



M210

Extended Manufacturing Scenarios

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Timing and Agenda

August 10, 2023 - 10-11 AM PT

Day 1

Lesson 1: Estimating

Lesson 2: Managing Product Configurations

August 11, 2023 -10-11 AM PT

Day 2

Lesson 3: Performing Engineering Change Control

Lesson 4: Performing Advanced Planning and Scheduling

Day 1

Lesson 1: Estimating

Scenarios

1. A direct estimate, which is not linked to a quote, sales order, or opportunity
2. An estimate created from a quote or sales order
3. An estimate created from an opportunity

Lesson 1: Estimating

Features

- Estimate data is tracked through revisions.
- Estimate detail can be created by copying an existing estimate revision, bill of material, or production order.
- Estimates can be printed.
- Notes and files can be attached to an estimate.
- Estimates can be entered directly or created from an opportunity, quote, or sales order.
- Non-inventory items can be converted to stock or non-stock items.
- Margin or selling price can be altered in a convenient way.

Lesson 1: Estimating

Features

- Various levels and combination of estimate details provides you with ability of quick or detailed entry.
- Estimates can be converted to standard sales order lines.
- A bill of material can be created from an estimate.
- A production order can be created from an estimate or sales order line converted from an estimate.
- Estimates are not multilevel; that is one estimate cannot be referenced by another estimate.

Estimating: Implementation Activity

Learning objectives

In the following implementation activity, you will learn how to configure estimating functionality.

Process Overview

In this activity, you will create an estimate class by using the Estimate Classes (AM206000) form. You will also specify the default settings by using the Estimate Preferences (AM103000) form; the system will apply these settings to new estimates.

Estimating: Process Activity

Learning objectives

The following activity will walk you through the estimating-related processes.

Process Overview

In this activity, to perform processes related to estimates, you will do the following:

1. On the Estimate (AM303000) form, create an estimate.
2. On the Estimate Operation (AM304000) form, specify operation details.
3. On the Create Inventory Items (AM507000) form, create stock items from non-inventory items.
4. On the Estimate form, create a bill of material based on the estimate.
5. On the same form, create a production order based on the estimate.
6. On the same form, create an estimate and replace its details with the details of another estimate.

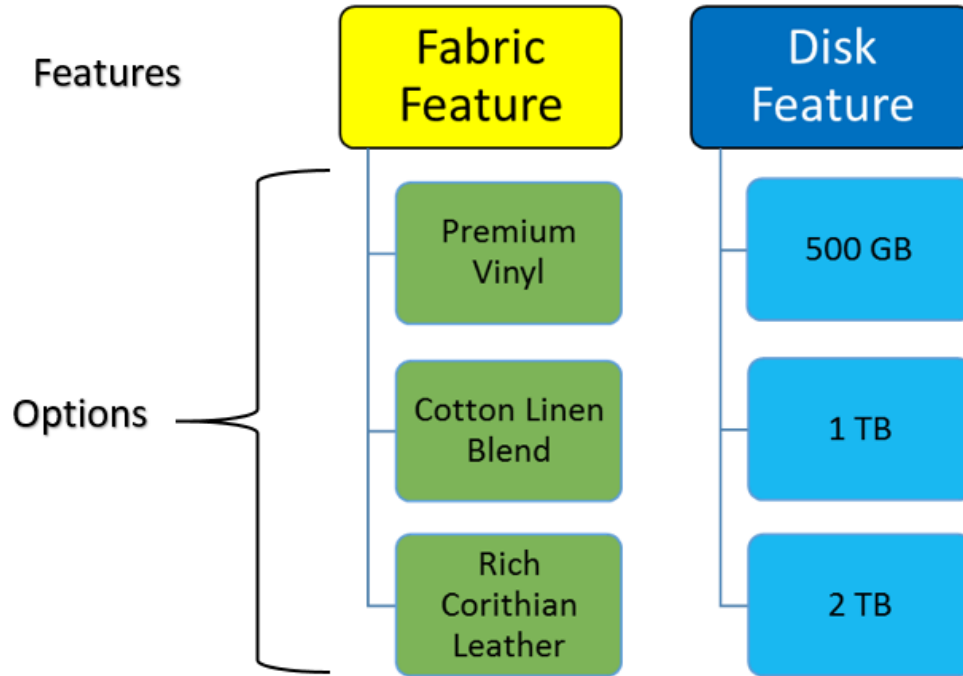
Lesson 2: Managing Product Configurations

Features

Features are lists of options available for user selection. Labels are used to identify the feature. You can navigate whatever way you select by using the Features pane on the Configuration Entry (AM306000) form.

A feature can specify the minimum and maximum options a user can select. Rules are used when an option selected for a feature may restrict the options available for another feature. For example, selecting a fabric option may restrict the options available to select for the color feature. Features can also be hidden when user selection is not required, for example once the options for the color and fabric features are selected, the inventory item to use is determined in a hidden feature.

Figure: Relationships between features and options



Lesson 2: Managing Product Configurations

Attributes

You can add attributes to features and configurations. Attributes can be used for multiple purposes, such as the following:

- They can be used as lists of available values in a configuration or a user can enter attribute values manually.

Rules can use attribute values to determine allowed options.

- They can be assigned variables and used in formulas such as a width dimension and a height dimension used to calculate the area of material required.
- They can be used to gather information used in the manufacturing or assembly process, for example, switch settings or dimensions.
- You enter a formula in the list of attributes that you wish to display during configuration entry and forbid manual typing of values.

Product Configurator: Processes and Functions

Learning objectives

In this topic, you will read about processes related to product configuration.

Product Configurator: Rule Processing

Learning objectives

This topic describes rules that can be used with configurations.

Types of Rules

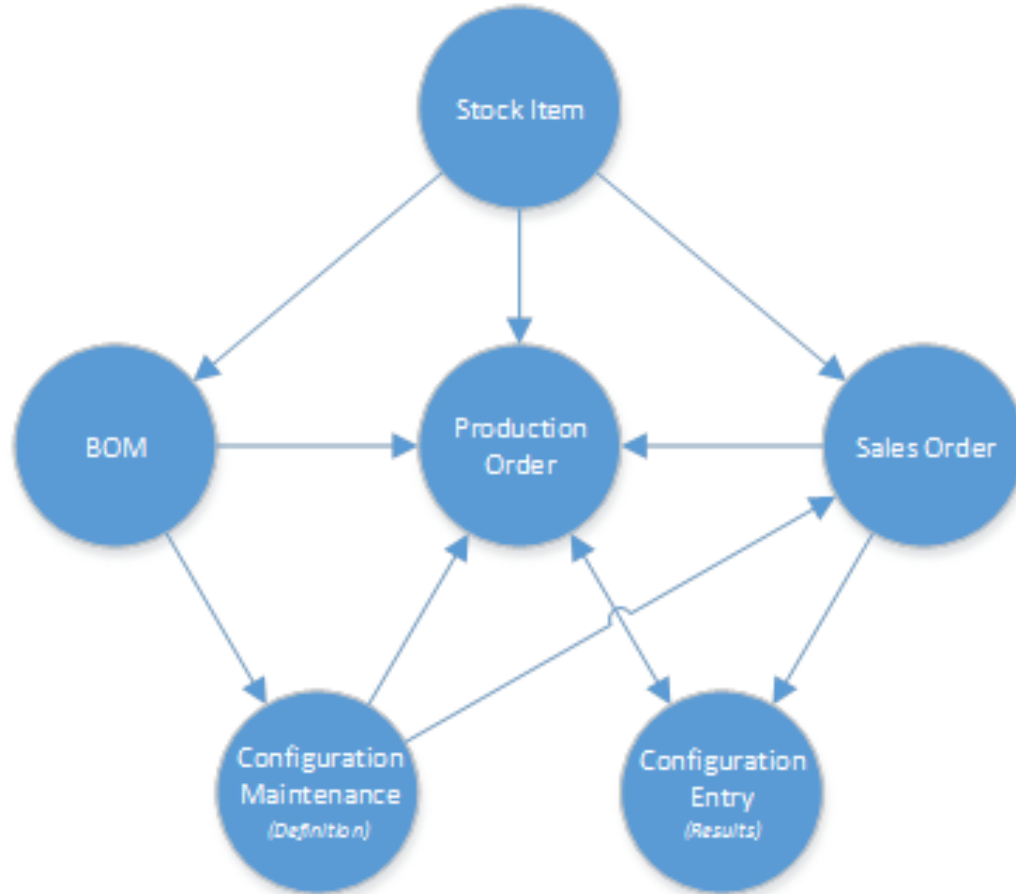
- **Exclude:** All of the options or specific options of a feature cannot be selected. The options are not displayed unless the user chooses to see them.
- **Include:** All of the options or specific options of a feature are automatically selected.
- **Require:** An option selection must be made for the target feature.
- **Validate:** The attribute value must meet a condition. This type is available only for attributes.

Product Configurator: Managing Configurations

Learning objectives

This topic describes ways to manage configurations.

Figure: Relations between production orders and other entities and documents



Day 2

Product Configurator: Implementation Activity

Learning objectives

In the following implementation activity, you will learn how to implement the product configuration functionality.

Process Overview

In this activity, you will do the following:

1. On the Configurator Preferences (AM104000) form, review the default settings of production configuration functionality.
2. On the Configuration Maintenance (AM207500) form, create a new revision of an existing configuration and add rules.
3. On the Configuration Entry (AM306000) form, test the configuration.

Product Configurator: To Create a Sales Order with a Configurable Item

Learning objectives

The following activity will walk you through the process of creating a sales order with a configurable item.

Process Overview

In this activity, you will do the following:

1. On the Order Types (SO201000) form, you will review the settings of the SO order type to make sure that the settings required for adding configurable items and creating production orders have been specified.
2. On the Sales Orders (SO301000) form, you will create a sales order and add a configurable item to the order. You will also select the needed options for features of the item on the Configuration Entry (AM306000) form.
3. On the same form, you will create a production order for the item and on the Production Order Details (AM209000) form, you will make sure that the options you selected have been added as materials.

Lesson 3: Performing Engineering Change Control

ECC Functionality

Engineering change control provides the following abilities:

- Automates, controls, and organizes all change requests, plans, and actual changes to a bill of material.
- Full control from an engineering change request (ECR) to an engineering change order (ECO) to updating the bill of material.
- The ability to create multiple engineering change orders from multiple approved engineering change requests with the option to merge ECRs for the same bill of material and revision to a single ECO.
- The ability to use approval and assignment maps to control the approval process for both change requests and change orders. You can specify if approvals are required for either or both ECRs and ECOs.
- Create notification templates on the Email Templates (SM204003) form to inform users of the statuses of an ECR, ECO, and bill of material updates.

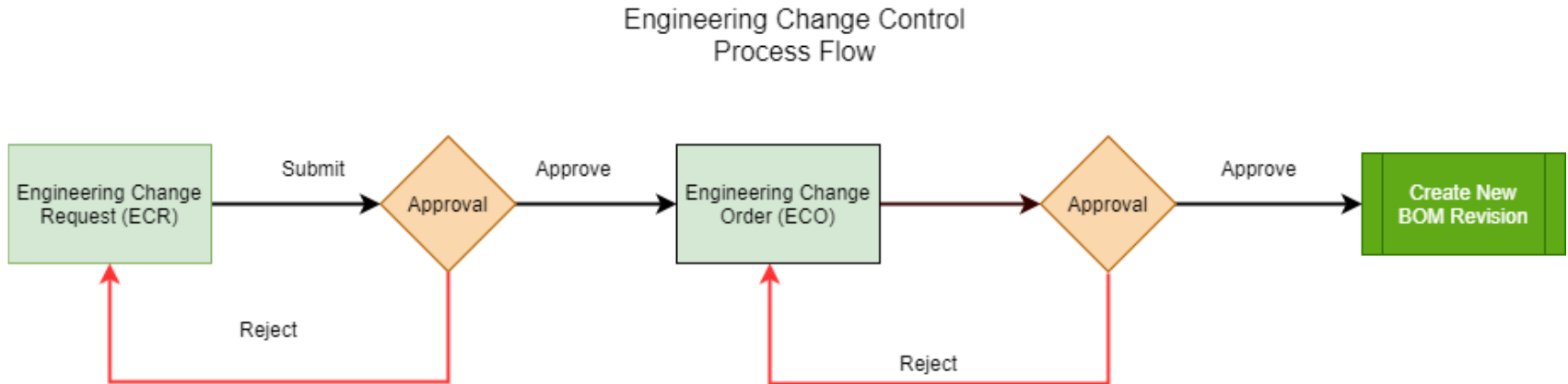
Lesson 3: Performing Engineering Change Control

ECC Functionality

The following restrictions apply if the Require ECR/ECO for New BOM Revisions check box is selected on the BOM Preferences (AM101000) form:

- You cannot select the Hold check box for a bill of material (BOM) to edit it directly. You must use the ECR or ECO process to update BOMs once an ECR is created for the BOM.
- You can optionally forbid manual creation of a new revision for a bill of material and force all new revisions to be created by the ECC process.

Figure: Workflow of engineering change control



Engineering Change Control: Implementation Activity

Learning objectives

In the following implementation activity, you will learn how to configure engineering change control.

Process Overview

In this activity, you will review the settings related to engineering change control by using the BOM Preferences (AM101000) form.

Engineering Change Control: Process Activity

Learning objectives

The following activity will walk you through the process of making changes in a bill of material by using engineering change control.

Process Overview

In this activity, you will do the following:

1. On the Engineering Change Request (AM210000) form, you will create an engineering change request for changes in the bill of material and approve the request.
2. On the Engineering Change Order (AM215000) form, you will create an engineering change order based on the engineering change request and approve the order.
3. On the same form you will commit changes from the engineering change order to the bill of material.

Lesson 4: Performing Advanced Planning and Scheduling

Advanced planning and scheduling (APS) provides the first elements of finite scheduling. This gives you a competitive and operational advantage if it is implemented and executed correctly. This functionality is available only when the Advanced Planning and Scheduling feature in the Manufacturing group of features is enabled on the Enable/Disable Features (CS100000) form.

In this lesson, you will learn about implementation of advanced planning and scheduling and the related processes.

Advanced Planning and Scheduling: Capacity Definition

Learning objectives

This topic explains how capacity is calculated for work centers in Acumatica ERP Manufacturing Edition.

Advanced Planning and Scheduling: Scheduling Details

Learning objectives

In this topic, you will learn about scheduling details in advanced planning and scheduling (APS).

Scheduling Method

In conjunction with the constraint date, this determines the sequence by which the operations of the production order are scheduled. You can select any of the following scheduling methods in the Scheduling Method box on the General tab of the Production Order Maintenance (AM201500) form:

- **Finish On:** The operations are scheduled backwards from the constraint date. Production orders created from a sales order, or orders created as linked orders from a parent order, has this value selected by default. For sales orders, the constraint date is one day earlier than the scheduled ship date.
- **Start On:** The operations are scheduled forward from the constraint date.
- **User Dates:** This value provides you with the ability to define the start and end dates of the production order. This is a way for the user to override the manufacturing lead times or to use any calendar dates including non-working days.

Advanced Planning and Scheduling: Operation Lead Time

Learning objectives

In the following sections, you will find details about the calculation of the operation lead time.

Advanced Planning and Scheduling: Process Activity

Learning objectives

The following activity will walk you through the process of advanced scheduling production orders.

Process Overview

In this activity, you will do the following:

1. On the Production Order Maintenance (AM201500) form, you will create a production order to be scheduled.
2. On the APS Maintenance Process (AM512000) form, you will run the maintenance process of advanced planning and scheduling.
3. On the Rough Cut Planning (AM501000) form, you will schedule the created production order.
4. On the Work Center Schedule (AM000001) form, you will view how the system scheduled the production order considering other open production orders.



Thank you!

Elaine Warren