Oracle® Configure To Order

Implementation Manual

Release 11*i*

January 2002

Part No. A90459-02

ORACLE®

Oracle Configure To Order Implementation Manual, Release 11*i*

Part No. A90459-02

Copyright © 2000, 2002 Oracle Corporation. All rights reserved.

Author: Evelyn Tran, Valerie Dubois

Contributing Authors: Yuana Kumala, Perry Toscano, Usha Arora

Contributors: David Reitan

License Restrictions & Warranty Disclaimer The Programs (which include both the software and documentation) contain proprietary information of Oracle Corporation; they are provided under a license agreement containing restrictions on use and disclosure and are also protected by copyright, patent, and other intellectual and industrial property laws. Reverse engineering, disassembly, or decompilation of the Programs is prohibited.

The information contained in this document is subject to change without notice. If you find any problems in the documentation, please report them to us in writing. Oracle Corporation does not warrant that this document is error free. Except as may be expressly permitted in your license agreement for these Programs, no part of these Programs may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of Oracle Corporation.

Restricted Rights Notice If the Programs are delivered to the U.S. Government or anyone licensing or using the programs on behalf of the U.S. Government, the following notice is applicable:

Programs delivered subject to the DOD FAR Supplement are "commercial computer software" and use, duplication, and disclosure of the Programs, including documentation, shall be subject to the licensing restrictions set forth in the applicable Oracle license agreement. Otherwise, Programs delivered subject to the Federal Acquisition Regulations are "restricted computer software" and use, duplication, and disclosure of the Programs shall be subject to the restrictions in FAR 52.227-19, Commercial Computer Software - Restricted Rights (June, 1987). Oracle Corporation, 500 Oracle Parkway, Redwood City, CA 94065.

Hazardous Applications The Programs are not intended for use in any nuclear, aviation, mass transit, medical, or other inherently dangerous applications. It shall be the licensee's responsibility to take all appropriate fail-safe, backup, redundancy, and other measures to ensure the safe use of such applications if the Programs are used for such purposes, and Oracle Corporation disclaims liability for any damages caused by such use of the Programs.

Trademark Notice Oracle is a registered trademark of Oracle Corporation. Other names may be trademarks of their respective owners.

Contents

Send Us Your Comments vii

Preface ix

Intended Audience ix
About This Manual ix
Other Information Sources xi
About Oracle xvii

1 Overview of Configure-to-Order Implementation

Overview 1-2
Overview of Oracle Configure to Order 1-3
Definitions 1-3
Process Flows 1-4
Feature Highlight 1-14
Product Definition 1-14
Planning Configurations 1-14
Ordering Configurations 1-15
Manufacturing Configurations 1-15
Procuring configurations 1-16
Integration 1-16
Examples Used in This Manual 1-17

2 Setup

Parameters 2-2
Profiles 2-5
Setup for Configuration Line Workflow 2-9
Planning Set-up Considerations in a Multi-level, Multi-organization scenario 2-10

3 Model Items, Bills, and Routing

Model Items, Bills, and Routing 3-2
Items Setup 3-2
Model and Option Class Bills of Material 3-4
Model Bills of Material 3-4
Option Class Bills of Material 3-4
BOM Attributes 3-4
Model and Option Class Routing 3-5
Common Model Routing to Option Classes 3-6
Discrete Manufacturing 3-7
Option Dependent Routing Steps 3-7
Flow Manufacturing 3-9
Option Dependent Event 3-9
Cataloging Configurations 3-10
Configuration Rules 3-12

4 Forecast Models and Options

Forecast Models and Options 4-2
Forecast Control 4-2
Forecast Explosion 4-3
Forecast Consumption 4-5

5 Master Schedule Models and Options

Master Schedule Models and Options 5-2
Production Relief 5-3
Shipment Relief 5-4

6 Enter Configured Orders

Enter Configured Orders 6-2
Release 11i Order Management Overview 6-2
Enter Configured Orders 6-2
View Selected Options 6-2
Match Configuration Item 6-3
Workflow for Configured Orders 6-4

Order Line Statuses 6-6
De-link Configuration Item 6-7
Link Configuration Item 6-8

7 Check ATP

Check ATP 7-2
Setup 7-2
Group ATP for Configurations 7-3
Multi-level, multi-org using the Global ATP Server 7-6

8 Create Configuration Items

Create Configuration Items 8-2
Process Description 8-2
Configuration BOM 8-5
Configuration Routing 8-7
Configuration Lead Time Calculation 8-7
Configuration Item Cost Rollup 8-8
Batch vs. Online Mode 8-8
Preconfiguring Items 8-9

9 Supply Unique Configurations

Overview to Supplying Unique Configurations 9-2
Discrete Manufacturing 9-2
Flow Manufacturing 9-7
Purchasing 9-10
Create Purchase Requisitions 9-10
Requisition and Purchase Order Reservation 9-13
Receive an Assembly 9-14
Perform an Assembly Return 9-14

10 Reservation

Reservation 10-2
Reserve Supply 10-2

11 Pick Release and Ship Confirm

Pick Release and Ship Confirm 11-2
Setup 11-2

12 Order Changes

Order Changes 12-2
Notification of the change 12-2
Customization to Workflow 12-4
Existing Processing Constraints 12-5
Re-instituting Prior Processing Constraints 12-6

13 Customize the Order Processing Workflow

Customize the Order Processing Workflow 13-2

14 Deactivate Configuration Items

Deactivate Configuration Items 14-2

Send Us Your Comments

Oracle Configure To Order Implementation Manual , Release 11*i*

Part No. A90459-02

Oracle Corporation welcomes your comments and suggestions on the quality and usefulness of this document. Your input is an important part of the information used for revision.

- Did you find any errors?
- Is the information clearly presented?
- Do you need more information? If so, where?
- Are the examples correct? Do you need more examples?
- What features did you like most?

If you find any errors or have any other suggestions for improvement, please indicate the document title and part number, and the chapter, section, and page number (if available). You can send comments to us in the following ways:

- Electronic mail: appsdoc@us.oracle.com Attn: Oracle Configure To Order

- Postal service:
  Oracle Corporation
  Oracle Configure To Order Documentation
  500 Oracle Parkway, 3op5
  Redwood Shores, CA 94065
  USA

If you would like a reply, please give your name, address, telephone number, and (optionally) electronic mail address.

If you have problems with the software, please contact your local Oracle Support Services.

Preface

Welcome to *Oracle® Configure to Order Implementation Manual, Release 11i.*

This implementation manual assumes that you are using installation notes provided with the media to perform the installation. It does not contain information regarding the installation steps necessary to transfer the Applications from the disbursement media to the computer system.

Once the installation has been completed, this manual may be used to step through the setup and implementation steps required to get Configure To Order functional.

This preface also explains how this implementation manual is organized and introduces other sources of information that can help you.

Intended Audience

This manual is intended for anyone who is interested in Oracle Configure To Order.

About This Manual

This manual contain overviews, as well as task and reference information, for implementing Oracle Configure To Order. This manual contains the following chapters:

Chapter 1 provides an overview of the Oracle Configure To Order product and its integration with other Oracle Applications.

Chapter 2 describes the setup steps required to setup Oracle Configure To Order.

Chapter 3 discusses model items, bills, and routing.

Chapter 4 discusses forecast models and options.

Chapter 5 discusses master schedule models and options.

Chapter 6 discusses entering configured orders.

Chapter 7 discusses check ATP.

Chapter 8 discusses creating configuration items.

Chapter 9 discusses supplying unique configurations.

Chapter 10 discusses reservation.

Chapter 11 discusses pick release and ship confirm.

Chapter 12 discusses order changes.

Chapter 13 discusses customizing the order processing workflow.

Chapter 14 discusses deactivating configuration items.

Assumptions

This implementation manual, combined with the user's guides listed in the section *Other Information Sources*, should provide you with all the information needed to implement Oracle Configure to Order.

It also assumes you are familiar with the following Oracle Applications:

- Oracle Advanced Planning and Scheduling
- Oracle BOM/ENG
- Oracle Inventory
- Oracle Order Management
- Oracle Planning
- Oracle Purchasing
- Oracle Work In Process

If you have never used these products, we suggest you attend one or more of the Oracle training classes, available through Oracle University. For more information about Oracle Configure To Order and Oracle training, see: Other Information Sources.

Do Not Use Database Tools to Modify Oracle Applications Data

Because Oracle Applications tables are interrelated, any change you make using Oracle Applications can update many tables at once. But when you modify Oracle

Applications data using anything other than Oracle Applications, you may change a row in one table without making corresponding changes in related tables. If your tables get out of synchronization with each other, you risk retrieving erroneous information and you risk unpredictable results throughout Oracle Applications.

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

Consequently, we STRONGLY RECOMMEND that you never use SQL*Plus or any other tool to modify Oracle Applications data unless otherwise instructed.

Other Information Sources

Here are some other ways you can increase your knowledge and understanding of Oracle Configure To Order.

Online Documentation

All Oracle Applications documentation is available online on CD–ROM, except for technical reference manuals. There are two online formats, HyperText Markup Language (HTML) and Adobe Acrobat (PDF).

All user's guides are available in HTML, Acrobat, and paper. Technical reference manuals are available in paper only. Other documentation is available in Acrobat and paper.

The content of the documentation does not differ from format to format. There may be slight differences due to publication standards, but such differences do not affect content. For example, page numbers and screen shots are not included in HTML.

The HTML documentation is available from all Oracle Applications windows. Each window is programmed to start your web browser and open a specific, context–sensitive section. Once any section of the HTML documentation is open, you can navigate freely throughout all Oracle Applications documentation. The HTML documentation also ships with Oracle Information Navigator (if your national language supports this tool), which enables you to search for words and phrases throughout the documentation set.

Related User's Guides

Configure To Order shares business and setup information with other Oracle Applications products. Therefore, you may want to refer to other user's guides when you set up and use Oracle Configure To Order.

If you do not have the hardcopy versions of these manuals, you can read them online using the Applications Library icon or Help menu command.

Oracle Advanced Supply Chain Planning, Oracle Risk Optimization, Oracle Global Order Promising, and Oracle Demand Planning User's Guide

This guide contains the information you need to understand and implement Oracle Advanced Supply Chain Planning, Oracle Risk Optimization, Oracle Global Order Promising, and Oracle Demand Planning.

Oracle Applications User's Guide

This guide explains how to enter data, query, run reports, and navigate using the graphical user interface (GUI) available with this release of Configure To Order (and any other Oracle Applications products). This guide also includes information on setting user profiles, as well as running and reviewing reports and concurrent processes.

You can access this user's guide online by choosing "Getting Started with Oracle Applications" from any Oracle Applications help file.

Oracle Applications Demonstration User's Guide

This guide documents the functional storyline and product flows for Global Computers, a fictional manufacturer of personal computers products and services. As well as including product overviews, the book contains detailed discussions and examples across each of the major product flows. Tables, illustrations, and charts summarize key flows and data elements.

Oracle Bills of Material User's Guide

This guide describes how to create various bills of materials to maximize efficiency, support customer requirements, improve quality and lower cost for the most sophisticated manufacturing environments. By detailing integrated product structures and processes, flexible product and process definition, and configuration management, this guide enables you to manage product details within and across multiple manufacturing sites.

Oracle Cost Management User's Guide

This guide describes how to use Oracle Cost Management in either a standard costing or average costing organization. Cost Management can be used to cost inventory, receiving, order entry, and work in process transactions. It can also be used to collect transaction costs for transfer to Oracle Projects. Cost Management supports multiple cost elements, multiple subelements, and activity–based costing. It also provides comprehensive valuation and variance reporting.

Oracle Engineering User's Guide

This guide enables your engineers to utilize the features of Oracle Engineering to quickly introduce and manage new designs into production. Specifically, this guide details how to quickly and accurately define the resources, materials and processes necessary to implement changes in product design.

Oracle Inventory User's Guide

This guide describes how to define items and item information, perform receiving and inventory transactions, maintain cost control, plan items, perform cycle counting and physical inventories, and set up Oracle Inventory.

Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide

This guide describes a variety of tools offerred to manage and manipulate demand information for both design and operational phases. You can create forecasts, load these forecasts into master production schedules, and plan your end–items and their component requirements. You can also execute the plan, releasing and rescheduling planning suggestions for discrete jobs and repetitive schedules.

Oracle Order Management User's Guide

This guide describes how to enter sales orders and returns, manage spare parts, sales orders, copy existing sales orders, schedule orders, release orders, plan departures and deliveries, confirm shipments, create price lists and discounts for orders, and create reports.

Oracle Project Manufacturing User's Guide

This guide describes the unique set of features Oracle Project Manufacturing provides for a project–based manufacturing environment. Oracle Project Manufacturing can be tightly integrated with Oracle Projects; however, in addition to Oracle Projects functionality, Oracle Project Manufacturing provides a comprehensive set of new features to support project sales management, project

manufacturing costing, project manufacturing planning, project manufacturing execution and project quality management.

Oracle Purchasing User's Guide

This guide describes how to create and approve purchasing documents, including requisitions, different types of purchase orders, quotations, RFQs, and receipts. This guide also describes how to manage your supply base through agreements, sourcing rules and approved supplier lists. In addition, this guide explains how you can automatically create purchasing documents based on business rules through integration with Oracle Workflow technology, which automates many of the key procurement processes.

Oracle Quality User's Guide

This guide describes how Oracle Quality can be used to meet your quality data collection and analysis needs. This guide also explains how Oracle Quality interfaces with other Oracle Manufacturing applications to provide a closed loop quality control system.

Oracle Work in Process User's Guide

This guide describes how Oracle Work in Process provides a complete production management system. Specifically this guide describes how discrete, repetitive, assemble–to–order, project, flow, and mixed manufacturing environments are supported.

Oracle HRMS User's Guide

This manual explains how to enter your employees. It also explains how to set up organizations and site locations. Even if you do not install Oracle HRMS, you can set up your employees, site locations, and organization using Oracle HRMS forms.

Oracle Projects User's Guide

This guide explains how to set up projects for use in project manufacturing and project accounting.

Reference Manuals

Oracle Technical Reference Manuals

Each technical reference manual contains database diagrams and a detailed description of database tables, forms, reports, and programs for a specific Oracle Applications product. This information helps you convert data from your existing

applications, integrate Oracle Applications data with non–Oracle applications, and write custom reports for Oracle Applications products.

You can order a technical reference manual for any Oracle Applications product you have licensed.

Oracle Manufacturing, Distribution, Sales and Service Open Interfaces Manual

This manual contains up–to–date information about integrating with other Oracle Manufacturing applications and with your other systems. This documentation includes open interfaces found in Oracle Manufacturing.

Oracle Applications Message Reference Manual

This manual describes all Oracle Applications messages. This manual is available in HTML format on the documentation CD–ROM for Release 11.

Oracle Self–Service Web Applications Implementation Manual

This manual describes the setup steps for Oracle Self–Service Web Applications and the Web Applications dictionary.

Installation and System Administration

Oracle Alert User's Guide

This guide explains how to define periodic and event alerts to monitor the status of your Oracle Applications data

Oracle Applications Implementation Wizard User's Guide

If you are implementing more than one Oracle product, you can use the Oracle Applications Implementation Wizard to coordinate your setup activities. This guide describes how to use the wizard.

Oracle Applications Developer's Guide

This guide contains the coding standards followed by the Oracle Applications development staff. It describes the Oracle Application Object Library components needed to implement the Oracle Applications user interface described in the Oracle Applications User Interface Standards. It also provides information to help you build your custom Developer/2000 forms so that they integrate with Oracle Applications.

Oracle Applications Flexfields Guide

This guide provides flexfields planning, setup and reference information for the Configure To Order implementation team, as well as for users responsible for the ongoing maintenance of Oracle Applications product data. This manual also provides information on creating custom reports on flexfields data.

Oracle Applications Installation Manual for Windows Clients

This guide provides information you need to successfully install Oracle Financials, Oracle Public Sector Financials, Oracle Manufacturing, or Oracle Human Resources in your specific hardware and operating system software environment.

Oracle Applications Product Update Notes

If you are upgrading your Oracle Applications, refer to the product update notes appropriate to your update and product(s) to see summaries of new features as well as changes to database objects, profile options and seed data added for each new release.

Oracle Applications Upgrade Preparation Manual

This guide explains how to prepare your Oracle Applications products for an upgrade. It also contains information on completing the upgrade procedure for each product. Refer to this manual and the Oracle Applications Installation Manual when you plan to upgrade your products.

Oracle Applications System Administrator's Guide

This manual provides planning and reference information for the Configure To Orderg System Administrator.

Other Sources

Training

We offer a complete set of formal training courses to help you and your staff master Oracle Configure To Order and reach full productivity quickly. We organize these courses into functional learning paths, so you take only those courses appropriate to your job or area of responsibility.

You have a choice of educational environments. You can attend courses offered by Oracle University Services at any one of our many Education Centers, or you can arrange for our trainers to teach at your facility. In addition, Oracle training professionals can tailor standard courses or develop custom courses to meet your

needs. For example, you may want to use your organization structure, terminology, and data as examples in a customized training session delivered at your own facility.

Support

From on–site support to central support, our team of experienced professionals provides the help and information you need to keep Configure To Order working for you. This team includes your Technical Representative, Account Manager, and Oracle's large staff of consultants and support specialists with expertise in your business area, managing an Oracle8 server, and your hardware and software environment.

About Oracle

Oracle Corporation develops and markets an integrated line of software products for database management, applications development, decision support, and office automation, as well as Oracle Applications, an integrated suite of more than 45 software modules for financial management, supply chain management, manufacturing, project systems, human resources and sales and service management.

Oracle products are available for mainframes, minicomputers, personal computers, network computers and personal digital assistants, allowing organizations to integrate different computers, different operating systems, different networks, and even different database management systems, into a single, unified computing and information resource.

Oracle is the world's leading supplier of software for information management, and the world's second largest software company. Oracle offers its database, tools, and applications products, along with related consulting, education, and support services, in over 140 countries around the world.

Thank You

Thank you for using Oracle Flow Manufacturing and this implementation guide.

We value your comments and feedback. At the end of this guide is a Reader's Comment Form you can use to explain what you like or dislike about Oracle Flow Manufacturing or this implementation manual. Mail your comments to the following address or call us directly at (650) 506–7000.

Oracle Applications Documentation Manager

Oracle Corporation

500 Oracle Parkway

Redwood Shores, CA 94065 U.S.A.

Or, send electronic mail to appsdoc@us.oracle.com .

1

Overview of Configure-to-Order Implementation

Topics covered in this chapter include:

- Overview of Oracle Configure to Order on page 1-3
- Feature Highlight on page 1-14
- Examples Used in This Manual on page 1-17

Overview

This Oracle Configure to Order Implementation Manual contains current information about how Oracle ERP products support configure to order capability. It provides detailed implementation consideration for every step of the process.

This manual is organized into the following chapters:

Overview of Oracle Configure to Order

Setup

Model Item, Bills and Routing

Forecast Models and Options

Master Schedule Models and Options

Entering Configured Orders

Check ATP

Creating Configuration Items

Supply Unique Configurations

Reservation

Pick Release and Ship Configurations

Order Changes

Processing Configured Orders Over Supply Chain

Customizing the Order Processing Workflow

Deactivate Configuration Items

Overview of Oracle Configure to Order

A Configure to Order environment is one where the product or service is assembled or kitted on receipt of the sales order. Oracle Applications supports the Configure to Order environment with a range of features in order entry, demand forecasting, master scheduling, production, shipping, and financial accounting.

Configure to Order:

includes Pick-to-Order (PTO) and Assemble-to-Order (ATO) items, models, and hybrids.

supports building configurations using other configurations as sub-assemblies (multi-level configure to order)

supports internal sourcing of ATO models at any level of BOM

supports purchasing of ATO models and items at any level of the BOM

Definitions

Assemble-to-Order Model (ATO Configuration)

Assemble-to-Order model consists of:

- Model bill of material with optional items and option selection rules
- Configuration manufactured from mandatory components and selected options

Assemble-to-Order Item

Assemble-to-Order item consists of:

- Standard bill of material with standard components
- Item manufactured from standard components

Pick-to-Order Model (PTO Configuration)

Pick-to-Order model consists of:

- Model bill of material with optional items and option selection rules
- Pick slip used to kit included items and selected options

Pick-to-Order Item (Kit)

Kit consists of:

- Standard bill of material with mandatory included items
- Pick slip used to kit included items

Hybrid

Hybrid consists of:

- Pick-to-Order models with optional Assemble-to-Order items
- Pick-to-Order model containing Assemble-to-Order model

Multi-Level Assemble-to-Order Model (Multi-Level ATO Configuration)

Multi-level Assemble-to-Order model consists of:

- A model bill of material with a non-phantom model as a component.
- Configuration manufactured from mandatory components, selected options, and configured sub-assemblies.

Multi-Level Assemble-to-Order Items

Multi-level Assemble-to-Order item consists of:

- Standard bill of material with standard components and configured components
- Item manufactured from standard components and configured components

Multi-Organization Assemble to Order Model (Multi-Organization ATO)

Multi-Organization Assemble-to-Order model consists of:

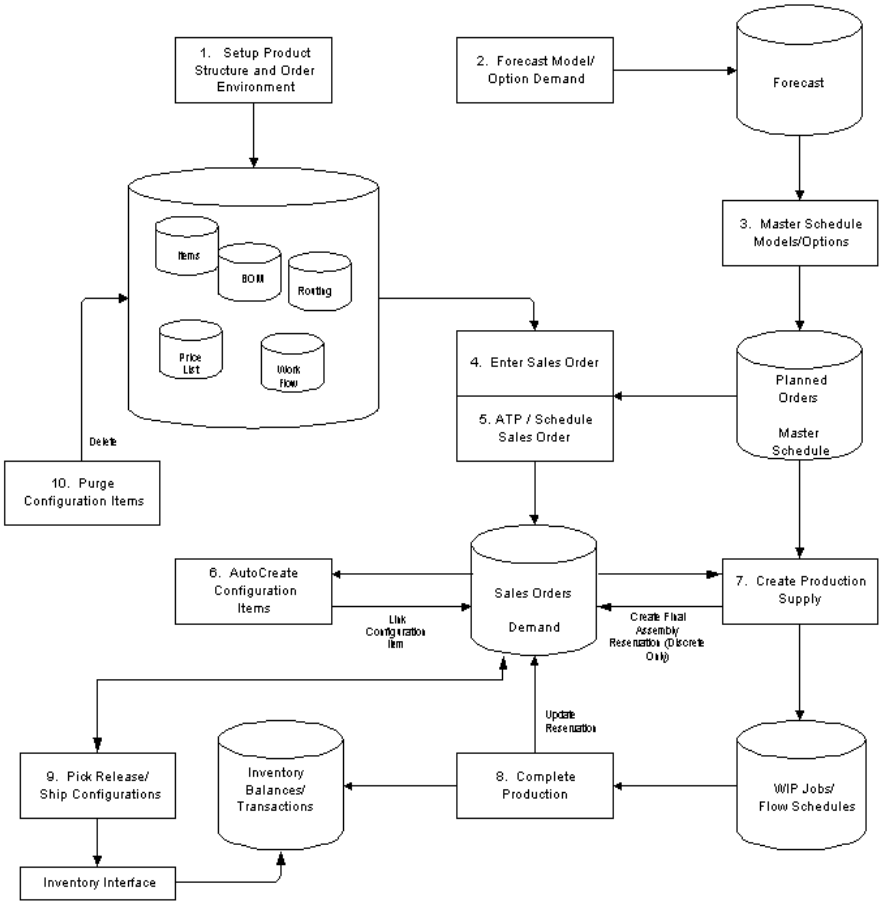
- An ATO model which will be manufactured in and transferred from another organization

Process Flows

There are three process flows illustrated here, one for single level, single organization make structures, one for multi-level, multi-organization make structures, and one for a purchased to order configuration.

Example 1: Process flow for Single Level, Single Organization ATO, and PTO

The following diagram illustrates the flow of a single level, single org assemble-to-order sales order. Each numbered step is explained in the table following the diagram, and will be covered in detail in the following chapters.


1. Setup Product Structure and Order Environment
2. Forecast Model/ Option Demand
Forecast
Items
BOM
Routing
Price List
Work Flow
3. Master Schedule Models/Options
4. Enter Sales Order
5. ATP / Schedule Sales Order
Planned Orders
Master Schedule
Delete
10. Purge Configuration Items
6. AutoCreate Configuration Items
Link Configuration Item
Sales Orders
Demand
7. Create Production Supply
Create Final Assembly Reservation (Discrete Only)
Update Reservation
9. Pick Release/ Ship Configurations
Inventory Balances/ Transactions
8. Complete Production
WIP Jobs/ Flow Schedules
Inventory Interface

#	ATO	PTO	Name	Description
1	Yes	Yes	Define Model and Option Class Bills of Material and optionally routings	Define model and option class bills and routings (optional) to control order management, master scheduling / MRP, work in process, and costing.
2	Yes	No	Forecast Model / Option Demand	Forecast demand for model, options, or both. Explode forecasts through planning bills to models and / or options.
3	Yes	No	Master Schedule Models and Options	Master schedule ATO models, options, or both.
4	Yes	Yes	Enter Sales Order	Enter sales orders for models with options.
5	Yes	Yes	Check ATP	Perform group ATP check for all supply-constrained components to find earliest possible ship date for configuration.
	Yes	Yes	Book and Schedule the Order	
6	Yes		AutoCreate Configuration Items	Automatically generate a new item number, bill, and routing for each new sales order and assign new item to sales order. Note : You could also 'Progress the order' through 'create config item' in the workflow, which will create the new item, bill and routing for the configuration required for that sales order.
7	Yes		Create Production Supply	Discrete: Autocreate Final Assembly Orders automatically opens a discrete job for each new ATO configuration order. These work in process jobs are reserved to the sales orders. Flow: Use the line scheduling workbench to schedule your line based on sales orders. The sales order number is referenced on the flow schedule. Note: you could also "progress the order" through Create Production Supply which will automatically open a discrete job or create a flow schedule for the active configuration order line.

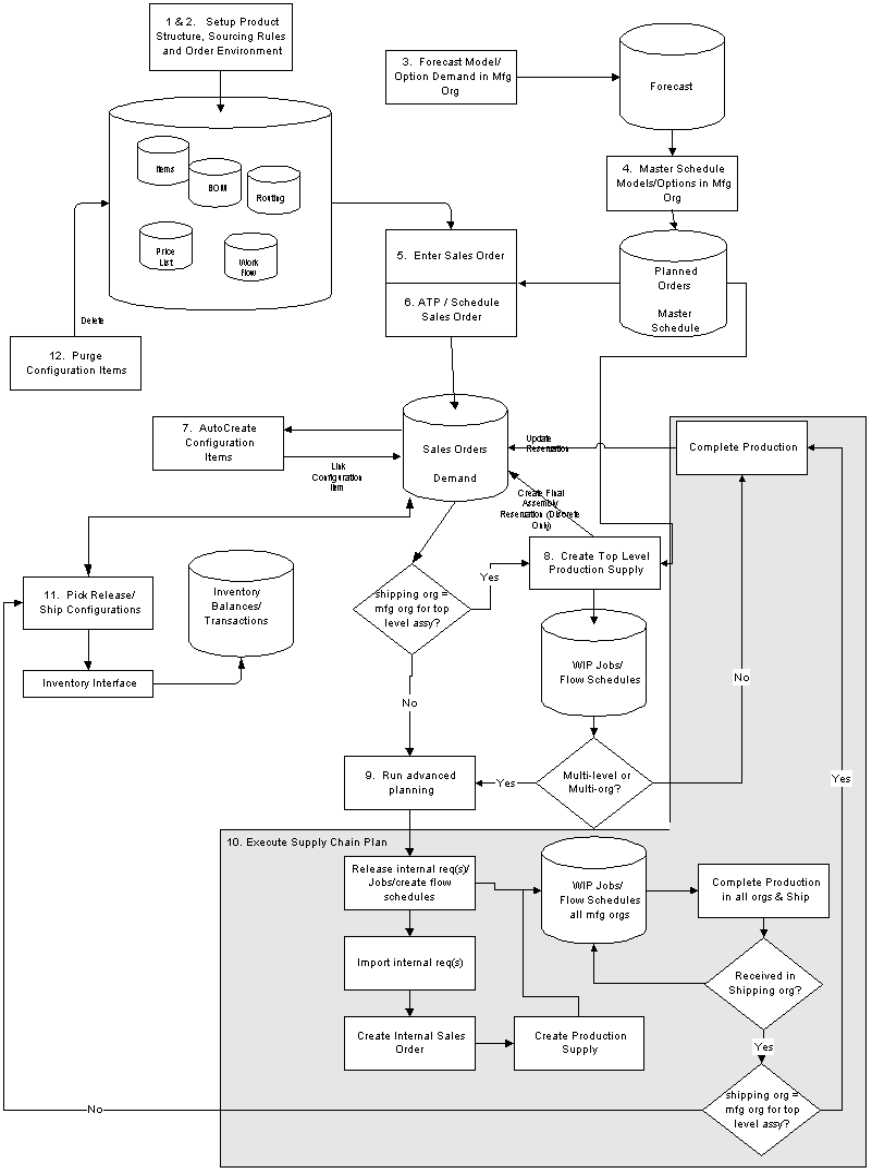
#	ATO	PTO	Name	Description
8	Yes		Complete Production	Complete configuration item to inventory.The work in process reservation or flow schedule reference is automatically converted into an inventory reservation.
9	Yes	Yes	Pick Release and Ship Configuration Orders	Pick Release all configuration sales orders.
10	Yes		Deactivate Configuration Items	Deactivate auto-generated configuration item numbers whose orders are complete more than *x* days ago.

The following diagram illustrates the flow of a single level, single org assemble-to-order sales order. Each numbered-step will be explained in detail in the following chapters.

Example 2: Process Flow for Multi-Level, Multi-Organization ATO, and PTO

NOTE: Oracle Advance planning and Scheduling (APS) must be installed to support Multi level and / or Multi-organization ATO models and ATO items.

The following diagram illustrates the flow of a multi-level, multi-org assemble-to-order sales order. Each numbered step is explained in the table following the diagram, and will be covered in detail in the following chapters.


1 & 2. Setup Product Structure, Sourcing Rules and Order Environment
3. Forecast Model/ Option Demand in Mfg Org
Forecast
Items
BOM
Routing
Price List
Work Flow
4. Master Schedule Models/Options in Mfg Org
5. Enter Sales Order
6. ATP / Schedule Sales Order
Planned Orders
Master Schedule
Delete
12. Purge Configuration Items
7. AutoCreate Configuration Items
Link Configuration Item
Sales Orders
Demand
Update Reservation
Complete Production
Create Final Assembly Reservation (Discrete Only)
8. Create Top Level Production Supply
11. Pick Release/ Ship Configurations
Inventory Balances/ Transactions
shipping org = mfg org for top level assy?
Yes
WIP Jobs/ Flow Schedules
Inventory Interface
No
No
9. Run advanced planning
Yes
Multi-level or Multi-org?
Yes
10. Execute Supply Chain Plan
Release internal req(s)/ Jobs/create flow schedules
WIP Jobs/ Flow Schedules all mfg orgs
Complete Production in all orgs & Ship
Import internal req(s)
Received in Shipping org?
Create Internal Sales Order
Create Production Supply
Yes
shipping org = mfg org for top level assy?
No

#	ATO	PTO	Name	Description
1	Yes	Yes	Define Model and Option Class Bills of Material and routings (optional)	Define multilevel model and option class bills and routings (optional) to control order management, master scheduling / MRP, work in process, and costing.
2	Yes	Yes	Set-up sourcing rules, shipping networks, assignments sets, APS plans	Define sourcing rule, shipping networks, assignment sets, ATP rules, and APS plans to control multi-organizational sourcing.
3	Yes	No	Forecast Model / Option Demand	Forecast demand for model, options, or both in the manufacturing organizations. Explode forecasts through planning bills to models and / or options.
4	Yes	No	Master Schedule Models and Options	Master schedule ATO models, options, or both in the manufacturing organizations using the forecast set.
5	Yes	Yes	Enter Sales Order	Enter sales orders for models with options.
6	Yes	Yes	Check ATP	Perform group ATP based on planning output to check for all supply-constrained components to find earliest possible ship date for configuration.
	Yes	Yes	Book and Schedule the Order	
7	Yes		AutoCreate Configuration Items	Automatically generate a new item number, bill, and routing for all non-phantom models in the configuration structure in all potential sourcing organizations. The final configured assembly item is linked to the sales order.
8	Yes		Create Top Level Production Supply In multi-organization, you will be able to create production supply in the shipping organization only if the final assembly is manufactured in that organization. If the shipping organization does not manufacture the final assembly, use advanced planning to recommend supply.	If the final assembly is being shipped from the manufacturing organization itself : Discrete: Autocreate Final Assembly Orders Automatically open a discrete job for the top level item on each new ATO configuration order. These work in process jobs are reserved to the sales order. Flow: Use the line scheduling workbench to schedule your line based on sales orders. The sales order number is referenced on the flow schedule. Note: you could also “progress the order” through Create Production Supply which will automatically open a discrete job or create a flow schedule for the final assembly item of the active configuration order line.

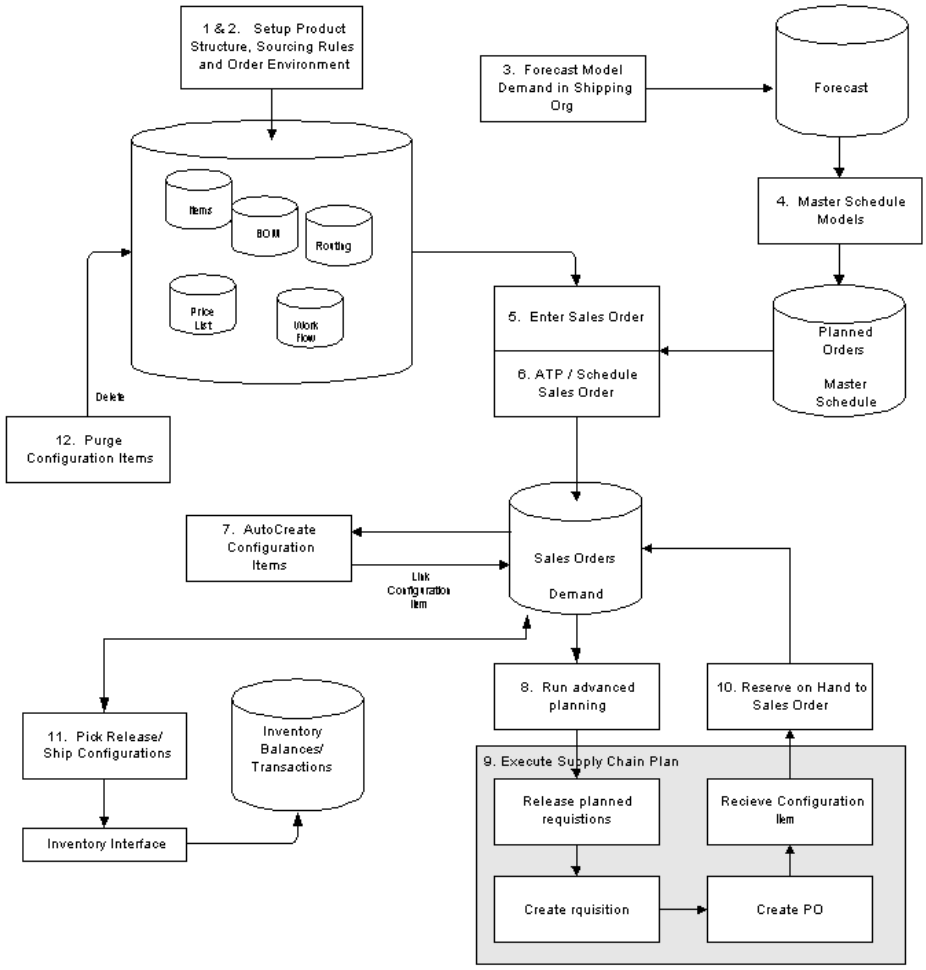
#	ATO	PTO	Name	Description
9	Yes		Plan lower level configuration supply	In a Multi level , single organization environment: Discrete: Use advanced planning to generate and implement planned orders for lower level configurations. Flow: Use Feeder Line Synchronization to synchronize lower level configuration schedules to your top level configuration schedule. In a multi-organization environment: Use advanced planning to generate and implement planned orders across your supply chain.
10	Yes		Execute Supply Chain Plan	Complete required manufacturing in the respective source organizations , and ship to the shipping organization. If the shipping organization is the same as the manufacturing organization of the top level configuration item, the work in process reservation or flow schedule reference is automatically converted into an inventory reservation when you complete the top level configuration item to inventory.
11	Yes	Yes	Pick Release and Ship Configuration Orders	Pick Release all configuration sales orders.
12	Yes		Deactivate Configuration Items	Deactivate auto-generated configuration item numbers in an organization whose orders are complete more than *x* days ago. A configuration item will be deactivated if there is no sales order demand, or open supply or transactions in that organization,

Example 3: Process flow for Purchase to Order Configurations

NOTE: Oracle Advance planning and Scheduling (APS) must be installed to support purchasing of ATO items.

The following diagram illustrates the flow of a purchase to order sales order. Each numbered step is explained in the table following the diagram, and will be covered in detail in the following chapters. Note that this assumes the top level configuration is being purchased. If the top level is made and a lower level configuration is bought, the flow would be similar to the multi-level multi-org

example, with the lower level production supply being replaced by a purchased supply.



#	ATO	Name	Description
1	Yes	Define Model and Option Class Bills of Material and optionally routings	Define single or multilevel model and option class bills and optionally routings to control order management, master scheduling / MRP, work in process, and costing. The entire BOM for a purchased configuration should be created in the validation organizations and receiving organization. Routings for all models and option classes should be created in the receiving organization.
2	Yes	Set-up sourcing rules	Define a buy type sourcing rule for the models you will procure and assign it the assignment set specified in 'MRP: default sourcing assignment set' profile.
3	Yes	Forecast Model Demand	Forecast demand for the ATO model. All components and option classes should have their forecast control set to "none" if you intend to buy the model configuration.
4.	Yes	Master Schedule the Top model	Master Schedule your Top ATO model
5	Yes	Enter Sales Order	Enter sales orders for models with options.
6	Yes	Check ATP, Book and Schedule the Order	Perform group ATP based on planning output to back off the lead time of the model for a promise date.
7	Yes	AutoCreate Configuration Items	Automatically generate a new item number, bill, and routing for all non-phantom models in the configuration structure. The BOM and routing are created in the receiving organization. The final configured assembly item is linked to the sales order.
8	Yes	Plan configuration supply	Use advanced planning to generate and implement planned orders your purchased configurations.
9	Yes	Execute Supply Chain Plan	Generate requisition and purchase order for the configuration item. Receive it into stock and reserve it to the sales order.
10	Yes	Reserve configured item to sales order	Prior to pick release, you will need to reserve the configured item to the sales order.

#	ATO	Name	Description
11	Yes	Pick Release and Ship Configuration Orders	Pick Release all configuration sales orders.
12	Yes	Deactivate Configuration Items	Deactivate auto-generated configuration item numbers in an organization whose orders are complete more than *x* days ago. A configuration item will be deactivated if there is no sales order demand, or open supply or transactions in that organization.

Feature Highlight

The following is a list of key Configure to Order features supported by Oracle Applications:

Product Definition

- Support for assemble-to-order (ATO), pick-to-order (PTO) and hybrid (PTO/ATO, ATO/ATO) product structures
- Support for Multilevel ATO and PTO-Multilevel ATO hybrids structures, which enables building configured items which have other configured items as sub-assemblies.
- Ability to ship configured items from a warehouse.
- Ability to purchase configurations at any level in your multi-level BOM structure.
- Planning support for complex configurations where lower level configurations are sourced across the supply chain.
- Mandatory and mutually exclusive option selection rules
- Option dependent routings
- Notification to the shipping organization when a change is made to the order request day, ship date, quantity or configuration after the configuration item has been created.

Planning Configurations

- Forecast any planned item, anywhere on your bill of material, including models, options, and mandatory components, if your configurations are made in-house. Maintain and consume these forecasts in the manufacturing organizations. (in-line forecast consumption)
- Use forecast sets as demand schedule for the manufacturing plan and use a manufacturing plan for ATP/Scheduling and planning supply.
- Use Advanced Planning and Scheduling (APS) to check availability, schedule and plan supply across organizations.
- Use constraint based planning to generate feasible plans based on material and capacity constraints
- Master schedule models and options in the manufacturing organizations
- Define sourcing rule for models and options at any level in the BOM

Ordering Configurations

- Interactive option validation/auto-selection using Oracle Configurator
- ATP inquiry across the supply chain based on option material and resource availability
- Match and re-use an ordered configuration or a configured subassembly
- Reserve to available onhand configuration (partial or full)
- Automatic configuration pricing calculation taking discounts account
- Order capture from any source (e.g. your web store)
- Workflow based order processing

Manufacturing Configurations

- Automatic creation of unique configuration item, BOM, and routing for the top level model as well as lower level models. These are created in all the required organizations, based on sourcing information.
- Discrete manufacturing and flow manufacturing environment support for building all levels of the configuration.
- Supply chain cost roll up support for all sourced configurations.
- Automatic configuration lead time and cost calculation for all configured subassemblies and top level assemblies
- Automatic final assembly work order creation for the top-level configuration (discrete manufacturing , single organization environment only)
- Constraint based finite scheduling of final assembly work orders within each manufacturing organization
- Automatic flow schedule creation for the top-level configuration (flow manufacturing, single organization environment only)
- Automatic sales order reservation of top-level configuration upon production completion (single organization environment only)
- Supply chain planning support to create supply for configurations at all levels across the supply chain.

Procuring configurations

- Automatic creation of unique configuration item, BOM, and routing for the top level model as well as lower level models. These are created in the receiving organization of the top model.
- Support to procure the configuration item, and transmit configuration details via item attachments or the iSupplier Portal
- Supply chain planning support creation of supply for configurations at all levels across the supply chain.

Integration

The following Oracle Application products are integrated to provide Configure to Order features:

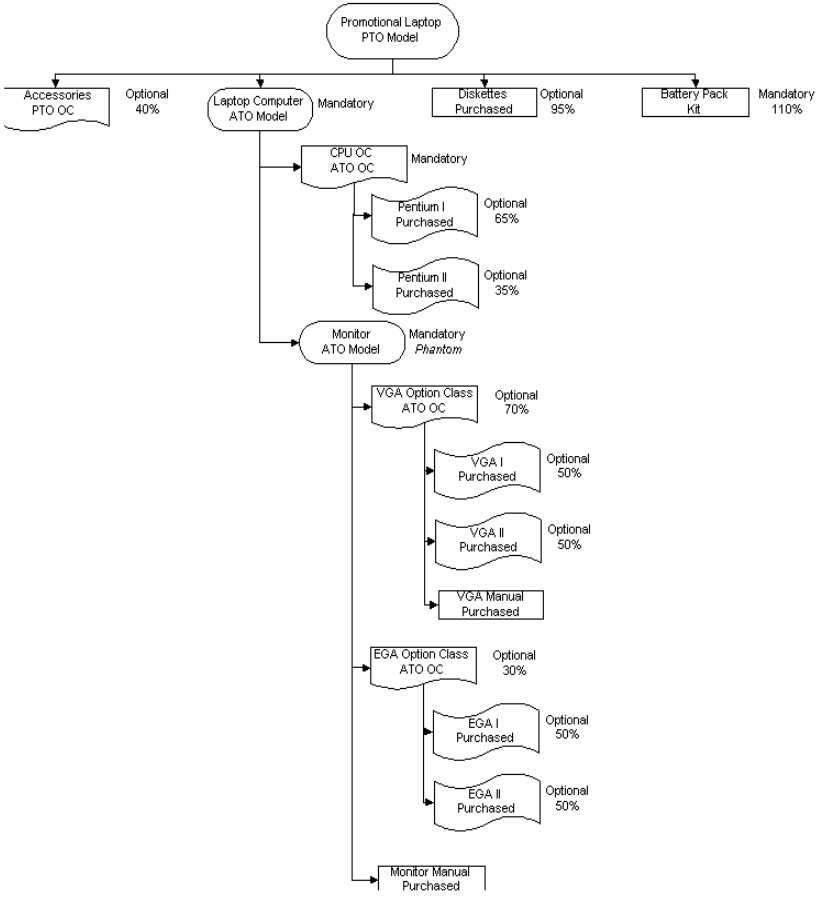
- Bills of Material
- MRP/MPS, SCP
- APS (required for multi-level or multi-organization configurations)
- Order Management products
- Configurator products
- Work in Process
- Inventory
- Flow Manufacturing
- Cost Management

Examples Used in This Manual

Two examples are used in this manual to illustrate the difference between single level / single organization and multi-level / multi-organization configure to order. Follow the example that best suites your manufacturing environment.

Example 1. A hybrid (PTO/ATO) in the single level, single organization environment

The following is an example of a hybrid (PTO / ATO) in the single level, single organization environment. It is for a PTO Model "Promotional Laptop" that has three pickable items: Diskettes, a Battery Pack, and the Laptop Computer ATO Model. The Laptop Computer Model is comprised of a phantom model for a Monitor, option classes for CPUs, VGAs, and EGAs, and the actual options. It is first shown as a diagram, then in a tabular format. It is used throughout the entire book for illustration.



Level	Item	Item Type	Optional	Supply Type	Planning %	Qty	Mutually Exclusive
1	Promotional Laptop	PTO Model					
.2	. Battery Pack	Kit	No	Assembly Pull	110%		

Level	Item	Item Type	Optional	Supply Type	Planning %	Qty	Mutually Exclusive
.2	. Accessories	PTO Option Class	Yes	Assembly Pull	40%		No
.2	. Diskettes	Purchased Item	Yes	Assembly Pull	95%		
. 2	. Laptop Computer	ATO Model	No	Assembly Pull	100%		
. . 3	. . CPU	ATO Option Class	No	Phantom	100%		Yes
. . . 4	. . . Pentium I	Purchased	Yes	Assembly Pull	65%		
. . . 4	. . . Pentium II	Purchased	Yes	Assembly Pull	35%		
. . 3	. . Monitor	ATO Model	No	Phantom	100%		No
. . . 4	. . . VGA	ATO Option Class	Yes	Phantom	70%		No
. . . . 5	. . . . VGA Manual	Purchased Item	No	Assembly Pull	100%		
. . . . 5	. . . . VGA1	Purchased Item	Yes	Assembly Pull	50%		
. . . . 5	. . . . VGA2	Purchased Item	Yes	Assembly Pull	50%		
. . . 4	. . . EGA	ATO Option Class	Yes	Phantom	30%		No
. . . . 5	. . . . EGA1	Product	Yes	Assembly Pull	55%		
. . . . 5	. . . . EGA2	Product	Yes	Assembly Pull	45%		
. . . 4	. . . Monitor Manual	Purchased Item	No	Assembly Pull	100%		

Example 2: A multi level ATO in a multi-organization environment

The following is an example of a hybrid (PTO / ATO) in a multi-level, multi-organization environment. It uses the same PTO Model "Promotional Laptop" that has three pickable items: Diskettes, a Battery Pack, and the Laptop Computer

ATO Model. However, now the Laptop Computer Model is sourced for another organization, and the monitor model has been made non-phantom and is sourced from a third organization.

In summary, the original structure is changed in the following ways:

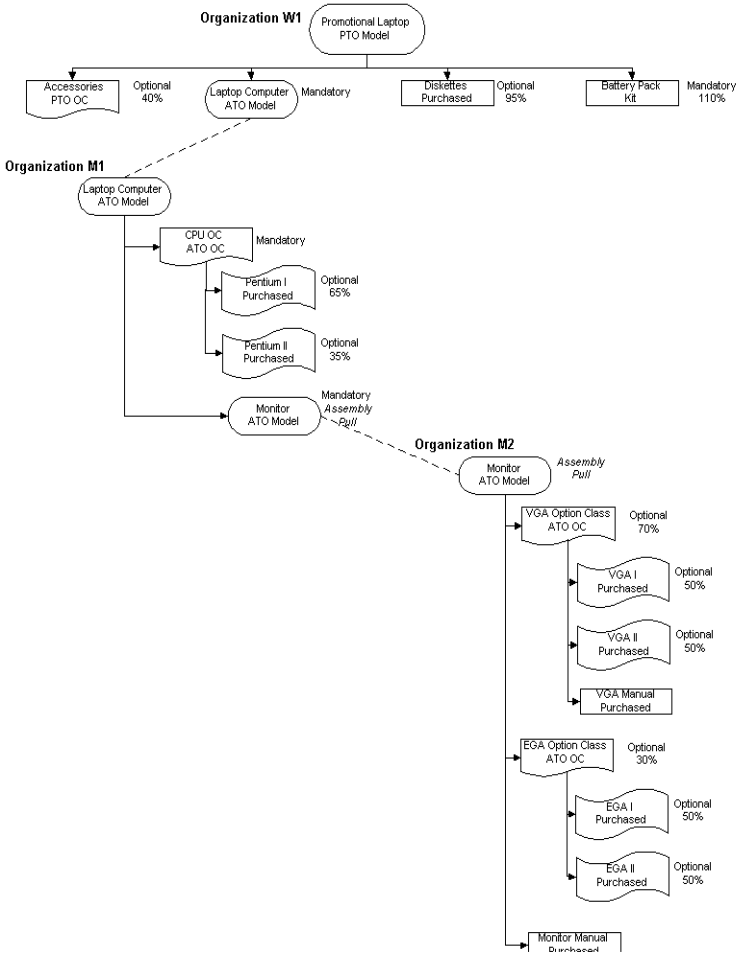
The orders are placed in organization W1 (your warehouse)

The Laptop Computer is made in organization M1

The Monitor sub-model is changed to Assembly Pull (from phantom) and is made in organization M2

There are sourcing rules set up such that W1 gets the laptop from organization M1, and M1 gets its monitors from M2.

The illustration is of the BOM in the three organizations, W1, M1, & M2. The BOM in the OM validation organization would contain all models and options. It is used throughout the entire book for easy illustration.



Note that if the Monitor Model was bought instead of made, the entire Monitor Model BOM should reside in the receiving organization (M1).

2

Setup

Topics covered in this chapter include:

- Profiles on page 2-5
- Setup for Configuration Line Workflow on page 2-9
- Planning Set-up Considerations in a Multi-level, Multi-organization scenario on page 2-10

This section describes key parameters,profiles, and set-up considerations that are pertinent to the CTO functionality.

Parameters

BOM Parameters

The following table lists the fields in the BOM Parameters form that are relevant to configurations.

Field Name	Value	Usage Notes
Inactive Status	The list of value consists of all the item statuses that are defined in the system.	The Deactivate Configuration Items program sets item status of configuration items to this value.
Numbering Segment	The list of value consists of all the item segments.	The item field is a flexfield that may contain multiple segments. Let's say you have a two segment item field. The two segments are Item-Group. Item, Group will show up in the LOV. The segment you choose here will be the field that the 'Numbering Method' applies. NOTE: The numbering segment parameter must be set in the OE validation organization. The setting in all other organizations will be ignored
Numbering Method	You can choose one of the following values: Append with sequence Replace with sequence Replace with order, line number, shipment # User defined	Using the above example, let's say you choose the Item segment in the Numbering Segment. For an ATO model CN97444-Laptop, the configured item number will be the following for each Numbering Method: CN97444*1236-Laptop 1236-Laptop 45623*1*1-Laptop (45623 is the sales order number, 1 is the line number, 1 is the shipment number.) User defined:The user defined method can be used to generate customized numbering for configuration items. Customized method can be implemented in the package BOMCFGI. NOTE: The numbering method parameter must be set in the OE validation organization. The setting in all other organizations will be ignored

WIP Parameters

The following table lists the field in the WIP Parameters window that is relevant to configurations.

Field Name	Value	Usage Notes
Respond to Sales Order Changes	You can choose one of the following values: Never Always When linked 1 to 1	This parameter determines whether or not a work order that is reserved to a sales order will be put on hold after a configured item is de-linked from a sales order line or the order is put on hold. Never: The work order(s) will not be put on hold if you de-link the configured item from the sales order or the sales order is put on hold. Always: The work order(s) will be put on hold if you de-link the configured item from the sales order or the sales order is put on hold. When linked 1 to 1: The work order will be put on hold if it is the only work order reserved to the sales order. Note: Work Orders will be linked to sales orders if the shipping organization is the same as the manufacturing organization. In addition, in a multi-level environment, only the top level configuration work order would be linked to the sales order.

OM Parameter

The following table lists the field in the OM Parameters window that is relevant to configurations.

Field Name	Value	Usage Notes
Item Validation Organization	The list of value consists of all the organizations that are defined in the system.	In Order Management, the Item Validation Organization parameter indicates the Oracle Manufacturing organization against which items are validated. You must define all transactable items (models, option classes and options) in this organization. Caution: If you maintain your bills of material in any organization other than the Item Validation Organization, you need to ensure the consistency between the bills. A common practice is to set-up the bill in the item primary manufacturing organization, then common it in all other organizations that need to use it. If an Operating Unit has multiple OE responsibilities, then those OE responsibilities must have the same OE validation organization in order for AutoCreate Configuration to work properly. See the Order Management Users Guide for more information on setting up the item validation organization.

Profiles

BOM: Match to Existing Configurations

This profile controls whether a match is performed during AutoCreate Configuration, Create Configuration Item workflow activity, and Match from Sales Order Pad. If the profile value is Yes, then a match is performed; if it is No, then a match is not performed.

BOM: Automatic Reservations

Determines whether or not CTO will attempt to reserve available on-hand when matching during autocreate configuration item batch or on-line mode. If it is set to yes,and the program has found a match, and the schedule date is within the number of days defined by the profile OM : Reservation Time Fence, autocreate config will attempt to reserve any quantityt available on hand.

BOM: Use Custom Match Function

This profile controls whether the match performed uses the standard match function or a custom match function. If the profile value for Match to Existing Configurations is No, then the value of this profile does not matter since a match is not performed.

The above two profiles replace profile BOM: Check for Duplicate Configuration used in Release 10.7 and 11.

The following table summarizes the relationship between these two profiles:

Match to Existing Config	Use Custom Match	Result
No or NULL	No or NULL	No match is performed
No or NULL	Yes	No match is performed
Yes	No or NULL	Match using standard match
Yes	Yes	Match using custom match

BOM: Configuration Item Delimiter

When you choose any numbering method other than 'User Defined', Append with sequence, or Replace with Order, line number Numbering Method, the system inserts a delimiter before the sequence number or between the sales order number

and line number. You use this profile to define the delimiter to be used by the system.

Anything may be entered as the delimiter character. Do not choose the same delimiter as the item segment delimiter if you have multi-segment item number. It will cause configuration item process to fail.

BOM: Configuration Item Type

This profile indicates the user item type of the new configuration items created by the Create Configuration Item program. A typical setting is ATO item.

BOM: Inherit Option Class Operation Sequence Number

This profile controls whether components within the model structure inherit the operation sequence from their parent option class or model. The list of values is Yes or No. When the profile is set to Yes, Bills of Material applies inheritance logic for all items in the model structure with an operation sequence defaulted to 1.

In the example below, the profile option is set to yes, and the CPU and Monitor option class items have operation sequence numbers for the Laptop Computer routing. The processor options are defaulted to an operation sequence of 1, and inherit operation sequence 30 from the CPU option class item. The VGA Option class, options and included item are defaulted to an operation sequence of 1, and then inherit operation sequence 40 from the manual option class item. Routings are not required for the CPU, Monitor, and VGA option classes.

Level	Item	Item Type	Op Seq	Operation Sequence Inherited
. 2	. Laptop Computer	ATO Model		
. . 3	. . CPU	Option Class	30	Retains 30
. . . 4	. . . Pentium I	Option	1	Inherits 30
. . . 4	. . . 486 Processor	Option	1	Inherits 30
. . 3	. . Monitor	Option Class	40	Retains 40
. . . 4	. . . VGA	Option Class	1	Inherits 40
. . . . 5	. . . . VGA Manual	Included Item	1	Inherits 40

. . . . 5	. . . . VGA1	Option	1	Inherits 40
. . . . 5	. . . . VGA2	Option	1	Inherits 40

BOM: Perform Lead Time Calculations

In a discrete manufacturing environment, you have the option to calculate the lead time for the configured item when you run AutoCreate Configurations concurrent program. The value of this profile defaults to the Perform Lead Time Calculations parameter of AutoCreate Configurations concurrent program. The list of values is Yes or No. Lead time is not calculated if the configuration item has a flow routing, regardless of this profile.

BOM: Model Item Access

Indicates whether a holder of this responsibility can define and update bills of material for model and option class items.

BOM:Configurator URL

In order to pre-configure items using BOM, this profile must be set to the proper URL for the configurator in your instance. For more information on pre-configuring an item, please see Chapter 8, Preconfiguring Items.

INV: Capable to Promise

This site level profile option determines which ATP program will be used for ATP Check. To perform ATP calculations for multi-level and/or multi-organization configuration structures, this profile option must be set to 'ATP/CTP based on planning output'. This option uses data from the Planning Data Store and lets you obtain multi-level supply-chain ATP results from a plan.

For more information on the Global ATP Server, see of the Oracle Global ATP Server chapter of the Oracle ASCP and Oracle Global ATP Server User's Guide

MRP: Default Sourcing assignment

This profile option determines the sourcing assignment set that CTO will use to assign sources to models. This must be set if models need to be sourced. This assignment set must also be assigned to the ATP-enabled plans in all sourcing organizations.

Any sourcing rules and assignments on models will be ignored if this profile is not set.

OM: Use configurator

This profile option determines whether the configurator window or the order management options window is used to select the options for all ATO and PTO Models (SL, ML) entered in order management.

Use the configurator window when you want to set-up validation rules, or you want to use the java interface to choose your options. Use the forms based options window when you do not need validation rules, just need to select options.

Note: You must use the configurator when in order management if the order is originally configured using the configurator via I-Store or another interface.

See the Order Management User's Guide for more information on the options window.

OM: Included Item Freeze Method

Controls when PTO included items are displayed in Order Management. Values are Entry, Booking, and Shipping.

OM: Reservation Time Fence

This profile option controls automatic reservations during scheduling. The profile option represents the number of days into the future that scheduling will reserve.

The default value is Null which means that scheduling will not automatically reserve. This profile option is used during autocreate config if the BOM: Automatic Reservations = 'Yes'

Setup for Configuration Line Workflow

The AutoCreate Configuration process creates a configuration item for the models, option classes and options that you have selected. At the end of the AutoCreate Configuration process, the configuration item is linked to the Sales Order by adding a new order line to the Sales Order. You must assign the Configuration Line Workflow to the order line type you are using in order to process the rest of the CTO workflow properly. To do so, follow the steps below.

(N) Order Entry > Setup > Transaction Types > Define

1. Query the Transaction Type corresponding to your ATO Model order type.
2. Click on the Assign Line Flows button. This will open the Line Workflow Assignments form.
3. Create a line workflow assignment with the following values :

   Line Type = Your order line type

   Item Type = Configured Item

   Process Name = Line Flow - Configuration.

See the Order Management User's Guide for more information on the setting up workflows.

Planning Set-up Considerations in a Multi-level, Multi-organization scenario

APS must be used in a multi-level or multi-organization environment.

ATP Considerations

- All models and their components must be assigned to an ATP enabled plan that is associated with the default sourcing assignment set.
- Use a forecast set as the demand schedule for the plan. Plans based on MDS are not supported for multi-level or multi-organization configurations.
- A Full or Net change collection must be run if there is a change in Items, BOMs, supply, or sourcing rules - even if the items changed are not ATPable.
- Planning must be re-run after each collection.
- Forecast for models should be set-up in the manufacturing organization. For multilevel / multi-organization structures, planned orders will consume the forecast in the manufacturing organization (in-line) Forecasts in the distribution organization will not be consumed.
- For more information on Planning in a multi-level, multi-org environment, please see the APS users guide section “CTO enhancements”

BOM Considerations

The decision as to whether or not to create a config item for a lower level model is determined by the BOM supply type on the lower level model in the item validation organization.

If the supply type is set to phantom, no configuration item will be created during autocreate config, and the model and all it’s components will become part of the top level configuration BOM. It is treated as a single level configuration.

If the supply type is set to anything other than phantom, auto create config will create a configuration item for that model and only the config item will appear on the parent configuration item BOM.

3

Model Items, Bills, and Routing

Topics covered in this chapter include:

- Items Setup on page 3-2
- Model and Option Class Bills of Material on page 3-4
- Model and Option Class Routing on page 3-5
- Discrete Manufacturing on page 3-7
- Flow Manufacturing on page 3-9
- Cataloging Configurations on page 3-10
- Configuration Rules on page 3-12

Model Items, Bills, and Routing

This section describes item, bills of material, and routing features for models and option classes. It also describes the features of cataloging configurations and configuration rules.

Items Setup

Several key item attributes are central to ensure correct processing of a configure-to-order sales order. The following table highlights these attributes and their typical setting.

	PTO Model	PTO Option Class	ATO Model	Option Class	ATO Item	Option (Component)
BOM Item Type	Model	Option Class	Model	Option Class	Standard	Standard
BOM Allowed	Yes	Yes	Yes	Yes	Yes	Yes
Planning Method	Not Planned	Not Planned	MPS Planning	MRP Planning	MRP	MRP
Forecast Control	Consume	Consume & Derive	Consume & Derive	Consume & Derive model, None if purchasing model	Consume & Derive	Consume & Derive if manufacturig model, None if purchasing model
Build in WIP	No	No	Yes	No	(depends)	(depends)
OE Transactable	Yes	Yes	Yes	Yes	Yes	Yes
Check ATP	No	No	No	No	(depends)	(depends)
ATP Components	Yes	(depends)	Yes	Yes	Yes	(depends)
Assemble to Order	No	No	Yes	Yes	Yes	No
Pick Components	Yes	Yes	No	No	No	No
Ship Model Complete	Yes or No (only applicable for PTO model)	n/a	n/a	n/a	n/a	n/a

In a multi-level, multi-org ATO environment it is important to ensure that the items are enabled in the proper organizations for ordering, manufacturing and planning your product. The table below summarizes the organizations in which items must be enabled.

	Item Validation Org	Receiving Org	Sourcing (Manufacturing) Org	Item Master Org
Item	All items in multi-level structure	Only the items that need to be received in the org. If this organization is also the shipping organization, all selected items are created in this organization.	Items manufactured and consumed in org	All items in multi-level structure

Model and Option Class Bills of Material

Model Bills of Material

An ATO model bill lists the option classes, options, and standard items that exist for a model. The bill of material for a PTO model lists the option classes, options, and included items that exist for that model.

An ATO model can have another ATO model as its component. The decision as to whether or not to create a config item for a lower level model is determined by the BOM supply type on the lower level model in the item validation organization.

If the supply type is set to phantom, no configuration item will be created during autocreate config, and the model and all it's components will become part of the top level configuration BOM.

If the supply type is set to anything other than phantom, auto create config will create a configuration item for that model and only the config item will appear on the parent configuration BOM.

A PTO model can have another PTO model or an ATO model as its components.

Option Class Bills of Material

Option class bills can contain standard components, options, other option classes, or models. Oracle Manufacturing enables you to structure any number of levels of option classes within option classes so you can create an indented hierarchy of choices. You can also specify a mandatory component under any option class in the indented structure that would automatically be included anytime you choose an option from that option class (or a lower level option class).

BOM Attributes

The following BOM attributes are important for model or option class bills of material:

- **Maximum and Minimum Quantity**: For each option, you can specify a quantity range that limits the quantity of the option you can order during Order Management.
- **Check ATP**: This attribute is used by Order Management to determine whether to perform ATP check on this item. The value is defaulted from Check ATP item attribute of the item. See Check ATP chapter for more detail.

- **Optional**: The Optional attribute is applicable only to component items on model and option class bills of material. If this attribute is not checked for an option, you are required to select the option from the option class bill of material during configuration.
- **Mutually Exclusive**: The Mutually Exclusive attribute is only applicable to option class items. If this box is selected, you are only allowed to select only one option from the option class bill of material.
- **Planning Percent**: Planning percent is used in forecast explosion. The planning percent for mandatory components is default to 100%. You can enter a planning percent for all the optional items and it can exceed 100%.
- **WIP-supply type**: In the case of a lower level model, a supply type other than phantom implies that the lower level model is to be treated as a configurable subassembly for which a configuration item and supply order needs to be created. For more information on the use of this attribute for standard items, please see the Oracle Bills of Material User's Guide.

For more information on setting up bills of material, please See: *Oracle Bills of Material User's Guide.*

In a multi-level, multi-org ATO environment it is important to ensure that the bills are created in the proper organizations for ordering, manufacturing and planning your product. The table below summarizes the organizations in which bills must be enabled.

	Item Validation Org	Receiving Org	Sourcing (Manufacturing) Org	Item Master Org
BOM	Complete Multi-level BOM (often common to the primary manufacturing organization for each level)	None if entire configuration is made in house. Complete structure if configuration	Model and option class bills sourced from organization	None

Model and Option Class Routing

Routings should be set-up in the appropriate manufacturing organizations. Oracle Bills of Material supports both discrete and flow manufacturing. When buying

configurations, you can set up routings in the receiving organization if you want to communicate configured routing details to your supplier.

Common Model Routing to Option Classes

The routing for your model should include all steps that any configuration might require. You can then establish option class routings by referencing the model routing as a common routing, so lower level options can still reference the model's routing. For example, you can reference the Laptop Computer's routing as a common routing for the CPU option class, referencing the Laptop Computer's routing steps in the option class bill.

NOTE: If non-commoned routings are set-up for option classes that are under a model, they should be the same routing type as the model. In other words, if the model routing is discrete, the option class routing should be a discrete. If the model routing is flow, the option class routing should be a flow.

However, in multi-level model structures, each non-phantom model can use a different type of routing.

Discrete Manufacturing

Option Dependent Routing Steps

Oracle Bills of Materials enables you to define routing steps for models that can be selected as options for configurations. You can specify that a routing step is option dependent which causes the configuration to include that routing step only if an option referencing that step was chosen.

Laptop Computer ATO Model BOM:

Level	Item	Item Type	Op Seq	Optional	Qty
. 2	. Laptop Computer	ATO Model		No	1
. . 3	. . Carrying Case	Product	10	No	1
. . 3	. . Keyboard	Product	20	No	1
. . 3	. . CPU	Option Class	30	No	1
. . . 4	. . . Pentium I	Purchased Item	30	Yes	1
. . . 4	. . . Pentium II	Purchased Item	25	Yes	1

Routing for Laptop Computer ATO Model (commoned to the CPU Option Class):

Op Seq	Option Dependent	Department	Operation Description
10	No	Casing	Cut and smooth case edges
20	No	Assembly 1	Attach keyboard and cable
25	Yes	Assembly 2	Clean processor
30	No	Assembly 2	Insert processor into board

In the example above, a routing is created for the ATO model. A second routing is created for the ATO option class that uses the model routing as common. This is a typical set-up which enables the components on the option class BOM to reference operations on the Model BOM.

In this example, Oracle Manufacturing automatically includes Operation Sequence 25 in any configuration containing a Pentium II since the Pentium II option in the bill references step 25. This routing step can also add to the standard cost for configurations with the Pentium II, since Oracle Manufacturing performs a single level rollup for configurations and accounts for all costed resources used in the configuration routing.

Operation Sequence Inheritance

You can specify that items within the model structure inherit the operation sequence from their parent option class or model. You invoke this option by setting the site level profile BOM: Inherit Option Class Operation Sequence Number to Yes. Bills of Material applies inheritance logic for all items in the model structure with an operation sequence defaulted to 1. You should maintain a routing for the top-level model, but may not need to maintain a routing for any option class or model where all items below it have an operation sequence of 1.

In the example below, the profile option is set to Yes, and the CPU option class items have operation sequence numbers for the Laptop Computer routing. The processor options are defaulted to an operation sequence of 1, and inherit operation sequence 30 from the CPU option class item. Routing is not required for the CPU option class.

Level	Item	Item Type	Op Seq	Operation Sequence Inherited
. 2	. Laptop Computer	ATO Model		
. . 3	. . CPU	Option Class	30	Retains 30
. . . 4	. . . Pentium I	Option	1	Inherits 30
. . . 4	. . . Pentium II	Option	1	Inherits 30

Flow Manufacturing

Option Dependent Event

A flow routing consists of processes, line operations and events. You can designate option dependent event by checking the Optional check box for an event. On your bills of material, the operation sequence refers to the event sequence on a flow routing. Therefore, you associate an option with event sequences.

All operations and processes on the model routing will be included on the configured routing. All non optional events will be included on the configured routing. The option dependent events will only be included in the configuration routing if an option referencing that event was chosen.

Operation Sequence Inheritance

You can specify that items within the model structure inherit the event sequence from their parent option class or model. This functionality is similar to that described under Discrete Manufacturing.

Cataloging Configurations

Oracle Manufacturing provides features that help you catalog your assemble to order configurations so you can easily find on hand configurations that meet customer requirements, or find configuration item numbers that were used to fulfill previous orders for the same configuration. Oracle Manufacturing lets you set up rules to automatically assign Item Catalog descriptive element values to assemble to order configurations based on the options selected.

For example, you might want to catalog computer configurations using descriptive elements that indicate the Processor Type and Operating System (OS) chosen for each configuration. You could then assign the Laptop Computer model item to a catalog group that specifies those descriptive elements, but not assign any values to those attributes since the Laptop Computer is a model, not a specific configuration. You would also assign each option item to a catalog group with descriptive elements that describe that option. So you would assign the processor option items (Pentium I, Pentium II) to a Processors catalog group containing a Processor Type descriptive element as well as others that might describe more specific processor attributes.

Item	Catalog Group	Descriptive Element Name	Descriptive Element Value
Laptop Computer	Personal Computers	Processor Type OS	
Pentium I	Processors	Processor Type	Slow
Pentium II	Processors	Processor Type	Fast
Windows	Operating Systems	OS	Windows
UNIX	Operating Systems	OS	Unix

You would also specify which descriptive elements to assign automatically to an ordered configuration, based on options chosen under each option class in the Laptop Computer's bill. For example, when you defined the bill for the CPU option class, you would specify that the Processor Type descriptive element should be assigned automatically based on options chosen under this class. The Bills of Material window lets you specify descriptive elements for each model or option class bill of material to be used to populate configuration item description. If you want the Autocreate Configuration Items program to concatenate descriptions, you

must specify descriptive elements for each model and option class bill. An example of a concatenated description might be Pentium II-Windows.

Item	Item Type	Element Name
CPU	Option Class	Processor Type
Operating System	Option Class	OS

Configuration Rules

Configuration rules will be defined in Oracle Configurator Developer.

For more information on setting up configuration rules, please See: *Oracle Configurator User's Guide.*

.

4

Forecast Models and Options

Topics covered in this chapter include:

- Forecast Models and Options on page 4-2

Forecast Models and Options

Oracle Master Scheduling/MRP lets you define and maintain forecasts for any item, at any level on your bills of material. You can forecast demand for products directly, or forecast product families and explode forecasts to individual products through planning bills. You can directly forecast demand for option classes, options, and mandatory components. You can also explode forecasts for models and option classes, through model and option class bills, to selected option classes, options, and mandatory components.

Note: In a multi-level, multi-organization environment, Advanced Planning must be used for forecasting. Please see the CTO Enhancements section in the Oracle Advanced Supply Chain Planning, Oracle Risk Optimization, and Oracle Global Order Promising users guide for more information.

Forecast Control

Forecast Control

Use the Forecast Control item attribute to tell Master Scheduling/MRP the types of demand that you place for models, option classes, options, and mandatory components. Master Scheduling/MRP uses the Forecast Control value you assign to each assemble-to-order and pick-to-order item when forecasting and master scheduling models and options.

Independent Forecast Demand

Independent forecast demand is demand that you place for an item by directly entering forecasts for the item, rather than exploding forecast to the item.

If you forecast demand directly for an item, then set Forecast Control to Consume.

Exploded Dependent Forecast Demand

The forecast explosion process generates the exploded forecast demand for an item by collecting the forecasted demand for all the components in the item's bill of material. You typically generate exploded forecast demand for items, such as option classes and options, whose demand is directly related to or derived from the bill of material structure for other items.

If you forecast demand for an item by exploding demand from a higher level item in a bill of material, then set Forecast Control to Consume and derive.

Note: if you are purchasing the model, the forecast control on all option classes and options should be none.

If you forecast demand for an item directly, and you explode forecast demand to the item, also set Forecast Control to Consume and derive.

Sales Order Demand

Sales order demand is demand that you place when your customers order configurations. As your customers order configurations, Order Management can automatically place sales order demand for each model, option class, and option selected by your customer when they place the order.

If you place sales order demand for an item, but do not forecast the item, then set Forecast Control to None.

Derived Sales Order Demand

Under normal circumstances, Order Management does not place sales order demand for mandatory components when your customers order configurations.

You can set the Forecast Control attribute to Consume or Consume and Derive to automatically place demand and consume forecasts for mandatory components when you place sales orders demand for configurations that include the mandatory components.

If you forecast demand for a mandatory component, either directly or through forecast explosion, then set Forecast Control to Consume or Consume and Derive.

Forecast Explosion

Forecast explosion is the process that explodes forecasts for planning items, models, product families, and option classes to selected components on your planning, model, product family, and option class bills. Forecast explosion calculates exploded forecast quantities by extending parent forecast quantities using the component usages and planning percents defined on your planning, model, and option class bills.

A product family can be exploded to dependent quantity explosion for those members that have a forecast control of Consume and Derive. This explosion is

based on the product family allocation percentage in relation to the existing sales order quantity. You can associate alternate bills of material to multiple forecasts for the same item. This lets you explode the same forecast using different components, usages, and planning percents.

You explode forecasts, using the Load Forecasts or Load Master Schedules forms, by choosing the Explode Forecasts option when loading a forecast into another forecast or a master schedule.

The following table shows how forecast explosion explodes a forecast for 100 Laptop computers. Notice that forecast is only exploded to items where you have set Forecast Control to Consume and derive.

Level	Item	BOM Item Type	Forecast Control	Optional	Plan%	Forecast/Sales Order
. 2	. Laptop Computer	Model	Consume	No		100
. . 3	. . Carrying Case	Standard	Consume and derive	No	100%	100
. . 3	. . Keyboard	Standard	Consume and derive	No	100%	100
. . 3	. . CPU	Option Class	Consume and derive	No	100%	100
. . . 4	. . . Pentium I	Standard	Consume and derive	Yes	65%	65
. . . 4	. . . Pentium II	Standard	Consume and derive	Yes	35%	35
. . 3	. . Monitor	Option Class	Consume and derive	No	100%	100
. . . 4	. . . VGA	Option Class	Consume and derive	Yes	70%	70

Level	Item	BOM Item Type	Forecast Control	Optional	Plan%	Forecast/Sales Order
. . . . 5	. . . . VGA Manual	Standard	Consume and derive	No	100%	70
. . . . 5	. . . . VGA1	Standard	Consume and derive	Yes	50%	35
. . . . 5	. . . . VGA2	Standard	Consume and derive	Yes	50%	35

Forecast Consumption

Forecast consumption is the process that replaces forecast demand with sales order demand. Each time you place a sales order, you create actual demand. If the actual demand is forecasted, then you typically want to reduce the forecast demand by the sales order quantity to avoid overstating demand.

Master Scheduling/MRP automatically consumes forecasts for configurations, models, product families, option classes, and options when you place sales order demand for configurations.

Forecast consumption for product families behaves the same as forecast consumption for models. A sales order for a family member will consume forecasts for the member item and forecasts for the entire family.

Attention: Under normal circumstances, no sales order demand is placed for mandatory components. You can generate derived sales order demand for selected mandatory components, since forecast consumption generates derived sales order demand for all items where you have set Forecast Control to Consume or Consume and Derive. This enables you to define and maintain forecasts for key mandatory components as well as models, option classes, and options.

The following table shows how forecast consumption consumes the exploded forecast for 100 Laptop Computers when a customer places a sales order for 10 Laptop Computers with Pentium IIs and VGA1 monitor. Notice that forecast consumption generates and consumes derived sales order demand for each mandatory component where you have set Forecast Control to Consume or Consume and Derive.

Level	Item	BOM Item Type	Forecast Control	Optional	Plan%	Forecast/Sales Order
. 2	. Laptop Computer	Model	Consume	No		90 10
. . 3	. . Carrying Case	Standard	Consume and derive	No	100%	90 10
. . 3	. . Keyboard	Standard	Consume and derive	No	100%	90 10
. . 3	. . CPU	Option Class	Consume and derive	No	100%	90 10
. . . 4	. . . Pentium I	Standard	Consume and derive	Yes	65%	65
. . . 4	. . . Pentium II	Standard	Consume and derive	Yes	35%	25 10
. . 3	. . Monitor	Option Class	Consume and derive	No	100%	90 10
. . . 4	. . . VGA	Option Class	Consume and derive	Yes	70%	60 10
. . . . 5	. . . . VGA Manual	Standard	Consume and derive	No	100%	60 10
. . . . 5	. . . . VGA1	Standard	Consume and derive	Yes	50%	25 10
. . . . 5	. . . . VGA2	Standard	Consume and derive	Yes	50%	35

.

5

Master Schedule Models and Options

Topics covered in this chapter include:

- Master Schedule Models and Options on page 5-2
- Production Relief on page 5-3
- Shipment Relief on page 5-4

Master Schedule Models and Options

Oracle Master Scheduling / MRP also lets you master schedule any planned item, anywhere on your bills of material, including models, option classes, options, product families, and mandatory components. You can create master production schedules to load forecasts and sales orders into a master demand schedule. You can then use the master demand schedule to drive the planning process. Identify your master production schedules as visible to the Oracle Inventory available-to-promise (ATP) process, so that Order Management can check ATP information for your key subassemblies when scheduling sales orders for configurations. The Shipment and Production Reliefs for product families prevents the duplication of supply / demand and keeps the supply / demand for the product family in sync with those of the member items.

Note: In a multi-level, multi-organization environment, Advanced Planning tools must be used for master scheduling. Please see the CTO Enhancements section in the Oracle Advanced Supply Chain Planning, Oracle Risk Optimization, and Oracle Global Order Promising users guide for more information.

Production Relief

Production relief, also known as MPS relief, is the process that replaces planned supply with actual supply when you create a work order to build a manufactured item, or when you create a purchase requisition to buy a purchased item. Each time you create a work order or purchase requisition, you create actual supply. If the actual supply is planned, then you typically want to reduce the planned supply by the work order or purchase requisition quantity to avoid overstating supply. When a purchase order, purchase requisition or discrete job is created for a member of a product family, the MPS is relieved for the member items as well as the product family.

Production relief relieves your master production schedules for any phantom item when you create a work order for the phantom's parent. Since option classes, and optionally models, are created as phantoms on the configuration item bill, Master Scheduling / MRP automatically relieves your master production schedules for models and option classes when you create a final assembly order for a configuration. Production relief relieves your master production schedules for options and mandatory components when you create work orders for them.

Shipment Relief

Shipment relief, also known as MDS relief, is the process that reduces anticipated demand when you ship product that satisfies a sales order. Each time you ship a product to a customer, you satisfy demand. If the demand is included on your master demand schedules, then you typically want to reduce the anticipated demand by the sales order quantity to avoid overstating demand.

Master Scheduling / MRP automatically relieves master demand schedules when you ship a sales order for a configuration. If you have not reloaded your master demand schedule after the AutoCreate Configuration process, there will be no master demand schedule for the configuration item. When there is no master demand schedule for the configuration item, shipment relief explodes the configuration bill and relieves master demand schedules for each model and option class on the bill. Shipment relief also relieves master demand schedules for each standard item where you have set Forecast Control to Consume or Consume & Derive. If you ship a sales order for a member of a product family, sales order shipment relieves the master demand schedule for member items and the product family. If you have reloaded your master demand schedule since the AutoCreate Configuration process, shipment relief finds and relieves master demand schedules for the configuration item only.

For more information about master scheduling, please See: *Oracle MRP/Master Scheduling User's Guide,*

.

6

Enter Configured Orders

Topics covered in this chapter include:

- Enter Configured Orders on page 6-2

Enter Configured Orders

This chapter describes entering and configuring sales orders and provides a detailed description of the workflow for processing configured orders. It also describes the Match and Reserve functionality.

Release 11*i* Order Management Overview

One of the major features in R11*i* Order Management is the integration of Oracle Configurator. Oracle Configurator provides graphical configuration interface, dynamic validation and other features that make the order configuration a totally different experience.

Another major feature in Order Management is the use of Oracle Workflow to provide you control over the sequence of events that occur in processing of orders, returns, order lines, and return lines. Oracle Workflow maintains the state of all activities for an order, automatically executes functions and sends notification, and maintains a history of completed activities. Oracle Workflow lets you automate and continuously improve business processes, routing information of any type according to business rules you can easily change to people both inside and outside your enterprise. Workflow replace Order Cycles to process orders.

Enter Configured Orders

Orders entered via iStore or Order Management can be configured using Oracle Configurator. Users enter a model on the order, then click on the Configurator button to open the Configurator window to select options.

Oracle Configurator Developer User's Guide provides detailed information on how to define configuration rules to be used during option selection.

As explained in the set-up chapter, orders entered in Order Management can be configured using either Oracle Configurator or the OM Options Window. See Chapter 2, Profiles, for more information on the the profile option that controls this behavior.

View Selected Options

Whether you use Oracle Configurator or the OM Options Window to select options or import a configured order, you can view and delete selected options along with their option classes from the Sales Order Pad line region. However you can not

modify the selections from the Sales Order Pad. Instead, you must re-open the configurator or the options window to make your changes.

Note: If the order was originally configured using Oracle Configurator, whether in iStore or in OM, the configurator window must be used to make modifications to the selections. Similar constraints exist for the options window.

The View Line Detail option from the Tools menu in Sales Order Pad lets you toggle between displaying the model line only or model line plus all the configuration detail.

Match Configuration Item

Match enables you to check for an existing configuration that matches the current ordered configuration exactly. If a match is found, the system will link the matched item to the sales order line.

In a multi-level configured environment, if a match is not found for the complete multi-level configuration, an attempt is made to find a match for any lower level configurations. If a match is found only for a lower level configurations, a new configuration item is created for the top level model and linked to the sales order. The matched items for lower level configurations are used as components in the top level BOM.

Match is performed independent of organization. If a matching configuration is found in any organization, it is enabled and used in the organizations required for this order.

Prerequisites

Match requires that the order is booked and scheduled and that a configuration item has not been created for the order line. As explained in the Setup chapter, you need to set the profiles accordingly before you use the Match function.

BOM: Match to Existing Configuration

BOM: Use Custom Match Function

Perform Match

You can perform Match for an ATO model order line after the line is scheduled. Match is available from the following form or program:

- Sales Order Pad Actions Button - Match: This action performs a match. If a match is found for the top level assembly, the system links the matched item to the order line. If there is onhand inventory for this linked item, you have a choice to make a reservation or not.
- AutoCreate Configuration Batch Program: This program performs a match. If a match is found, the system links the matched item to the order line. For multi-level configurations, auto create config will try to match and re-use lower level configurations if a match for top level assembly is not found. If BOM: Automatic Reservations is set to "Yes," and the order schedule date is with in the "OM: Reservation Time Fence," the program will automatically reserve any available on hand.
- Sales Order Pad Actions Button - Progress Order: When you perform Progress Order - Create Configuration Item, the system performs a match. If a match is found, the system links the matched item to the order line. For multi-level configurations, the system will try to match and re-use lower level configurations if a match for top level assembly is not found. Reservations is set to "Yes," and the order schedule date is with in the "OM: Reservation Time Fence," the program will automatically reserve any available on hand.

Workflow for Configured Orders

Workflow for configured orders

The workflow for a configured order has the following main activities:

- Enter
- Schedule
- Create Configuration
- Lead Time Rollup
- Cost Rollup
- Create Supply (Work Order or Flow Schedule)
- Ship

Seeded Workflow

Oracle Order Management User's Guide provides a description of all the seeded workflows. This section provides further information on the seeded workflow for ATO models and ATO items.

- **Line Flow - Generic** is a generic line workflow that works for all item types including ATO/PTO models and ATO items.
- **Line Flow - ATO Model** is a line workflow that works only with ATO models. It is a subset of Line Flow - Generic workflow.
- **Line Flow - ATO Configuration item** is a line workflow that works only with ATO configuration items.
- **Line Flow - ATO Item** is a line workflow that works only with ATO Items. It is a subset of Line Flow - Generic workflow.

This special type workflow offers you the flexibility to assign unique processing activities for ATO models or items to the workflow. You may decide not to use the generic workflow for ATO models or items and use the special type workflow instead.

Workflow Activities for ATO Model

The following are the main workflow activities for an ATO Model order line:

- Enter
- Schedule
- Create Configuration Item (includes creation of, BOM, Routing)
- Invoice

Workflow Activities for ATO Configuration Items

The following are the main workflow activities for an ATO configuration item order line:

- Enter
- Schedule
- Calculate Lead Time
- Cost Rollup
- Create Supply (Work order or flow schedule)
- Shipping
- Fullfillment
- Invoice

Please see Chapter 2 for details on the setup required for a Configuration Line Workflow assignment.

Workflow Activities for ATO Item

Following are the main workflow activities for an ATO item order line:

- Enter
- Schedule
- Create Supply (work order, flow schedule, or requsition)
- Ship
- Invoice

ATO Model Line vs. Configuration Item Line

Once a configuration item is created for an ATO model order line, Order Management creates a new order line for the configuration item. The configuration item line goes through manufacturing and shipping processes while the ATO model line waits for the completion of those processes.

Note: For multi-level configurations, order management creates a configuration line for the top level configuration item. Lower level configuration item details are not maintained by order management.

The following describes the differences between the two lines.

Line Type	(Main) Activities for the Line
ATO Model Line	Enter, book, schedule, create configuration item (including BOM, and routing, invoice
Configuration Item Line	, Configuration item cost roll-up and lead time calculations, create work order / flow schedule, shipping

Order Line Statuses

The status on an order line provides good information on the current state of a line. The

following table lists the line status for both the ATO model and the configuration line.

Order Line Type	Line Status	Status Description	Comments/Tips
ATO Model	Entered	The line is entered and not booked.	
	Booked	The line is booked.	The status remains Booked until the configuration item is shipped.
	Fulfilled	After the configuration line is shipped, the model line shows this status. It is eligible for invoicing.	
	Closed	The line is closed.	
Configuration	Production Open	When a work order is linked or a flow schedule is referenced to the order line, the configuration line shows this status.	The cursor must be on the configuration order line in order to run Progress Order -> Create Supply
	Production Partial	This status is shown when there is partial production completion.	
	Production Complete	This status is shown when the entire production is complete.	
	Fulfilled	The line is shipped.	
	Closed	Closed Line	Line will close once invoiced

De-link Configuration Item

When a match is made or a configuration is created for an order, the top level configured item is linked to the sales order.

You can de-link the configuration item from an ATO model line through the Sales Order Pad Action Button - Delink Config Item. If there is work order or inventory reservation against sales order for the configuration item in the shipping organization, Delink Configuration Item will automatically unreserve the supply from the sales order.

Delinking the configuration sets the Order Management workflow on the model back to "Create Configuration Eligible."

Note: With the addition of the change order process (described in chapter 12 of this document), it is suggested that you do not manually de-link a configuration item.

Link Configuration Item

You can manually link a configuration item to an ATO model line through the Sales Order Pad Action Button - Link Config Item. This is useful when you want to ship a near match item or need to re-link a configuration item back to the original model line after you de-link the configuration item.

WARNING: The system does not perform a match validation when you manually link a configuration item. If the linked configuration varies significantly from the configuration chosen in order management you can have significant planning issues, particularly in a multi-level, multi-org environment.

In a Multi-level, Multi-org structure, autocreate config and match processes ensure that configuration items are created for lower level models and also ensure that the demand is created in the correct organizations using the sourcing rules. 'Link Process' simply links the item. It does not validate existence of BOM/RTG, does not honor sourcing rules and does not update the demand picture.

It is suggested that you do not manually link a configuration item except under the following conditions:

1. you have a near match in stock in a single level, single org environment and want to ship it to the customer without changing the details on the order.
2. you are certain that the item you are linking is a match and have ensured that it has correct set-up of bills, routings, sourcing rules in the correct organizations.
3. You temporarily de-linked an item for some reason (Rarely needed after Family Pack E/11i.5) and need to link the same item back to the sales order

In all other cases, it is preferable to re-progress the model through create configuration process to have the system find a match or generate a new configuration item id.

7

Check ATP

Topics covered in this chapter include:

- Check ATP on page 7-2
- Multi-level, multi-org using the Global ATP Server on page 7-6

Check ATP

Using Order Management or the Configurator, you can promise ship dates for configurations based on Available-to-Promise(ATP) / Capable-to-Promise(CTP) information for key components. ATP functionality for configurations is discussed here.

Setup

The following are the key attributes you need to be aware of for performing ATP / CTP check on an item.

Check ATP Item Attribute

This item attribute indicates what kind of ATP check you want to perform at the level of this item or higher. Settings include:

None - No need to check ATP at this level.

Materials Only - Check material availability for this item at this level.

Resource Only - Check availability of the resources required to assemble this item.

Material and Resource - Check both material and transportation resource availability for this item.

The typical setting for a model or option class is None.

ATP Components Item Attribute

The ATP Component Flag indicates what kind of ATP check you want to perform at the component level. ATP Component flag tells the system to check to see if its components are set for ATP.

None - No need to check ATP for this item at the component level.

Materials Only - Check availability of the components in the bill for this item.

Resource Only - Check availability of the resources required to assemble this item.

Material and Resource - Check availability of both materials and resources required to assemble this item.

The typical setting for a model or option class is anything other than None.

ATP Flag at BOM Level

The ATP Flag on the Bill of Material form lets you control the depth of the BOM considered in the ATP calculation. The ATP Flag for a component defaults from the component item attribute Check ATP. If the item attribute is Yes, you can change value. If the item attribute is No, you can not change it to Yes in the bill.

Resource Capacity

Check the CTP Flag of each resource where the capacity needs to be checked. The CTP flag is on the routing resource level.

Additional Considerations in a multi-level or multi-org environment:

ATP in a multi-org or multi-level environment requires APS.

The INV: Capable to promise profile must be set to 'ATP / CTP based on planning output'

The MRP: Default sourcing assignment set profile must point to an assignment set if sourcing of models is required.

Each model and all its components must be in a ATP enabled plan in the sourcing organization and the plan should use the assignment set specified in the profile MRP: Default sourcing assignment set.

Partial sourcing of models is not supported. In other words, in each organization, a model can only be either 100% make at or 100% transfer from another org.

Please see the CTO Enhancements section in the Oracle Advanced Supply Chain Planning, Oracle Risk Optimization, and Oracle Global Order Promising users guide for more information on ATP in a multi-organization environment.

Group ATP for Configurations

In our single level / single org environment example from chapter 1, you would set item attributes according to the following table if you wanted to promise ship dates for Laptop Computers based on the available supply of processors and monitor manuals, but the supply for other components was not constrained.

Select Code	Level	Item	Type	Optional	ATP Components	Check ATP
Yes	. 2	. Laptop Computer	ATO Model	No	Yes	
	. . 3	. . CPU	Option Class	No	Yes	
	. . . 4	. . . Pentium I	Purchased Item	Yes		Yes
Yes	. . . 4	. . . Pentium II	Purchased Item	Yes		Yes
	. . 3	. . Monitor	Model (Phantom)	No	Yes	
	. . . 4	. . . VGA	Option Class	Yes	Yes	
	 5	. . . . VGA Manual	Purchased Item	No		Yes
Yes	 5	. . . . VGA1	Purchased Item	Yes		
	 5	. . . . VGA2	Purchased Item	Yes		
	. . . 4	. . . EGA	Option Class	Yes		
	 5	. . . . EGA1	Product	Yes		
	 5	. . . . EGA2	Product	Yes		
	. . . 4	. . . Monitor Manual	Purchased Item	No		Yes

If you ordered a Laptop Computer with a Pentium IIand a VGA1 monitor, and requested a shipment on 2/5, Order Management would offset that ship date to compute a requested availability date for components, then perform a group ATP check for all Check ATP components simultaneously.

The table below illustrates sample results of a group ATP check. It includes all components from the previous table that would be included in the selected

configuration and whose Check ATP attribute is **Yes**. In this case, the requested date for components is offset to 2/1, four days before the requested ship date because of manufacturing lead time*. The group ATP check found that theVGA Manual is the latest available component, so the ship date for the entire configuration would be set to 2/2 plus the four day offset for manufacturing lead time*. The group availability date for the configuration is 2/6.

Note: The manufacturing lead time equals the model fixed lead time plus the model quantity times the variable lead time.

Level	Item	Type	Qty	Requested Date	ATP Date
. . . 4	. . . Pentium II	Purchased Item	1	2/1	1/28
. . . . 5	. . . . VGA Manual	Purchased Item	1	2/1	2/2
. . . 4	. . . Monitor Manual	Purchased Item	1	2/1	2/1

Multi-level, multi-org using the Global ATP Server

Oracle Global ATP Server supports distributed order promising in addition to centralized order promising. It offers multi-level supply chain Available to Promise (ATP), Capable to Promise (CTP) and Capable to Deliver (CTD). In earlier versions of Oracle Applications, ATP checks were for a single level (top level for standard items, down to the option level for models and option classes) of the bills of material and resources. Oracle Global ATP Server offers multi-level bills of material and resource checks.

In the Laptop example above, if the CPU items (Pentium I, Pentium II) are sourced from supply chain (e.g. another organization), the Global ATP Server will check for the availability of the CPU item at the source when there is shortage.

In addition to manufacturing lead time, it will also take into account the inter-org shipping time between source and destination.

If the sourced item happens to be a model, ATP will check for the availability of all its components in the source org.

Mutli-level or multi-org configurations require the global ATP server. For a multi-level or multi-org order a the ATP results will be shown for the top model line only. This record will display a group availability date and available quantity. You can get components details from the ATP Pegging tree which is now accessible from the ATP results window.

In the Laptop example above, if the Laptop was sourced, the ATP results would return a single line for the Laptop Computer with an availability date of 2/6.

Oracle Advanced Supply Chain Planning and Global ATP Server User's Guide provides detailed description on how to setup and use Global ATP Server for order promising.

.

8

Create Configuration Items

Topics covered in this chapter include:

- Create Configuration Items on page 8-2
- Configuration BOM on page 8-5
- Configuration Routing on page 8-7
- Configuration Lead Time Calculation on page 8-7
- Configuration Item Cost Rollup on page 8-8
- Batch vs. Online Mode on page 8-8

Create Configuration Items

After a sales order for an ATO model is scheduled, you can create unique configuration items, bill of materials, and routings for every configurable level in your model bill of material. If a model is sourced, its corresponding configuration item will be enabled in both sourcing and receiving organization in addition to the item master, validation organizations. The bill of material and routing will be created in the sourcing organization.You can also establish the cost and lead time for these configuration items. This chapter explains in detail the process of creating configuration items.

Process Description

Creating configuration items for an ATO model order line completes the following tasks:

- Creation of a configuration item
- Creation of configuration bill of material based on the model bill of material
- Creation of configuration routing based on the model routing
- Link the configuration item to the sale order
- Kick off the configuration item workflow process, which completes the following:
  - Lead time calculation for the configuration item (discrete manufacturing items only)
  - Supply Chain cost rollup for the configuration item
  - Flow Manufacturing Calculation for the configured routing (Optional)

Configuration Item

A configuration is created for every non-phantom model in your bill or material.

The configuration item numbers are determined by the Numbering Method parameter specified in the BOM parameters of the item validation organization.

If profile BOM: Match to Existing Configuration is set to Yes, the system will attempt to find an existing matching configuration item. If it is found, the system will use the matched configuration item instead of creating a new item. If the profile BOM: Automatic Reservations is set to Yes, and you are with in the OM: Reservation Time fence, a reservation to available on hand will be automatically

performed. Match is organization dependent. For more infomration on matching, please see Chapter 6.

If your model has a "buy" type sourcing rule, or "buy" type planning flag on the item master, autocreate config will generate two supplier-type, long-text attachments for the new configuration item. One will contain the configuration details - the Model, Option Classes and Options chosen. The other will contain routing information, if you had a routing defined.

Finally, the weight and volume of the configuration will be calculated for single level models. For more information, see the Configure to Order Chapter in the BOM User's guide.

In a single organization environment, the configuration items will be enabled in the following organizations (assuming the organizations are different):

- Item Master organization
- OE: Validation Organization
- Shipping Warehouse

In a multi organization environment, the configuration items will be enabled in the following organizations (assuming the organizations are different):

- Item Master organization
- OE: Validation Organization
- Sourcing Organization
- Receiving Organization
- The sourcing organization and receiving organization are determined from the sourcing rules assigned to the model.

The configuration item inherits most of its attributes from the model. However, the following attributes are always set to yes for the configuration item, regardless of their setting on the model:.

Shippable

Purchased

Purchasable

Customer ordered

Customer order enabled

Internal Ordered

Internal order Enabled

Configuration BOM

Example 1: Single level, Single Organization example:

In a single org environment, configuration is assembled and shipped from the same organization (Shipping organization). The model bill of material from the shipping organization is used for the creation of a configuration bill of material. The configuration bill of material is only created in the shipping organization.

The following table shows the bills of material for the Laptop Computer from Example 1 in Chpater 1. The Selected column indicates the option selection during order entry.

Level	Item	Item Type	Optional	Selected
.1	. Laptop Computer	ATO Model	No	Yes
. . 2	. . CPU	ATO Option Class	No	Yes
. . . 3	. . . Pentium I	Purchased	Yes	
. . . 3	. . . Pentium II	Purchased	Yes	Yes
. . 2	. . Monitor	ATO Model (phantom)	No	Yes
. . . 3	. . . VGA	ATO Option Class	Yes	Yes
. . . . 4	. . . . VGA Manual	Purchased Item	No	
. . . . 4	. . . . VGA1	Purchased Item	Yes	Yes
. . . . 4	. . . . VGA2	Purchased Item	Yes	
. . . 3	. . . EGA	ATO Option Class	Yes	
. . . . 4	. . . . EGA1	Product	Yes	
. . . . 4	. . . . EGA2	Product	Yes	
. . . 3	. . . Monitor Manual	Purchased Item	No	

The following table shows the configuration bill of material. Notice that the configuration BOM looks like a single level bill with models and option classes as components.

Level	Item	Item Type	Optional	Selected
.1	. Laptop Computer*001	ATO Item (Configuration)	No	Yes
. . 2	. Laptop Computer	ATO Model		
. . 2	. . CPU	ATO Option Class	No	Yes
. . 2	. . Pentium II	Purchased	Yes	Yes
. . 2	. . Monitor	ATO Model (phantom)	No	Yes
. . 2	. . VGA	ATO Option Class	Yes	Yes
. . 2	. . VGA Manual	Purchased Item	No	
. . 2	. . VGA1	Purchased Item	Yes	Yes
. . 2	. . Monitor Manual	Purchased Item	No	

Example 2: Multi-level, Multi-organization example

In a multi-organization set-up, the model bill of material in the sourcing organization is used for the creation of a configuration bill of material. The configuration bill of material is only created in the respective sourcing organization.

Assuming the same options were selected as in Example 1, but the set-up has changed to the multi-level, multi-organization of example 2 in chapter 1, the following tables show the configuration bills of material in the respective manufacturing (sourcing) organizations. Notice that the Laptop configuration BOM has the monitor configuration as a sub-assembly.

Organization M1:

Level	Item	Item Type	Optional	Selected
.1	. Laptop Computer*001	ATO Item (Configuration)	No	Yes
. . 2	. Laptop Computer	ATO Model		
. . 2	. . CPU	ATO Option Class	No	Yes

Level	Item	Item Type	Optional	Selected
. . 2	. . Pentium II	Purchased	Yes	Yes
. . 2	. . Monitor*001	ATO Item (Configuration)	Yes	Yes

Organization M2:

Level	Item	Item Type	Optional	Selected
. . 2	. . Monitor*001	ATO Item (Configuration)	No	Yes
. . 2	. . Monitor	ATO Model	No	Yes
. . 2	. . VGA	ATO Option Class	Yes	Yes
. . 2	. . VGA Manual	Purchased Item	No	
. . 2	. . VGA1	Purchased Item	Yes	Yes
. . 2	. . Monitor Manual	Purchased Item	No	

Example 3: Purchased Configuration

In the case of a purchased configuration, the entire model BOM should be defined in the receiving organization. The entire configured BOM would also be created in the receiving organization.

Configuration Routing

The model routing from the sourcing organization is used for the creation of configuration routing. In a single organization environment, the routing in the shipping organization is used. If the configuration is purchased, the routing assigned to the model in the receiving organization will be used.

Configuration Lead Time Calculation

If the configuration item has a discrete routing, the configuration manufacturing and cumulative lead times are calculated for the configuration item based on the configuration item routing. This calculation is done in the sourcing organization.

Configuration items with flow manufacutirng routings inherit the lead times from the model item master in the appropriate sourcing organization.

Configuration Item Cost Rollup

If the organization is using Standard costing method, a single level Cost Rollup is performed for the configuration item using the configuration BOM and routing.

If the organization is using Average costing method, the configuration item has zero cost for the Average cost type.

In a multi-organization environment, cost roll-up is performed using supply chain cost roll-up. Cost roll-up for each configuration item is performed in the manufacutring (sourcing) organzation. The cost of the configuration (transfer cost) in the receiving organization (transfer to organization) is established by taking the configuration item cost in the manufacturing organization plus any transfer charge defined in the shipping network. Currency conversion is also taken into consideration if the organization ise different currencies.

Batch vs. Online Mode

You can launch the AutoCreate Configuration Items concurrent program to create configuration items for one or more sales orders. You can also create a configuration item for a single sales order line online from the Sales Order Pad Action button (Progress Order).

AutoCreate Configuration Items

You can launch this concurrent program from the Bills of Material menu. The program supports the following parameters:

Sales Order: You can specify a specific sales order number. If the parameter is blank, it will create the configurations for any eligible sales orders.

Release Offset Days: Only those sales orders for which the expected release dates for the final assembly work orders are within the release offset days specified.

The program calculates an expected work order release date using the following formula:

Schedule Ship Date - Order Lead Time

Example: Schedule Ship Date = 6/20/2000

Order Quantity = 10

Fixed Lead Time = 1 day; Variable Lead Time = .5 day

Result: 6/20/2000 - ((10 * .5) + 1) = 6/12/2000 (excluding 2 weekend days)

If today is 6/9/2000 and Release Offset Days is set to 5, this order will be processed.

Organization: You can optionally specify an organization. Only those sales order with this organization as the shipping warehouse will be processed.

Perform Leadtime Calculation: If you specify Yes, manufacturing and cumulative lead times are calculated for the configuration item based on the configuration item routing. If you specify No, the configuration item lead-time attributes default from the base model.

This parameter gets defaulted from the profile BOM: Perform Lead Time Calculations and is valid only for items with a discrete routing

Perform Flow Calculation: If you specify Yes, Total Product Cycle Time, Yield, Net Planning %, Operation times will be calculated for your processes, operations and events in the configuration flow routing. If you specify No, those data will be copied from the model.

Sales Order Pad Action Button - Progress Order

You can create a configuration item for one sales order line from the Sales Order Pad. By default, this mode does not give you the option to perform lead time calculation or flow routing calculations and it will always calculate both.. However, you can remove the Lead time calculation activity from the workflow, if you do not want to perform lead time calculations.

Preconfiguring Items

You can invoke Oracle Configurator from within Oracle Bills of Material to create a configured bill of material and routings for a pre-defined ATO item. This is very useful in a business to business environment where the same configuration is ordered repeatedly. Preconfigured items can be built to forecast and kept on hand. Customers can order the preconfigured items directly, as they would a standard ATO item.

You are able to pre-configure multi-level structures within BOM in a manner similar to that done in Order Management. The configurator will use the item validation organization defined in the OM parameters form for the current organization to determine the BOM to present during the configuration session. Once the options

are chosen, the sourcing rules on the models will be used to determine the organizations in which to create the BOM and Routings.

This process will match to existing configurations, if the BOM: Match to existing configuration profile is set to Yes. If the program finds a match, for the top level model, you will be asked if you want to use the matched item id, or create a new configuration for the new item. If you choose to use the match, no BOM will be created for the current item. If you choose to create a new configuration for the new item, the new configuration will replace the old configuration in the match tables, such that future matches in OM or BOM will match to the new pre-defined configuration.

If a match is found for any of the lower level models, matched config item will be used by default

Note: If you try to preconfigure an item based on a model that is sourced entirely from another orgnazation, you will receive an error asking you to go to the source organization to configure the item.

The BOM:Configurator URL profile option must be set properly to enable you to call the configurator from within BOM. See Chapter 2 for more information on setting profile options.

To preconfigure an item:

1. Create a new item in the master organization and assign it to the appropriate manufacturing organization. On the BOM tab of the item master, set the base item to the model from which you want to derive the configuration.
2. In the manufacturing organization, create a new bill of material for the item with no components. Put the cursor in the components region. Go to the Tools menu and choose “Configure Bill”. This will bring up the configurator where you can pick your options. Once done, this item can be planned, ordered and stocked just like any standard item.

Preconfiguring Items Example:

As mentioned above, preconfiguring items will respect the multi-level structure and the sourcing rules you have defined for models at all levels of the BOM. As an example, use the multi-level, multi-org example from page 17 of chapter 1:

If you went in to the warehouse, W1, added a new item based on your Laptop Computer model, and then tried to "pre-configure" a BOM, the program would give you a message asking you to go to Org M1 to configure the item (since the entire item is sourced from M1). If you go to M1 and try to preconfigure the BOM, the program will invoke the configurator based on the item validation org defined in the OM parameters for the given organization. You would be able to choose options for all levels of your Bill, regardless of where they will be manufactured. Then, when done, the program will create the BOMs and routings in the appropriate organizations based on the sourcing rules. In the case of this example, a configured laptop computer BOM and routing will be created in M1, and a configured monitor item and routing would be created in M2. You will get a message when the program completes indicating that the BOMs were created in the appropriate organizations.

9

Supply Unique Configurations

Topics covered in this chapter include:

- Overview to Supplying Unique Configurations on page 9-2
- Overview to Supplying Unique Configurations on page 9-2
- Flow Manufacturing on page 9-7
- Purchasing on page 9-10

Overview to Supplying Unique Configurations

You can create final assembly work orders, flow schedules or purchase requisitions to supply configurations and ATO items. The details of each is described below.

Discrete Manufacturing

Oracle Work In Process User's Guide provides complete information on how you manage work orders and shop floor activities. The following information is only intended to provide some additional tips and hints on managing work orders in a configuration environment.

Create Final Assembly Work Orders

Oracle Applications provides you with various methods of creating work order to fulfill a configuration sales order. The following table explains the benefits and the implementation consideration of each method.

Method	Description	Implementation Consideration	Reference Document
1. AutoCreate FAS concurrent program	- Valid only if the top level configuration is manufactured in the shipping organization. - This is a concurrent program that you can launch from Work in Process menu. -It can be run at any frequency you specify to create work orders for the top level configured assembly. - Work order is reserved to the sales order.	- This program can only be used if your final assembly is manufactured in the shipping organization. In all other cases, advanced planning is used to create planned orders based on the demand in the shipping organization. - Typically used to create supply for short term demand in a single organization environment. -Useful in a single organization, high volume, short product lead time environment where you may need to run this program more than once a day -Creates one work order for the top level assembly for the full order quantity In a multi-level environment, planning must be run to create planned orders for lower level supply. -This program does not take capacity into consideration - This program will create a work order for the unreserved portion of a sales order line.	Oracle Work in Process User's Guide

Method	Description	Implementation Consideration	Reference Document
2. Progress Order (action) from Sales Order Pad	- Valid only if the top level configuration is manufactured in the shipping organization. -From the Sales Order Pad in Order Management, you can invoke Progress Order action to create a work order for an order line. - This creates a work order for the top level configuration item. -Work order is reserved to the sales order.	- This option can only be used if your final assembly is manufactured in the shipping organization. In all other cases, advanced planning is used to create planned orders based on the demand in the shipping organization. -Need to manually progress the order (in Order Management) one at time. -In single organization environment, progress order is a way to create supply for a single order with minimum delay. If you have an urgent order that needs to be pushed to manufacturing, this may be a way to quickly progress an order to production. In a multi-level environment, planning must be run to create planned orders for lower level configurations. -Creates one work order for the top level assembly for the full order quantity - This activity will not be accessible from the sales order pad if supply (Discrete job / Flow Schedule / Inventory reservations) has been created for this any part of this order line.	Oracle Order Management User's Guide Oracle Advanced Planning and Shipping User's Guide
3. Planner's Workbench	- Planning can be run periodically to create planned orders based on sales orders for configured product. -From the Planner's Workbench, you can release planned orders to work orders or internal requisitions for configurations. -The work order is not reserved to sales order;	- In a multi-organization or multi-level environment, advanced planning must be used to generate planned orders for your configurations. -With Advanced Planning and Scheduling products, a single plan can be used for your entire supply chain. In addition, material and resources constraints can be considered during the planning process. -Enables the planner to manage configured and non-configured demand the same way. -Limited by planning run frequency. -Work orders are not reserved to the sales order.	Oracle Master Scheduling /MRP User's Guide

Method	Description	Implementation Consideration	Reference Document
4. Create Discrete Job	-You can manually create a job for a configured item. - If the top level configured assembly is being manufactured in the shipping organization, it's work order can be reserved to the sales order. -You can reserve the work order to multiple sales orders.	-Manual process, only used for exceptions.	Oracle Work in Process User's Guide

Work Order Reservation

If you use method 1 & 2 (see above) to create the work order for top level configurations, the work order is automatically reserved to the sales order. If you use method 3 & 4 for a top level configuration that is manufactured in the shipping organization, you can manually reserve the work order to the sales order (if necessary).

If your product is manufactured in an organization other than your shipping organization, you can reserve the material for the sales order after it has been received in the shipping organization. Work orders in other organizations will not be reserved against the sales order.

Complete an Assembly

When a work order for the top level configuration has been reserved to the sales order, the finished assembly will be automatically reserved against the sales order when you complete the assembly from WIP,.

Perform an Assembly Return

When you perform assembly return from WIP on a work order that had been reserved to a sales order, the system will automatically un-reserve the on-hand inventory from the sales order. However the system will not automatically reserve the work order to the original sales order. If you need to reserve the work order to the original sales order or to a different sales order, you can do this by entering the

sales order number in the WIP Completions form when you perform return transaction.

Transfer Reservation from One Sales Order to Another

If you need to transfer WIP reservation from one sales order to another sales order, you need to delete the existing WIP reservation for sales order 1 and add a new reservation for sales order 2. Sales order 1 and sales order 2 must have the same configuration item.

You can do this in Discrete Job form in Oracle Work In Process.

For more information about discrete work orders, please See: *Oracle Work In Process User's Guide***.**

Supply Chain Execution in a Multi-Organization Environment

In a multi-organization environment, advanced planning is used to generate and manage planned orders across the supply chain for all levels of the configuration. In the multi-organization example in chapter one, an order is taken for a configured laptop. Advanced planning is run and creates the following planned orders:

1. Planned internal requisition in the shipping organization (W1) to source the configured laptop from organization M1.
2. Planned work order for the configured Laptop in organization M1.
3. Planned internal requisition in organization M1 to source the configured monitor from organization M2.
4. Planned work order for the configured monitor in organization M2.
5. Planned purchase requisitions for any material that is needed in either M1 or M2 to fulfill the order.

The planner would release all planned orders to create the appropriate work orders and requisitions. Internal requisitions are converted to internal sales orders via a background process, and purchase requisitions are converted to purchase orders via the normal purchasing process.

M2 manufactures and completes the monitor, then ships it to organization M1. M1 manufactures and completes the laptop, then ships it to organization W1. The laptop is reserved to the sales order, picked and shipped.

A generic process flow describing this is presented in Chapter 1.

For more information about Advanced Planning and Scheduling, please See: *Oracle Advanced Planning Users Guide.*

For more information about Purchasing, please see*: Oracle Purchasing Users Guide.*

For more information about internal orders, please see: *Oracle Inventory User Guide*

Flow Manufacturing

Oracle Flow Manufacturing Implementation Manual provides complete information on implementing flow manufacturing at your facility. The manual covers flow line design, line balancing, production execution and kanban planning and execution.

The Flow Manufacturing Implementation Manual explains how flow manufacturing supports building customized products. See: *Oracle Flow Manufacturing Implementation Manual.*

The following information provides some additional tips and hints when you deploy flow manufacturing in a configure to order environment.

Create Final Assembly Flow Schedules

Oracle Applications let you create flow schedules via the Line Scheduling Workbench in Flow Manufacturing or the Sales Order Pad in Order Management. The following table provides some explanation of each method.

Method	Description	Implementation Consideration	Reference Material
1. Line Scheduling Workbench	-You can use the Line Scheduling Workbench to manage production schedules for your flow lines. -You can create flow schedules for planner orders and sales orders - Flow schedules created from the sales orders will reference the sales order and order line.	Scheduler can manage configured and non-configured orders in the same workbench, and can sequence orders according to their scheduling rules. Scheduling is constrained to the line rate. The scheduler can view orders that could not be scheduled because of the constraint from the same workbench.	Oracle Flow Manufacturing Implementation Manual; Oracle Flow Manufacturing User's Guide

Method	Description	Implementation Consideration	Reference Material
2. Progress Order (action) from Sales Order Pad	- Valid only if the top level configuration is manufactured in the shipping organization. -A way to create supply for a single order line when the top level configuration is manufactured in the shipping organization - Flow schedules created from the sales orders will reference the sales order and order line.	-This method provides a way to quickly create production schedules for the top level assembly for urgent orders in a single organization environment. -Need to manually progress the order (in Order Management) one at time. - Schedules are created "first in, first out". No sequencing is performed. The order will be scheduled at the first available spot between today plus the manufacturing lead time and the order schedule date. - Scheduling is still constrained to the line rate. This may cause a flow schedule to be created for only a partial quantity. In this case, the scheduler must use the line scheduling workbench to manage the unscheduled portion of the order quantity. - This activity will not be accessible from the sales order pad if supply (Discrete job / Flow Schedule / Inventory reservations) has been created for this any part of this order line.	Oracle Order Management User's Guide

Method	Description	Implementation Consideration	Reference Material
3. Feeder Line Synchronization	- Valid in a multi-level, single organization environment only - Creates flow schedules for configured (and non-configured) sub-assemblies based on the flow schedule for the parent item.	- Sub-assemblies are scheduled to complete just when they are required for the parent assembly. - Enables a single organization flow manufacturing company to produce multi-level configurations to order without running planning.	

Flow Schedules and Order References

Flow schedules that are created from sales orders are referenced - not reserved - to the sales order. This means you can see the order number and order line on the flow schedule, but you will NOT see the flow schedule number in the reservations form accessible from Order Management or Inventory.

Complete an Assembly

When a flow schedule is referenced to a sales order, the finished assembly will be automatically reserved against the sales order when you complete the assembly using Work Order-less Completions.

Perform an Assembly Return

When you perform assembly return from WIP on a flow schedule that has a sales order reference, the system will automatically un-reserve the on hand inventory from the sales order. The un-completed flow schedule will still be referenced to the sales order.

Supply Chain Execution in a Multi-Organization Environment

In a multi-organization environment, advanced planning is used to generate and manage planned orders across the supply chain for all levels of the configuration. However, in flow, planned orders cannot be released to flow schedules from the planners workbench. Instead, schedulers would implement planned orders from the line scheduling workbench.

In the multi-organization example in chapter one, an order is taken for a configured laptop. Advanced planning is run and creates the following planned orders:

1. Planned internal requisition in the shipping organization (W1) to source the configured laptop from organization M1.
2. Planned work order for the configured Laptop in organization M1.
3. Planned internal requisition in organization M1 to source the configured monitor from organization M2.
4. Planned work order for the configured monitor in organization M2.
5. Planned purchase requisitions for any material that is needed in either M1 or M2 to fulfill the order.

The planner would release planned orders to create the internal requisitions and purchase requisitions. Internal requisitions are converted to internal sales orders via a background process, and purchase requisitions are converted to purchase orders via the normal purchasing process.

The schedulers in organizations M1 & M2 would go to the line scheduling workbench for their respective lines and schedule the planned orders for flow schedules.

M2 manufactures and completes the monitor, then ships it to organization M1. M1 manufactures and completes the laptop, then ships it to organization W1. The laptop is reserved to the sales order, picked and shipped.

For more information about Advanced Planning and Scheduling, please See: *Oracle Advanced Planning Users Guide.*

For more information about Purchasing, please see*: Oracle Purchasing Users Guide.*

For more information about internal orders, please see: *Oracle Inventory Users Guide*

Purchasing

Oracle Purchasing Users Guide provides complete information on how you manage requisitions and purchase orders. The following information is only intended to provide some additional tips and hints on managing requisitions in a configuration or ATO environment.

Create Purchase Requisitions

Oracle Applications provides you with various methods of creating requisitions to fulfill a configuration or ATO sales order. The following table explains the benefits and the implementation consideration of each method.

Method	Description	Implementation Consideration	Document
Advanced Planner's Workbench	- Advanced planning can be run periodically to create planned purchase requisitions based on sales orders for configured product. -From the Planner's Workbench, you can release planned orders to requisitions for configurations. -The requistion is not reserved to sales order	- Advanced Planning must be used to generate purchase requisitions for the configured item from sales order demand. - Details of the configuration are communicated via text attachments to the PO. -With Advanced Planning and Scheduling products, a single plan can be used for your entire supply chain. In addition, material and resources constraints can be considered during the planning process. -Enables the planner to manage configured and non-configured demand the same way. -Requisitions are not reserved to the sales order.	Oracle Advanced Planning and Scheduling Oracle Purchasing

2. AutoCreate Req concurrent program	- Valid only for ATO items ordered directly in OM, not for configurations generated from Models - Valid only if the ATO item has a buy-type sourcing rule in the shipping org - This is a concurrent program that you can launch from Bill of Material menu. -It can be run at any frequency you specify to put a record in the req import tables - Requisition, when created, is reserved to your sales order. The reservation is transferred to the purchase order created for the item, and then to inventory upon receipt.	- Valid only if the ATO item has a buy-type sourcing rule in the shipping org - Creates a record in the req import table for each order line that meets the program parameters. Note that req import needs to be run to generate the requisition. - If you would like requisitions to be created immediately, you can create a request set to launch AutoCreate Req, followed immediately by Req Import. Set the supply type parameter on the req import program to “CTO” to create a requisition only for the items created through the autocreate req process. - Typically used to create supply for short term demand in a procure to order environment.	Oracle Purchasing

2. Progress Order (action) from Sales Order Pad	- Valid only for ATO items ordered directly in OM, not for configurations generated from Models - Valid only if the ATO item has a buy-type sourcing rule in the shipping organization -From the Sales Order Pad in Order Management, you can invoke Progress Order from 'Create Supply Eligible'. I the ATO item has 'Buy' Sourcing rules a record will be created in the req import tables -Requisition, when created, is reserved to the sales order.	- This option can only be used if your ATO item has a buy type sourcing rule -Need to manually progress the order (in Order Management) one at time. -In a Procure to Order Environment, progress order is a way to create supply for a single order with minimum delay. If you have an urgent order that needs to be pushed to purchasing, this may be a way to quickly progress an order to production. Note that Req Import needs to be run to actually create the requisition. - This activity will not be accessible from the sales order pad if an inventory reservation has been created for any quantity for this order line.	Oracle Order Management User's Guide

Requisition and Purchase Order Reservation

If you use method 2 & 3 (see above) to create the requisition for and ATO item, the requisition is automatically reserved to the sales order. When the PO is created, the reservation will be transferred to the Purchase Order. If you use method 1, you cannot reserve the material to the sales order until receipt into inventory.

Receive an Assembly

When a purchase order has been reserved to the sales order, the ATO item will be automatically reserved against the sales order when you receive the purchase order.

Perform an Assembly Return

When you perform a return to vendor on material that had been reserved to a sales order, the system will automatically un-reserve the on-hand inventory from the sales order. However the system will not automatically reserve the purchase order to the original sales order. It is suggested that you close the existing purchase order and let the system generate a new requisition and purchase order for the returned material.

10

Reservation

Topics covered in this chapter include:

- Reservation on page 10-2

Reservation

This chapter describes the various methods of reserving onhand inventory and work orders to an ATO model sales order or ATO item. It also describes reservations made to requisitions and purchase orders for ATO items.

Reserve Supply

Reservation for an ATO model sales order is placed against the configuration item. The following table describes the various method of reserving a supply.

Supply Type\ Method	Onhand	Work Order	Req/PO	Description
Automatic	Match action from Sales Order Pad			-If a match is found, and there is available inventory available in the shipping organization, the system gives you an option to make reservation. -The cursor must be on the ATO model order line when you perform the Match action.
	-AutoCreate Orders from WIP, when the shipping organization is the same as the top level manufacturing organization.	-AutoCreate Orders from WIP, when the shipping organization is the same as the top level manufacturing organization.		-If a match is found, if "BOM: Automatic Reservations is Yes", and, if you are within the "OM: Reservation Time Fence" and if there is available inventory available in the shipping organization, the system will make an inventory reservation. It will then create a work order for the remaining quantity, and reserve the work order to the sales order line.
			Autocreate Req (ATO items only)	Autocreate requisitions places a record in the req import tables for each eligible order line. When the requisition is created, it is reserved to the sales order. This feature is available for ATO items only (not for configured sales orders).

Supply Type\ Method	Onhand	Work Order	Req/PO	Description
	Work Order Completion Form in WIP			-If the work order is reserved to a sales order, the reservation is transferred to inventory when you complete finished assembly.
	Work Orderless Completion Form in Flow Manufacturing			-When you perform an assembly completion for a flow schedule that is tied to a sales order, the system automatically places a reservation on the finished assembly against the sales order demand for the configuration item.
			PO Delivery (ATO items only)	When a PO distribution is delivered to inventory, the reservation from the purchase order is transferred to inventory. This feature is available for ATO items only (not for configured sales orders).
Manual	Reservation from Sales Order Pad in OM. (Sales Order Pad -> Tools->Scheduling->Reserve)			-You can reserve available inventory in the shipping organization or an ATO item order line to a configuration order line. -The Cursor must be on the desired order line when you perform reservation.
	INV Reservations Form			-You can reserve available inventory in the shipping organization to a configuration or an ATO item order line via the Reservation window in Inventory
		Discrete Jobs Form in WIP		-You can manually reserve a work order for your top level configuration item to one or more sales orders through the Discrete Job window, if the manufacturing organization is the same as the shipping organization.

11

Pick Release and Ship Confirm

This chapter provides information on:

- Pick Release and Ship Confirm on page 11-2

Pick Release and Ship Confirm

Once the assembly has been received into inventory in your shipping organization, the sales order is ready to be picked and shipped to customer. If your top level assembly was made in or bought for your shipping organization, and the supply was reserved or referenced to the sales order, the resulting on-hand inventory will be reserved to the sales order and your sales order will automatically be eligible for shipping. If your supply was created via planning, you will need to manually reserve the material to your sales order before you can proceed to shipping. This chapter provides explanation of some settings for configured order that will affect shipping for configured products.

For a complete guide on shipping, please refer to Oracle Shipping Execution User's Guide.

Setup

Item Attribute

Ship Model Complete: If this attribute is set to Yes, the entire configuration must be delivered in the same shipment. If the attribute is set to No, components can ship separately. ATO models are inherently ship together models. If you have a PTO model which has an ATO model and some other PTO options underneath, and you want to ship the PTO options along with the ATO model, then Ship Model Complete must be set to Yes on the PTO model.

BOM Attributes

The following shipping attributes are on the Bills of Material window.

Include On Shipping Docs: Indicates whether the component will be printed on external shipping documents such as pack slips and commercial invoices. For example, for an ATO model, it may be more reasonable to print the order lines, ATO model, and options on the shipping documents, in addition to the configured item.

Required to Ship: Indicates whether the component is required to ship the order. You can only update this check box if the Assemble to Order item attribute for the assembly item in the Define Item window is disabled.

This attribute only affects PTO included items (not ATO items or configurations).

12

Order Changes

Topics covered in this chapter include:

- Order Changes on page 12-2
- Existing Processing Constraints on page 12-5
- Re-instituting Prior Processing Constraints on page 12-6

Order Changes

Order Management provides you with the ability to automate the process of changing various types of orders. However, system and processing constraints can prevent specific changes to an order depending on the flow status.

Order Management User's Guide provides a detailed description of the processing constraints.

Prior to 11I OM Family Pack E, seeded processing constraints existed specifically for configurations that forced users to de-link a configuration item from a sales order line before making changes. In Family Pack E, the security constraints have been removed completely, enabling the user to change an ATO model line without delinking the supply for the following type of changes:

Change in Schedule Ship Date

Change in Request Date / Scheduled Arrival Date

Change in order line quantity

Cancel order line

Change the configuration

Once a change is made, Order Management will try to reschedule the order with the changes. If rescheduling succeeds then system will store the changes, otherwise the system will not save the changes.

In case of a configuration change on a multi-level or multi-org order or full cancellation, the system will delink the configuration item. Delinking the configuration item will unreserve the existing supply reservation, and will set the OM workflow status back to create configuration eligible.

For more information on delinking a configuration, please see the De-link Configuration Item section in Chapter 6 of this document.

For information on re-instituting these processing constraints, please see the "Reinstituting Prior Processing Contraints" Section.

Notification of the change

For configured items and "make" ato items, notification will be sent to the planner of the top model / item in the shipping organization. For purchase to order ATO items, a notification will be sent to the buyer on the requisition. The planner or buyer should be a valid workflow user. If the planner or buyer is not valid workflow user then notification will be sent to the 'SYSADMIN' user by default.

The default user can be customized by changing the 'Change Order Administrator' attribute default value in the workflow. Please see the inventory user manual to know how to setup the planner code to an item.

For single level, single organization configurations and make type ATO items:

A notification of the changes made will be sent only if a reservation or flow schedule exists for the configuration. In the case of a configuration changes, a notification will be sent even if no reservation exists.

Change	Always Send Notification	Send Notification only if Reservation /Flow Schedule exists
Schedule Ship Date		Yes, no change to reservation
Request Date / Scheduled Arrival Date		Yes, no change to reservation
Order Line Quantity		Yes, decrease reservation if qty decreases
Cancellation		Yes, remove reservation
Configuration Change	Yes, remove reservation	
Manual De-link of Config Item		Yes, remove reservation

For multi level, or multi organization configurations and make type ATO items:

A notification of the changes will always be sent, whether or not a reservation exists for the top level configuration or ATO Item.

Change	Always Send Notification	Send Notification only if Reservation /Flow Schedule exists
Schedule Ship Date	Yes, no change to reservation	
Request Date / Scheduled Arrival Date	Yes, no change to reservation	
Order Line Quantity	Yes, decrease reservation if qty decreases	
Cancellation	Yes, remove reservation	

Change	Always Send Notification	Send Notification only if Reservation /Flow Schedule exists
Configuration Change	Yes, remove reservation	
Manual De-link of Config Item	Yes, remove reservation	

Note that these changes could cause data inconsistency between Order Management and WIP if action is not taken by the planner to update associated WIP jobs or flow schedules. A notification of the changes will be sent to the buyer, if a reservation to a req or PO exists for the ATO item.

Change	Always Send Notification	Send Notification only if reservation exists
Ship Date	Yes	no change to reservation
Request Date	Yes	no change to reservation
Qty	Yes	if qty decreased / decrease reservation
Cancellation	Yes	remove reservation
Config Change	Yes	remove reservation
Manual De-link	Yes	remove reservation

Customization to Workflow

Customers will be able to customize the seeded workflow using Oracle Workflow Builder if they have special requirements. The notification message can also be customized.

Existing Processing Constraints

Order Management still has some seeded processing constraints for configurations that deny certain actions when the workflow reached certain status.

ATO Model

For ATO Item order line, there are still processing constraints that prevent certain order changes.

After a configuration item is created, these actions are not allowed:

- Changing the warehouse
- Deleting the top model order line (To cancel, set the quantity to 0)

Configuration Item

For the configuration order line, there is a processing constraint that prevents updating anything on the configuration line. To make changes to the configuration line's dates or quantities, change the ATO model line and the changes will cascade to the configuration item.

ATO Item

For ATO Item order line, there is one processing constraint remaining that prevents the user from changing the warehouse after a work order, flow schedule, purchase requisition, or purchase order has been created and reserved to the ATO item.

Re-instituting Prior Processing Constraints

Prior to 11I Family Pack E, Order Management had additional seeded processing constraints for configurations that denied certain actions when the workflow reached certain status. The original processing constraints are described here, along with details on how to re-instate them if you business requires them.

Prior ATO Model Constraints

For ATO Model order line, there were processing constraints that prevented certain order changes.

After a configuration item is created, these actions were not allowed:

- Increasing / Decreasing quantity
- Updating schedule ship date
- Modifying selected options (add or delete options)
- Canceling line

Prior ATO Item Constraints

For ATO Item order line, there were processing constraints that prevented certain order changes.

After a work order or flow schedule was created and reserved to the ATO item, these actions were not allowed:

- Increasing / Decreasing quantity
- Updating schedule ship date
- Canceling line

After ship notified of the ATO item, these actions were not allowed:

Updating scheduled ship date

Updating ordered quantity

Canceling order line

To re-institute these constraints

If needed, the above removed conditions can be added as a non seeded condition. The tables below are the exact conditions that were removed in OM Family Pack E. They can be added exactly as shown to keep the old functionality. Please refer to

Order management user Guide to know how to add conditions to the existing constraints.

Note that only the conditions were removed in OM Family Pack E. The validation templates for those conditions are still available to use.

1. Cancel Constraint:

Operation	Attribute	User Action
CANCEL		Not Allowed

Group	Scope	Validation Entity	Record Set	Validation Template
6	Any	Order Line	Line	ATO
6	Any	Order Line	Line	Ship notified
6	Any	Order Line	Line	Standard item
7	Any	Order Line	Line	Configuration Created

2. Update ordered Quantity Constraint

Group	Scope	Validation Entity	Record Set	Validation Template
6	Any	Order Line	Line	ATO
6	Any	Order Line	Line	Ship notified
6	Any	Order Line	Line	Standard item
7	Any	Order Line	Line	Configuration Created

Operation	Attribute	User Action
UPDATE	Ordered Quantity	Not Allowed

Group	Scope	Validation Entity	Record Set	Validation Template
6	Any	Order Line	Line	ATO
6	Any	Order Line	Line	Ship notified
6	Any	Order Line	Line	Standard item
8	Any	Order Line	Line	Configuration Created

3. Delete Constraint

Operation	Attribute	User Action
DELETE		Not Allowed

Group	Scope	Validation Entity	Record Set	Validation Template
3	Any	Order Line	Line	Configuration Created

4. CREATE line Constraint.

Operation	Attribute	User Action
CREATE		Not Allowed

Group	Scope	Validation Entity	Record Set	Validation Template
3	Any	Order Line	Line	Configuration Created

5. Update Scheduled ship date constraint.

Operation	Attribute	User Action
UPDATE	Schedule Ship Date	Not Allowed

Group	Scope	Validation Entity	Record Set	Validation Template
2	Any	Order Line	Line	ATO
2	Any	Order Line	Line	Ship notified
2	Any	Order Line	Line	Standard item
4	Any	Order Line	Line	Configuration Created

13

Customize the Order Processing Workflow

This chapter provides information on:

- ATO Model Workflow on page 13-2
- Configuration Line Workflow on page 13-3
- ATO Item Workflow on page 13-3

Customize the Order Processing Workflow

The ATO Model Line, the Configuration Line, and the ATO Item workflow can be customized by adding blocks or approval activities or by removing some optional blocks and activities.

ATO Model Workflow

The following table shows all the activities in the ATO Model line workflow are mandatory.

ATO Model Line Workflow Activity	Mandatory	Comments
Enter Line	Yes	
Schedule Line	Yes	
Create Configuration Eligible	Yes	
Create Configuration	Yes	Creates item, BOM and routing
Wait for CTO	Yes	
Line Level Invoice Interface	Yes	
Close Line Process	Yes	

Configuration Line Workflow

This table summarizes which activities in the Configuration Line workflow activity are mandatory and which are optional.

Configuration Line Workflow Activity	Mandatory	Comments
Wait for Create Configuration	Yes	This block activity is automatically completed by the Model workflow after the configuration item is created.
Calculate Cost Rollup	No	
Calculate Lead Time Process	No	
Create Supply Order Eligible	Yes	
Check Supply Type	No	Not Required if routings for all models and ATO items are only Discrete routings or flow routings and ATO models and ATO items are not purchased.
Create Work Order Process	No	Not Required if Routing of all models used is flow routing
Create Flow Schedule	No	Not Required if Routing of all models used is discrete routing.
Autocreate Req	No	Not required if ATO models and ATO items are never purchased.
Wait for PO Receipt	No	Not required if ATO models and ATO items are never purchased.
Ship Line	Yes	
Fulfill Line	Yes	
Close Line	Yes	

Block activities cannot be added inside the Create Manufacturing Configuration Data process and the Create Supply Order process.

ATO Item Workflow

This table summarizes which activities in the ATO Item workflow activity are mandatory.

ATO Item Line Workflow Activity	Mandatory	Comments
Enter Line	Yes	
Schedule Line	Yes	
Create Supply Order Eligible	Yes	
Check Supply Type	No	Not Required if routings for all models and ATO items are only Discrete routings or flow routings and ATO models and ATO items are not purchased.
Create Work Order Process	No	Not Required if Routing of all models used is flow routing
Create Flow Schedule	No	Not Required if Routing of all models used is discrete routing.
Autocreate Req	No	Not required if ATO models and ATO items are never purchased.
Wait for PO Receipt	No	Not required if ATO models and ATO items are never purchased.
Ship Line	Yes	
Fulfill Line	Yes	

Block activities cannot be added inside the Create Supply Order process.

14

Deactivate Configuration Items

This chapter provides information on:

Deactivate Configuration Items on page 14-2

Deactivate Configuration Items

Bills of Material enables you to automatically deactivate item numbers associated with completed configuration orders. You can also deactivate configuration items to remove them from item master reports and screens before you actually purge them from the database.

When you set up Inventory and Bills of Material, you can define an item status to identify completed configuration items. You can use this status to disable the configuration item from all Oracle Manufacturing functions. You would normally specify No for each of the following item attributes for inactive configuration items:

- BOM allowed
- Build in WIP
- Transactable
- Stockable

When defining bills of material parameters, specify the item status to use for completed configuration items. See: Defining Bills of Material Parameters.

All configuration items that meet the following conditions will be selected for deactivation:

No open demand

There should not be any open demand for the configuration item (in context organization). Open demand is identified by open sales orders and planned orders. Future demand (demand in interface tables) will also count as demand.

No open supply

There should not be any supply created for the configuration item in current organization (i.e. Organization where deactivation process is run). Open supply is identified by discrete jobs, flow schedules and inventory reservations.

·In the case of a cancellation or de-link, there might be supply created for the configuration item in another organization with no demand associated with it in this organization. In this case, we will deactivate the configuration item in this organization.

Example:

Item C*1 is sourced in organization O1 from organization O2.

There is sales order demand in O1 and planned order demand in O2. A work order for C*1 is created in O2.

Now, the order is canceled and demand for C*1 is removed from organizations O1 and O2.

If the Deactivation process is run in O1, we will find no demand for C*1 in any organization, and no supply in organization O1. Even though there is open supply in organization O2, the item will be deactivated in organization O1. The item will not be deactivated in organization O2.

·We will only deactivate the item in the organization where the program is being run. This is because the same item could be enabled in other organizations due to different reasons:

·As a result of the Create Configuration process, in the case of a multi-organization configuration.

·Enabled manually to be used as a pre-defined ATO Item in other organizations

If the item needs to be deactivated in all organizations, the 'Deactivate Configuration Items' process needs to be run in all organizations

No material transactions

There should not be any material transactions in current organization for the item 'n' days before the Deactivation process is run. 'n' is defined by the input parameter 'Number of Days'. Hence, if we find any material transactions for the item in the last 'n' days, the item will not be deactivated.

Material transactions for a configured item include WIP, Sales Orders, and Internal Orders transactions.

Material transactions will be checked only in the organization in which the program is run.

Does not exist in child organization.

For any organization, child organizations may have been setup. If the item is available in the child organization then, that item will not be deactivated in the master organization.

Does not have common BOM and Routing

The items (to be deactivated) BOM and Routing should not be commoned by any other item which is currently active. If it is then item will not be deactivated.

Order Purge

In Release 11*i* CTO tables are populated during scheduling of an order and creation of configuration item. When user runs a Order Purge program of Order Management, related data of an order inserted in CTO Tables are also purged.

You can run the Deactivate Configuration Items concurrent program to automatically deactivate all configuration items that have no open sales orders or on-hand inventory, and whose most recent sales order shipped more than the number of days ago you specify. Each deactivated configuration item has its status updated.

To deactivate configuration items:

1. From Bills of Material menu, navigate to the Submit Requests window.
2. Select Report and select Deactivate Configuration Items.
3. Enter the organization for which you want to deactivate configuration items that were completed and shipped more than the number of days ago you specify.
4. Enter the shipped number of days ago. Configuration items completed and shipped more than this are deactivated. The default is 90.

Note: You can delete item information for completed configurations from the database, including the bills of material and routings.

The ability to delete configuration items is subject to the same deletion constraints that operate for other item types as well.

See Also: Deleting Items, Bills, Routings, Components, and Operations.

Index

A

Assemble-to-Order Item, 1-3
Assemble-to-Order Model, 1-3, 1-4
ATO Item, 12-5, 12-6
ATO Item Workflow, 13-3
ATO Model, 12-6
ATO Model Line vs. Configuration Item Line, 6-6
ATO Model Workflow, 13-2
ATP Components Item Attribute, 7-2
ATP Flag at BOM Level, 7-3
AutoCreate Configuration Items, 8-8

B

Batch vs. Online Mode, 8-8
BOM
  Automatic Reservations, 2-5
  Configuration Item Delimiter, 2-5
  Configuration Item Type, 2-6
  Inherit Option Class Operation Sequence Number, 2-6
  Match to Existing Configurations, 2-5
  Perform Lead Time Calculations, 2-7
  Use Custom Match Function, 2-5
BOM Attributes, 3-4
BOM Parameters, 2-2

C

Check ATP Item Attribute, 7-2
Common Model Routing to Option Classes, 3-6
Complete an Assembly, 9-4, 9-9
Configuration BOM, 8-5
Configuration Item Cost Rollup, 8-8
Configuration Lead Time Calculation, 8-7
Configuration Line Workflow, 13-3
Configuration Routing, 8-7
Create Final Assembly Flow Schedules, 9-7
Create Final Assembly Work Orders, 9-2
Customize the Order Processing Workflow, 13-2

D

Deactivate Configuration Items, 14-2
Definitions, 1-3
De-link Configuration Item, 6-7
Derived Sales Order Demand, 4-3
Discrete Manufacturing, 3-7

E

Entering Configured Orders, 6-2
Exploded Forecast Demand, 4-2

F

Feature Highlight, 1-14
Flow Manufacturing, 3-9, 9-7
Forecast Consumption, 4-5
Forecast Control, 4-2
Forecast Explosion, 4-3

G

Group ATP for Configurations, 7-3

H

Hybrid, 1-4

I

Independent Forecast Demand, 4-2
Integration, 1-16
Item Attribute, 11-2
Items Setup, 3-2

L

Link Configuration Item, 6-8

M

Model and Option Class Bills of Material, 3-4
Model and Option Class Routing, 3-5
Model Bills of Material, 3-4

O

Option Class Bills of Material, 3-4
Option Dependent Event, 3-9
Option Dependent Routing Steps, 3-7
Order Line Statuses, 6-6
Ordering Configurations, 1-15
Organization
  when deactivating configuration items, 14-4
Overview of Oracle Configure to Order, 1-3

P

Perform an Assembly Return, 9-4, 9-9
Perform Match, 6-3
Pick Release and Ship Confirm, 11-2
Pick-to-Order Item, 1-3
Pick-to-Order Model, 1-3
Planning Configurations, 1-14
preface
  heading
    PH PrefaceHead, ix
  PT PrefaceTitle, ix
Process Description, 8-2
Process Flow, 1-4
Processing Constraints, 12-5, 12-6
Product Definition, 1-14
Production Relief, 5-3
Profiles, 2-5
PT PrefaceTitle, ix

Q

QP
  Item Validation Organization, 2-7

R

Release 11i Order Management Overview, 6-2
Reserve Supply, 10-2
Resource Capacity, 7-3

S

Sales Order Demand, 4-3
Sales Order Pad Action Button - Progress Order, 8-9
Seeded Workflow, 6-4
Setup
  Parameters, 2-2
Shipment Relief, 5-4
Shipped number of days ago, 14-4

T

Transfer Reservation from One Sales Order to Another, 9-5, 9-9

V

Viewing Selected Options, 6-2

W

WIP Parameter, 2-2
Work Order Reservation, 9-4
Workflow Activities for ATO Item, 6-6
Workflow Activities for ATO Model, 6-5
Workflow for Configured Orders, 6-4
Workflow vs. Order Cycle, 6-4