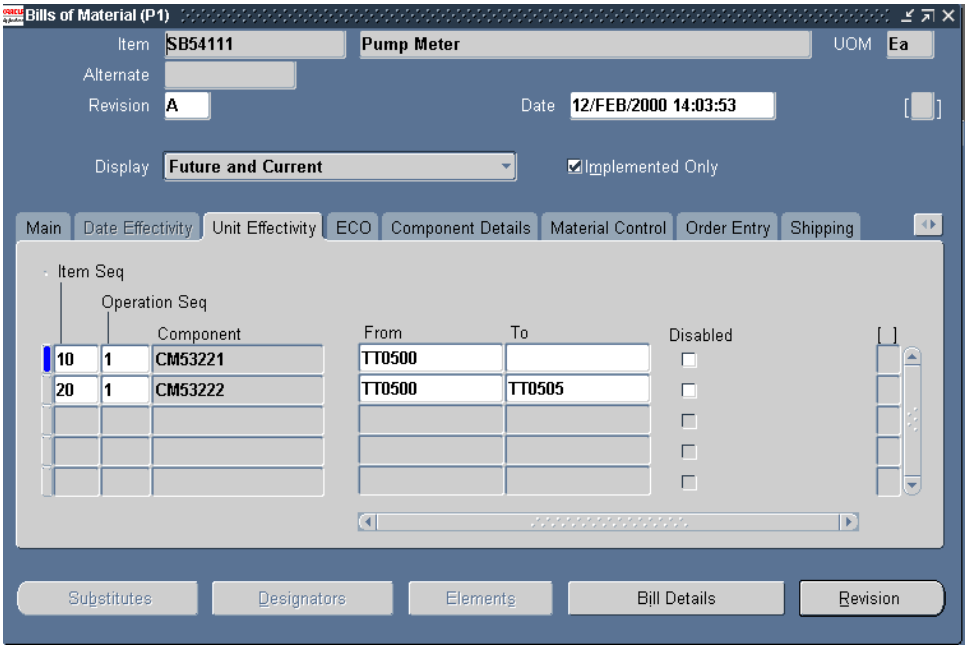


Performing this Practice

This practice allows you to view a BOM that has model/unit effectivity and has already been set up.

1. Find BOM number SB54111 in the organization P1 Atlanta.
2. Go to the Unit Effectivity page and review which components will be used for each unit.

Practice 1-1 Solutions



Part 1

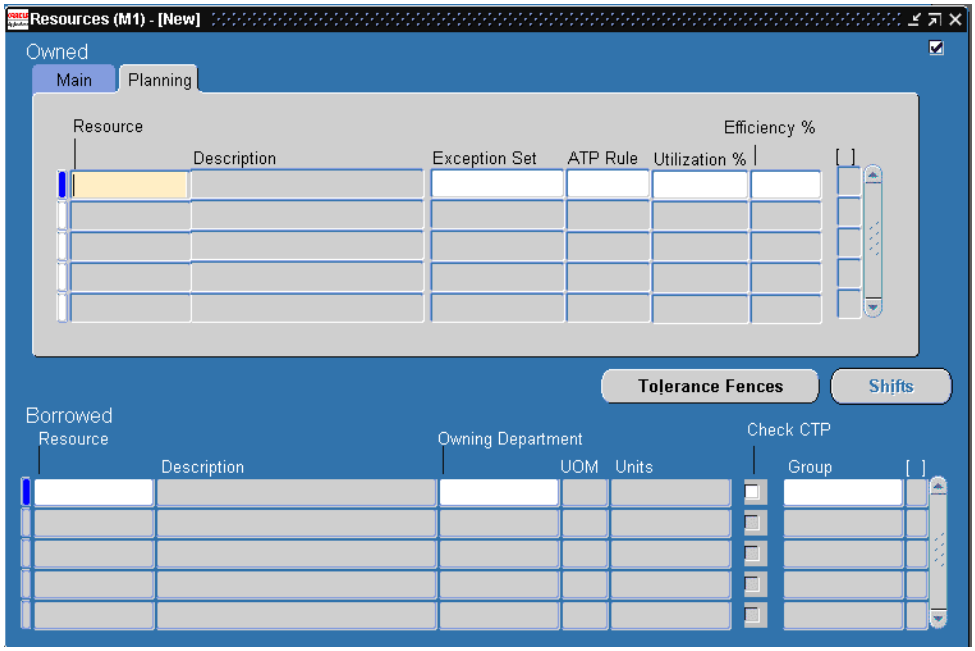
1 Find BOM number SB54111 in the organization P1 Atlanta.

(N) BOM: Bills—>Bills

Part 2

2 Go to the Unit Effectivity page and review which components will be used for each unit.

Resources Window Changes



Resources

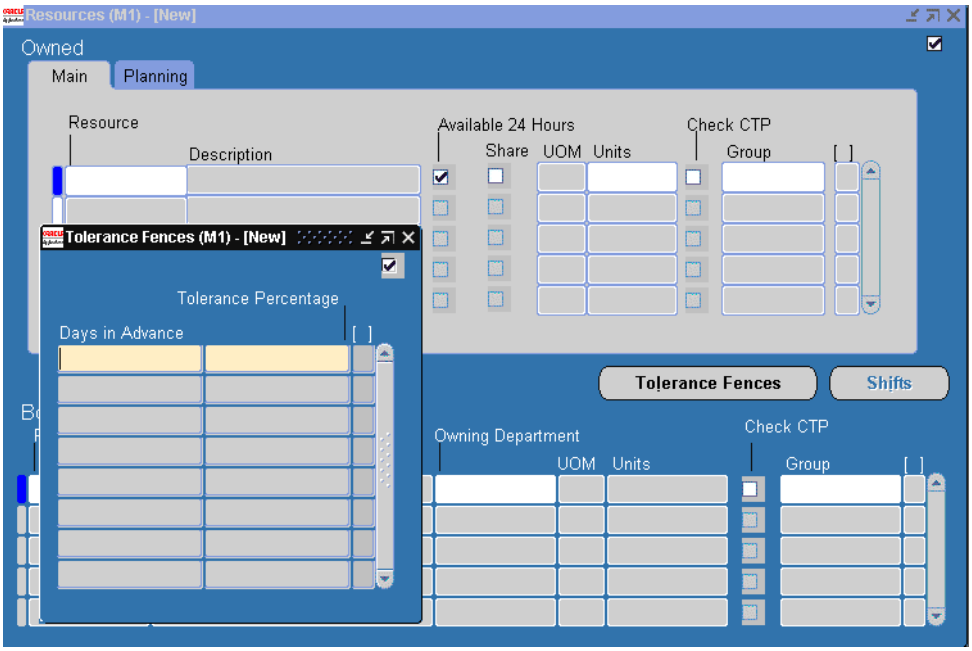
BOM: Routings—>Departments (B) Resources (T) Planning

How to Factor Efficiency and Utilization into Capacity Calculations

You can now specify efficiency and utilization rates to be used in the calculation of capacity. By doing so, you can make plans based on rated or calculated capacity availability.

These additions were added for Oracle Advanced Supply Planning (APS) only. These settings do not override the sourcing rules in Oracle Purchasing.

1. Select the Planning page.
2. In the Resource region enter a value for the Utilization% (how much) and Efficiency% (how well) fields for each resource. If you leave these fields blank, the system does not adjust the number of hours that the resource is available.
3. Save your work.



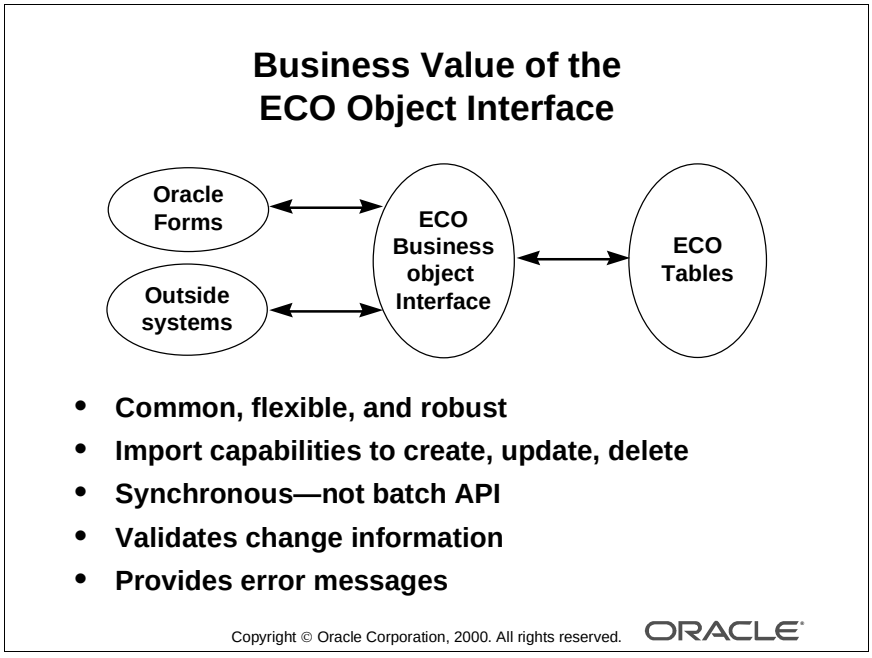
Tolerance Fences

BOM: Routings—>Departments (B) Resources (B) Tolerance Fences

Defining Tolerance Fences

You use the Tolerance% and the Days in Advance field together to state the percentage your supplier can change capacity, if given a number of days advance notice. You can make multiple entries to represent the percent change in capacity allowed with a different number of days of advance notice.

ECO Business Object Interface



ECO Business Object Interface Overview

Oracle Engineering enables collaborative product design with your suppliers and customers. Release 11*i* improves the transfer of information with trading partners by incorporating the ECO Business Object interface.

Using the ECO Business Object interface, you can simplify your access to Oracle Engineering ECOs through a common, flexible, and robust interface to meet your mission-critical business needs.

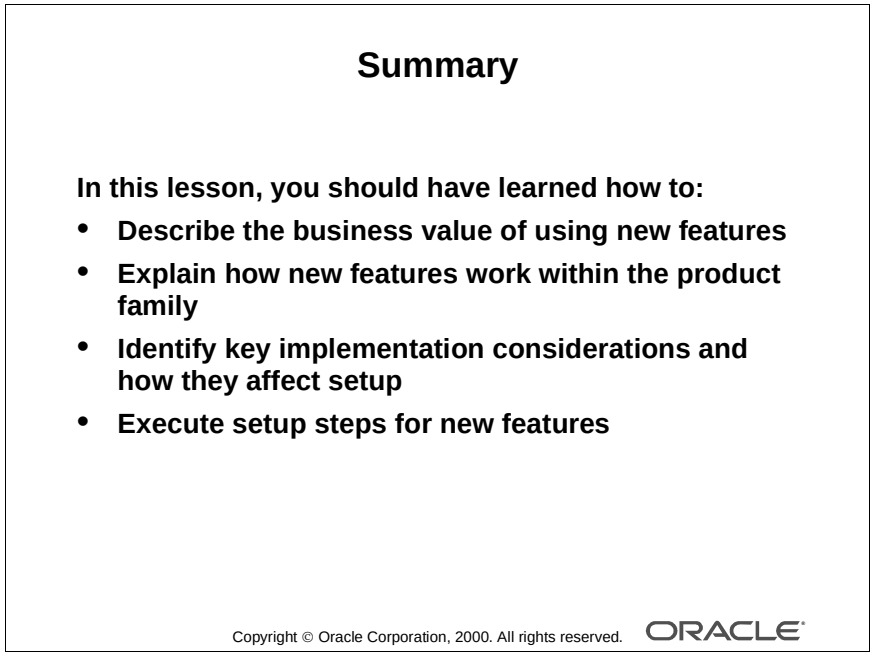
Importing ECOs

You can quickly import ECOs by using the new ECO Business Object interface from any external system, including the Product Data Management (PDM) system. Validation of all ECO information during import clearly identifies change problems, enabling the appropriate decision-makers to resolve errors.

Updating and Deleting ECOs

You can also use the ECO Business Object interface to update and delete existing ECO information.

Summary


Summary
In this lesson, you should have learned how to:
• Describe the business value of using new features
• Explain how new features work within the product family
• Identify key implementation considerations and how they affect setup
• Execute setup steps for new features
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