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JD Edwards EnterpriseOne Demand Flow® Manufacturing 8.12 Implementation Guide

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JD Edwards EnterpriseOne Demand Flow® Manufacturing 8.12 Implementation Guide
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Contents

About This Documentation Preface

JD Edwards EnterpriseOne implementation guides provide you with the information that you need to implement and use JD Edwards EnterpriseOne applications from Oracle.

This preface discusses:

- JD Edwards EnterpriseOne application prerequisites.
- Application fundamentals.
- Documentation updates and printed documentation.
- Additional resources.
- Typographical conventions and visual cues.
- Comments and suggestions.
- Common fields in implementation guides.

Note. Implementation guides document only elements, such as fields and check boxes, that require additional explanation. If an element is not documented with the process or task in which it is used, then either it requires no additional explanation or it is documented with common fields for the section, chapter, implementation guide, or product line. Fields that are common to all JD Edwards EnterpriseOne applications are defined in this preface.

JD Edwards EnterpriseOne Application Prerequisites

To benefit fully from the information that is covered in these books, you should have a basic understanding of how to use JD Edwards EnterpriseOne applications.

You might also want to complete at least one introductory training course, if applicable.

You should be familiar with navigating the system and adding, updating, and deleting information by using JD Edwards EnterpriseOne menus, forms, or windows. You should also be comfortable using the World Wide Web and the Microsoft Windows or Windows NT graphical user interface.

These books do not review navigation and other basics. They present the information that you need to use the system and implement your JD Edwards EnterpriseOne applications most effectively.

Application Fundamentals

Each application implementation guide provides implementation and processing information for your JD Edwards EnterpriseOne applications.

For some applications, additional, essential information describing the setup and design of your system appears in a companion volume of documentation called the application fundamentals implementation guide. Most product lines have a version of the application fundamentals implementation guide. The preface of each implementation guide identifies the application fundamentals implementation guides that are associated with that implementation guide.

The application fundamentals implementation guide consists of important topics that apply to many or all JD Edwards EnterpriseOne applications. Whether you are implementing a single application, some combination of applications within the product line, or the entire product line, you should be familiar with the contents of the appropriate application fundamentals implementation guides. They provide the starting points for fundamental implementation tasks.

Documentation Updates and Printed Documentation

This section discusses how to:

- Obtain documentation updates.
- Order printed documentation.

Obtaining Documentation Updates

You can find updates and additional documentation for this release, as well as previous releases, on Oracle's PeopleSoft Customer Connection website. Through the Documentation section of Oracle's PeopleSoft Customer Connection, you can download files to add to your Implementation Guides Library. You'll find a variety of useful and timely materials, including updates to the full line of JD Edwards EnterpriseOne documentation that is delivered on your implementation guides CD-ROM.

Important! Before you upgrade, you must check Oracle's PeopleSoft Customer Connection for updates to the upgrade instructions. Oracle continually posts updates as the upgrade process is refined.

See Also

Oracle's PeopleSoft Customer Connection, http://www.oracle.com/support/support_peoplesoft.html

Ordering Printed Documentation

You can order printed, bound volumes of the complete line of JD Edwards EnterpriseOne documentation that is delivered on your implementation guide CD-ROM. Oracle makes printed documentation available for each major release of JD Edwards EnterpriseOne shortly after the software is shipped. Customers and partners can order this printed documentation by using any of these methods:

- Web
- Telephone
- Email

Web

From the Documentation section of Oracle's PeopleSoft Customer Connection website, access the PeopleBooks Press website under the Ordering PeopleBooks topic. Use a credit card, money order, cashier's check, or purchase order to place your order.

Telephone

Contact MMA Partners, the book print vendor, at 877 588 2525.

Email

Send email to MMA Partners at peoplebookspress@mmapartner.com.

See Also

Oracle's PeopleSoft Customer Connection, http://www.oracle.com/support/support_peoplesoft.html

Additional Resources

The following resources are located on Oracle's PeopleSoft Customer Connection website:

Resource	Navigation
Application maintenance information	Updates + Fixes
Business process diagrams	Support, Documentation, Business Process Maps
Interactive Services Repository	Support, Documentation, Interactive Services Repository
Hardware and software requirements	Implement, Optimize, and Upgrade; Implementation Guide; Implementation Documentation and Software; Hardware and Software Requirements
Installation guides	Implement, Optimize, and Upgrade; Implementation Guide; Implementation Documentation and Software; Installation Guides and Notes
Integration information	Implement, Optimize, and Upgrade; Implementation Guide; Implementation Documentation and Software; Pre-Built Integrations for PeopleSoft Enterprise and JD Edwards EnterpriseOne Applications
Minimum technical requirements (MTRs) (JD Edwards EnterpriseOne only)	Implement, Optimize, and Upgrade; Implementation Guide; Supported Platforms
Documentation updates	Support, Documentation, Documentation Updates
Implementation guides support policy	Support, Support Policy
Prerelease notes	Support, Documentation, Documentation Updates, Category, Release Notes
Product release roadmap	Support, Roadmaps + Schedules
Release notes	Support, Documentation, Documentation Updates, Category, Release Notes
Release value proposition	Support, Documentation, Documentation Updates, Category, Release Value Proposition
Statement of direction	Support, Documentation, Documentation Updates, Category, Statement of Direction

Resource	Navigation
Troubleshooting information	Support, Troubleshooting
Upgrade documentation	Support, Documentation, Upgrade Documentation and Scripts

Typographical Conventions and Visual Cues

This section discusses:

- Typographical conventions.
- Visual cues.
- Country, region, and industry identifiers.
- Currency codes.

Typographical Conventions

This table contains the typographical conventions that are used in implementation guides:

Typographical Convention or Visual Cue	Description
Bold	Indicates PeopleCode function names, business function names, event names, system function names, method names, language constructs, and PeopleCode reserved words that must be included literally in the function call.
Italics	Indicates field values, emphasis, and JD Edwards EnterpriseOne or other book-length publication titles. In PeopleCode syntax, italic items are placeholders for arguments that your program must supply. We also use italics when we refer to words as words or letters as letters, as in the following: Enter the letter *O*.
KEY+KEY	Indicates a key combination action. For example, a plus sign (+) between keys means that you must hold down the first key while you press the second key. For ALT+W, hold down the ALT key while you press the W key.
`Monospace font`	Indicates a PeopleCode program or other code example.
“ ” (quotation marks)	Indicate chapter titles in cross-references and words that are used differently from their intended meanings.

Typographical Convention or Visual Cue	Description
. . . (ellipses)	Indicate that the preceding item or series can be repeated any number of times in PeopleCode syntax.
{ } (curly braces)	Indicate a choice between two options in PeopleCode syntax. Options are separated by a pipe (|).
[ ] (square brackets)	Indicate optional items in PeopleCode syntax.
& (ampersand)	When placed before a parameter in PeopleCode syntax, an ampersand indicates that the parameter is an already instantiated object. Ampersands also precede all PeopleCode variables.

Visual Cues

Implementation guides contain the following visual cues.

Notes

Notes indicate information that you should pay particular attention to as you work with the JD Edwards EnterpriseOne system.

Note. Example of a note.

If the note is preceded by *Important!,* the note is crucial and includes information that concerns what you must do for the system to function properly.

Important! Example of an important note.

Warnings

Warnings indicate crucial configuration considerations. Pay close attention to warning messages.

Warning! Example of a warning.

Cross-References

Implementation guides provide cross-references either under the heading "See Also" or on a separate line preceded by the word *See.* Cross-references lead to other documentation that is pertinent to the immediately preceding documentation.

Country, Region, and Industry Identifiers

Information that applies only to a specific country, region, or industry is preceded by a standard identifier in parentheses. This identifier typically appears at the beginning of a section heading, but it may also appear at the beginning of a note or other text.

Example of a country-specific heading: “(FRA) Hiring an Employee”

Example of a region-specific heading: “(Latin America) Setting Up Depreciation”

Country Identifiers

Countries are identified with the International Organization for Standardization (ISO) country code.

Region Identifiers

Regions are identified by the region name. The following region identifiers may appear in implementation guides:

- Asia Pacific
- Europe
- Latin America
- North America

Industry Identifiers

Industries are identified by the industry name or by an abbreviation for that industry. The following industry identifiers may appear in implementation guides:

- USF (U.S. Federal)
- E&G (Education and Government)

Currency Codes

Monetary amounts are identified by the ISO currency code.

Comments and Suggestions

Your comments are important to us. We encourage you to tell us what you like, or what you would like to see changed about implementation guides and other Oracle reference and training materials. Please send your suggestions to Documentation Manager, Oracle Corporation, 7604 Technology Way, Denver, CO, 80237. Or email us at documentation_us@oracle.com.

While we cannot guarantee to answer every email message, we will pay careful attention to your comments and suggestions.

Common Fields Used in Implementation Guides

Address Book Number Enter a unique number that identifies the master record for the entity. An address book number can be the identifier for a customer, supplier, company, employee, applicant, participant, tenant, location, and so on. Depending on the application, the field on the form might refer to the address book number as the customer number, supplier number, or company number, employee or applicant ID, participant number, and so on.

As If Currency Code Enter the three-character code to specify the currency that you want to use to view transaction amounts. This code enables you to view the transaction amounts as if they were entered in the specified currency rather than the foreign or domestic currency that was used when the transaction was originally entered.

Batch Number Displays a number that identifies a group of transactions to be processed by the system. On entry forms, you can assign the batch number or the system can assign it through the Next Numbers program (P0002).

Batch Date Enter the date in which a batch is created. If you leave this field blank, the system supplies the system date as the batch date.

Batch Status Displays a code from user-defined code (UDC) table 98/IC that indicates the posting status of a batch. Values are:

Blank: Batch is unposted and pending approval.

A: The batch is approved for posting, has no errors and is in balance, but has not yet been posted.

D: The batch posted successfully.

E: The batch is in error. You must correct the batch before it can post.

P: The system is in the process of posting the batch. The batch is unavailable until the posting process is complete. If errors occur during the post, the batch status changes to *E*.

U: The batch is temporarily unavailable because someone is working with it, or the batch appears to be in use because a power failure occurred while the batch was open.

Branch/Plant Enter a code that identifies a separate entity as a warehouse location, job, project, work center, branch, or plant in which distribution and manufacturing activities occur. In some systems, this is called a business unit.

Business Unit Enter the alphanumeric code that identifies a separate entity within a business for which you want to track costs. In some systems, this is called a branch/plant.

Category Code Enter the code that represents a specific category code. Category codes are user-defined codes that you customize to handle the tracking and reporting requirements of your organization.

Company Enter a code that identifies a specific organization, fund, or other reporting entity. The company code must already exist in the F0010 table and must identify a reporting entity that has a complete balance sheet.

Currency Code Enter the three-character code that represents the currency of the transaction. JD Edwards EnterpriseOne provides currency codes that are recognized by the International Organization for Standardization (ISO). The system stores currency codes in the F0013 table.

Document Company Enter the company number associated with the document. This number, used in conjunction with the document number, document type, and general ledger date, uniquely identifies an original document.

If you assign next numbers by company and fiscal year, the system uses the document company to retrieve the correct next number for that company.

	If two or more original documents have the same document number and document type, you can use the document company to display the document that you want.
Document Number	Displays a number that identifies the original document, which can be a voucher, invoice, journal entry, or time sheet, and so on. On entry forms, you can assign the original document number or the system can assign it through the Next Numbers program.
Document Type	Enter the two-character UDC, from UDC table 00/DT, that identifies the origin and purpose of the transaction, such as a voucher, invoice, journal entry, or time sheet. JD Edwards EnterpriseOne reserves these prefixes for the document types indicated: *P:* Accounts payable documents. *R:* Accounts receivable documents. *T:* Time and pay documents. *I:* Inventory documents. *O:* Purchase order documents. *S:* Sales order documents.
Effective Date	Enter the date on which an address, item, transaction, or record becomes active. The meaning of this field differs, depending on the program. For example, the effective date can represent any of these dates: • The date on which a change of address becomes effective. • The date on which a lease becomes effective. • The date on which a price becomes effective. • The date on which the currency exchange rate becomes effective. • The date on which a tax rate becomes effective.
Fiscal Period and **Fiscal Year**	Enter a number that identifies the general ledger period and year. For many programs, you can leave these fields blank to use the current fiscal period and year defined in the Company Names & Number program (P0010).
G/L Date (general ledger date)	Enter the date that identifies the financial period to which a transaction will be posted. The system compares the date that you enter on the transaction to the fiscal date pattern assigned to the company to retrieve the appropriate fiscal period number and year, as well as to perform date validations.

JD Edwards EnterpriseOne Demand Flow® Manufacturing Preface

This preface discusses:

- JD Edwards EnterpriseOne products
- JD Edwards EnterpriseOne application fundamentals
- Common fields used in this implementation guide

JD Edwards EnterpriseOne Products

This implementation guide refers to these JD Edwards EnterpriseOne products from Oracle:

- JD Edwards EnterpriseOne Inventory Management
- JD Edwards EnterpriseOne Management - Shop Floor
- JD Edwards EnterpriseOne Manufacturing - PDM

JD Edwards EnterpriseOne Application Fundamentals

Additional, essential information describing the setup and design of your system appears in a companion volume of documentation called *JD Edwards EnterpriseOne Inventory Management 8.12 Implementation Guide*.

See Also

JD Edwards EnterpriseOne Inventory Management 8.12 Implementation Guide, "JD Edwards EnterpriseOne Inventory Management Preface"

Common Fields Used In This Implementation Guide

Line Design Name Enter a name to identify the line design. You can create multiple versions of a line design for one line, but you have to designate one version as active. Based on the line design you create, you can plan and sequence production on the line, and determine the resource requirements.

Line Name You have to set up a line to be able to create a line design and to plan production. If you integrate Oracle JD Edwards EnterpriseOne Demand Flow® Manufacturing with Oracle JD Edwards EnterpriseOne Manufacturing,

	you have to define the line as a work center of type 2 using the Work Center Revision program (P3006).
Process Map Name	Enter the name of the process map from which you retrieve the process information for line design. The process map lists all products and the processes required to produce the products that you want to include in the line design, as well as the resources and resource times required to produce them.
Scenario Name	You have to create scenarios as the context within which to create a line design. All data that you set up in JD Edwards EnterpriseOn Demand Flow® Manufacturing are specific to a scenario. You can only designate one scenario as active.

CHAPTER 1

Getting Started With JD Edwards EnterpriseOne Demand Flow® Manufacturing

This chapter discusses:

- JD Edwards EnterpriseOne Demand Flow® Manufacturing overview
- JD Edwards EnterpriseOne Demand Flow® Manufacturing integrations
- JD Edwards EnterpriseOne Demand Flow® Manufacturing implementation

JD Edwards EnterpriseOne Demand Flow® Manufacturing Overview

JD Edwards EnterpriseOne Demand Flow® Manufacturing enables a manufacturing company to design its production facility to meet the requirements of demand-driven manufacturing. In a demand-driven environment, a manufacturer has to be able to build any model at any time based on existing demand. To support this goal, JD Edwards EnterpriseOne Demand Flow® Manufacturing enables you to:

- Design a manufacturing line based on the processes required to build the products in a mixed model family.
- Calculate the throughput for the line based on demand at capacity.
- Calculate kanban sizes based on the line design to ensure a smooth supply of component parts.
- Calculate labor and machine resource requirements based on the work content of each process, to meet daily demand and to support demand at capacity production levels.
- Plan and sequence production.

You can integrate JD Edwards EnterpriseOne Demand Flow® Manufacturing with JD Edwards EnterpriseOne Manufacturing. In this case you import base data, such as item information, bills of material, resource information and sales orders into JD Edwards EnterpriseOne Demand Flow® Manufacturing. If JD Edwards EnterpriseOne Demand Flow® Manufacturing is not integrated with JD Edwards EnterpriseOne Manufacturing, the system provides programs to set up these data within JD Edwards EnterpriseOne Demand Flow® Manufacturing.

JD Edwards EnterpriseOne Demand Flow® Manufacturing Integrations

The JD Edwards EnterpriseOne Demand Flow® Manufacturing system integrates with these JD Edwards EnterpriseOne systems from Oracle:

- JD Edwards EnterpriseOne Inventory Management
- JD Edwards EnterpriseOne Accounts Payable
- JD Edwards EnterpriseOne Accounts Receivable
- JD Edwards EnterpriseOne Human Resources Management
- JD Edwards EnterpriseOne Product Data Management
- JD Edwards EnterpriseOne Shop Floor Management
- JD Edwards EnterpriseOne Product Costing
- JD Edwards EnterpriseOne Manufacturing Accounting
- JD Edwards EnterpriseOne Sales Order Management

We discuss integration considerations in the implementation chapters in this implementation guide.

JD Edwards EnterpriseOne Inventory Management

The JD Edwards EnterpriseOne The Inventory Management system creates item branch and location records.

JD Edwards EnterpriseOne Accounts Payable

The JD Edwards EnterpriseOne Accounts Payable system creates supplier records.

JD Edwards EnterpriseOne Accounts Receivable

The JD Edwards EnterpriseOne Accounts Receivable system creates customer records.

JD Edwards EnterpriseOne Human Resources Management

The JD Edwards EnterpriseOne Human Resources Management system creates employee records.

JD Edwards EnterpriseOne Product Data Management

The JD Edwards EnterpriseOne Product Data Management system creates bills of materials, work centers and routings.

JD Edwards EnterpriseOne Shop Floor Management

The JD Edwards EnterpriseOne Shop Floor Management system creates orderless item completions.

JD Edwards EnterpriseOne Product Costing

The JD Edwards EnterpriseOne Product Costing system creates and maintains cost information for items.

JD Edwards EnterpriseOne Manufacturing Accounting

The JD Edwards EnterpriseOne Manufacturing Accounting system creates accounting transactions for orderless shop floor transactions.

JD Edwards EnterpriseOne Sales Order Management

The JD Edwards EnterpriseOne Sales Order Management system creates sales orders that represent demand for planning in JD Edwards EnterpriseOne Demand Flow® Manufacturing.

JD Edwards EnterpriseOne Demand Flow® Manufacturing Implementation

This section provides an overview of the steps that are required to implement the JD Edwards EnterpriseOne Demand Flow® Manufacturing system.

In the planning phase of your implementation, take advantage of all JD Edwards EnterpriseOne sources of information including the installation guides and troubleshooting information. A complete list of these resources appears in the preface in *About This Documentation* with information about where to find the most current version of each.

When determining which electronic software updates (ESUs) to install for JD Edwards EnterpriseOne Demand Flow® Manufacturing, use the EnterpriseOne and World Change Assistant. EnterpriseOne and World Change Assistant, a Java-based tool, reduces the time required to search and download ESUs by 75 percent or more and enables you to install multiple ESUs at one time.

See JD Edwards EnterpriseOne Tools 8.96 Software Update Guide

See Also

About This Documentation, "About This Documentation Preface""About This Documentation Preface," page xi

Global Implementation Steps

This table lists the suggested global implementation steps for the JD Edwards EnterpriseOne Demand Flow® Manufacturing system:

Step	Reference
1. Set up global user-defined codes.	*JD Edwards EnterpriseOne Tools 8.96 Foundation Guide*
2. Set up companies, fiscal date patterns, and business units.	*JD Edwards EnterpriseOne Financial Management Solutions Application Fundamentals 8.12 Implementation Guide*, "Setting Up Organizations"
3. Set up next numbers.	*JD Edwards EnterpriseOne Tools 8.96 Foundation Guide*
4. Enter address book records.	*JD Edwards EnterpriseOne Address Book 8.12 Implementation Guide*, "Entering Address Book Records"
5. Set up inventory information such as branch/plant constants, default locations and printers, manufacturing and distribution AAIs, and document types.	*JD Edwards EnterpriseOne Inventory Management 8.12 Implementation Guide*, "Setting Up the Inventory Management System"
6. Set up the shop floor calendar.	*JD Edwards EnterpriseOne Shop Floor Management 8.12 Implementation Guide*, "Setting Up Shop Floor Management"
7. Set up manufacturing constants.	*JD Edwards EnterpriseOne Product Data Management 8.12 Implementation Guide*, "Setting Up Product Data Management"

Implementation Steps for JD Edwards EnterpriseOne Demand Flow® Manufacturing

This table lists the suggested application-specific implementation steps for JD Edwards EnterpriseOne Demand Flow® Manufacturing. The required implementation steps vary depending on whether you are implementing JD Edwards EnterpriseOne Demand Flow® Manufacturing with integration to JD Edwards EnterpriseOne Manufacturing or without integration.

If you integrate JD Edwards EnterpriseOne Demand Flow® Manufacturing with other JD Edwards EnterpriseOne applications, you use these applications to set up some of the required data. If you use JD Edwards EnterpriseOne Demand Flow® Manufacturing without integration, you use the base data programs in JD Edwards EnterpriseOne Demand Flow® Manufacturing to set up these data.

Step	Reference
1. Set up scenarios.	Chapter 2, "Setting Up Base Data for Demand Flow® Manufacturing," page 7
2. Set up a default user scenario.	Chapter 2, "Setting Up Base Data for Demand Flow® Manufacturing," page 7
3. Set up branch information, standard unit of measure conversion, items, bills of material, customers, suppliers and employees.	Chapter 2, "Setting Up Base Data for Demand Flow® Manufacturing," page 7 **Note.** Use this implementation step if you use JD Edwards EnterpriseOne Demand Flow® Manufacturing without integrations.
4. Set up items.	*JD Edwards EnterpriseOne Inventory Management 8.12 Implementation Guide*, "Entering Item Inventory Information"
5. Set up locations.	*JD Edwards EnterpriseOne Inventory Management 8.12 Implementation Guide*, "Setting Up the Inventory Management System"
6. Set up customers.	*JD Edwards EnterpriseOne Accounts Receivable 8.12 Implementation Guide*, "Setting Up Customer Master Information"
7. Set up suppliers.	*JD Edwards EnterpriseOne Accounts Payable 8.12 Implementation Guide*, "Entering Supplier Information"
8. Set up employees.	*JD Edwards EnterpriseOne Human Capital Management Application Fundamentals 8.12 Implementation Guide*, "Setting Up Employee Information"
9. Set up bills of material.	*JD Edwards EnterpriseOne Product Data Management 8.12 Implementation Guide*, "Setting Up Bills of Material"
10. Set up work centers and routings.	*JD Edwards EnterpriseOne Product Data Management 8.12 Implementation Guide*, "Entering Work Centers and Routing Instructions"
11. Set up data movement configurations.	Chapter 3, "Integrating Demand Flow® Manufacturing with Other JD Edwards EnterpriseOne Applications," page 37

Step	Reference
12. Set up mixed model families.	Chapter 4, "Designing the Demand Flow® Manufacturing Line," page 49
13. Set up processes.	Chapter 4, "Designing the Demand Flow® Manufacturing Line," page 49
14. Set up paths.	Chapter 4, "Designing the Demand Flow® Manufacturing Line," page 49
15. Set up product synchronizations.	Chapter 4, "Designing the Demand Flow® Manufacturing Line," page 49
16. Set up volume design.	Chapter 4, "Designing the Demand Flow® Manufacturing Line," page 49
17. Set up standard tasks.	Chapter 4, "Designing the Demand Flow® Manufacturing Line," page 49
18. Set up standard sequence of events.	Chapter 4, "Designing the Demand Flow® Manufacturing Line," page 49
19. Set up sequence of events.	Chapter 4, "Designing the Demand Flow® Manufacturing Line," page 49
20. Set up cells.	Chapter 4, "Designing the Demand Flow® Manufacturing Line," page 49
21. Set up process maps.	Chapter 4, "Designing the Demand Flow® Manufacturing Line," page 49
22. Set up lines.	Chapter 4, "Designing the Demand Flow® Manufacturing Line," page 49
23. Set up a line design.	Chapter 4, "Designing the Demand Flow® Manufacturing Line," page 49
24. Set up an operational definition.	Chapter 4, "Designing the Demand Flow® Manufacturing Line," page 49
25. Set up kanban constants.	Chapter 5, "Managing Kanban in a Demand Flow® Environment," page 111
26. Set up kanban location master records.	Chapter 5, "Managing Kanban in a Demand Flow® Environment," page 111
27. Set up kanban pull chains.	Chapter 5, "Managing Kanban in a Demand Flow® Environment," page 111
28. Set up a resource design.	Chapter 6, "Planning Production and Resources," page 133
29. Set up resource design effectivity dates.	Chapter 6, "Planning Production and Resources," page 133

CHAPTER 2

Setting Up Base Data for Demand Flow® Manufacturing

This chapter provides an overview of base data setup for JD Edwards EnterpriseOne Demand Flow® Manufacturing, lists a prerequisite, and discusses how to:

- Set up scenarios.
- Define standard unit-of-measure conversions.
- Define branch/plant data.
- Define items.
- Define bills of material.
- Set up customers.
- Set up suppliers.
- Set up employees.
- Define resources.
- Enter sales orders.
- View work centers.

Understanding Base Data Setup for Demand Flow® Manufacturing

When using JD Edwards EnterpriseOne Demand Flow® Manufacturing, you can work with either of two sets of data. If JD Edwards EnterpriseOne Demand Flow® Manufacturing is integrated with other JD Edwards EnterpriseOne systems, you import the necessary data from those systems. However, if you use JD Edwards EnterpriseOne Demand Flow® Manufacturing by itself, the setup applications that are described in this chapter enable you to set up the data that you need to run JD Edwards EnterpriseOne Demand Flow® Manufacturing. applications. These will control all JD Edwards EnterpriseOne Demand Flow® Manufacturing functionality.

You always have to set up scenarios because this functionality is unique to JD Edwards EnterpriseOne Demand Flow® Manufacturing.

Within base data setup, you set up the following data:

- Scenarios
- Unit-of-measure conversions
- Branch/plant information

- Item definitions
- Bills of material
- Customers
- Suppliers
- Employees
- Resources
- Sales orders

Note. If you integrate JD Edwards EnterpriseOne Demand Flow® Manufacturing with JD Edwards EnterpriseOne Manufacturing programs, you can use JD Edwards EnterpriseOne work centers. To do so, you import work center information from JD Edwards EnterpriseOne Manufacturing. You do not set up work centers within the JD Edwards EnterpriseOne Demand Flow® Manufacturing product, but you can view the work centers that you imported.

Prerequisite

Set up a calendar for planning parameters and resources.

See *JD Edwards EnterpriseOne Shop Floor Management 8.12 Implementation Guide*, "Setting Up Shop Floor Management," Setting Up Shop Floor Calendars.

Setting Up Scenarios

This section provides an overview of scenario setup and discusses how to:

- Define an active scenario.
- Define a default user scenario.
- Set processing options for Copy Data Within Scenario (RF30L010).
- Copy a scenario with data.

Understanding Scenario Setup

Before you can use JD Edwards EnterpriseOne Demand Flow® Manufacturing, you must define scenarios using the DFM Scenario Master program (PF30L010). Scenarios control all activities in JD Edwards EnterpriseOne Demand Flow® Manufacturing. Use this functionality to create what-if scenarios. You have to determine which scenario is the active scenario in the system. Only one scenario can be active at one time. Scenarios enable you to:

- Hold a set of imported JD Edwards EnterpriseOne Manufacturing data or base data that was created in JD Edwards EnterpriseOne Demand Flow® Manufacturing and is specific to the scenario.
- Define control parameters for line design and planning.
- Perform data retrieval and storage during any JD Edwards EnterpriseOne Demand Flow® Manufacturing function.

The system uses scenarios to segment the business data tables in JD Edwards EnterpriseOne Demand Flow® Manufacturing; thus, you can work with a set of data without affecting data that is associated with a different scenario.

When you set up a scenario, the system automatically adds the following hard-coded components to the scenario:

- SCRAP and END_OF_LINE process.
- Default labor and machine resources.
- Default cell.

You use scenarios to define parameters for line design and for planning, For line design, you can specify default values for shift information, sequencing, and units of measure. For planning, you can associate a branch calendar, for example a shop floor calendar that you have defined in JD Edwards EnterpriseOne Manufacturing, with the scenario to use for back scheduling. The planning parameters are stored in the DFM Planning Parameters table (FF34S003).

Note. Because data is specific to a scenario, you have to specify the scenario when you are importing data into JD Edwards EnterpriseOne Demand Flow® Manufacturing. In the same way, for exporting data, you specify which scenario to export the data from. You cannot export the scenarios themselves to other JD Edwards EnterpriseOne systems, because scenarios are not supported in these systems.

To use JD Edwards EnterpriseOne Demand Flow® Manufacturing, you first have to define the default user scenario using the DFM Default User Scenario program (PF30L013). You associate the scenario with the user profile based on the login ID. When you use any of the JD Edwards EnterpriseOne Demand Flow® Manufacturing applications, the scenario that you have defined as the default user scenario automatically becomes the default scenario for the application. You can also associate a branch/plant with the default user scenario. This branch/plant becomes the default branch/plant for all applications that use a branch/plant.

Note. When you set up a scenario, the system displays a message asking you whether you want to make the scenario that you just created the default user scenario.

Deleting a scenario also deletes all records in JD Edwards EnterpriseOne Demand Flow® Manufacturing that are associated with the scenario. When you attempt to initiate a deletion, the system issues a warning that you have to accept before the deletion is accomplished. The system does not delete the default unit-of-measure conversion that you set up for JD Edwards EnterpriseOne Demand Flow® Manufacturing because this conversion is not associated with a scenario.

For copying scenarios, the system provides you with two different copy functions. You can use the Copy button on the Search for Scenarios form to copy the line design and planning parameters from the current scenario to a new scenario that you want to create.

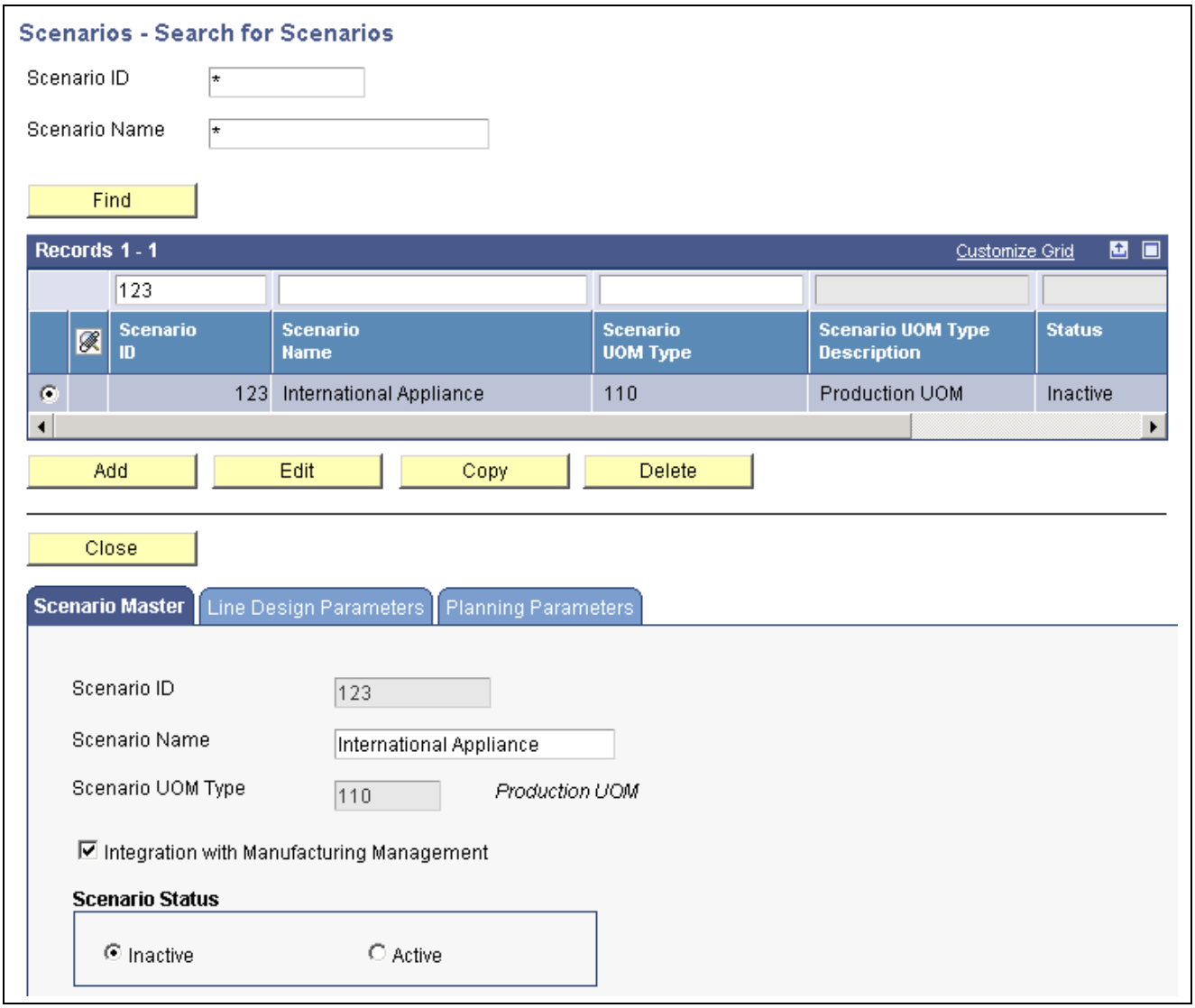
If you want to copy not only the scenario information, but also the entire set of Demand Flow® base data or imported JD Edwards EnterpriseOne Manufacturing data that is associated with the scenario, you use the Copy Data Within Scenario batch program (RF30L010). This program also copies line design data that you have created in the original scenario, for example, processes, lines and mixed model families, to the new scenario. By using this batch program, you can avoid having to set up base data for the new scenario or reimport them from JD Edwards EnterpriseOne Manufacturing.

Forms Used to Set Up Scenarios

Form Name	FormID	Navigation	Usage
Search for Scenarios	WF30L010D	Demand Flow® Manufacturing Setup (GF30L41), Scenarios	Set up scenarios and define the active scenario. Define line design and planning parameters for the scenario.
Search for Work Day Calendar	W30L015C	Click the Select Branch Calendar button on the Planning Parameters tab of the Search for Scenarios form.	Associate a work day calendar with a scenario.
Search for Default User Scenarios	WF30L013C	Demand Flow® Manufacturing Setup (GF30L41), Set User Scenarios	Associate the active scenario with the default user by entering the scenario ID.

Defining an Active Scenario

Access the Search for Scenarios form. Click the Add button.



Search for Scenarios form

Scenario Master

Select the Scenario Master tab.

Scenario ID — Displays the unique system-generated scenario ID. This field does not appear on any other program except the DFM Data Movement Configuration program (PF30L990).

Scenario Name — Enter a user-defined name for the scenario. This name does not have to be unique.

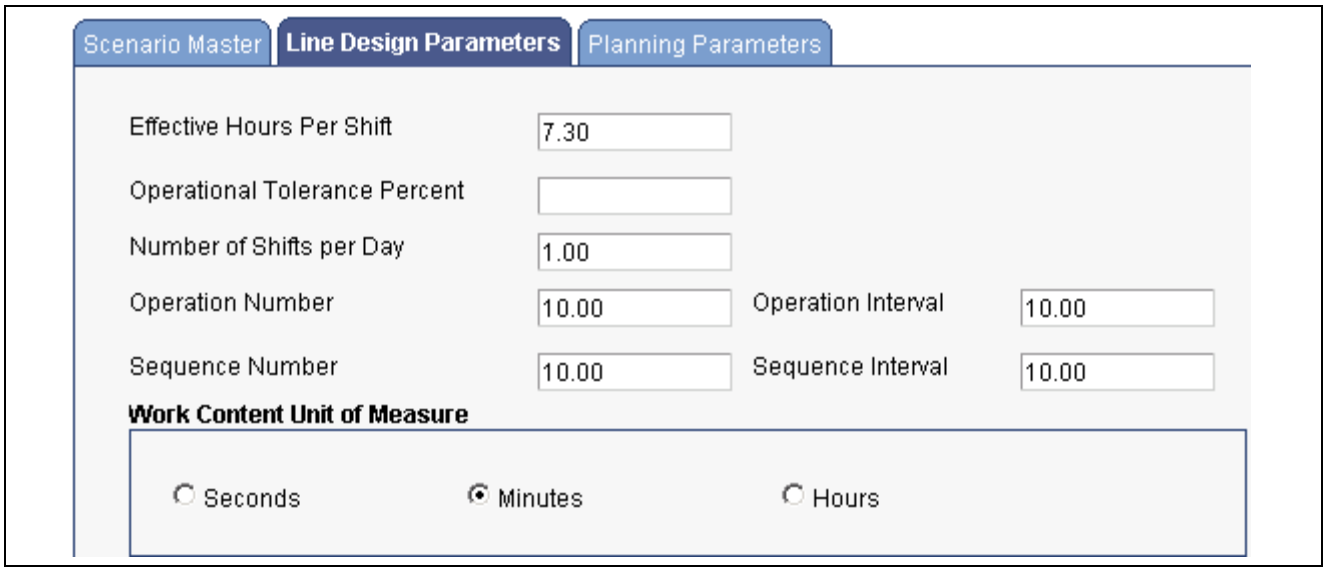
Scenario UOM Type (scenario unit of measure type) — Enter the unit-of-measure (UOM) type to be used for this scenario. Select a value from the Unit of Measure user-defined code (UDC) table (F30L/SC). The default value is 110.

Integration with Manufacturing Management — Select to specify that JD Edwards EnterpriseOne Demand Flow® Manufacturing is integrated with JD Edwards EnterpriseOne Manufacturing. The integration enables you to import JD Edwards EnterpriseOne work centers and use them to define processes, cells, and Demand Flow® lines.

Inactive and **Active** Select the Active option if you want to define the scenario as active. Only one scenario can be active at one time.

Line Design Parameters

Select the Line Design Parameters tab.



Search for Scenarios form: Line Design Parameters tab

Effective Hours per Shift Enter the effective hours per shift to be used when assigning sequences to operations. The default value is 7.3.

Operational Tolerance Percent Enter the operational tolerance percentage to be used when assigning sequences to operations.

Number of Shifts per Day Enter the number of shifts per day. The default value is 1.

Operation Number Enter the operation number to be used when adding an operational definition. The default value is 10.00.

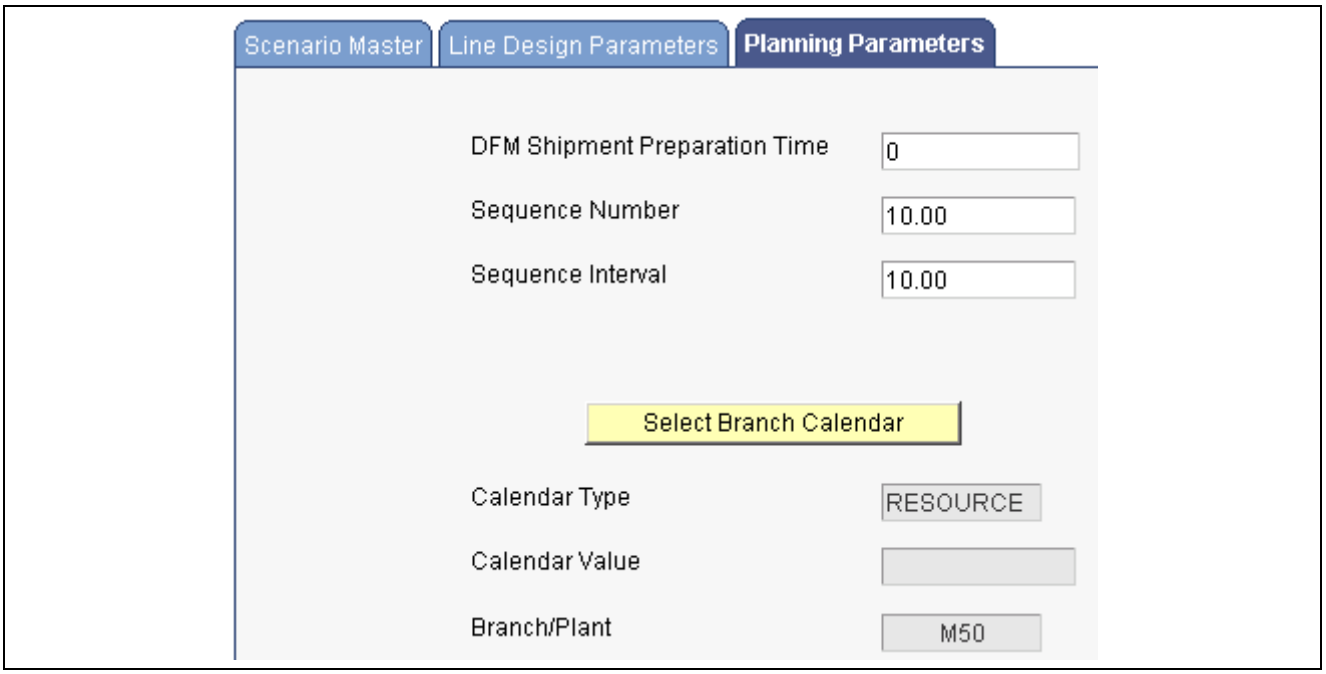
Operational Interval Enter the operational interval to be used when adding an operational definition. The default value is 10.00.

Sequence Number and **Sequence Interval** Enter the sequence number or the sequence interval to be used when adding a sequence of events or creating a sequence for a daily plan. The default value is 10.00.

Seconds, Minutes, and **Hours** Specify the unit of measure for work content. You can enter work content in hours, minutes, or seconds. The default value is seconds.

Planning Parameters

Select the Planning Parameters tab.



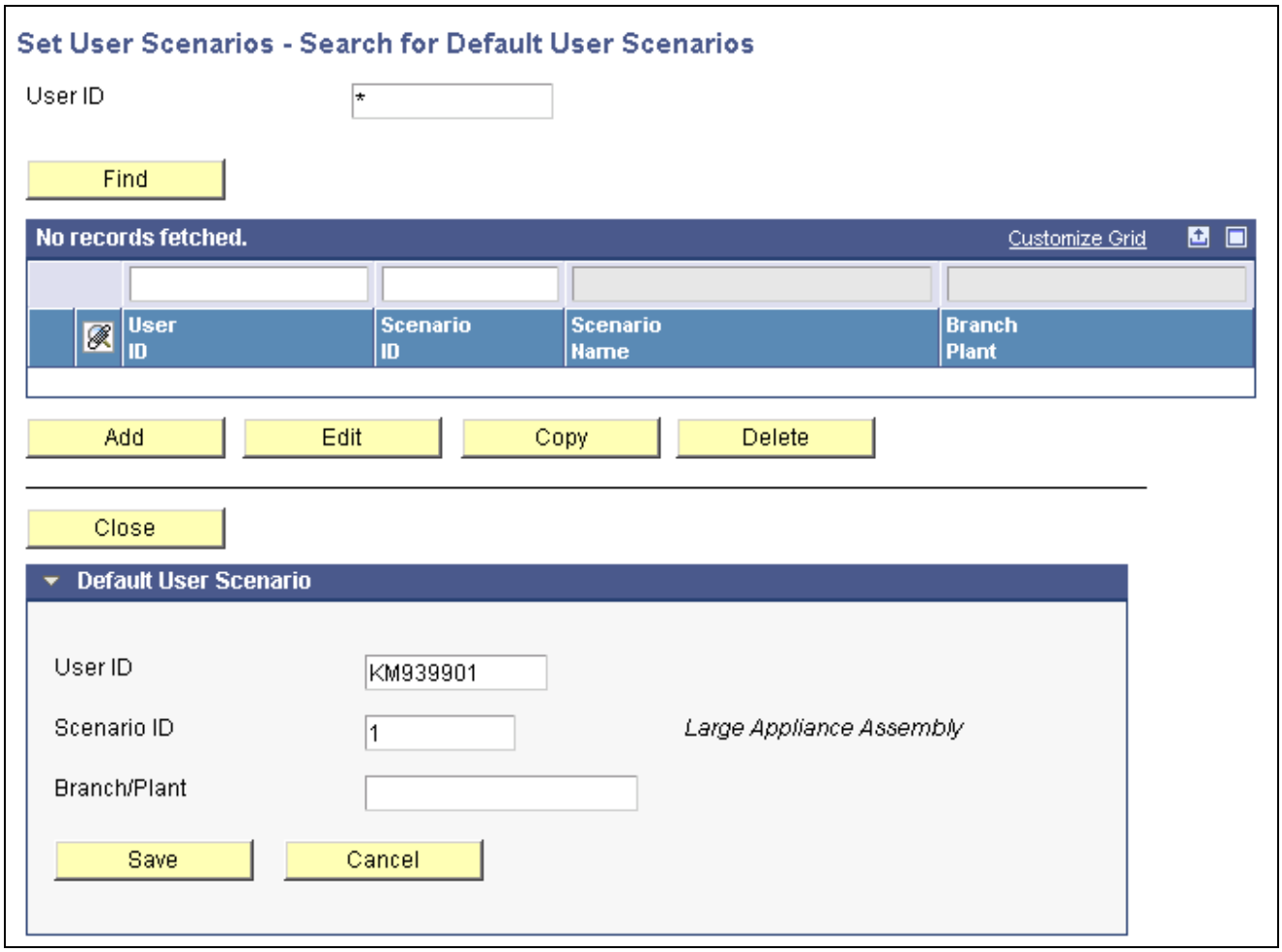
Search for Scenarios form: Planning Parameters tab

DFM Shipment Preparation Time Enter a value that you use to calculate the recommended completion date in the Daily Planning and Sequencing program. You subtract the number of days that you enter here from the promised ship date of the sales order to arrive at a completion date.

Select Branch Calendar Click to display the Search for Work Day Calendar form. Select a branch-specific calendar for association with the scenario that you are setting up. The planning system uses this calendar for back scheduling.

Defining a Default User Scenario

Access the Search for Default User Scenarios form. Click the Add button.



Search for Default User Scenarios form

Setting Processing Options for Copy Data Within Scenario (RF30L010)

These processing options controls default processing for the Copy Data Within Scenario program.

Process

Use these processing options to specify the source and target scenario for the copy process.

1. Enter Copy From Scenario ID

Specify the scenario ID of the scenario whose data set you want to copy to a new scenario. Click the search button to access the Select Scenario form. On the Select Scenario form, you can view and select any scenario that is currently stored in the Scenario Master table (FF30L010).

2. Enter Copy To Scenario Name

Enter the name of the new scenario that you want to create based on an existing scenario and its data. If you leave this processing option blank, the program generates a scenario name using the Copy From Scenario ID and the date and time that the program is run.

Copying a Scenario with Data

Select Demand Flow® Advanced Processing (GF30L31), Copy Data Within Scenario.

When you copy a scenario using this batch program, you copy the scenario information as well the data from the tables that are associated with the scenario. The system copies the data from the following tables to the new scenario:

- Scenario Master (FF30L010).
- Line Design Control Parameters (FF30L011).
- DFM Planning Parameters (FF34S003).
- Branch/Plant Master (FF30L014).
- DFM Work Center Master (FF30L017).
- DFM Customer Master (FF30L301)
- DFM Supplier Master (FF30L3401).
- DFM Employee Master (FF30L601).
- DFM Item Definition Master (FF30L501).
- DFM Item UOM Conversion Factor (FF30L512).
- DFM Bill of Material Master (FF30L002).
- Resource Master (FF30L015).
- Task Master (FF30L005).
- Standard Sequence of Events (FF30L110).
- DFM Process Master (FF30L701).
- Cell Master (FF30L905).
- Line Master (FF30L912).
- Mixed Model Family Master (FF30L101).
- Mixed Model Family Items (FF30L102).
- DFM Kanban Constants (FF31K50).
- DFM Kanban Location (FF31K42).
- DFM Kanban Pull Chain (FF31K41).

When you perform this copy process, the amount of data that is copied may be significant and impact system performance. Run this process outside of business hours.

Defining Standard Unit of Measure Conversions

This section discusses how to define standard unit of measure conversions.

Form Used to Define Standard Unit of Measure Conversions

Form Name	FormID	Navigation	Usage
Search for Standard UoM Conversion	WF30L513A	Demand Flow® Manufacturing Setup (GF30L41), Standard UOM Conversion	Define standard unit of measure conversions for a scenario.

Defining a Standard Unit of Measure Conversion

Access the Search for Standard UoM Conversion form. Click the Add button.

From UoM (from unit of measure) Enter the unit of measure to be converted. The standard unit of measure conversion is not associated with a scenario.

To UoM Quantity (to unit of measure quantity) Enter the factor that the system uses to convert one unit of measure to another unit of measure.

To UoM (to unit of measure) Enter the secondary unit of measure to which the original unit of measure is converted.

Defining Branch/Plant Data

This section discusses how to define branch/plant data.

Forms Used to Define Branch/Plant Data

Form Name	FormID	Navigation	Usage
Search for Branch/Plants	WF30L014C	Demand Flow® Manufacturing Setup (GF30L41), Branch Plant	Define branch/plant data, such as item number format and shift information.

Defining Branch/Plant Data

Access the Search for Branch/Plants form. Click the Add button.

Information

Select the Information tab.

Branch/Plant Enter the branch/plant for which you are setting up constants and shifts. You can associate this branch/plant with the default user scenario.

Constants

Select the Constants tab.

Define symbols to identify item numbers.

Shifts

Select the Shifts tab.

Hours Enter the number of hours per type of shift. If you subsequently change this value, the system issues a warning that you have to recalculate any line design values that were calculated based on the original number of hours.

Shift Code Identify the type of shift for the hours that you are entering.

Defining Items

This section provides an overview of item definition in JD Edwards EnterpriseOne Demand Flow® Manufacturing and discusses how to:

- Define item information.
- Define unit of measure conversions for items.

Understanding Item Definition

You can set up item definitions using the DFM Item Definition Master program (PF30L501) if you are not importing item branch records from the JD Edwards EnterpriseOne Inventory Management system. You create item definitions for the end items (SKU), field replacement units (FRU), and options that are produced on the Demand Flow® line. You set up items by scenario and branch. The default user scenario becomes the scenario for the item definition.

To set up an item definition, you have to provide the following information: item number, branch/plant, stocking type, planner number, buyer, number, supplier number, standard unit-of-measure conversion, and primary unit of measure. On the Demand Flow® tab you can provide information for JD Edwards EnterpriseOne Demand Flow® Manufacturing functionality.

The remaining fields on the Additional Info, Category Code, Quantities, and Item UoM tabs are not required, but are populated when you import Item Branch records. JD Edwards EnterpriseOne Demand Flow® Manufacturing does not use the fields that are related to MPS/MRP, for example, planning code, planning fence, and planning fence rule. You can use the maximum and minimum order quantity for dividing sequence quantities.

You can calculate unit-of-measure conversions for the items. Depending on how you set the Standard Unit of Measure Conversion flag for the item, the unit-of-measure conversion is based on either the standard or the item-specific unit-of-measure conversion.

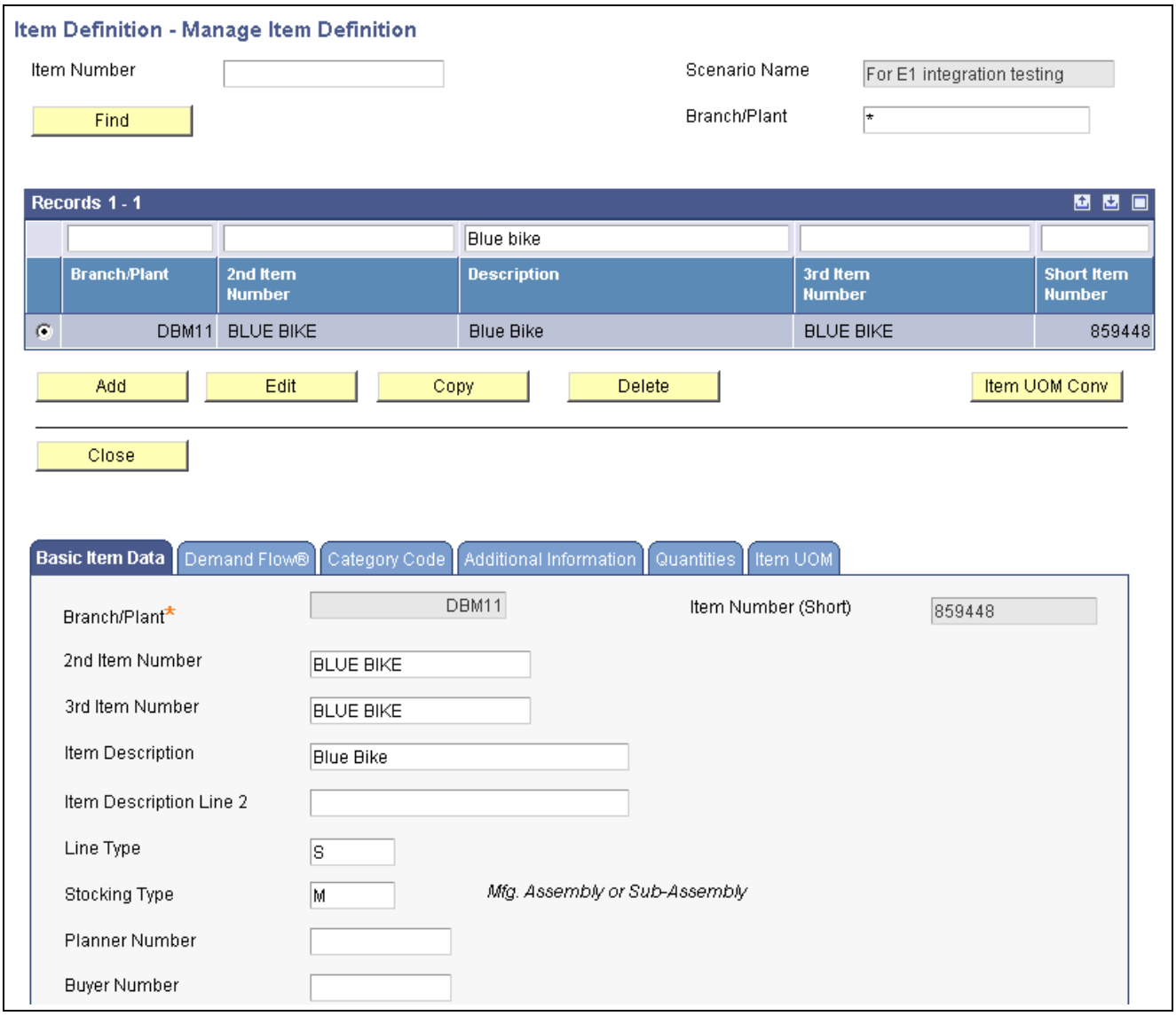
Note. If you try to delete an item that is used in a bill of material, the system issues an error message.

Forms Used to Define Items

Form Name	FormID	Navigation	Usage
Manage Item Definition	WF30L501A	Demand Flow® Manufacturing Setup (GF30L41), Item Definition	Define item information under the Basic Item Data, Demand Flow®, Category Code, Additional Information, Quantities, and Item UOM tabs.
Search for Item UOM Conversion	WF30L501B	Select an item and click the Item UoM Conv (item unit of measure conversion) button on the Manage Item Definition form.	Define unit of measure conversions for items within the scenario.

Defining Item Information

Access the Manage Item Definition form. Click the Add button.



Manage Item Definition form

Basic Item Data

Select the Basic Item Data tab.

Item Number (Short), 2nd Item Number, and **3rd Item Number**

Enter a number for the item that you are setting up. The system provides three separate item numbers as alternative item numbers. The first item number is an 8-digit, system-generated number. It is disabled. The second item number is a 25-digit, user-defined, alphanumeric item number. The third item number is another 25-digit, user-defined, alphanumeric item number.

Line Type

Enter a line type to control how the system processes lines on a transaction. It controls the systems with which the transaction interacts, such as JD Edwards EnterpriseOne General Ledger, JD Edwards EnterpriseOne Job Cost, JD Edwards EnterpriseOne Accounts Payable, JD Edwards EnterpriseOne Accounts Receivable, and JD Edwards EnterpriseOne Inventory Management. It also specifies the conditions under which a line prints on reports, and it is included in calculations. Values include:

S: Stock item

J: Job cost

N: Nonstock item

F: Freight

M: Miscellaneous charges and credits

Stocking Type Enter a UDC (41/I) that indicates how you stock an item, for example, as finished goods or as raw materials. The following stocking types are hard-coded and you should not change them:

0: Phantom item

B: Bulk floor stock

C: Configured item

E: Emergency/corrective maintenance

F: Feature

K: Kit parent item

N: Bulk floor stock

The first character of Description 2 in the UDC table indicates whether the item is purchased or manufactured.

Planner Number Enter the address number of the material planner for the item.

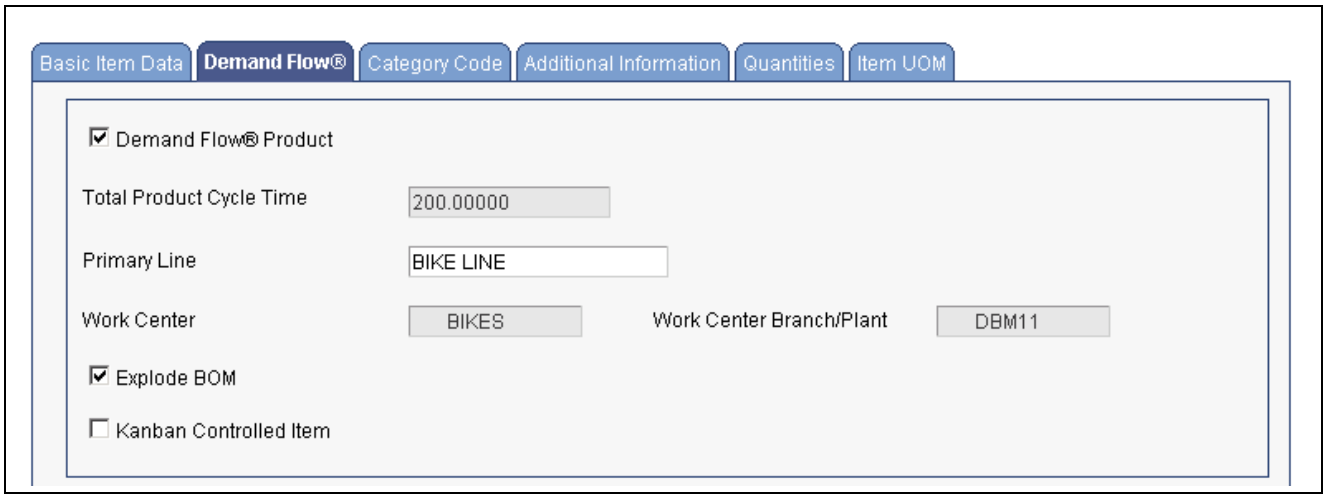
Buyer Number Enter the address number of the person who is responsible for setting up and maintaining the correct stocking levels for the item.

Supplier Number Enter the address number of the preferred provider of this item.

Std UOM Conversion (standard unit-of-measure conversion) Enter *1* in this field if you want to use the standard unit of measure instead of the item-specific unit of measure.

Demand Flow®

Select the Demand Flow® tab.



Manage Item Definition form: Demand Flow® tab

Demand Flow® Product Select to designate the item as an end item. You can add an item to a mixed model family only if this check box is selected.

Total Product Cycle Time This field is populated when the total product cycle time for this product is calculated.

Primary Line Select the line where the item is produced primarily. You set up lines in the Line Master program (PF30L912). If you specify integration with JD Edwards EnterpriseOne Manufacturing for your scenario, the system validates the primary line as a work center. When you enter the primary line, the system automatically populates the Work Center field and the Work Center Branch/Plant field.

Work Center and **Work Center Branch/Plant** If you specify integration with JD Edwards EnterpriseOne Manufacturing for your scenario, the system automatically populates these fields when you enter a primary line. The system retrieves the values from the line master record of the primary line.

If you do not integrate JD Edwards EnterpriseOne Demand Flow® Manufacturing with JD Edwards EnterpriseOne Manufacturing, these fields do not appear on the form.

Explode BOM (explode bill of material) Select to indicate that the bill of material for the item should be exploded to extend the demand by the quantity per from the bill of material.

Kanban Controlled Item Select to indicate that the item is kanban controlled. If the item is kanban controlled, size calculations are performed for single or dual cards.

Additional Information

Select the Additional Information tab.

The fields on this tab display item data if you have imported Item Branch records from Inventory Management.

Dispatch Group Displays a UDC that identifies the dispatch group. A dispatch group is a grouping that you define for products according to the physical characteristics that are important when storing and transporting those products.

Order Policy Code Displays a UDC that specifies the rules for inventory reordering in Requirements Planning and Procurement. Values are:

0: Reorder point.

1: Lot-for-lot or as required.

2: Fixed order quantity.

3: Economic order quantity.

4: Periods of supply.

5: Rate scheduled item.

These values are hard-coded.

Value Order Policy Displays a value that the system uses in conjunction with the order policy code to represent one of the following values:

When you select order policy code 2, this value represents the fixed order quantity.

When you select order policy 4, this value represents the number of days of net requirements that the system uses to determine order size.

When you select order policy code 5, this value represents the desired inventory level.

When the ending available quantity is less than the desired inventory level, then the system issues an "increase rate to" message. When the ending available quantity is greater than the desired inventory level, then the system issues a "decrease rate to" message.

Planning Code

Displays a UDC to indicate how master production scheduling, material requirements planning, or distribution requirements planning processes this item. Values are:

0: Not Planned by MPS, MRP, or DRP.

1: Planned by MPS or DRP.

2: Planned by MRP.

3: Planned by MRP with additional independent forecast.

4: Planned by MPS, Parent in Planning Bill.

5: Planned by MPS, Component in Planning Bill.

These values are hard-coded.

Planning Fence Rule

The system uses this code in conjunction with thePlanning Time Fence Days field to determine how forecast demand or actual customer demand is used. Values are:

C: Use customer demand before and the greater of forecast or customer demand after the time fence.

F: Use forecast before and forecast plus customer demand after the time fence.

G: Use the greater of forecast or customer demand before and forecast after the time fence

S: Use customer demand before the time fence and forecast after the time fence.

Planning Fence

Displays the number of days that the system uses in conjunction with the time fence rule to determine how the forecast is used. Displays the number of days after the start date when the time fence rule changes from the first rule to the second rule.

The system does not count the generation start date; that is, the day after the generation start date is day 1. For manufactured items, the system counts working days, as defined in the shop floor calendar. For purchased items, the system counts calendar days.

Freeze Fence

Displays he number of days from the generation start date within which the system does not generate action messages. The same rules apply as to the planning fence.

Message Display Fence

Displays the number of days after the generation start date within which the system should display order messages. The same rules apply as to the planning fence.

Setup Labor

Displays standard setup hours that you expect to incur in the normal completion of this item. This value is not affected by crew size.

Move/Queue Hours Displays the total hours that an order is expected to be in queue at work centers and moving between work centers.

Commodity Code Displays the commodity code for the item.

Round to Whole Number Displays a code that determines whether the system performs rounding for planning purposes. Values are:

R: Round either up or down to the nearest whole number.

U: Round up to the nearest whole number.

Blank: Do not round.

Issue Type Code Displays a UDC that indicates how the system issues each component in the bill of material from stock. Values are:

I: Manual issue

F: Floor stock

B: Backflush

U: Super backflush

S: Subcontract item

Blank: Shippable end item

You can issue a component in more than one way within a specific branch/plant by using different codes on the bill of material and the work order parts list. The bill of material code overrides the branch/plant value.

Time Basis Enter a UDC (30/TB) that indicates how machine or labor hours are expressed for a product. Time basis codes identify the time basis or rate to be used for machine or labor hours that are entered for every routing step. For example, 25 hours per 1,000 pieces or 15 hours per 10,000 pieces. The system uses the values in the Description-2 field on the User Defined Codes form for costing and scheduling calculations. The description is what the code represents, but is not used in calculations.

Item Revision Level Enter a revision level in this field; verify that the revision level of the routing for an item matches the revision level on the bill of material for the item.

Shrink Factor Displays a fixed quantity or percentage that the system uses to determine inventory shrinkage for an item. The system increases the planned order quantity by this amount in MPS/MRP/DRP generation. The shrink factor method that you specify for the item determines whether the shrink factor is a percentage or a fixed quantity. If you are entering a percentage, enter 5 percent as 5.00 and 50 percent as 50.00.

Shrink Factor Method Displays the value that determines whether the shrink factor that you enter for this item is a percentage or a fixed quantity. Values are:

%: Percentage of the order or requested quantity.

F: Fixed amount to be added to the quantity.

Leadtime Level Displays the leadtime for an item at its assigned level in the production process. The system uses this value to calculate the start dates for work orders using fixed leadtimes. Level leadtime is different for purchased and manufactured items:

- Purchased

  The number of calendar days that are required for the item to arrive at the branch/plant after the supplier receives the purchase order.

- Manufactured

  The number of workdays that are required to complete the fabrication or assembly of an item after all the components are available.

You can enter level leadtime manually, or you can use the Leadtime Rollup program (R30822A) to calculate it. To calculate level leadtime using the Leadtime Rollup program, you must first enter a quantity in the Manufacturing Leadtime Quantity field.

Leadtime Manufacturing Displays the total number of days that are required to build an item from its lowest level components to the final assembly. This value is the total of the level leadtimes for all manufactured items, plus the highest manufacturing leadtime for all its components. If all components are purchased, the manufacturing leadtime equals the item's level leadtime. Purchased item leadtimes are not included in the calculation of manufacturing leadtimes. You can enter the manufacturing leadtime manually, or you can have the system calculate it when you run the Leadtime Rollup program.

Leadtime Cumulative Displays the total number of days that are required to build an item from its lowest level components to the final assembly. The system calculates the value differently for manufactured and purchased items.

- Manufactured

  The total of all level leadtimes for all manufactured items, plus the highest cumulative leadtime of all its components.

- Purchased

  The item's level leadtime. Leadtimes for purchased items are included in the calculation of cumulative leadtimes.

You can enter this value manually, or you can have the system calculate it when you run the Leadtime Rollup program.

Leadtime Per Unit Displays the total number of hours that are required to build one unit as specified on the routing. This value is factored by the time basis code. You can enter this value manually, or you can have the system calculate it when you run the Leadtime Rollup program. The system overwrites this value when you run the Leadtime Rollup program. The system uses this field to calculate start dates for work orders when you use variable leadtimes.

Fixed/Variable Displays a code that determines whether the system uses fixed or variable leadtimes. This code works in conjunction with the value from either the Leadtime Level field or the Leadtime Per Unit field field. Values are:

F: Fixed leadtime: Calculates work order start dates using the value from the Leadtime Level field.

V: Variable leadtime: Calculates work order start dates using the value from the Leadtime Per Unit field.

MFG Leadtime Quantity (manufacturing leadtime quantity)

Enter the quantity that determines the level leadtime for a manufactured item. Each of the routing steps for the item are extended by this quantity. For the system to calculate the level leadtime, the quantity in this field must be a value other than zero.

Replenishment Hours

Displays the time that is required until a replacement kanban is available to the consuming location from its supplying location. The system uses this value only for Kanban card processing in Shop Floor Management.

Sales - Inventory, Margin - Inventory, and **Investment - Inventory**

Displays a code that specifies this item's ABC ranking by sales amount, margin, or investment amount. Three types of ABC analysis exist—sales, margin, and on-hand value. Within each type of analysis, you can have three groups—A, B, and C. The ABC Code fields contain a percentage that tells the system how to define the A, B, and C groups for categorizing items during ABC analysis. Each group measures a total within the type of analysis. For all groups, the system compares the appropriate sales, margin, or on-hand value totals of a single item to the appropriate total for all items and calculates the value of each item. An item's value is its percentage of the appropriate total. The system then arranges the values of all items from highest to lowest value and accumulates the percentages. What happens next depends on the group:

- A group: If an item's value causes the accumulated total to exceed the A accumulated percentage, the system assigns the item to the B group.
- B group: When the accumulated total reaches the percentage that you entered for items in the A group, the system continues adding values until it reaches the percentage that you entered for items in the B group. The system assigns all items whose value falls between the A and B percentages to the B group.
- C group: The C group consists of items whose accumulated value exceeds the B percentage. The percentage that you usually enter for the C group is .999.

Values are:

A: Assign this item to the first amount ranking.

B: Assign this item to the second amount ranking.

C: Assign this item to the third amount ranking.

D: Do not include this item when you run ABC analysis.

Quantities

Select the Quantities tab.

Reorder Quantity

Displays the estimated reorder quantity for an item if not enough sales history is available for the system to accurately calculate a reorder quantity.

Maximum Reorder Qty (maximum reorder quantity)

Displays the maximum order quantity for an item. You can base the quantity on factors other than usage, such as perishability, storage capacity, and so forth. You can use the maximum order quantity to divide the sequence quantity in planning and sequencing.

Minimum Reorder Qty (minimum reorder quantity)

Displays the minimum order quantity for an item. You can base the quantity on factors other than usage, such as perishability, storage capacity, and so forth. You can use the minimum order quantity to divide the sequence quantity in planning and sequencing.

Reorder Point Displays the item quantity at which replenishment should occur. Typically, replenishment occurs when the total quantity on hand plus the quantity on order falls to, or below, a specified quantity. You can enter this quantity, or the system can calculate it if sufficient sales history does not exist.

Multiple Order Quantity The system uses the value that you enter in this field to generate multiple subsets of a work order if you want to produce the order in smaller lots than the quantity that the entire work order calls for. For example, if a work order has been generated for 1,000 pieces, and the work order multiple is set to 100, then ten sets of the work order for 100 pieces each print when the work order is released. All sets have the same work order number.

Safety Stock Displays the quantity of stock that is kept on hand to cover high-side variations in demand.

Item UOM

Select the Item UOM tab.

Complete the primary unit of measure field. You can also define unit-of-measure fields for purchasing, pricing, shipping, and production. You can define a secondary unit of measure, as well as component, weight, and volume units of measure.

Defining Unit of Measure Conversions for Items

Access the Search for Item UOM Conversion form.

Click the Add button and complete the appropriate fields.

Defining Bills of Material

This section discusses how to:

- Set processing options for DFM Bill of Material Maintenance (PF30L002).
- Define a bill of material.
- Synchronize the bill of material with the routing.

Forms Used to Define Bills of Material

Form Name	FormID	Navigation	Usage
Search for Bills of Material	WF30L002A	Demand Flow® Manufacturing Setup (GF30L41), Bills of Material	Retrieve existing bills of material.
Add a Bill of Material	WF30L002C	Complete the Item Number and Branch/Plant fields on the Search for Bills of Material form, and click the Add button.	Define a bill of material for a Demand Flow® product.
Bills of Material - Synchronize with Routing	WF30L002D	Select a bill of material record on the Search for Bills of Material form and click the Synchronize with Routing button.	Synchronize the item bill of material with the item routing that is generated from line design.

Setting Processing Options for DFM Bill of Material Maintenance (PF30L002)

These processing options control system functions for the DFM Bill of Material Maintenance program.

Validation

Use this processing option to perform item validation on the bills of material.

Check for Recursive Components in BOM Specify whether the parent item of the bill of material appears as its own component. Use this validation to avoid this problem during BOM leveling. If you leave this processing option blank, the system does not check for recursive components.

Defining a Bill of Material

Access the Add a Bill of Material form.

Item Number Enter the number of the component that you are adding to the bill of material.

Quantity Enter the quantity of the component that is needed to produce the product.

Prep Code (preparation code) Select a preparation code from the UDC table to indicate what preparation a component had to undergo to be used on the bill of material for the product. The same component can appear on the bill of material with different preparation codes.

Package UOM (package unit of measure) Enter the unit of measure in which to express the Kanban for the component.

Issue From Location Enter the location from which the component is issued.

Completed To Location Enter the location to which the item is completed.

Active Ingredient Complete this field to indicate whether an item is an active component of a parent item. When the item is an active component, the system can calculate a

parent item's expiration date by comparing all component expiration dates and choosing the earliest date.

Fixed or Variable

Enter a UDC to indicate whether the quantity per assembly for an item on the bill of material varies according to the quantity of the parent item that is produced, or is fixed regardless of the parent quantity. This value also determines whether the component quantity is a percent of the parent quantity. Values are:

F: Fixed Quantity

V: Variable Quantity

%: For fixed-quantity components, Work Orders and Material Requirements Planning do not extend the component's quantity per assembly value by the order quantity.

Issue Type Code

Enter a UDC that indicates how the system issues each component in the bill of material from stock. Values are:

I: Manual issue

F: Floor stock

B: Back flush

U: Super back flush

S: Subcontract item

Blank: Shippable end item

You can issue a component in more than one way within a specific branch/plant by using different codes on the bill of material and the work order parts list. The bill of material code overrides the branch/plant value.

Line Type

Enter a line type to control how the system processes lines on a transaction. It controls the systems with which the transaction interacts, such as JD Edwards EnterpriseOne General Ledger, JD Edwards EnterpriseOne Job Cost, JD Edwards EnterpriseOne Accounts Payable, JD Edwards EnterpriseOne Accounts Receivable, and JD Edwards EnterpriseOne Inventory Management. It also specifies the conditions under which a line prints on reports and is included in calculations. Values include:

S: Stock item

J: Job cost

N: Nonstock item

F: Freight

M: Miscellaneous charges and credits

Effective From and **Effective Through**

Enter the effective date range to indicate:

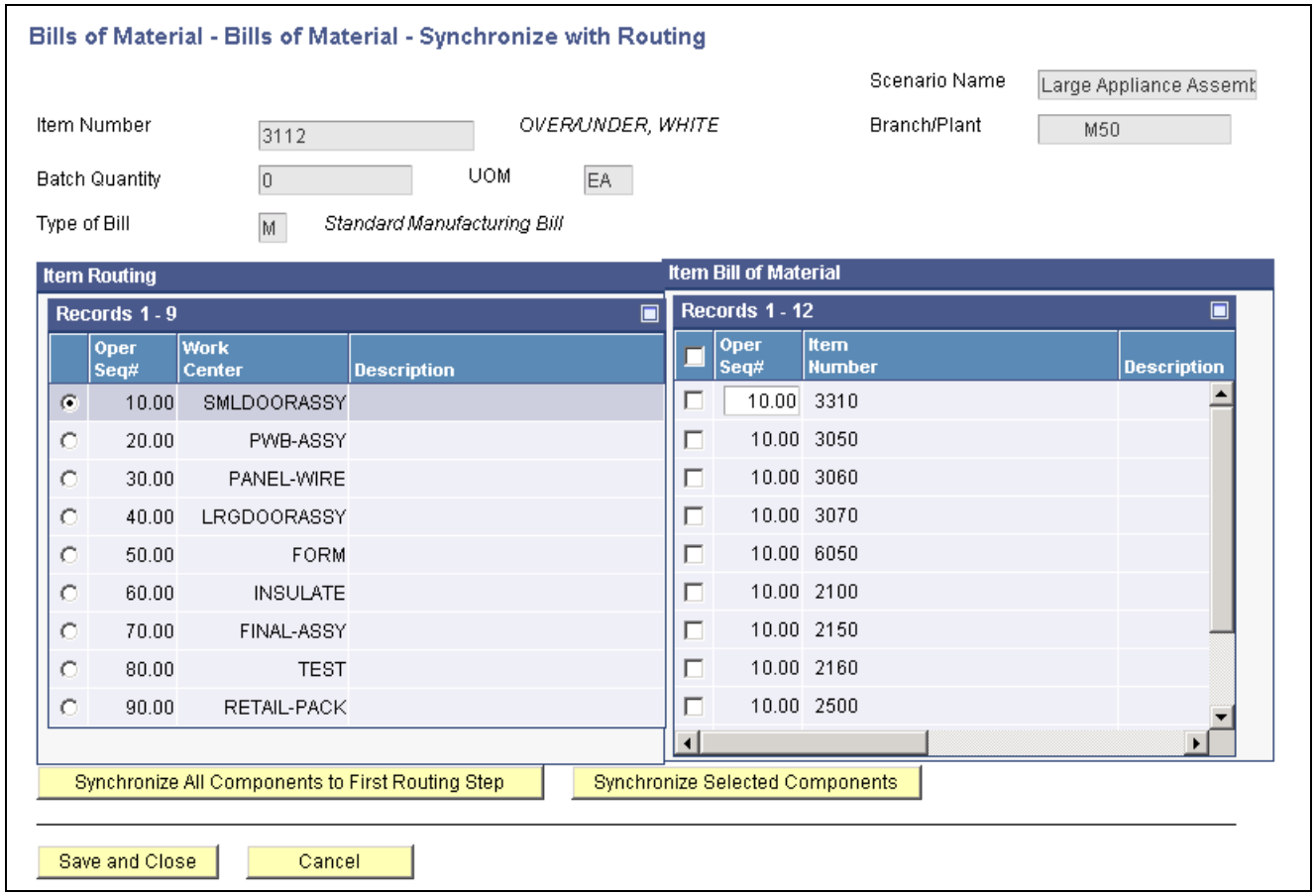
- The time frame during which a component on a bill of material is in effect.
- The time frame during which a routing step is in effect as a sequence on the routing for the item.
- The time frame during which a rate schedule is in effect.

The default value for the effective from date is the current system date. The default value for the effective through date is December 31 of the default year that is defined in the Data Dictionary for century change year.

You can enter future effective dates so that the system plans for upcoming changes. Items that are no longer effective in the future can still be recorded and recognized in JD Edwards EnterpriseOne Product Costing, JD Edwards EnterpriseOne Shop Floor Management, and JD Edwards EnterpriseOne Capacity Requirements Planning. JD Edwards EnterpriseOne Material Requirements Planning determines valid components by effectivity dates, not by the bill-of-material revision level. Some forms display data based on the effectivity dates that you enter.

Synchronizing the Bill of Material with the Routing

Access the Bills of Material - Synchronize with Routing form.



Bills of Material - Synchronize with Routing form

Synchronize All Components to First Routing Step Click to associate all components on the bill of material with the first routing step.

Synchronize Selected Components Click to associate components with the routing steps where they are consumed.

Setting Up Customers

This section discusses how to set up customers.

Form Used to Set Up Customers

Form Name	FormID	Navigation	Usage
Search for Customers	WF30L301A	Demand Flow® Manufacturing Setup (GF30L41), Customers	Set up customers for Demand Flow® Manufacturing.

Setting Up Customers

Access the Search for Customers form. Click the Add button.

In addition to the fields that are described below, you can also use category codes for defining the customer further.

Customer Number and **Customer Name** — Enter a number and name that identifies this customer in the FF30L301 table. You use the customer record when creating sales orders.

Remark — Enter free-form text with information about the customer.

Partial Shipments Allowed — Select to indicate whether the customer accepts partial shipments.

Setting Up Suppliers

This section discusses how to set up suppliers.

Form Used to Set Up Suppliers

Form Name	FormID	Navigation	Usage
Search for Suppliers	WF30L401A	Demand Flow® Manufacturing Setup (GF30L41), Suppliers	Set up suppliers.

Setting Up Suppliers

Access the Search for Suppliers form. Click the Add button.

Supplier Number and **Supplier Name** — Enter a number and name that identifies this supplier in the FF30L401 table. You use suppliers to provide the materials you need to produce a product on the Demand Flow® line

Remark — Enter free-form text with information about the supplier.

Setting Up Employees

This section discusses how to set up employees.

Form Used to Set Up Employees

Form Name	FormID	Navigation	Usage
Search for Employees	WF30L601A	Demand Flow® Manufacturing Setup (GF30L41), Employees	Set up employees.

Setting Up Employees

Access the Search for Employees form. Click the Add button.

Employee Name and **Employee Number** — Enter a number and name that identifies the employee in the FF30L601 table.

Remark — Enter free-form text with information about the employee.

Defining Resources

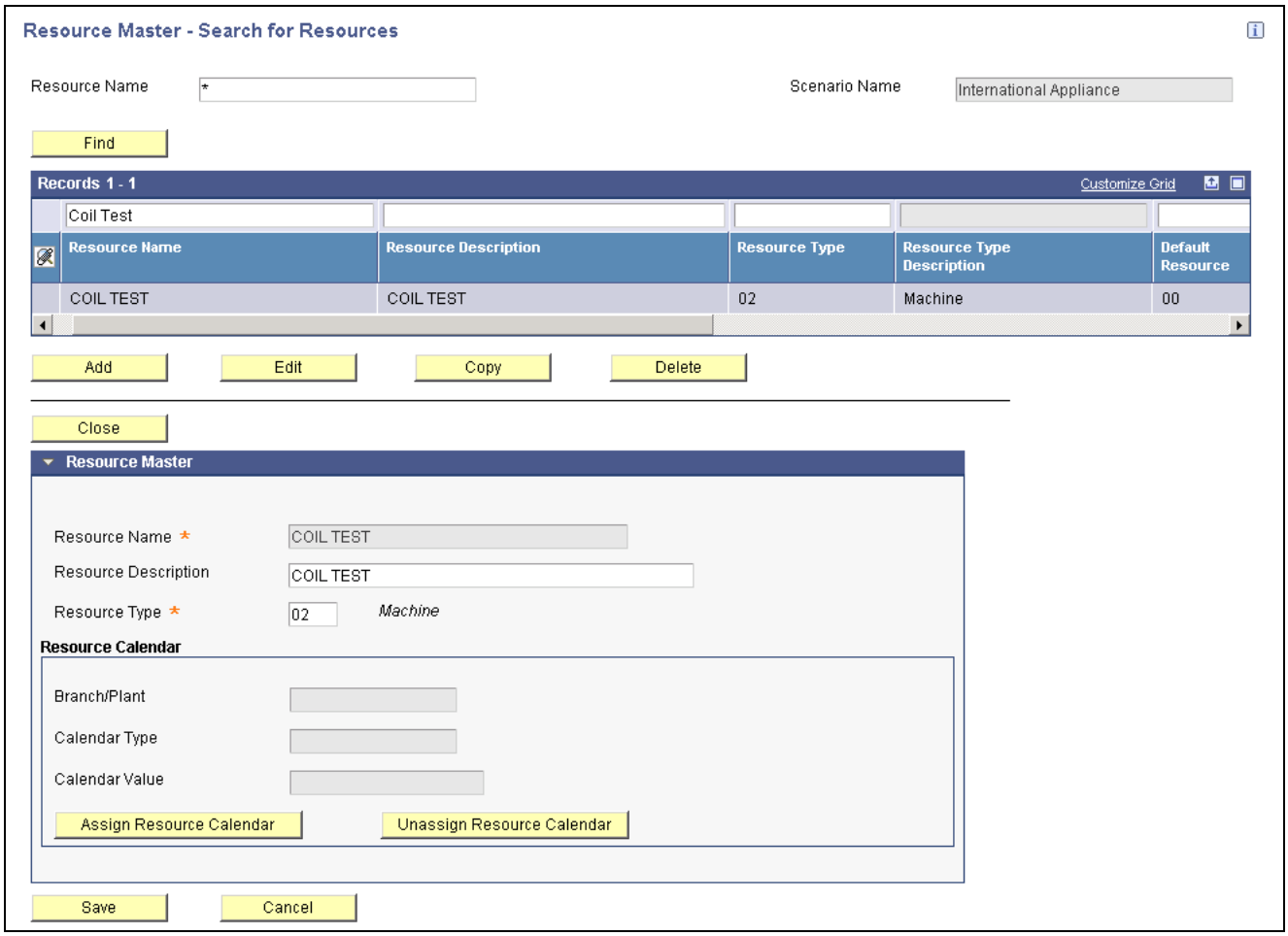
This section discusses how to define resources.

Forms Used to Define Resources

Form Name	FormID	Navigation	Usage
Search for Resources	WF30L015A	Demand Flow® Manufacturing Setup (GF30L41), Resource Master	Define labor and machine resources for the scenario.
Search for Work Day Calendar	WF30L015C	Click the Select Resource Calendar button on the Search for Resources form.	Associate a work day calendar with a resource.

Defining Resources

Access the Search for Resources form. Click the Add button.



Search for Resources form

Resource Name Enter a name for the resource that you are defining. This name must be unique within the scenario.

Resource Type Specify the type of resource that you are setting up by selecting a value from the UDC table F30L/RT (Resource Type).

Assign Resource Calendar Click to access the Search for Work Day Calendar form. Selecting a work day calendar populates the Branch/Plant, Calendar Type, and Calendar Value fields.

Unassign Resource Calendar Click to disassociate the work day calendar from the resource.

If you try to remove the resource calendar, the system issues an error message if the resource calendar is used in any Demand Flow® table.

Entering Sales Orders

This section discusses how to:

- Set processing options for DFM Demand Entry (PF30L801).
- Enter sales orders.

Form Used to Enter Sales Orders

Form Name	FormID	Navigation	Usage
Demand Entry - Add Sales Order	WF30L801B	Demand Flow® Manufacturing Setup (GF30L41), Sales Orders Click the Add button on the Demand Entry - Search for Sales Order form.	Enter sales order lines.

Setting Processing Options for DFM Demand Entry (PF30L801)

These processing options control default values for the DFM Demand Entry program.

Defaults

Use these processing options to specify default values when entering sales orders.

Order Company Specify the default order company. If you leave this processing option blank, you have to enter an order company on every sales order.

Branch/Plant Specify the default branch/plant. If you leave this processing option blank, you have to enter a branch on every sales order.

Order Type Specify the default order type. If you leave this processing option blank, you have to enter a branch on every sales order.

Line Increment Specify the increment by which the system numbers order lines. If you leave this processing option blank, the default increment is 1.00.

Entering Sales Orders

Access the Demand Entry - Add Sales Order form.

Customer Number Enter the number of the customer for the sales order. The customer has to exist in the F30L301 table.

Item Number Enter the number of the items to be ordered.

Order Quantity Enter the sales order quantity for the item.

Unit of Measure The unit of measure from the item definition becomes the default value for this field.

Request Date Enter the date on which the sales order line is scheduled to be delivered to the customer.

Promised Ship (promised ship date) Enter the promised shipment date for the sales order line. For planning, this field is used to calculate a recommended completion date.

Scheduled Pick (scheduled pick date) Enter the scheduled pick date for the sales order line.

Cancel Date Enter a cancellation date, if you are canceling the sales order line.

Status Code	If you import sales orders from the JD Edwards EnterpriseOne execution systems, this field is populated with the status of the sales order.
Branch/Plant	Enter the branch/plant for the item for which you are creating a sales order line.
Sales Order Priority	Select a code from UDC table H40/PR to indicate the priority for the sales order.

Viewing Work Centers

This section provides an overview of work centers in JD Edwards EnterpriseOne Demand Flow® Manufacturing, lists perequisites, and discusses how to view work centers.

Understanding Work Centers in JD Edwards EnterpriseOne Demand Flow® Manufacturing

Importing work centers from JD Edwards EnterpriseOne Manufacturing enables the system to validate the work center that is associated with Demand Flow® lines, processes, and cells against the Work Center Master table (F30006). After you have imported work centers from the F30006 table in JD Edwards EnterpriseOne Manufacturing into JD Edwards EnterpriseOne Demand Flow® Manufacturing, you can view the imported work centers using the DFM Work Center Master program. You can search for work centers by work center, branch/plant, and work center type. The search retrieves work center records from the DFM Work Center Master table (FF30L017).

Prerequisites

To use work centers in JD Edwards EnterpriseOne Demand Flow® Manufacturing:

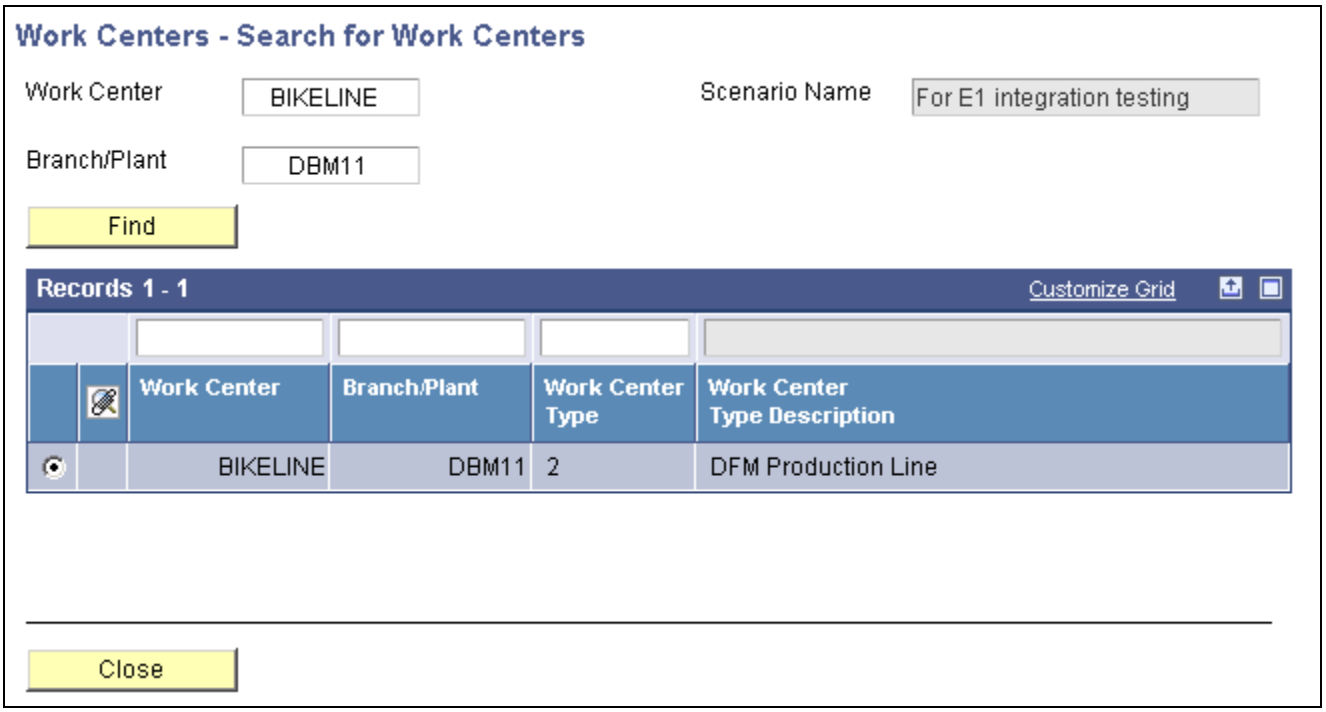
- Set the integration constant for the scenario.
- Import work centers from JD Edwards EnterpriseOne.

Form Used to View Work Centers

Form Name	FormID	Navigation	Usage
Search for Work Centers	WF30L017A	Demand Flow® Manufacturing Setup (GF30L41), Work Centers.	View the work centers that you imported into the Demand Flow® Manufacturing module.

Viewing Work Centers

Access the Search for Work Centers form.



Search for Work Centers form

Complete the search fields and click the Find button. The Scenario Name field displays the default user scenario.

Work Center Displays the work center that you have imported from JD Edwards EnterpriseOne Manufacturing.

Branch/Plant Displays the work center branch that is associated with the imported work center.

Work Center Type Displays the type of work center that you imported from JD Edwards EnterpriseOne Manufacturing. Values are:

0: Stand alone work center.

1: Production line in a repetitive environment.

2: Production line in a lean environment.

CHAPTER 3

Integrating Demand Flow® Manufacturing with Other JD Edwards EnterpriseOne Applications

This chapter provides an overview of JD Edwards EnterpriseOne Demand Flow® Manufacturing integration and discusses how to:

- Set common processing options for data import and export programs.
- Configure data movement between JD Edwards EnterpriseOne Demand Flow® Manufacturing and JD Edwards EnterpriseOne Manufacturing.
- Import data from JD Edwards EnterpriseOne Manufacturing to JD Edwards EnterpriseOne Demand Flow® Manufacturing.
- Export data from JD Edwards EnterpriseOne Demand Flow® Manufacturing to JD Edwards EnterpriseOne Manufacturing.

Understanding Demand Flow® Manufacturing Integration

You can use JD Edwards EnterpriseOne Demand Flow® Manufacturing in conjunction with other JD Edwards EnterpriseOne applications. This integration enables you to import required base data from JD Edwards EnterpriseOne tables, as well as export some data back to JD Edwards EnterpriseOne Manufacturing.

If you integrate JD Edwards EnterpriseOne Demand Flow® Manufacturing with JD Edwards EnterpriseOne Manufacturing, you do not use the base data setup programs in JD Edwards EnterpriseOne Demand Flow® Manufacturing to enter, update, or delete data. You can make changes to these records using only the JD Edwards EnterpriseOne applications that you used to enter the data originally. After making changes, you have to import the data to JD Edwards EnterpriseOne Demand Flow® Manufacturing again to see the changes reflected in JD Edwards EnterpriseOne Demand Flow® Manufacturing.

Note. The only base data setup program that you use to create new records in JD Edwards EnterpriseOne Demand Flow® Manufacturing, even when importing the other data, is the Scenario Master program (PF30L010) because scenarios do not exist in JD Edwards EnterpriseOne outside of JD Edwards EnterpriseOne Demand Flow® Manufacturing.

You can import the following data from JD Edwards EnterpriseOne tables into JD Edwards EnterpriseOne Demand Flow® Manufacturing tables:

- Item definitions
- Work centers
- Bills of material
- Branch/plant information

- Customers
- Suppliers
- Employees
- Sales orders
- Locations

The integration is also supported by export programs. Export programs are available for data that you have defined or revised in JD Edwards EnterpriseOne Demand Flow® Manufacturing and that you have to export back to JD Edwards EnterpriseOne programs to be used for manufacturing transactions. You can export the following data from JD Edwards EnterpriseOne Demand Flow® Manufacturing to other JD Edwards EnterpriseOne programs:

- Item branch records
- Bills of material
- Routings
- Kanban locations
- Kanban master records

This integration enables you to create lean manufacturing and accounting transactions based on the information from JD Edwards EnterpriseOne Demand Flow® Manufacturing line design, kanban management, planning, and resource management.

See Also

JD Edwards EnterpriseOne Shop Floor Management 8.12 Implementation Guide, "Processing Transactions for Lean Manufacturing"

JD Edwards EnterpriseOne Product Costing and Manufacturing Accounting 8.12 Implementation Guide, "Working with Lean Accounting"

Setting Common Processing Options for Data Import and Export Programs

This processing option controls default processing for the programs that move data between JD Edwards EnterpriseOne Manufacturing and JD Edwards EnterpriseOne Demand Flow® Manufacturing.

Processing

This processing option controls the movement of data between JD Edwards EnterpriseOne Manufacturing and JD Edwards EnterpriseOne Demand Flow® Manufacturing.

Scenario ID Specify for each import and export program which scenario to use when you move data between JD Edwards EnterpriseOne Manufacturing tables and JD Edwards EnterpriseOne Demand Flow® Manufacturing tables.

If you import or export data using a configuration, the scenario ID that is associated with the configuration overrides this processing option setting.

Configuring Data Movement Between JD Edwards EnterpriseOne Demand Flow® Manufacturing and JD Edwards EnterpriseOne Base Manufacturing

This section provides an overview of data movement configuration and discusses how to:

- Set up data movement configurations.
- Add jobs to a data movement configuration.
- Run a data movement configuration.

Understanding Data Movement Configuration

To perform the data import and export between JD Edwards EnterpriseOne Demand Flow® Manufacturing and JD Edwards EnterpriseOne Manufacturing efficiently, you can define export and import configurations that enable you to run multiple data imports and exports simultaneously. Set up a configuration to group together the data export and import programs (UBEs) that you would typically run together because they share certain criteria. For example, you can create a configuration for data movement that you perform only once, such as importing JD Edwards EnterpriseOne Demand Flow® Manufacturing base data, or that you perform frequently or even daily, such as importing sales orders.

The following import and export configurations are recommended:

- Initial data import (in order): branch/plants, customers, suppliers, employees, items, kanban locations, bills of material.
- Export before line live: bills of material, routings, kanban master records, kanban supply and consumption points.
- Daily import: customers, sales orders.
- Occasional export: kanban master records (after resizing).

After you have defined a configuration in the DFM Data Movement Configuration program (PF30L990), you attach the batch programs or jobs that you want to include in this configuration. For each batch program that you select, you have to specify the version that you want to run in the configuration.

Important! JD Edwards EnterpriseOne Demand Flow® Manufacturing provides versions for most import programs, as well as the Export Purge Kanban Master program, that you can run from the menu. This capability enables you to run individual data imports and exports as needed without having to define a data movement configuration. When running data imports and exports from the menu, you must specify the scenario in the processing options.

Forms Used to Set Up Data Movement Configurations

Form Name	FormID	Navigation	Usage
Import/Export Configuration - Search for Configuration	WF30L990B	Demand Flow® Advanced Processing (GF30L031), Demand Flow Data Transfer	Run a data movement configuration using the DFM Data Import Export program (RF30L990).
Import/Export Configuration - Add Configuration	WF30L990F	Demand Flow® Advanced Processing (GF30L031), Demand Flow® Data Transfer Click the Add button on the Import/Export Configuration - Search for Configuration form. Click the configuration ID.	Set up data movement configurations.
Import/Export Configuration - Manage Configuration Details	WF30L990A	Click the Find button on the Import/Export Configuration - Search for Configuration form. Select a record and click the configuration ID link.	Add jobs to a data movement configuration.

Setting Up Data Movement Configurations

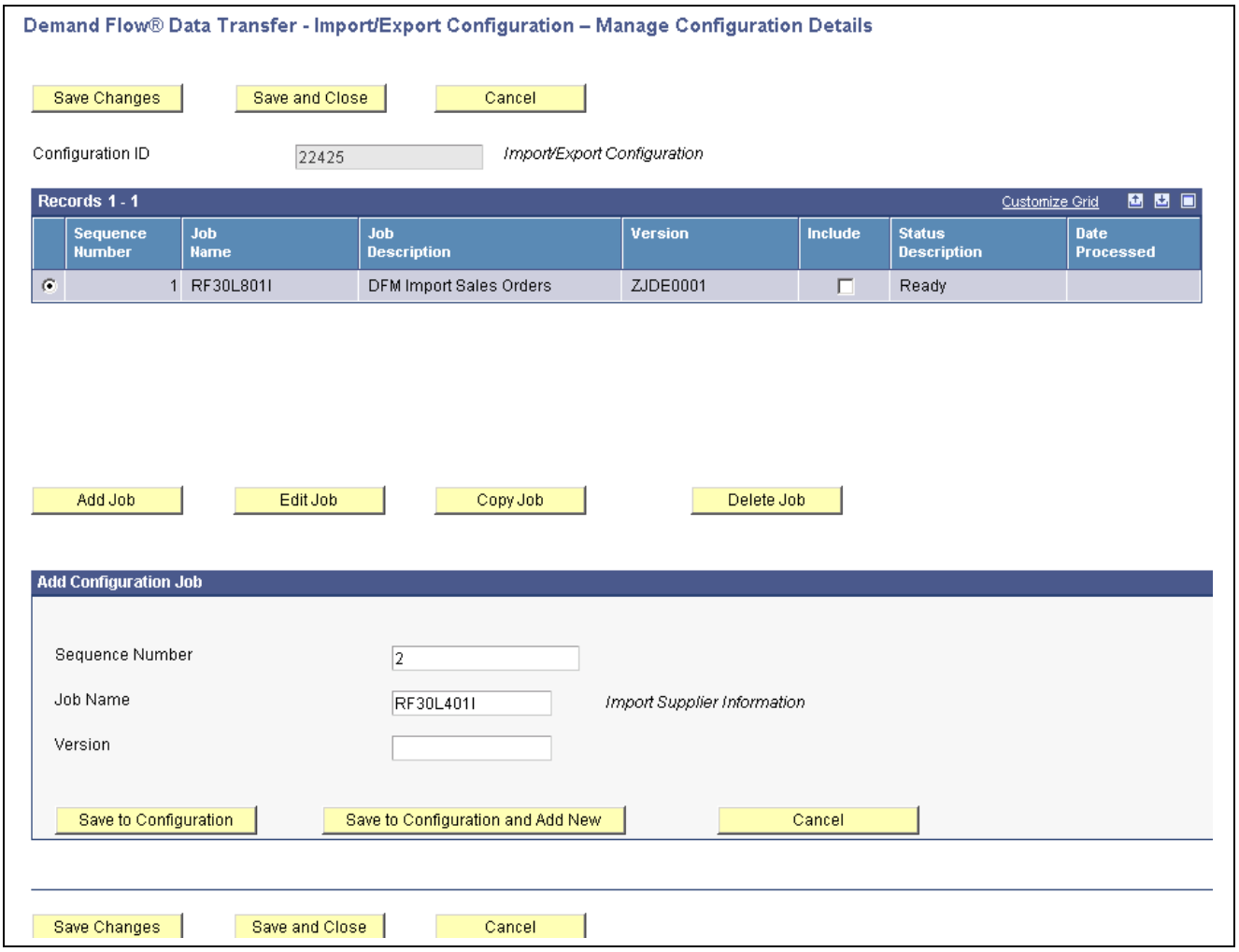
Access the Import/Export Configuration - Add Configuration form.

Configuration ID and **Configuration Name** — Enter a configuration name to define a set of data transfers between JD Edwards EnterpriseOne Demand Flow® Manufacturing and other JD Edwards EnterpriseOne programs. When you save the configuration, the system generates a configuration ID.

Scenario ID — Enter the scenario that you want to use for the data import or exports in this configuration. If you use this configuration for running data imports and exports, the system uses this scenario instead of the scenario that you might have specified in the processing options for the import and export programs.

Adding Jobs to a Data Movement Configuration

Access the Import/Export Configuration - Manage Configuration Details form.



Import/Export Configuration - Manage Configuration Details form

Sequence Number Enter a sequence number to indicate the order in which the system launches the data movement UBEs when you run the data movement configuration. When you run the configuration, the UBEs transferring data sets between JD Edwards EnterpriseOne Demand Flow® Manufacturing and other JD Edwards EnterpriseOne programs are launched in ascending order.

Job Name Enter the name of the UBE that transfers a specific data set between JD Edwards EnterpriseOne Demand Flow® Manufacturing and other JD Edwards EnterpriseOne applications. Click the Search button to display the Batch Applications Search & Select form (W9860S1A), where you select the UBE to be added to the configuration.

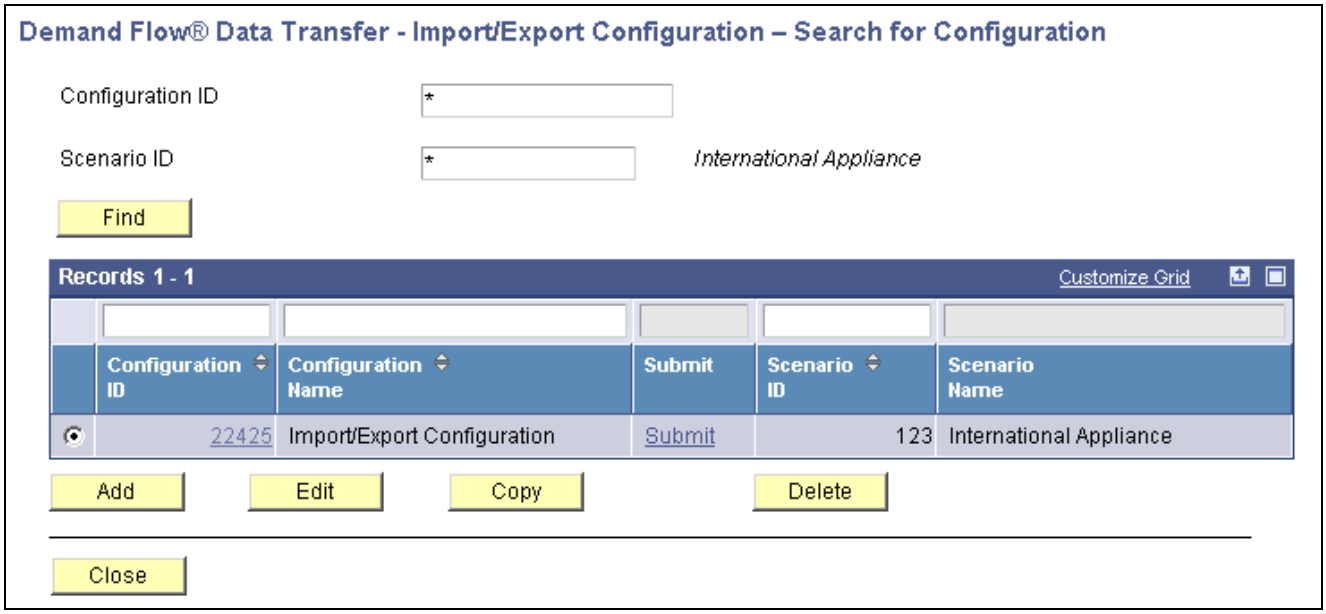
Version Enter the version name of the UBE that transfers data between JD Edwards EnterpriseOne Demand Flow®. Manufacturing and other JD Edwards EnterpriseOne applications.

Save to Configuration Click to add the UBE that you selected to the configuration. Use the Save to Configuration and Add New button if you are adding multiple UBEs to the configuration. After you have added the selected UBE to the configuration, the UBE appears in the grid of the Import/Export Configuration - Manage

Configuration Details form. Select the Include check box to ensure that this UBE is included when you run the configuration.

Running a Data Movement Configuration

Access the Import/Export Configuration - Search for Configuration form.



Import/Export Configuration - Search for Configuration form

Submit Click the link in this field for the selected configuration to run the DFM Data Import Export program (RF30L990). This program runs the set of batch import or export programs that you have associated with the selected configuration.

Importing Data from JD Edwards EnterpriseOne Base Manufacturing to JD Edwards EnterpriseOne Demand Flow® Manufacturing

This section provides overviews of data import programs, lists prerequisites, and discusses how to:

- Import item definitions.
- Import work-center master information.
- Import branch/plant information
- Import bills of material.
- Import customer information.
- Import supplier information.
- Import employee information.
- Set processing options for DFM - Import Sales Orders (RF30L801I).

- Import sales orders.

Understanding Data Import Programs

JD Edwards EnterpriseOne Demand Flow® Manufacturing provides a number of batch import programs that populate base data tables for JD Edwards EnterpriseOne Demand Flow® Manufacturing from corresponding JD Edwards EnterpriseOne tables. In some cases, the information that is imported into JD Edwards EnterpriseOne Demand Flow® Manufacturing is drawn from multiple JD Edwards EnterpriseOne tables. Running an import program deletes all the records in the JD Edwards EnterpriseOne Demand Flow® Manufacturing tables based on scenario ID and updates the tables with the new records with the exception of the sales order import. The import programs also generate reports that list all the updated and newly added records, and print error messages for records that were not written to the JD Edwards EnterpriseOne Demand Flow® Manufacturing table.

The following table lists the UBEs that are used to move data from JD Edwards EnterpriseOne tables to JD Edwards EnterpriseOne Demand Flow® Manufacturing base data tables:

Import UBE	From Table	To Table
DFM - Import Item Definitions (RF30L501I)	Item Branch (F4102), Item Units of Measure Conversion Factors (F41002), Unit of Measure Standard Conversion (F41003)	DFM Item Definition Master (FF30L501), DFM Item Units of Measure Conversion Factors (FF30L512), DFM Units of Measure Standard Conversions (FF30L513)
Import Work Center Master Information (RF30L017I)	Work Center Master (F30006)	DFM Work Center Master (FF30L017)
Import Branch/Plant Master Information (RF30L014I)	Job Shop Manufacturing Constants (F3009), Inventory Constants (F41001), Business Unit Master (F0006)	Branch/Plant Master (FF30L014)
Import Bill of Material (RF30L002I)	Bill of Material Master (F3002)	DFM Bill of Material Master (FF30L002)
Import Customer Information (RF30L301I)	Customer Master by Line of Business (F03012), Address Book Master (F0101)	DFM Customer Master (FF30L301)
Import Supplier Information (RF30L401I)	Supplier Master (F0401), Address Book Master (F0101)	DFM Supplier Master (FF30L401)
Import Employee Information (RF30L601I)	Employee Master Information (F060116), Address Book Master (F0101)	DFM Employee Master (FF30L601)
DFM - Import Sales Orders (RF30L801I)	Sales Order Header (F4201), Sales Order Detail (F4211)	Sales Order Master (FF30L801)
DFM Import Kanban Locations (RF31K42I)	Location Master (F4100)	DFM Kanban Location (FF31K42)

Prerequisites

To perform successful data imports, you must:

- Enter the scenario into which you want to import data in the processing options for the import program.
- Include all the jobs that you want to run in the configuration if you perform the data import using a data movement configuration.

Importing Item Definitions

Select Demand Flow® Advanced Processing (GF30L31), Import Items.

The DFM - Import Item Definitions program imports Item Branch records. Select the Unit of Measure Conversion by Branch check box in the system constants of the Branch/Plant Constants program (P41001) to determine how the unit-of-measure conversion is imported. If you select this check box, each Item Branch record that you import has its own set of unit of measure conversions.

See *JD Edwards EnterpriseOne Inventory Management 8.12 Implementation Guide*, "Setting Up the Inventory Management System," Defining Branch/Plant Constants.

Importing Work Center Master Information

Select Demand Flow® Advanced Processing (GF30L31), Import Work Centers.

Importing work centers from JD Edwards EnterpriseOne Manufacturing enables the system to validate the work center that is associated with Demand Flow® lines, processes, and cells against the Work Center Master table (F30006).

Importing Branch/Plant Information

Select Demand Flow® Advanced Processing (GF30L31), Import Branch/Plants.

Importing Bills of Material

Select Demand Flow® Advanced Processing (GF30L31), Import Bills of Material.

Importing Customer Information

Select Demand Flow® Advanced Processing (GF30L31), Import Customers.

If you want to use the company from the Customer Master table as part of the data selection when running this import, you need to activate the AR System Constant for Line of Business in the General Accounting Constants program (P0000). If you do not set this constant, the Company field is populated only for the default company 00000.

Importing Supplier Information

Select Demand Flow® Advanced Processing (GF30L31), Import Suppliers.

Importing Employee Information

Select Demand Flow® Advanced Processing (GF30L31), Import Employees.

Setting Processing Options for DFM - Import Sales Orders (RF30L801I)

These processing options control default processing for the DFM - Import Sales Orders program.

Processing

These processing options control how you run the sales order import from the JD Edwards EnterpriseOne sales order tables to JD Edwards EnterpriseOne Demand Flow® Manufacturing.

1. Supply/Demand Inclusion Rule Specify the supply-and-demand inclusion rule that you set up in the Supply/Demand Inclusion Rules program (P34004) to determine which document types, line types, and status the system uses to determine which sales orders to import to JD Edwards EnterpriseOne Demand Flow® Manufacturing.

2. Scenario ID See Chapter 3, "Integrating Demand Flow® Manufacturing with Other JD Edwards EnterpriseOne Applications," Setting Common Processing Options for Data Import and Export Programs, page 38.

Importing Sales Orders

Select Demand Flow® Advanced Processing (GF30L31), Import Sales Orders.

To run the DFM - Import Sales Orders program, you have to set up a supply-and-demand inclusion rule that defines which document types, line types, and status the DFM - Import Sales Orders program considers when importing sales order records into DFM. You set up supply-and-demand inclusion rules in the Supply/Demand Inclusion Rules program (P34004).

See *JD Edwards EnterpriseOne Requirements Planning 8.12 Implementation Guide*, "Setting Up Requirements Planning," Setting Up Supply and Demand Inclusion Rules.

When you import sales orders, the system calculates recommended start and completion dates for planning. The recommended completion date is calculated by subtracting the shipment preparation time that was entered in the planning parameters for the scenario from the promised ship date of the sales order. The recommended start date is calculated by subtracting the lean flow leadtime from the recommended completion date. The system calculates the lean flow leadtime using this equation:

Lean Flow Leadtime (Days) = $(TPc/t + (\text{Order Quantity} - 1) \times TAKT)) \div H_E$ (S)

For sales order imports, the UBE always runs in net change mode. The program adds the sales order record if it does not yet exist in the Sales Order Master table. If the record already exists, the program updates the sales order record, but does not update the planning-related fields that are based on the sales order, such as Open Quantity, Recommended Start Date, and Recommended Completion Date.

Important! For the sales order import to run successfully, you have to associate the item with a line.

See Chapter 2, "Setting Up Base Data for Demand Flow® Manufacturing," Defining Item Information, page 18.

Sales Order Import Audit Report

When you import sales orders to JD Edwards EnterpriseOne Demand Flow® Manufacturing, the import program automatically generates the DFM Import Sales Order Audit report (RF30L801). This report compares the records that are already in the table with the sales order records that you are currently importing from the JD Edwards EnterpriseOne sales order table.

The audit report lists the orders with a description of the changes as well as the current and previous values. The audit compares the following values for each record:

- Request date
- Scheduled pickup date
- Promised shipment date
- Cancel date
- Transaction quantity
- Unit of measure
- Description

Note. When you have created daily plans to meet the demand from the sales orders, you can run the DFM Sales Order Daily Plan Audit report (RF34S801) that compares the sales order records that you imported with the daily plan.

See Chapter 6, "Planning Production and Resources," Comparing Sales Orders and Daily Plans, page 148.

Exporting Data from JD Edwards EnterpriseOne Demand Flow® Manufacturing to JD Edwards EnterpriseOne Base Manufacturing

This section provides an overview of data export from JD Edwards EnterpriseOne Demand Flow® Manufacturing and discusses how to:

- Set processing options for DFM BOM Export (RF30L002E) and DFM - Export Routings (RF30L930E).
- Export or purge kanban master records.

Understanding Data Export from JD Edwards EnterpriseOne Demand Flow® Manufacturing

In some cases, you can export data from JD Edwards EnterpriseOne Demand Flow® Manufacturing to JD Edwards EnterpriseOne Manufacturing tables. When you export data from JD Edwards EnterpriseOne Demand Flow® Manufacturing, you do not use JD Edwards EnterpriseOne applications to modify that data. You make the desired changes in JD Edwards EnterpriseOne Demand Flow® Manufacturing and then export the changed records to the appropriate JD Edwards EnterpriseOne tables.

The following table lists the UBEs that are used to move data from JD Edwards EnterpriseOne Demand Flow® Manufacturing tables to the corresponding JD Edwards EnterpriseOne tables:

Export UBE	From Table	To Table
DFM Export Item Branch	DFM Item Definition Master (FF30L501), DFM Item Units of Measure Conversion Factors (FF30L512), DFM Units of Measure Standard Conversions (FF30L513)	Item Branch (F4102), Item Units of Measure Conversion Factors (F41002), Unit of Measure Standard Conversion (F41003)
DFM BOM Export (RF30L002E)	DFM Bill of Material Master (FF30L002)	Bill of Material Master (F3002)
DFM - Export Routings (R30L930E)	DFM Routings (FF30L930)	Routing Master (F3003)
Export Kanban Supply/Consumption Points (RF31K42E)	DFM Kanban Location (FF31K42)	Item Location (F41021)
Export/Purge Kanban Master (RF31K30E)	DFM Kanban Master (FF31K30)	Kanban Master (F3016), Kanban Master Tag (F3016T)

Item Branch Export

When you export item branch information from JD Edwards EnterpriseOne Demand Flow® Manufacturing back to JD Edwards EnterpriseOne programs, the system updates the Item Master and Item Branch tables with the total product cycle time that you calculated for the item, as well as the primary line that you defined for the item. The system stores total product cycle time in seconds.

Bill of Material and Routing Export

Before you can export bills of material and routings to JD Edwards EnterpriseOne Manufacturing, you have to run the Augment Line Design batch program (RF30L930) to provide sufficient data for shop floor transactions. After the Augment Line Design program has populated the FF30L930 table, the DFM - Export Routings program can move the data to the F3003 table. You export the routing only for the product's primary line.

The export renders ineffective any routing steps with a blank Type Code field that are still effective by recalculating the user-defined effective end date. The system recalculates the effective end date by subtracting 1 from the effective start date.

When you export the bill of material, the program remaps the product components to the operations of the new routing. The system renders ineffective any components that are still in effect and whose operation sequence number has changed by recalculating their effective end date. This calculation is the same as for the effective end date of the routing.

When you export bills of material and routings, the system saves them to the JD Edwards EnterpriseOne tables based on effectivity date. They do not replace existing bills of material and routings.

Kanban Supply and Consumption Point Export

When you export DFM kanban supply and consumption points to the Item Location table, the program checks whether the Location Control check box in the Branch/Plants Constants program is selected. If this check box is selected, the program validates whether the exported record exists in the Location Master table. If it does not exist in the Location Master table, the export fails. To export a kanban supply/consumption point record to the Item Location table, you have to either set up a location master record for this kanban location first, or clear the location control in the branch/plant constants.

See Also

Chapter 4, "Designing the Demand Flow® Manufacturing Line," Augmenting Line Design Data for Execution, page 108

Setting Processing Options for DFM BOM Export (RF30L002E) and DFM - Export Routings (RF30L930E)

These processing options control default processing for the DFM BOM Export program.

Processing

These processing options control the effective date and scenario ID for the exported bill of material.

1. Effective Date Specify the effective start date that the system uses for the exported bill of material or routing. If you leave this processing option blank, the current date is automatically used for the effective start date.

2. Scenario ID See Chapter 3, "Integrating Demand Flow® Manufacturing with Other JD Edwards EnterpriseOne Applications," Setting Common Processing Options for Data Import and Export Programs, page 38.

Exporting or Purging Kanban Master Records

Select Demand Flow® Kanban Management (GF31K11), Kanban Master Export.

You run the Export/Purge Kanban Master program to add, update, or delete kanbans in the Kanban Master table (F3016). You indicate that you want to update or delete a kanban by resizing it in the DFM Kanban Master program (PF31K30).

To update the kanban, resize it to the size that you want, using either the DFM Kanban Quantity field or the DFM Override Kanban Quantity field. If you enter a value that is greater than zero in the override quantity field, the program uses this quantity to update the F3016 table. If the override quantity equals zero, the program uses the quantity field, provided the value in this field is greater than zero.

To delete a kanban, set the kanban size to zero. If you resize the kanban to zero, the export deletes the kanban records both in the FF31K30 table and the JD Edwards EnterpriseOne kanban tables. The deletion purges the related records from the F3016 table, as well as the Kanban Master Tag table (F3016T) and the Kanban Card Detail table (F30161).

If the kanban that you want to delete is checked out, the program deletes the kanban master record itself, but retains the related purchase-order information, such as order number and order quantity, and prints this information on the report. If you change the quantity on a checked out kanban record, the program updates the size in the F3016 table, but does not change the purchase order data.

CHAPTER 4

Designing the Demand Flow® Manufacturing Line

This chapter provides an overview of mixed-model line design and discusses how to:

- Define a product synchronization.
- Set up mixed model families.
- Create a volume design.
- Define sequence of events.
- Define a process map.
- Calculate line design.
- Calculate total product cycle time.
- Calculate and maintain operational definitions.
- Augment line design data for execution.

Understanding Mixed-Model Line Design

The purpose of JD Edwards EnterpriseOne Demand Flow® Manufacturing is to design flow lines for producing families of similar products. The mixed model Demand Flow® line can produce a range of volumes of any product within a mixed model family on any day, based on actual customer demand.

Line design uses demand data in combination with detailed information about the manufacturing process to calculate the logical production line design that is required to manufacture products in a flow. To complete a line design, you must calculate these values:

- Operational cycle time or Takt: the calculated target of work content time to be performed by a person or machine in a Demand Flow® line or cell.
- Number of resources (machine or labor) that is required to support the line.
- Number of operations that is required to support the line.
- Number of pieces that is required for batch-driven machine operations.
- In-process kanban sizes as visual signal that indicates when work must be performed in a Demand® Flow line.
- Total product cycle time: the calculated work content through the longest path of the processes that are required to build a product.
- Actual time for completing all the processes that are required to build a product.
- Actual time weighted based on demand at capacity for each product and process combination.

Note. Creating a line design is an iterative process that is used to refine the line design. You can repeat these calculations any time that you make an adjustment.

To create a mixed-model line design, you set up a mixed-model family of products that you want to produce on the line. To accommodate the variations between these products, you define all the processes that are required to produce all the products and combine them into a product synchronization. The product synchronization enables you to concatenate the processes both in a graphical and tabular format. The graphical product synchronization is a diagram depicting the entire path, including feeder, rework, and option paths, that a product has to go through to be transformed from components into the final product. In the product synchronization, the system also calculates the amount of output, scrap, and throughput that are required to meet demand at capacity. After you have calculated the product synchronization, you create a volume design to determine what quantities of each product you want to produce based on demand at capacity and associate the volume design with the product synchronization. This association enables you to understand what quantities of each product have to be accommodated on the Demand Flow® line in one day.

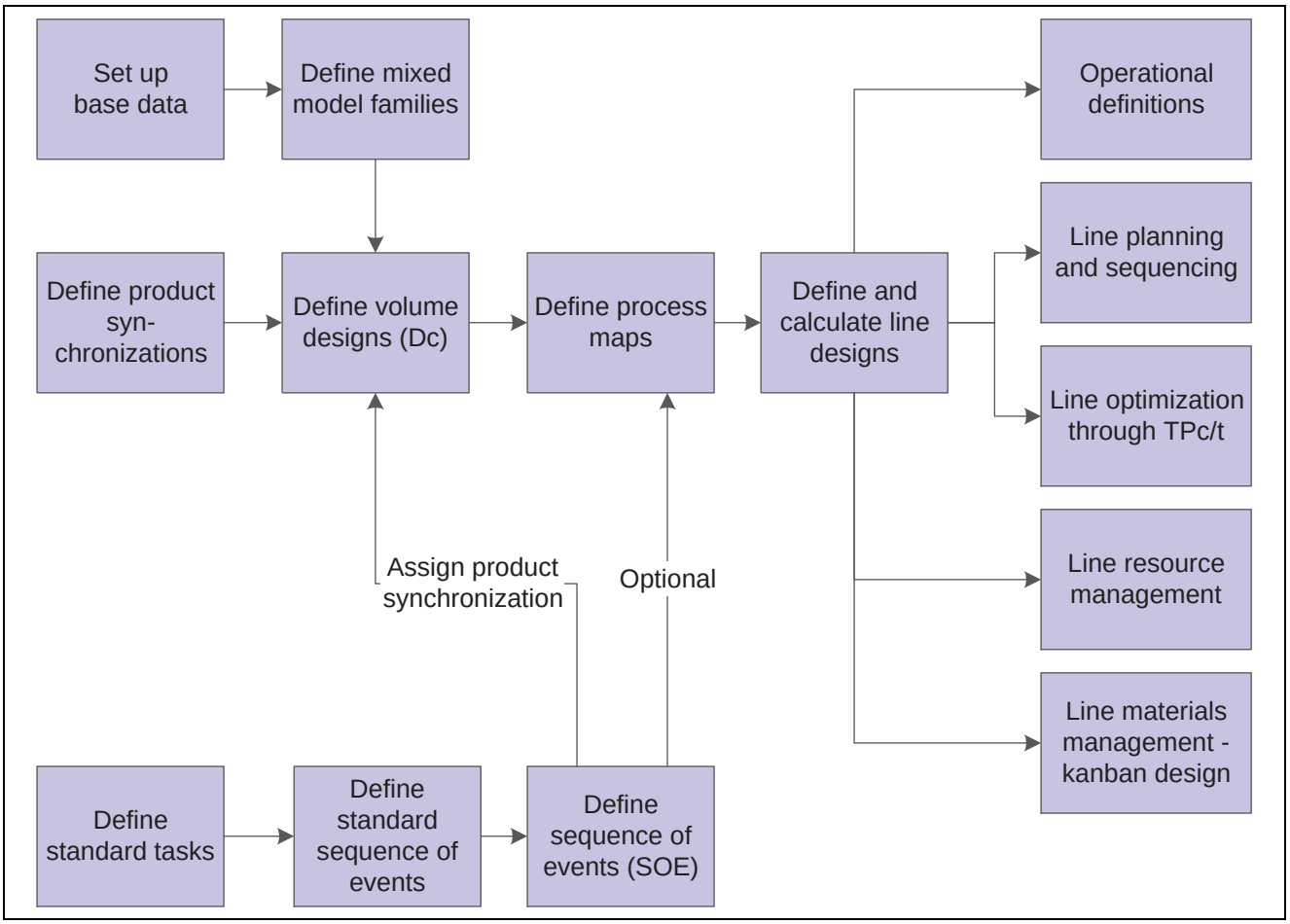
By creating a sequence of events for every process, you define the process steps or tasks that are required to complete each process. The resource times that you assign to each task are the lowest-level values that feed into the calculation of line design, total product cycle time, and operational definition. The system enables you to set up standard tasks and standard sequences of events that you can use to facilitate the sequence of events definition, but these are optional.

Based on the product synchronization and sequences of events that you created for all the processes in the product synchronization, you set up a process map that enables you to gauge the extent to which the products share processes. You can group products for production on the same Demand Flow® line based on common processes. The system enables you to compare the total actual times for the different product and process combinations to further determine similarities that support a mixed-model line design.

When you set up a line design, you import the process map into the line design and calculate the actual time that is weighted for each process based on the actual times from the process map. The system also calculates the number of operations that is required for each process. You can adjust this value manually. The system also calculates Takt as part of line design. After the line design has been calculated satisfactorily, you can calculate the total product cycle time for all the products in the process map. You can also calculate the total product cycle time by product.

JD Edwards EnterpriseOne Demand Flow® Manufacturing provides you with a tool to smooth the flow of tasks across a process to ensure a balanced work flow. Operational definition enables you to assign tasks to operations based on a calculated operational index and the number of operations that are calculated by line design. You can manually alter the operational definition.

This flow diagram provides an overview of the task that is associated with creating a line design, showing where the output from line design is used:



Line design processes

User-Defined Codes for Line Design

Use these user-defined codes (UDCs) for line design:

User-Defined Codes	Description
Active/Inactive (F30L/AC)	These codes indicate whether a scenario or a line design is active or inactive.
Balancing Technique ((F30L/BT)	These codes indicate which balancing technique is used when you calculate the operational definition. Currently, the calculation is hard-coded to use balancing by labor and machine.
Default Cell Name (F30L/DC)	This code specifies the default cell name for a process on the process map.
Default Resources (F30L/DR)	These codes specify the default resources that the system automatically associates with every process that you create.
Demand Sequence (F30L/DS)	These codes represent the values that you can use to define the design selection for the process map. The design selection determines the source of labor and machine times that the system uses when calculating line design.

User-Defined Codes	Description
Demand Type (F30L/DT)	These codes indicate the source for demand at capacity in volume design.
DFM Default Process Names (F30L/HP)	These codes represent the default processes that the system associates with each new scenario that you create. These processes are automatically added to the F30L701 table. You can change the process names.
External/Internal (F30L/IE)	These codes indicate whether the machine setup for setup or move tasks on the sequence of events or standard sequence of events is internal or external.
Operational Definition Calculation Basis (F30L/OC)	These codes indicate whether the operational definition is calculated based on the sequence of events or on a previously calculated operational definition.
Path Type Selection Filter (F30L/PS)	These codes represent the path types that you can select when working with product synchronization. You can set a processing option for the Path Revision program (PF30L702) to determine path-specific versions for this program.
Path Types (F30L/PT)	These codes represent the types of paths that you can use on the product synchronization.
Resource Type (F30L/RT)	These codes represent the available resource types. Currently, you can assign labor and machine resources. You can change the default resource names.
SSOE Comparison (F30L/SO)	The system uses these codes for the sequence of events to characterize differences between sequence-of-events (SOE) information and standard sequence-of-events (SSOE) information. For example, if you changed the standard sequence of events that the sequence of events is based on, theSSOE Comparison field displays one of these codes.
Sequencing Capability (F30L/SQ)	These codes represent the sequencing options that you can select for a line design.
TQC Criteria (F30L/TC)	When you define a task, these codes provide the values for defining total quality control criteria (TQC).
Transaction Status (F30L/TS)	These codes indicate the sources of time information that you can choose when calculating total product cycle time.
Line Design Type (F30L/TY)	These codes indicate what type of line design you create based on the process map that you select.
Work Type (F30L/WT)	These codes indicate the type of work for a task.

See Also

JD Edwards EnterpriseOne Tools 8.96 Foundation Guide

Prerequisites

Provide the following information either by entering it through the base data setup programs or by importing it from other JD Edwards EnterpriseOne applications:

- Scenario and user profile.
- Items.
- Bill of material.
- Machine and labor resources.

Common Fields Used in This Chapter

Process Name	Enter a name for a grouping of logical and functional manufacturing steps that are required to produce an end product.
Product Synchronization	Define the concatenation of processes that are required to produce an end product.
Sequence of Events	Define the tasks that make up a process sequentially. Enter task times and required resources.
Volume Design	Define the allocation of demand at capacity to selected products from the mixed model family.
Volume Selection	Determine the source for the demand at capacity value that is used for the volume design.
Work Center and **Line Design Work Center**	Complete this field to define a work center if you are integrating JD Edwards EnterpriseOne Demand Flow® Manufacturing with JD Edwards EnterpriseOne Manufacturing. If you have not selected the integration option for the scenario, this field does not appear.
Work Center Branch	Displays the branch with which you have associated the work center.

Defining a Product Synchronization

This section provides an overview of product synchronization, lists a prerequisite, lists common fields, and discusses how to:

- Define processes.
- Set processing options for Path Revision (P30L702).
- Add a product synchronization.
- Create a graphical product synchronization.
- Edit product synchronizations in the tabular view.
- Revise process properties.

Understanding Product Synchronization

Product synchronization defines the phased relationship of all manufacturing processes that are required to build a product. Product synchronization supports line design by concatenating processes to reflect actual production paths. JD Edwards EnterpriseOne Demand Flow® Manufacturing provides a tool that enables you to construct the product synchronization in a graphical interface, thus creating a visual impression of what the production line might look like.

You can create multiple product synchronizations based on an inventory of the processes that you use in the manufacturing environment. You define processes using the Process Master program (PF30L701). Processes can be reused throughout the product synchronization. You combine processes into physical and logical chains by linking them to a path. You build a product synchronization using the following paths:

- Main line.
- Rework paths.
- Feeder paths.
- Option paths.

The main line processes are the processes that most, if not all, products go through. These processes typically go straight to the end-of-line process. The main line may include feeder, rework, and option paths. When you set up a scenario, the system automatically defines an end-of-line process, as well as a scrap process, and stores these two default processes in the FF30L701 table. The end-of-line process is the required last process on the main line in any product synchronization. You cannot edit or delete this process.

You define rework paths to provide the ability to recover at least part of the product that would otherwise be scrapped. Rework paths are a series of processes that flow against the main flow of the line. Any process for which you defined yield as less than 100 percent has to have a rework path or a scrap process attached to it. When you attach a rework path to a process, you define the rework percentage and the number of rework loops. Rework paths can have many loops. Rework paths are subject to these rules:

- A rework path must flow back to its originating path upstream.

  It can return to its originating process just before the originating yield and fallout task.
- You can attach other rework paths to a rework path.
- You can attach a feeder path to a rework path.
- You cannot attach an option path to a rework path.
- Rework paths cannot rejoin the downstream processes without returning to the same or previous process.
- Rework paths cannot go to the end-of-line process directly.

Feeder paths are branch processes that feed directly into a consuming operation. They build a portion of the product that feeds into the final product. Feeder path processes are consumed as a continuous grouping. They can contain additional rework and option paths. When you attach a feeder path to a process, you define the consumed quantity. Feeder paths are subject to the following rules:

- You can attach feeder paths to other feeder path processes, rework path processes, option path processes, and main line processes.
- Feeder paths parallel main line processes.

Option paths consist of processes that are used only by some of the products flowing down the line. They parallel the main line and can either continue to the end-of-line process or return to the main line. When you attach an option path to a process, you define the planned and designed percentage that is required to go through the option line. Option paths are subject to the following rules:

- Option paths should return to the same paths where they originate.
- Option paths cannot rejoin upstream processes.
- You can attach a rework path to any process within the option path.
- Option paths can return to the processes where they originate.

Note. You can delete a process only if it is not attached to a process synchronization or to any other path.

Graphical Product Synchronization

The Graphical Product Synchronization program (PF30L703) enables you to design product synchronizations, as well as feeder, rework, and option paths, individually.

The Graphical Product Synchronization uses the Scalable Vector Graphics (SVG) Adobe Viewer for displaying the graphics that are associated with the product synchronization. The program automatically detects the SVG Viewer if it is already installed for the browser. If the SVG Viewer is not installed for the browser, the system displays a link that you can use to install the SVG Viewer from the Adobe website.

Note. SVG is a graphics file format and web development language based on XML that enables dynamic creation of high quality graphics with precise structural and visual control. It is based on standards that are defined by the World Wide Web Consortium (http://www.w3.org/TR/SVG/).

See Adobe SVG Viewer Download Area, http://www.adobe.com/svg/viewer/install/main.html.

You access the graphical functionality of this tool by clicking any of the buttons at the top of the graphical interface. These buttons are available depending on where you are on the product synchronization and based on the rules that are defined for the different path types. When you start to create a product synchronization, the only option that is available to you is to insert a process. When revising an existing product synchronization, you must select the process that you want to attach a path to and then select an available option based on the rules. For example, if you select a rework path, the button for attaching an option path is disabled because you cannot attach an option path to a rework path. The graphical product synchronization enables you to perform the following actions:

- Insert and remove a process.
- Edit a process.
- Attach a feeder path.
- Attach a rework path.
- Attach an option path.
- Remove a path.
- View path and process properties.

When you click any of the buttons for inserting processes or attaching paths, the system displays forms that list the processes or paths that are available for adding to the product synchronization. Because you have already defined default yield, rework, and scrap percentages for processes, the system prompts you to edit or accept these values when you add a process to the product synchronization. When you add a rework path, the system prompts you to enter the following values:

- Rework percent.
- Number of rework loops.

The system provides a method to control the display of the graphical product synchronization. As the structure becomes more complex, paths may overlay each other, making it more difficult to differentiate them from adjacent paths. To make a given path or process more visible, you can selectively dim the display of surrounding product synchronization paths and processes. You have the following options to control the display of the graphical product synchronization:

- Dim Mode: Dim a selected path and its child paths.
- Un-Dim Mode: Undim a selected dimmed path, as well as its child and parent paths.
- Dim All: Dim all paths except the main paths.
- Un-Dim All: Undim all dimmed paths.

If you navigate out of the graphical product synchronization to another form, using a form interconnect, for example, to add paths or to switch to the tabular view, the system preserves the dim state of all paths. When you return to the graphical product synchronization, all the paths that were dimmed before are still dimmed. If you quit the Manage Product Synchronizations form, the dim settings that you specified are lost.

You do have the option to save the dim settings that you specified before closing the application. When you save the dim settings for a product synchronization, the program saves the selected product synchronization with the dim settings for each component to the Graphical Product Synch Properties table (FF30L705).

When you return to the application and retrieve a graphical product synchronization that you previously saved with specific dim settings, the system retrieves these settings from the table and displays them as they were when you saved them in the previous session.

The program also offers a tabular view of product synchronization. You can use this view to create or revise a product synchronization as well. In the tabular view, the system indicates for each process that you have included in a path whether a feeder, option, or rework path is attached. When you attempt to attach a feeder, rework, or option path where the rules do not permit you to do so, the system issues an error message.

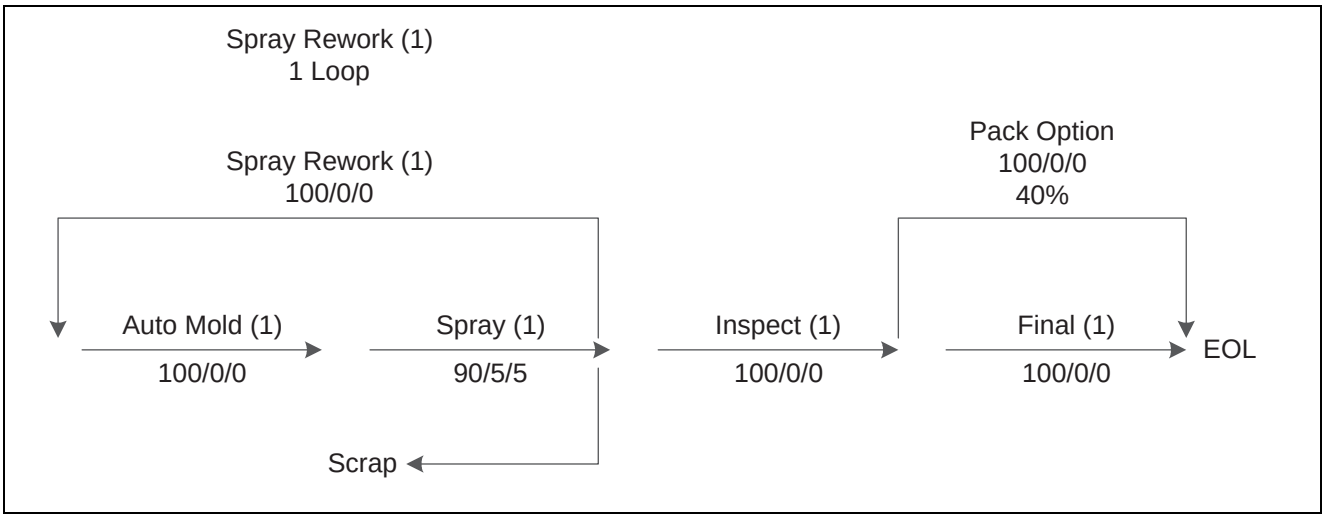
Note. To set up product synchronizations, as well as feeder, option, and rework paths, you use the same programs (PF30L702 and PF30L703) in different versions. When you select the appropriate menu option, the system takes you to the correct version based on processing options.

Calculating Throughput and Output

After you have added all the processes and paths that you need to the product synchronization, you can calculate the planned throughput percentage, planned output percentage, and planned scrap percentage for all the processes that are included in the product synchronization. You calculate these values when you click the Save and Calculate button on the Manage Product Synchronizations form. To view the product synchronization and the calculation results, print the Product Synchronization Results report (RF30L704).

The product synchronization calculation is based on a derivative method of determining the flow within a capacitated network. You enter a value called *X* at the start of the line. Each process processes a certain quantity of X and sends it to the next process on the path or line. The proportion of X that is carried forward to the next process is based on the percentage of yield that is defined for the process. It also depends on what rework, option, and scrap factors you have defined for the process. For example, a process with 100 percent yield and no option, rework, or scrap passes 1 (X) to the downstream processes. The amount of X that reaches the end of the line is used to calculate the final X factor. For example, if .875X (87.5 percent) of the product reaches the end of the line, then the X factor is calculated like this: 1 ÷.875 = 1.14286. This factor is then applied to the starting process to determine the associated throughput, output, and scrap percentages for each process.

The following product synchronization diagram shows an example of a main line with one rework and one option path:



Product synchronization

You calculate throughput, output, and scrap using the following steps:

1. Wet the line with X number of units.

   The auto mold process has a yield of 100 percent. Thus, both throughput and output remain at X.

   The spray process has a throughput of X. However, because it has 5 percent scrap and 5 percent rework, a quantity of 0.05X leaves the system as scrap. 0.05X is rework. That means that the net output of the spray process to inspection is 0.95, consisting of the 0.9X net usable output from spray plus 0.05X from the spray rework path.

   The inspect process has 100 percent yield; therefore, its throughput and output is 0.9X.

   Forty percent of the inspect process output goes to the pack option path. You calculate the amount of inspect process output that is going through the option path like this: $0.9X \times 40\% = 0.36X$. The remaining 0.54X of the inspect process output goes through the final process.

   The following table summarizes the calculations for each process:

Process	Throughput	Output
Automold	X	X
Spray	X	0.95
Scrap	0.05 X	0.05X
Spray Rework	0.05X	0.05X
Inspect	0.9X	0.9X
Final	0.54X	0.54X
Pack Option	0.36X	0.36X

2. Walk through the line again, taking into account all rework and using the following conditions:
   - Quantities that flow through a process a second time, because the number of rework loops is set to one, are not reworked or scrapped.
   - In addition to the rework quantity, new product is now flowing through the line.

The auto mold has new product input of X plus 0.05X coming in as rework. Throughput and output for this process thus equal 1.05X.

The spray process has a throughput of 1.05X. Because 0.05X (input from rework) is not reworked or scrapped, this quantity moves on to the inspect process. The new product input of X, however, does have to go through scrap and rework. Thus, you calculate the net output of the spray process like this: 0.9X (new output to inspect) + 0.05X (new product scrap) + 0.05X (old rework from auto mold) = X.

Throughput and output for the inspect process is 0.95X (new product output from spray + old rework output of spray).

The pack option path takes 40 percent of this output. Hence, its throughput and output are both 0.38X.

The final process takes the remaining 0.57X as its throughput. Because it has a 100 percent yield, its output is 0.95X as well.

3. Set the output at the end of the line to *1* and solve for X.

   The end of the line has as its input 0.95X. Because the quantity at the end of the line is assumed to be D_c, 0.95X equals D_c. If you set D_c to *1* and solve for X, the result is X = 1.05263. You calculate the throughput and output for each process based on this value.

The following table displays the calculated values:

Process	Path	Auto Mold	Spray	Spray Rework	Scrap Percent	Inspect	Pack	Final	End of Line
Main Path	Main	Main	Main	NA	NA	Main	NA	Main	Main
Feeder Path	NA	NA	NA	NA	NA	NA	NA	NA	NA
Rework Path	Spray Rework	NA	NA	Spray Rework	NA	NA	NA	NA	NA
Option Path	NA	NA	NA	NA	NA	NA	Pack	NA	NA
Input/ Output	NA	1.05X/ 1.05X	1.05X/1X	0.05X/ 0.05X	0.05X/0	0.95X/ 0.05X	0.38X/ 0.38X	0.57X/ 0.57X	0.95X

Prerequisite

Install the Adobe SVG Viewer.

Common Fields Used in This Section

Print Last Calculated Click to print the Product Synchronization Results report (RF30L704).

Save and Calculate Click to calculate throughput, output, and scrap percent for each process and save the product synchronization. You have to calculate the product synchronization to make it available for line design.

Note. If you make changes to a product synchronization, you have to recalculate it. Otherwise, the changes are not available to other applications. If you have associated process maps with a product synchronization, you have to save the changes to each process map.

Save Changes and **Save and Close** Click either one of these buttons to save the changes that you made to the product synchronization; however, the system does not perform the calculations.

Yield Percent, Rework Percent, and **Scrap Percent** Set up the default values for these fields in the Process Master program (PF30L701). When you attach the process to a path, you can override these values for this specific path on the Edit Process Properties form or on the tabular view for the product synchronization.

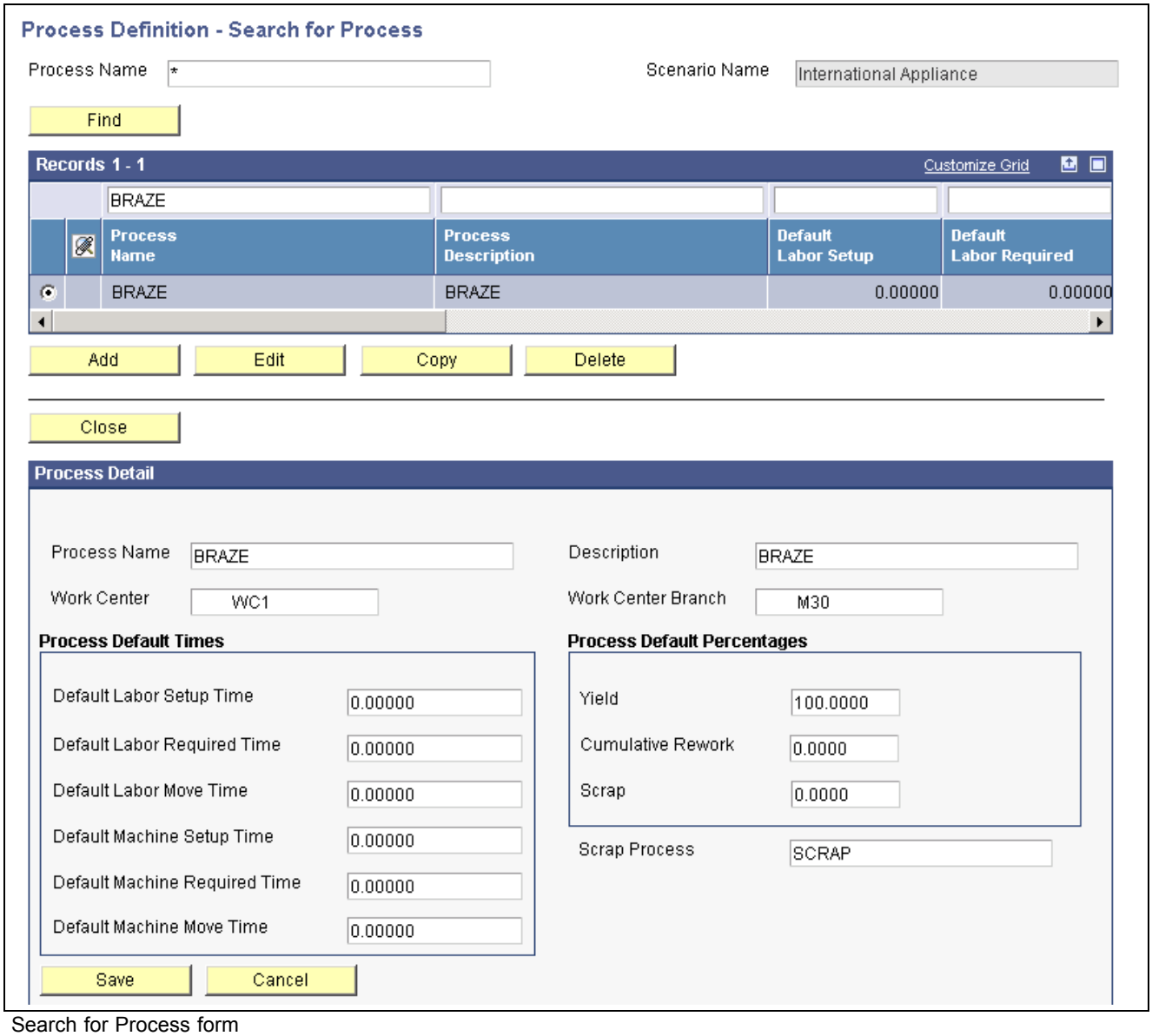
Forms Used to Define a Product Synchronization

Form Name	FormID	Navigation	Usage
Search for Process	WF30L701A	Line Design Management (GF30L21), Process Definition	Define the processes that are required for setting up a line design and define their properties.
Select Product Synchronization	WF30L702B	Line Design Management (GF30L21), Product Synchronizations	Add product synchronizations.
Select Feeder	WF30L702B	Line Design Management (GF30L21), Feeder Paths	Define feeder paths that you can use in a product synchronization.
Select Option	WF30L702B	Line Design Management (GF30L21), Option Paths	Define option paths that you can use in a product synchronization.
Select Rework	WF30L702B	Line Design Management (GF30L21), Rework Paths	Define rework paths that you can use in a product synchronization.
Manage Product Synchronizations	WF30L703A	Select a product synchronization name and click the Edit button on the Select Product Synchronization form.	Create graphical product synchronizations by using the graphical tool to concatenate processes and paths.

Page Name	Object Name	Navigation	Usage
Manage Feeder Paths	WF30L703A	Select a feeder path name, and click the Edit button on the Select Feeder form.	Use the graphical tool to concatenate processes into a feeder path.
Manage Option Paths	WF30L703A	Select an option path name, and click the Edit button on the Select Option form.	Use the graphical tool to concatenate processes into an option path.
Manage Rework Paths	WF30L703A	Select a rework path name, and click the Edit button on the Select Rework form.	Use the graphical tool to concatenate processes and paths into a rework path.
Attach Feeder Path	WF30L704C	Click the Attach Feeder button on the Manage Product Synchronizations form.	Select a feeder path or define a new feeder path.
Attach Option Path	WF30L704B	Click the Attach Option button on the Manage Product Synchronizations form.	Select an option path or define a new option path.
Attach Rework Path	WF30L704A	Click the Attach Rework button on the Manage Product Synchronizations form.	Select a rework path or define a new rework path.
Manage Product Synchronization	WF30L702A	Click the Tabular View link on the Manage Product Synchronizations form.	Edit a product synchronization in the tabular view.
Manage Feeder	WF30L702A	Click the Tabular View link on the Manage Feeder Paths form.	Edit feeder paths in the tabular view.
Manage Option	WF30L702A	Click the Tabular View link on the Manage Option Paths form.	Edit option paths in the tabular view.
Manage Rework	WF30L702A	Click the Tabular View link on the Manage Rework Paths form.	Edit rework paths in the tabular view.
Edit Process Properties	WF30L704D	• Click the Insert Process button on the Manage Product Synchronizations form. Select a process, and click the Select and Close button on the Add Process form. • Select a process on the Manage Product Synchronization form, and click the Edit Process button.	Revise process properties for the path by defining specific yield, rework, and scrap percentages.

Defining Processes

Access the Search for Process form. Click Add.



Search for Process form

Process Name — Enter the a name for the process that is unique within JD Edwards EnterpriseOne Demand Flow® Manufacturing. When you define a process, the system automatically attaches a default labor and a default machine resource to the process.

Work Center — Enter a work center for the process that you are defining. You can select only work centers of type 0 (standalone work center).

Default Labor Setup Time, Default Labor Required Time, and **Default Labor Move Time** — Enter values for the labor operations that are used in a process.

The values that you enter in these fields are for reference only.

Default Machine Setup Time, Default Machine Required Time, and **Default Machine Move Time**

(Optional) Enter values for the machine operations that are used in a process.

The values that you enter in these fields are for reference only.

Scrap

Enter the name of the scrap process to be used as a default when you are creating or updating paths.

Setting Processing Options for Path Revision (PF30L702)

These processing options control default processing for the Path Revision program.

Defaults

These processing options control the default display of the Manage Product Synchronizations form.

1. Path Type (Required)

Specify path type this form is set up for when you access the form. Values are:

FD: Feeder path.

OP: Option path.

PS: Product synchronization.

RW: Rework path.

SA: Select all.

These values are stored in the Path Type Selection Filter UDC table (F30L/PS). If you leave this processing option blank, the system uses *PS* as the default value.

Versions

This processing option controls the version that the system calls when you run the following program from the Graphical Product Synchronization program:

1. Product Synchronization Results (RF30L704)

If you leave this processing option blank, the system uses the default version XJDE0001.

Process

This processing option controls whether you can remove a process from a full product synchronization.

1. Remove Process on Full Product Synchronization

Enter *1* to enable this functionality. If you enable this functionality, you can remove processes from the main path, feeder paths, option paths, and rework paths.

If you leave this processing option blank, you can remove processes only from the main path, but not from the attached paths.

Note. If you remove a process from a path that appears more than once in the same product synchronization, or that appears in multiple product synchronizations, this change affects every instance of this path.

After you remove the last process from a path, the path is deleted.

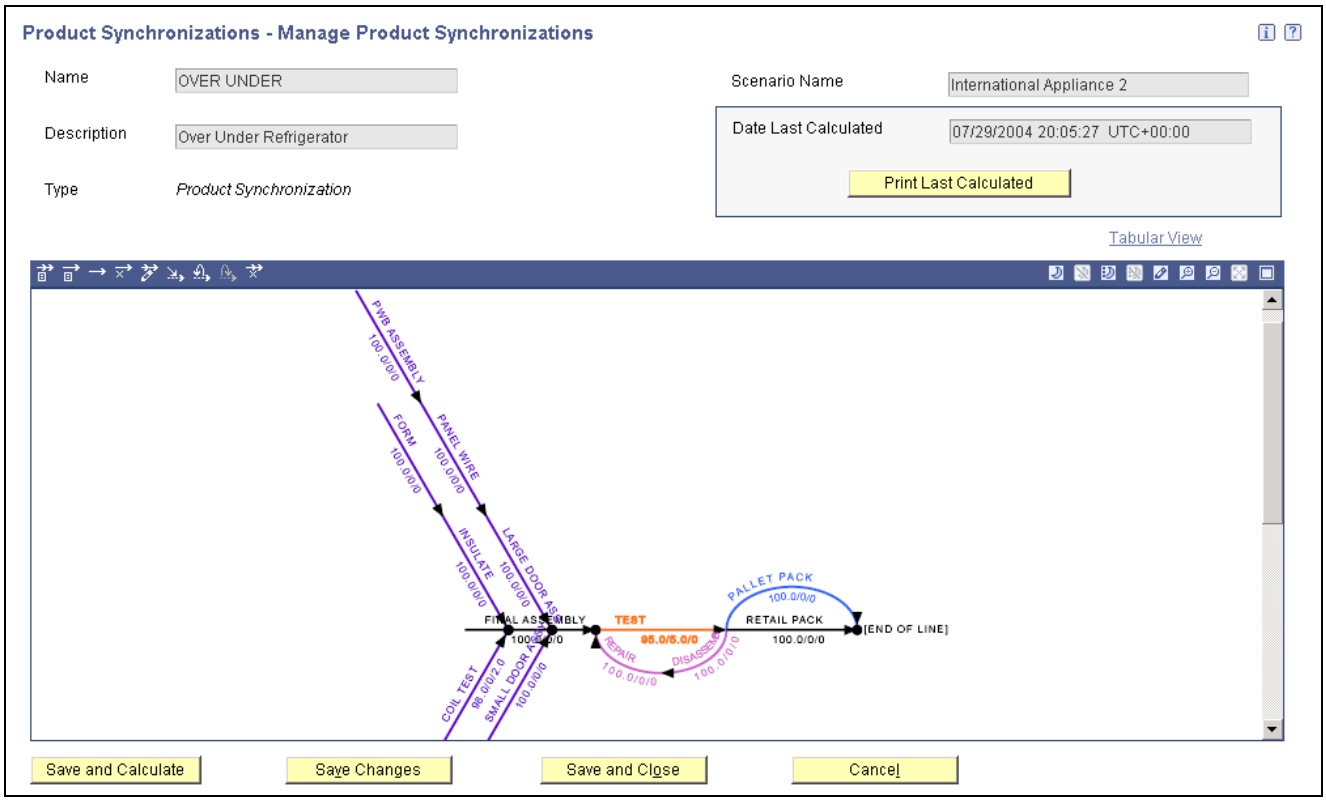
Adding a Product Synchronization

Access the Select Product Synchronization form. Click the Add button.

Enter a name and description for the product synchronization that you are creating. You access different versions of the same program to define option, feeder, and rework paths.

Creating a Graphical Product Synchronization

Access the Manage Product Synchronizations form.



Manage Product Synchronizations form

When you access the forms for creating feeder, option, and rework paths, the program offers the same fields and functions.

View Path Properties Click to view path name, description, and path type.

View Process Properties Click to view process name, description, and sequence number on the path. You can also review process attributes, such as consumed quantity, yield, rework, and scrap percent.

Insert Process Click to open the Select Process name form. Select the process that you want to insert into the product synchronization.

Remove Process Select a process and click this button to remove the process. If you have set the processing option to prevent process deletion, this button is disabled for processes on attached paths.

You can delete processes from the main path, even if you have set the processing option to prevent process deletion. However, you cannot delete main line processes if you have attached other paths to these processes.

Edit Process Click to access the Edit Process Properties form. You can change the consumed quantity and the scrap percent value.

Attach Feeder Select a process to which the system enables you to attach a feeder path, and click this button. Select the feeder path that you want to attach from the Attach Feeder Path form.

Attach Rework Select a process to which the system enables you to attach a rework path, and click this button. Select a rework path from the Attach Rework Path form, and enter the rework percentage and number of rework loops.

Attach Option Select a process to which the system enables you to attach an option path, and click this button. Select an option path from the Attach Option Path form, and enter the design and planned percent values.

Remove Path Click to remove a selected path from the product synchronization.

Enable Dim Mode Click to enable you to dim selected paths in the product synchronization. After clicking this button, select a path, and the system lowers the display intensity of the path, as well as its child paths. Disable this mode to return to the normal product-synchronization mode that enables you to select, insert, attach, or remove processes or paths.

Un-Dim Mode Click to enable you to return selected paths in the product synchronization to their original intensity. After clicking this button, select a path, and the system returns the selected path, its child, and its parent paths to their original intensity.

Important! The system does not undim sibling paths. For example, if a parent path and its two child paths are dimmed and you select one child, the system undims this child path and the parent path, but not the other child path.

Disable this mode to return to the normal product-synchronization mode that enables you to select, insert, attach, or remove processes or paths.

Dim All Paths Click to dim all paths except the main path. You can insert or remove processes and paths. If you attach a path to a dimmed path, the path that you attach is also dimmed.

Un-Dim All Paths Select to undim all paths that were previously dimmed.

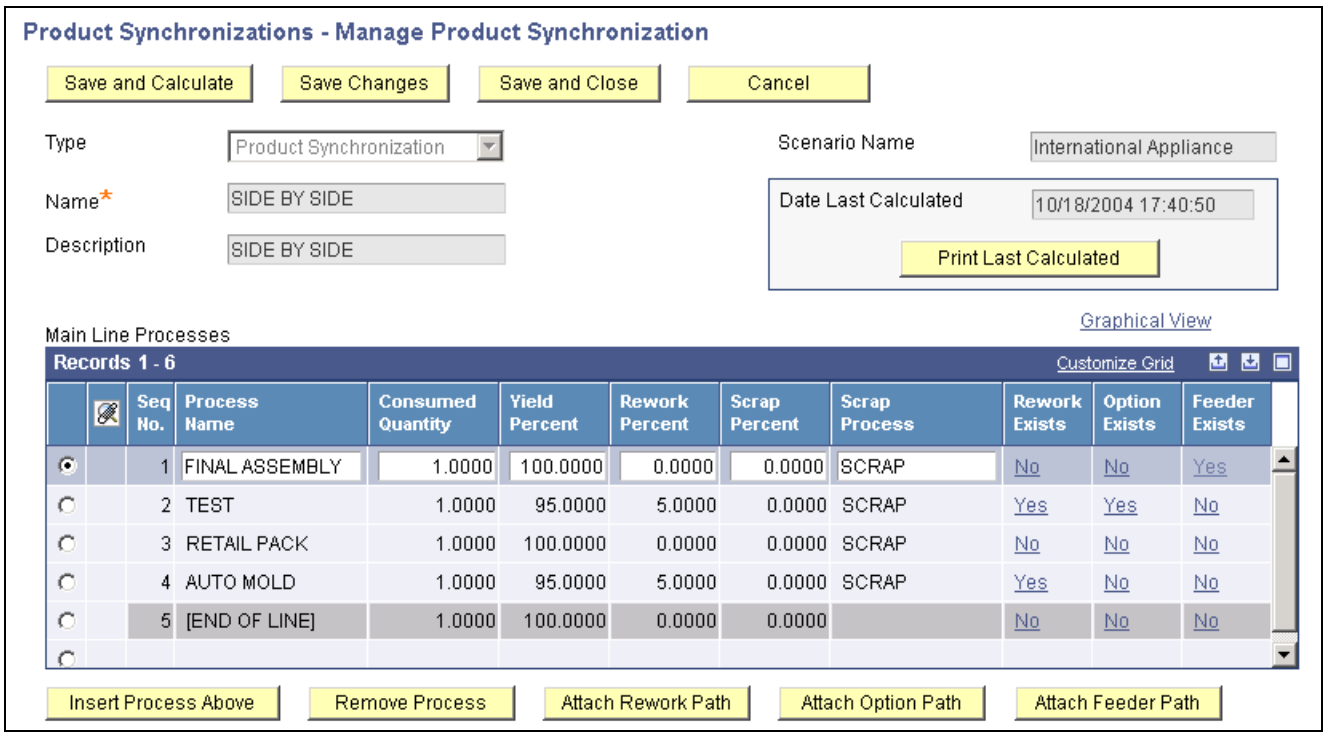
Save and Close Click to save the product synchronization. Clicking this button also saves the dim path settings. To save the dim path settings, the program calls the`Set PSYNC View Table` system function to pass in the name of the Graphical Product Synch Properties table (FF30L705) and save the dim path settings to the Graphical Product Synch Properties table.

Tabular View Click if you want to review and edit the product synchronization in a table. The system prompts you to save the graphical view before switching to the tabular view. When you switch back to the graphical view, you are prompted to save again.

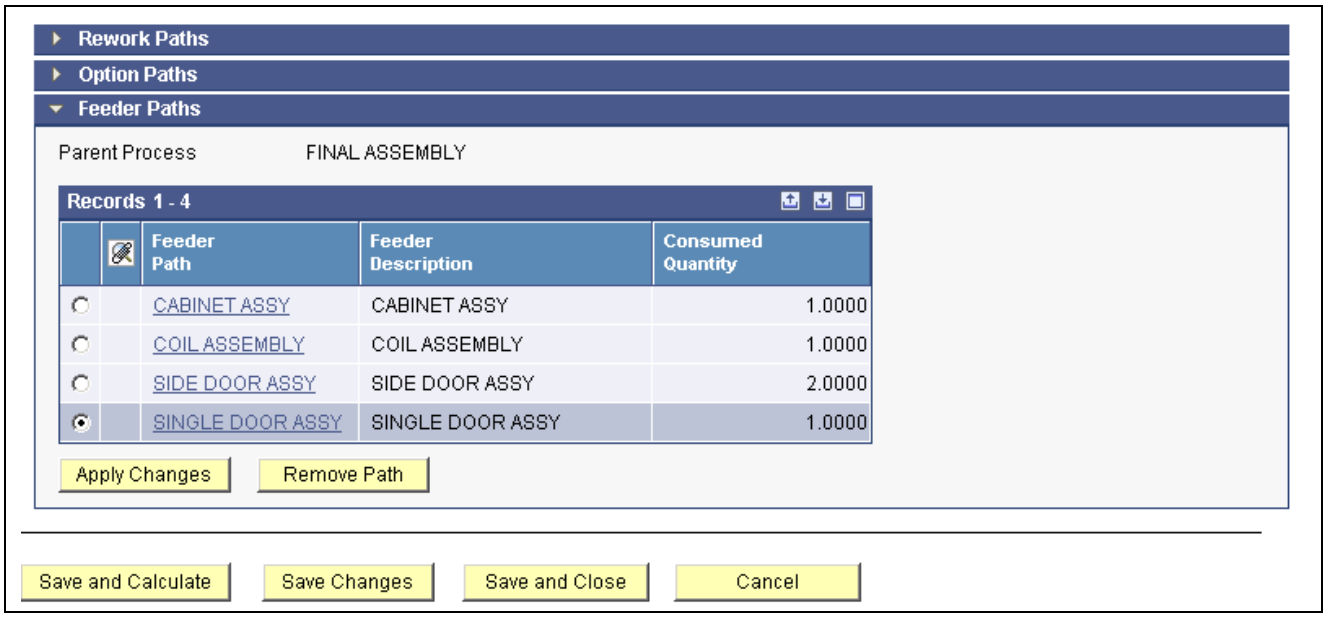
Note. Ensure that you add the end-of-line process before you switch to the tabular view. If you do not include an end-of-line process, the system does not save the product synchronization when you switch to the tabular view.

Editing Product Synchronizations in the Tabular View

Access the Manage Product Synchronization form.



Manage Product Synchronization form (1 of 2)



Manage Product Synchronization form (2 of 2)

Insert Process Above Select a process, and click this button to insert a process on the path before the selected process.

Remove Process Select a process, and click this button to remove the process.

When you click this button, the system does not remove the process from the database. When you click any of the save buttons, the system saves the changes to the database and refreshes the sequence numbers.

Attach Rework Path

Select the process to which you want to attach a rework path, and click this button to select the path. Select the rework path that you want to attach on the Search and Select Rework form. The system expands the Rework Paths tab and enters the selected rework path in the grid.

Define the rework percentage and number of loops for the rework path, and select the consuming process. You can select only a consuming process that is an upstream process or the process where the rework path originates.

Attach Option Path

Select the process to which you want to attach an option path, and click this button to select the path. Select the option path that you want to attach on the Search and Select Option form. The system expands the Option Path tab and enters the selected option path in the grid. Define the planned and designed percentage for the option path, and select the consuming process.

The planned percent value identifies the maximum percentage that is required to go through the option line. The design percent value is used by the product synchronization and represents the quantity that you would typically expect through the option path.

You can select only a consuming process that is downstream from the process where the option path originates.

Attach Feeder Path

Select the process to which you want to attach a feeder path, and click this button to select the path. Select the feeder path that you want to attach on the Search and Select Feeder form. The system expands the Option Path tab and enters the selected feeder path in the grid. Define the consumed quantity that the feeder path feeds into the main line.

Apply Changes

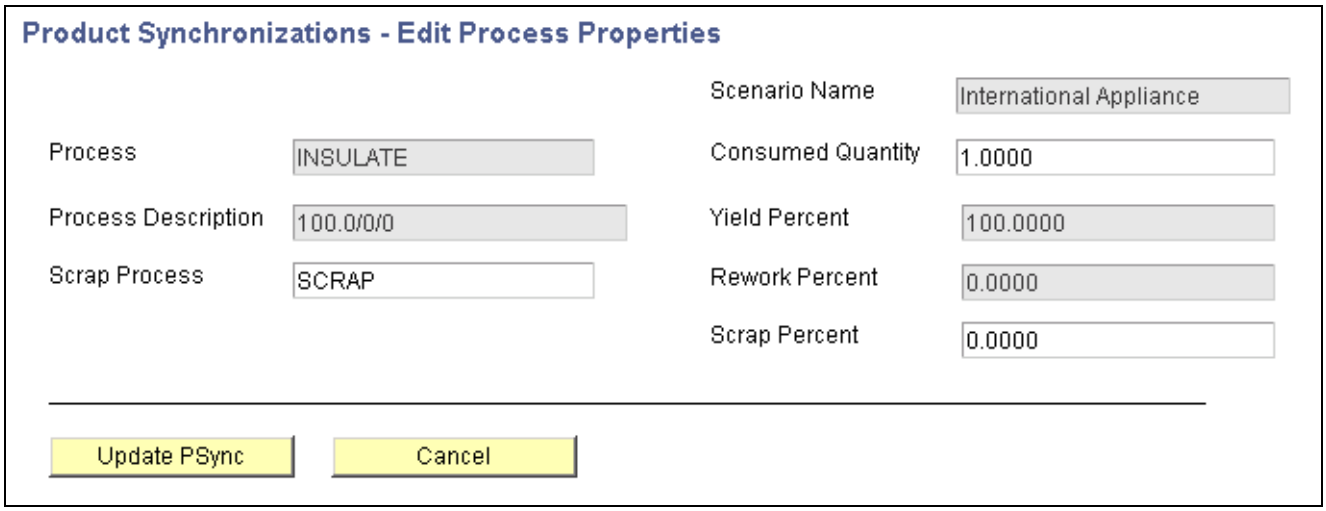
Click to display the changes on the form. The system does not save the changes until you click any of the Save buttons on the form.

Rework Exists, Option Exists, and **Feeder Exists**

These fields indicate whether rework, option, or feeder paths are currently attached to a process.

Revising Process Properties

Access the Edit Process Properties form.



Edit Process Properties form

Consumed Quantity Enter the quantity that this process receives from the previous process or a feeder in the product synchronization. This value has to be greater than 1; otherwise, the system issues an error message.

Update PSync (update product synchronization) Click to apply the changes to the product synchronization.

Setting Up Mixed Model Families

This section provides an overview of mixed model families and discusses how to set up mixed model families.

Understanding Mixed Model Families

A mixed model family of products is a group of products with similar characteristics. Because of these similarities, these products can share production processes. After you have defined mixed model families using the Mixed Model Family Definition program (PF30L101), you attach them to product synchronizations that define the relationship of processes in a flow to produce the family of products. You can set up option paths on the product synchronizations to define the processes that are required to produce product variations, for example, different product colors.

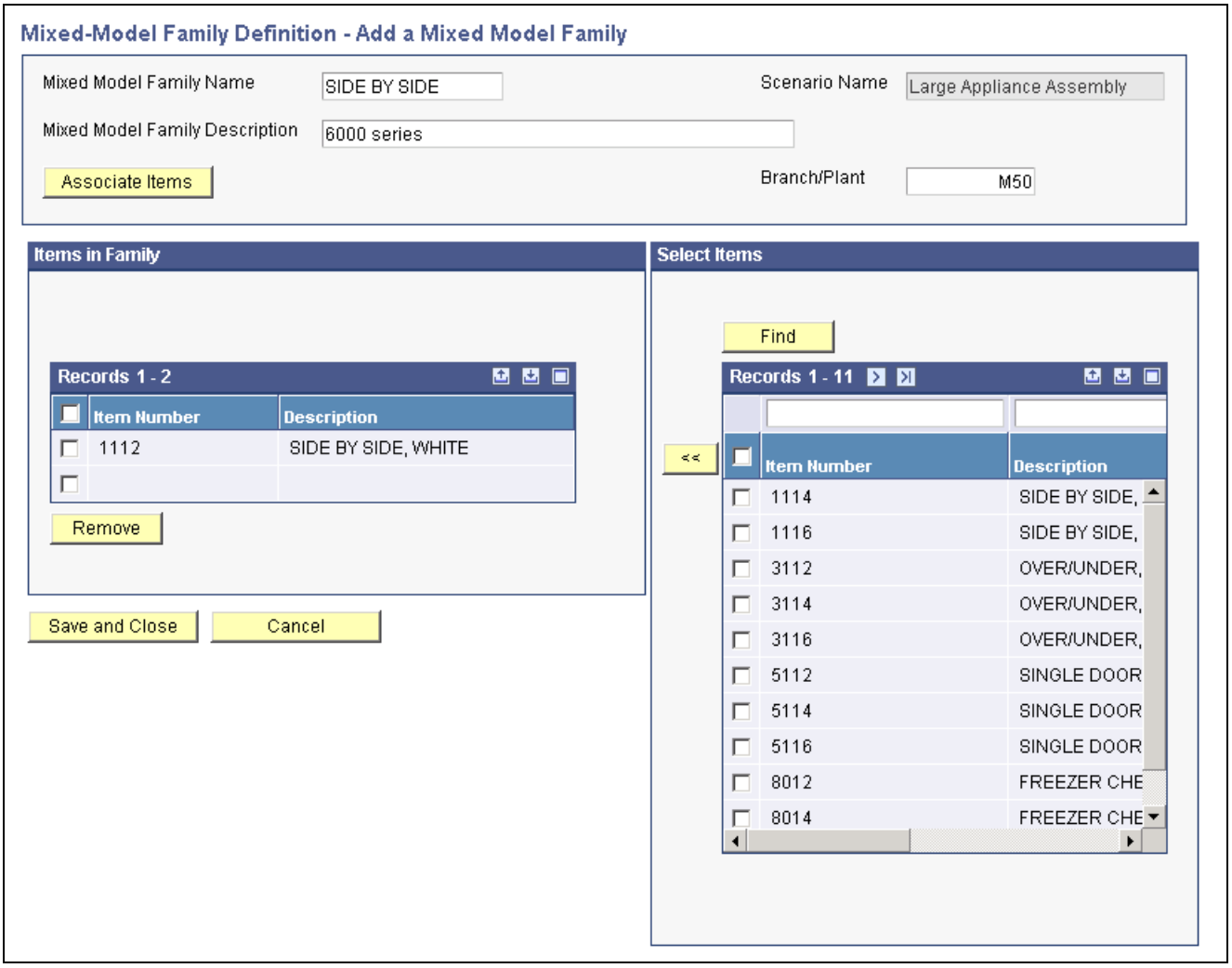
In addition, you can define a mixed model family by similar total times by product, similar total times by process, and common materials.

Form Used to Set Up Mixed Model Families

Form Name	FormID	Navigation	Usage
Add a Mixed Model Family	WF30L101B	Line Design Management (GF30L20), Mixed Model Family Definition Click the Add button on the Search for Mixed Model Families form.	Set up a mixed model family and associate it with a branch/plant.

Setting Up Mixed Model Families

Access the Add a Mixed Model Family form.



Add a Mixed Model Family form

Mixed Model Family Name Enter a name for the mixed model family of products that you are defining based on common processes and materials. You can delete a mixed model family only if you have not yet associated it with a volume design.

Branch/Plant Enter the branch/plant for the mixed model family that you are defining. You can associate products with only the mixed model family that shares the same branch/plant.

Associate Items Click to retrieve items from the DFM Item Definition Master table (FF30L501) and include them in the mixed model family that you are setting up. The available items appear in the Select Items grid. The grid displays only items that belong to the same branch/plant as the mixed model family that you are setting up.

Use the arrow button to add items from the Select Items grid to the mixed model family. The items that are included in the mixed model family appear in the Items in the Family grid. The items that you add to the mixed model family are stored in the Mixed Model Family Items table (FF30L102).

Creating a Volume Design

This section provides an overview of volume design, lists prerequisites, and discusses how to:

- Set processing options for Volume Design and Product Synchronization (PF30L201).
- Assign demand at capacity to a mixed model family.
- Define independent demand for products.
- Set processing options for EMD Exploded BOM Processing (PF30L153).
- Calculate dependent demand for subassemblies.
- Assign a product synchronization to an item.

Understanding Volume Design

Demand at capacity (Dc) is the highest targeted volume of product, as defined by management, to be produced on a manufacturing line, typically in one day. You use Demand Flow® techniques to create a line design that supports output to match demand at capacity.

The Volume Design and Product Synchronization program (PF30L201) enables you to:

- Define demand for mixed model families and products within each family.
- Define demand for subassemblies that are used to build products.
- Assign a product synchronization to each product.

When you define a volume design, you associate it with one or more mixed model families and enter the volume for each mixed model family. The system stores this volume assignment in the FF30L202 table.

You can qualify the volume that you enter by assigning one of the following demand types:

- Statistical/historical percent.
- Target capacities.
- User-defined.

Note. Currently, you can use only target capacities as a demand type.

After assigning a volume on the mixed-model family level, you specify the demand for products within mixed model families. The system provides two methods for entering demand for individual products:

- Assign individual product volume as a percentage of the mixed-model family volume.

  To assign volumes to individual products in a mixed model family, you must select the products that you want to include. The percentages that you assign to the selected items have to add up to 100 percent.

- Enter independent demand as an absolute value for each individual item.

  If you enter independent demand quantities for individual products, the system automatically calculates the percentages for the selected products within the mixed model family out of 100 percent and recalculates the mixed-model family volume.

In addition to specifying the independent demand for the products in a mixed model family, you can also use the Volume Design and Product Synchronization program to calculate the demand for the manufactured items that are required to build the products in the mixed model family. Running the bill-of-material explosion calculates the dependent demand for the subassemblies. The system stores the subassemblies and their dependent demand in the FF30L203 table, in addition to the independent product demand.

Note. The system displays the manufactured items in the grid, but not the purchased components.

You can add independent demand to the dependent demand for subassemblies if you want to use subassemblies as field replacement units (FRU). For these subassemblies, the system calculates total demand by adding independent and dependent demand. If a parent item and its subassembly are included in the same process map, then the component is treated as a phantom item. To maintain the relationship between parent and subassembly, they need to be included in different process maps.

Note. If no bill of material explosion has been performed or if it is outdated, the system sets the dependent demand to *0*.

After defining a volume design, you assign product synchronizations to the products in the mixed model family. Having defined independent and dependent demand for subassemblies, you can assign product synchronizations to them as well. Subassemblies can have product synchronizations that are different from their parent items.

The system enables you to delete a volume design provided that it is not used by any process map.

Prerequisites

Set up the following information:

- Mixed model families.
- Bills of material for the products in the mixed model families.
- Product synchronizations.

Forms Used to Create a Volume Design

Form Name	FormID	Navigation	Usage
Add Volume Design	WF30L201E	Line Design Management (GF30L21), Volume Design & Synchronization Assignments Click the Add button on the Search for Volume Design form.	Assign demand at capacity to a mixed model family.
Product Volumes by Family	WF30L201C	Click the Edit Item Factors link on the Add Volume Design form.	Define independent demand for products. Calculate dependent demand for subassemblies. Assign a product synchronization to an item.

Setting Processing Options for Volume Design and Product Synchronization (P30L201)

These processing options control default processing for the Volume Design and Product Synchronization program.

Versions

This processing option controls the version that the system calls when you run the following program from the Volume Design and Product Synchronization program:

Enhanced Material Definition Explosion (PF30L153) If you leave this processing option blank, the system uses version ZJDE000.

Assigning Demand at Capacity to a Mixed Model Family

Access the Add Volume Design form.

Volume Design Name Enter a name for the volume design that you are defining.

Volume Selection Enter the demand type on which you want to base the volume design. Values are:

S: Statistical/historical percent.

T: Target capacities.

U: User-defined.

The system stores these values in the Demand Type UDC table (F30L/DT).

Note. Currently, only target capacity is available as a demand type.

Mixed Model Family Select the mixed model family that you want to associate with this volume design. You can add multiple mixed-model families to the volume design.

If an item appears in more than one mixed model family that you selected for the current volume design, the system prompts you to identify the mixed model family under which you want to categorize the item.

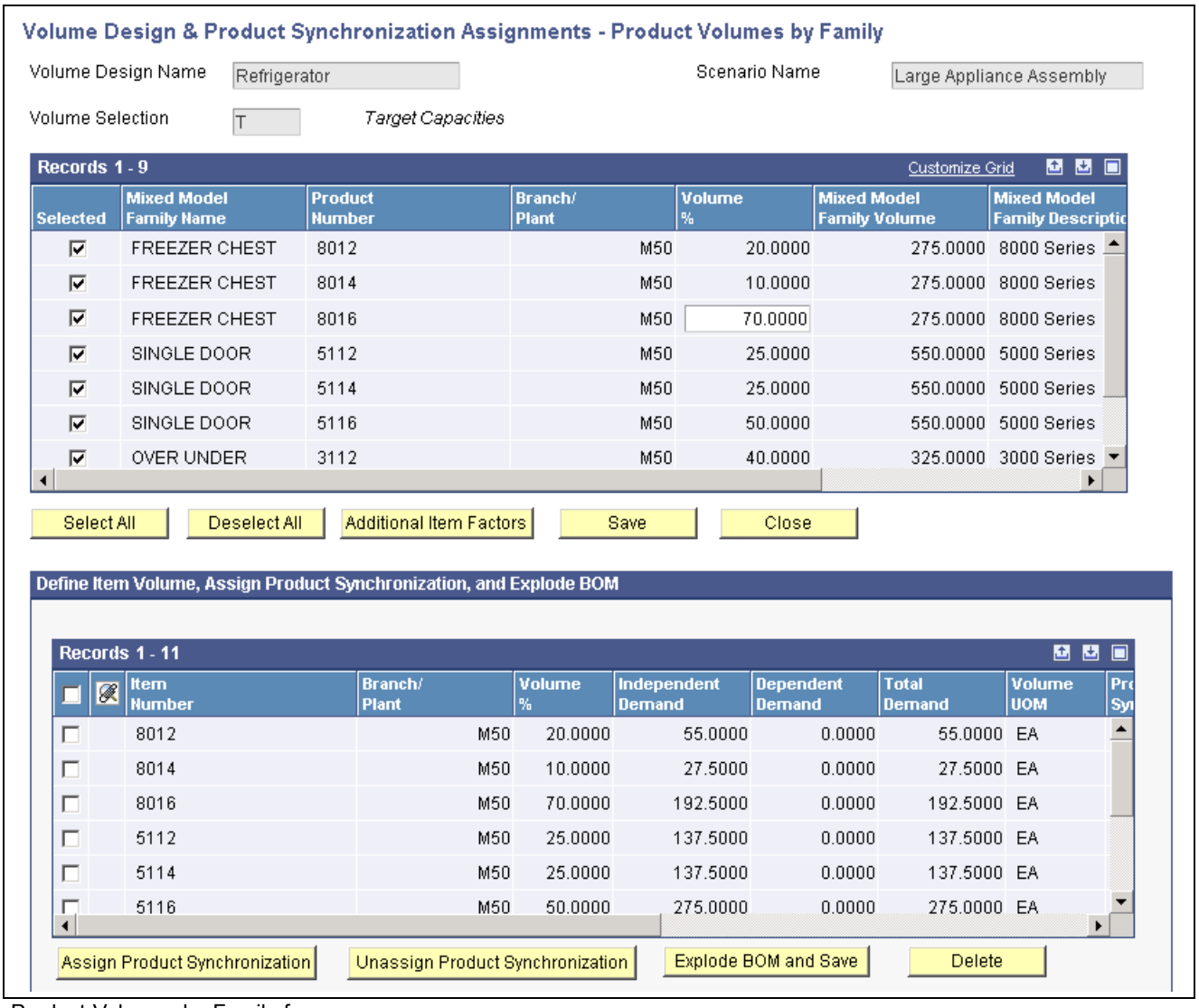
Volume for Family Enter the volume for the family. You can distribute this volume among the products that are included in the family.

Remove Family Click to remove a family from a volume design.

Edit Item Factors Click to access the Product Volumes by Family form.

Defining Independent Demand for Products

Access the Product Volumes by Family form.



Product Volumes by Family form

Volume % (volume percent) Select the product and complete this field if you want to assign a volume percentage to any product in a product family. If the percentages that you enter for the products in a product family add up to less than 100 percent, the system issues an error message.

Additional Item Factors To assign individual product volumes without assigning percentages by product family, select the product for which you want to define independent demand and click this button to populate the grid in the Define Item Volume, Assign Product Synchronization, and Explode BOM region of the form. You can now edit the product volumes.

Independent Demand This field displays by default the independent demand calculated like this:

Volume % for the Parent Item × Volume for the Mixed Model Family of that Parent Item.

You can override this value. If you change this value, the system recalculates the values in the Volume %, as well as the Mixed Model Family Volume, column.

Setting Processing Options for EMD Exploded BOM Processing (PF30L153)

Use Interactive Versions (P983051) to access these processing options.

Edits

These processing options control how the system runs the bill-of-material explosion from the Volume Design and Product Synchronization program (P30L201) using the BF30L153 business function.

As of Date Specify the date that you want the system to use when selecting bills of material for effectivity checking. If you leave this processing option blank, the system does not check effectivity dates.

Type Bill of Material Specify the bill-of-material type that the system uses when searching for bills of material. Do not change the default value. Values are:

M: Standard manufacturing bill.

RWK: Rework bill.

SPR: Spare parts bill.

The system stores these values in the Bill Type UDC table (40/TB).

The system does not select bills of material based on revision level. The EMD Explosion function does not explode demand for fixed quantity components if the dependent demand for these components is greater than 0.

Use Batch Bills Specify whether the system uses batch bills. If you leave this processing option blank or set it to *1,* the system uses the bill of material with the highest batch quantity to build product for the aggregate demand. For any remaining demand, you use the zero-batch bill.

If you set this processing option to *0,* the system uses the zero batch bill quantity.

Calculating Dependent Demand for Subassemblies

Access the Product Volumes by Family form.

Explode BOM and Save (explode bill of material and save)	Click to run the Enhanced Material Definition Explosion business function (BFF30L153). This process extends the independent demand for each parent item to its components by exploding the bill of material. If you have defined a shrink factor for the parent item, the component demand is inflated accordingly.
Dependent Demand	Displays the dependent demand for subassemblies after you have run the BOM Explosion.
Total Demand	Displays the sum of the dependent demand and the independent demand volume.

Assigning a Product Synchronization to an Item

Access the Product Volumes by Family form.

Assign Product Synchronization	Click to assign a product synchronization to the selected item. The system displays the Search and Select Product Synchronization form, where you can select an existing product synchronization.
Unassign Product Synchronization	Select an item record, and click this button to remove the product synchronization from the record.

Defining Sequence of Events

This section provides an overview of sequence of events, lists common fields, and discusses how to:

- Define standard tasks.
- Set processing options for Standard Sequence of Events (PF30L110).
- Define a standard sequence of events.
- Add tasks to a standard sequence of events.
- Set processing options for Sequence of Events (PF30L115).
- Define a sequence of events.
- Define sequence-of-events details.
- Attach consumed components to a sequence-of-events task.

Understanding Sequence of Events

The sequence of events (SOE) is one of the essential techniques of process definition in JD Edwards EnterpriseOne Demand Flow® Manufacturing. It defines the work and quality criteria that are required to build a product in a specific production process. It lists the flow of tasks that are required to produce a product according to its product and process design specifications. The sequence of events drives the operational definition and is the basis for all work, line design, and mixed model planning, as well as the operation sheet design.

You define a sequence of events with all the tasks that it contains for every process that is included in the product synchronization for a specific product. The system provides you with the following tools to simplify and streamline the sequence-of-events definition:

- Standard tasks.

- Standard sequence of events (SSOE).

The use of these tools is optional; however, they can be useful if the production processes contain standard tasks that are used in multiple processes and if you have products that share several work steps that could be defined in an SSOE.

Before you create an SOE or SSOE, you can define tasks that you have identified as standard tasks using the DFM Task Master program (PF30L005). Tasks may include the following information: task name and description, resource type, default times required for setup, move, and work performed by labor and machine resources. After you have defined the task, you assign resources to the task. You can also define Total Quality Control (TQC) criteria for every task. When you add a previously defined task to an SOE or SSOE, you can modify the times for the specific SOE or SSOE.

Note. You can define a task as value-added or non-value added. When you work with operational definition, you can use this task characteristic as a criterion for deciding whether to include the task in the operational definition.

If you manufacture products that have shared production processes, you use the Standard Sequence of Events program (PF30L110) to define standard sequences of events for those processes. The advantage of a standard sequence of events is that you can reuse it for multiple products because you do not associate it with a specific product.

You create the actual sequence of events for a process and product using the Sequence of Events program (PF30L115). The system provides you with three methods for creating a sequence of events for a product:

- Set up the sequence of events and manually attach the required tasks.
- Copy a standard sequence of events into the new sequence of events.
- Copy an existing sequence of events from an associated item.

You can create a sequence of events by manually attaching the required task information, or you can copy a standard sequence of events into a sequence of events. After you have copied the SSOE to the SOE, you can modify the information in the Sequence of Events program. To copy an existing sequence of events, you select an associated item that has a similar sequence of events. After you have associated this item with the sequence of events, the system retrieves that item's sequence of events and copies it into the new sequence of events.

Important! If you change any of the following values on a sequence of events with an associated item, the system changes the values on all sequences of events with the same associated item: sequence number, task repetition, overlap previous, internal/external, value add, work type, static quantity, and resource name.

When you associate tasks with an SSOE or SOE, you can select predefined standard tasks from the FF30L005 table, or you can add nonstandard tasks in the Sequence of Events program or the Standard Sequence Events program. Nonstandard tasks do not have a task name. When you save tasks to the SOE or SSOE, they are stored in the F30L005 table with the standard task property set to *N*. After creating an SSOE or SOE, you can resequence tasks, for example, when you want to insert a new task in the existing sequence.

As you add tasks to an SSOE or SOE, the system automatically calculates total labor and machine time. The calculation takes into account any overlap that is defined between tasks. The system stores the calculated labor and machine time totals for each process in the FF30L117 table.

When you associate tasks with the sequence of events that you are defining, the Sequence of Events program enables you to associate the components that are consumed by a task with that task. You create the association by selecting the component item number from the product's bill of material. The system stores the association in the FF30L116 table. If you change the task sequence, the components move with the task. If you copy a sequence of events, the system copies only those components that exist on the bill of material of the sequence of events to which you copy the information. If a component does not exist, you have to add it manually afterwards.

When you have completed a sequence of events, you can print the results in the Sequence of Events report (RF30L115). If you create a standard sequence of events, you can generate the Standard Sequence of Events - Print report (RF30L110).

Common Fields Used in This Section

Feeder Exists Complete this option field for the standard sequence of events or sequence of events to indicate whether a feeder feeds into this path. If you indicate that a feeder exists, you can specify the path name of the feeder, the number of the item that is produced on the feeder path, and the branch/plant.

Internal/External Select a UDC (F30L/IE) to determine whether the machine setup for move or setup tasks is internal or external. Values are:

I: Internal.

X: External.

If you change this field in the sequence of events, the system applies these changes to any associated item's sequence of events.

Overlap Previous Indicate whether a task can overlap the previous task. Tasks can overlap. It is not necessary to complete one task before starting the next task. If you change this field in the sequence of events, the system applies this change to the associated item's sequence of events.

Resequence Click to resequence the standard sequence of events or sequence of events based on the parameters that you entered in the Sequence Start and Sequence Interval fields.

Resource Name Select the name of the resource for this task. This name must be unique within the scenario. If you change this field in the sequence of events, the system applies these changes to the associated item's sequence of events.

Resource Type Displays the type of resource that you have selected: *machine* or *labor*.

Sequence Number Indicates the order in which the tasks in the sequence of events are performed. The sequence number must be unique. The default value is *10.00.* You can set up a default value in the Scenario Master program (PF30L010). If you change this field in the sequence of events, the system applies these changes to the associated item's sequence of events.

Sequence Interval Indicates the value for incrementing task sequence numbers when you resequence tasks.

Sequence Start Indicates the sequence number for the first task when you resequence tasks.

Standard Task Name Displays the name that identifies a standard task within JD Edwards EnterpriseOne Demand Flow® Manufacturing. Only standard tasks have names. If you add a nonstandard task, this field remains blank.

	The system does not enable you to rename a standard task to turn it into an new standard task. Because this field is locked, you have to delete the task and create a new task. You also cannot change a nonstandard task into a standard task.
Static Quantity	Enter the number of items or batch quantity for the task. For example, if you have to move products on a pallet in groups of 12, you define a static quantity of *12*. The default value is *1*. If you change this field in the sequence of events, the system applies this change to the associated item's sequence of events.
Task Repetition	Enter a value that indicates the number of times that a task is repeated. The default value is *1*. If you change this field in the sequence of events, the system applies this change to the associated item's sequence of events.
Task Time	Enter the amount of time that is required to perform the work of the task. If you change this field in the sequence of events, the system applies this change to the associated item's sequence of events.
Time UOM (time unit of measure)	Select the unit of measure to use for displaying the task time. Values are: *S:* Seconds. *M:* Minutes. *H:* Hours. The system stores these values in the Work Content Time UDC table (F30L/WC). If you change this field in the sequence of events, the system applies this change to the associated item's sequence of events.
Total Labor Time	As you add tasks to the SSOE or SOE, the system calculates the total time that is consumed by all tasks that are using labor resources. The system calculates the total time of each task like this: Total Task Time = (Task Time * Task Repetition) / Static Quantity. The system stores this value for the process in the FF30L117 table.
Total Machine Time	As you add tasks to the SSOE or SOE, the system calculates the total time that is consumed by all tasks that are using machine resources. The system uses the same calculation for total task time as it does for labor resources. The system stores this value for the process in the FF30L117 table.
TQC Criteria (total quality control criteria)	Enter a value that indicates the quality control criteria for the work that is being performed. Values are: *Failsafe:* Only one way exists to perform the work; any other way is incorrect. This is the default value. *Verify:* Multiple ways exist to perform the work, but only one way is correct. Document the correct method and verify it at the time the work is performed. *TQC:* After performing work in the previous operation, validate it in a subsequent operation If you change this field in the sequence of events, the system applies this change to the associated item's sequence of events.
TQC Description (total quality control description)	Enter instructions on how to perform total quality control steps. If you change this field in the sequence of events, the system applies this change to the associated item's sequence of events.

Value Added

Complete this field to indicate whether the task adds value to the end product. If you change this field in the sequence of events, the system applies this change to the associated item's sequence of events.

Work Type

Select a value to specify the type of work that is being performed: Values are:

Required: Required labor or machine time represents the required steps that are performed by people or machines for the product to meet the specifications. Required labor and machine time may or may not be value added.

Setup: Setup time is work that precedes required machine or labor time. Setup time is always non-value added.

Move: Move time is the time that is spent in moving products or material through the process from the point where they are produced or introduced to the point where they are consumed. Move time may be either labor or machine time and is always non-value added.

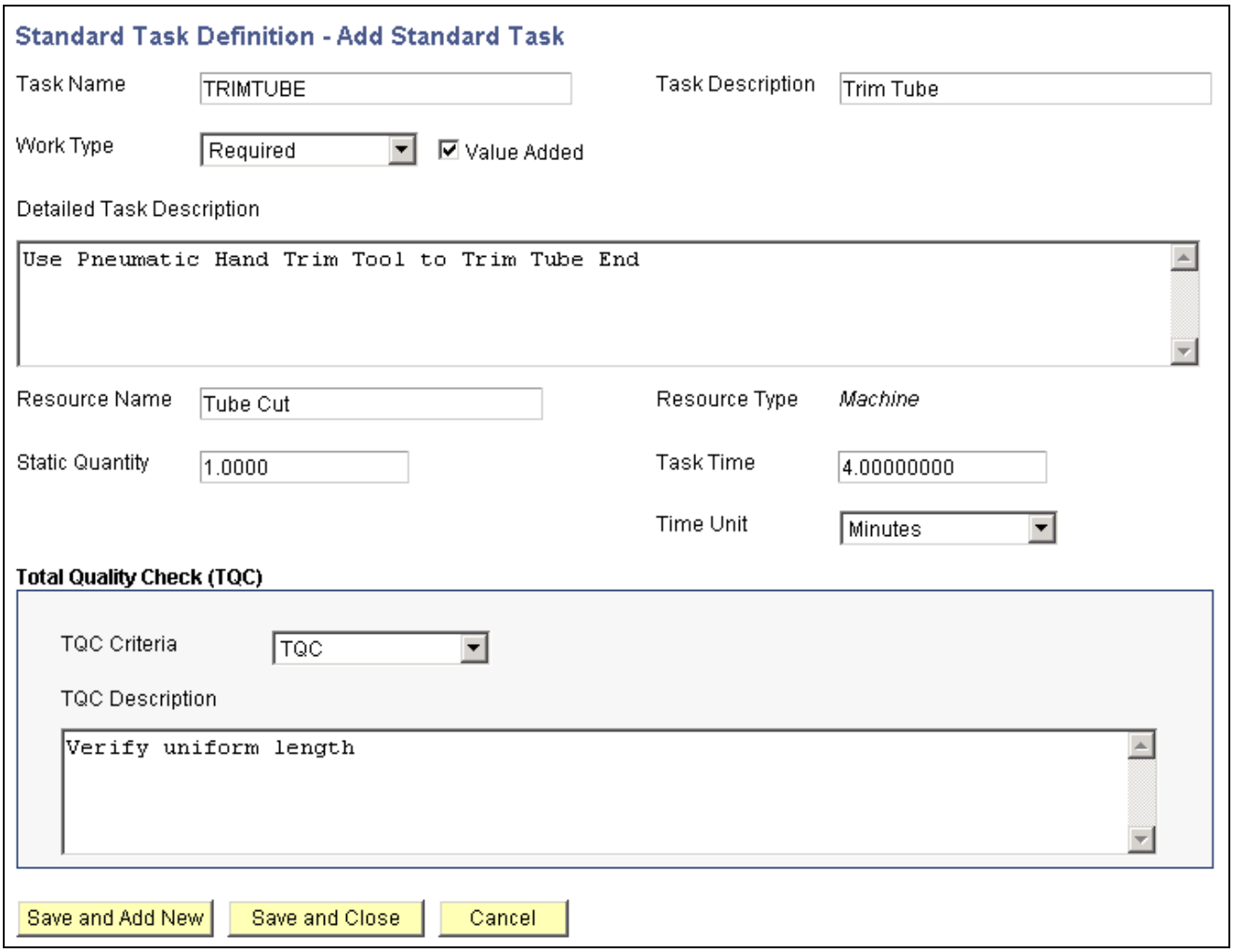
If you change this field in the sequence of events, the system applies this change to the associated item's sequence of events.

Forms Used to Define Sequence of Events

Form Name	FormID	Navigation	Usage
Add Standard Task	WF30L005B	Sequence of Events Management (GF30L22), Standard Task Definition Click the Add button on the Search for Standard Tasks form.	Define standard tasks that you can use for standard sequence of events and sequence of events.
Add Standard Sequence of Events	WF30L110C	Sequence of Events Management (GF30L22), Standard Sequence of Events Click the Add button on the Search for Standard Sequence of Events form.	Define a standard sequence of events.
Edit Standard Sequence of Events	WF30L110B	Click the Continue button on the Add Standard Sequence of Events form.	Add tasks to the standard sequence of events.
Add Sequence of Events Header	WF30L115C	Sequence of Events Management (GF30L22), Sequence of Events Click the Add button on the Search for Sequence of Events form.	Define a sequence of events.
Edit Sequence of Events	WF30L115B	Click the Continue button on the Add Sequence of Events Header form.	Define sequence-of-events details.
Assign Components Consumed	WF30L116A	• Click the link in the Component Consumed column on the Edit Sequence of Events form. • Click the Assign Components Consumed link on the Optional Information tab.	Attach consumed components to a sequence-of-events task based on the manufacturing bill of material.

Defining Standard Tasks

Access the Add Standard Task form.



Add Standard Task form

Setting Processing Options for Standard Sequence of Events (PF30L110)

The processing options control default processing for the Standard Sequence of Events program.

Version

This processing option controls the version that the system calls when you run the following program from the Standard Sequence of Events program:

1. Standard Sequence of Events - Print (RF30L110) If you leave this processing option blank, the system uses the default version, XJDE0001.

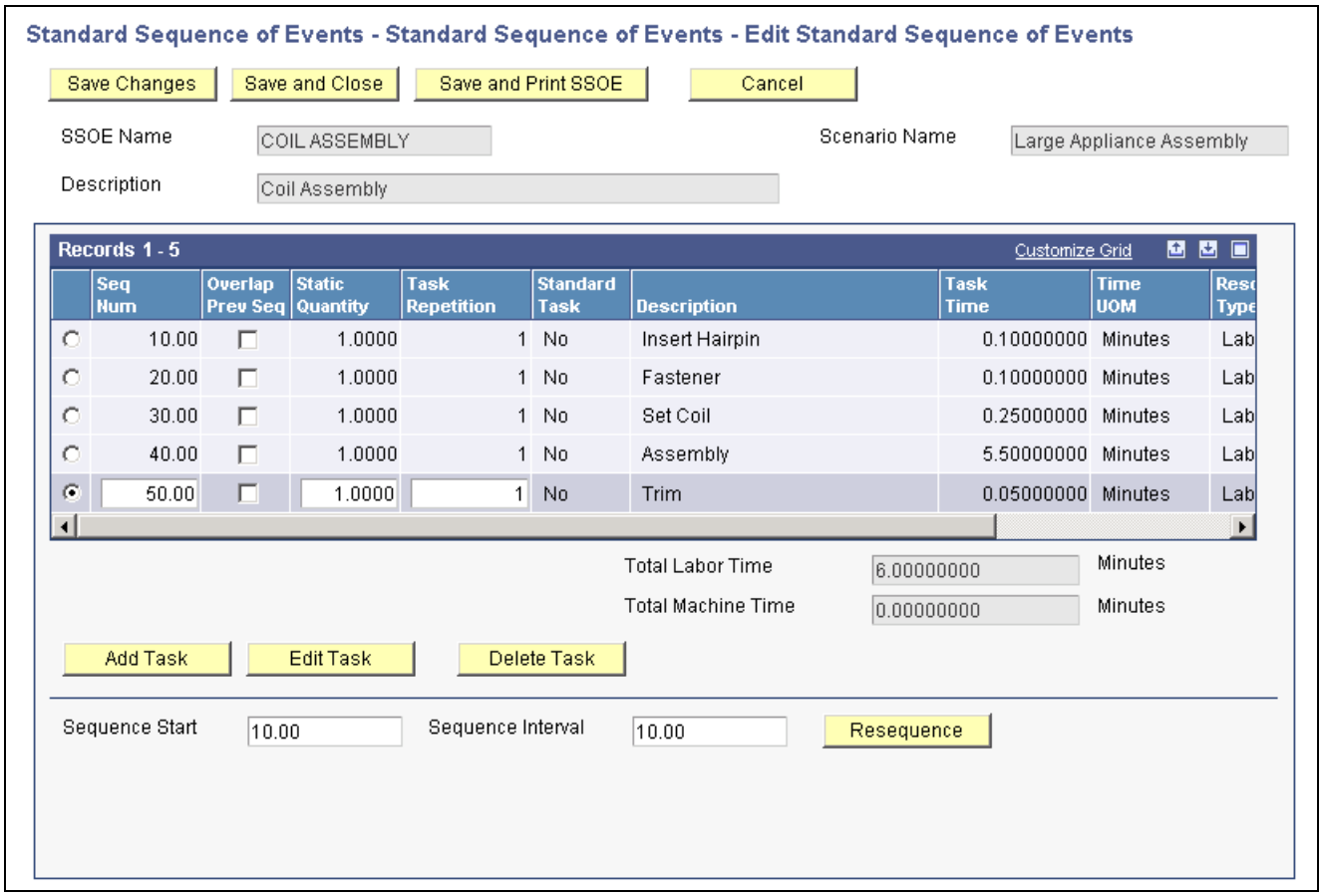
Defining a Standard Sequence of Events

Access the Add Standard Sequence of Events form.

SSOE Name (standard sequence of events name) Enter a unique name for the standard sequence of events within a scenario.

Adding Tasks to a Standard Sequence of Events

Access the Edit Standard Sequence of Events form.



Edit Standard Sequence of Events form

Complete the task fields for the standard sequence of events.

Save and Print SSOE (save and print standard sequence of events) Click to save the standard sequence of events and print a report using a version of the Standard Sequence of Events - Print program. You can also print the standard sequence of events from a link on the Search for Standard Sequence of Events form.

Setting Processing Options for Sequence of Events (PF30L115)

These processing options control default processing for the Sequence of Events program.

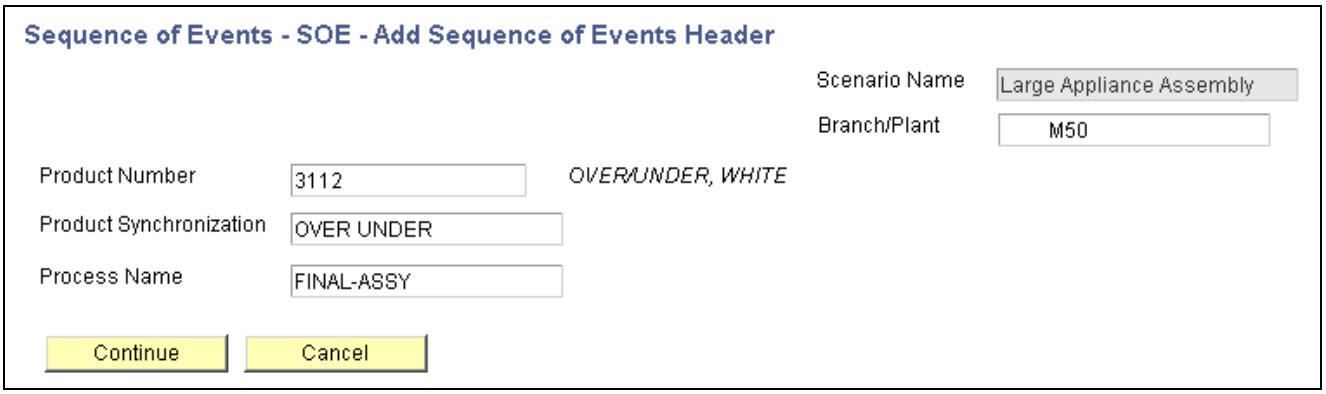
Version

This processing option controls the version that the system calls when you run the following program from the Sequence of Events program:

1. Sequence of Events - Print (RF30L115) If you leave this processing option blank, the system uses the default version, XJDE0001.

Defining a Sequence of Events

Access the Add Sequence of Events Header form.



Add Sequence of Events Header form

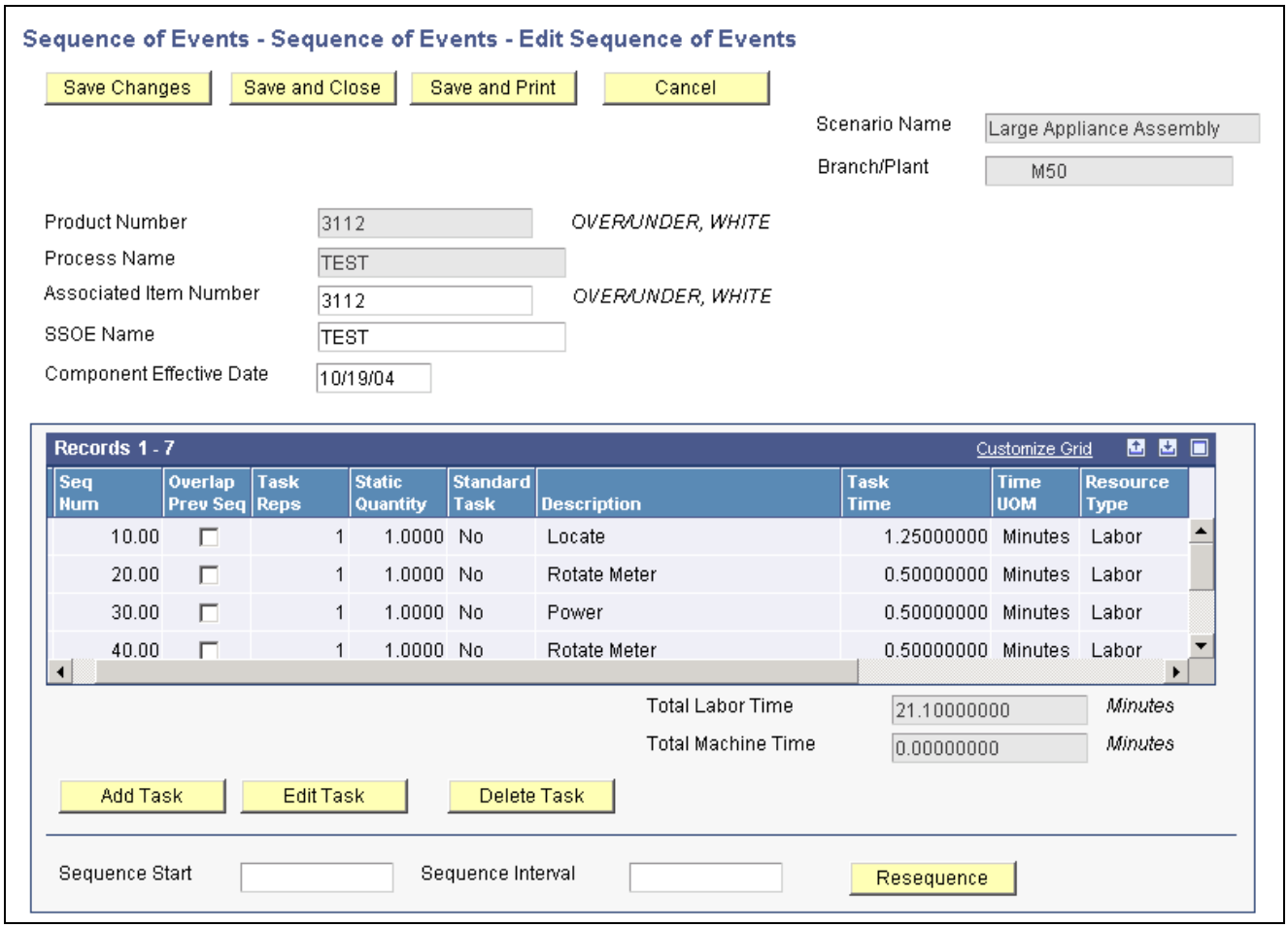
Product Number Enter the number of the product that is produced by the process for which you are defining a sequence of events.

Product Synchronization Enter the product synchronization that includes the process for which you are defining a sequence of events. The system does not store this value in the FF30L115 table.

Process Name Select the process from the chosen product synchronization for the sequence of events that you are defining.

Defining Sequence-of-Events Details

Access the Edit Sequence of Events form.



Edit Sequence of Events form

Associated Item Number

Enter an associated item number if you want to copy the sequence of events information from another product. If you leave this field blank, the system uses the product number. When you tie a sequence of events to an associated item, the system writes a copy of the associated item's sequence of events to the FF30L115 table.

If you make changes to the associated item, the system deletes the sequence-of-events tasks from the table and attempts to copy the associated item's sequence of events. Before completing this action, the system issues a warning because the deletion is not reversible.

If you delete the associated item's sequence of events, any other sequences of events that are based on the associated item's sequence of events revert to their own product number.

SSOE Name (standard sequence of events name)

(Optional) Enter the name of a standard sequence of events; the system ties the sequence of events to the standard sequence of events that is defined here. To retain the link, you can make only certain changes. You break the link if you:

- Change the sequence number.
- Add a new sequence-of-events task.
- Change the standard sequence-of-events name.

You can delete a task without breaking the link between the sequence of events and the standard sequence of events. When you delete a task, it remains in the table, but is marked as deleted. You can view it, but not edit it. The deletion breaks the link between the two tasks. You cannot restore this link. If you change the sequence-of-events task, the sequence of events and standard sequence of events remain linked, but the link between the corresponding tasks is broken.

Component Effective Date Enter a date to indicate which components from the bill of material can be consumed in the sequence-of-events task. The default value is the current date.

Note. Set this date and do not change it after attaching components to sequence-of-events tasks. Changing the date later may invalidate consumed component data. The system issues a warning when you change the date, but does not perform a validation. You can locate potential errors only on the Assign Components Consumed form for each task that consumes a component.

Component Consumed Indicates whether the task consumes components from the bill of material. The default value is *No*.

SSOE Comparison (standard sequence of events comparison) If you have created the sequence of events based on a standard sequence of events, this field indicates whether you have modified the sequence-of-events task so that it differs from the original standard sequence-of-events task. Values are:

Blank: The sequence of events is not attached to a standard sequence of events.

SSOE (standard sequence of events): The sequence of events is attached to a standard sequence of events, but you have not modified the task.

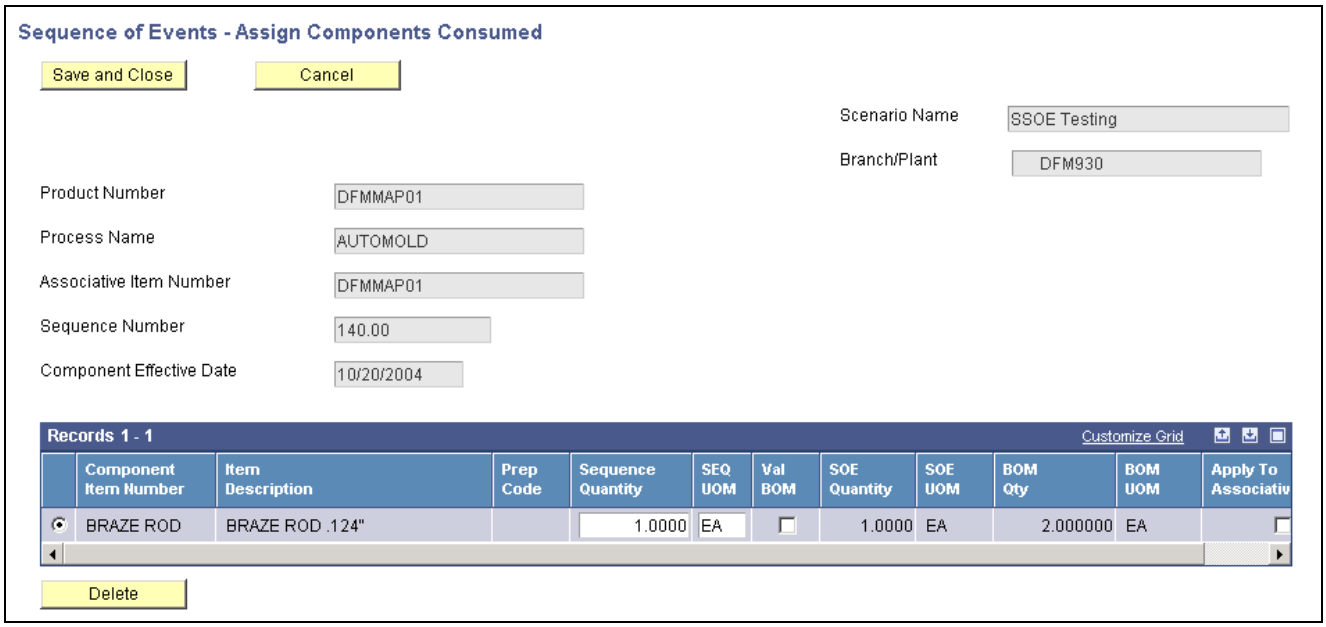
SSOE Deleted (standard sequence of events deleted): You have deleted the task.

SSOE Changed (standard sequence of events changed): You have changed the line.

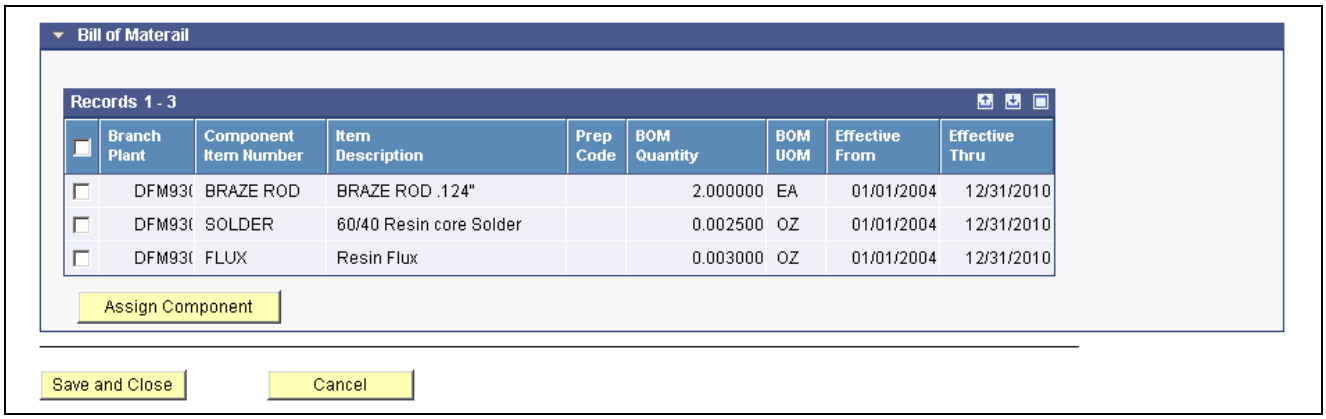
Save and Print Click to save the sequence of events and print a report using a version of the Sequence of Events - Print program.

Attaching Consumed Components to a Sequence-of-Events Task

Access the Assign Components Consumed form.



Assign Components Consumed form (1 of 2)



Assign Components Consumed form (2 of 2)

Assign Component Select a component from the bill of material and click to associate the component with the sequence of events task.

Component Item Number Identifies the component from the bill of material for the product. This component can occur only once for a sequence-of-events task. It can occur more than once if it has different prep codes. The system enables you to select components only from a bill of material that meets the following conditions:

- The scenario matches the current user scenario.
- The parent item matches the product of the sequence of events.
- The branch/plant matches the sequence-of-events branch/plant.
- The bill of material type is *M*.
- The batch quantity equals 0.
- The sequence number of the substitute item equals 0.
- No co-product or by-product or immediate product exists.

- The component effective date on the sequence of events is greater than or equal to the component's effective from date.
- The component effective date on the sequence of events is greater than or equal to the component's effective through date.

Sequence Quantity Enter the quantity of the component that is consumed by the sequence-of-events task.

SEQ UOM (sequence unit of measure) Displays the unit of measure of the sequence quantity.

Val Bom (validate bill of material) Indicate whether the system validates that the sequence quantity exists in the bill of material.

SOE Qty (sequence of events quantity) Displays the total quantity of the component that is consumed across all sequences of events for the product number.

SOE UOM (sequence of events unit of measure) Displays the unit of measure for the sequence of events quantity. This is always the primary unit of measure to enable comparison with the bill-of-material quantity that always uses the primary unit of measure. Using the primary unit of measure simplifies the calculation if the component occurs in multiple sequence-of-events tasks.

BOM Qty (bill of material quantity) Displays the component quantity from the bill of material. If the component exists in multiple places on the bill of material, this value represents the sum of bill-of-material quantities on all records for this component.

BOM UOM (bill of material unit of measure) Indicates the primary unit of measure. Because the component can exist on the bill of material in different places with different units of measure, you need the primary unit of measure here for conversion.

Apply to Associative Item Specify whether the system should add or update the component record in all sequences of events that are linked to the same associated item as the current sequence of events.

The system does not check whether the component exists on the bills of material of the other product numbers that use the same associated item. You have to review the information on the Assign Components Consumed form to check whether the component exists on another product's bill of material.

Defining a Process Map

This section provides an overview of process maps, lists prerequisites, and discusses how to:

- Set up a process map.
- Add products to a process map.
- Define cells on the process map.
- Set up cells.
- Enter actual work content.
- View the commonality map.
- View the time map.

- Update the DFM Event Summary table (FF30L117).

Understanding Process Maps

Process mapping is a Demand Flow® technique that is used to determine the extent to which groups of products share common manufacturing processes. The objective of process mapping is to develop families of products that share common processes to determine which products can be produced on the same mixed-model Demand Flow® line. The result of process mapping is a matrix of processes and products that shows where the two intersect—the process map. You use the Define Process Map program (PF30L901) to set up this matrix.

When you create a process map, you associate it with a volume design and its associated volume selection to retrieve the volumes for products in a mixed model family and copy them into the Demand at Capacity field. After you have set up a process map, you can add the products to the matrix. When you select a product from a list of items, you retrieve the processes based on the product synchronization that you associated with the product.

Important! If you make any changes to the product synchronization after you have already added the processes from the product synchronization to the process map, you must perform two steps to ensure that the process map reflects the product synchronization changes.

The first step is to recalculate the product synchronization. The second step is to retrieve any process map that uses the changed product synchronization and click the Save Changes button on the Manage Process Maps form. When you access the form, you already see the changes, but they exist only in cache. If you do not save the changes, the system does not update the process map in the database.

For each process, you can select a source of work content, that is, the amount of labor or machine resource time that is required to complete the process. The system uses this value to calculate the *Actual Time Weighted (AT_W)* for both resource types. You determine which source the system uses by specifying a design selection. The system enables you to derive work content from three sources:

- Standard sequence of events.
- Sequence of events.
- Manual entry.

To derive work content from a standard sequence of events, you can select the standard sequence of events that is defined for a process. After you have selected the standard sequence of events, the system populates the SSOE Labor and SSOE Machine fields for the process with times from the standard sequence of events.

If you do not specify a standard sequence of events as the source of work content, the system retrieves this information from the sequence of events if you have set up a sequence of events for the process. The sequence-of-events resource times automatically appear in the SOE Labor and SOE Machine fields for each process when you insert products. The process map retrieves these values from the F30L117 table.

Note. To eliminate any discrepancy between sequence-of-events or standard-sequence-of-events times and the labor and resource times that appear on the process map, you can run the Refresh Event Summary program (RF30L117) to update the resource and labor totals in the FF30L117 table.

The system also enables you to enter labor and machine resource times in the Process Map Actual Work Content program (PF30L904). You can access this program from the process map and enter the resources that are required for the process as well as the setup, move, and actual times for each resource. When you save this information, the system displays the cumulative work content for the process in the Actual Labor field or the Actual Machine field. You can also enter cumulative labor and machine times directly in the process map.

If multiple products go through the same process but have different processing times, you can split the process into cells to accommodate these variations and facilitate a smooth flow of product down the mixed model line. The longest processing time represents the upper end of the range. The system divides the total range into seven segments and assigns each product to the segment of the range that represents its processing time, together with the percentage of product that is moved through the process. You can assign cells to the process in addition to the original default cell and define the processing time ranges for each cell. You have to set up cells in the Cell Master program (PF30L905) before you can assign them here.

To evaluate to what extent products share processes, you can view a commonality map for a particular process map. The commonality map shows all the processes that the products on the process map have in common.

The time map shows the labor and machine times for each process on the product synchronization for the products that are included in the process map. This view enables you to evaluate the differences in processing time between products in the same process.

You can delete a process map, but only if it is not used in any line design or kanban.

Prerequisites

Before creating a process map, you must:

- Set up a product synchronization for the products that you include in the process map.
- Create a volume design.
- (Optional) Set up a standard sequence of events or sequence of events.

Forms Used to Define a Process Map

Form Name	FormID	Navigation	Usage
Search for Process Map	WF30L901C	Line Design Management (GF30L21), Process Map	Set up a process map and associate it with a volume design.
Manage Process Maps	WF30L901B	Click the OK button on the Search for Process Map form.	Add products and their manufacturing processes to a process map, and edit cell and resource information.
Define Cells Using Work Content	WF30L901D	Click the Define Cells by Machine button or the Define Cells by Labor button on the Manage Process Maps form.	Define cells on process maps to accommodate multiple products with different processing times.
Edit Cell Master	WF30L905A	Click the View - Edit Cells link on the Define Cells Using Work Content form. Click the Add button on the Search for Cells form.	Set up cells that you need for splitting up processes on the process map.
Actual Work - Edit Work Content	WF30L904A	Click the Define Machine Resources button or the Define Labor Resources button on the Manage Process Maps form.	Enter actual work content, which consists of resources and resource times for labor and machine resources, on the process map.
View Commonality Map	WF30L909A	Click the View Commonality Map link on the Search for Process Map form.	View the commonality map, which displays common processes that are shared by products on the process map.
View Time Map	WF30L909A	Click the View Time Map link on the Search for Process Map form.	View the time map, which displays the labor and machine times for each product and process.

Setting Up a Process Map

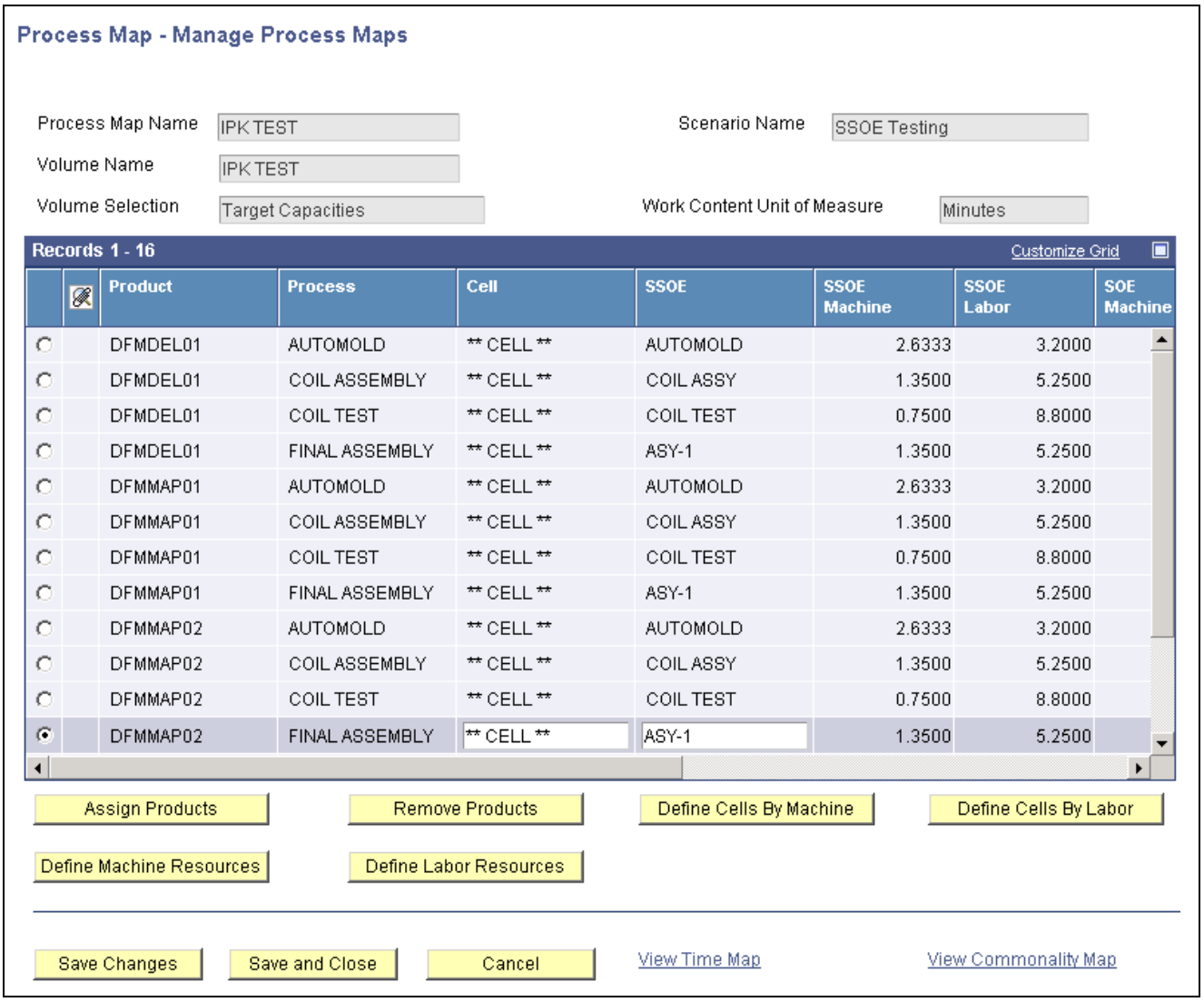
Access the Search for Process Map form. Click the Add button.

Process Map Name Enter a name for the process map that you are setting up.

Volume Name Enter the name of the volume design with which you want to associate the process map. The Volume Selection field displays the demand at capacity definition that you have set up for the volume design. You can revise a process map by assigning a different volume design.

Adding Products to a Process Map

Access the Manage Process Maps form.



Manage Process Maps form

Assign Products Click to access the Work With Selected Items form, where you can select the products that you want to include in the process map. This form also displays the product synchronization that you have defined for the product.

Remove Products Click to remove products from a process map and exclude them from the selected volume design.

SSOE (standard sequence of events) Enter the name of the standard sequence of events that you want to use as source for labor and machine resource times. When you enter a standard sequence of events in this field, the system retrieves the cumulative resource times for the process and displays them in the SSOE Machine (sequence of events machine) and SSOE Labor (sequence of events labor) fields.

SOE Machine (sequence of events machine) and **SOE Labor** (sequence of events labor)

Display the total machine and labor times for the process if you have defined a sequence of events for the process. The process map retrieves these values from the FF30L117 table.

Note. If these values do not match the labor and resource totals in the FF30L110 and FF30L115 tables, run the Event Summary Update program (RF30L117).

Actual Machine and **Actual Labor**

Enter resource time estimates for the process manually.

Design Selection

Select a value from the Demand Sequence UDC table (F30L/DS) to indicate which work content value the system uses in line design to calculate actual time weighted (AT_W) for labor and machine operations by process. Values are:

ACT: Actual times.

SOE: Sequence of events.

STD: Standard sequence of events.

Define Cells by Machine and **Define Cells by Labor**

Click to access the Define Cells Using Work Content form, where you can split the process into cells.

Define Machine Resources and **Define Labor Resources**

Click to access the Actual Work - Edit Work Content form, which enables you to enter multiple resources and resource times for the process. The process map displays the total resource time by resource type.

Save Changes

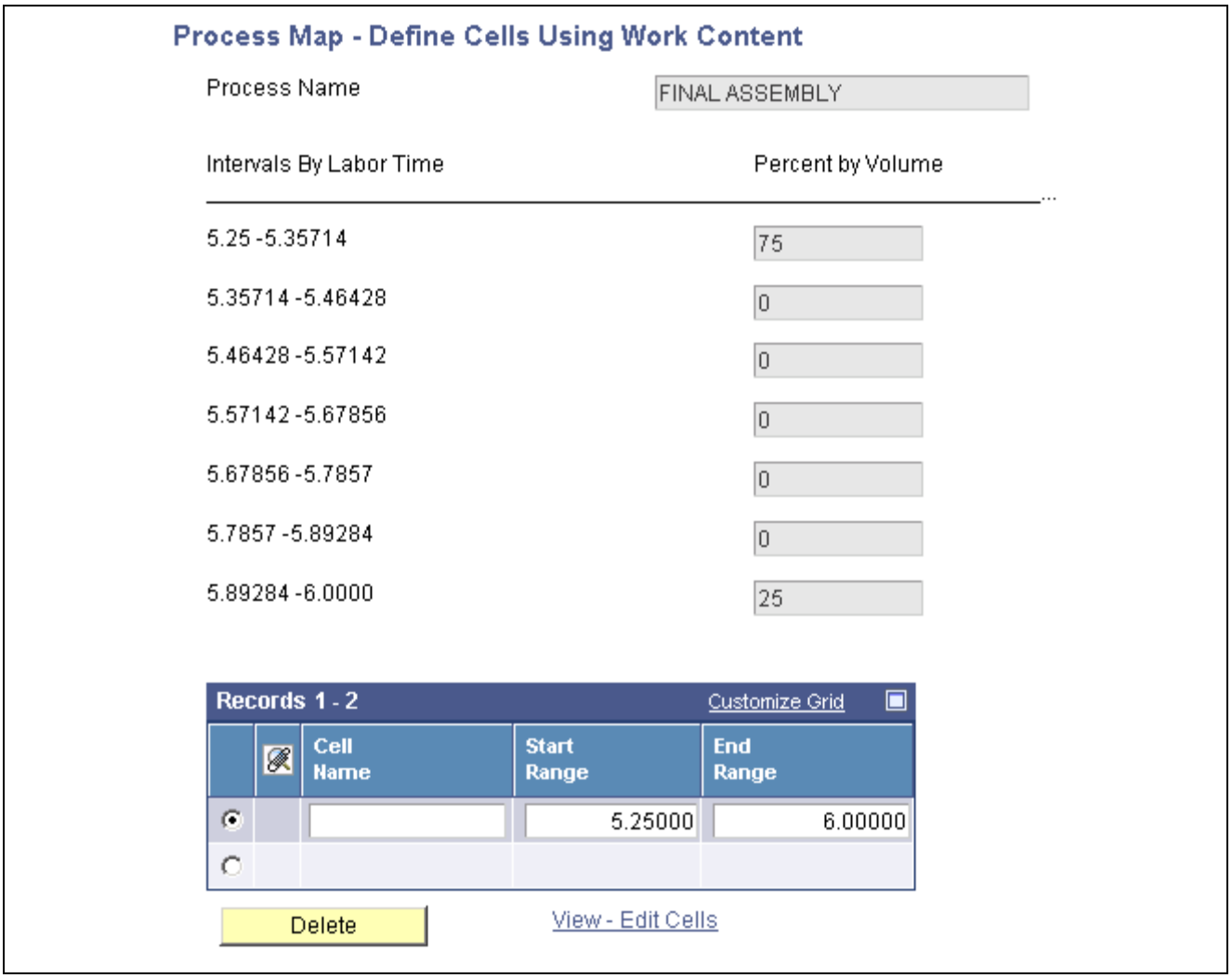
Click to save changes to the process map. If you have changed and recalculated the product synchronization, you must click this button to save these changes to the database, even though the changes are already visible in the grid.

View Time Map and **View Commonality Map**

Click to access the View Time Map and the View Commonality Map form. To view the most up-to-date information, you must have saved the changes to the process map before you access these forms

Defining Cells on the Process Map

Access the Define Cells Using Work Content form.



Define Cells Using Work Content form

Intervals by Machine Time or **Interval by Labor Time** — Displays the total range of processing time for the products flowing through the process, divided into seven segments.

Percent by Volume — Displays the quantity percentage for each product flowing through the process.

Start Range and **End Range** — Select a cell that you have defined in the Cell Master program, and define the range of processing time for this cell. This definition enables you to perform the process for the product with a processing time that falls within this range in this cell, parallel to the other cells that you assign to the process here.

View - Edit Cells — Click to access the Edit Cell Master form to add new cells, if needed.

Setting Up Cells

Access the Edit Cell Master form.

Cell Name — Enter a name for the cell that you use to split a process when products that use the same process have different processing times. Splitting a process into cells enables you to accommodate different processing times and facilitate a smooth flow of product down the mixed model line.

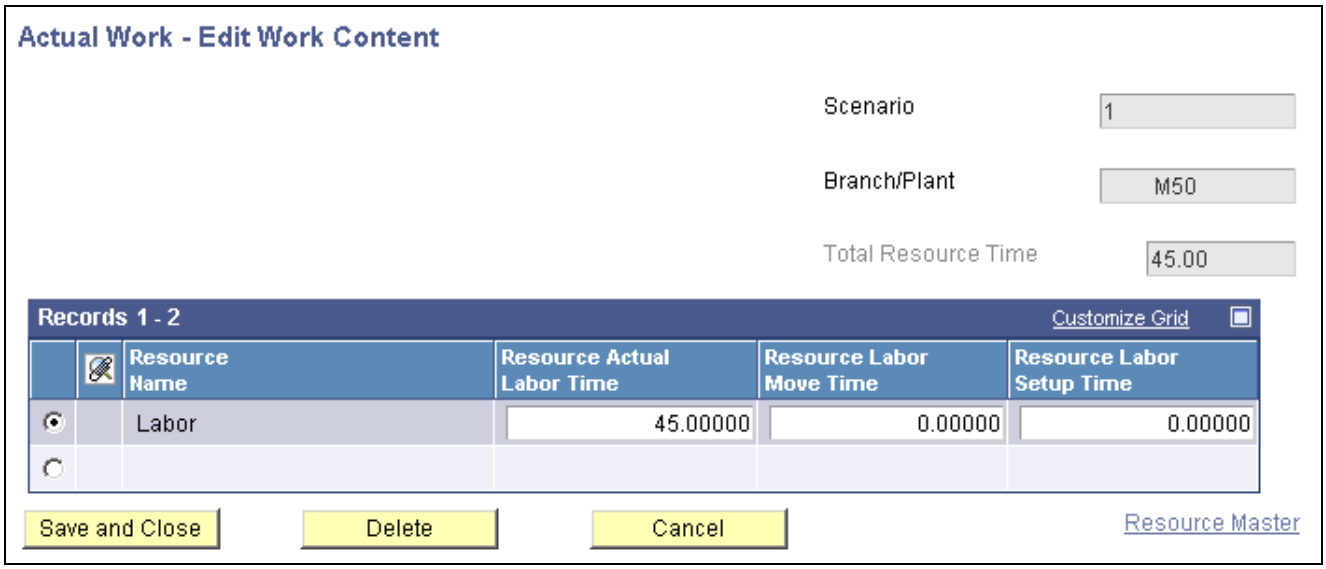
Work Center

Associate a work center with the cell. If you integrate JD Edwards EnterpriseOne Demand Flow® Manufacturing with JD Edwards EnterpriseOne Manufacturing systems, the system uses this value when you import processes from the process map into the F3003 table. You can select only a work center of type 0. The system also displays the associated work center branch.

If you did not select the integration constant for the scenario, the Work Center field and the Work Center Branch field are hidden.

Entering Actual Work Content

Access the Actual Work - Edit Work Content form.



Actual Work - Edit Work Content form

Enter the resources that are required to perform the process, as well as the actual, setup, and move times. The system adds the resource times that you enter here and displays the total on the process map.

To create additional resources, click the Resource Master link.

Viewing the Commonality Map

Access the View Commonality Map form.

Review which processes are shared by different products. Export the time map to a csv file if you want.

Viewing the Time Map

Access the View Time Map form.

Review the time similarities between processes when the same process is used to produce different products. Export the time map to a csv file, if you want.

Updating the DFM Event Summary Table (FF30L117)

Access a version of the Refresh Event Summary program from the Work With Batch Versions - Available Versions form.

Run this program to eliminate any discrepancy between sequence-of-events or standard-sequence-of events times and the labor and resource times that appear on the process map.

Calculating Line Design

This section provides an overview of line design calculations, lists prerequisites, and discusses how to:

- Set up a line.
- Set processing options for Mixed Model Line Design (PF30L910).
- Add a line design.
- Set processing options for Calculate Total Product Cycle Time by Line Design (RF30L921).

Understanding Line Design Calculations

Based on the product synchronization, volume design, and process map that you have defined and calculated, you can perform the line design calculations using the Mixed Model Line Design program (PF30L910). These calculations support building the actual Demand Flow® manufacturing line on the shop floor. You can perform the calculations multiple times until you are satisfied with the results. You must designate as the active line design the line design that you want to use for further processing.

Before creating a line design, you must set up the line for which you want to create the line design. When you set up the line, you also define an associated JD Edwards EnterpriseOne work center. If you integrate JD Edwards EnterpriseOne Flow® Manufacturing with other JD Edwards EnterpriseOne Manufacturing systems, you must specify a work center name.

After you have set up a line, you define the line design. You can have multiple line designs for a line. When you define the line design, you associate it with a process map and retrieve the processes and their associated information from the process map. If the process map includes only one product, the line is automatically set up as a dedicated line. If the process map contains a product mix, the line is defined as a mixed model line.

After you have loaded the processes from the process map into the line design, you can change the following data:

- Number of shifts per day.
- Effective hours per shift.

After you have run the calculations, you can adjust the number of labor and machine operations for the process, based on the calculated values. You can override any of these fields and save the changes to the data base. The system retains these values until you recalculate the line design. At that point, the system issues a warning that the recalculation will delete the overrides.

When you run line design, the system calculates the following values:

- Takt time.
- Actual work content time weighted for machine and labor.
- Number of required labor and machine operations per process or cell based on the data from the process map.

Takt time is the targeted amount of time that is required for machines and labor to meet the production capacity that the Demand Flow® line is designed to achieve. The system calculates Takt time for each process using the effective hours per shift (H_E), number of shifts (S), and demand at capacity (Dc) per process. The system retrieves the effective hours from the branch/plant. If you have not defined shifts and hours for the branch/plant, the system retrieves these values from the line-design control parameters of the default scenario. The system calculates demand at capacity by item and process like this: Total targeted volume for the product synchronization for the item × process consumption quantity (for each process in the product synchronization) + scrap add-ons + rework input + option input.

The system sums the demand at capacity for all products that share a particular process resulting in the throughput for this process. Based on these values, the system calculates Takt like this:

$Takt = (H_E \times S) \div \Sigma (Dc)$

Actual time weighted is based on the actual time that is required to complete a process, as stated on the process map. The design selection on the process map determines whether this calculation uses the actual machine or labor times from the standard sequence of events or the sequence of events, or resource times that are entered directly into the process map. The calculation is weighted by the volume of product flowing through the line. The system calculates actual time weighted for machines and labor like this:

$AT_W = \Sigma (Dc \times AT) \div (\Sigma Dc)$

As part of line design processing, the system also calculates how many labor and machine operations are required to perform a process. This calculation assumes that actual time weighted and Takt have been calculated. The system calculates the number of labor or machine operations like this:

$NumOper = AT_W \div Takt$

Calculation for Total Product Cycle Time

The system also enables you to calculate total product cycle time (TPc/t) for the products that you included in the line design. If any inputs to the calculation have changed, the system runs the Calculate Total Product Cycle Time by Line Design batch program (RF30L921) to perform this calculation automatically when you close the Add Line Design or Edit Line Design form. If you do not want to run this batch program every time that you close the form after a change, use the program version with the processing option set not to perform the TPc/t calculation. You have to set a processing option for the batch program to determine the source for resource time information.

Note. When calculating total product cycle time, the system updates the FF30L501 table if the primary line that is defined in the FF30L501 table matches the item in the line design.

Prerequisites

Define the following data for the products that you include in the line design:

- Product synchronization and volume design.
- Process map.

Forms Used to Calculate Line Design

Form Name	FormID	Navigation	Usage
Add Line	WF30L912B	Line Design Management (GF30L21), Line Definition	Set up the line for which you can create a line design.
Add Line Design	WF30L910B	• Line Design Management (GF30L21), Line Design with TPCT Calculation • Line Design Management (GF30L21), Line Design without TPCT Calculation	Add a line design and calculate Takt time, actual time weighted, and number of operations. Optionally, calculate total product cycle time.

Setting Up a Line

Access the Add Line form.

Note. You can also access this form by clicking the View - Edit Lines button on the Search for Line Design form.

Line Name Define a name for the line for which you are going to create a line design.

Work Center Enter the work center that you associate the line with. You can enter work center of type 2 (production line in a repetitive environment) or type 3 (production line in a lean environment). A one-to-one relationship has to exist between the line and the work center.

The Branch/Plant field displays the work center branch for the work center.

If you did not select the integration constant for the scenario, this field does not appear on the form.

Setting Processing Options for Mixed Model Line Design (PF30L910)

These processing options control default processing for the Mixed Model Line Design program.

Process

This processing option controls whether the Mixed Model Line Design program calculates total product cycle time.

1. Calculate Total Product Cycle Time Specify whether the system calculates total product cycle time when you close the form if the calculation has changed. If you leave this processing option blank, the system does not calculate total product cycle time.

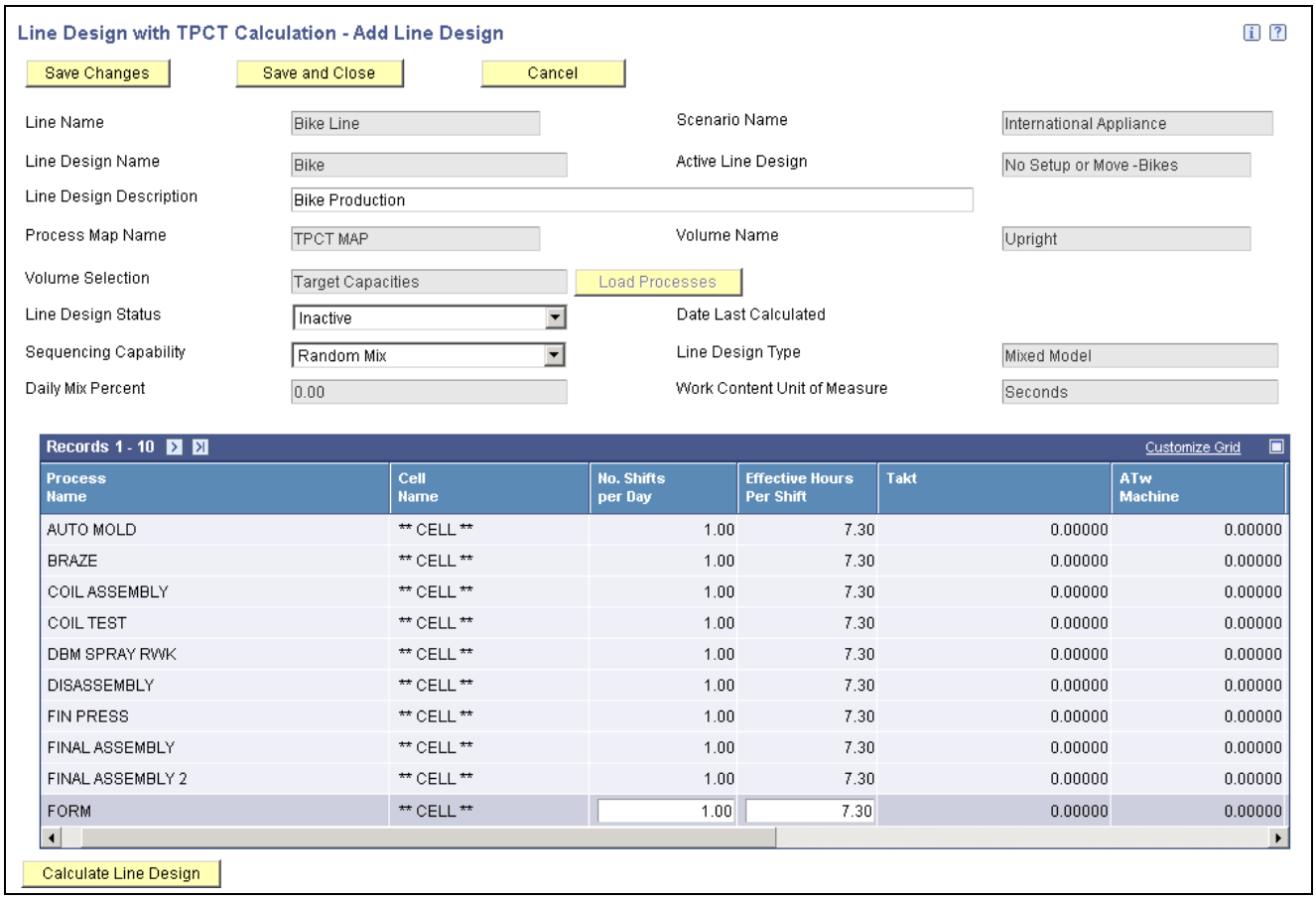
Versions

This processing option controls the version that the system calls when you run the following program from the Mixed Model Line Design program:

1. Calculate Total Product Cycle Time by Line Design (RF30L921) Version If you leave this processing option blank, the system uses the default version, XJDE0001.

Adding a Line Design

Access the Add Line Design form.



Add Line Design form

Complete the Line Name field, theLine Design Name field, and the Process Map Name field.

Load Processes Click to retrieve processes from the process map.

Line Design Status Identifies the status of a line design. The status can be active or inactive. Only one line design per line can be active.

Sequencing Capability Specify a method for sequencing the line. Values are:

Blank

Random Mix

Batch

User Defined

These values are stored in the Sequencing Capability UDC table (F30L/SQ).

Daily Mix Percent Specify this value as a factor in determining cycle of imbalance. This field is not available for random mix.

Line Design Type Indicates the type of line design that you create. This field is populated when you select a process map and load the processes into the line design.

	If the process map includes only one product, you create a line design for a dedicated line. Values are: *Mixed Model* *Dedicated* These values are stored in the Line Design Type UDC table (F30L/TY).
No. Shifts per Day (number of shifts per day)	Overrides the default number of shifts. The system deletes the changes when you recalculate the line design.
Effective Hours per Shift	Overrides the default effective hours. The system deletes the changes when you recalculate the line design.
Designed Machines and **Designed Labor Operations**	Overrides the suggested values, which are based on the calculated values. The system deletes the changes when you recalculate the line design.
Calculate Line Design	Click to calculate the line design. Line design processing calculates the following values for every process on the line design: • Takt time. • Actual time weighted for machine and labor. • Number of operations for machine and labor.

Setting Processing Options for Calculate Total Product Cycle Time by Line Design (RF30L921)

These processing options control default settings for the Calculate Total Product Cycle Time by Line Design program.

Defaults

This processing option controls which time source for calculating total product cycle time the system uses when you run the program.

1. Total Product Cycle Time Selection	Specify the time selection to use when calculating total product cycle time. If you leave this processing option blank, the system uses Process Map Actual Times as the default. You can retrieve time selection values from the Transaction Status UDC table (F30L/TS). Values are: *10:* Process map actual times. *20:* Sequence of events. *30:* Process map design selection.

Calculating Total Product Cycle Time

This section provides an overview of total product cycle time calculations and discusses how to calculate total product cycle time for a product.

Understanding Total Product Cycle Time Calculations

After you have created the line design, you can calculate total product cycle time (TPc/t) for an item, using the Calculate Total Product Cycle Time by Line Design program (PF30L920). TPc/t is the calculated work content time through the longest path of the product synchronization that is required to build a product. TPc/t is typically less than the total work content time that you need to build the entire product. You have three options to determine which type of work content that the system uses to calculate TPc/t:

- Actual time entered on the process map.
- Work content from the sequence of events.
- Design selection on the process map.

The system calculates total product cycle time for one product at a time based on a line and line design, using the critical path algorithm. The calculation is based on the following rules:

- The static quantity is not used in the calculation.
- The calculation uses the longest of the overlapping times for overlapping sequences.
- For tasks that are standard tasks, the TPc/t calculation multiplies the time to complete one sequence by the number of times the task is to be repeated.
- The calculation begins at the end-of-line process and moves backwards through the product synchronization, searching for the longest accumulated work content time.
- The work content time that is counted for each process is the time from the last sequence back to the point at which a feeder process is consumed.

After you calculate TPc/t, the Define Total Product Cycle Time form displays the processes that occur on the critical path along with their times and the paths on which they occur.

If the selected work content source identifies value-added and non-valued added work, the TPc/t calculation calculates and displays these values separately. It also calculates the percentage of value-added or required work.

The system does not perform the TPc/t calculation when the selected work content sources do not contain any time information. In this case, the system issues an error message.

Note. When calculating total product cycle time, the system updates the FF30L501 table if the primary line that is defined in the FF30L501 table matches the item in the line design.

When you run the calculation, the system populates the Total Product Cycle Time and Primary Linefields in the DFM Item Master program (PF30L501). You can export the item record with the updated total product cycle time and primary line back to the JD Edwards EnterpriseOne inventory tables by running the DFM Export Item Branch program (RF30L501E).

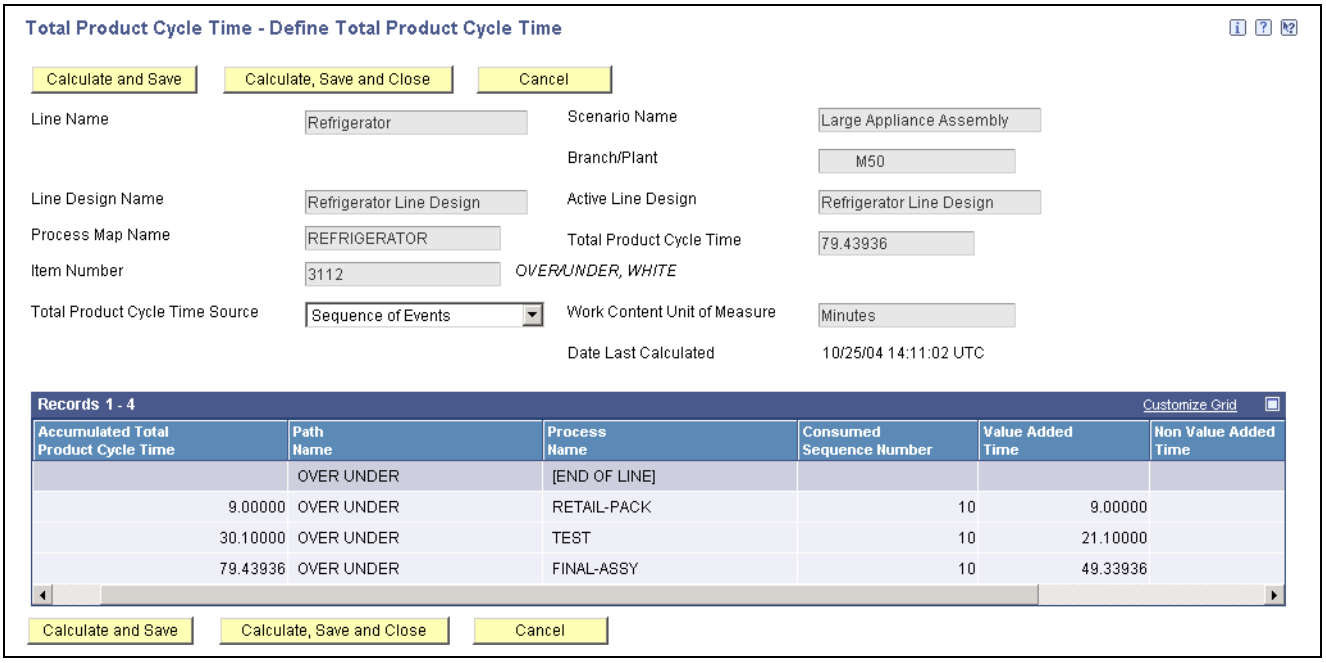
See Chapter 3, “Integrating Demand Flow® Manufacturing with Other JD Edwards EnterpriseOne Applications,” Understanding Data Export from JD Edwards EnterpriseOne Demand Flow® Manufacturing, page 46.

Form Used to Calculate Total Product Cycle Time

Form Name	FormID	Navigation	Usage
Define Total Product Cycle Time	WF30L920E	Line Design Management (GF30L21), Total Product Cycle Time Complete the Line Design Name, Branch/Plant, and Item Number fields on the Search for Total Product Cycle Time form, and click the Find button. Select a product, and click the Define Total Product Cycle Time button on the Search for Total Product Cycle Time form.	Calculate total product cycle time for the selected product.

Calculating Total Product Cycle Time for a Product

Access the Define Total Product Cycle Time form.



Define Total Product Cycle Time form

Calculate and Save and **Calculate, Save and Close** — Click to perform the total product cycle time calculation. The system displays the calculation results in the grid. If you use the Calculate, Save and Close button, the system automatically closes the form when the calculation is complete.

Accumulated Total Product Cycle Time — Displays the total product cycle time as it accumulates from process to process.

Consumed Sequence Number — Displays the sequence number of the task into which the process feeds if you calculate total product cycle time based on the sequence of events as work

content selection. For example, if a main line process feeds into another main line process, the value in this field is *10* (first task).

Value Added Time, Non Value Added Time, and **Value Added Percent** — Provides information about the amount of process time that is value-added or non-value added. If the process time does not include non-value added time, the value-added percentage is 100 percent.

Calculating and Maintaining Operational Definitions

This section provides an overview of operational definition, lists prerequisites, and discusses how to:

- Set processing options for Define DFM Operational Definition (PF30L950).
- Calculate operational definitions.
- Revise and recalculate an operational definition.

Understanding Operational Definition

After you have calculated the number of labor and machine operations that are required for each process in the line design, the next step is to create an operational definition. The operational definition enables you to simulate various options for structuring each process within the line design. After you have arrived at a satisfactory solution, you can return to the sequence of events and line design for which you calculated the operational definition and adjust them, based on the calculation.

In the operational definition, you group the tasks from the sequence of events that the line design is based on into operations based on the number of operations that are calculated for the mixed-model line design. You calculate the operational definition using one product that represents the other products that go through the same process.

When you create an operational definition using the Define DFM Operation Definition program (PF30L950), you retrieve all existing line designs and select the one for which you want to create an operational definition. The system retrieves the processes from the selected line design, including the following values:

- Process or cell.
- Takt time.
- Actual time weighted for machine and labor.
- Calculated and designed number of machine and labor resources.
- Work content selection.

Note. The design selection has to be the sequence of events; otherwise, you cannot calculate the operational definition.

To calculate an operational definition for the line design, specify a representative item number for each process. When you enter the representative item, the system calculates the sequence-of-events total time, as well as the operational index. This value serves as a guideline for grouping tasks into operations. You can also enter a tolerance percent value that enables you to group tasks to an operation using a time frame that is greater than the calculated operational index by the defined percentage. The system uses the operational index and the tolerance percentage to determine how many tasks can fit into one operation.

The operational definition calculates operations like this: The system retrieves all the tasks from the sequence of events for the process. The calculation assigns tasks to operations in the order that they appear on the sequence of events, accumulating the task times until the operational index is reached. After you add a task time that causes the cumulative task time to exceed the operational index value, the system assigns this task to the next operation. If tasks are repeated, the system can assign repetitions to different operations, if necessary. The last operation receives all the remaining tasks regardless of whether the accumulated task time is greater than the operational index. You can group tasks that should be performed together to avoid moving them to another operation. The system groups them to the operation of the first task in the task group.

When you calculate an operational definition for the first time, the calculation is automatically based on the actual time values from the sequence of events. Actual time from the sequence of events equals task time multiplied by the task repetition value. For overlapping tasks, the system uses the time of the longest of the overlapping tasks. More than two tasks can overlap. After you have calculated the operational definition, the system displays the last calculation date. If you have already calculated an operational definition and want to calculate it again after making changes, the system automatically selects the operational definition as the calculation basis. When the system recalculates the operational definition, the operational index is recalculated to account for the changes that you made. The system does not recalculate the number of operations.

Note. If you change the calculation basis manually on the Manage Calculated Operational Definition form, the system displays a form with a warning. When you click OK on this form, the system does not automatically perform the calculation. You have to click the Calculate button to start the calculation.

In addition to assigning tasks to operations, the system calculates in-process kanbans (IPK) as part of the operational definition. In-process kanbans represent in-process inventory and isare used to signal demand, resolve imbalances, and indicate where and when to flex the operational definition. The system calculates in-process kanbans by operation. It becomes *1* by default if the actual time by operation is less than or equal to Takt time. The IPK calculation is based on the line design type and sequencing capability.

The in-process kanban for a dedicated line is calculated like this: IPK = I × C ÷ Takt, where *I* represents imbalance and *C* represents cycle of imbalance.

Imbalance is calculated by subtracting Takt time from operational actual time. The calculation of the cycle of imbalance depends on the line design type and sequencing capability. The following table illustrates how the calculations differ:

Dedicated Line	Mixed Model Line
C = HE ÷ AT	• Random Mix: C = 1 • Batch: C = HE (S) ÷ (ATw × (1 − Daily Mix %)

The operational definition displays the in-process kanban at the appropriate task. You can manually change the calculated value.

After you have calculated the operational definition, the system enables you to review the calculated results and manually balance operations in the Operational Definition Maintenance program (PF30L951). You can move tasks or delete them, for example, non-value added tasks. You can also add new tasks. When you have completed this step, you recalculate the operational definition with the operational definition as the calculation basis.

Based on the operational definition, you can create operation method sheets. Operation method sheets are detailed graphical work instructions that you can attach to each item and operation combination. To create operation method sheets, create media objects as attachments.

Prerequisites

Calculate the following values:

- Sequence of events for the processes for which you want to create operational definitions.
- Mixed-model line design with Takt time and number of required operations for each process.

Forms Used to Calculate and Maintain Operational Definitions

Form Name	FormID	Navigation	Usage
Define Operations	WF30L950B	Line Design Management (GF30L21), Operational Definition Select a line design, and click the Define button on the Search for Operational Definition form.	Calculate operational definitions.
Manage Calculated Operational Definition	WF30L951A	Line Design Management (GF30L21), Operational Definition Maintenance Select an operation, and click the Manage Operational Definition button on the Search for Operational Definition form.	Revise and recalculate operational definitions manually.

Setting Processing Options for Define DFM Operational Definition (PF30L950)

These processing options control default settings for the Define DFM Operational Definition program.

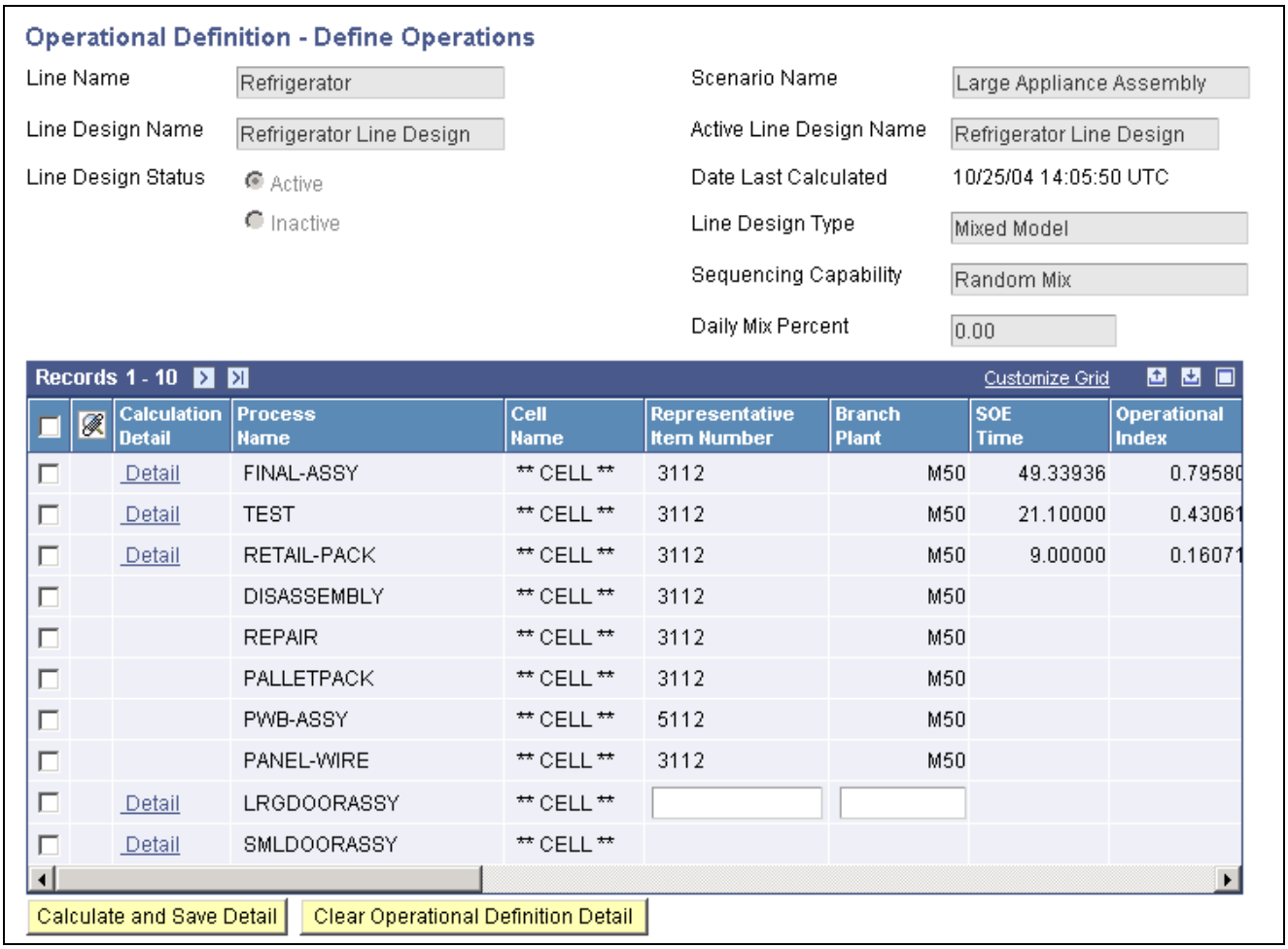
Version

This processing option controls the version that the system calls when you run the following program from the Define DFM Operational Definition program:

Operational Definition - Print (RF30L950) If you leave this processing option blank, the system uses the default version, XJDE0001.

Calculating Operational Definitions

Access the Define Operations form.



Define Operations form

Representative Item Number Enter the product that represents the other products that share the process for which you are calculating the operational definition.

Operational Index Defines the time that is available in an operation within a process. It is calculated by dividing actual time (from the sequence of events) by the number of operations that are calculated in line design.

Tolerance Percent Enter the tolerance value that enables you to exceed the calculated operational index value by the stated percentage when grouping operations. This value is supplied by default from the line design control parameters that are set up for the scenario, but you can override it here to balance actual time to the operational index.

Cal. Basis (calculation basis) Specify which sequence of events to use as a basis for calculating the operational definition. Values are:

OD: Operational definition.

PM: SOE from PMap.

These values are stored in the Op Def Calculation Basis UDC table (F30L/OC).

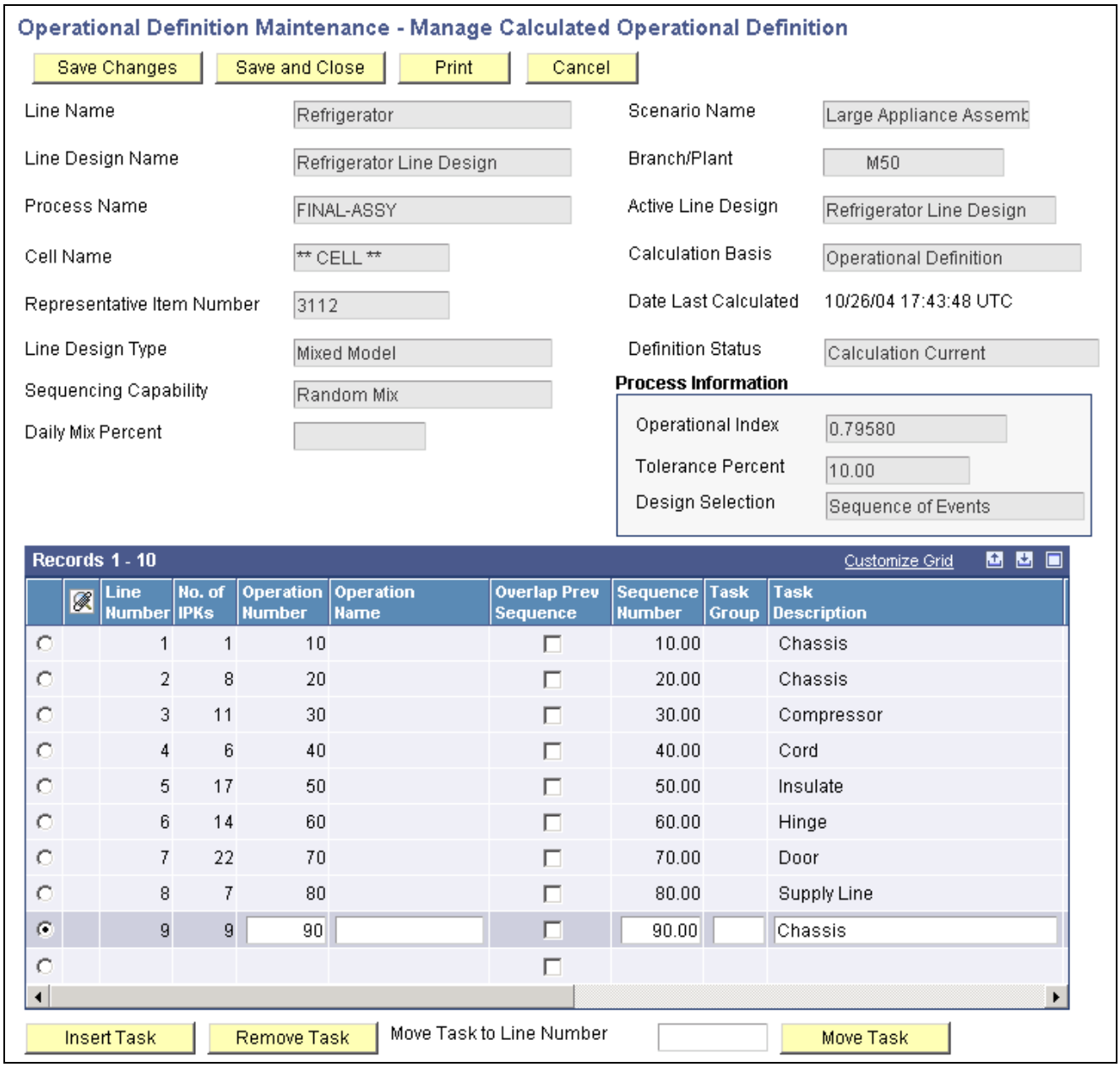
Calculate and Save Detail Click to calculate the operational definition and store the tasks that are grouped into operations in the F30L951 table. This action updates the Date Last Calculated field.

Calculation Detail Click the link in this field to access the Manage Calculated Operational Detail form.

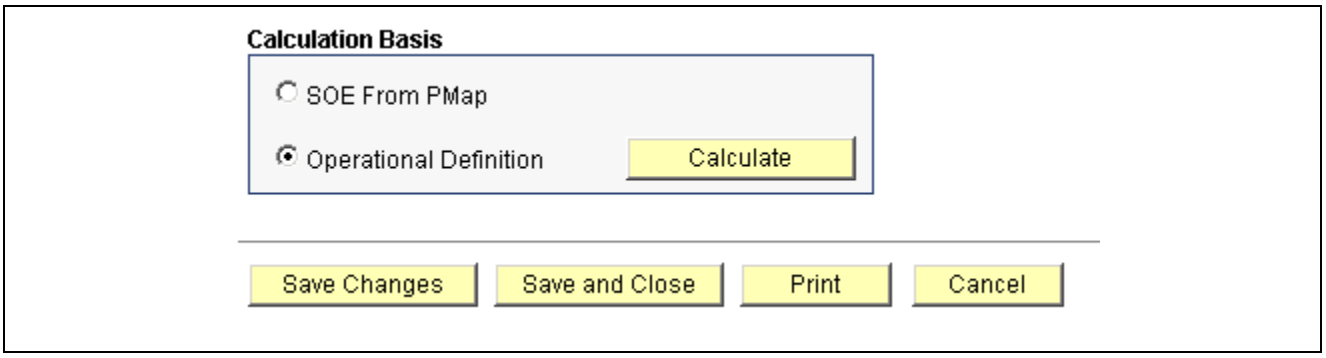
Print Click to generate the DFM Operational Definition report (RF30L950).

Revising and Recalculating an Operational Definition

Access the Manage Calculated Operational Definition form.



Manage Calculated Operational Definition form (1 of 2)



Manage Calculated Operational Definition form (2 of 2)

No. of IPKs (number of in-process kanbans) — Displays the calculated number of in-process kanbans between operations.

Operation Number — Displays the number of the operation that you have assigned a task either manually or by calculation.

Operation Name — Assigns a name to each operation.

Overlap Prev Sequence (overlap previous sequence) — Define tasks as overlapping in the sequence of events; you can do so here to help balance the workflow.

Task Group — Define tasks within an operational definition as a group. If you group tasks in this way, the operational definition calculation treats the task group as a single entity when assigning operations.

Sequence Time — Displays the duration of a task within an operation. The system typically retrieves this value from the task on the sequence of events or standard sequence of events. In cases in which you have defined a static quantity, the system calculates sequence time.

Cumulative Time — Displays the sequence times cumulatively for a process. The total time should be less than Takt time to facilitate effective balancing of operations.

Insert Task — Select a task and click to insert a task before the selected task.

Remove Task — Select a task and click to remove the task from the operational definition.

Move Task — Click to move a task from its present location to a new location defined by the line number that you specify.

Calculation Basis — Displays the sequence of events as the calculation basis when calculating the operational definition for the first time. For any subsequent calculations, the operational definition serves as the calculation basis. If you change the calculation basis manually, the system displays a warning. You can override the warning and recalculate the operational definition.

Print — Click to generate the DFM Operational Definition Detail report (RF30L951), which lists the results of the operational definition that you calculated.

Save and Close — Overwrites any previously calculated operational definition for this product and process when you save the calculated operational definition.

Augmenting Line Design Data for Execution

This section provides an overview of line design augmentation, lists prerequisites, and discusses how to:

- Set processing options for Augment Line Design (RF30L930).
- Run the Augment Line Design program (RF30L930).

Understanding Line Design Augmentation

If you integrate JD Edwards EnterpriseOne Demand Flow® Manufacturing with JD Edwards EnterpriseOne Manufacturing, you have to populate the F3003 table with routing information to support shop floor processing and manufacturing accounting transactions. Without augmentation of line design data, the processing system does not have enough data for these transactions.

JD Edwards EnterpriseOne Demand Flow® Manufacturing provides the Augment Line Design program (RF30L930) to augment line design data based on the process and time information on the process map. You must have an active line design. When you run this batch program, the system:

- Retrieves the processes that are required to manufacture a product from the process map.

  If a process is repeated on the product synchronization, the Augment Line Design program includes it only once.
- Retrieves TPc/t to ensure that the processes that lie on the critical path are marked as critical processes.
- Sequences processes following the associated product synchronization.

When you run the Augment Line Design program, the system populates the FF30L930 table. To create FF30L930 records that can then be exported to the F3003 table, the system retrieves the following values from DFM tables to populate the appropriate fields:

- Item and branch information from the FF30L902 table.
- The work center branch from the FF30L701 table if the cell on the process map is the default cell.
- The work center branch from the FF30L905 table if the cell is not a default cell.
- The line/cell information from the FF30L912 table.

After you have run the Augment Line Design program, you run the DFM - Export Routings program (RF30L930E) to populate the F3003 table. The system creates a routing that matches the bill-of-material revision level.

Note. The system uses the routing records from the FF30L930 table when you synchronize the bill of material with the routing. After the synchronization, you can run the DFM BOM Export program (RF30L002E).

See Chapter 3, "Integrating Demand Flow® Manufacturing with Other JD Edwards EnterpriseOne Applications," Exporting Data from JD Edwards EnterpriseOne Demand Flow® Manufacturing to JD Edwards EnterpriseOne Base Manufacturing, page 46.

Prerequisites

To run the Augment Line Design program, you must:

- Define and calculate a product synchronization.
- Create a process map.

- Set up line master and cell master records.
- Calculate a line design.
- Calculate TPc/t.

Setting Processing Options for Augment Line Design (RF30L930)

These processing options control default processing for the Augment Line Design program.

Defaults

These processing options control default values for sequencing routing steps.

1. Starting Sequence Number	Specify the sequence number that you want to use as the starting sequence number for routing steps. If you leave this processing option blank, the system uses the default start value that is defined for the scenario.
2. Sequence Number Increment	Specify the value that the system uses to increment the series of operation sequence numbers on a routing. If you leave this processing option blank, the system uses the default value that is defined for the scenario.

Running the Augment Line Design Program (RF30L930)

Select Demand Flow® Advanced Processing (GF30L31), Augment Line Design.

CHAPTER 5

Managing Kanban in a Demand Flow® Environment

This chapter provides an overview of DFM kanban management, lists prerequisites and common fields, and discusses how to:

- Set up kanban constants.
- Set up kanban location master.
- Define kanban pull chains.
- Create kanban demand.
- Revise kanban demand.
- Assign pull chain to components.
- Calculate kanban size.
- Approve kanban size.
- Revise DFM kanban masters.
- Define kanban messages.
- Print kanban labels.

Understanding DFM Kanban Management

JD Edwards EnterpriseOne Demand Flow® Manufacturing supports kanban management as well as integration with JD Edwards EnterpriseOne Kanban Management. Before you can begin using DFM Kanban Management, you must define kanban attributes in the item definition. Basic kanban attribute information is set up by item number and branch/plant. You can include additional information, such as commodity code, unit of measure, lot and serial number control, kanban planned item, and label type.

After DFM Kanban Management is set up, you use the Export Kanban Supply/Consumption Points program (RF31K42E) and the Export/Purge Kanban Master program (RF31K30E) to export kanban locations and kanban master records from JD Edwards EnterpriseOne Demand Flow® Manufacturing to JD Edwards EnterpriseOne Manufacturing.

During export, values for kanban sizes calculated in DFM populate the kanban size field in Manufacturing. The override flag in the F3016 table is set to *1* for DFM imported kanban records. This prevents the Kanban Size Calculation program (R30450) in Manufacturing from recalculating the kanban size and overriding the DFM calculated kanban sizes.

You now perform kanban management within base manufacturing that supports lean manufacturing transactions. Nonreplenishable kanban items are processed through material requirements planning (MRP). Since type 0 kanbans are within the raw in-process process (RIP) area, the Kanban Processing program (P3157) enables check-in and check-out of type 0 kanbans, though no transaction occurs.

Note. Kanbans cannot be exported from JD Edwards EnterpriseOne Manufacturing to JD Edwards EnterpriseOne Demand Flow® Manufacturing.

See Chapter 3, "Integrating Demand Flow® Manufacturing with Other JD Edwards EnterpriseOne Applications," page 37.

User-Defined Codes for DFM Kanban Management

User-defined codes (UDCs) are stored in tables by system and code type. For example, system 30, type TB represents Product Data Management (system 30) and time basis code (TB). To set up UDCs, use the User Defined Codes program (P0004A) to identify the codes that you want to use. If you are working in a program and attempt to enter a UDC that was not defined on the User Defined Codes form for a particular UDC table, the system displays an error message.

This table describes the UDCs that are primary to the DFM kanban system:

User-Defined Codes	Description
Kanban Control Flag (F31K/KC)	These codes indicate whether an item is kanban-controlled.
Kanban Label Message (F31K/LM)	These codes indicate the message that is used on the kanban label.
Lot/Serial Number (F31K/LS)	These codes indicate if an item is lot-controlled or serial-number-controlled.
Kanban Label Types (F31K/LT)	This UDC table maintains kanban label types that indicate the label type for replenishable, nonreplenishable, and dual card kanbans.
Replenishment Source (F31K/RS)	This UDC table maintains replenishment source types that indicate the type of supplying location for a kanban.
Kanban Sizing Action Code (F31K/SA)	This UDC table maintains action codes that specify the action that the system takes upon approval of the kanban size.
Kanban Type (F31K/TK)	These codes indicate whether a kanban is replenishable or nonreplenishable.

See JD Edwards EnterpriseOne Tools 8.96 Foundation Guide

Prerequisites

To use kanban management in JD Edwards EnterpriseOne Demand Flow® Manufacturing, you must set up the following information:

- Scenario
- Items
- Volume and line design
- Process maps
- Capacity sources associated with process maps.

Common Fields Used in This Chapter

Kanban Label Message — Assign a kanban label message from user-defined code F31K/LM.

Kanban Type — Enter a replenishment source type from user-defined code 31/RS. The replenishment source type specifies the type of supplying location for a kanban. Values are:

0: DFM Raw In-Process (RIP)

1: Work Center

The work center kanban type is not used by DFM kanban. It is used only in base manufacturing.

2: Inventory

3: Supplier

4: Outside Assembly

The outside assembly kanban type is not used by DFM kanban. It is used only in base manufacturing.

6: DFM Dual Card

Kanban UOM (kanban unit of measure) — Enter a value that specifies the unit of measure associated with the kanban.

Location — Enter a valid storage location.

Non Replenishable and **Non-Replenishable Item** — Define the item as nonreplenishable. Nonreplenishable kanbans are single-use kanbans used to compensate for spikes in demand, to produce products that are not commonly manufactured, or to adjust for other unplanned events. Nonreplenishable kanbans are not exported from JD Edwards EnterpriseOne Demand Flow® Manufacturing to JD Edwards EnterpriseOne Manufacturing. MRP is used to plan and schedule nonreplenishable items.

Preparation Code and **Prep Code** — Enter the prep code associated with a component in the bill of material. When a component goes through a preparation location it is given a prep code. The prep code is identified in the bill of material.

Preparation Location — Select this flag. When a component goes through a preparation location, it is given a prep code. The prep code is identified in the bill of material.

Pull Chain Name and **Pull Chain** — Enter a value that defines the name of a pull chain. A pull chain is a set of pull sequences that define the path of locations that a component item will travel, beginning at the final consumption location and ending at the original supply location.

Recommended Kanban Quantity, Recommended Quantity, and **DFM Kanban Recommended Quantity**	Displays the quantity that will be transferred by kanban check-in and checkout. This represents the new quantity as a result of running the DFM Calculate Kanban Sizes program (RF31K22).
Replenishment Hours	Enter the replenishment time, expressed in hours, for the component. This value is used in the kanban size calculation for single or dual kanban cards.
Safety Factor Percentage	Enter a fixed percentage that the system uses to determine the safety factor for an item. The system increases the quantity by this percentage.
Supplier Number	Enter a number that identifies an entry in the supplier master.

Setting Up Kanban Constants

This section provides an overview of kanban constants and discusses how to set up kanban constants.

Understanding Kanban Constants

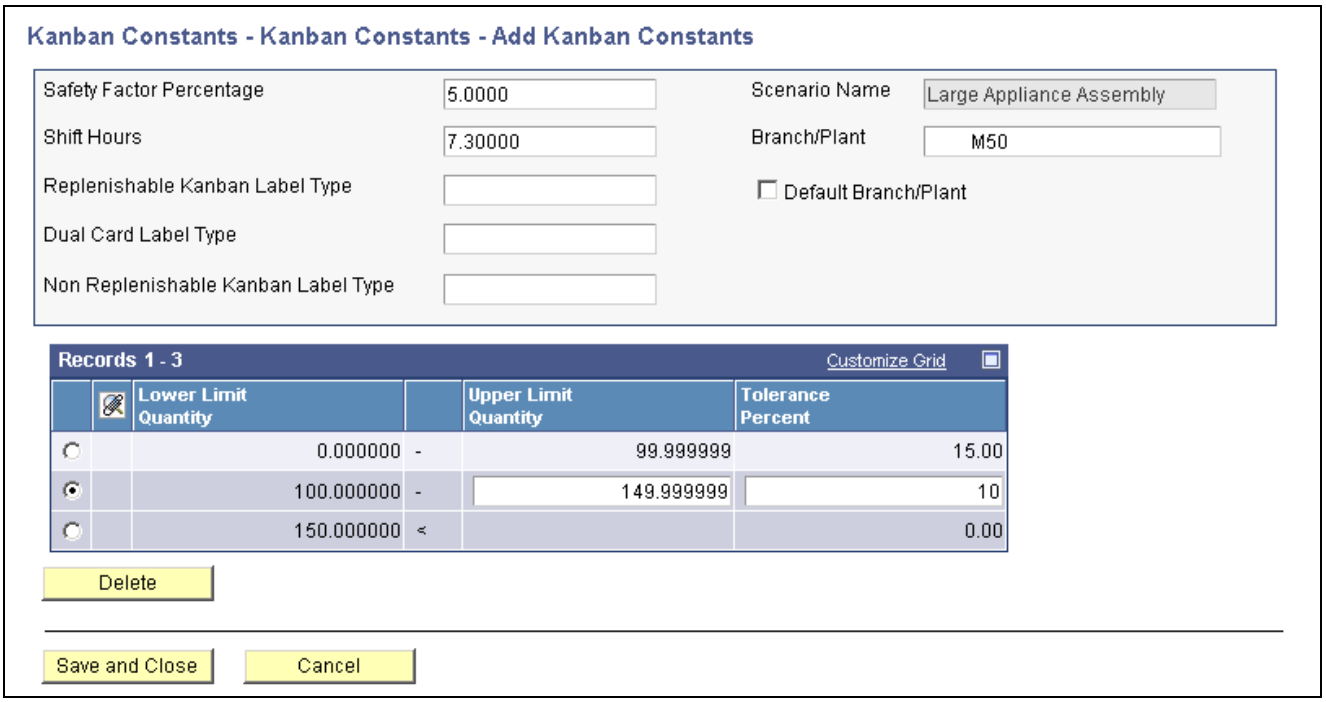
You use the Kanban Constants Application (PF31K50) to define kanban constants by branch/plant. You can set up a default branch/plant, such as *DEFAULT*, so that you need to set up only branch/plants that require different constants. The system looks for a specific branch/plant and if it does not find one identified, then it automatically uses the default you have set up.

Forms Used to Set Up Kanban Constants

Form Name	FormID	Navigation	Usage
Search For Kanban Constants	WF31K50A	Demand Flow® Kanban Setup (GF31K31), Kanban Constants	Search for existing kanban constants to edit, copy, or delete.
Add Kanban Constants	WF31K50C	Click the Add button on the Search For Kanban Constants form.	Set up kanban constants by branch/plant.

Setting Up Kanban Constants

Access the Add Kanban Constants form.



Add Kanban Constants form

Shift Hours Enter the number of hours per shift during which kanban replenishment can occur. The number of hours is used in the single and dual card calculations.

Replenishable Kanban Label Type Enter a kanban label type from user-defined code F31K/LT. Single and dual kanban cards are replenishable kanbans.

Dual Card Label Type Enter a kanban label type from user-defined code F31K/LT that indicates the label type for a dual card kanban.

Non Replenishable Kanban Label Type Enter a kanban label type from user-defined code F31K/LT. Nonreplenishable kanbans have a replenishment source (UDC 31/RS) of 1 (work center) and require a work order.

Default Branch/Plant Select to specify the default branch/plant that will be used for sizing calculations if a specific branch/plant record does not exist.

Upper Limit Quantity and **Lower Limit Quantity** Enter an upper and lower limit to which the tolerance percentage applies when calculating the kanban quantity.

Tolerance Percent Define a percent used to derive a range for resizing a kanban in kanban management. If the kanban resizing is within the range, the kanban master is not updated with the resize quantity. If the kanban resizing is outside of the range, the kanban master is updated with the resize quantity.

For example, the lower and upper limit is between 0 and 100 with a tolerance percent of 10. When the kanban size is 80 the range will be 72 -88. If the resize quantity is 90, which is not in the range, the new kanban quantity of 90 is used to update the kanban master.

For existing kanbans, the tolerance percent is used to generate a recommended action. If the kanban is within tolerance, then no action is recommended. If the kanban is outside of tolerance, then an action is recommended and kanban records will be updated if the action is acted upon.

Setting Up Kanban Location Master

This section provides an overview of the kanban location master and discusses how to set up the kanban location master.

Understanding the Kanban Location Master

You use the DFM Kanban Location Master program (PF31K42) to define the locations for a kanban. Locations can be imported from the F4100 table to the FF31K42 table by using the DFM Import Kanban Locations program (RF31K42I).

Note. For raw in-process kanbans, inventory movement is not tracked. Therefore, the consuming and supplying locations do not need to be valid locations in the F41021 table.

Forms Used to Set Up Kanban Location Master

Form Name	FormID	Navigation	Usage
Search for Locations	WF31K42A	Demand Flow® Kanban Setup (GF31K31), Kanban Locations	Search for existing kanban locations to edit or delete.
Add Location	WF31K42B	Click the Add button on the Search for Locations form.	Set up kanban locations.

Setting Up Kanban Location Master

Access the Add Location form.

Add Location form

Dual Card Calculation Set to indicate whether the dual card calculation should be used for the location.

Defining Kanban Pull Chains

This section provides an overview of kanban pull chains, lists prerequisites, and discusses how to define kanban pull chains.

Understanding Kanban Pull Chains

You use the DFM Kanban Pull Chain Master Application (PF31K41) to define a pull chain for material replenishment. A pull chain is the sequence of locations through which a component item will travel, beginning at the final consumption point and ending at the original supply point.

A pull chain is made up of one or more pull sequences. A pull sequence is a supply point and consumption point. You define additional information between these points such as replenishment hours, kanban replenishment type, and kanban unit of measure.

The points are defined as inventory, machine cells, or suppliers. The supply point might be an inventory location or a vendor. You can track inventory transactions at the defined point.

The pull chain is a parent/child structure. Thus, the supply point from the previous sequence in the pull chain will, by default, be the consumption point in the next sequence.

Note. The kanban supply and consumption points defined in JD Edwards EnterpriseOne Demand Flow® Manufacturing as pull sequences will be exported to base manufacturing. In base manufacturing, the consumption and supply points that have inventory transactions enabled will be converted to inventory locations. The system performs transactions at each point in a pull chain. However, there should only be transactions from stores to point-of-use resupply (POUR) or RIP and no transactions within the RIP inventory locations.

See Chapter 3, "Integrating Demand Flow® Manufacturing with Other JD Edwards EnterpriseOne Applications," Importing Data from JD Edwards EnterpriseOne Base Manufacturing to JD Edwards EnterpriseOne Demand Flow® Manufacturing, page 42.

Prerequisites

Before you can define pull chains, you must:

- Set up kanban constants.
- Define machine cells, suppliers, inventory locations, and kanban locations.

Forms Used to Define Kanban Pull Chains

Form Name	FormID	Navigation	Usage
Search for Pull Chains	WF31K41B	Demand Flow® Kanban Setup (GF31K31), Pull Chain Revisions	Search for existing pull chains to edit, copy, or delete.
Add Pull Chain	WF31K41C	Select a pull chain on the Pull Chain Revisions - Search for Pull Chains form, and click the Add button.	Define pull chains.

Defining Kanban Pull Chains

Access the Add Pull Chain form.

Consumption Location Enter the location where components or raw materials will be consumed in a kanban pull chain.

Consumption Branch Plant Enter the branch/plant of the consuming location.

Supply Location	Enter the location from which components or raw materials have been transferred to a consuming location in a kanban pull chain.
Supply Branch Plant	Enter the branch/plant of the supplying location.
Package UOM (package unit of measure)	Enter a code from user-defined code 00/UM that indicates how items are transported between locations.
Insert Sequence Above	Click to add a row to the pull chain. The first consumption location is on the line from supply. In the next sequence, the supply location from the previous sequence becomes the consumption location.
Delete Sequence	Click to delete the selected sequence.

Creating Kanban Demand

This section provides an overview of kanban demand creation and discusses how to create kanban demand.

Understanding Kanban Demand Creation

You use the Kanban Demand Tables Import from Volume Design program (RF31K10) to import component demand and kanban information from volume design in JD Edwards EnterpriseOne Demand Flow® Manufacturing. The program imports demand associated with a scenario ID and process map. This program performs a bill of material explosion.

Prerequisite

Set up kanban locations.

Running the Kanban Demand Tables Import from Volume Design Program (RF31K10)

Select Demand Flow® Kanban Management (GF31K11), Create Kanban Demand.

Revising Kanban Demand

This section provides an overview of kanban demand revisions and discusses how to define kanban demand.

Understanding Kanban Demand

You use the Define Kanban Demand program (PF31K10) to override the total kanban demand quantity and perform a bill of material explosion.

You revise kanban demand by process map and parent item. Total demand can be resized for all parent items on a process map using the Flow Capacity Percentage.

Kanban demand is calculated based on the kanban demand at capacity for the products produced on the Demand Flow® mixed model production line. Dependent demand is calculated and independent demand can be added to account for independent field replacement unit (FRU) demand and additional demand not represented in the system.

The sum of the dependent and independent demands represents the total kanban demand. You can override total demand by specifying an amount and setting the override flag.

After you have established the total demand for the parent item, you save the information and explode the bills of material. This explodes the demand for the parent items down to the component items for the process maps. If the parent item has shrink defined, the component demand is inflated accordingly.

After demand is established, the quantities are associated with a pull chain and kanban sizing is performed.

Prerequisite

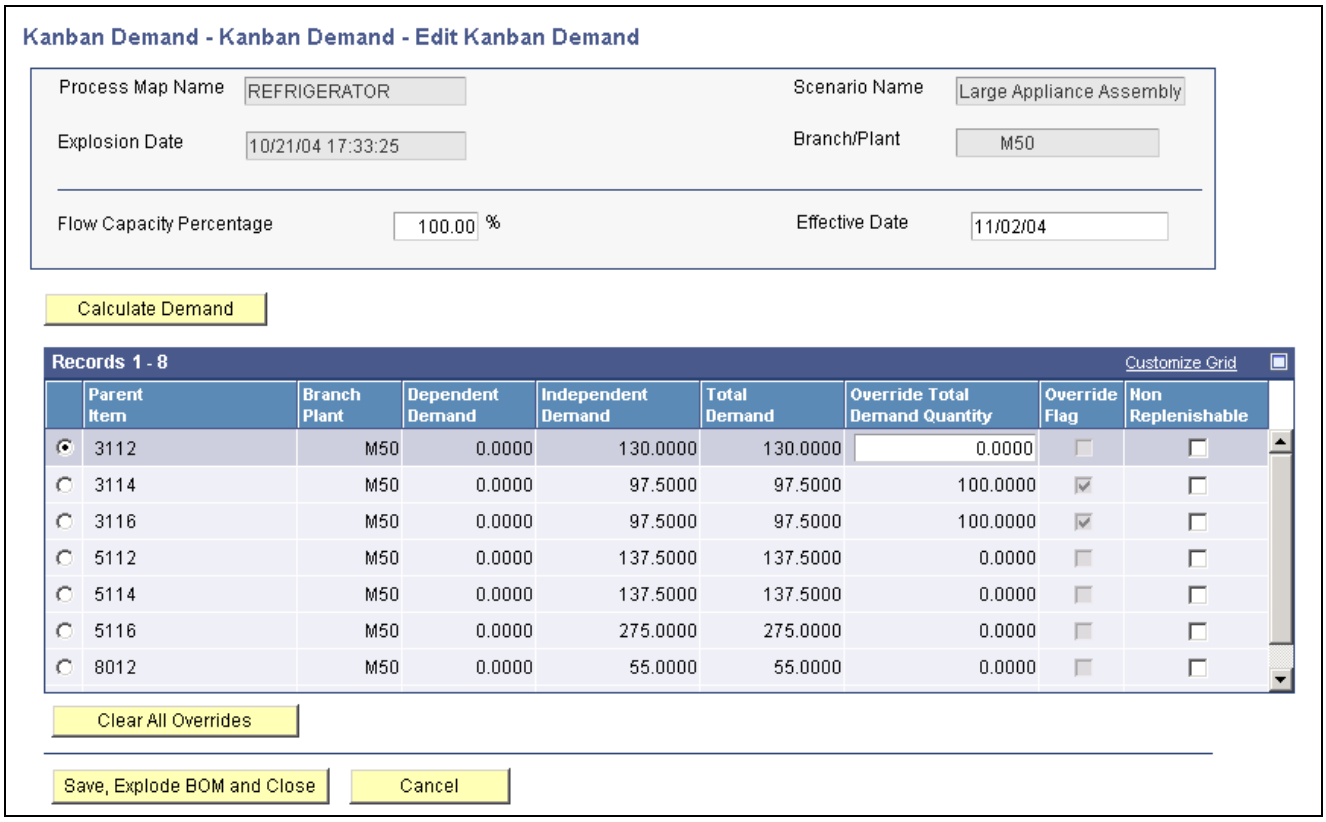
Create kanban demand.

Forms Used to Define Kanban Demand

Form Name	FormID	Navigation	Usage
Kanban Demand - Search for Process Maps	WF31K10A	Demand Flow® Kanban Management (GF31K11), Kanban Demand	Search for existing kanban demand by process map.
Edit Kanban Demand	WF31K10B	Select a record on the Search for Process Maps form, and click the Edit Kanban Demand button.	Define kanban demand by percentage or by override amount. Calculate kanban demand, explode BOM, and save.

Defining Kanban Demand

Access the Edit Kanban Demand form.



Edit Kanban Demand form

Explosion Date Displays the date that the bill of material explosion was performed by the system.

Flow Capacity Percentage Enter the percentage at which the production line runs. For example, based on forecasted demand, a production plant might redesign its assembly line to run at 85 percent.

Effective Date Specify the date used to determine the valid bill of material that will be used in the Exploded Material Definition (EMD).

Calculate Demand Click to calculate the demand for a specific kanban.

Dependent Demand Display the demand calculated by the system based on pull chain and component demand information.

Independent Demand Enter demand not accounted for by the system-dependant demand. Independent demand includes seasonal and field replaceable unit (FRU) demand.

Total Demand Display the total of dependent and independent demand for an item.

Override Total Demand Quantity Enter a quantity that will override the total demand calculated by the system.

Override Flag Set the flag to specify whether the system uses the override total demand quantity.

Clear All Overrides Click to clear any user-defined overrides.

Save, Explode BOM and Close Click to save the information entered on the form, explode the bill of material, and close out of the program.

Note. This button is disabled if the Flow Capacity Percentage field is changed. The Save, Explode BOM and Close button is enabled when you click the Calculate Demand button.

Assigning Pull Chain to Components

This section provides an overview of assigning a pull chain to components and discusses how to:

- Select components.
- Assign a pull chain to components.

Understanding Assigning A Pull Chain to Components

You use the DFM Kanban Assign Pull Chain to Component program (PF31K21) to assign components on a process map to one pull chain or multiple pull chains until the entire demand for a component is consumed.

The system enables you to change data on an existing pull chain, such as the replenishment hours.

Prerequisites

Before you can assign pull chain to components, you must:

- Define kanban pull chains.
- Perform bill of material explosion on the process maps.

Forms Used to Assign Pull Chain to Components

Form Name	FormID	Navigation	Usage
Filter Components	WF31K21A	Demand Flow® Kanban Setup (GF31K31), Associate Pull Chain to Components	Select components by searching for a process map, and filtering and selecting components.
Assign Pull Chain	WF31K21B	Select a record on the Assign Pull Chain - Filter Components form, and click the Assign Pull Chain button.	Assign a pull chain, pull sequence, and demand quantity to components

Selecting Components

Access the Filter Components form.

Select Components with EMD quantity (select components with enhanced material definition quantity) Select the filter to use for components on the process map.

All: Show all assigned and unassigned components on the process map.

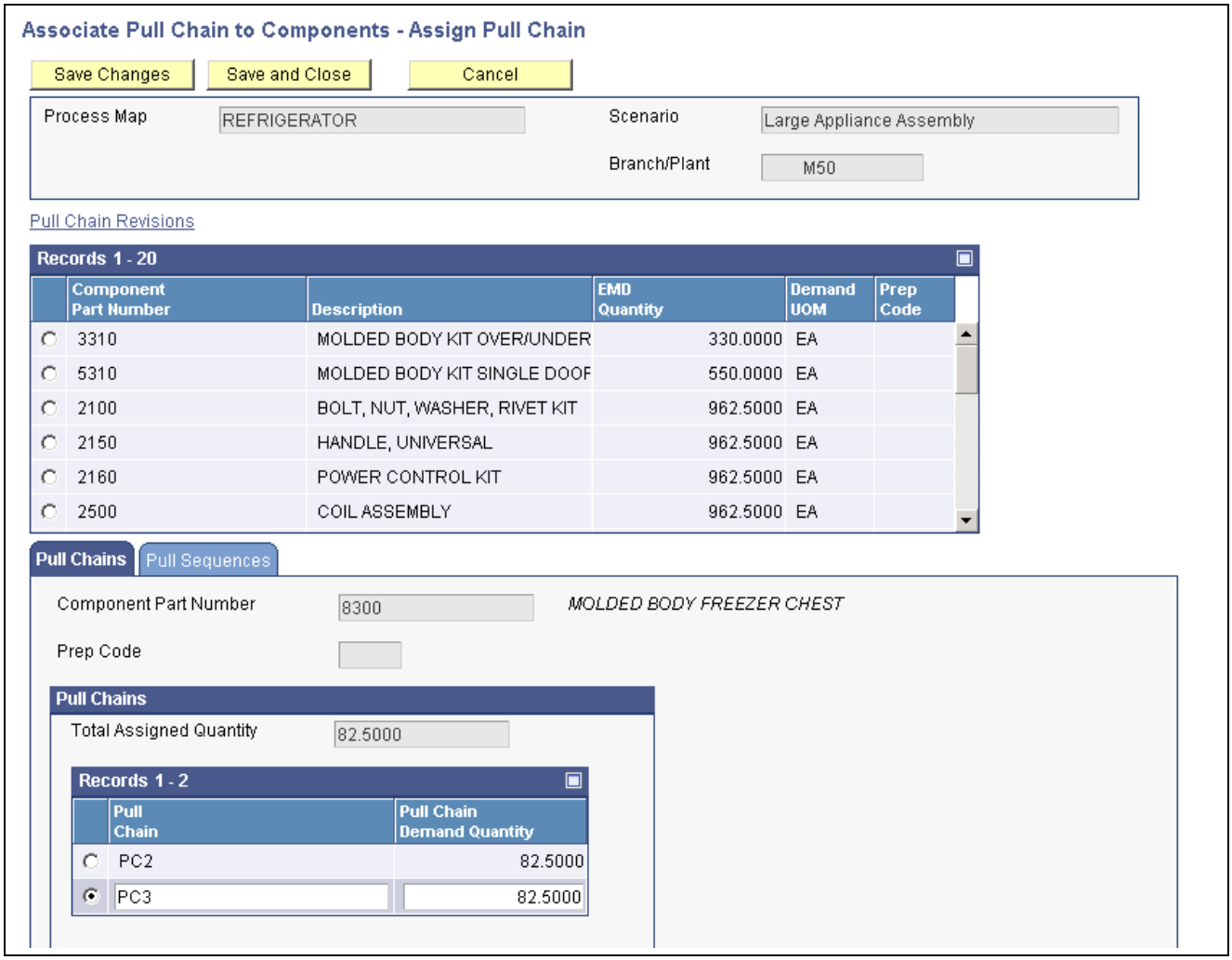
Fully assigned: Show all components for the process map where total demand quantity has been assigned to pull chains.

Not fully assigned: Show components for the process map where total demand quantity has not been fully assigned to pull chains.

Assign Pull Chain Click to access the Assign Pull Chain form. You use this form to assign a pull chain to a component on a process map.

Assigning a Pull Chain to Components

Access the Assign Pull Chain form.



Assign Pull Chain form

Pull Chains

Select the Pull Chains tab.

Total Assigned Quantity Displays the total demand quantity for the component that has been assigned to pull chains.

Pull Chain Demand Quantity Enter the demand quantity assigned to a specific pull chain for the component.

Assign New Chain Click to assign the component to a pull chain.

Pull Sequences

For the selected component, enter the associated pull sequence information for the pull chain.

Pull Sequence Demand Quantity	Enter the demand quantity assigned to a specific pull sequence in the pull chain.
Label Message	Enter the code from user-defined code F31K/LM to indicate the label type to use for the kanban.
Line Design Name	Enter the line design name to indicate where a type 6 kanban originated.
Line Name	Enter the line name associated with the component and pull chain. The line name is used during backflush.
First RIP	Select to indicate that the sequence is the first nonzero location outside the raw in-process area.

Calculating Kanban Size

This section provides an overview of calculating kanban size, lists a prerequisite, and discusses how to:

- Set processing options for DFM Calculate Kanban Sizes (RF31K22).
- Run the DFM Calculate Kanban Sizes program.

Understanding Kanban Size Calculation

You use the DFM Calculate Kanban Sizes program (RF31K22) to calculate the kanban size for replenishable, single card, and dual card kanbans. You select the process map and component items for which kanban sizes are to be calculated.

For each replenishable component selected, the system explodes through the pull chain and calculates the kanban size for each supply point. Non-cell supply points use this equation:

$$K_{\text{size}} = \frac{\sum (D_{\text{c}}) \times R \times (1 + SS \div 100)}{H_{\text{R}} \times P}$$

If the supply point is defined as a machine cell, the system uses this equation to calculate the minimum production quantity to recover internal setup for independent machine cells:

$$K_{\text{cell}} = \frac{SU}{TAKT - RT}$$

If the supply point is defined as a machine cell, the system uses this equation to calculate the minimum production quantity to recover internal setup for dependent machine cells:

$$K_{\text{cell}} = \frac{\sum (SU + RT)}{TAKT - RT_{\text{p}}}$$

The replenishment interval of the machine cell to produce K_{cell} units is calculated, $R_{cell} = [\sum RT \times (K_{cell} - 1)] + \sum(SU + RT + MV)$ for independent machine cells and $R_{cell} = [RT_p \times (K_{cell} - 1)] + \sum(SU + RT + MV)$ for dependent machine cells.

The minimum kanban quantity at the RIP is calculated using this equation:

$$K_{\mathrm{RIP}} = \frac{\sum (D_{\mathrm{c}}) \times R_{\mathrm{cell}} \times (1 + SS \div 100)}{H_{\mathrm{R}} \times P}$$

The system determines whether the kanban has to be defined as a single or dual card kanban. Single card kanbans pull material to the line from POUR areas or to the RIP inventory area from general stores or directly from vendors. The POUR is replenished directly from the machine cell.

Dual card kanbans pull material from machine work centers where substantial set up times drive the requirement to produce components in batches. Dual card kanbans are setup as type 6 and are supported only for internal machine cells. Transactions resulting from checkout and check-in of kanban master records do not occur until the correct number of dual card kanbans have been processed. For example, the first of a *1 of 3 dual card* kanban is checked out. The status is updated to wait-checkout. The second of a *1 of 3 dual card* kanban is checked out. The status is updated to wait-checkout. The third of a *1 of 3 dual card* kanban is checked out. All three kanbans are now updated to a checked-out status.

If $K_{RIP} \geq K_{cell}$ then a single kanban card can be used and if $K_{RIP} < K_{cell}$ then a dual card kanban must be used.

The calculated kanban size is compared to the current size of the kanban in the DFM Kanban Master. Any net change in size is calculated and recommendations on changes to the kanban size are made. Kanban sizes and recommendations are written to the FF31K25 table. You use the Kanban Sizing Approval Application (PF31K27) to accept or reject the system recommendations.

If the recommendation is accepted, the total number of cards is calculated using: Number of produce cards = K_{cell}/K_{Line}, each of size K_{cell} and Number of move cards = K_{RIP}/K_{Line}, each of size K_{RIP} where K_{Line} is the minimum single card kanban quantity on the line:

$$K_{\mathrm{Line}} = \frac{\sum (D_{\mathrm{c}}) \times R \times (1 + SS \div 100)}{H_{\mathrm{R}} \times P}$$

Note. The system will round up the final kanban size number.

Nonreplenishable kanbans compensate for spikes in demand or support production of products that are not commonly manufactured. They are essentially single-use kanbans. If the component demand is marked nonreplenishable, then the system does not calculate a kanban size.

Nonreplenishable kanbans are not exported to base manufacturing. MRP is used to plan and schedule end items on a nonreplenishable kanban. Nonreplenishable kanbans use existing ad hoc kanban functionality.

This table provides parameter definitions:

Parameter	Definition
D_c	Demand at capacity.
H_R	Available hours for replenishment.
K_{Cell}	Minimum produce quantity to recover internal setup.
K_{Line}	Minimum point of usage kanban quantity.

Parameter	Definition
K_{RIP}	Minimum point of resupply kanban quantity.
K_{size}	Kanban size.
MV	Move time for an independent cell.
P	Package size.
Q	Quantity consumed per unit.
Q_{Order}	Sales order quantity for the nonreplenishable parent item.
Q_{BOM}	Quantity of the component required per parent item.
R	Minimum replenishment time.
RT	Effective run time per unit.
RT_p	Effective pacing run time in a cell. This is the longest run time of all operations in a cell.
SS	Safety stock percent.
SU	Internal machine or cell setup time.
$TAKT$	Machine or cell TAKT time.

Prerequisite

Assign pull chain to components.

Setting Processing Options for DFM Calculate Kanban Sizes (RF31K22)

These processing options control default processing for the DFM Calculate Kanban Sizes program.

Process

This processing option controls the processing that takes place before the DFM Calculate Kanban Sizes program is run.

1. Enter a '1' to purge temp table before UBE runs Specify whether to purge the FF31K25 table before the DFM Calculate Kanban Sizes program (RF31K22) runs. Values are:

Blank: Do not purge.

1: Purge.

Running the DFM Calculate Kanban Sizes Program (RF31K22)

Select Demand Flow® Kanban Management (GF31K11), Kanban Sizing.

Approving Kanban Size

This section provides an overview of kanban size approval, and discusses how to:

- Set processing options for the Kanban Sizing Approval Application (PF31K27).
- Approve kanban size.

Understanding Kanban Size Approval

You use the Kanban Sizing Approval Application (PF31K27) to review and approve kanban sizes. You select single or multiple records at one time to review the action codes associated with those records. The system supports several actions:

- Add

  The action message is set to add if a record corresponding to a particular component number, item branch/plant, prep code, consumption location, and supply location is not found in the FF31K30 table. When the record with an add message is accepted and saved, a new record is created in the FF31K30 table.

- Delete

  The action message is set to delete when the current size is zero and a corresponding record with the same component number, prep code, consumption location, and supply location with a different size exists in the FF31K30 table.

- No Action

  The action message is set to no action when the calculated kanban size, prep code, consumption location, supply location, and component number are the same as the existing FF31K30 record. This message is also displayed when the kanban size does not change as a result of the tolerance percentage.

- Update

  The action message is set to update if something has changed in an existing Kanban master record. For example, the demand quantity for a component has been modified and the sizing calculation differs by more than the tolerance percentage. Previously, the Kanban quantity was 50. There is a 10 percent tolerance. A sizing within the range of 45–55 would have an action code of *No Action*. A sizing outside the range, such as 60, would have an action code of *Update*.

  When the record is saved, the system updates the existing FF31K30 record.

When you accept the system's recommendations, changes to the FF31K30 table are saved and the records are deleted from the review form.

Note. When adding or updating an FF31K30 record, you cannot increase the number of bins from this application. To increase the number of bins, you must use the DFM Kanban Master program (PF31K30).

After you review and approve system recommendations, you can print the kanban cards that are saved to the FF31K30 table.

Prerequisite

Calculate kanban sizes.

Forms Used to Approve Kanban Size

Form Name	FormID	Navigation	Usage
Kanban Sizing Approval - Search and Select	WF31K27B	Demand Flow® Kanban Management (GF31K11), Kanban Approval	Search for existing kanban sizes to review and approve.
Kanban Sizing Approval	WF31K27D	Select a record on the Kanban Sizing Approval - Search and Select form and click the Approve Sizing button.	Approve kanban size, specify the recommended action, and print labels.

Setting Processing Options for Kanban Sizing Approval Application (PF31K27)

This processing option controls default processing for the Kanban Sizing Approval program.

Tolerance

This processing option controls the tolerance within which the Kanban Sizing Approval application operates.

1. Show records within Tolerance Specify whether to show records from the FF31K25 table that are within tolerance. Values are:

Blank: Do not show.

1: Show.

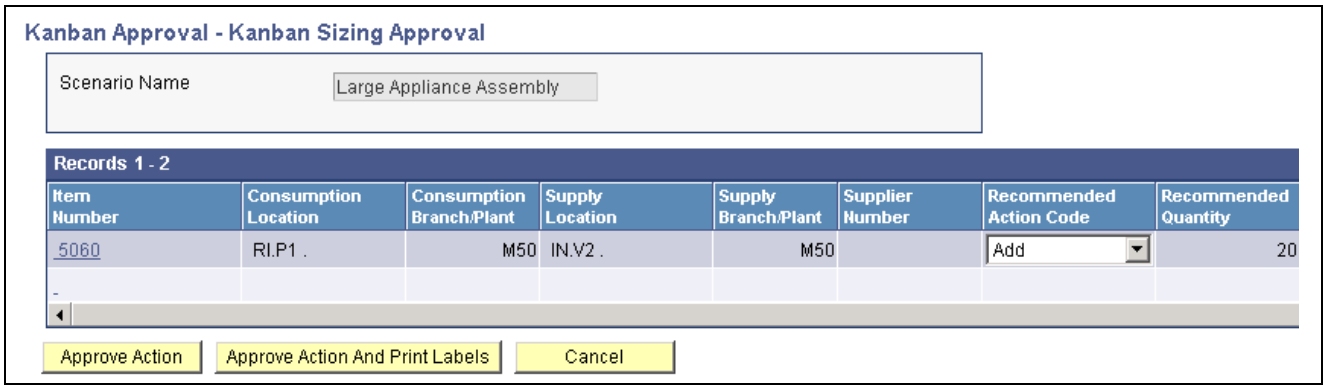
Versions

This processing option controls which version the system uses when you call programs from the Kanban Sizing Approval Application.

1. Print Kanban Labels Specify the version of the Print Kanban Label program (RF31K31) to run. You use this option for reprinting kanban labels upon approval of kanban size after changes have been made to individual kanbans. If the data selection is large, the Print Kanban Label program should be used directly from the menu.

Approving Kanban Size

Access the Kanban Sizing Approval form.



Kanban Sizing Approval form

Current Kanban Quantity and **Current Quantity** — Displays the current quantity that will be transferred by kanban check-in and checkout.

Recommended Action and **Recommended Action Code** — Displays a code from user-defined code F31K/SA that specifies the recommended action to be taken upon approval of kanban sizing. Values are:

A: Add

D: Delete

N: No Action

U: Update

Number of Kanban Cards — Displays the number of cards (or records) in the FF31K30 table for an item's kanban.

DFM Number of Dual Cards and **Number of Dual Cards** — Enter the number of cards needed to initiate the kanban transaction for a dual card kanban. For example, five kanbans might in use between the supplying and consuming locations and the number of dual cards is set at three. Thus, three of the kanbans must be checked out before replenishment is initiated.

Dual Card — Select to specify whether the item requires a dual card kanban.

Approve Action — Click to approve the recommended action for selected kanbans.

Approve Action And Print Labels — Click to approve the recommended action and print labels for selected kanbans.

Revising DFM Kanban Masters

This section provides an overview of DFM kanban masters, lists prerequisites, and discusses how to:

- Set processing options for DFM Kanban Master (PF31K30).
- Revise DFM kanban masters.

Understanding DFM Kanban Masters

You use the DFM Kanban Master program (PF31K30) to make required kanban master revisions. The DFM Kanban Master program enables you to create additional kanban masters by revising the number of bins, overriding the kanban quantity, specifying the kanban label message, and deleting a kanban. New kanban master records are created in the FF31K30 table.

Kanbans are defined, sized, and approved in JD Edwards EnterpriseOne Demand Flow® Manufacturing before being exported to base manufacturing. All fields imported from the DFM Kanban Master table are reflected in the base manufacturing Kanban master table. If you change the kanban size to zero in JD Edwards EnterpriseOne Demand Flow® Manufacturing , the Export/Purge Kanban Master program deletes the kanban masters in both JD Edwards EnterpriseOne Demand Flow® Manufacturing and JD Edwards EnterpriseOne Manufacturing.

See Chapter 3, "Integrating Demand Flow® Manufacturing with Other JD Edwards EnterpriseOne Applications," Importing Data from JD Edwards EnterpriseOne Base Manufacturing to JD Edwards EnterpriseOne Demand Flow® Manufacturing, page 42.

Important! You cannot create a kanban master from scratch. You must run the setup process of assigning pull chain to components, calculating kanban size, and approving kanban size.

You can access the Print Kanban Label program (RF31K31) from the DFM Kanban Master program to reprint kanban labels after changes are made to the kanban master. If you are reprinting a large quantity of kanban labels, you should use the Print Kanban Label program from the menu and set the data selection accordingly.

Prerequisites

Before you can revise a DFM Kanban master, you must:

- Assign pull chain to components.
- Calculate kanban sizes.
- Approve kanban size.

Forms Used to Revise DFM Kanban Masters

Form Name	FormID	Navigation	Usage
Search For Kanban Master	WF31K30B	Demand Flow® Kanban Setup (GF31K31), Kanban Master Revisions	Search for kanban masters to edit or print labels.
Edit Kanban Master	WF31K30C	On Search For Kanban Master, select a record and click Edit.	Revise kanban master records.
Print Kanban Card Labels	WF31K30D	Click the Print Label button on the Edit Kanban Master form	Print labels for a kanban master.

Setting Processing Options for DFM Kanban Master (PF31K30)

This processing option controls default processing for the DFM Kanban Master program (PF31K30).

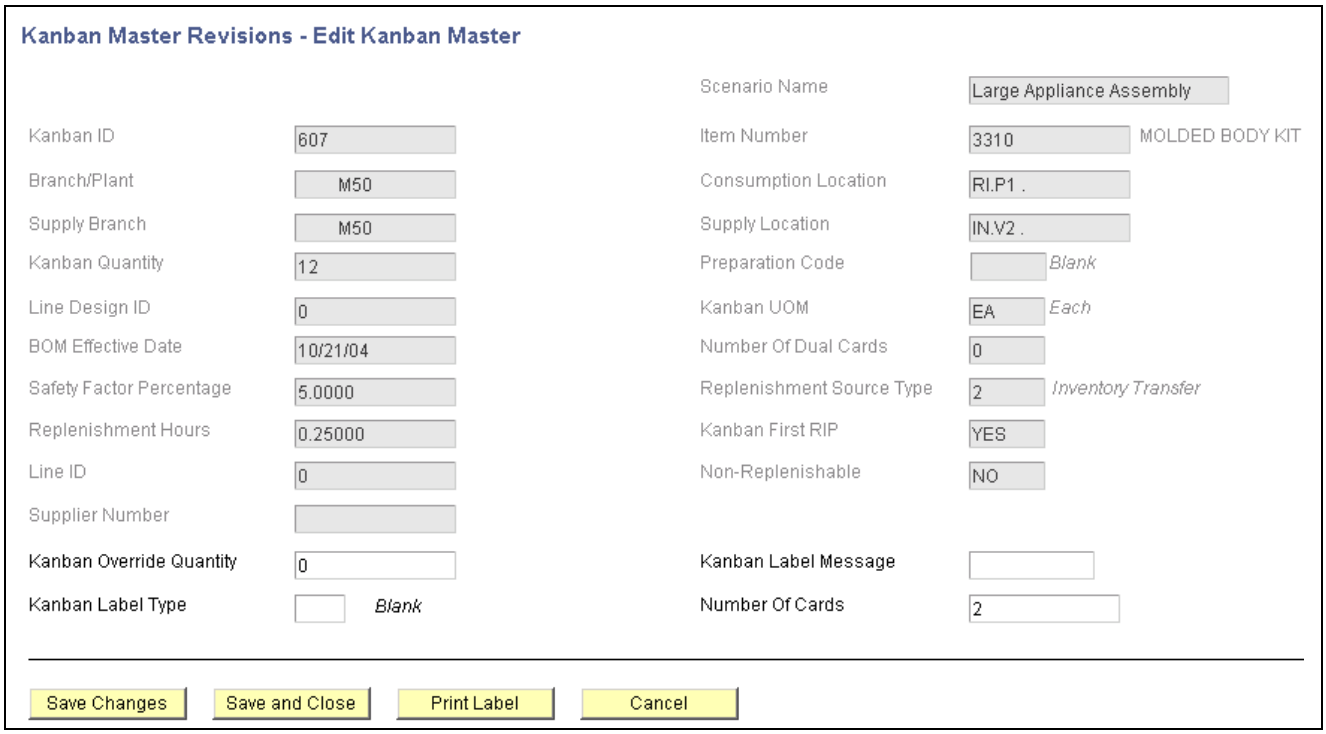
Version

This processing option controls which version the system uses when you call programs from the DFM Kanban Master program.

1. Kanban Label - Print (RF31K31) Specify the version of the Print Kanban Label program (RF31K31) to run. You use this option for reprinting kanban labels upon approval of kanban size after changes have been made to individual kanbans. If the data selection is large, the Print Kanban Label program should be used directly from the menu.

Revising DFM Kanban Masters

Access the Edit Kanban Master form.



Edit Kanban Master form

Kanban ID (kanban identifier) Enter the unique identifier for a kanban as defined by the item, supplying branch/plant and location, consuming branch/plant and location, supplier, prep code, and scenario name.

Kanban Quantity Enter the quantity associated with the kanban.

Label Type Enter a value from UDC F31K/LT to display the user-defined value on the report.

Kanban Override Quantity Enter the new quantity to be used for the kanban. The new quantity overrides the original quantity calculated for the kanban.

Print Label Click to access the Print Kanban Card Labels form (WF31K30D). You run the Print Kanban Label program (RF31K31) from this form.

(Optional) Defining Kanban Messages

This section provides an overview of kanban messages and discusses how to define kanban messages.

Understanding Kanban Messages

You use the DFM Kanban Label Message program (PF31K52) to define messages associated with a kanban. You add the code for the label message to UDC F31K/LM. You then use the DFM Kanban Label Message program to attach media object text to a specific UDC. You define a kanban label text message by a combination of the Kanban Label Message UDC F31K/LM and Language UDC 01/LP.

Note. The message appears on kanban labels only.

Forms Used to Define Kanban Messages

Form Name	FormID	Navigation	Usage
Work with Label Message	WF31K52A	Demand Flow® Kanban Setup (GF31K31), Kanban Print Messages	Search for existing kanban messages to edit or delete.
Label Print Message	WF31K52B	Click the Add button on the Work with Label Message form.	Add a label message to a kanban.

Defining Kanban Messages

Access the Work with Label Message form. Click the Add button.

Language Preference Enter a language from user-defined code 01/LP. The selected language is used on display forms and printed documents.

Printing Kanban Labels

This section provides an overview of kanban label printing, lists a prerequisite, and discusses how to:

- Set processing options for Print Kanban Label (RF31K31).
- Run the Print Kanban Label program.

Understanding Kanban Label Printing

You use the Print Kanban Label program (RF31K31) to print labels for the kanbans. The kanban label includes prep code, number of dual kanban cards, item number, quantity, and barcode. The label might also include traceability and serialization requirements. Any messages that you set up in the DFM Kanban Label Message program will also be printed on the kanban label. You select from the available set of labels in UDC F31K/LT or from a custom label design that has been developed using a third-party report-writing program that is linked to JD Edwards EnterpriseOne Demand Flow® Manufacturing.

When you run the Print Kanban Label program, you set the data selection over the kanban ID or item number. You should use the Print Kanban Label program instead of calling it from the Kanban Sizing Approval Application or the DFM Kanban Master programs when you have a large data selection.

The program generates a portable document format (PDF) file which can be used with third-party software that converts the PDF file to labels. The system prints the kanban label according to the label specifications.

Note. Rather than being a printed label, a kanban label can be an electronic signal to an internal or external point of resupply.

Prerequisite

Define DFM kanban master records before you run the Print Kanban Label program.

Setting Processing Options for Print Kanban Label (RF31K31)

This processing option controls default processing for the Print Kanban Label program.

Barcode

This processing option controls the barcode information printed on kanban labels.

1. Enter '1' for Barcode to Print

Specify whether to display and print the barcode for the kanban ID.

Blank: The barcode will not be displayed or printed.

1: The barcode will be displayed or printed.

Running the Print Kanban Label Program

Select Demand Flow® Kanban Management (GF31K11), Kanban Label Print.

CHAPTER 6

Planning Production and Resources

This chapter lists prerequisites and discusses how to:

- Perform daily planning and sequencing.
- Plan resources.

Prerequisites

Before you plan production and resources, you must:

- Load sales orders that represent demand into the FF30L801 table for daily plans.
- Create an active line design.

Performing Daily Planning and Sequencing

This section provides an overview of daily planning and sequencing and discusses how to:

- Set processing options for Daily Planning and Sequencing (PF34S002).
- Select daily plans.
- Define daily plans.
- Add finished good orders.
- Sequence planned quantities for production.
- Revise generated sequences.
- Set processing options for DFM Sales Order Daily Plan Audit (RF34S801).
- Compare sales orders and daily plans.

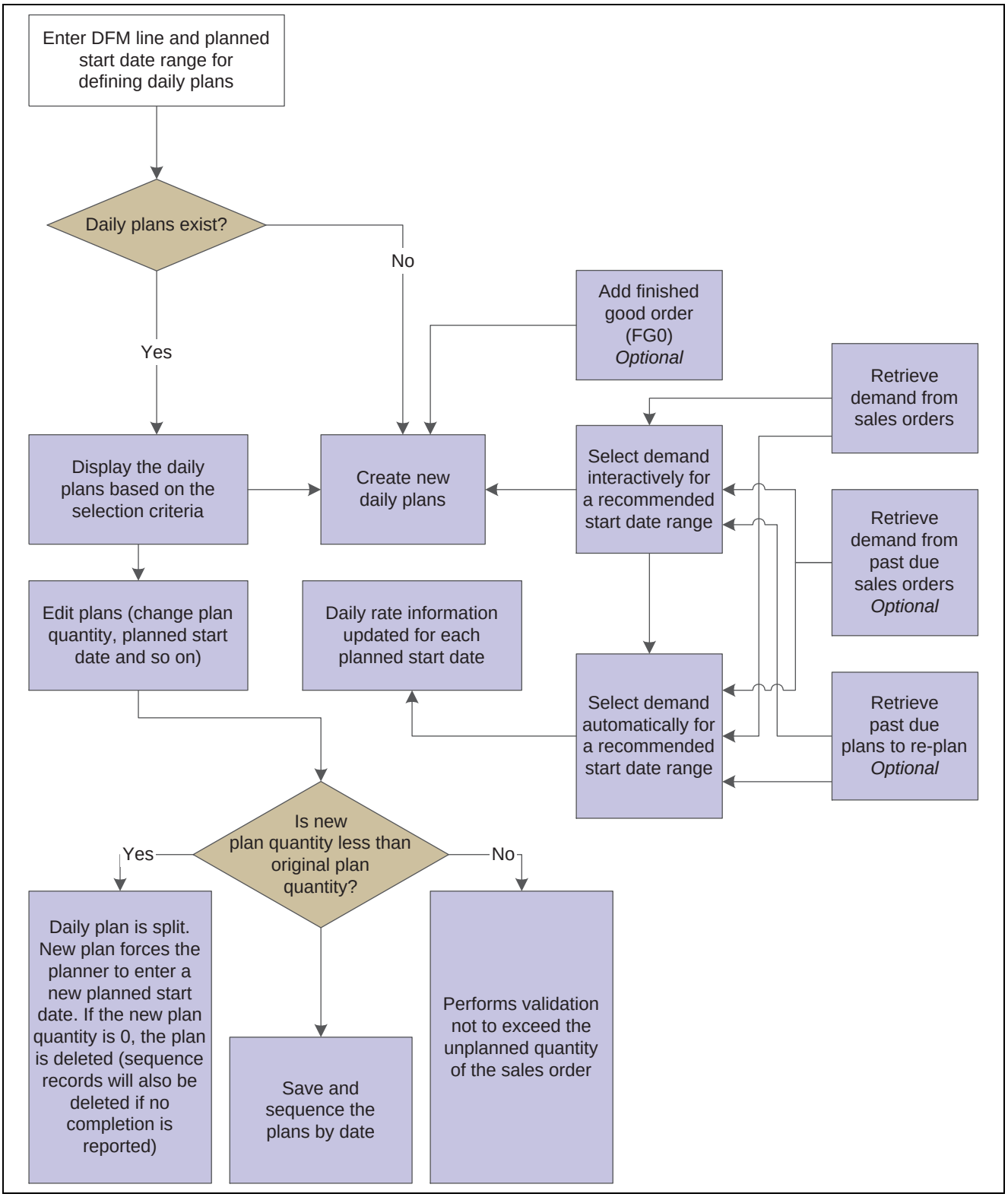
Understanding Daily Planning and Sequencing

To help you meet firm demand (which is represented by unfulfilled sales orders within a given time frame), the Daily Planning and Sequencing program (PF34S002) enables you to create daily production plans and then sequence the planned quantity on the line.

You create a production plan based on sales orders for which the recommended start dates are within the planning date range that you define. By setting processing options, you can also include past-due sales orders that have not been planned, as well as past due plans. When you create a plan from a sales order, the system populates the sales order and customer information fields on the plan record—for example, the sales order number and quantity, and the customer name and number—from the sales order record. You cannot edit these fields on the Define Daily Plan form. However, you can access the DFM Demand Entry program (PF30L801) and the DFM Customer Master program (PF30L301) by using the links in the Sales Order Number field and the Customer Number field. As you create the plan, the system compares the daily rate to the demand at capacity to determine whether the plan is valid.

Note. In addition, you can create finished good orders to accommodate additional demand that is not based on sales orders. You use finished good orders to smooth demand or build to forecast, if necessary. If you create a finished good order, the sales order and customer fields remain blank in the grid on the Define Daily Plan form.

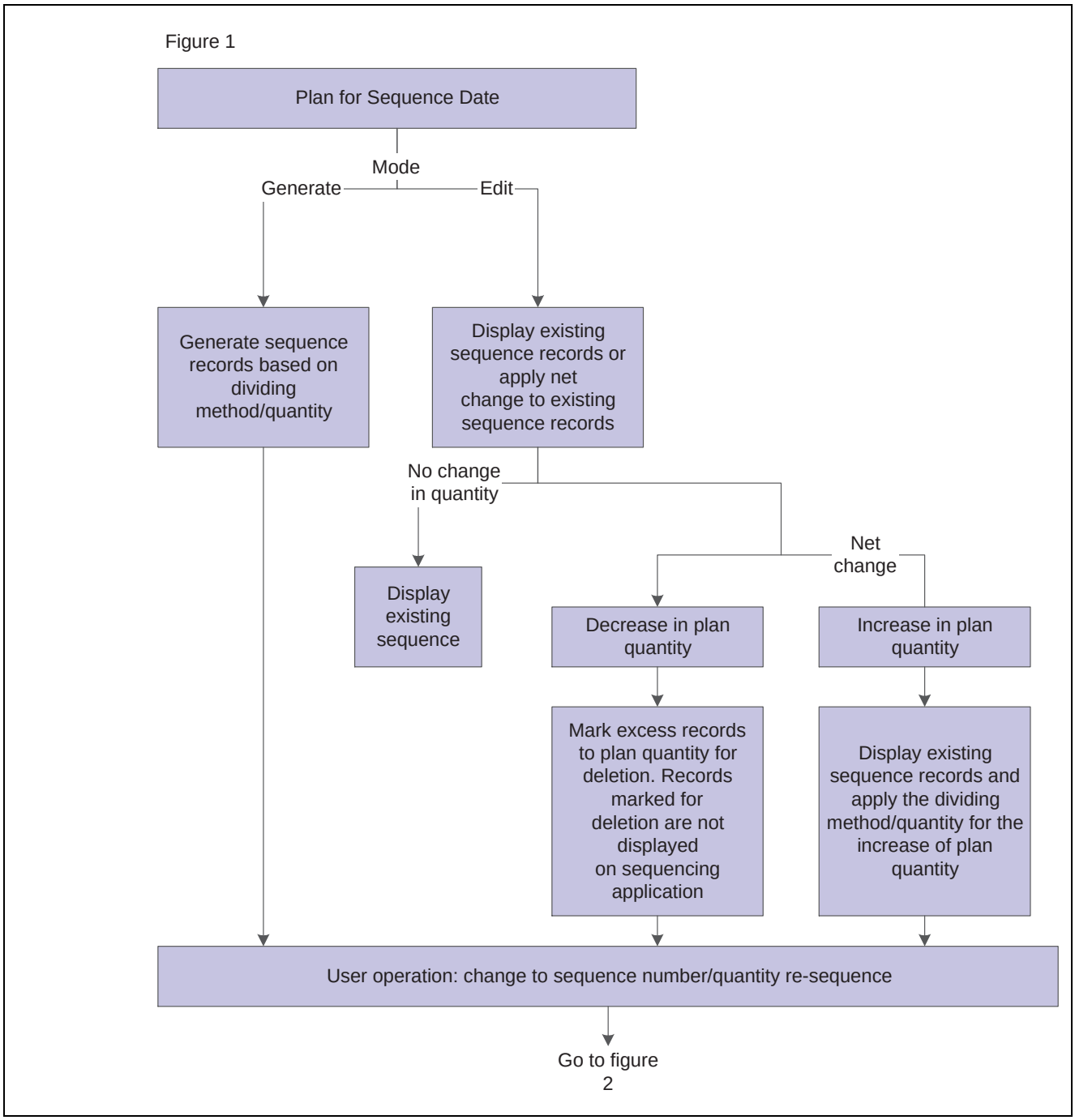
This diagram provides an overview of the daily plan process:



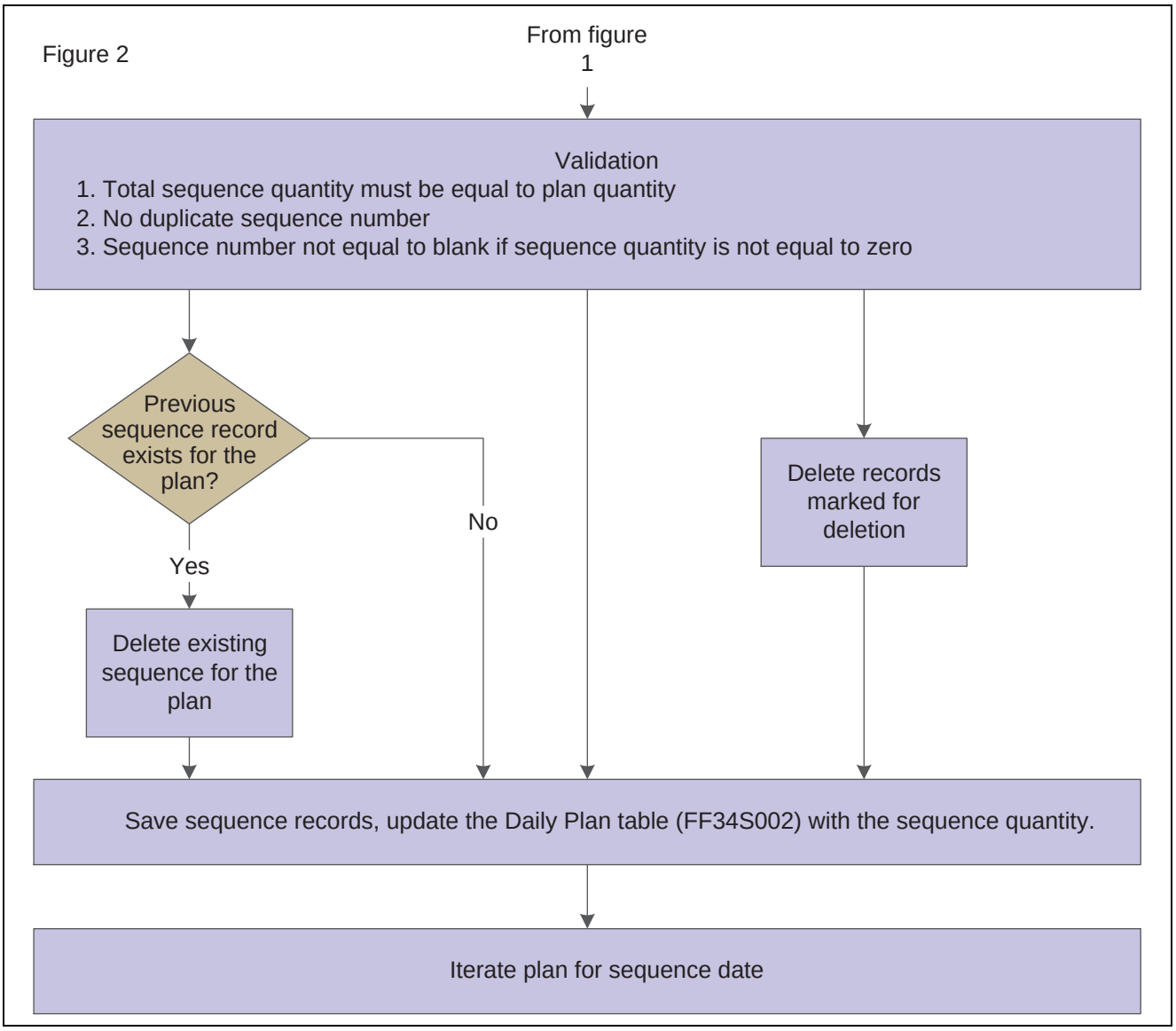
Daily plan

After creating a valid plan, you can sequence the planned quantity for the production line using the Daily Sequencing program (PF34S001). The system provides several methods for dividing the planned quantity for sequencing purposes—for example, dividing the planned quantity by maximum or minimum order quantity that you specified for the item. You can perform sequencing multiple times and make manual changes to create an optimal production sequence. If you change the planned quantity, you have to generate new sequence records. Generating a sequence populates the Sequenced Quantity field in the grid on the Define Daily Plan form and serves as an indicator that sequencing has already been performed at least once. You can also review the result of sequencing online in the View Daily Sequence program (PF34S005).

This diagram shows the data flow for sequencing:



Sequencing data flow (1 of 2)



Sequencing data flow (2 of 2)

When you complete a quantity against a plan using the Item Completions program (PF31011), the completions process populates the Completed Quantity field and the Scrapped Quantity field (if scrap exists). You can close a plan manually if you are not using JD Edwards EnterpriseOne Shop Floor Management to perform item completions.

Note. If you have created a daily plan from sales orders with related work orders, you must complete the quantities on these work orders using the Work Order Completions program (P31114). You access the Work Order Completions program from the Demand Flow Plans program (PF31013). This completion populates the Completed Quantity field and the Scrapped Quantity field on the daily plan as well.

You delete a plan by selecting it on the grid and clicking the Remove button. You can delete multiple plans at a time. Deleting a plan also deletes the corresponding sequence records. You can delete a plan only if no quantity has been reported against the plan.

Changing the planned quantity splits the plan. For example, if the planned quantity is *100* and you change it to *35,* the system creates a new plan for a planned quantity of *65.* If the new plan that was created from the original plan has the same planned start date, the system issues an error message, forcing the planner to enter a different planned start date. This does not apply to a finished good order.

If you modify the planned start date of a plan and if sequence records exist for the original planned start date, these sequence records are deleted. You have to generate a sequence for the new date. However, if the planned quantity and the sequenced quantity do not match for a planned start date, the system issues a warning.

User-Defined Codes for Daily Planning and Sequencing

For planning and sequencing, you use the following user-defined codes:

User-Defined Code	Description
Category Codes (F34S/CC)	You can select category codes to be displayed as item attributes on the daily sequence.
Dividing Method for Sequencing (F34S/DQ)	These codes determine how the system divides the planned quantity into sequence quantities.
Order Category (F34S/OC)	These codes indicate what type of order the daily plan is based on.
Daily Plan Status (F34S/ST)	These codes indicate whether a plan is open or closed.

Daily Planning and Sequencing Reports

You can print both the daily production plan and the daily sequence. You print the production plan in the Daily Plan report (RF34S003) by clicking the Print button on the Define Daily Plan form. You print the daily sequences in the Daily Sequence report (RF34S004) by clicking the Print button on the Define Daily Sequence form. Set the versions for both reports in the processing options for the Daily Planning and Sequencing program (PF34S002). You can also access both reports from the Demand Flow® Daily Management menu (GF30L11).

You can also create the DFM Sales Order Daily Plan Audit report (RF34S801),which enables you to compare sales orders and daily plans. This report enables the planner to identify sales orders for which no plans have been created or daily plans for which no sales orders exist. The report also lists differences between sales orders and daily plans.

Forms Used to Perform Daily Planning and Sequencing

Form Name	FormID	Navigation	Usage
Manage Daily Plan	WF34S002A	Demand Flow® Daily Management (GF30L011), Daily Planning and Sequencing	Select daily plans by Demand Flow® line, plan dates, and plan status.
Define Daily Plan	WF34S002B	Demand Flow® Daily Management (GF30L011), Daily Planning and Sequencing Complete the Line Name field and the planned start and end date fields on the Manage Daily Plan form. Click the Define Plan button.	Define daily production plans based on demand.. Sequence planned quantities for production.
Add Finished Good Order	WF34S002C	Click the Add Finished Good Order button on the Define Daily Plan form.	Add a finished good order that becomes the demand for the daily plan. You do not use this form to edit the finished good order.
Define Daily Sequence	WF34S001A	Click the Save and Edit button on the Define Daily Plan form.	Revise generated sequences.

Setting Processing Options for Daily Planning and Sequencing (PF34S002)

These processing options control default processing for the Daily Planning and Sequencing program.

Process

These processing options control whether the program displays past due plans and sales orders and whether it performs sequencing.

1. Display Past Due Plan Specify whether the system displays past due plans. Values are:

Blank: Do not display.

1: Display.

2. Days to go back for Past Due Plans Specify how many days prior to the current date you want to use to determine past due plans.

3. Display Past Due Sales Order Specify whether you want to display past due sales orders. Values are:

Blank: Do not display.

1: Display.

4. Days to go back for Past Due Sales Orders Specify how many prior to the current date you want to use to determine past due sales orders.

5. Perform Sequencing Specify whether to sequence the plan. Values are:

Blank: Do not perform sequencing.

1: Sequence the plan.

This processing option determines whether the system displays the Sequencing group box on the Define Daily Plan form.

Item Attributes

These processing options control which category codes the system displays in the daily sequence.

1. Select Four Category Codes that will appear as Item Attributes in Daily Sequence

Specify the category codes from the Item Branch/Plant information that you want to display as item attributes on the daily sequence. You can use these attributes to sort sequence records.

Versions

These processing options control the version that the system uses when it calls the following programs:

1. Daily Plan Report (RF34S003) and **2. Daily Sequence Report (RF34S004)**

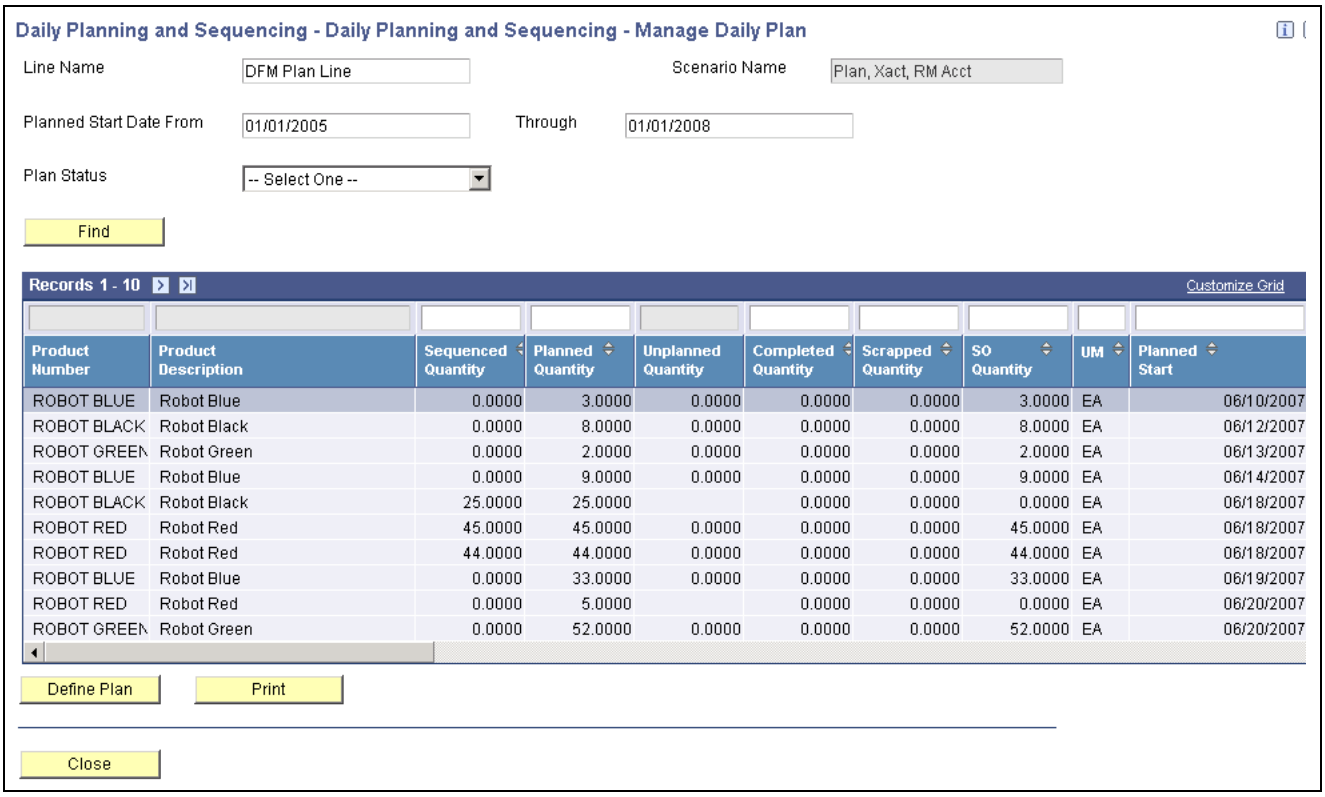
If you leave either of these processing options blank, the system uses the default version, XJDE0001.

3. DFM Customer Master (PF30L301) and **4. DFM Sales Order (PF30L801)**

If you leave either of these processing options blank, the system uses the default version, ZJDE0001.

Selecting Daily Plans

Access the Manage Daily Plan form.



Manage Daily Plan form

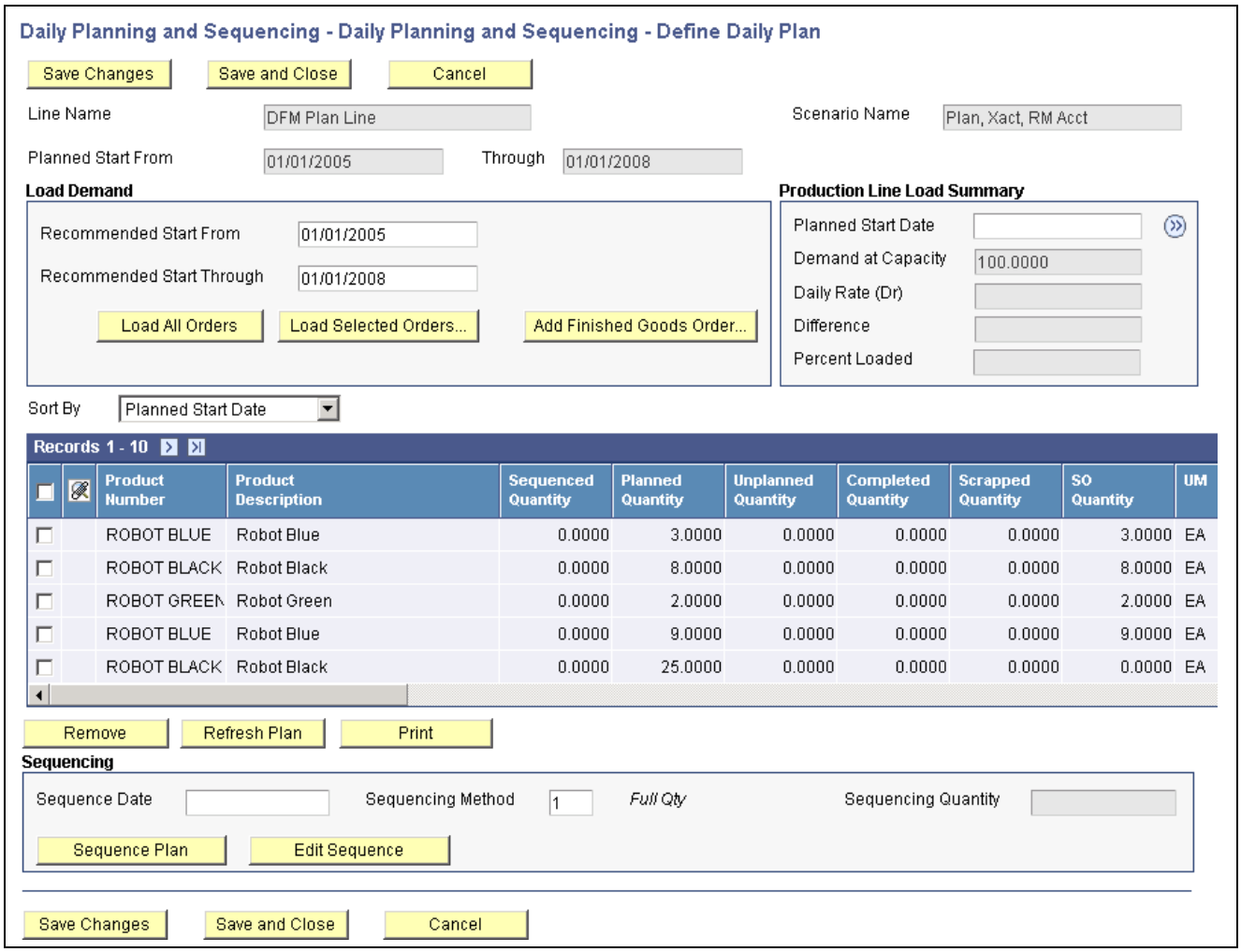
Line Enter the Demand Flow® line for which you want to create a daily plan. If you have selected the integration constants for the scenario, you can select only a line that has been defined as a work center.

Planned Start Date From and **Through** Enter the date range for retrieving the plans.

Plan Status Enter a plan status as a search criterion.

Defining Daily Plans

Access the Define Daily Plan form.



Define Daily Plan form

Recommended Start From and **Recommended Start Through**

Enter the date range for downloading sales orders. The system provides the planned start and end dates as default values, but you can override these default values.

Load All Orders

Click to load into the grid all the sales orders with the recommended start dates that are within the specified date range. The system calculates the recommended start date for each sales order by subtracting the lean flow leadtime from the recommended completion date. The system calculates the recommended completion date by subtracting the shipment preparation time from the promised ship date of the sales order.

Note. After you have loaded the sales orders to the grid, the system displays a text message next to the Sort By field that indicates how many new records have been added to the plan

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See Chapter 3, "Integrating Demand Flow® Manufacturing with Other JD Edwards EnterpriseOne Applications," Understanding Data Import Programs, page 43.

If you set the processing options to include past-due sales orders and plans, this option loads them into the grid as well. A sales order is considered past

due if the promised ship date of the sales order is before the current date. A plan is considered past due if the planned start date of the plan is after the current date. If a sales order is loaded into the grid that is already planned partially, the remaining, unplanned quantity on the sales order is combined with an existing plan if the recommended start date of the sales order matches the planned start date of the plan. If no match occurs, the system creates a new plan for the remaining sales order quantity.

When you load records to the grid, the system automatically saves them.

Load Selected Orders Click to access the Select Orders form. This form displays all sales orders with recommended start dates that are within the specified planning date range. If you have set the processing options to include past due sales orders and past due plans, the form displays them as well. Pick the current and past-due sales orders, as well as past due plans that you want to plan.

Note. After you have loaded the sales orders into the grid, the system displays a text message that indicates how many new records were added to the plan.

Add Finished Goods Order Select to access the Add Finished Good Order form. Use this form to create a plan without a sales order. You can use this option only to add a plan. You edit the plan on the Define Daily Plan form.

Planned Start Date You can enter a planned start date and press the Tab key to move out of the field to calculate the load summary for the production line. If you select a line in the grid, the system overwrites any date that was previously entered with the planned start date of the selected row.

Demand at Capacity Displays the total capacity of all the products that are planned to be manufactured each day on the line. This value is based on the volume for the mixed model family that you enter in the Volume Design and Product Synchronization program (PF30L201).

Daily Rate (Dr) Displays the total planned quantity that is calculated for all the records with the planned start date displayed. You can compare this value with the daily capacity to determine the validity of the plan.

Difference Displays the difference between the demand at capacity and the daily rate.

Percent Loaded Displays the load percentage for the line. For example, if the calculated daily rate is greater than the demand at capacity, the line is overloaded by the difference between the two values. For example, if the demand at capacity is 100 and the daily rate is 120, the line is loaded at 120 percent.

Sort By Sort the plans by planned start date, product number, or sales order.

Product Number Indicates the end item from the sales order for which you create the plan.

Sequenced Quantity Displays a quantity after you have sequenced the planned quantity.

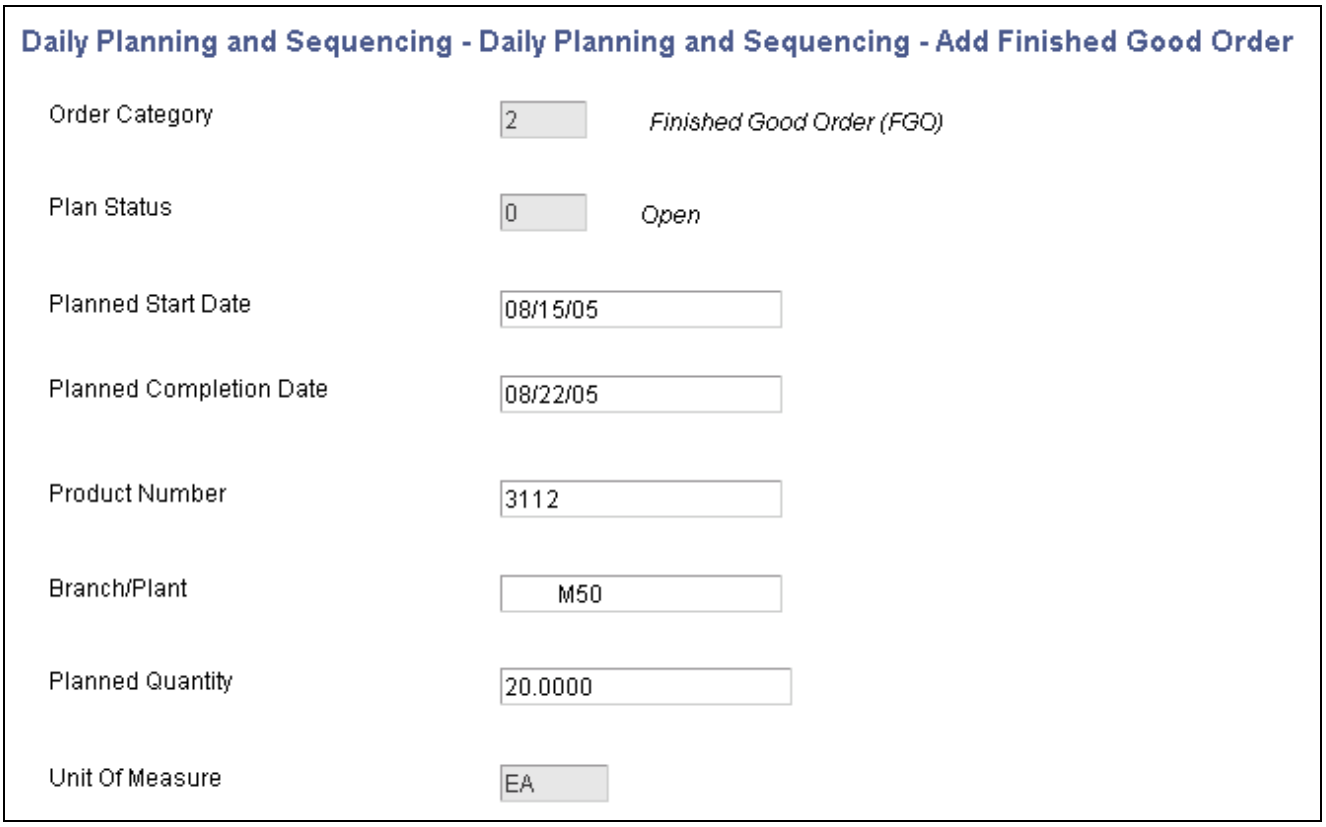
Planned Quantity Displays as the default value the open quantity of the sales order if you create the plan by using the Load All Orders option or the Load Selected Orders option. If you create a finished good order, the quantity from the finished good order becomes the planned quantity. You can override this quantity.

If you change the quantity to a value that is lower than the original quantity on a sales order, the system splits the line. For finished good orders, the line

	is not split. You can change the planned quantity to a value that is greater than the original quantity.
Unplanned Quantity	Displays the quantity that has not yet been planned.
Completed Quantity	Displays a value after you have completed a quantity against the plan.
Scrapped Quantity	Displays a value if scrap occurred during completions.
Recommended Start Date and **Recommended Completion Date**	Display the values from the sales order that you downloaded.
Planned Start Date and **Planned Completion Date**	Display as default values the recommended start and completion dates of the sales order. You can override them.
Plan Order Category	Indicates whether the plan is based on a sales order or a finished good order.
Priority Order (Y/N)	Designate the sales order as a high priority order.
Sales Order Priority	Appears by default from the sales order. You can override it in the context of the daily plan without affecting the setting in the Sales Order Master table.
Plan Status	Indicates whether the plan is open or closed. After you complete a quantity that is equal to or greater than the planned quantity, the system sets the plan status to closed. You can also manually close a plan. If no completion against the plan exists, the system sets the planned quantity to 0. If a completion quantity has been reported, you receive an error message if you attempt to close the plan.
Locked	Indicates whether a plan is available for editing. The plan may be locked because another planner is working with it or because the planned quantity is being completed.
Remove	Select a plan record, and click this button to remove the record from the grid.
Refresh Plan	Click to re-sort the grid based on the selected sort field. This option also recalculates the open quantity of the sales order if you change the planned quantity.
Print	Click to print the Daily Plan report (RF34S003) for all the plans with the selected line name, scenario name, and planned start date range.

Adding Finished Good Orders

Access the Add Finished Good Order form.



Add Finished Good Order form

Planned Start Date Enter the planned start date for the finished good order.

Planned Completion Date Appears by default from the planned start date.

Product Number Enter the product for which you are creating a finished good order, or use the search button to select the number from the Select Primary Item form. The system validates the product number against the active line design.

Branch/Plant If you use the Search button to select the product from the Select Primary Item form, the branch/plant appears by default in this field. If you enter the product number manually, you have to complete this field manually as well.

Planned Quantity Enter the quantity of units that needs to be planned on a line for a given day.

Unit of Measure Displays the scenario unit of measure for the item.

Save and Close Click to save the finished good order to the Daily Plan grid and close the form. You save the finished good order to the FF34S002 table when you click the Save button on the Define Daily Plan form.

Sequencing Planned Quantities for Production

Access the Define Daily Plan form.

Sequence Date Displays by default the planned start date of the plan that you select for sequencing. If you enter a sequence date that does not match any planned start date of the listed plans, the system issues an error message.

Sequencing Method Select the method by which the program divides the planned quantity into sequence records from the DFM Production Sequencing user-defined code table (F34S/DQ). Values are:

1: Full quantity (default)

2: Minimum order quantity

3: Maximum order quantity

4: User-specified quantity

You define the minimum and maximum order quantity for the item in the DFM Item Definition Master program (PF30L501).

Sequencing Quantity This field become input-capable when you select sequencing method *4*. In this case, you enter the quantity that you want the system to use when dividing the planned quantity into sequence records. This value cannot be a negative number or 0.

Sequence Plan Click to generate the sequence records. If you created sequence records for this plan previously, clicking this button deletes the sequence and creates new sequence records. After creating new sequence records, the system calls the Define Daily Sequence form.

Edit Sequence Click to access the Define Daily Sequence form to make manual changes to generated sequence records. If you click this button without having generated sequence records for the selected plan, the system displays a warning prompting you to generate the sequence.

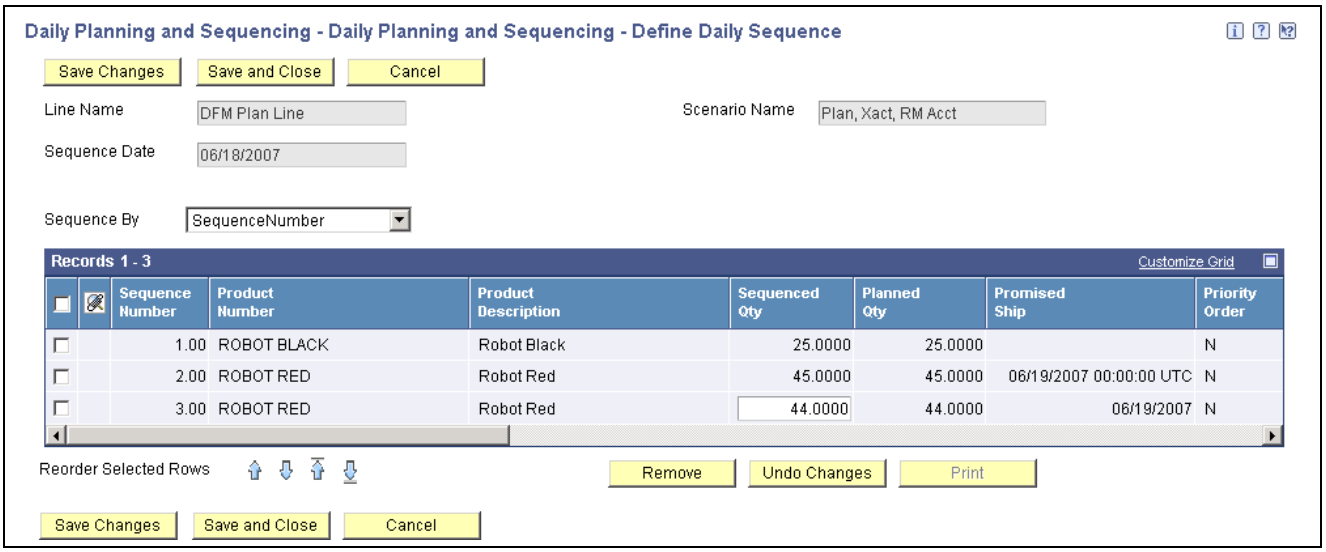
To review only existing sequence records, click this button without defining a dividing method and quantity.

If you have changed the planned quantity and then want to edit sequence records, the systems prompts you to apply the net change. Click Save Changes or Save and Close to save the net change.

Note. For net change, you have to complete the Sequencing Method and Sequencing Quantity fields.

Revising Generated Sequences

Access the Define Daily Sequence form.



Define Daily Sequence form

Sequence By Select a value to use for sorting the sequence records. In addition to the sequence number, sales order, and product number, you can also use the item attributes that are defined in the processing options to sort the records.

Sequence Number (Optional) Change the sequence numbers of the generated sequence records. If you create a duplicate sequence number, the system issues an error message. This field cannot be blank.

Sequenced Quantity (Optional) Increase or decrease the sequenced quantity. If you decrease the sequenced quantity, the system splits the sequence record into two lines.

When you change the quantities in the sequence records for the plan, the total sequenced quantity still has to match the planned quantity of the plan from which you generate the sequence; otherwise, the system issues an error message.

Remove Select a sequence record, and click to remove the record from the grid.

Undo Changes Click to reverse any changes that you made to sequence records after you entered the Define Daily Sequence form.

Reorder Selected Rows Select a sequence record, and use any of the arrows below the grid to move the sequence record as desired. You can reorder the grid by:

- Moving the selected records up one row.
- Moving the selected records down one row.
- Moving the selected records to the top of the grid.
- Moving the selected records to the bottom of the grid.

Print Click to print the Daily Sequence report (RF34S004). This button is enabled after you generate and save sequence records or apply and save net change.

Setting Processing Options for DFM Sales Order Daily Plan Audit (RF34S801)

These processing options control default processing for the DFM Sales Order Daily Plan Audit program.

Processing

These processing options control which information you want to include in the audit report.

1. Scenario ID	Specify the scenario for which you want to run the audit report.
2. Include Sales Orders without Daily Plans	Specify whether the report should include a section that lists sales orders for which no daily plans exist. If you leave this processing option blank, the system does not create this section when you run the report.
3. Include Daily Plans without Sales Orders	Specify whether the report should include a section that lists daily plans that do not have sales orders. The report does not include finished good orders. If you leave this processing option blank, the system does not create this section when you run the report.
4. Include SO and Daily Plan Differences	Specify whether the report should include a section that shows differences between daily plans and matching sales orders. If you leave this processing option blank, the system does not create this section when you run the report.

Comparing Sales Orders and Daily Plans

Select Demand Flow® Advanced Processing GF30L31), Sales Order Daily Plan Audit.

Run this report to compare the sales orders that you imported into JD Edwards EnterpriseOne Demand Flow® Manufacturing with the daily plans that you have created. Depending on how you set the processing options, the report can have three sections:

- Sales orders without daily plans.
- Daily plans without sales orders.
- Differences between sales orders and matching daily plans.

Note. You can run the report for any or all of these data sets.

The system can retrieve sales orders without daily plans if you have imported sales orders into JD Edwards EnterpriseOne Demand Flow® Manufacturing but have not created daily production plans for any of these sales orders.

You might see daily plans without matching sales orders on the report if the sales orders for which you have created daily plans since the previous sales order import were canceled or closed and the status change was updated on the sales orders in the FF30L801 table. In this case, the report displays daily plans that are now invalid.

Use the third section on the report to list changes to the sales orders that have occurred since the previous import. This section shows differences for the following information:

- Plan dates that are later than the request date.
- Plan quantities that are greater than the order quantities.
- Plan quantities that are less than the order quantities.

The planner should review the differences and resolve them to ensure that the production plans can fulfill the demand that was created by the sales orders.

Planning Resources

This section provides an overview of resource management, lists prerequisites and common fields, and discusses how to:

- Create a resource design.
- Set up effectivity dates for the resource design.
- Perform a resource simulation.

Understanding Resource Management

Resource management enables you to accommodate fluctuating demand. You use the resource management programs to obtain an up-to-date estimate of the number of required labor and machine resources that are needed on the line. Resource management enables you to adjust the number of available resources as well as productivity percentages to optimize the use of resources. You can also adjust the demand to determine how to use the resources most effectively.

After you define a daily plan for an item, you must determine the resource requirements and compare the requirements with available resources. To perform this analysis, you use the Resource Design program (PF34R010) to retrieve the processes that are required for creating a product. The process map determines which work content selection the resource design uses: sequence of events, standard sequence of events, or actual work content. The resource design stores the resources that are used for a given process by cell.

After you determine the resources that are required for the processes of a particular line design, you can review and revise the number of resources and their productivity. The system retrieves the labor and machine number of operations from the Mixed Model Line Design Detail table (FF30L911) and displays it in the Design Quantity field, but you can revise this value in the Current Quantity field to reflect accurately the pool of actual machine and labor resources. The system enables you to define a resource as shared by the line so that you have some flexibility when determining the number of available resources on a line. The default value for the productivity percentage is 100 percent, but you can modify it based on the experience level of the labor pools or the amount of machine uptime on the line.

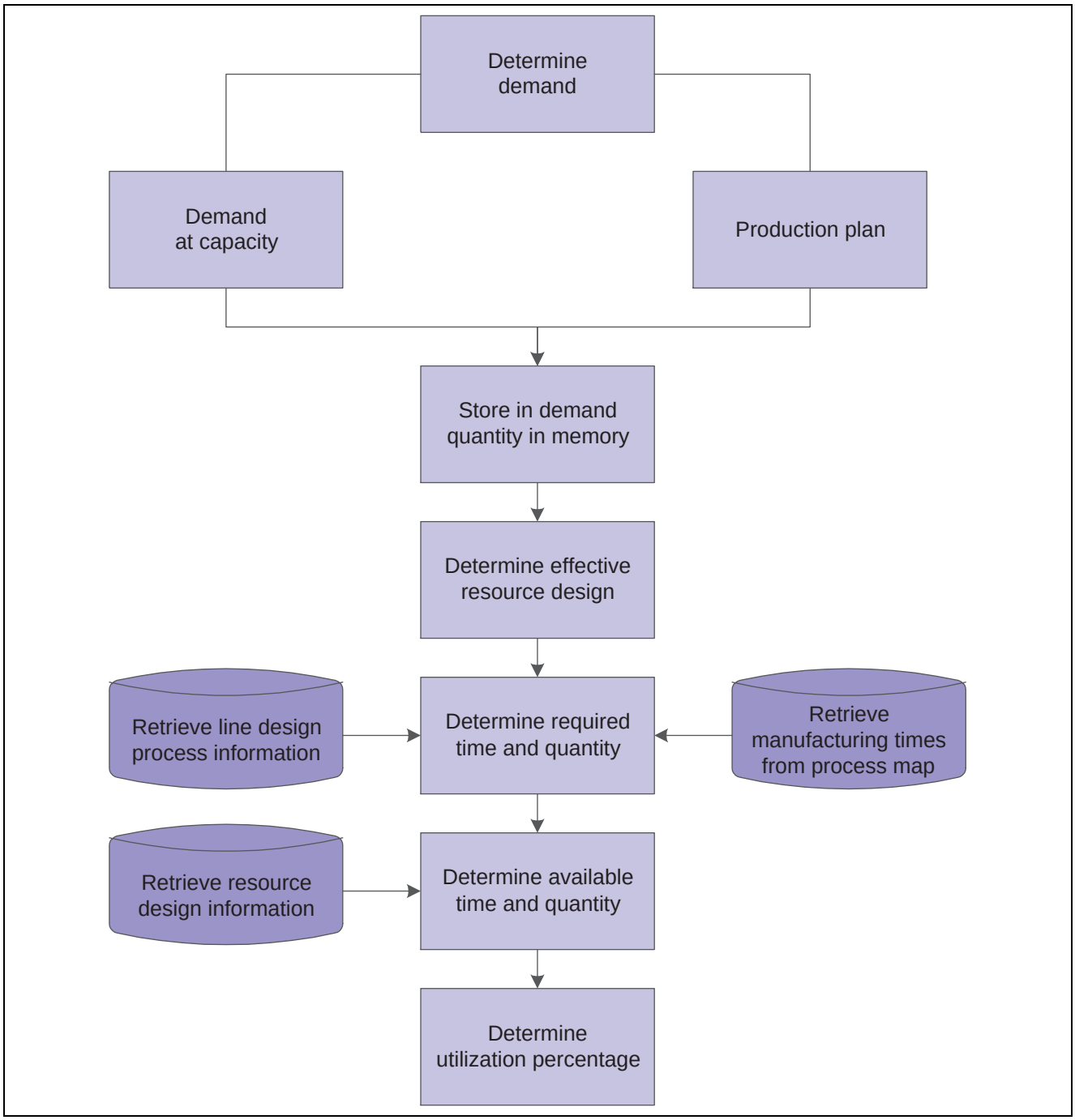
Note. For shared resources, the simulation aggregates the current quantity by resource type to reflect a larger pool of available resources.

Resource designs eventually become obsolete, for example, when resources that are assigned to a particular process become unavailable. To accommodate change, you can assign effectivity dates to a resource design. Using the DFM Resource Effectivity program (PF34R011), you can maintain multiple resource designs with different effectivity dates. However, the program does not allow gaps between the effectivity date ranges of the different resource designs for a line design. The program also does not allow overlap of the effectivity date ranges of subsequent resource designs.

You can use the resource design to simulate the deployment of resources in various scenarios, based on different demand patterns. The simulation enables you to determine whether you have sufficient resources to make the daily plan feasible. You run the DFM Resource Simulation program (PF34R012) to determine the use of resources based on a given day’s demand. The program calculates the required time and quantity as well as the available time and quantity of each resource. It calculates the utilization percentage by dividing the time that is required by the time that is available. A plan is not feasible if the calculation shows that any process or cell requires a capacity of more than 100 percent. In this case, the program generates an error message.

You can create a realistic production scenario either by revising the resources or by adjusting the planned demand for a product. The two sources of demand are the demand at capacity, as specified by the process map, and the production plan. Adjusting the demand of items affects the required time and resource quantity of a simulation. Adjusting the resources of a line affects the available time and quantity of a simulation. If the results are not satisfactory when you run the simulation, revise the demand or available resources until you achieve a satisfactory resource utilization.

This diagram provides an overview of the resource management process flow:



Resource management process flow

Note. You can run the simulation only for a single day, but you can define the time horizon differently.

Prerequisites

Before you create a resource design and perform resource simulations, you must set up the following data:

- Mixed-model line design with design quantities for labor and machine resources.
- Required processes and work content selection for a line design's process map.
- Planned quantity from the daily production plan.
- Work content for each process, as specified by standard sequence of events, sequence of events, or actual work content records.

Common Fields Used in This Section

Line Design Name Select the line design that provides the basis for the resource design that you are creating. Associate effectivity dates and the resource simulation with the same line design.

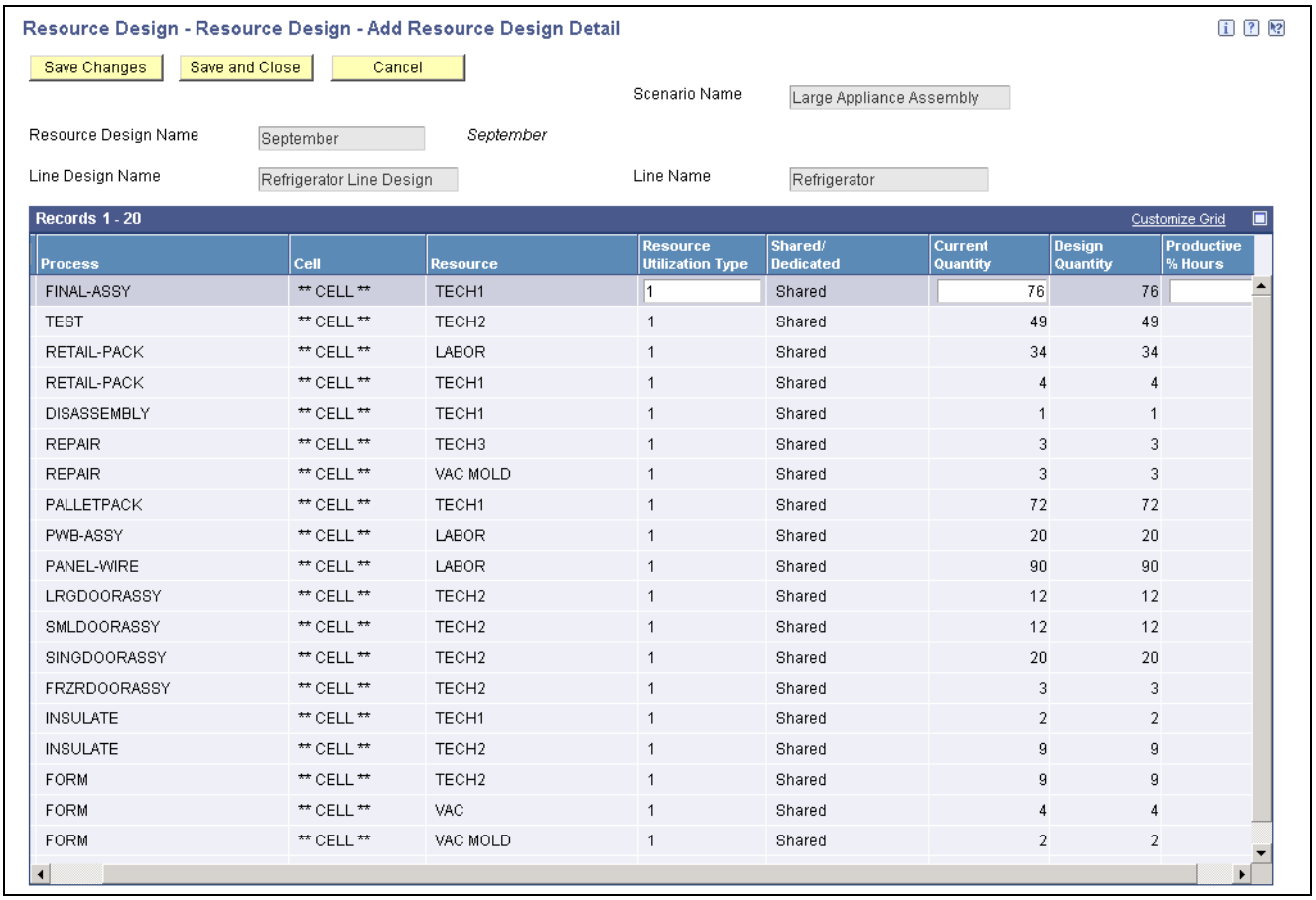
Resource Design Name Enter a unique, scenario-specific name to identify a resource design. You define effectivity dates for the resource design

Forms Used to Plan Resources

Form Name	FormID	Navigation	Usage
Add Resource Design Detail	WF34R010C	Demand Flow® Daily Management (GF30L011), Resource Design Click the Add button on the Search for Resource Design form. Complete the Resource Design Name and Line Design Namefields, and click the Continue button on the Add Resource Design form.	Create a resource design.
Add Resource Effectivity Detail	WF34R011C	Demand Flow® Daily Management (GF30L011), Resource Design Effectivity Click the Add button on the Search for Resource Effectivity form. Complete the Resource Effectivity Name and Line Design Namefields, and click the Continue button on the Add Resource Effectivity Header form.	Set up the effectivity date ranges for a resource design.
Execute Resource Simulation	WF34R012B	Demand Flow® Daily Management (GF30L011), Resource Simulation Click the Add button on the Search for Resource Simulation form.	Perform a resource simulation by creating resource planning scenarios iteratively to determine the most effective use of resources to carry out a plan.
Revise Demand	WF34R012D	Click the Revise Demand button on the Execute Resource Simulation form.	Adjust demand to eliminate overuse of resources.
Revise Resources	WF34R012F	Click the Revise Resource button on the Execute Resource Simulation form.	Change resource design values, such as the current quantity and the productivity percentage, to adjust the simulation.

Creating a Resource Design

Access the Add Resource Design Detail form.



Process	Cell	Resource	Resource Utilization Type	Shared/ Dedicated	Current Quantity	Design Quantity	Productive % Hours
FINAL-ASSY	** CELL **	TECH1	1	Shared	76	76	
TEST	** CELL **	TECH2	1	Shared	49	49	
RETAIL-PACK	** CELL **	LABOR	1	Shared	34	34	
RETAIL-PACK	** CELL **	TECH1	1	Shared	4	4	
DISASSEMBLY	** CELL **	TECH1	1	Shared	1	1	
REPAIR	** CELL **	TECH3	1	Shared	3	3	
REPAIR	** CELL **	VAC MOLD	1	Shared	3	3	
PALLETPACK	** CELL **	TECH1	1	Shared	72	72	
PWB-ASSY	** CELL **	LABOR	1	Shared	20	20	
PANEL-WIRE	** CELL **	LABOR	1	Shared	90	90	
LRGDOORASSY	** CELL **	TECH2	1	Shared	12	12	
SMLDOORASSY	** CELL **	TECH2	1	Shared	12	12	
SINGDOORASSY	** CELL **	TECH2	1	Shared	20	20	
FRZRDOORASSY	** CELL **	TECH2	1	Shared	3	3	
INSULATE	** CELL **	TECH1	1	Shared	2	2	
INSULATE	** CELL **	TECH2	1	Shared	9	9	
FORM	** CELL **	TECH2	1	Shared	9	9	
FORM	** CELL **	VAC	1	Shared	4	4	
FORM	** CELL **	VAC MOLD	1	Shared	2	2	

Add Resource Design Detail form

Process Displays the process that is required to produce the item.

Resource Displays the type of resource, labor or machine, that is assigned to each process.

Resource Utilization Type Indicates whether a resource is shared or dedicated. If the resource is shared, the resource simulation calculates available resources by resource type, based on the aggregated current quantities of all resources of this resource type. The default value is *Shared*. The values for this field are stored in the Utilization Type user-defined code table (F34R/UT).

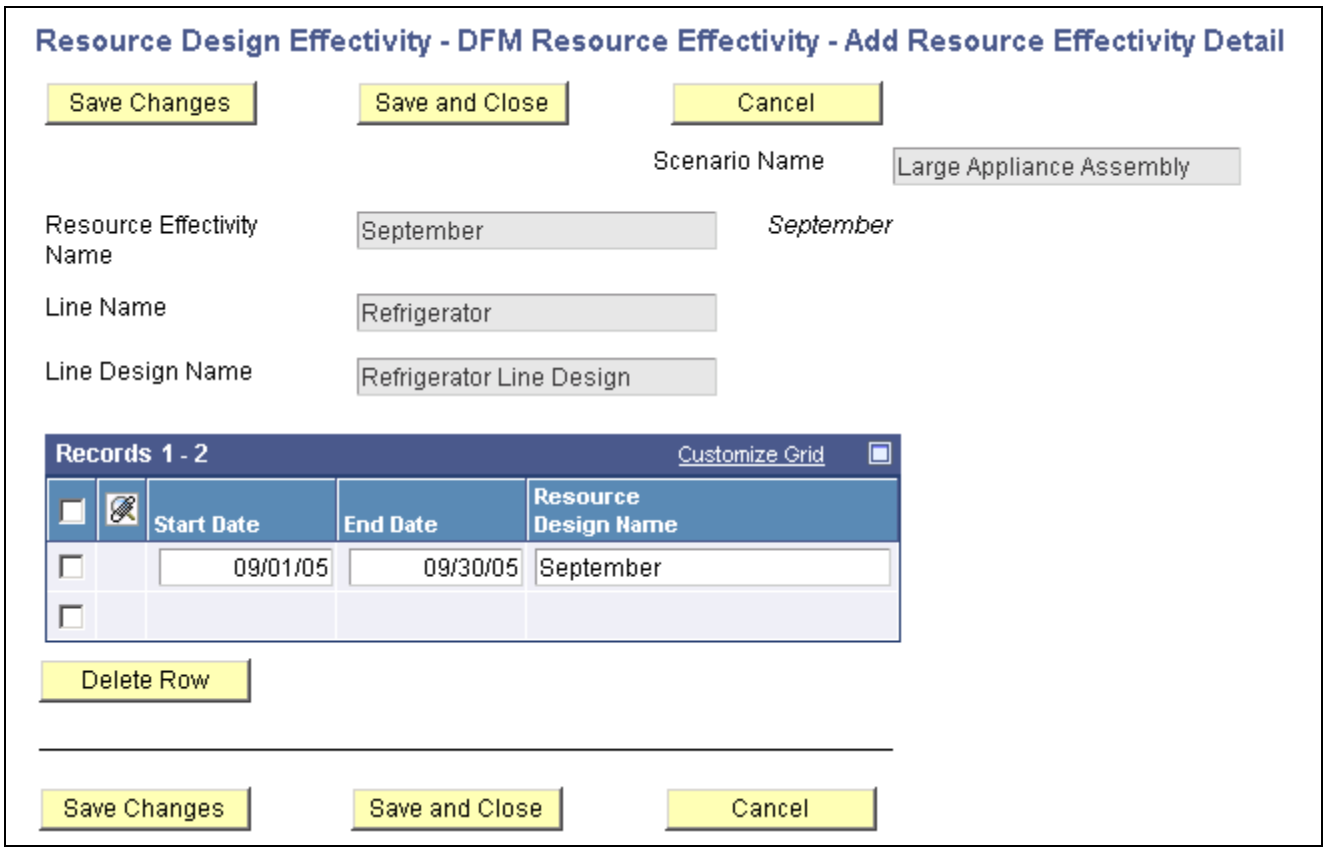
Current Quantity Defines the actual number of resources that are available for a process. This number appears by default from the design quantity. You can change this value to reflect the actual resource situation for labor or machines for the processes on the line.

Design Quantity You define this quantity by resource type in the Designed Machines or Designed Labor Operations field in the Mixed Model Line Design program (PF30L910).

Productive % Hours Adjust this value to reflect the actual productivity of the resources. The default value is *100%*.

Setting Up Effectivity Dates for the Resource Design

Access the Add Resource Effectivity Detail form.

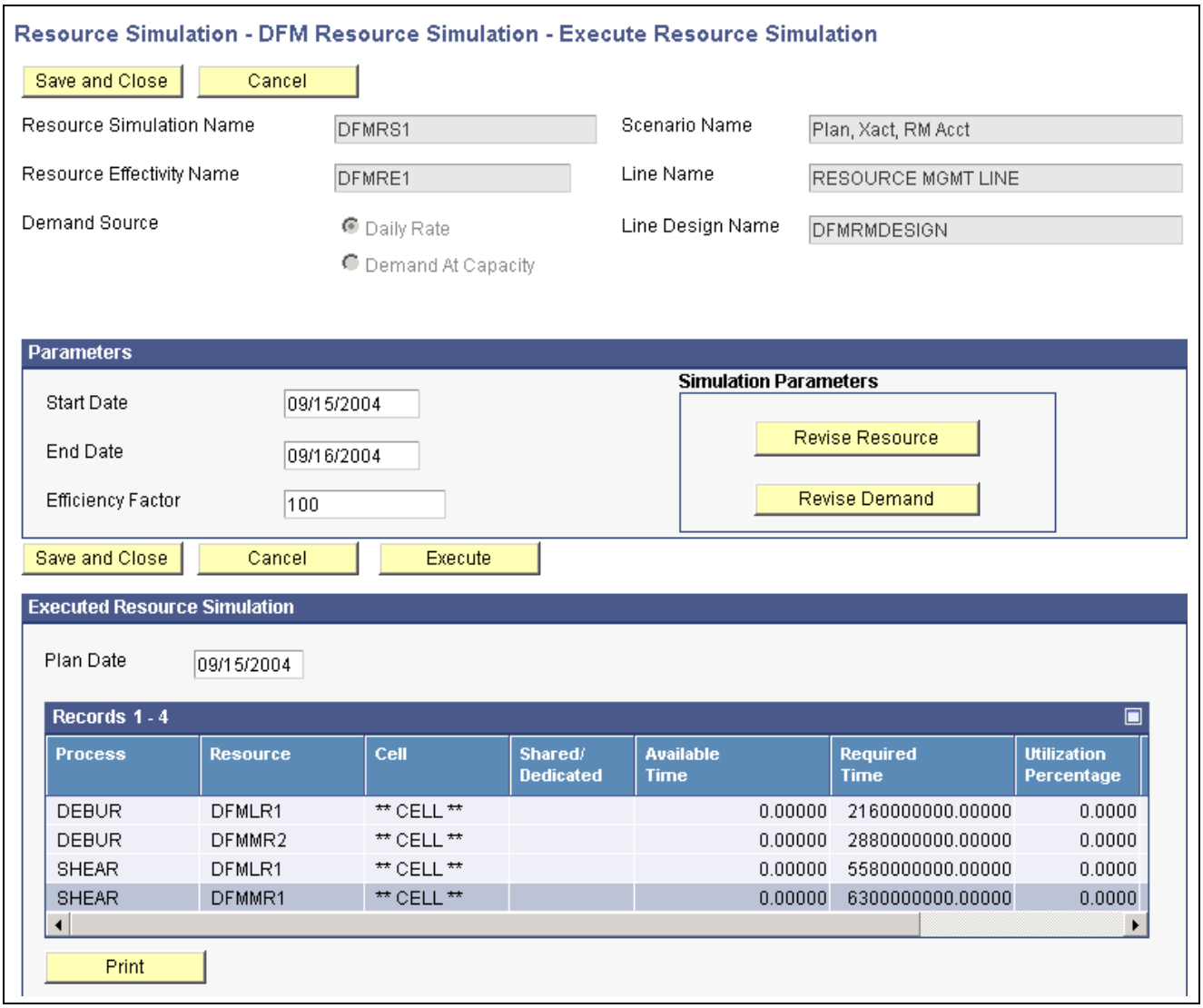


Add Resource Effectivity Detail form

Start Date and **End Date** Enter an effectivity date range. You can enter multiple date ranges. Date ranges cannot have gaps between them, and they cannot overlap.

Performing a Resource Simulation

Access the Execute Resource Simulation form.



Execute Resource Simulation form

Simulation Name Enter a unique scenario-specific name to identify the resource simulation.

Resource Effectivity Name Select the set of effectivity date ranges of the resource design that you are using for the simulation.

Demand Source Select either demand at capacity or the daily rate as the demand source to use for the simulation.

Continue Click to complete parameter fields for the resource simulation.

Start Date and **End Date** Enter the start and end dates for the simulation.

Efficiency Factor Adjust this value to further adjust the efficiency estimate of the resources. The system applies this factor to the available resource calculation for all processes on the line.

Revise Resource Click to access the Revise Resources form.

Revise Demand Click to access the Revise Demand form.

Execute

Click to run the resource simulation for the time frame between the start and end dates. When the simulation is complete, the system displays the results in a grid by process. If you make changes to resources or demand, repeat the simulation to account for the changes.

Available Time

Displays the available time after you run the resource simulation. The resource simulation calculates the available time based on the following formula:

Current Quantity × Productivity % × Efficiency Factor × H_E (effective hours per shift)

If the resource is shared, this value reflects the aggregate number of shared resources by resource type. The system displays the time in the work content unit of measure for the scenario.

Required Time

Displays the required time. The resource simulation calculates the required time based on the selected work content type on the process map. The system retrieves the work content for the process for the item and the resource from the standard sequence of events, the sequence of events, or the actual work content record. To calculate the required time, the system multiplies this value with the quantity of planned-for products, either demand at capacity or the daily rate from the daily plan.

Utilization %

Displays the percentage of utilization. The simulation calculates the utilization percentage by dividing the required time by the available time. If the result of this calculation for a process is greater than 100 percent, the system generates an error message for that process.

Available Resource

Displays the number of available resources by process according to the associated resource design. This is the current quantity multiplied by the productivity percentage. If the resource is shared, this value is the sum of all shared resources by resource type. If the resource is dedicated, this field displays the value for that specific resource only.

Required Resource

The simulation calculates the required time by taking the sum of the required time divided by the sum of the demand. The result is the weighted average of the required time. Then the effective hours for that resource as stated by the line design are divided by the sum of the demand as well. The result is the weighted average of the available operation hours. The weighted average of the required time is then divided by the weighted average of the available hours to determine the required resource.

Print

Click to print the Daily Simulation Results report (RF34R012A).

APPENDIX A

JD Edwards EnterpriseOne Demand Flow® Manufacturing Tables

This appendix lists tables used in JD Edwards EnterpriseOne Demand Flow® Manufacturing:

Base Data and Data Movement Tables

This section lists base data and data movement tables. You populate these tables by entering data in the base data programs or by importing data from JD Edwards EnterpriseOne execution systems. Base data and data movement tables include:

Table	Description
FF30L002	DFM Bill of Material Master
FF30L010	Scenario Master
FF30L011	Line Design Control Parameters
FF30L012	Kanban Control Parameters
FF30L013	Default User Scenario
FF30L014	Branch/Plant Master
FF30L015	Resource Master
FF30L016	Default User Branch/Plant
FF30L017	DFM Work Center Master
FF30L301	DFM Customer Master
FF30L401	DFM Supplier Master
FF30L501	DFM Item Definition Master
FF30L512	DFM Item Units of Measure Conversion Factors
FF30L513	DFM Units of Measure Standard Conversion
FF30L601	DFM Employee Master

Table	Description
FF30L801	Sales Order Master
FF30L990	DFM Data Move Configuration Header
FF30L991	DFM Data Move Configuration Detail

Line Design Tables

This section lists tables used for line design. Line design tables include:

Table	Description
FF30L005	DFM Task Master
FF30L101	Mixed Model Family Master
FF30L102	Mixed Model Family Items
FF30L110	Standard Sequence of Events
FF30L115	Sequence of Events
FF30L116	Components Consumed
FF30L117	DFM Event Summary Table
FF30L201	Volume Design Master
FF30L202	Volume By Family
FF30L203	Volume By Family By Part
FF30L701	DFM Process Master
FF30L702	Path Master
FF30L703	Process Path Relationship
FF30L707	Path Links
FF30L708	Product Synchronization Results
FF30L901	Process Map Header Table
FF30L902	Process Map Detail Table
FF30L904	Process Map Work Content Table
FF30L905	Cell Master

Table	Description
FF30L910	Mixed Model Line Design Header
FF30L911	Mixed Model Line Design Detail
FF30L912	Line Master
FF30L920	Total Product Cycle Time Header
FF30L921	Total Product Cycle Time Detail
FF30L930	DFM Routings
FF30L950	DFM Operation Definition Header
FF30L951	DFM Operation Definition Detail

Kanban Management Tables

This section lists tables used for kanban management. Kanban management tables include:

Table	Description
FF31K10	DFM Kanban Flow Capacity
FF31K11	DFM Kanban Parent Items
FF31K20	DFM Kanban Component
FF31K21	DFM Kanban Component Pull Chain
FF31K22	DFM Kanban Component Pull Sequence
FF31K30	DFM Kanban Master
FF31K41	DFM Kanban Pull Chain
FF31K42	DFM Kanban Locations
FF31K50	DFM Kanban Constants

Resource Management Tables

This section lists tables used for resource management. Resource management tables include:

Table	Description
FF34R010	Resource Design Master
FF34R011	Resource Calendar Master
FF34R012	Resource Simulation Master

Daily Planning and Sequencing Tables

This section lists tables used for planning and sequencing. Planning and sequencing tables include:

Table	Description
FF34S001	Sequence Detail
FF34S002	Daily Plan
FF34S003	DFM Planning Parameters
FF34S01W	DFM Plan Demand Work File

APPENDIX B

JD Edwards EnterpriseOne Demand Flow® Manufacturing Reports

This appendix enables you to:

- View a summary table of all JD Edwards EnterpriseOne Demand Flow® Manufacturing reports.
- View details for selected reports.

Demand Flow® Manufacturing Reports: A to Z

The following table lists the JD Edwards EnterpriseOne Demand Flow® Manufacturing reports, sorted alphabetically by Report ID

Report ID and Report Name	Description	Navigation
RF30L110 Standard Sequence of Events - Print	Print the standard sequence of events that you have created for a process.	Sequence of Events Management (GF30L22), Standard Sequence of Events Click the Edit button on the Search for Standard Sequence of Events form. Click the Save and Print SSOE button.
RF30L115 Sequence of Events	Print the sequence of events that you have created for an item and process.	Sequence of Events Management (GF30L22), Sequence of Events Click the Edit button on the Search for Sequence of Events form. Click the Save and Print button.
RF30L704 Product Synchronization Results	Print a table listing the processes included in the product synchronization as well as the calculation results for throughput, output and scrap.	Line Design Management (G30L21), Product Synchronizations Click the Print Last Calculated button on the Manage Product Synchronizations form.

Report ID and Report Name	Description	Navigation
RF30L950 DFM Operational Definition	Print operational definition header records.	Line Design Management (G30L21), Operational Definition Click the Find and then the Define button on the Search for Operational Definition form. Click the Print button on the Define Operations form.
RF30L951 DFM Operational Definition Detail	Print the operational definition detail records.	Line Design Management (G30L21), Operational Definition Maintenance Click the Find and then the Manage Operational Definition button on the Search for Operational Definition form. Click the Print button on the Manage Calculated Operational Definition form.
RF34R012A Print Daily Simulation Results	After creating a resource simulation, print a report of the results.	Click the Print button on the Execute Resource Simulation form.
RF34S003 Daily Plan	Print daily plan information based on a user-defined data selection.	Demand Flow® Daily Management (GF30L11), Print Daily Plan
RF34S004 Daily Sequence Report	Print the sequence records you generated for a daily plan.	Demand Flow® Daily Management (GF30L11), Print Daily Sequence
R8930L501P Post Install for FF30L501/FF30L701 /FF30L905/FF30L912-811SP1	(Optional) If you have installed a release prior to JD Edwards EnterpriseOne 8.11 SP1, run this batch program to update the work center branch/plant field in several tables within a scenario for integration with JD Edwards Enterprise One base Manufacturing.	Select R8930L501P from Batch Versions.

Selected Demand Flow® Manufacturing Reports

Some of these reports have processing options that you can use to control how the report is processed.

Processing Options for Standard Sequence of Events - Print (RF30L110)

Set the following processing options:

Display

These processing options provides parameters for the information that the report displays.

1. Sequence Number Start Range

Specify the lowest sequence number at which to start printing the standard sequence of events Values are:

Blank: Prints records from the starting sequence number on the standard sequence of events to the last sequence number.

Any positive numeric value: Prints records from the specified sequence number to the last sequence number.

2. Sequence Number End Range

Specify the highest number to print on the standard sequence of events. Values are:

Blank: Prints records from the starting sequence number up to the last sequence number on the standard sequence of events

Any positive numeric value: Prints from the starting sequence number to the sequence number specified in the processing option.

3. Active Scenario

Specify whether the system displays standard sequences of events only for the active scenario. Values are:

Blank: Displays standard sequences of events for all scenarios.

1: Displays only standard sequences of events for the active scenario.

4. Display Feeder Path

Specify whether the system displays feeder path information on the report. Values are:

Blank: Does not display.

1: Displays.

5. Display TQC Description

Specify whether the system displays the TQC description on the report. Values are:

Blank: Does not display.

1: Displays.

Processing Options for Sequence of Events (RF30L115)

Set the following processing options:

Display

These processing options provides parameters for the information that the report displays.

1. Display Feeder Path

Specify whether the system displays feeder path information on the report. Values are:

Blank: Does not display.

1: Displays.

2. Display TQC Description

Specify whether the system displays the TQC description on the report. Values are:

Blank: Does not display.

1: Displays.

3. Display Consumed Components Specify whether the system displays components consumed on the report. Values are:

Blank: Does not display.

1: Displays.

Processing Options for Daily Sequence Report (RF34S004)

Set the following processing options:

Versions

This processing option controls the version the system uses for the Daily Planning and Sequencing program (PF34S002).

Daily Planning and Sequencing (PF34S002) If you leave this processing option blank, the system uses the ZJDE0001 default version.

R8930L501P - Post Install for FF30L501/FF30L701 /FF30L905/ FF30L912 - 811SP1

If you are upgrading your JD Edwards EnterpriseOne Demand Flow® Manufacturing system from a previous release to the JD Edwards EnterpriseOne 8.11 SP1 release, you can run this batch program to update the following tables within a scenario with work center branch/plant information if you are integrating JD Edwards EnterpriseOne Demand Flow® Manufacturing with JD Edwards EnterpriseOne Manufacturing:

- DFM Item Definition Master (FF30L501)
- DFM Process Master (FF30L701)
- Line Master (FF30L912)
- Cell Master (FF30L905)

If you do not integrate JD Edwards EnterpriseOne Demand Flow® Manufacturing with JD Edwards EnterpriseOne Manufacturing, run this batch program, to clear the Work Center and Work Center Branch fields in these tables.

Processing Options for Post Install for FF30L501/FF30L701/ FF30L905/FF30L912 - 811SP1(R8930L501P)

Set the following processing options:

Processing

These processing options control which data the system updates.

1. Enter the Scenario ID to execute the Post Install for Run this batch program for a specific scenario.

2. Enter the Branch/Plant to default in the Work Center Branch/Plant Determine which branch/plant you want to use as a default work center branch in the tables.

3. Clear the Work Center and Branch/Plant fields, if Scenario is not integrated with Manufacturing

Update the tables if you do not integrate JD Edwards EnterpriseOne Demand Flow® Manufacturing with D Edwards EnterpriseOne Manufacturing. In this case, it is recommended to clear the Work Center and the Work Center Branch fields in the tables.

Glossary of JD Edwards EnterpriseOne Terms

activity A scheduling entity in JD Edwards EnterpriseOne tools that represents a designated amount of time on a calendar.

activity rule The criteria by which an object progresses from one given point to the next in a flow.

add mode A condition of a form that enables users to input data.

Advanced Planning Agent (APAg) A JD Edwards EnterpriseOne tool that can be used to extract, transform, and load enterprise data. APAg supports access to data sources in the form of rational databases, flat file format, and other data or message encoding, such as XML.

application server A server in a local area network that contains applications shared by network clients.

as if processing A process that enables you to view currency amounts as if they were entered in a currency different from the domestic and foreign currency of the transaction.

alternate currency A currency that is different from the domestic currency (when dealing with a domestic-only transaction) or the domestic and foreign currency of a transaction.

In JD Edwards EnterpriseOne Financial Management, alternate currency processing enables you to enter receipts and payments in a currency other than the one in which they were issued.

as of processing A process that is run as of a specific point in time to summarize transactions up to that date. For example, you can run various JD Edwards EnterpriseOne reports as of a specific date to determine balances and amounts of accounts, units, and so on as of that date.

back-to-back process A process in JD Edwards EnterpriseOne Supply Management that contains the same keys that are used in another process.

batch processing A process of transferring records from a third-party system to JD Edwards EnterpriseOne.

In JD Edwards EnterpriseOne Financial Management, batch processing enables you to transfer invoices and vouchers that are entered in a system other than JD Edwards EnterpriseOne to JD Edwards EnterpriseOne Accounts Receivable and JD Edwards EnterpriseOne Accounts Payable, respectively. In addition, you can transfer address book information, including customer and supplier records, to JD Edwards EnterpriseOne.

batch server A server that is designated for running batch processing requests. A batch server typically does not contain a database nor does it run interactive applications.

batch-of-one immediate A transaction method that enables a client application to perform work on a client workstation, then submit the work all at once to a server application for further processing. As a batch process is running on the server, the client application can continue performing other tasks.

See also direct connect and store-and-forward.

business function A named set of user-created, reusable business rules and logs that can be called through event rules. Business functions can run a transaction or a subset of a transaction (check inventory, issue work orders, and so on). Business functions also contain the application programming interfaces (APIs) that enable them to be called from a form, a database trigger, or a non-JD Edwards EnterpriseOne application. Business functions can be combined with other business functions, forms, event rules,

	and other components to make up an application. Business functions can be created through event rules or third-generation languages, such as C. Examples of business functions include Credit Check and Item Availability.
business function event rule	See named event rule (NER).
business view	A means for selecting specific columns from one or more JD Edwards EnterpriseOne application tables whose data is used in an application or report. A business view does not select specific rows, nor does it contain any actual data. It is strictly a view through which you can manipulate data.
central objects merge	A process that blends a customer's modifications to the objects in a current release with objects in a new release.
central server	A server that has been designated to contain the originally installed version of the software (central objects) for deployment to client computers. In a typical JD Edwards EnterpriseOne installation, the software is loaded on to one machine—the central server. Then, copies of the software are pushed out or downloaded to various workstations attached to it. That way, if the software is altered or corrupted through its use on workstations, an original set of objects (central objects) is always available on the central server.
charts	Tables of information in JD Edwards EnterpriseOne that appear on forms in the software.
connector	Component-based interoperability model that enables third-party applications and JD Edwards EnterpriseOne to share logic and data. The JD Edwards EnterpriseOne connector architecture includes Java and COM connectors.
contra/clearing account	A general ledger account in JD Edwards EnterpriseOne Financial Management that is used by the system to offset (balance) journal entries. For example, you can use a contra/clearing account to balance the entries created by allocations in JD Edwards EnterpriseOne Financial Management.
Control Table Workbench	An application that, during the Installation Workbench processing, runs the batch applications for the planned merges that update the data dictionary, user-defined codes, menus, and user override tables.
control tables merge	A process that blends a customer's modifications to the control tables with the data that accompanies a new release.
cost assignment	The process in JD Edwards EnterpriseOne Advanced Cost Accounting of tracing or allocating resources to activities or cost objects.
cost component	In JD Edwards EnterpriseOne Manufacturing, an element of an item's cost (for example, material, labor, or overhead).
cross segment edit	A logic statement that establishes the relationship between configured item segments. Cross segment edits are used to prevent ordering of configurations that cannot be produced.
currency restatement	The process of converting amounts from one currency into another currency, generally for reporting purposes. You can use the currency restatement process, for example, when many currencies must be restated into a single currency for consolidated reporting.
database server	A server in a local area network that maintains a database and performs searches for client computers.
Data Source Workbench	An application that, during the Installation Workbench process, copies all data sources that are defined in the installation plan from the Data Source Master and Table and Data Source Sizing tables in the Planner data source to the system-release number data source. It also updates the Data Source Plan detail record to reflect completion.

date pattern A calendar that represents the beginning date for the fiscal year and the ending date for each period in that year in standard and 52-period accounting.

denominated-in currency The company currency in which financial reports are based.

deployment server A server that is used to install, maintain, and distribute software to one or more enterprise servers and client workstations.

detail information Information that relates to individual lines in JD Edwards EnterpriseOne transactions (for example, voucher pay items and sales order detail lines).

direct connect A transaction method in which a client application communicates interactively and directly with a server application.

See also batch-of-one immediate and store-and-forward.

Do Not Translate (DNT) A type of data source that must exist on the iSeries because of BLOB restrictions.

dual pricing The process of providing prices for goods and services in two currencies.

edit code A code that indicates how a specific value for a report or a form should appear or be formatted. The default edit codes that pertain to reporting require particular attention because they account for a substantial amount of information.

edit mode A condition of a form that enables users to change data.

edit rule A method used for formatting and validating user entries against a predefined rule or set of rules.

Electronic Data Interchange (EDI) An interoperability model that enables paperless computer-to-computer exchange of business transactions between JD Edwards EnterpriseOne and third-party systems. Companies that use EDI must have translator software to convert data from the EDI standard format to the formats of their computer systems.

embedded event rule An event rule that is specific to a particular table or application. Examples include form-to-form calls, hiding a field based on a processing option value, and calling a business function. Contrast with the business function event rule.

Employee Work Center A central location for sending and receiving all JD Edwards EnterpriseOne messages (system and user generated), regardless of the originating application or user. Each user has a mailbox that contains workflow and other messages, including Active Messages.

enterprise server A server that contains the database and the logic for JD Edwards EnterpriseOne.

EnterpriseOne object A reusable piece of code that is used to build applications. Object types include tables, forms, business functions, data dictionary items, batch processes, business views, event rules, versions, data structures, and media objects.

EnterpriseOne process A software process that enables JD Edwards EnterpriseOne clients and servers to handle processing requests and run transactions. A client runs one process, and servers can have multiple instances of a process. JD Edwards EnterpriseOne processes can also be dedicated to specific tasks (for example, workflow messages and data replication) to ensure that critical processes don't have to wait if the server is particularly busy.

Environment Workbench An application that, during the Installation Workbench process, copies the environment information and Object Configuration Manager tables for each environment from the Planner data source to the system-release number data source. It also updates the Environment Plan detail record to reflect completion.

escalation monitor A batch process that monitors pending requests or activities and restarts or forwards them to the next step or user after they have been inactive for a specified amount of time.

event rule A logic statement that instructs the system to perform one or more operations based on an activity that can occur in a specific application, such as entering a form or exiting a field.

facility An entity within a business for which you want to track costs. For example, a facility might be a warehouse location, job, project, work center, or branch/plant. A facility is sometimes referred to as a "business unit."

fast path A command prompt that enables the user to move quickly among menus and applications by using specific commands.

file server A server that stores files to be accessed by other computers on the network. Unlike a disk server, which appears to the user as a remote disk drive, a file server is a sophisticated device that not only stores files, but also manages them and maintains order as network users request files and make changes to these files.

final mode The report processing mode of a processing mode of a program that updates or creates data records.

FTP server A server that responds to requests for files via file transfer protocol.

header information Information at the beginning of a table or form. Header information is used to identify or provide control information for the group of records that follows.

interface table See Z table.

integration server A server that facilitates interaction between diverse operating systems and applications across internal and external networked computer systems.

integrity test A process used to supplement a company's internal balancing procedures by locating and reporting balancing problems and data inconsistencies.

interoperability model A method for third-party systems to connect to or access JD Edwards EnterpriseOne.

in-your-face-error In JD Edwards EnterpriseOne, a form-level property which, when enabled, causes the text of application errors to appear on the form.

IServer service This internet server service resides on the web server and is used to speed up delivery of the Java class files from the database to the client.

jargon An alternative data dictionary item description that JD Edwards EnterpriseOne appears based on the product code of the current object.

Java application server A component-based server that resides in the middle-tier of a server-centric architecture. This server provides middleware services for security and state maintenance, along with data access and persistence.

JDBNET A database driver that enables heterogeneous servers to access each other's data.

JDEBASE Database Middleware A JD Edwards EnterpriseOne proprietary database middleware package that provides platform-independent APIs, along with client-to-server access.

JDECallObject An API used by business functions to invoke other business functions.

jde.ini A JD Edwards EnterpriseOne file (or member for iSeries) that provides the runtime settings required for JD Edwards EnterpriseOne initialization. Specific versions of the file or member must reside on every machine running JD Edwards EnterpriseOne. This includes workstations and servers.

JDEIPC Communications programming tools used by server code to regulate access to the same data in multiprocess environments, communicate and coordinate between processes, and create new processes.

jde.log The main diagnostic log file of JD Edwards EnterpriseOne. This file is always located in the root directory on the primary drive and contains status and error messages from the startup and operation of JD Edwards EnterpriseOne.

JDENET A JD Edwards EnterpriseOne proprietary communications middleware package. This package is a peer-to-peer, message-based, socket-based, multiprocess communications middleware solution. It handles client-to-server and server-to-server communications for all JD Edwards EnterpriseOne supported platforms.

Location Workbench An application that, during the Installation Workbench process, copies all locations that are defined in the installation plan from the Location Master table in the Planner data source to the system data source.

logic server A server in a distributed network that provides the business logic for an application program. In a typical configuration, pristine objects are replicated on to the logic server from the central server. The logic server, in conjunction with workstations, actually performs the processing required when JD Edwards EnterpriseOne software runs.

MailMerge Workbench An application that merges Microsoft Word 6.0 (or higher) word-processing documents with JD Edwards EnterpriseOne records to automatically print business documents. You can use MailMerge Workbench to print documents, such as form letters about verification of employment.

master business function (MBF) An interactive master file that serves as a central location for adding, changing, and updating information in a database. Master business functions pass information between data entry forms and the appropriate tables. These master functions provide a common set of functions that contain all of the necessary default and editing rules for related programs. MBFs contain logic that ensures the integrity of adding, updating, and deleting information from databases.

master table See published table.

matching document A document associated with an original document to complete or change a transaction. For example, in JD Edwards EnterpriseOne Financial Management, a receipt is the matching document of an invoice, and a payment is the matching document of a voucher.

media storage object Files that use one of the following naming conventions that are not organized into table format: Gxxx, xxxGT, or GTxxx.

message center A central location for sending and receiving all JD Edwards EnterpriseOne messages (system and user generated), regardless of the originating application or user.

messaging adapter An interoperability model that enables third-party systems to connect to JD Edwards EnterpriseOne to exchange information through the use of messaging queues.

messaging server A server that handles messages that are sent for use by other programs using a messaging API. Messaging servers typically employ a middleware program to perform their functions.

named event rule (NER) Encapsulated, reusable business logic created using event rules, rather that C programming. NERs are also called business function event rules. NERs can be reused in multiple places by multiple programs. This modularity lends itself to streamlining, reusability of code, and less work.

nota fiscal In Brazil, a legal document that must accompany all commercial transactions for tax purposes and that must contain information required by tax regulations.

nota fiscal factura In Brazil, a nota fiscal with invoice information.

See also *nota fiscal.*

Object Configuration Manager (OCM) In JD Edwards EnterpriseOne, the object request broker and control center for the runtime environment. OCM keeps track of the runtime locations for business functions, data, and batch applications. When one of these objects is called, OCM directs access to it using defaults and overrides for a given environment and user.

Object Librarian A repository of all versions, applications, and business functions reusable in building applications. Object Librarian provides check-out and check-in capabilities for developers, and it controls the creation, modification, and use of JD Edwards EnterpriseOne objects. Object Librarian supports multiple environments (such as production and development) and enables objects to be easily moved from one environment to another.

Object Librarian merge A process that blends any modifications to the Object Librarian in a previous release into the Object Librarian in a new release.

Open Data Access (ODA) An interoperability model that enables you to use SQL statements to extract JD Edwards EnterpriseOne data for summarization and report generation.

Output Stream Access (OSA) An interoperability model that enables you to set up an interface for JD Edwards EnterpriseOne to pass data to another software package, such as Microsoft Excel, for processing.

package JD Edwards EnterpriseOne objects are installed to workstations in packages from the deployment server. A package can be compared to a bill of material or kit that indicates the necessary objects for that workstation and where on the deployment server the installation program can find them. It is point-in-time snapshot of the central objects on the deployment server.

package build A software application that facilitates the deployment of software changes and new applications to existing users. Additionally, in JD Edwards EnterpriseOne, a package build can be a compiled version of the software. When you upgrade your version of the ERP software, for example, you are said to take a package build.

Consider the following context: "Also, do not transfer business functions into the production path code until you are ready to deploy, because a global build of business functions done during a package build will automatically include the new functions." The process of creating a package build is often referred to, as it is in this example, simply as "a package build."

package location The directory structure location for the package and its set of replicated objects. This is usually \\deployment server\release\path_code\package\package name. The subdirectories under this path are where the replicated objects for the package are placed. This is also referred to as where the package is built or stored.

Package Workbench An application that, during the Installation Workbench process, transfers the package information tables from the Planner data source to the system-release number data source. It also updates the Package Plan detail record to reflect completion.

planning family A means of grouping end items whose similarity of design and manufacture facilitates being planned in aggregate.

preference profile The ability to define default values for specified fields for a user-defined hierarchy of items, item groups, customers, and customer groups.

print server The interface between a printer and a network that enables network clients to connect to the printer and send their print jobs to it. A print server can be a computer, separate hardware device, or even hardware that resides inside of the printer itself.

pristine environment A JD Edwards EnterpriseOne environment used to test unaltered objects with JD Edwards EnterpriseOne demonstration data or for training classes. You must have this environment so that you can compare pristine objects that you modify.

processing option A data structure that enables users to supply parameters that regulate the running of a batch program or report. For example, you can use processing options to specify default values for certain fields, to determine how information appears or is printed, to specify date ranges, to supply runtime values that regulate program execution, and so on.

production environment A JD Edwards EnterpriseOne environment in which users operate EnterpriseOne software.

production-grade file server A file server that has been quality assurance tested and commercialized and that is usually provided in conjunction with user support services.

program temporary fix (PTF) A representation of changes to JD Edwards EnterpriseOne software that your organization receives on magnetic tapes or disks.

project In JD Edwards EnterpriseOne, a virtual container for objects being developed in Object Management Workbench.

promotion path The designated path for advancing objects or projects in a workflow. The following is the normal promotion cycle (path):

11>21>26>28>38>01

In this path, *11* equals new project pending review, *21* equals programming, *26* equals QA test/review, *28* equals QA test/review complete, *38* equals in production, *01* equals complete. During the normal project promotion cycle, developers check objects out of and into the development path code and then promote them to the prototype path code. The objects are then moved to the productions path code before declaring them complete.

proxy server A server that acts as a barrier between a workstation and the internet so that the enterprise can ensure security, administrative control, and caching service.

published table Also called a master table, this is the central copy to be replicated to other machines. Residing on the publisher machine, the F98DRPUB table identifies all of the published tables and their associated publishers in the enterprise.

publisher The server that is responsible for the published table. The F98DRPUB table identifies all of the published tables and their associated publishers in the enterprise.

pull replication One of the JD Edwards EnterpriseOne methods for replicating data to individual workstations. Such machines are set up as pull subscribers using JD Edwards EnterpriseOne data replication tools. The only time that pull subscribers are notified of changes, updates, and deletions is when they request such information. The request is in the form of a message that is sent, usually at startup, from the pull subscriber to the server machine that stores the F98DRPCN table.

QBE An abbreviation for query by example. In JD Edwards EnterpriseOne, the QBE line is the top line on a detail area that is used for filtering data.

real-time event A service that uses system calls to capture JD Edwards EnterpriseOne transactions as they occur and to provide notification to third-party software, end users, and other JD Edwards EnterpriseOne systems that have requested notification when certain transactions occur.

refresh A function used to modify JD Edwards EnterpriseOne software, or subset of it, such as a table or business data, so that it functions at a new release or cumulative update level, such as B73.2 or B73.2.1.

replication server A server that is responsible for replicating central objects to client machines.

quote order In JD Edwards Procurement and Subcontract Management, a request from a supplier for item and price information from which you can create a purchase order.

	In JD Edwards Sales Order Management, item and price information for a customer who has not yet committed to a sales order.
selection	Found on JD Edwards EnterpriseOne menus, a selection represents functions that you can access from a menu. To make a selection, type the associated number in the Selection field and press Enter.
Server Workbench	An application that, during the Installation Workbench process, copies the server configuration files from the Planner data source to the system-release number data source. It also updates the Server Plan detail record to reflect completion.
spot rate	An exchange rate entered at the transaction level. This rate overrides the exchange rate that is set up between two currencies.
Specification merge	A merge that comprises three merges: Object Librarian merge, Versions List merge, and Central Objects merge. The merges blend customer modifications with data that accompanies a new release.
specification	A complete description of a JD Edwards EnterpriseOne object. Each object has its own specification, or name, which is used to build applications.
Specification Table Merge Workbench	An application that, during the Installation Workbench process, runs the batch applications that update the specification tables.
store-and-forward	The mode of processing that enables users who are disconnected from a server to enter transactions and then later connect to the server to upload those transactions.
subscriber table	Table F98DRSUB, which is stored on the publisher server with the F98DRPUB table and identifies all of the subscriber machines for each published table.
supplemental data	Any type of information that is not maintained in a master file. Supplemental data is usually additional information about employees, applicants, requisitions, and jobs (such as an employee's job skills, degrees, or foreign languages spoken). You can track virtually any type of information that your organization needs. For example, in addition to the data in the standard master tables (the Address Book Master, Customer Master, and Supplier Master tables), you can maintain other kinds of data in separate, generic databases. These generic databases enable a standard approach to entering and maintaining supplemental data across JD Edwards EnterpriseOne systems.
table access management (TAM)	The JD Edwards EnterpriseOne component that handles the storage and retrieval of use-defined data. TAM stores information, such as data dictionary definitions; application and report specifications; event rules; table definitions; business function input parameters and library information; and data structure definitions for running applications, reports, and business functions.
Table Conversion Workbench	An interoperability model that enables the exchange of information between JD Edwards EnterpriseOne and third-party systems using non-JD Edwards EnterpriseOne tables.
table conversion	An interoperability model that enables the exchange of information between JD Edwards EnterpriseOne and third-party systems using non-JD Edwards EnterpriseOne tables.
table event rules	Logic that is attached to database triggers that runs whenever the action specified by the trigger occurs against the table. Although JD Edwards EnterpriseOne enables event rules to be attached to application events, this functionality is application specific. Table event rules provide embedded logic at the table level.
terminal server	A server that enables terminals, microcomputers, and other devices to connect to a network or host computer or to devices attached to that particular computer.

three-tier processing The task of entering, reviewing and approving, and posting batches of transactions in JD Edwards EnterpriseOne.

three-way voucher match In JD Edwards Procurement and Subcontract Management, the process of comparing receipt information to supplier's invoices to create vouchers. In a three-way match, you use the receipt records to create vouchers.

transaction processing (TP) monitor A monitor that controls data transfer between local and remote terminals and the applications that originated them. TP monitors also protect data integrity in the distributed environment and may include programs that validate data and format terminal screens.

transaction set An electronic business transaction (electronic data interchange standard document) made up of segments.

trigger One of several events specific to data dictionary items. You can attach logic to a data dictionary item that the system processes automatically when the event occurs.

triggering event A specific workflow event that requires special action or has defined consequences or resulting actions.

two-way voucher match In JD Edwards Procurement and Subcontract Management, the process of comparing purchase order detail lines to the suppliers' invoices to create vouchers. You do not record receipt information.

User Overrides merge Adds new user override records into a customer's user override table.

variance In JD Edwards Capital Asset Management, the difference between revenue generated by a piece of equipment and costs incurred by the equipment.

In JD Edwards EnterpriseOne Project Costing and JD Edwards EnterpriseOne Manufacturing, the difference between two methods of costing the same item (for example, the difference between the frozen standard cost and the current cost is an engineering variance). Frozen standard costs come from the Cost Components table, and the current costs are calculated using the current bill of material, routing, and overhead rates.

Version List merge The Versions List merge preserves any non-XJDE and non-ZJDE version specifications for objects that are valid in the new release, as well as their processing options data.

visual assist Forms that can be invoked from a control via a trigger to assist the user in determining what data belongs in the control.

vocabulary override An alternate description for a data dictionary item that appears on a specific JD Edwards EnterpriseOne form or report.

wchar_t An internal type of a wide character. It is used for writing portable programs for international markets.

web application server A web server that enables web applications to exchange data with the back-end systems and databases used in eBusiness transactions.

web server A server that sends information as requested by a browser, using the TCP/IP set of protocols. A web server can do more than just coordination of requests from browsers; it can do anything a normal server can do, such as house applications or data. Any computer can be turned into a web server by installing server software and connecting the machine to the internet.

Windows terminal server A multiuser server that enables terminals and minimally configured computers to display Windows applications even if they are not capable of running Windows software themselves. All client processing is performed centrally at the Windows

terminal server and only display, keystroke, and mouse commands are transmitted over the network to the client terminal device.

workbench A program that enables users to access a group of related programs from a single entry point. Typically, the programs that you access from a workbench are used to complete a large business process. For example, you use the JD Edwards EnterpriseOne Payroll Cycle Workbench (P07210) to access all of the programs that the system uses to process payroll, print payments, create payroll reports, create journal entries, and update payroll history. Examples of JD Edwards EnterpriseOne workbenches include Service Management Workbench (P90CD020), Line Scheduling Workbench (P3153), Planning Workbench (P13700), Auditor's Workbench (P09E115), and Payroll Cycle Workbench.

work day calendar In JD Edwards EnterpriseOne Manufacturing, a calendar that is used in planning functions that consecutively lists only working days so that component and work order scheduling can be done based on the actual number of work days available. A work day calendar is sometimes referred to as planning calendar, manufacturing calendar, or shop floor calendar.

workflow The automation of a business process, in whole or in part, during which documents, information, or tasks are passed from one participant to another for action, according to a set of procedural rules.

workgroup server A server that usually contains subsets of data replicated from a master network server. A workgroup server does not perform application or batch processing.

XAPI events A service that uses system calls to capture JD Edwards EnterpriseOne transactions as they occur and then calls third-party software, end users, and other JD Edwards EnterpriseOne systems that have requested notification when the specified transactions occur to return a response.

XML CallObject An interoperability capability that enables you to call business functions.

XML Dispatch An interoperability capability that provides a single point of entry for all XML documents coming into JD Edwards EnterpriseOne for responses.

XML List An interoperability capability that enables you to request and receive JD Edwards EnterpriseOne database information in chunks.

XML Service An interoperability capability that enables you to request events from one JD Edwards EnterpriseOne system and receive a response from another JD Edwards EnterpriseOne system.

XML Transaction An interoperability capability that enables you to use a predefined transaction type to send information to or request information from JD Edwards EnterpriseOne. XML transaction uses interface table functionality.

XML Transaction Service (XTS) Transforms an XML document that is not in the JD Edwards EnterpriseOne format into an XML document that can be processed by JD Edwards EnterpriseOne. XTS then transforms the response back to the request originator XML format.

Z event A service that uses interface table functionality to capture JD Edwards EnterpriseOne transactions and provide notification to third-party software, end users, and other JD Edwards EnterpriseOne systems that have requested to be notified when certain transactions occur.

Z table A working table where non-JD Edwards EnterpriseOne information can be stored and then processed into JD Edwards EnterpriseOne. Z tables also can be used to retrieve JD Edwards EnterpriseOne data. Z tables are also known as interface tables.

Z transaction Third-party data that is properly formatted in interface tables for updating to the JD Edwards EnterpriseOne database.

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