Oracle® Global Order Promising

Implementation and User's Guide

Release 12.2

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Oracle Global Order Promising Implementation and User's Guide, Release 12.2

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Oracle Global Order Promising Implementation and User's Guide, Release 12.2

Part No. E48770-05

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Preface

Intended Audience

Welcome to Release 12.2 of the *Oracle Global Order Promising Implementation and User's Guide.*

This guide assumes you have a working knowledge of the following:

- The principles and customary practices of your business area.
- Oracle Global Order Promising

  If you have never used Oracle Global Order Promising, Oracle suggests you attend one or more of the Oracle Global Order Promising training classes available through Oracle University.
- The Oracle Applications graphical user interface.

  To learn more about the Oracle Applications graphical user interface, read the *Oracle E-Business Suite User's Guide*.

See Other Information Sources for more information about Oracle E-Business Suite product information.

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This documentation may contain links to Web sites of other companies or organizations that Oracle does not own or control. Oracle neither evaluates nor makes any representations regarding the accessibility of these Web sites.

See Related Information Sources on page xi for more Oracle E-Business Suite product information.

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Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Structure

Related Information Sources

You can choose from many sources of information, including online documentation, training, and support services, to increase your knowledge and understanding of Oracle Global Order Promising.

If this guide refers you to other Oracle E-Business Suite documentation, use only the Release 12 versions of those guides.

Integration Repository

The Oracle Integration Repository is a compilation of information about the service endpoints exposed by the Oracle E-Business Suite of applications. It provides a complete catalog of Oracle E-Business Suite's business service interfaces. The tool lets users easily discover and deploy the appropriate business service interface for integration with any system, application, or business partner.

The Oracle Integration Repository is shipped as part of the Oracle E-Business Suite. As your instance is patched, the repository is automatically updated with content appropriate for the precise revisions of interfaces in your environment.

Online Documentation

All Oracle E-Business Suite documentation is available online (HTML or PDF).

- **Online Help:** The new features section in the HTML help describes new features in Oracle E-Business Suite Release 12. This information is updated for each new release of Oracle Global Order Promising. The new features section also includes information about any features that were not yet available when this guide was printed. For example, if your administrator has installed software from a mini-packs an upgrade, this document describes the new features. Online help patches are available on My Oracle Support.

- **Readme File:** Refer to the readme file for patches that you have installed to learn about new documentation or documentation patches that you can download.

Related User's Guides

Oracle Global Order Promising shares business and setup information with other Oracle E-Business Suite products. Therefore, you may want to refer to other user's guides when you set up and use Oracle Global Order Promising.

You can access other guides from the Oracle E-Business Suite Online Documentation Library CD included with your media pack.

Guides Related to All Products

Oracle E-Business Suite 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 Oracle Global Order Promising (and any other Oracle E-Business Suite 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.

User Guides Related to This Product

Oracle Advanced Supply Chain Planning Implementation and User's Guide

This guide describes how to use Oracle's planning solution for supply chain planning performance. This guide can be used as a reference when you are implementing Oracle Advanced Supply Chain Planning with Oracle Global Order Promising.

Oracle Advanced Planning Command Center User's Guide

Oracle Advanced Planning Command Center unifies all the Advanced Planning applications, such as Demand Management, Real-Time Sales and Operations Planning, Strategic Network Optimization, Advanced Supply Chain Planning, Distribution Requirements Planning, and Inventory Optimization. It provides a unified user interface and a single repository for all data. Its flexibility allows users to access data from external supply chain planning applications and make it available for reporting and analysis within a unified user interface based on Oracle Business Intelligence - Enterprise Edition (OBI-EE).

Oracle Collaborative Planning Implementation and User's Guide

This guide describes the information that you need to understand and use Oracle Collaborative Planning to communicate, plan, and optimize supply and demand information for trading partners across the supply chain.

Oracle Inventory Optimization User's Guide

This guide describes the comprehensive Internet-based inventory planning solution that enables you to determine when and where to hold your inventories across the supply chain to achieve the desired customer service levels.

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 Order Management User's Guide

This guide describes how to enter sales orders and returns, copy existing sales orders, schedule orders, release orders, create price lists, and discounts for orders, run processes, and create reports.

Oracle Workflow Guide

This guide explains how to define new workflow business processes as well as customize existing Oracle Applications-embedded workflow processes. You also use this guide to complete the setup steps necessary for any Oracle Applications product that includes workflow-enabled processes.

Installation and System Administration

Oracle E-Business Suite Concepts

This book is intended for all those planning to deploy Oracle E-Business Suite Release 12, or contemplating significant changes to a configuration. After describing the Oracle E-Business Suite architecture and technology stack, it focuses on strategic topics, giving a broad outline of the actions needed to achieve a particular goal, plus the installation and configuration choices that may be available.

Oracle E-Business Suite Installation Guide: Using Rapid Install

This book is intended for use by anyone who is responsible for installing or upgrading Oracle E-Business Suite. It provides instructions for running Rapid Install either to carry out a fresh installation of Oracle E-Business Suite Release 12, or as part of an upgrade from Release 11*i* to Release 12. The book also describes the steps needed to install the technology stack components only, for the special situations where this is applicable.

Oracle E-Business Suite System Administrator's Guide

This guide provides planning and reference information for the Oracle E-Business Suite System Administrator. It contains information on how to define security, customize menus and online help, and manage concurrent processing.

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 E-Business Suite User Interface Standards for Forms-Based Products

This guide contains the user interface (UI) standards followed by the Oracle E-Business Suite development staff. It describes the UI for the Oracle E-Business Suite products and how to apply this UI to the design of an application built by using Oracle Forms.

Other Implementation Documentation

Oracle E-Business Suite Upgrade Guide

Use this guide as a reference for upgrading an installation of Oracle applications. It provides a history of the changes to individual applications products between Release 11*i* and Release 12. It includes new features, enhancements, and changes made to database objects, profile options, and seed data for this interval.

Multiple Reporting Currencies in Oracle E-Business Suite

If you use the Multiple Reporting Currencies feature to record transactions in more than one currency, use this manual before implementing Oracle Global Order Promising. This manual details additional steps and setup considerations for implementing Oracle Global Order Promising with this feature.

Multiple Organizations in Oracle E-Business Suite

This guide describes how to set up and use Oracle Global Order Promising with Oracle E-Business Suite's' Multiple Organization support feature, so you can define and support different organization structures when running a single installation of Oracle Global Order Promising.

Oracle Workflow Administrator's Guide

This guide explains how to complete the setup steps necessary for any Oracle Applications product that includes workflow-enabled processes, as well as how to monitor the progress of runtime workflow processes.

Oracle Workflow Developer's Guide

This guide explains how to define new workflow business processes and customize existing Oracle Applications-embedded workflow processes. It also describes how to define and customize business events and event subscriptions.

Oracle Workflow User's Guide

This guide describes how Oracle Applications users can view and respond to workflow notifications and monitor the progress of their workflow processes.

Oracle E-Business Suite Flexfields Guide

This guide provides flexfields planning, setup and reference information for the Oracle Global Order Promising implementation team, as well as for users responsible for the ongoing maintenance of Oracle E-Business Suite product data. This manual also provides information on creating custom reports on flexfields data.

Training and Support

Training

Oracle offers a complete set of training courses to help you and your staff master Oracle Global Order Promising and reach full productivity quickly. These courses are organized 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 at any one of our many Education Centers, you can arrange for our trainers to teach at your facility, or you can use Oracle Learning Network (OLN), Oracle University's online education utility. 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 Oracle Global Order Promising 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 Oracle9i server, and your hardware and software environment.

Do Not Use Database Tools to Modify Oracle Applications Data

Oracle *STRONGLY RECOMMENDS* that you never use SQL*Plus, Oracle Data Browser, database triggers, or any other tool to modify Oracle Applications data unless otherwise instructed.

Oracle provides powerful tools you can use to create, store, change, retrieve, and maintain information in an Oracle database. But if you use Oracle tools such as SQL*Plus to modify Oracle Applications data, you risk destroying the integrity of your data and you lose the ability to audit changes to your 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.

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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 145 countries around the world.

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1

Oracle Global Order Promising

Overview

Available-To-Promise (ATP), Oracle Global Order Promising (GOP) provides an internet-based, sophisticated, and fast order promising tool that provides accurate and reliable delivery promises. Oracle Global Order Promising is a comprehensive order promising solution that determines, based on the current and projected demands and supplies across a supply chain and on an extended supply chain, when a customer order can be fulfilled. This functionality includes distributed global order promising and multi-level supply chain Available-To-Promise (ATP), Capable-To-Promise (CTP), and Capable-To-Deliver (CTD) capability.

Oracle Global Order Promising allows you to consolidate supply and demand information from multiple transaction systems to provide a consolidated global picture of supply and demand. It is accessible from multiple order entry systems or other order capture systems, such as call centers or Web stores. It is fully integrated with all of Oracle's Order Management and customer relationship management applications for capturing orders.

It can be deployed either as a component of a complete eBusiness suite implementation or on a separate server. This flexibility allows you to support any combination of standalone order promising configurations. This also ensures high availability and unequaled scalability. You can provide an extremely accurate statement of availability to all customers in your global supply chain.

Oracle Global Order Promising addresses the following key business issues:

- How can I promise the most accurate dates?
- How quickly can I respond to a customer request?
- How can I get availability information from anywhere?

Key Capabilities

Supply Chain ATP

Large global companies have many different manufacturing and distribution locations that can ship the same product to customers. In this environment with multiple supply locations, your customers or sales representatives must be able to easily and quickly identify which location has the appropriate product and select the best location. Oracle Global Order Promising determines the best location for you based on the product and order request date. Sourcing rules determine the acceptable choices, allowing you to maintain control over which orders get routed to which fulfillment locations.

Multi-Level Supply Chain ATP, CTP, and CTD

Oracle Global Order Promising calculates promise dates on the basis of both current on-hand supplies (ATP) and future demand versus supply. It checks for availability at multiple bills of material levels and at multiple supply chain locations, drilling down into resource and supplier capacities as necessary (CTP). Oracle Global Order Promising also considers intransit lead times in its calculations.

You can perform a multi-level component and resource availability check across your entire supply chain for the products requested. Using Oracle Global Order Promising, you control the organizations and suppliers to be included in the availability inquiry, and you control the number of levels in your supply chain bill to be considered in your check. At each level in the supply chain, you specify the key components and the bottleneck resources for which to check availability. The multi-level ATP functionality of Oracle Global Order Promising's considers transit lead time at each stage of your supply chain—from suppliers through internal facilities to customers, providing accurate and reliable delivery promises.

Allocated ATP

Allocated ATP allows you to allocate supply by sales channels or customers. You can protect your sales channels or customers from each other by ensuring that each one gets a specified portion of the supply. Depending on the situation, the allocation can be equal to the forecast of the sales channel or customer or to a portion of supply when supply is constrained.

ATP for Multi-Level Configurations

Oracle Global Order Promising supports Assemble-To-Order (ATO) environments. You designate optional items for an ATP check at any level of the configuration. This designation provides an accurate availability date for the end configuration. Oracle Global Order Promising integrates with Oracle Configurator to provide real-time availability information during product configuration.

Graphical Information for Your Planners

The result of a multi-level ATP is represented in a detailed pegging tree that shows you the component and resource availability at all levels across the supply chain. You can easily identify a material shortage or bottleneck resource. Further, you can look at the component or resource cumulative availability or at the supply and demand information for any time in the planning horizon.

Global Access

Oracle Global Order Promising is implemented as a PL/SQL package that is call-able from Web stores, order entry applications, such as Oracle Order Management, and from the menu structure of the Oracle Advanced Planning Suite.

Product Family ATP

In a customer-driven manufacturing environment, the exact demand of an end item may not always be possible to forecast. However, aggregate requirements may be possible to define and forecast at an aggregate level. Product Family ATP allows you to promise orders for a specific end item based on the supply statement at an aggregate (product family) level.

The member items within a product family usually require similar raw material and manufacturing process. Therefore, the end items can be interchanged within a product family. In such a scenario, if a demand is in the future and beyond the manufacturing lead time, you can use Combined Item-Product Family ATP to take advantage of aggregate supplies beyond a well-defined time period in the planning horizon.

Single Statement of Availability

You can consolidate data from multiple instances and different versions of Oracle Applications. Existing Oracle Application (Releases 10.7 and 11) customers need not upgrade other applications. Thus, multiple order entry systems can access a global statement of availability.

Scalability

Oracle Global Order Promising leverages the multi-threading capabilities of the Oracle database to provide support for multiple concurrent order promising requests.

Backward Compatibility

Using Oracle Global Order Promising, you consolidate availability information from multiple instances and different versions of Oracle applications. Oracle Global Order Promising is compatible with any supported version of Oracle Applications. Current Oracle customers implement Oracle Global Order Promising without upgrading their other Oracle applications.

Interface to Non-Oracle Applications

You can also include data from non-Oracle systems in your global statement of supply, demand, and availability. Interface tables allow you to collect data from non-Oracle applications. Non-Oracle application order entry or Web store systems communicate with Oracle Global Order Promising through application program interfaces (APIs).

Flexible Configuration

Oracle's Global Order Promising solution is flexible and configurable. You control the complexity of the availability inquiry, and you specify the list of potential sources to be considered in the availability check. You provide sourcing rules to specify the approved sources, and you assign these sourcing rules to products or customers. Sourcing rules allow you to control which products can be quoted to a customer from specific locations.

The system uses a flexible, hierarchical approach to assign sources. This hierarchical assignment allows you to employ sophisticated sourcing strategies with minimal data entry. Rules can be applied at several levels. For example, you can apply rules globally to entire organizations, to categories of products, or to individual stock-keeping units. More specific rules override more general rules, allowing you to apply default rules and maintain them on an exception basis, thus reducing the overhead necessary to maintain your global model.

24/7 ATP Support

Oracle Global Order Promising provides 24/7 ATP support that enables you to refer a plan for immediate delivery quotes for new orders even when the underlying supply chain plan is being refreshed. Automatic exceptions are generated for orders that are promised using the original plan but cannot be synchronized against the refreshed plan. You can also turn off ATP for a time period to speed up the switching process to the refreshed plan.

Oracle Global Order Promising also provides these flexibilities:

- Check availability for an item or a set of items across bills and across organizations.
- Control single level-level or multi-level availability check.
- Check availability at a the product family level, allowing more rapid response in mixed-mode production environments.
- Specify ship set or arrival set as constraints in the availability inquiry.
- Specify infinite time fence to limit the time that availability is constrained.
- Allow forward and backward consumption.

Integration with Other Oracle Applications

Oracle Global Order Promising is integrates with other Oracle applications, including:

- Oracle Order Management
- Oracle Configurator
- Oracle *i*Store
- Oracle Spares Management

Configuration

Oracle Global Order Promising supports the following configurations for implementation:

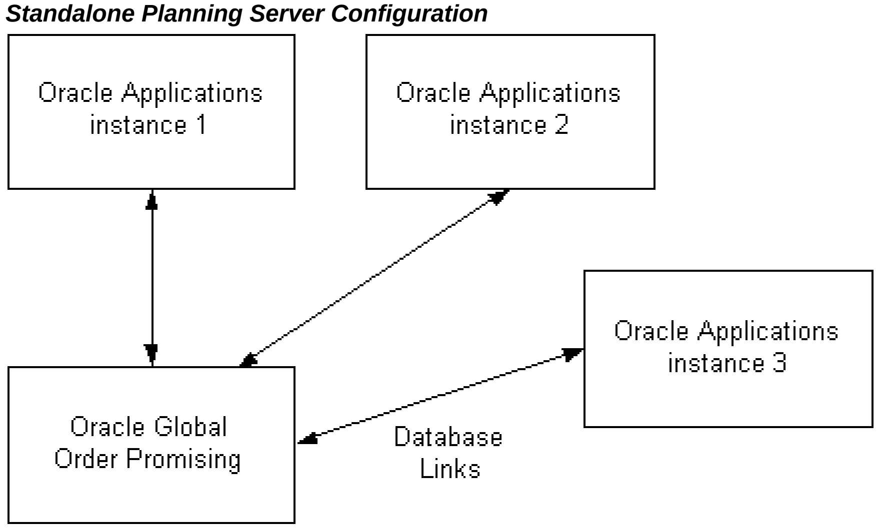
- Standalone Planning Server Configuration: Oracle Global Order Promising sits on a different instance from other enterprise resource planning (ERP) applications.
- Integrated Planning Server Configuration: Oracle Global Order Promising sits on the same instance as other enterprise resource planning applications.

Standalone Planning Server Configuration

In the Standalone Planning Server Configuration, supply and demand are pulled from the source instances to the Oracle Global Order Promising instance through database links.

The following figure shows the centralized order promising configuration:

Standalone Planning Server Configuration

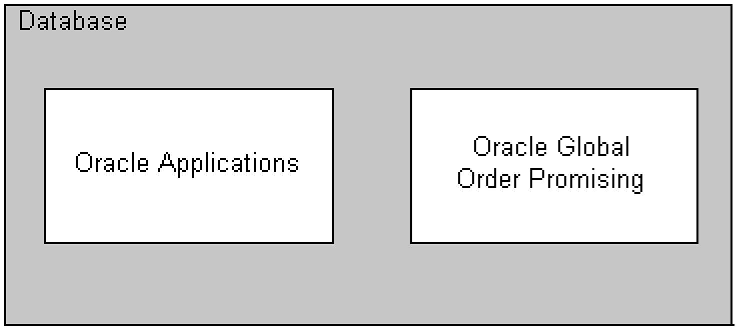


Integrated Planning Server Configuration

With the Integrated Planning Server Configuration, Oracle Global Order Promising and its source data reside in the same database. No database link is required in this case. The two components can communicate through the planning object application program interfaces (APIs) and the interface tables defined in Oracle applications.

The following figure shows the decentralized order promising configuration:

Integrated Planning Server Configuration



Deployment

Oracle Global Order Promising can be deployed in the following two ways:

- Without Oracle Advanced Supply Chain Planning (ASCP). Availability calculation is based on the collected supply and demand data from transactional systems. It is often referred to as **ATP Based on Collected Data**.

- With Oracle ASCP. Availability calculation is based on an ASCP plan output. It is often referred to as **ATP Based on Planning Output**. The advantage of this deployment is the ability to do CTP and CTD checks, as well as the ability to use advanced order promising capabilities, such as Allocated ATP and End Item Substitution.

> **Note:** When you deploy Oracle ASCP, you are not restricted in how you can deploy ATP. You can choose ATP Based on Collected Data or ATP Based on Planning Output. However, if you choose ATP Based on Collected Data, you can only use the capabilities that are enabled for that mode.

ATP Based on Collected Data

This deployment offers backwards compatibility to existing application users. Most of the 10.7 and R11 ATP capabilities are available in this deployment.

The major difference is the introduction of data collection. It is a process to pull transactional data into a repository for Oracle Global Order Promising.

For detailed setup instructions for this deployment method, seeATP Based on Collected Data Setup Flow, page 2-8 provides detailed setup instructions for this deployment method.

See Chapter 3, ATP Based on Collected Data, for an explanation of the capabilities supported by this deployment method. The main capabilities are:

- Basic ATP
- Single-Level Supply Chain ATP
- Product Family ATP
- Configuration ATP
- Demand Class ATP

ATP Based on Planning Output

The deployment of Oracle Advanced Supply Chain Planning provides a realistic supply picture that considers various constraints. Oracle Global Order Promising takes advantage of the output from an ASCP plan and promises delivery dates based on that. Additionally, a set of enhanced capabilities provide you with a better and more flexible order promising solution.

For detailed setup instructions for this deployment method, see ATP Based on Planning Output Setup Flow, page 2-20

See Chapters 4 and 5, ATP Based on Planning Output: Part I, and ATP Based on Planning Output: Part II, for an explanation of the capabilities supported by this deployment method. The main capabilities are:

- Basic ATP
- Multi-Level Supply Chain ATP
- Product Family ATP
- Configuration ATP
- Allocated ATP
- Demand Class ATP
- End Item Substitution

2

Setting Up

This chapter covers the following topics:

- System Setup
- Functional Setup for ATP Based on Collected Data
- Functional Setup for ATP Based on Planning Output

System Setup

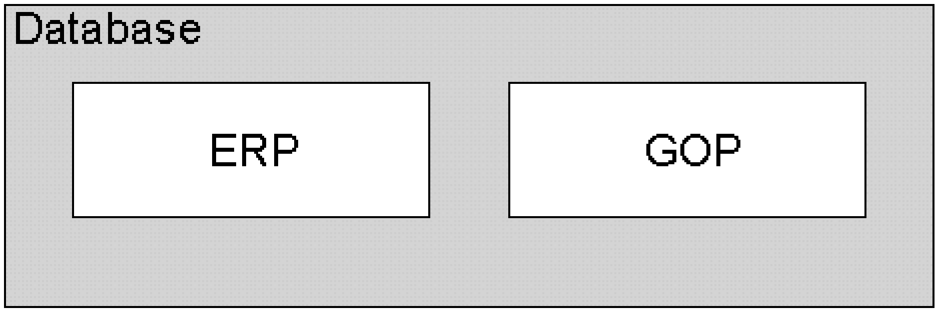
The following section explains the system and database preparation for Oracle Global Order Promising.

The Source instance refers to the database where other enterprise resource planning (ERP) applications, including Oracle Order Management, reside. The Destination instance refers to the database where Oracle Global Order Promising and Oracle Advanced Supply Chain Planning reside.

One Instance Setup

When Oracle Global Order Promising resides on the same instance as the other ERP applications, you must perform the following system setup steps:

One Instance Setup



1. **Install Patches:**

   Context: Perform this step only once.

   Required: Yes

   Install the Oracle Global Order Promising (or ATP) source and destination patches on the same instance. Also, apply the Data Collection patches. The patch numbers can be release-specific. You can find the patches on My Oracle Support.

   > **Note:** Before beginning the installation of the source patch, count all, if any, invalid database objects. If after the patch is installed, the number of invalid objects has increased, then a problem occurred with the patch application.

2. **Run Create APS Partitions Concurrent Program:**

   Context: Perform this step only once.

   Required: Yes

   Run Create APS Partitions concurrent program. This step is also part of Oracle Advanced Supply Chain Planning system setup. If you already performed this step as part of Oracle Advanced Supply Chain Planning setup, you do not need to repeat this step.

   > **Note:** This step is not needed unless the profile MSC: Share Plan Partitions is set to No.

3. **Run Create ATP Partitions Request**

   Context: Perform this step only once.

   Required: Yes

   Run Create ATP Partitions request. The profile MSC: Share Plan Partitions **must**be set to NO before this request is run.

4. **Run Create Global ATP Flexfields Concurrent Program:**

   Context: Run this program on the source instance only if you are on Release 10.7 or Release 11.

   Required: Yes

   The Create Global ATP Flexfields concurrent program creates new flexfield segments to hold ATP data at the item, bills of material, routing, and resource levels.

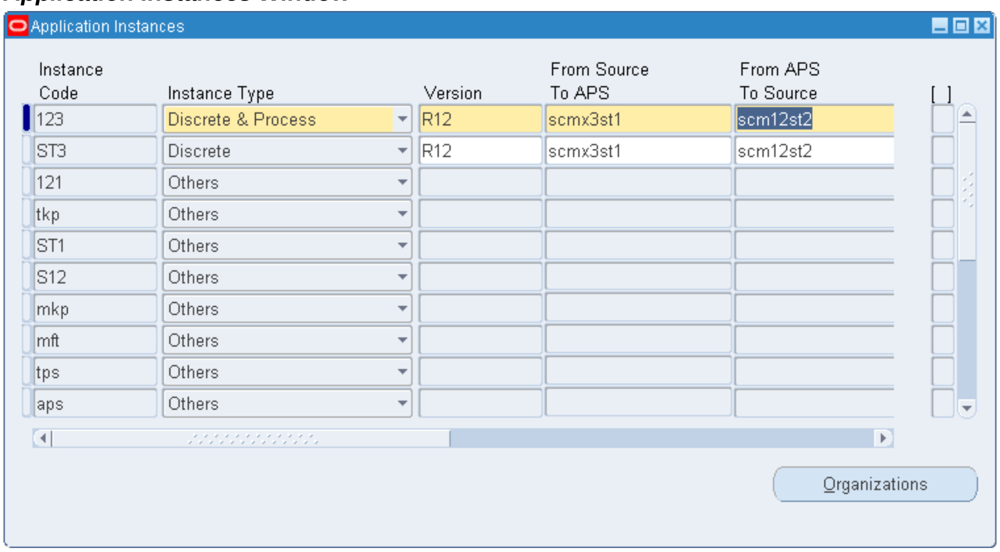
5. **Define Instance:**

   Context: Set up for each source instance.

   Required: Yes

   Under the Order Management User responsibility, go to Scheduling, ATP, and Scheduling Setup. Then, select Instances.

Application Instances Window



- **Instance Code:** This field contains a user-defined, three-character short form for the instance to be planned.

- **Instance Type:** This field contains the valid values, which are Discrete, Process, and Discrete and Process. This field controls whether discrete manufacturing data, process manufacturing data, or both are collected from the transaction instance to the destination instance for order promising.

- **Version:** This field contains the Oracle Application version of the transaction instance.

- **From Source to APS:** Leave this field blank.
- **From APS to Source:** Leave this field blank.
- **Enable Flag:** Select this option to enable the collection process.
- **GMT Difference:** Leave this field blank. It is for future use.
- **Assignment Set:** Enter the default assignment set for this instance. The system uses the assignment to resolve sourcing for order promising inquiries.

  Important: Category-level assignments are supported only if the category set indicated by MRP: Sourcing Rule Category Set and MSC: Sourcing Rule Category Set is controlled at the Master level and not at the Organization level.

  Note: This step is also part of the Oracle Advanced Supply Chain Planning system setup. If you already performed this step as part of the Oracle Advanced Supply Chain Planning setup, you do not need to repeat this step.

6. **Run Create ATP Partitions Concurrent Program:**

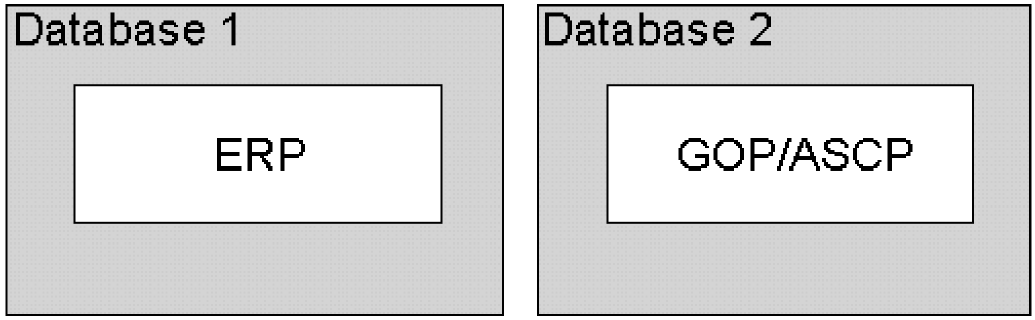
   Context: Run this concurrent program if you are if upgrading from a previous 11i release.

   Required: Yes.

Two Instances Setup

When Oracle Global Order Promising resides on two instances as the other ERP applications, you must perform the following system setup steps:

Two Instances Setup



1. **Install Patches:**

   Context: Perform this step only once.

   Required: Yes

   Step 1 Install Patches

   Install the Oracle Global Order Promising source patches on the source instance and the Oracle Global Order Promising destination patches on the destination instance. Also, apply the Data Collection patches. The patch numbers can be release specific. You can find the patches on My Oracle Support.

   > **Note:** Before beginning the installation of the source patch, count all, if any, invalid database objects. If after the patch is installed, the number of invalid objects has increased, then there a problem occurred with the patch application.

2. **Create Database Links:**

   Context: Perform this step only once.

   Required: Yes

   The database administrator must create two database links: one that points from the source database to the destination database and another that points from the destination database to the source database.

   If you want the source instance to be in the Real Application Clusters (RAC) environment, you must manually create the table MSC_APPS_INSTANCE_NODES with individual database links using sql. This table holds individual database links between the APS instance and each individual Real Application Clusters (RAC) node at the source instance. Load balancing is supported on the source only.

   The table structure for MSC_APPS_INSTANCE_NODES is:

Field Name	Null?	Type
INSTANCE_ID	NOT NULL	NUMBER
NODE_ID	NOT NULL	NUMBER
M2A_DBLINK	-	VARCHAR2(128)
LAST_UPDATE_DATE	-	DATE
LATS_UPDATED_BY	-	NUMBER
CREATION_DATE	-	DATE
CREATED_BY	-	NUMBER
LAST_UPDATE_LOGIN	-	NUMBER

3. **Run Create APS Partition Concurrent Program:**

   Context: Perform this step on the instance where Oracle Global Order Promising resides.

   Required: Yes

   Run the Create APS Partitions concurrent program. This step is also part of the Oracle Advanced Supply Chain Planning system setup. If you already performed this step as part of the Oracle Advanced Supply Chain Planning setup, you do not need to repeat this step.

   > **Note:** This step is not needed unless the profile MSC: Share Plan Partitions is set to No.

4. **Run Create Global ATP Flexfields Concurrent Program:**

   Context: Run this program on the source instance only if you are on Release 10.7 or Release 11.

   Required: Yes

   The Create Global ATP Flexfields concurrent program creates new flexfield segments to hold ATP data at the item, bills of material, routing, and resource levels.

5. **Define Instance:**

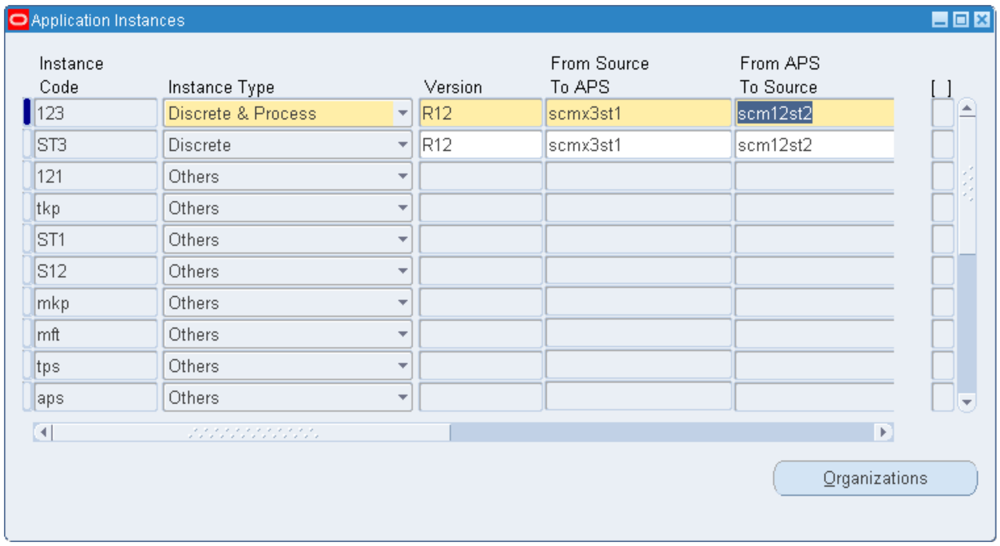
Context: Set up for each source instance. Perform the setup on the destination instance.

Required: Yes

Under the Oracle Advanced Supply Chain Planner responsibility, set up the Instances window.

> **Note:** This Instances window resides on the destination instance.

Application Instances Window



- **Instance Code:** This is a user-defined, three-character short form for the instance to be planned.

- **Instance Type:** Valid values are Discrete, Process, and Discrete and Process. This field controls whether discrete manufacturing data, or process manufacturing data, or both are collected from the transaction instance to the destination instance for order promising.

- **Version:** The Oracle Application version of the transaction instance.

- **From Source to APS:** The database link name that points from the source instance to the destination instance. Use the database link from the source instance to the destination instance, as defined by the DBA in Step 2.

- **From APS to Source:** The database link name that points from the destination instance to the source instance. Use the database link from the destination instance to the source instance, as defined by the DBA in Step 2.

- **Enable Flag:** Select this option to enable the collection process.
- **GMT Difference:** Leave this field blank. It is for future use.
- **Assignment Set:** Enter the default assignment set for this instance. The assignment is used to resolve sourcing for order promising inquiries. The value in this field will be used if none of the profiles are defined. This value is not mandatory and can also be set in the profile options MRP: ATP Assignment Set or MSC: ATP Assignment Set. See Appendix A for details.

> **Note:** This step is also part of the Oracle Advanced Supply Chain Planning system setup. If you have already performed this step as part of the Oracle Advanced Supply Chain Planning setup, you do not need to repeat this step.

6. **Run Create ATP Partitions Concurrent Program**

   Context: Run this concurrent program if you are if upgrading from a previous 11i release.

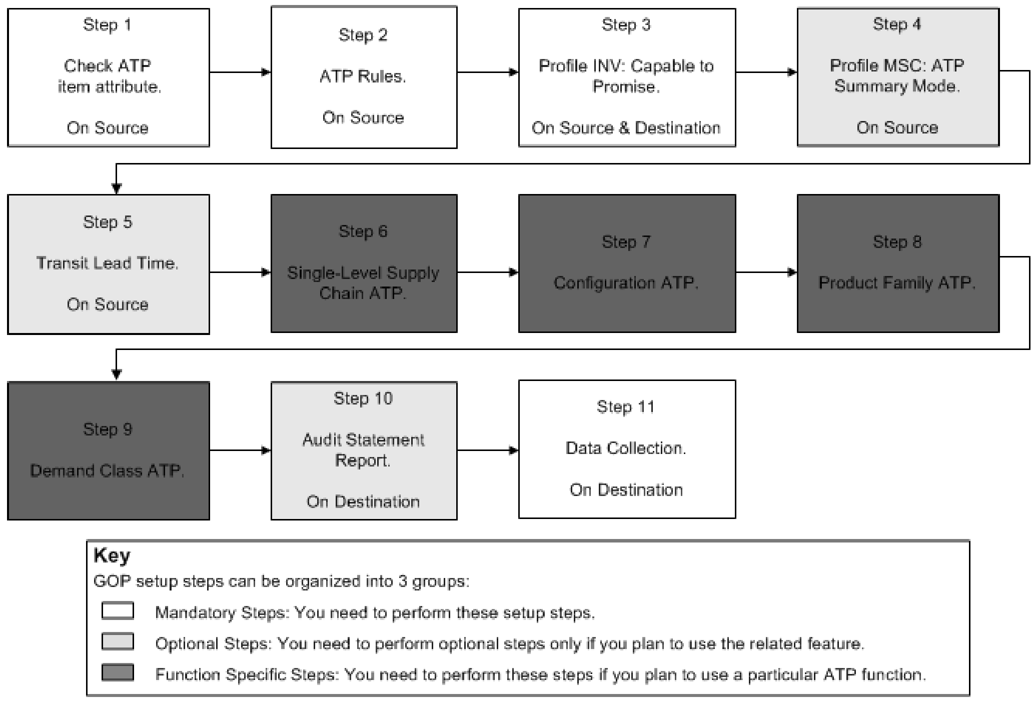
   Required: Yes.

Functional Setup for ATP Based on Collected Data

The following section explains the functional setup steps for ATP Based on Collected Data.

ATP Based on Collected Data Setup Flow

The diagram below provides a pictorial view of the ATP Based on Collected Data setup steps.



1. **Check ATP item attribute:**

   Context: Perform this step for every item.

   Required: Yes

   Oracle Global Order Promising (GOP) uses this flag to determine whether to use the supply of this item to promise demand. Set the Check ATP Flag item attribute to either:

   - Material only: Check material availability for this item at this level.
   - None: No need to check ATP at this level.

   The Material and Resource option and the Resource only option are not currently supported.

   For details on defining item attributes, see Defining Item Attributes in *Oracle Inventory User's Guide*.

2. **ATP Rules**

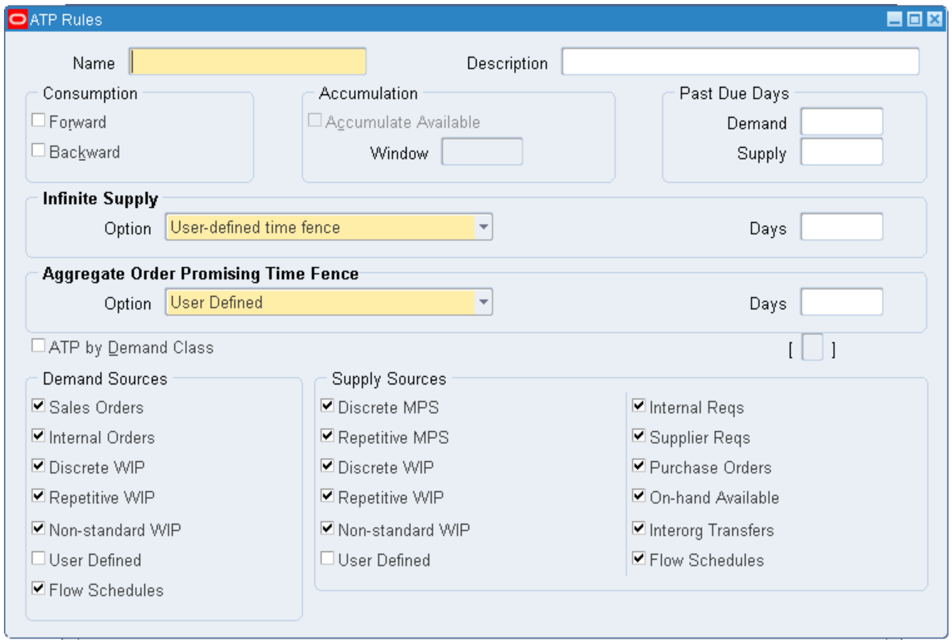
   Context: Every item that can be available to promise must have an ATP Rule assigned. An ATP Rule can be used for multiple items.

   Required: Yes

   You must define ATP Rules. An ATP Rule indicates the ATP options. Each ATP Rule is a combination of time fence options, supply sources, and demand sources to use during the ATP Inquiry.

To define an ATP Rule:

1. Navigate to the Rules section in Inventory setup, and find Available-To-Promise.



2. Enter a unique name and a description for the ATP Rule.

   - Oracle Global Order Promising always performs Backward Consumption, regardless of the setting.

   - Oracle Global Order Promising always performs Forward Consumption, regardless of the setting.

   - Oracle Global Order Promising always performs Accumulation, regardless of the setting.

3. You can use Past Due Supply and Demand Days fields to limit supply and demand using past due dates. Either enter the number of days to limit the past-due demand and supply or leave blank for the inclusion of all the past due supply and demand. When calculating the ATP quantity of an item, Oracle Global Order Promising does not consider any demand or supply source before these dates.

4. The Infinite Supply Time Fence specifies the end of your ATP horizon. ATP considers any demand that falls beyond this time fence as available. This value

appears in the ATP Details window as 10,000,000 available on the horizon date. The four options are:

- Cumulative total lead time: The total lead time of an assembly plus the largest adjusted cumulative total lead time of its components.
- Cumulative manufacturing lead time: The manufacturing lead time of an assembly. This value may also include and add to the previous lead time, the largest adjusted cumulative manufacturing lead time of its components. This condition only occurs for ATO items.
- Total lead time: The sum of the pre-processing, processing, and post-processing lead times of the item.
- Defining your demand classes enables Demand Class ATP.

  User-defined time fence: The lead time that you specify in the Days field.

5. The ATP by Demand Class indicates whether to calculate ATP based on defined demand classes. Demand classes allow you to segregate scheduled demand into user-defined groups. If you choose to calculate ATP based on defined demand classes, then the following Supply Source options are not available:

   - On-hand available
   - Inter-org transfers
   - Purchase orders
   - Internal and supplier requisitions

     Defining you demand classes enables Demand Class ATP.

     For details, see Demand Class ATP, page 3-31.

6. Select the Demand and Supply Sources to use in ATP calculations. When you use ATP based on the collected data, then supply and demand are specified in the ATP rules.

   The possible supply sources are:

   - Discrete Master Production Schedule (MPS)
   - Repetitive MPS
   - Discrete Work-In-Process (WIP)
   - Repetitive WIP

- Non-standard WIP
- Available QOH
- Internal requisitions
- Vendor requisitions
- Purchase orders
- Intransit shipments
- User-defined supply

  You control which sources are selected for consideration for the availability requests. You use the On-Hand Available check box to choose whether to include the available on-hand quantity as a source of supply. Typically, make-to-order and assemble-to-order manufacturing environments do not use the available on-hand quantity as a source of supply. Oracle Global Order Promising designates a supply period as beginning on a scheduled supply date and ending the day before the next scheduled supply date. A supply period covers several days or can be a minimum of one day in duration. If supply occurs on a non-work day, the ATP calculation considers that supply as belonging to the next work day. If multiple supply events occur on the same day, then the ATP process sums the supplies.

  The possible demand sources are:

- Sales orders
- Internal orders
- Discrete WIP demand
- Repetitive WIP demand

7. Save your work.

Example

The following example explains how Oracle Global Order Promising performs Backward Consumption, Forward Consumption, and Accumulation when calculating the quantities available to promise.

Assume supply and existing demand as follows:

	Day 1	Day 2	Day 3	Day 4
Supply	20	10	20	20
Demand	0	-35	0	-25

1. Calculate net availability for each bucket as follows: Net = Supply - Demand.

	Day 1	Day 2	Day 3	Day 4
Supply	20	10	20	20
Demand	0	-35	0	-25
Net	20	-25	20	-5

2. For each negative Net value, perform backward consumption and forward consumption until no negative values appear.

3. On Day 2, Net = –25. Consume backward. On Day 1, 20 are available to cover the partial shortage. Availability on Day 1 becomes 0.

	Day 1	Day 2	Day 3	Day 4
Supply	20	10	20	20
Demand	0	-35	0	-25
Net	20	-25	20	-5
Backward	0	-5	20	-5

4. After consuming the 20 units backward, supply is still 5 short on Day 2. Consume forward. On Day 3, 20 units are available to cover the shortage, - 5 on Day 2. Availability on Day 3 becomes 15.

	Day 1	Day 2	Day 3	Day 4
Supply	20	10	20	20
Demand	0	-35	0	-25
Net	20	-25	20	-5
Forward	0	0	15	-5

5. Day 2 no longer has a shortage. On Day 4, a shortage of 5 occurs. Consume backward. On Day 3, 15 are available to cover the shortage. Availability on Day 3 becomes 10.

	Day 1	Day 2	Day 3	Day 4
Supply	20	10	20	20
Demand	0	-35	0	-25
Net	20	-25	20	-5
Backward	0	0	10	0

6. Accumulate the above result starting from Day 1.

	Day 1	Day 2	Day 3	Day 4
Supply	20	10	20	20
Demand	0	-35	0	-25
Net	20	-25	20	-5
Cum	0	0	10	10

The cumulative quantity on each day is the quantity available to promise for that day.

3. **Profile INV: Capable to Promise**

   Context: Perform this step only once.

   Required: Yes

   When Oracle Global Order Promising is deployed without Oracle Advanced Supply Chain Planning, ATP is based on collected, transactional data. You set this profile to ATP Based on Collected Data.

4. **MSC: Enable ATP Summary Mode Profile**

   Context: Perform this step only once.

   Required: Optional

   Oracle Global Order Promising response times can be improved by means of a summary approach that stores summary supply and demand information.

   Set this profile to Yes to use the summary approach. You may only set this profile to Yes when Oracle Global Order Promising is on the same instance as other ERP applications.

   The summary process is accomplished through a concurrent program that is automatically launched through Data Collection. For a detailed explanation on ATP summary approach, see Improved ATP Performance, page 5-43.

5. **Transit Lead Time**

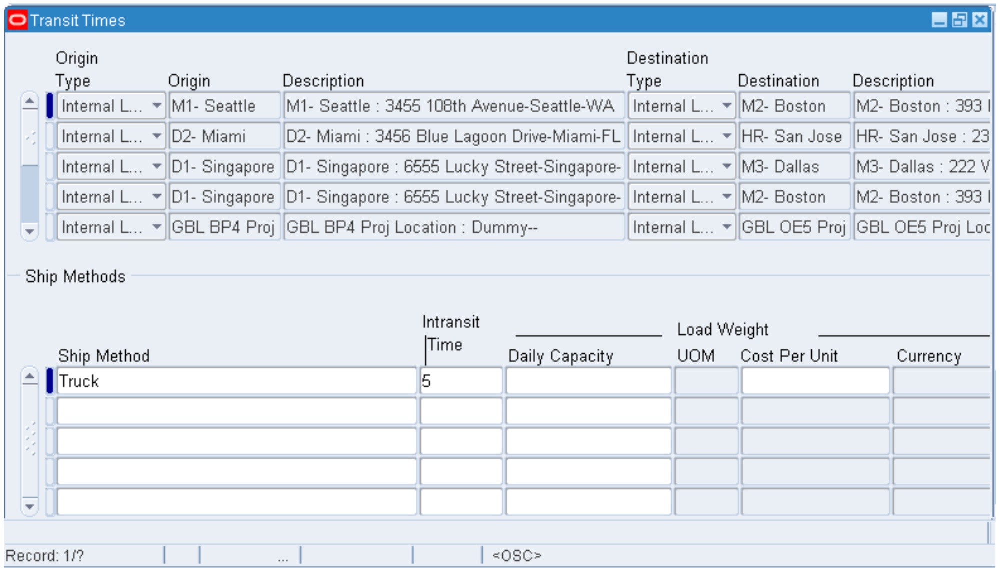
   Context: Ongoing maintenance.

   Required: Optional

   If a transit lead time exists between your shipping warehouse and your customer, then you must define the lead time for each shipping method using the Transit Times form in Oracle Shipping. You define your shipping network from most specific to least specific at the following levels:

   - Warehouse location to an internal location associated with a customer site.
   - Warehouse location to a region.
   - Warehouse location to a user-defined geographic area called zone.

Transit Times Window



You can also manage transit times using Advanced Development Framework (ADF) screens that employ a web-based look and feel as an alternative to Oracle Forms. See section Plan Input Links in chapter Supply Planning Work Area, *Oracle Advanced Supply Chain Planning Implementation and User's Guide*.

According to the a given shipping method on an ATP request, Oracle Global Order Promising searches for the shipping method in the three levels listed previously from the most specific to the least specific. If it finds the shipping method in a particular level, it use the lead time associated with the shipping method to calculate the scheduled arrival date for an order. If the shipping method is not specified at any level, Oracle Global Order Promising uses the default shipping method and its lead time in any level you define, from the most specific to the least specific.

For example, you define a shipping lane from your shipping organization to a specific customer location with a shipping method of GROUND, which has a lead time of 3 days. You also define a shipping lane from your shipping organization to a region, where the previous customer resides. This lane has GROUND as a valid shipping method and a lead time of 2 days. On a sales order to this customer using the GROUND shipping method, Oracle Global Order Promising uses 3 days for the transit lead time.

Before you set up transit times between locations, you should set up shipping methods and a default shipping location as the shipping organization. Optionally, you can set up an internal location and its association with the customer's ship-to address, regions and zones.

Note: In the Transit Time window, you can setup region-to-region lead time for a ship method. However, Global Order Promising only considers location-to-region transit lead time for a ship method to account for the transit lead time between a shipping organization and a customer's location.

For detailed setup instructions on Regions, Zones, and Transit Times, see Regions and Zones in *Oracle Shipping Execution User's Guide*.

6. **Single-Level Supply Chain ATP**

   Context: Perform this step when you want to use Single-Level Supply Chain ATP.

   Required: Function specific for Single-Level Supply Chain ATP.

   When multiple shipping organizations are available to fulfill customer orders, Oracle Global Order Promising recommends the desired shipping organization based on sourcing rules that you define.

   For detailed instructions, see Single-Level Supply Chain ATP, page 3-3.

7. **Configuration ATP**

   Context: Perform this step when you want to use Configuration ATP.

   Required: Function specific for Configuration ATP.

   Oracle Global Order Promising enables you to promise orders for items used in Configure-To-Order environments.

   For detailed instructions, see Configuration ATP, page 3-8.

8. **Product Family ATP**

   Context: Perform this step when you want to use Product Family ATP.

   Required: Function specific for Product Family ATP.

   Oracle Global Order Promising enables you to promise orders at the aggregate level based on product family item supply.

   For detailed instructions, see Product Family ATP, page 3-29.

9. **Demand Class ATP**

   Context: Perform this step when you want to use Demand Class ATP.

   Required: Function specific for Demand Class ATP.

   Oracle Global Order Promising lets you promise orders for a specific demand class based on a predetermined supply statement for the same demand class.

   For detailed instructions, see Demand Class ATP, page 3-31.

10. **Audit Statement Report**

    Context: Perform this step when you want to check for errors.

    Required: Optional, but strongly recommended.

    The Audit Statement Report concurrent program checks for common data setup errors that can lead to collection or plan failures or incorrect ATP results. You should run this program to validate the ATP setup before you initiate an ATP Inquiry.

    You may run the report for any of the following report areas:

    - Collections Setup: Typically, you choose this option when you want to diagnose problems in Collections.

      ATP Data Setup: Choose this option to report on ATP data setup.

    You can control the level of detail of the resulting audit report. The supported levels of detail are:

    - Summary.
    - Detailed - Errors Only
    - Detailed - Errors and Warnings
    - Detailed - Complete: Provides a complete listing of errors and warnings along with properly executed data setup

11. **Data Collection**

    Context: Ongoing

    Required: Yes

    Data Collection is a process that pulls data from source instances into an area called the Operational Data Store (ODS) in Oracle Global Order Promising. Oracle Global Order Promising uses the data in ODS for order promising. When the source data changes, you need to run collections to bring the changes into the ODS so that the ATP result reflects the changes. Source data includes items, ATP Rules, on-hand quantity, WIP jobs, and purchase orders.

    To run data collection without Oracle Advanced Supply Chain Planning, sign on using the Oracle Order Management responsibility, and select ATP Data Collection.

    Currently, the ATP Data Collection concurrent program contains only the following parameters:

    - Instance: The source instance for data collection.
    - Number of Workers: Number of processes that simultaneously pull transaction data.

- Timeout: Number of minutes before the collection errors out if it has not finished.
- Collection Type: Complete Refresh or Net Change Refresh. Note that Net Change Refresh is faster.
- Sales Orders: Complete Refresh or Net Change Refresh.

The following table describes the data that ATP Data Collection collects. It also indicates which data entity is supported by the Net Change Refresh mode. When you create a new data entity or update an existing data entity that is not supported by Net Change Refresh, you must run a compete refresh to obtain the new information.

Data Entity	Supported by Net Change Refresh
ATP Rules	No
Calendars	No
Demand Class	No
Items	Yes
Master Production Schedule	Yes
On Hand	Yes
Purchase Requisitions / Orders	Yes
Sales Orders	Yes
Sourcing Rules	No
Subinventories	No
Trading Partners (Customers)	No
Units of Measure	No
Work-In-Process	Yes

Functional Setup for ATP Based on Planning Output

This section explains the functional setup steps for using Oracle Global Order Promising with Oracle Advanced Supply Chain Planning. This functionality is also referred to as ATP (Available-To-Promise) Based on Planning Output.

ATP Based on Planning Output Setup Flow

1. **Check ATP and Component ATP item attributes**

   Context: Perform this step for every item.

   Required: Yes

   You can set the Check ATP item attribute to:

   - Material only: Check material availability for this item at this level. For a standard item for which you want to check availability, select this value.
   - None: No need to check ATP at this level.
   - Resource only: Not currently supported.
   - Material and Resource: Not currently supported.

   You can set the Component ATP item attribute to:

   - Material only: Check availability of the components in the bill for this item. If the item is sourced from a supplier, check for supplier capacity.
   - Resource only: Check availability of the resources required to assemble this item.
   - Material and Resource: Check availability of both the material and the resources required to assemble this item.
   - None: No need to check ATP for the components of this item.

   Oracle Global Order Promising does not use the Check ATP field on the bill of material. To check or not check the ATP of components, use the appropriate item attribute setting of Component ATP that matches your business need.

   You might not want to check ATP because:

   - A performance cost results when checking ATP at all levels of a bill of material when you are entering sales orders for manufactured and configured items.
   - The timing of component item use is not always essential, which it is for an item being sold.

- Checking ATP through a bill of material assumes that the manufacturing and supply processes use the same methodology for sourcing, but they do not.

See Multi-Level Supply Chain ATP, page 4-2 for an example of the item attribute setting.

2. **ATP Rule**

   Context: Every item that is available-to-promise must have an ATP Rule assigned. An ATP Rule can be used for multiple items.

   Required: Optional

   When Oracle Global Order Promising is based on Oracle Advanced Supply Chain Planning output, you only need to define the infinite supply time fence option in an ATP Rule.

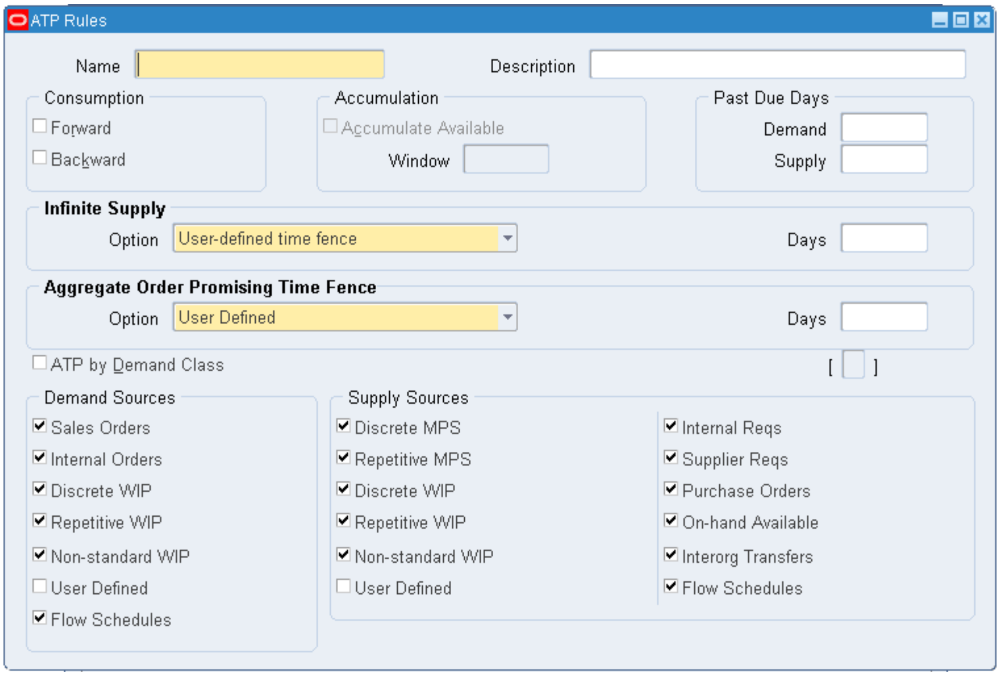
   If you do not associate an ATP Rule to an available-to-promise item, then Oracle Global Order Promising assumes that the infinite time fence is equal to the planning horizon.

   You must set up the ATP Rule for an available-to-promise resource either at the resource level or the organization level.

To define an ATP Rule:

Navigate to Inventory Setup and find Available-To-Promise Rules.

ATP Rules Window



1. Enter a unique name and description for the ATP Rule.

   - Oracle Global Order Promising always performs Backward Consumption, regardless of the setting.

     - Oracle Global Order Promising always performs Forward Consumption, regardless of the setting.

     - Oracle Global Order Promising always performs Accumulation, regardless of the setting.

2. Oracle Global Order Promising honors all the past due supply and demand quantities that are honored by the Oracle Advanced Supply Chain Planning plan. You do not need to specify a value here.

3. The Infinite Supply Time Fence specifies the end of your ATP horizon. ATP considers any demand that falls beyond this time fence as available. This value appears in the ATP Details window as 10,000,000 available on the horizon date. If you do not specify a value, Oracle Global Order Promising uses the plan horizon as the infinite time fence. The four options are:

   - Cumulative total lead time: The total lead time of an assembly plus the largest adjusted cumulative total lead time of its components.

- Cumulative manufacturing lead time: The manufacturing lead time of an assembly. It may also include and add to the previous lead time, the largest adjusted cumulative manufacturing lead time of its components. This functionality only occurs for ATO items.

- Total lead time: The sum of the pre-processing, processing, and post-processing lead times of the item.

- User-defined time fence: The lead time that you specify in the Days field.

4. ATP by Demand Class: Indicate whether to calculate ATP based on defined demand classes. Demand classes allow you to segregate scheduled demand into user-defined groups. If you choose to calculate ATP based on defined demand classes, then the following Supply Source options are not available:

   - On-hand available

   - Inter-org transfers

   - Purchase orders

   - Internal and supplier requisitions

   This is to enable Demand Class ATP.

   For Demand and Supply Sources: When you use ATP based on the planning output, Oracle Global Order Promising honors all of the supply and demand quantities in the Oracle Advanced Supply Chain Planning plan. You do not need to make a selection here.

5. Save your work.

Example

The following example explains how Oracle Global Order Promising performs Backward Consumption, Forward Consumption, and Accumulation when calculating ATP quantities.

Assume supply and demand as follows:

	Day 1	Day 2	Day 3	Day 4
Supply	20	10	20	20
Demand	0	–35	0	-25

Step 1: Calculate net availability for each bucket as follows. Net = Supply – Demand

	Day 1	Day 2	Day 3	Day 4
Supply	20	10	20	20
Demand	0	–35	0	–25
Net	20	–25	20	–5

Step 2: For each negative Net value, perform backward consumption and forward consumption until no negative values appear.

Step 2.1: On Day 2, Net = –25. Consume backward. On Day 1, 20 are available to cover a partial shortage. Availability on Day 1 becomes 0.

	Day 1	Day 2	Day 3	Day 4
Supply	20	10	20	20
Demand	0	–35	0	–25
Net	20	–25	20	–5
Backward	0	–5	20	–5

Step 2.2: After consuming the 20 units backward, Day 2 is still 5 short. Consume forward. On Day 3, 20 units are available to cover the shortage (–5). Availability on Day 3 becomes 15.

	Day 1	Day 2	Day 3	Day 4
Supply	20	10	20	20
Demand	0	–35	0	–25
Net	20	–25	20	–5
Forward	0	0	15	–5

Step 2.3: Day 2 no longer has a shortage. On Day 4, a shortage of 5 occurs. Consume

backward. On Day 3, 15 are available to cover the shortage. Availability on Day 3 becomes 10.

	Day 1	Day 2	Day 3	Day 4
Supply	20	10	20	20
Demand	0	–35	0	–25
Net	20	–25	20	–5
Backward	0	0	10	0

Step 3: Accumulate the above result starting from Day 1.

	Day 1	Day 2	Day 3	Day 4
Supply	20	10	20	20
Demand	0	–35	0	–25
Net	20	–25	20	–5
Cum	0	0	10	10

The cumulative quantity on each day is the quantity available to promise for that day.

3. **Profile INV: Capable to Promise**

   Context: Perform this step on the source and destination instances.

   Required: Yes

   Set this profile to ATP/CTP Based on Planning Data on both the source and destination instances.

4. **Profile MSC: Enable ATP Summary Mode**

   Context: Perform this step only once on the destination instance.

   Required: Optional

   Oracle Global Order Promising response times improve with a summary approach that stores summary supply and demand information. Set this profile to Yes to use the summary approach.

For a detailed explanation of ATP Summary approach, see Improved ATP Performance Based on Summarized Data, page 5-43.

5. **Transit Lead Time**

   Context: Ongoing maintenance

   Required: Optional

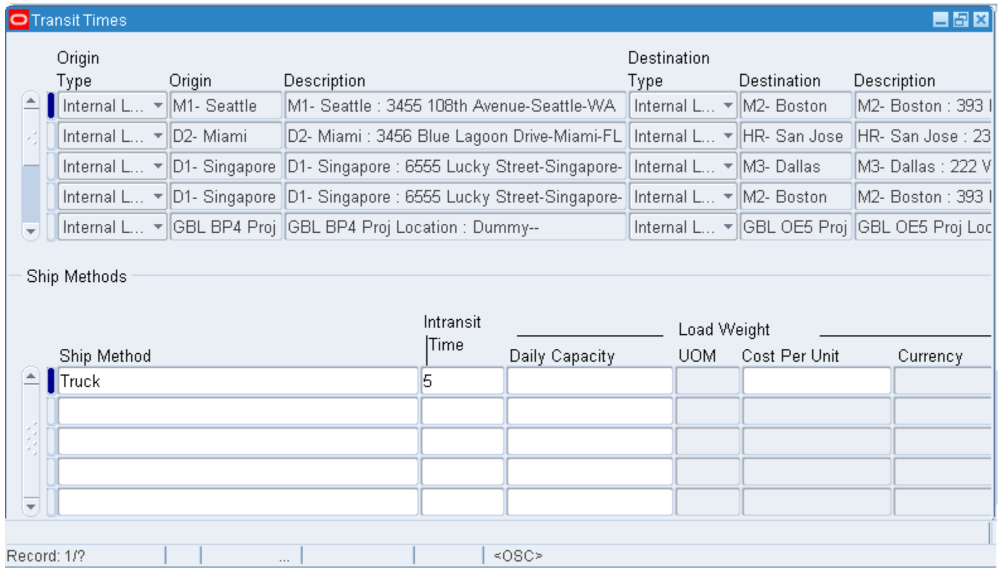
   If there is transit lead time between your shipping warehouse and customer, you need to define the lead time for each shipping method using the Transit Times form in Oracle Shipping. You define shipping lead times from the most specific to the least specific at the following levels:

   - Warehouse location to an internal location associated with a customer site
   - Warehouse location to a region
   - Warehouse location to a geographic area called zone

   If there is a transit lead time between the supplier and the receiving warehouse, you need to define the lead time for each shipping method at the following levels:

   - Region to warehouse location
   - Zone to warehouse location

Transit Times Window



Given a shipping method on an ATP request, Oracle Global Order Promising will search for the shipping method in the three levels listed previously from most specific to least specific. If it finds the shipping method in a particular level, it will use the lead time associated with the shipping method to calculate the scheduled arrival date for an order. If the specified shipping method is not specified at any level, Oracle Global Order Promising will use the default shipping method and its lead time in any level you define, from most specific to least specific.

For example, you define shipping lane from your shipping organization to a specific customer location with shipping method of GROUND that has a lead time of 3 days. You also define a shipping lane from your shipping organization to a region where the previous customer resides. This lane has GROUND as a valid shipping method, and a lead time of 2 days. On a sales order to this customer using GROUND shipping method, Oracle Global Order Promising uses 3 days for the transit lead time.

Before you set up transit times between the locations, you need to have set up shipping methods and a default shipping location as the shipping organization. Optionally, you can set up an internal location and its association with the customers ship-to address, regions and zones.

For detailed instructions, see Transit Times in *Oracle Shipping Execution User's Guide*.

6. **Multi-Level Supply Chain ATP**

   Context: Perform this step for Multi-Level Supply Chain ATP.

   Required: Optional

   Oracle Global Order Promising enables you to promise demand based on the sourcing rule you define for any number of shipping organizations. If the supply is not sufficient, Oracle Global Order Promising "explodes" the supply chain bills of material to find additional component and resource supplies to promise.

For detailed instructions, see Multi-Level Supply Chain ATP, page 4-2.

7. **Configuration ATP**

   Required: Function specific for Configuration ATP

   Oracle Global Order Promising enables you to promise orders for those items used in Configure-To-Order environments.

   For detailed instructions, see Configuration ATP, page 3-8.

8. **Product Family ATP**

   Required: Function specific for Product Family ATP

   Oracle Global Order Promising enables you to promise orders at aggregate level based on product family item supply.

   For detailed instructions, see Product Family ATP, page 3-29.

9. **Allocated ATP**

   Required: Function specific for Allocated ATP

   Oracle Global Order Promising lets you allocate scarce supply to different sales channels or customers, and promise orders based on allocated supply.

   For detailed instructions, see Allocated ATP, page 4-104.

   > **Note:** The Allocated ATP functionality includes allocation by demand priority. This functionality is a preferred alternative to using the Demand Class ATP functionality, which is also available for ATP Based on Planning Output.

10. **Audit Statement Report**

    Required: Optional, but strongly recommended

    The Audit Statement Report concurrent program checks for common data setup errors that may lead to collection or plan failures, or incorrect ATP results. You run this program to validate the ATP setup before you initiate an ATP inquiry.

    You can run the report for any of the following report areas:

    - Collections Setup: Typically, you choose this option when there are problems in Collections you want to diagnose.

    - ATP Data Setup: Select this option to report on ATP data setup.

You control the level of detail of the resulting audit report. The supported levels of detail are:

- Summary.
- Detailed - Errors Only.
- Detailed - Errors and Warnings.
- Detailed - Complete: provides a complete listing of errors and warnings along with properly executed data setups.

11. **Run Collections**

    Context: Ongoing

    Required: Yes

    Data Collection is a process that pulls data from source instances into an area called the Operational Data Store (ODS) in Oracle Global Order Promising and Oracle Advanced Supply Chain Planning. An ASCP plan is run based on the collected data. The output of an ASCP plan is used for order promising. It is typical that you run Collections before you rerun your ASCP plan.

    Also, you need to be logged on using the Advanced Supply Chain Planner responsibility.

    For more information on data collection, see Running Collections in *Oracle Advanced Planning and Scheduling Implementation and User's Guide*.

12. **ASCP Plan**

    Context: As needed

    Required: Yes

    You need to identify a particular plan for ATP by selecting the Check ATP flag in the plan definition window in Oracle Advanced Supply Chain Planning.

    For detailed instructions, see Setting Plan Options in *Oracle Advanced Planning and Scheduling Implementation and User's Guide.*

13. **Run Plan**

    Context: Ongoing

    Required: Yes

3

ATP Based on Collected Data

This chapter covers the following topics:

- Basic ATP
- Single-Level Supply Chain ATP
- Configuration ATP
- Product Family ATP
- Demand Class ATP
- Improved ATP Performance
- Asset Intensive Management
- Asset Intensive Management Solution Analysis

Basic ATP

Basic ATP allows you to perform an availability check based on a statement of current and planned material supply against a given organization. You perform ATP checks by specifying the item, the need-by date, and the ship-from value. The system returns results describing the need-by date quantity and the fulfillment date.

Business Application

Basic ATP allows you to receive detailed information about whether your availability check request can be met and on what date the request can be fulfilled. Based on statements of current and planned material supply, Basic ATP determines the availability of items.

You perform a Basic ATP check when you have only one ship-from location in your company or when you want to check availability in one inventory location.

Setup

After you perform the mandatory and optional setup steps explained in the Setting Up, page 2-1 chapter, then you may perform Basic ATP.

When you initiate ATP from another application, such as Oracle Order Management, you must specify a shipping organization. The calling application may have its own way to supply a default shipping organization. When Oracle Global Order Promising is called with a specific organization, it performs Basic ATP. Otherwise, it attempts to perform Single-Level Supply Chain ATP, which requires additional setup.

Refer to the calling application's user guide for further details on shipping organization specifications.

ATP Logic

ATP Logic in a Single Organization

1. If Check ATP is set to None, then no ATP check occurs.

   If the ATP item attribute is Material Only, then the system checks ATP for the item on the request date. If supply is available, then you are done. Otherwise, go to Step 2.

2. ATP fails to satisfy this request. From the sysdate, ATP performs forward scheduling for this request. ATP finds the earliest date that you can meet the shortage based on the supply in the ATP Rule. This value is the ATP date.

3. If the ATP Date is less than or equal to the Latest Acceptable Date, Oracle Global Order Promising returns a success. Otherwise, it returns a failure.

   Note: The Latest Acceptable Date is a date beyond the request date that the customer will accept the order. This date is determined by any calling application, and it is passed to Oracle Global Order Promising.

ATP Result

Oracle Global Order Promising returns detailed information and presents it in the ATP Details window. However, the calling application may decide to show only a subset of the information. For example, Oracle Order Management shows some of the ATP results, such as Warehouse, Request Date Quantity, Available Date, and Error Message, in its Availability window. It provides an ATP Details selection for you to drill down to the ATP Details window, where you can see detailed information.

For details on the ATP Details window, see ATP Inquiry, page 6-1.

Single-Level Supply Chain ATP

Single-Level Supply Chain Available-To-Promise (ATP) enables you to perform availability checks based on current and planned supply across multiple supply organizations. You rank the supply organizations so that ATP checks for availability in the order you want. Single-Level Supply Chain ATP automatically finds the best supply organization for your request. Oracle Global Order Promising also drills down to look at availability at every supply organization.

Business Application

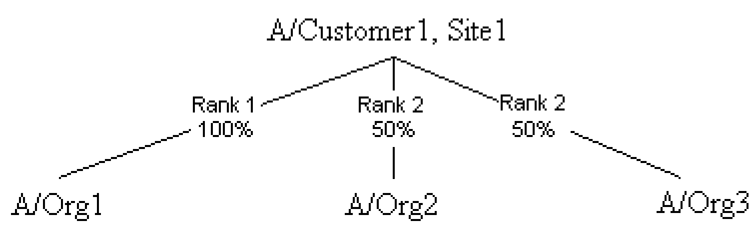
ATP for Multiple Supply Locations

If your enterprise has multiple distribution centers, then Oracle Global Order Promising determines the best location to fulfill a customer request. Alternatively, you can check ATP for all possible supply locations, drill down to ATP details, and select the desired location.

Any environment where multiple supply locations are used to fulfill order demand can benefit from this feature. As you utilize available inventory from other locations, you can successfully meet customers requirement and thus increase your company's overall order fill rate by utilizing inventories that might otherwise be excess.

For example, a company has three stores throughout the US. When a customer inquires about the availability of a particular product A, the company should first check the preferred store (Org1). If the product is not available at the preferred store, then the company should check the other stores (Org2 and Org3) to find the store that can meet the customer's requirement. Single-Level Supply Chain ATP helps the company accomplish this goal, as illustrated by the following diagram:

Single-Level Supply Chain ATP



Setup

Perform the mandatory and optional setup steps explained in the Setting Up, page 2-1 chapter. In addition, perform the following setup steps.

Sourcing Rule

You use sourcing rules to describe all of the possible shipping warehouses. The sourcing rule priority determines the order that Oracle Global Order Promising uses to search for supply. The receiving party can be a customer or an internal organization. You must use a sourcing rule that is not specific to an organization to define the movement of goods from shipping organizations to customers. The sourcing rule type must be Transfer From.

> **Note:** Oracle Global Order Promising does not currently support sourcing a customer sales order from a supplier, directly, in a drop-ship scenario.

For detailed setup instructions, see Sourcing Rules and Bills of Distribution in *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*.

You can manage sourcing rules and bills of distribution using Advanced Development Framework (ADF) screens that employ a web-based look and feel as an alternative to Oracle Forms. See section Plan Input Links in chapter Supply Planning Work Area, *Oracle Advanced Supply Chain Planning Implementation and User's Guide*.

Assignment Set

Once you define your sourcing rules, you assign them to particular items, organizations, and customers. These assignments are grouped together in assignment sets.

In an assignment set, you assign your sourcing rules at different levels, as follows:

- A single item in an organization for a customer site
- A category of items in an organization for a customer site
- An item across all organizations customer sites
- A category of items across all organizations customer sites
- All items in an organization for a customer site
- All organizations (global) customer sites

You create an assignment set at different levels based on your needs. If the receiving party is a customer, then assign the sourcing rule to this customer and its site. If you want a sourcing rule to be applicable to any customer or any items, then you assign the sourcing rule to global.

> **Important:** Category-level assignments are supported only if the

category set indicated by MRP: Sourcing Rule Category Set and MSC: Sourcing Rule Category Set is controlled at the Master level and not at the Organization level.

For detailed setup instructions, see Sourcing Rules and Bills of Distribution in *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User Guide*.

You can manage assignment sets using Advanced Development Framework (ADF) screens that employ a web-based look and feel as an alternative to Oracle Forms. See section Plan Input Links in chapter Supply Planning Work Area, *Oracle Advanced Supply Chain Planning Implementation and User's Guide*.

Profile MRP: ATP Assignment Set

When you perform Single-Level Supply Chain ATP from the source instance, this profile determines the assignment set ATP uses to determine the shipping organization for the receiving organization or customer. This profile should point to the assignment set discussed previously and be set up at the source instance.

Profile MSC: ATP Assignment Set

This profile points to an assignment set that contains the Sourcing Rule, which defines the movement of goods from shipping organizations to customers. This profile is set up at the destination instance. The profile MRP: ATP Assignment Set, defined at the source instance, takes precedence over the profile MSC: ATP Assignment Set.

ATP Logic

The system processes an ATP request in this order:

1. If the ranks are different, the organization with the highest rank is selected first. If the ranks are the same, the source that has the higher allocation percentage is selected first. If the allocation percentages are the same, the source is selected arbitrarily.

2. The availability of the item in the organization is checked.

    1. If the supply is sufficient, then the ATP Date equals the request date, and the ATP status equals success.

    2. If the supply is not sufficient, then forward schedule to find the earliest date that the shortage can be met. The ATP Date equals the earliest available date. If the date is less than or equal to the Latest Acceptable Date, then the ATP status equals success. Otherwise, the ATP status equals failure.

3. If the ATP status equals success, then return the ATP Date with a success status. Otherwise, go to Step 1 for the next ranked organization.

4. If there are no more organizations, then return the ATP Date and ATP status from the highest ranked organization.

    - The Latest Acceptable Date is determined by the calling application.

    - A request is only promised against one source.

ATP Result

When the ATP check is performed without a shipping organization, Oracle Global Order Promising automatically performs Single-Level Supply Chain ATP based on the sourcing rules defined in the assignment set pointed to by the profile MRP: ATP Assignment Set. It returns a shipping warehouse based on the logic described in ATP Logic, quantity available on request date, the available date, and other information. You obtain the detailed information from the ATP Details window.

From Oracle Order Management or Oracle Global Order Promising ATP Inquiry, users can select Global Availability to view availability information for each shipping organization.

For details about viewing availability information, see ATP Inquiry, page 6-1.

Example

The example guides you through some of the setup steps and shows you the Single-Level Supply Chain ATP result.

You have two supply organizations, M1 and M2; M1 is the preferred warehouse. For end item A, it is Make at M1, but it is Buy From supplier S1 at M2. This sourcing strategy is applicable to all customers.

You ship the product to customers using either the standard 3-day delivery or 1-day express.

For any demand, you want ATP to look at the two supply warehouses based on the current and planned supply.

Sourcing Rule

You set up a sourcing rule as shown in the following table:

> **Note:** You must select the All Org field on the Define Sourcing Rule form. For this example, the sourcing rule name is SR-A.

Type	Organization/Supplier	Percent	Rank
Transfer	M1	100	1
Transfer	M2	100	2

This sourcing rule is non-organization specific.

Assignment Set

In the assignment set, you make an item-level assignment by assigning sourcing rule SR-A to item A, as shown in the following table:

Assigned To (Type)	Item / Sourcing Rule
Item	A
SR	SR-A

Transit Times

You can set up different shipping methods and transit lead times from the shipping organization to a customer.

The following table shows the transit lead times from the shipping location to the region of the U.S.:

From	To	Shipping Method	Lead Time
M1-ShipLoc	USA (region)	Express	1 day
M1-ShipLoc	USA (region)	Standard	3 days
M2-ShipLoc	USA (region)	Express	1 day
M2-ShipLoc	USA (region)	Standard	3 days

Profile MRP: ATP Assignment Set

This profile points to the assignment set defined previously.

The cumulative ATP quantity for each warehouse is shown in the following table:

Organization	Day 10	Day 11	Day 12	Day 13
M1	80	85	90	100
M2	90	95	100	105

The ATP request information is:

- Order Quantity = 100
- Request Arrival Date = Day 11
- Customer = ABC
- Address = 1234 Evergreen Lane, California, CA 96666, USA
- Shipping Method = Express
- Latest Schedule Limit = 2 days

Oracle Global Order Promising performs the following procedures:

1. Single-Level Supply Chain ATP first looks at M1. Since the shipping lead time is 1 day, the quantity must be available on Day 10. However, it is not available.
2. Because the latest schedule limit for this customer is 2 days, Single-Level Supply Chain ATP looks forward to Day 11 and Day 12. M1 is still not available.
3. Single-Level Supply Chain ATP now looks at M2. It is available on Day 12.
4. Based on this search, Single-Level Supply Chain ATP returns M2 as the warehouse for the request with the availability date of Day 12.

Note: You must provide a shipping warehouse for the ATO Model, PTO Model, and ATO Item. Currently, Oracle Global Order Promising does not recommend sourcing for these items.

Configuration ATP

A Configure-To-Order (CTO) environment is one in which a product or service is assembled or kitted on receipt of the sales order. This section provides a detailed explanation of order promising on items used in a CTO environment.

Oracle Global Order Promising supports a CTO environment. You designate the optional and included items for the ATP Check, thus providing an accurate availability date for the end configuration.

Business Application

In a CTO environment, it is not possible or practical to project and plan for every possible configuration. Inventory is planned and held at component level. To accurately promise a customer order, you must check availability based on the options actually selected. Oracle Global Order Promising lets you promise a sales order for configuration based on the selected options.

Items Used in CTO Environment

The following items may be used in a CTO environment:

- ATO Model
- PTO Model
- ATO Item
- Kit (PTO Item)

For detailed feature descriptions, see *Oracle Configure-To-Order Implementation Guide*.

Examples

ATO Model

Level	Item	Bill of Material (BOM) Item Type	Mutually Exclusive	Optional	Assemble-To-Order
0	Laptop X11	ATO Model	-	-	Yes
1	- Base System	Standard	No	No	No
2	- - Board	Standard	No	No	No
2	- - Network Card	Standard	No	No	No
2	- - Graphics Card	Standard	No	No	No
1	- Processor Class	Option Class	Yes	No	Yes

Level	Item	Bill of Material (BOM) Item Type	Mutually Exclusive	Optional	Assemble-To-Order
2	- - Mobile Pentium®4 2.2 GHz	Standard	No	Yes	No
2	- - Mobile Pentium®4 2.0 GHz	Standard	No	Yes	No
2	- - Mobile Pentium®4 1.8 GHz	Standard	No	Yes	No
2	- - Mobile Pentium®4 1.7 GHz	Standard	No	Yes	No
1	- Memory Class	Option Class	Yes	No	Yes
2	- - 256 MB	Standard	No	Yes	No
2	- - 512 MB	Standard	No	Yes	No
2	- - 640 MB	Standard	No	Yes	No
1	- Monitor Class	Option Class	Yes	No	Yes
2	- - 17in Flat Screen	Standard	No	Yes	No
2	- - 19in Flat Screen	Standard	No	Yes	No
1	- Modular Drive Class	Option Class	No	No	Yes
2	- - 24X CD-ROM	Standard	N/A	Yes	No
2	- - 8X Max DVD ROM	Standard	N/A	Yes	No

Level	Item	Bill of Material (BOM) Item Type	Mutually Exclusive	Optional	Assemble-To-Order
2	- - 24X CD-RW	Standard	N/A	Yes	No
2	- - 24X CD-RW/DVD Combo	Standard	N/A	Yes	No

PTO Model

Level	Item	BOM Item Type	Mutually Exclusive	Optional	Pick Components
0	Laptop X11 Deluxe	PTO Model	-	-	Yes
1	- Laptop X11	ATO Model	No	No	No
1	- External Mouse	Option Class	No	Yes	No
2	- - Logitech Optical Mouse	Standard	No	Yes	No
2	- - COMPAQ Mouse	Standard	No	Yes	No
1	- Wireless Networking Card	Option Class	No	Yes	Yes
2	- - External TrueMobile 1150 PC Card	Standard	No	Yes	No
2	- - Internal TrueMobile 1150 miniPCI Card	Standard	No	Yes	No
1	- Laptop Case	Standard	No	No	No

Level	Item	BOM Item Type	Mutually Exclusive	Optional	Pick Components
1	- External Speaker	Option Class	No	Yes	Yes
2	- - Premium Speaker	Standard	No	No	No
2	- - Speaker Manual	Standard	No	No	No

ATO Item

Level	Item	BOM Item Type	Mutually Exclusive	Optional	Assemble-To-Order
0	Laptop X11-1	Standard	-	-	Yes
1	- Base System	Standard	N/A	No	No
1	- Mobile Pentium®4 2.2 GHz	Standard	N/A	No	No
1	- 512 MB	Standard	N/A	No	No
1	- 17in Flat Screen	Standard	N/A	No	No
1	- 24X CD-RW/DVD Combo	Standard	N/A	No	No

Kit

Level	Item	BOM Item Type	Mutually Exclusive	Optional	Pick Components
0	External Speaker	Standard	No	-	Yes

Level	Item	BOM Item Type	Mutually Exclusive	Optional	Pick Components
1	- Premium Speaker	Standard	No	No	No
1	- Speaker Manual	Standard	No	No	No

Configuration ATP Based on Collected Data

Oracle Global Order Promising lets you check availability for an ATO Model, PTO Model, ATO Item, and Kit. The following section explains the setup needed to perform availability checks for such items, as well as the data that is passed from front-end applications to Oracle Global Order Promising.

ATO Model

You use front-end applications such as Oracle Order Management and Oracle Configurator to configure an ATO Model. The ATO Model, selected option classes, and selected option items are passed to Oracle Global Order Promising for ATP check.

Setup

ATP Item Attributes and Component ATP Flag

To perform availability and lead time check for an ATO Model and its components:

When the availability for the ATO Model depends on the availability of the included items and optional items, you should set up the Check ATP item attribute according to the following table:

Item Type	Check ATP	Component ATP
ATO Model	None	Material
Option Class	None	Material
Mandatory Component	Material or None	None
Optional Item	Material or None	None

Oracle Global Order Promising checks the availability of the included and selected optional items on a date that is offset from the ATO Model request date by the

Fixed Lead Time + Request Quantity * Variable Lead Time

of the ATO Model. Oracle Global Order Promising returns a Ship Date that is either the request date or a later date, if any available to promise items are not available.

To perform lead time check for an ATO Model:

Setup the ATP flag and the ATP Component flag as follows:

Item Type	ATP Flag	ATP Component Flag
ATO Model	None	None

Set the profile MSC: ATP Enforces Lead Time for ATO Models to Yes.

> **Note:** If you set both the ATP flag and ATP Component flag to None and the profile MSC: ATP Enforces Lead Time for ATO Models to No, then Oracle Global Order Promising does not perform the availability and lead time checks for the ATO Model.

- If you have Multi-Level or Multi-Org ATO Models, you need to deploy Oracle Advance Supply Chain Planning to accurately promise such orders through the use of the Multi-Level ATP or Multi-Level CTP functionalities and sourcing capabilities. For configuration details for ATP based on planning output, see Configuration ATP.
- An ATO Model is similar a product family, therefore, you should not define an ATO Model under a product family.

ATP Logic

Match to Existing Configuration

Oracle Global Order Promising does not attempt to match a new sales order to an existing configuration. Oracle Global Order Promising is based on the availability of the options and mandatory items. Once the order is scheduled and booked, you use the Match and Reserve capability from Oracle Order Management to match to an existing configuration with supply.

> **Note:** If you implement Oracle Advanced Supply Chain Planning and perform ATP based on future planning, Oracle Global Order Promising will match an existing configuration for a new sales order and net supply and demand based on the configuration item supply and demand. For details, see Match to Existing Configuration.

Reschedule Order

When a sales order line is rescheduled, Oracle Global Order Promising first cancels the original order lines and then reschedules the order based on the availability of the ATP optional item and standard mandatory item availability. If a supply of the configuration item exists and it is available earlier, then Oracle Global Order Promising will not use it.

Option Specific Sourcing

A model-option combination may not always be produced at a specific source. Restrictions may be associated with specific options, like equipment limitations, and engineering qualifications. If a model requires a specific option, you can predefine that it will be sourced from a reduced set of sources. Oracle CTO enables you to specify a sub-set of the model sources as valid sources for a model-option combination. Oracle Global Order Promising honors this setup and schedules a date for a configuration, based on the sub-set of the model sourcing that is valid for the specific configuration. The configuration BOM is created only in the reduced set of sources only.

> **Note:** Oracle CTO may create a configuration item in an organization that is not on the list of valid organizations based on the Option Specific Sourcing rule. When you perform an ATP inquiry for such an item using applications such as Oracle Order Management, Oracle CTO validates the item-organization combination and flags such an error. However, this validation is not available on the destination instance. You should provide a valid organization while performing an ATP inquiry for such an item.
>
> For more details on creating configuration item, see *Oracle Configure-To-Order Implementation Guide*.

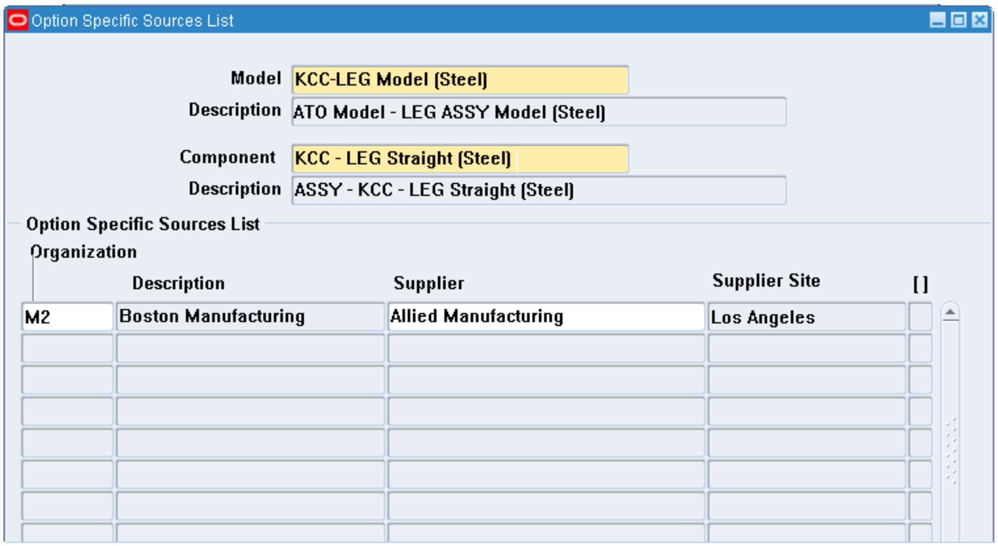
For details on how option-specific sourcing is used, see Example.

To define option-specific sourcing:

1. In the Navigator, select Advanced Planning > Source Instance Setups > Sourcing > CTO Option Specific Sourcing List.

   The Option Specific Sourcing List window appears.

Option Specific Sourcing List Window



2. Define valid sources for each model-option configuration.

Oracle Global Order Promising uses the option-specific sources list to restrict available sources when promising the ATO Model.

- Option-specific sources on a child model restrict the available sources of its parent model.
- Oracle CTO
- Creates the BOM and routing for the configured item only at the subset of organizations required by the option-specific sources setup.
- Creates new sourcing rules and assignments for the option specific sources model and its parent models.

For details on how to setup configuration creation based on option-specific sourcing, see *Oracle Configure-To-Order User Guide.*

To set the item attribute to Based to Model:

1. In the Navigator, select Items > Organizations > Master Item.

   The Master Items window appears.

2. Set Create Configured Item, BOM to Based on Model.

For details on setting item attributes, see *Oracle Configure-To-Order User Guide*.

Global Availability

If an ATO Model can be sourced from multiple shipping warehouses, then Oracle Global Order Promising recommends a shipping warehouse based on the availability in each warehouse.

For details about setting up sourcing rules for shipping warehouses, see Single-Level Supply Chain ATP, page 3-3 or Multi-Level Supply Chain ATP, page 4-2.

For details about viewing availability information, see ATP Inquiry, page 6-1.

Infinite Time Fence

Oracle Global Order Promising honors the infinite time fence for an ATO Model. The model must have either the Check ATP attribute or the Component ATP attribute enabled, or both attributes enabled.

Consistent Interface to All Calling Applications

Any application that attempts to interface with Oracle Global Order Promising for ATO or PTO must send the model and selected options to Oracle Global Order Promising. Oracle Global Order Promising then does the following:

- For the ATO Model, it derives the standard mandatory components
- For the PTO Model, the calling application either has Oracle Global Order Promising derive the included items or it passes the included items to Oracle Global Order Promising.

Examples

ATO Model

Consider the ATO Model from Example 1. For a particular order, assume that some options are selected. The ATP item attributes for these items are shown in this table:

Level	Item	Check ATP	Component ATP
0	Laptop X11	-	Material Only
1	- Base System	Material	Material Only
1	- Processor Class	-	Material Only
2	- - Mobile Pentium®4 2.2 GHz	Material	None

Level	Item	Check ATP	Component ATP
1	- Memory Class	-	Material Only
2	- - 256 MB	-	None
1	- Monitor Class	-	Material Only
2	- - 19in Flat Screen	-	None
1	- Modular Drive Class	-	Material Only
2	- - 24X CD-RW/ DVD Combo	Material	None

The cumulative availability picture for the items that have the Check ATP attribute set is described as follows:

Item	Day 1	Day 2	Day 3
Base System	0	10	10
Mobile Pentium®4 2.2 GHz	10	20	30
24X CD-RW/DVD Combo	0	10	10

Lead time setup for Laptop X11:

- Fixed lead time = 0
- Variable lead time = 0.05 day

A sales order for this configuration for a quantity of 10 on Day 2 can be promised on Day 3.

An ATP inquiry for this order will show the following result in the ATP Detail window:

Item	Matched Configuration	Organization	Request Date Quantity	Ship Date	Days Late
Laptop X11	-	SG	0	Day 3	1
Base System	-	SG	0	Day 3	1
Processor Class	-	SG	0	Day 3	0
Mobile Pentium®4 2.2 GHz	-	SG	0	Day 3	0
Memory Class	-	SG	0	Day 3	0
256 MB	-	SG	0	Day 3	0
Monitor Class	-	SG	0	Day 3	0
19in Flat Screen	-	SG	0	Day 3	0
Modular CD/DVD Drive	-	SG	0	Day 3	0
24X CD-RW/DVD Combo	-	SG	0	Day 3	1

The Org field only shows the shipping organization for the top ATO Model.

ATP Pegging for the item Base System shows the following result:

(D) Laptop X11- Org Qty 10 on Day 2

(S) Laptop X11- Make Org Qty 10 on Day 3

(D) Base System- Org Qty 10 on Day 1

(S) Base System- ATP Org Qty 0 on Day 1

(S) Base System- ATP Org Qty 10 on Day 2

(D) Mobile Pentium 4.22 GHZ - Org Qty 10 on Day 1

(S) Mobile Pentium 4.22 GHZ - ATP Org Qty 10 on Day 1

(D) 24X CD-RW/DVD Combo - Org Qty 10 on Day 1

(S) 24X CD-RW/DVD Combo - ATP Org Qty 0 on Day 1

(S) 24X CD-RW/DVD Combo - ATP Org Qty 10 on Day 2

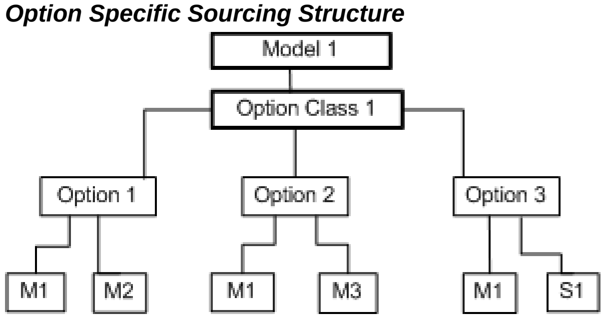
Explanation:

- In pegging, different graphical icons are used for supply and demand. In the above representation, the icons are represented by (S) and (D, respectively.
- Option classes appear on the same level as components. They are treated as phantom items.
- The demand pegging line for the components of an ATO model reflects the lead time offset of the Model. The lead time for 10 units of the model = round (0 + 0.05 * 10) = 1 day.
- The Base System and 24X CD-RW/DVD Combo are not available on Day 1.
- All components are available on Day 2. It takes 1 day to produce the configuration. Therefore, the configuration is only available on Day 3.

Option Specific Sourcing

Model 1 has three options: Option 1, Option 2 and Option 3.

Option Specific Sourcing Structure



M1, M2, and M3 denote the manufacturing organization. S1 denotes a supplier.

- If an order for Model 1 only has Option 1, then the valid sources would be M1 and M2.
- If an order for Model 1 only has Option 2, then the valid sources would be M1 and M3.
- If an order for Model 1 only has Option 3, then the valid sources would be M1 and S1.
- If an order for Model 1 has option 1 and Option 2, then the only valid source would be M1.

- If the new item creation attribute is set to Based on Model, then the item is created in M1 and the Order Management validation organization.
- The bill of material and routing is created in M1 only.
- New sourcing is created and assigned to the configuration item.
- If no valid source is found based on the options selected and the option-specific sourcing setup, then Global Order Promising will provide an order but will not be able to schedule the sales order.

PTO Model

You use a front-end application, such as Oracle Order Management and Oracle Configurator, to configure a Pick-To-Order (PTO) Model. When the PTO Model has Ship Model Complete selected, Oracle Order Management groups the PTO Model and the selected option classes with items and optional items into a set for the ATP check. Otherwise, Oracle Order Management treats each PTO line, including items and selected options, independently for the availability check.

Setup

ATP Item Attributes

Set the Check ATP item attribute as follows:

Item Type	Check ATP	Component ATP
PTO Model	None	Material Only
Option Class	None	Material Only
Included Item	Material or None	None
Optional Item	Material or None	None

Examples

PTO Model with Ship Model Complete Set to Yes

For a particular order with a PTO Model, assume that some options are selected. The ATP item attributes for these items are shown in this table:

Level	Item	Check ATP	Component ATP	Ship Model Complete
0	Laptop X11 Deluxe	-	Material Only	Yes
1	- Laptop X11	-	Material Only	-
1	- External Mouse	-	Material Only	-
2	- - Logitech Optical Mouse	Material	None	-
1	- Laptop Case	Material	Material Only	-

The cumulative availability picture for the items that have the Check ATP item attribute set is described as follows:

Item	Day 1	Day 2	Day 3
Logitech Optical Mouse	0	0	20
Laptop Case	10	20	30

For the availability of Laptop X11 and its components, see: Example, page 3-21.

A sales order demand of the above configuration for a quantity of 10 with a request date of Day 2 can be promised on Day 3.

An ATP inquiry for this order will show the following result in the ATP Detail window:

Item	Matched Configuration	Request Date Qty	Ship Date	Days Late
Laptop X11 Deluxe	-	10	Day 3	1
Laptop X11	-	0	Day 3	0
External Mouse	-	10	Day 3	0
Logitech Optical Mouse	-	0	Day 3	1

Item	Matched Configuration	Request Date Qty	Ship Date	Days Late
Laptop Case	-	20	Day 3	0

Explanation:

- Oracle Global Order Promising checks the availability of optional items as well as included items for ATP.
- The Logitech Optical Mouse is not available when the request date is = Day 2.
- The PTO model can be shipped on Day 3.
- The optional items of the ATO model Laptop X11 will show up in the ATP Details window. They do not appear here.

PTO Model with Ship Model Complete Set to No

Assume the same scenario as the previous example, except the PTO Model has Ship Model Complete set to No. In this case, each individual lines can be shipped on the Ship Date.

An ATP inquiry for this order will show the following result in the ATP Detail window:

Item	Matched Configuration	Request Date Qty	Ship Date	Days Late
Laptop X11 Deluxe	-	10	Day 2	0
Laptop X11	-	0	Day 2	0
External Mouse	-	10	Day 2	0
Logitech Optical Mouse	-	0	Day 3	1
Laptop Case	-	20	Day 2	0

ATO Item

When an order is created in Oracle Order Management for an ATO Item, Oracle Order Management constructs a set of items to be passed to Oracle Global Order Promising for availability check based on the ATP item attributes setting.

Setup

ATP Item Attributes

Oracle Global Order Promising supports the following ATP item attributes setting for an ATO Item:

1. The ATO Item is forecasted and planned. A statement of supply exists for the ATO Item. Order promising for the ATO Item is based on the supply for the ATO Item. In this case, from the order promising perspective, the ATO Item is similar to a standard item. The significance of the ATO is on the transactional side. You should only enable Check ATP for the ATO Item.

Item Type	Check ATP	Component ATP
ATO Item (Standard)	Yes	None
Components (Standard)	None	None

2. Oracle Global Order Promising returns a Ship Date that is either the request date or a later date if the ATO Item is not available.

3. The ATO Item is created for a commonly ordered configuration; it is not individually forecasted and planned. Oracle Global Order Promising for the ATO Item is based on the availability of its immediate components.

   You should enable the Component ATP flag for the ATO Item and enable the Check ATP flag for its key components.

Item	Check ATP	Component ATP
ATO Item (Standard)	No	Material
Next level components (Standard)	Material	No

Oracle Order Management passes the ATO Item to Oracle Global Order Promising for the availability check.

Oracle Global Order Promising checks the availability of the components on a date that is offset from the ATO Item request date by the:

Fixed Lead Time + Request Quantity * Variable Lead Time of the ATO Item. Oracle Global Order Promising returns a Ship Date that is either the request date or a later date if any available-to-promise items are not available. Under such a setting, Oracle Global Order Promising will not check the availability of the ATO Item.

Examples

ATO Item

Only the ATO Item has ATP Check set to Material.

Level	Item	Check ATP	Component ATP
0	Laptop X11-1	Material	None
1	- Base System	-	-
1	- Mobile Pentium®4 2.2 GHz	-	-
1	- 512 MB	-	-
1	- 17in Flat Screen	-	-
1	- 24X CD-RW/DVD Combo	-	-

The cumulative availability picture for the items that have the Check ATP item attribute set is described as follows:

Item	Day 1	Day 2	Day 3
Laptop X11-1	0	0	10

An ATP Inquiry for a sales order demand of the ATO Item for a quantity of 10 with a request date of Day 2 can only be promised on Day 3.

The ATP Details window shows the following result:

Item	Request Date	Request Date Qty	Ship Date
Laptop X11-1	Day 2	0	Day 3

ATO Item

Using the previous ATO example, this example shows the ATP item attribute for the items:

Item	Check ATP	Component ATP
Laptop X11-1	-	Material
- Base System	Material	-
- Mobile Pentium®4 2.2 GHz	Material	-
- 512 MB	-	-
- 17in Flat Screen	-	-
- 24X CD-RW/DVD Combo	Material	-

The cumulative availability picture for the items that have the Check ATP item attribute set is described as follows:

Item	Day 1	Day 2	Day 3
- Base System	10	20	30
- Mobile Pentium®4 2.2 GHz	10	20	30
- 24X CD-RW/DVD Combo	10	10	10

Laptop X11-1 lead time:

- Fixed lead time = 0
- Variable lead time = 0.05 day

An ATP Inquiry for a sales order demand of the ATO Item for a quantity of 10 with a request date of Day 2 can be promised on Day 2.

The ATP Details window shows the following result:

Item	Request Date	Request Date Qty	Ship Date
Laptop X11-1	Day 2	10	Day 2

Explanation:

- The availability information on the ATO Item line tells you the availability on the request date in the Request Date Quantity field. If the entire quantity is not available on the request date, then the Ship Date tells you the earliest date that the order quantity is available.
- Ship Date equals the date the component items are available plus the lead time of the ATO Item'. For example, the Base System is available on Day 1, thus, the Ship Date equals Day 1 + 1 = Day 2.

Reschedule Order

- When a sales order line of an ATO Item is rescheduled: Oracle Global Order Promising first cancels the original order demand; then, it reschedules for the new demand.
- When the ATO Item has Check ATP enabled and the components do not have Check ATP enabled. During rescheduling, the original demand is first canceled for the ATO Item. New demand is placed based on the ATO item's availability.
- When the ATO Item has Check ATP set to None and components have Check ATP set to Material. During rescheduling, the original demand is first canceled for the components. New demand is placed based on the availability of the components regardless of the availability of the ATO item.

Kit

A Kit, also known as a PTO Item, is a standard item with the Pick Component item attribute selected. When an order is created in Oracle Order Management for a Kit, Oracle Order Management explodes the next level components of the Kit, groups the items into a set, and passes the set to Oracle Global Order Promising for an availability check.

Setup

ATP Item Attributes

Set the Check ATP item attribute.

Oracle Global Order Promising supports two types of settings:

1. Check availability for the Kit:

Item	Check ATP
PTO Item (Standard)	Material
- Next level components (Standard)	None

2. Check availability for the Kit components:

Item	Check ATP
PTO Item (Standard)	None
- Next level components (Standard)	Material

Oracle Global Order Promising checks the availability for the components on the request date of the Kit. Oracle Global Order Promising returns a Ship Date that is either the request date or a later date if any available-to-promise items are not available.

Examples

PTO Item

Using a PTO Item, the ATP item attributes for the items are shown below:

Level	Item	Check ATP
0	External Speaker	-
1	- Premium Speaker	Material
1	- Speaker Manual	Material

The cumulative availability picture for the items that have Check ATP item attribute set is described as follows:

Item	Day 1	Day 2	Day 3
Premium Speaker	0	0	10
Speaker Manual	10	10	10

An ATP Inquiry for a sales order demand of the PTO Item for a quantity of 10 with a request date of Day 2 can be promised on Day 3.

The ATP Details window shows the following result:

Item	Request Date	Request Date Qty	Ship Date
External Speaker	Day 2	10	Day 2
Premium Speaker	Day 2	0	Day 3
Speaker Manual	Day 2	10	Day 2

Product Family ATP

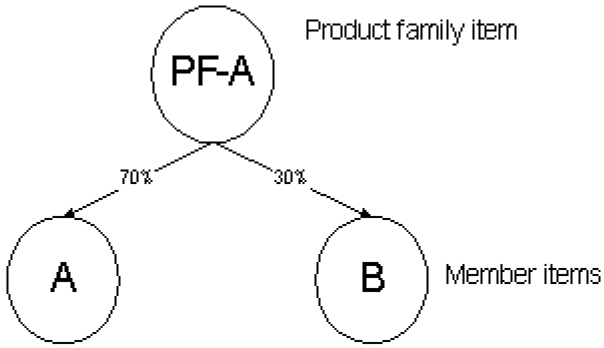
Oracle Manufacturing lets you define product family item as a percentage composition of member items. If the product family item is set up to perform ATP based on product family, then, when an ATP Inquiry is launched for a member item, the ATP is actually performed against the product family item.

When you set ATP to be based on collected data and you define setups to perform ATP based on product family, the product family supply should be present in the source as a Master Production Schedule (MPS).

Business Application

You may not always be able to forecast the exact demand of an end item. However, you may be able to define aggregate requirements and forecast at an aggregate level instead of at the item level. This concept is shown in the following diagram:

Aggregate Product Family Level Forecast



Setup

Once you define the product family item and product family item/member item relationship, you should perform the following setup to enable ATP based on Product Family:

1. 1. Check the ATP item attribute: Must be set to Material for a product family item in order to perform Product Family ATP.

   You must set the Check ATP flag for all the member items to be Material. Otherwise incorrect result can occur. This is because the demand and supply for product family is an aggregation of the demand and supply of the member items.

2. ATP Rule: Designate an ATP Rule for a product family item.

ATP Logic

When an item is set to Check ATP at the product-family level, Oracle Global Order Promising uses the cumulative availability at the product family level to promise an order.

To calculate availability at product family level:

1. Obtain a supply picture of the product-family item per day up to the infinite time fence of the product family item.

2. Sum the demand from its member items per day up to the infinite time fence of the product-family item.

3. Calculate the net availability for each day.

   Net Availability = Supply (Step 1) – Demand (Step 2).

4. If any buckets have negative quantities, then perform backward and forward consumption.

5. Cumulate the supply from Step 4.

ATP Result

ATP Result is expressed in terms of the requested member item. You see the requested item in the ATP Details window as well as in ATP Pegging.

Example

Product family item, PF1, has two members A and B. The supply demand picture for these items is described in the following table:

Item	Row Type	Today (Day 1)	Day 2	Day 3	Day 4
PF1	Supply	10	50	50	50
A	Demand	2	10	5	10
B	Demand	3	10	10	20
PF1	Net	5	30	35	20
PF1	Cum	5	35	70	90

A request for item A of quantity 30 on Day 3 can be promised on Day 3 because a cumulative supply of 70 is available on Day 3.

Demand Class ATP

Demand Class ATP enables you to perform availability checks by demand class. The availability calculation only considers the supply in a master schedule with the same demand class as that on the ATP request.

Business Application

This feature is useful when you want to use a known statement of supply of independent items for a specific sales channel for order promising. For example, your sales channels are countries and you know how much supply you give to each country. The aggregate demand from the customers in a country cannot exceed supply allocated to that country. You use demand class to represent the country, and you declare the supply for each country by using a specific MPS. Oracle Global Order Promising honors the MPS, only promising demand based on the demand class MPS.

Setup

Additional setup steps and details, beyond the mandatory and optional steps explained in Functional Setup for ATP Based on Collected Data, page 2-8 section, are described below for the Demand Class ATP functionality.

ATP Rule

Select the Demand Class field in the ATP Rule.

Demand Class ATP restricts the supply and demand to sources with a specified demand class. A demand class ATP Rule cannot include on hand quantity, purchase orders, supplier requisitions, internal requisitions, or in-transit shipments as sources of supply.

Demand Class MPS

You must define an MPS for each demand class for which you perform Demand Class ATP. You also must create entries for each demand class MPS.

Demand Class ATP Compared To Allocated ATP

In Demand Class ATP, you promise orders by sales channels through the use of demand class. You use a specific MPS for each demand class and populate the master production schedules with a statement of supply for that demand class. Oracle Global Order Promising uses the demand class MPS to calculate the available supply against the demand with the same demand class. The mechanism is simple, and it can work well in an environment where demand does not fluctuate much and supply is relatively fixed.

The Allocated ATP feature lets you obtain the same result as the Demand Class ATP by ensuring a level of supply for your designated sales channels. However, this feature is more powerful and the implementation is more flexible. It differs from Demand Class ATP in the following ways:

- Allocated ATP allows you to designate sales channel by demand class, customer class, customer site, or ship-to site hierarchy. Demand Class ATP lets you designate sales channel by demand class only.

- Allocated ATP allows you to define time-phased allocation rules that designate a percentage of your total supply to each sales channel. The allocation rule is applied to your designated production MPS or MRP plan during order promising. Demand Class ATP requires that you maintain a specific MPS for each demand class, and it uses that as the statement of supply during order promising. You need to synchronize the demand class MPS's and the production MPS.

- Allocated ATP performs a capable-to-promise CTP) check when demand exceeds allocation. Demand Class ATP does not have this capability.

- Allocated ATP provides automatic stealing from lower ranked sales channels. Demand Class ATP requires that you resolve a shortage by manually adjusting the demand class MPS.

See Allocated ATP, page 4-104

To deploy Allocated ATP capability in Oracle Global Order Promising, you must have Oracle Advanced Supply Chain Planning.

ATP Logic

The system processes an ATP request as follows:

1. It checks the ATP Rule, either item level or organization level, to see if Demand Class ATP needs to be done.

2. If Demand Class ATP is enabled on the ATP Rule, then the system checks for a plan having the same demand class as the demand class on the ATP request.

3. If no demand class specific plan is found, then the system uses the generic plan with no demand class.

Improved ATP Performance

Oracle Global Order Promising response times can be improved by a summary approach that stores summarized supply and demand information into a separate table. This allows each ATP request to quickly retrieve summarized availability information without computing availability from detailed supply and demand information. The result is the same as using detailed data. It is highly recommended that you use summarized data.

The summary process is accomplished through the concurrent program: Load ATP Summary Based on Collected Data. This summary concurrent program is automatically run after each data collection.

This feature is currently only supported for non-distributed environments only: environments where the transaction data source and the Oracle Global Order Promising are on the same database instance.

Setup

To enable ATP based on summary data:

Set the system profile MSC: Enable ATP Summary Mode to Yes.

Manually Generating Summary Tables

While the summary tables required to support summary data based order promising are automatically triggered by collections, you can also load the summary data by manually invoking summary concurrent program. You may want to do this if you do not want to rerun collections before enabling summary data based order promising.

To manually generate the Oracle Global Order Promising summary tables from the Order Management Super User responsibility:

1. Log in using the Order Management Super User responsibility.

2. From the Navigator, go to Scheduling, and ATP and Scheduling Setup. Now Run Requests.

3. From the list of values in the Names field, select the following concurrent request: Load ATP Summary Based on Collected Data.

4. Select the following ATP Summary Based on Collected Data parameters:

   - Instance

   - Load Method:

     - Complete Refresh: completely resummarizes sales orders and supplies/demands. Demands mean other demand such as WIP Job demand.

     - Net Change Refresh: summarizes the new sale orders and supplies/demands change after last collection run.

     - Targeted Refresh: performs a Complete Refresh on either sales orders or supplies/demands.

   - Refresh Sales Orders: yes or no. You can only set to Yes if Load Method = Net Change Refresh.

   - Refresh Supplies/Demands: yes or no. You can only set to Yes if Load Method = Net Change Refresh or Complete Refresh.

5. Select Submit.

Asset Intensive Management

The purpose of this functionality is to enable GOP to promise against demand for components arising from the maintenance of complex assets, particularly using Oracle cMRO. During cMRO Visit scheduling, Oracle Global Order Promising (GOP) is utilized to determine material availability. This capability of cMRO scheduling is enhanced to support customer requirements. GOP will take into account cMRO scheduled requirements at the work order level as well as consider maintenance work orders as a source of supply to be promised. The purpose of this functionality is to enable GOP to promise against demand for components arising from the maintenance of complex assets, particularly using Oracle cMRO. During cMRO Visit scheduling, Oracle Global Order Promising (GOP) is utilized to determine material availability. This capability of cMRO scheduling is enhanced to support customer requirements. GOP will take into account cMRO scheduled requirements at the work order level as well as consider maintenance work orders as a source of supply to be promised.

This feature covers the following functionality and how to set up the ATP:

- Maintenance as a source of supply
- Supply part condition

Maintenance as a Source of Supply

Maintenance organizations produce usable supply as part of their repair and overhaul operations. The maintenance organizations work-in-progress (WIP) are collected as Maintenance Work Orders and External Repair Orders that produce usable supply that is included in the ATP calculation.

Supply Part Condition

Supplies and Demands are detailed by the binary part condition of usable and defective. GOP supports promising of usable supplies only and ensures that only the usable sub-inventories are considered when promising supplies.

In addition, there will be occasions when there are sales orders for defectives that are created against the OEM organization and it is necessary to ship defective parts to Outside Processing Vendor. GOP will ignore any sales orders created for shipping defectives to Outside Processing Vendors.

For more information on Outside Processing, refer to *Oracle Advanced Supply Chain Planning Implementation and User's Guide Supplement*.

Asset Intensive Management Solution Analysis

This section discusses:

- Collection of ATP Setup "Dummy" Sales Orders
- New Maintenance Sources of Supply
- ATP Setup
- Inventory Setup

Collection of ATP Setup "Dummy" Sales Orders

Previously "Dummy" sales orders are collected from cMRO's schedule materials table when a material is scheduled to a visit work order. These sales orders are used by ASCP and GOP to plan material requirements for cMRO. With the enhanced work order integration into ASCP, the cMRO sales orders are redundant and cause double counting of demands. To rectify this, cMRO sales order collection process is modified to block these sales orders from consideration by ASCP by the sales order attribute AVAILABLE_TO_MRP. This attribute controls the visibility to ASCP. It is automatically set to "2" by the Collections process.

cMRO defines a new profile, AHL:Material Planning Window (in DAYS), that controls the length of the planning period in days. It is used with GOP integration.

cMRO also defines a concurrent program, named "Process Material Requirements for Oracle Global Order Promising," that updates the ATP_FLAG column to Y in the cMRO table AHL_SCHEDULE_MATERIALS for all material requirements having requested dates falling within this planning window. That is, requested dates calculated by: [starting with system date and ending with system date + number of days that you specified as the profile value in AHL:Material Planning Window (in DAYS)]. Unfulfilled material requirements having requested date less than system date are also updated.

GOP collections collect only those material requirements having ATP_FLAG set to ' when collecting into the planning instance as dummy sales orders.

Maintenance Source of Supply

The following order types produce usable supply and are included in the available supply for GOP to consider during an ATP query.

Order Types	Inclusion in Supply Calculation	Comments

External Repair Orders	Yes	External Repair orders represent the items that are be repaired by contract repair vendors and will eventually be inserted as usable items into the supply chain.
Maintenance Work Orders	Yes; Partial	Only 'Repair Work Orders' where the work order attribute "Produce to Stock" is set to Yes will generate a usable supply. Only this subset of work orders is included in the cumulative calculation.

The supply type that already exist in the current ATP Rule entity indicate ATP's consideration or non-consideration of the new maintenance supply types is non-standard job: if checked in the ATP Rule, GOP will recognize "maintenance work orders" and "external repair orders" as supply, in addition to actual non-standard jobs.

Setting up ATP

This section discusses:

- ATP Based on Collected Data
- ATP Collection Data (ODS) versus Planning Output (PDS)

ATP Based on Collected Data

ATP allows you to perform an availability check, based on a collected statement of current material supply against a given organization. You perform ATP checks by specifying the item, the need by date, and the ship-from. Results that describe the need by date quantity and the fulfillment date are returned to you. ATP does not incorporate ASCP plan output in the availability check.

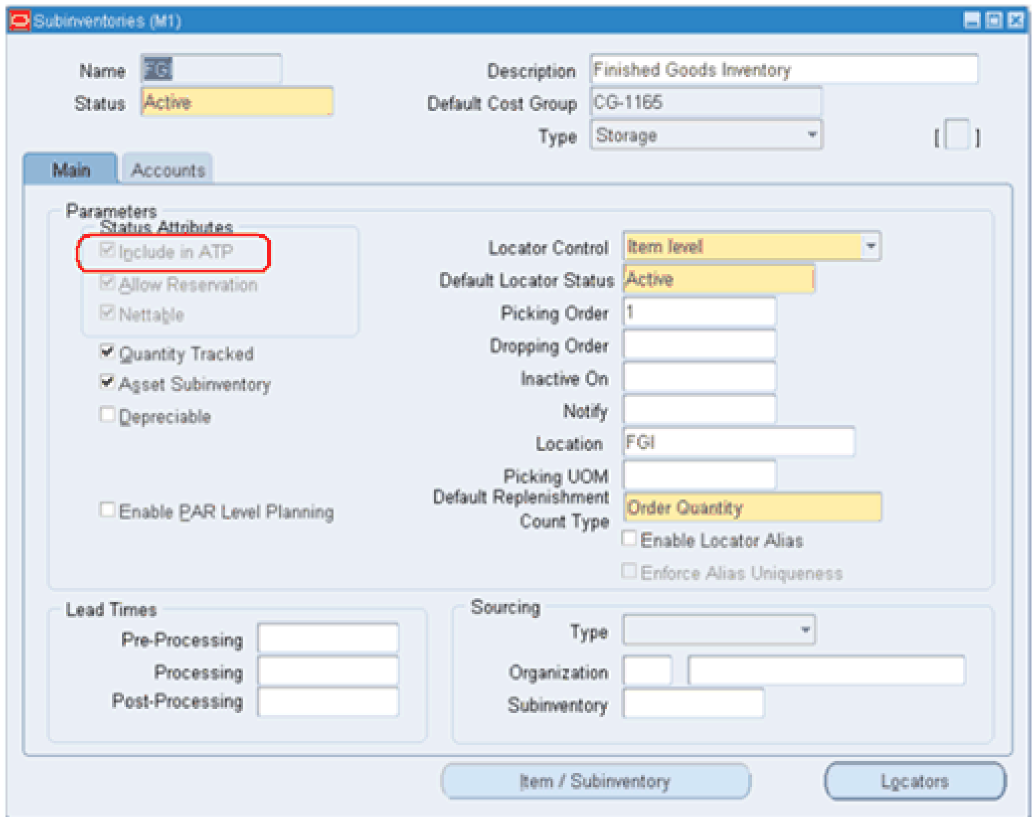
ATP Collection Data (ODS) versus Planning Output (PDS)

The following table outlines ATP Collection data versus ATP Planning Output.

ATP Based on Collected Data (ODS)	ATP Based on Planning Output (PDS)
Based on collected data	Based on planning output

Basic ATP	Basic ATP
Single-Level Supply Chain	Multi-Level Supply Chain ATP
Product Family ATP	Product Family ATP
Configuration ATP	Configuration ATP
Demand Class ATP	Demand Class ATP
	Allocated ATP
	End Item Substitution
Single level ATP check (only demanded item)	Multi level ATP check (exploding through the BOM of the demanded item)
Includes In transit and Customer lead-times	Includes In transit and Customer lead-times
No CTP and CTD. Assumes infinite capacity in production and from suppliers.	Support for CTP and CTD. You can check against available production capacity and supplier capacity
ATP rule used for all entities (accumulation, infinite supply time fence and supply and demand	ATP rule used only for infinite supply time fence. If no time fence defined then planning horizon is used
	If item is not planned (via MPS/MRP) then the ATP check behaves like it was based on collected data
	Fully uses sourcing rules and assignments to establish all sources of supply
	Utilizes planning time fences if set in the plan options
	Can utilize multiple plans. If an item appears on multiple plans then ATP will select the plan with the lowest plan_id (system generated number)
	Can include substitute components (if setup within the BOM)

	Support for Shipping, Receiving and Carrier Calendars
Handles Reservations (if collected)	Does not consider reservations



Setting Up Inventory

The enhancement to ASCP to include visibility into defective inventory requires care in controlling which sub-inventories contain defectives. ATP needs to exclude defective inventory from available supplies to promise. The sub-inventory flag, Include in ATP, needs to be set, depending on if a particular sub-inventory should be considered available to promise to ATP. Typically, sub-inventories that are labeled Defective or Unserviceable are not considered usable inventory available to promise , as shown below:

4

ATP Based on Planning Output: Part I

This chapter covers the following topics:

- Basic ATP
- Multi-Level Supply Chain ATP
- Configuration ATP
- Product Family ATP
- Combined Item-Product Family ATP
- Allocated ATP

Basic ATP

Basic ATP allows you to perform an availability check based on statement of current and planned material supply against a given organization. You perform ATP checks by specifying the item, the need-by date, and the organization. The system returns results describing the need-by date quantity and the fulfillment date.

Business Application

Basic ATP allows customers to perform availability checks and receive detailed information on whether their request can be met or on what date the order can be fulfilled. Based on statements of current and planned material supply, Basic ATP determines the availability of items.

You perform a Basic ATP check when you have only one inventory location in your company or you want to check availability in one inventory location.

Setup

After you perform the mandatory and optional setup steps explained in the Setting Up chapter, you may perform Basic ATP.

ATP Logic

ATP Logic in a Single Organization

1. If Check ATP and Component ATP item attributes are set to None, then there is no ATP check.

   If the ATP item attribute is Material Only, then the system checks ATP for the item on the request date. If supply is available, then you are done. Otherwise, go to Step 2.

2. ATP fails to satisfy the request on the request date. From the request date, Oracle Global Order Promising looks forward for future supply. It returns an ATP Date that is the earliest date that the request quantity is available.

3. If the ATP Date is less than or equal to the Latest Acceptable Date, Oracle Global Order Promising returns success. Otherwise, it returns failure.

   > **Note:** The Latest Acceptable Date is a date beyond the request date that the customer will accept the order. This date is determined by any calling application, and it is passed to Oracle Global Order Promising.

ATP Result

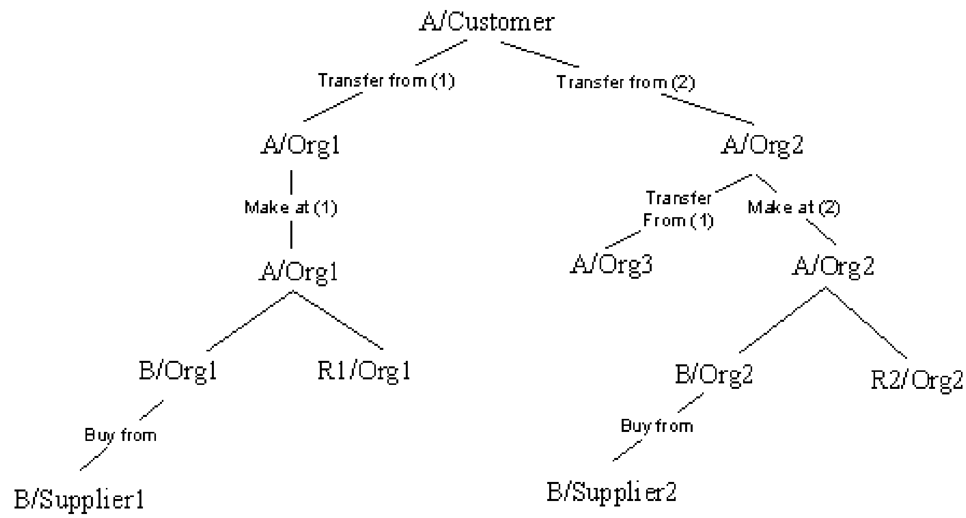
Oracle Global Order Promising returns detailed information and presents it in the ATP Details window. However, the calling application may decide to show only a subset of that information. For example, Oracle Order Management shows some of the ATP results, such as warehouse, Request Date Quantity, Available Date, and Error Message, in its Availability window. It provides an ATP Detail selection for users to drill down to the ATP Details window, where users can see detailed information. Typically, end users do not need the information provided in the ATP Details window.

For the details on ATP Details window, see ATP Details, page 6-5.

Multi-Level Supply Chain ATP

Oracle Global Order Promising lets you perform a multi-level component and resource availability check across your supply chain for the end items you specify. You can control the organizations and suppliers to be included in the availability inquiry, and you can control the number of levels in your supply chain bill to be considered in your check. At each level in the supply chain, you can check the availability of key components and bottleneck resources.

The diagram shows a supply chain scenario in which item A can be shipped from organization Org1 and Org2 to a customer. Both organizations manufacture the item. Item A has a key component B and a bottle-neck resource (R1 is a bottle-neck resource in Org1, R2 is a bottle neck resource in Org2). Component B comes from different suppliers for different organizations with different lead times.



Multi-Level ATP can help you decide:

- Which shipping organization can meet the demand on request date?
- If supply (on-hand plus scheduled receipts) is not sufficient in a shipping organization, can I make it or source it from another organization?
- If supply for a component is not sufficient, does my supplier have additional capacity?

Business Application

Multi-Level Supply Chain ATP helps companies to increase order fill rate by promising orders using extra manufacturing and supplier capacity. Because of demand fluctuation, your planned production level can change and thus result in under utilization of manufacturing resources or supplier capacity at times. However, if demand increases beyond forecast, you want to be able to book those orders using the extra capacity. A Multi-Level Supply Chain ATP check will ensure whether you have enough capacity to book the unanticipated demand.

As companies today out-source more and more of their assemblies or subassemblies, order promising can only become accurate if the supply chain is being considered. A factory must be capable of not only making the product on time, but also delivering the product to the parent factory on time. Transit lead time between facilities and from suppliers is critical to the availability calculation. Only Multi-Level Supply Chain ATP is capable of providing you with an accurate promise date based on the entire supply chain.

Setup

In addition to the mandatory and optional steps discussed in Setting Up, page 2-1 you must complete the following additional setup steps for using Single-Level or Multi-Level Supply Chain ATP.

ATP Plan

Establish an Advanced Supply Chain Planning plan to be used for ATP/CTP for Multi-Level Supply Chain ATP.

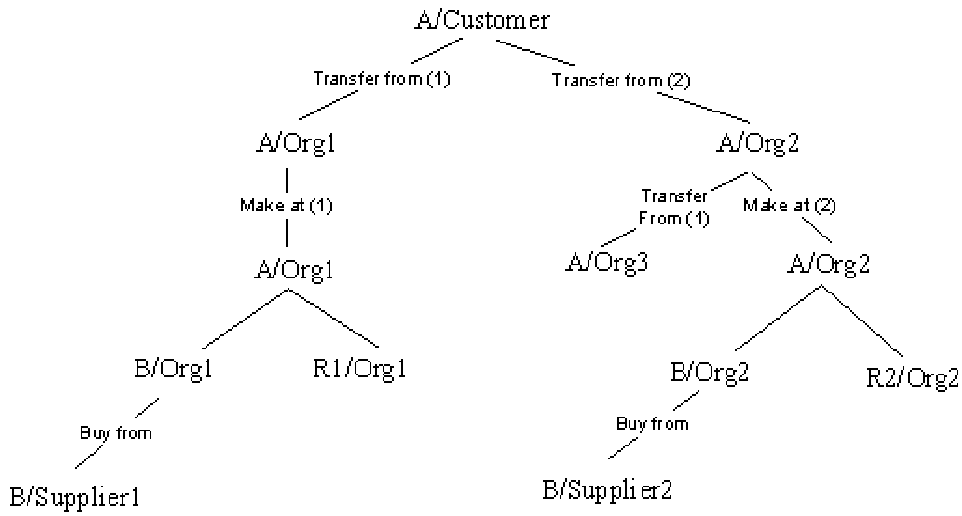
For detailed setup instructions, see Setup, page 2-1.

Supply Chain

You can model your supply chain through sourcing rules or bills of distribution, and assign the sourcing rules or bills of distributions to your items, organizations, suppliers, and customers in assignment sets. Oracle Global Order Promising shares the same supply chain setup as Oracle Advanced Supply Chain Planning.

The following scenario is an example of a supply chain. An order for item A from customers can be shipped from either Org1 or Org2. Shipping from Org 1 is preferred (rank 1). Item A is made of component B and uses resource R1 in Org1. Item B is sourced from Supplier1. Item A in Org2 can be transferred from Org3 or made in Org2. Transferring is preferred to making.

Multi-Level Supply Chain Scenario



You can use either Sourcing Rules or Bills of Distribution to define the supply chain from the shipping organization ass, illustrated in the previous diagram.

MRP: ATP Assignment Set or MSC: ATP Assignment Set should be set to point to the assignment set that contains the Sourcing Rules that define the movement of goods from shipping organizations to customers.

For more information about how to set up sourcing rules, bills of distribution, and assignment sets, see "Sourcing Rules and Bills of Distribution" in *Oracle Master Scheduling/MRP and Oracle Advanced Planning and Scheduling User's Guide*.

Regional Level Sourcing

Geographic Regions and Zones

Oracle Shipping supports country, state/province, county, city, and zip code geographic region levels. A zone is a user-defined collection of regions. You can group the regions into user-defined zones. For example, you can group all the U.S. West Coast states into a zone called West Coast.

> **Note:** Oracle Global Order Promising does not support county as a region.

For detailed description and setup instructions, see "Regions and Zones" in *Oracle Shipping Execution User's Guide*.

Sourcing Rules at Region or Zone Level

You can assign a sourcing rule at various levels, including region and zone. Oracle Global Order Promising selects the most specific assignment based on the priority provided in the Assignment Level table below. Then, it uses the sourcing rule in the assignment to determine the shipping organization.

Oracle Global Order Promising uses the customer ship-to address to determine the region or zone to which the ship-to address belongs. Then it automatically uses the correct regional or zonal sourcing rule. If more than one sourcing rule applies, Oracle Global Order Promising selects the sourcing rule that is assigned to the most specific, smallest geographic area. If a more specific sourcing assignment exists, for example, an Instance-Item-Organization type, then the system uses the specific sourcing rule.

This capability allows you to easily manage regional distribution centers that serve designated sales in the region.

The following table shows the assignment level. The higher the priority, the more specific the assignment level:

Assignment Level	Priority
Item-Instance-Organization	1
Item-Instance-Region	2
Category-Organization	3
Item-Instance	4
Category-Region	5
Category	6
Instance-Organization	7
Instance-Region	8
Instance	9

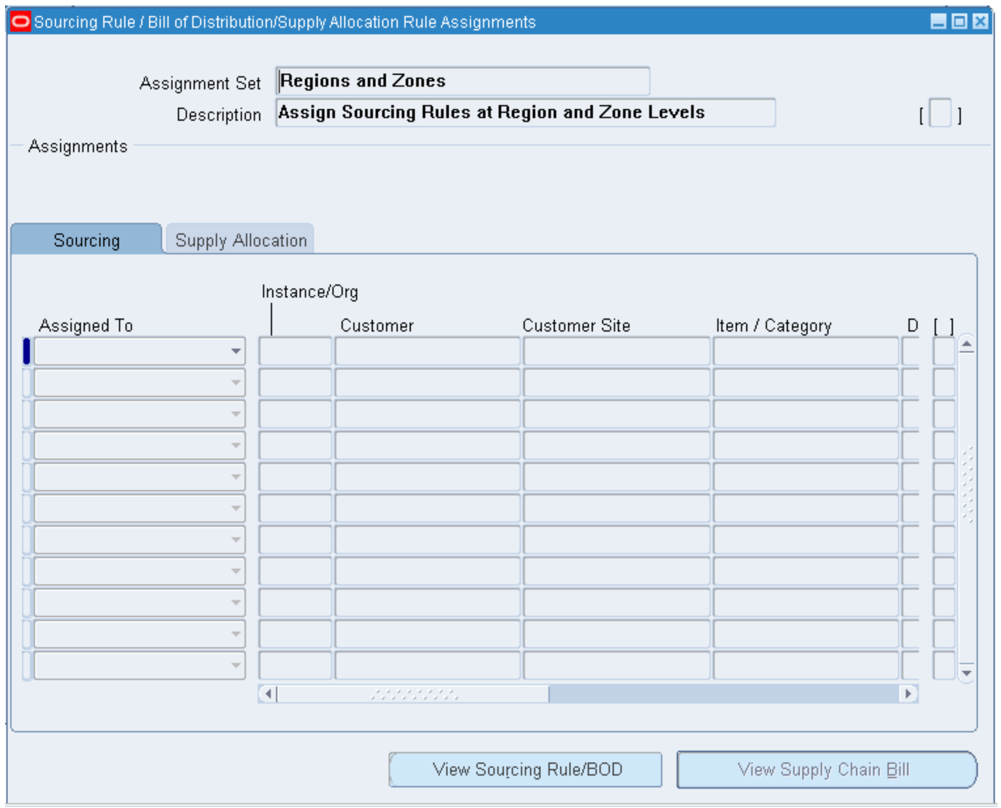
- When you select an assignment level that has an organization, you can make the assignment either an organization or customer/ship-to site.
- Region level sourcing only applies to customers as receiving parties.

For detailed setup instructions, see "Sourcing Rules" in *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*.

To enable Oracle Global Order Promising to use region level sourcing:

1. On the source instance, set up the region level and zone.
2. Log on with the Advanced Supply Chain Planner responsibility.
3. Run collections.
4. Create the appropriate sourcing rules on the source or destination instance.
5. Create an assignment set on the source or destination instance.
6. If you have created the assignment set on the source instance, then run collections.
7. On the destination instance, assign the sourcing rules at the region or zone level.

Sourcing Rule/Bill of Distribution Assignments Window



8. Enter the assignment set name and description.
9. From the Assigned To menu, select Item-Instance-Region, Category-Instance-Region, or Instance-Region to create a region-level sourcing rule assignment.
10. Select an item from the LOV in the Item/Category column.

11. Select either Sourcing Rule or Bill of Distribution from the LOV in the Type column.

12. Select a sourcing rule or bill of distribution from the LOV in the Sourcing Rule/BOD column.

13. Scroll to the right and select a region or zone from the LOV in the Region/Zone column. You can search for a region or zone in the Regions search window.

14. Save the assignment set.

15. On the planning server, set the profile option MSC: ATP Assignment Set to the assignment set that was saved.

    - Region level sourcing assignments can only be defined on the destination instance under Sourcing menu in the Oracle Advanced Supply Chain Planner responsibility. They cannot be defined in the source in the Sourcing Rule and the Bill of Distribution Assignments windows of Oracle MRP and Oracle Supply Chain Planning.

    - Since MRP: ATP Assignment Set defined at the source instance takes precedence over the MSC: ATP Assignment Set defined on the planning server, you need to make sure it is set to NULL. Thus, Oracle Global Order Promising uses MSC: ATP Assignment Set.

Transit Lead Times

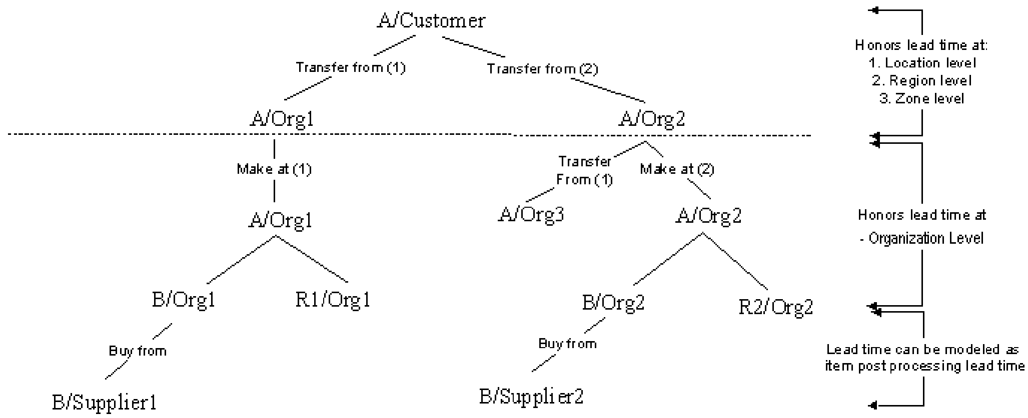
Oracle Global Order Promising considers the transit lead time associated with a shipping method from shipping a warehouse to customers as well as transit lead time between source-from and source-to organizations.

You set up transit lead times using the Transit Times form available in Oracle Shipping.

For detailed setup instruction, see "Transit Times" in *Oracle Shipping Execution User's Guide*.

The following diagram describes the transit lead times between various parties and shows how Oracle Global Order Promising honors those lead times:

Transit Lead Times



From shipping warehouse to customers:

You can define shipping methods and their related lead time from your shipping organization to a location. A location can be from most specific to least specific: an internal location associated with a customer ship-to location, a region, or a zone. When more than one applicable transit lead time exists in the shipping lane, the most specific lead time specification is used. For example, you have defined a shipping lane from your shipping organization to a specific customer location with a shipping method of GROUND that has lead time of 3 days. You must have also defined a shipping lane from your shipping organization to a region where the customer resides. It also has GROUND as a valid shipping method and a lead time of 2 days. For a sales order to this customer using GROUND shipping method, Oracle Global Order Promising will use 3 days for the transit lead time.

Between organizations:

You can define shipping methods and their related lead time between a source-from and source-to organizations. Oracle Global Order Promising will honor the lead time during its capable-to-promise calculation.

From supplier to organization:

Oracle Global Order Promising does not currently consider shipping methods used between a supplier and a receiving organization. A typical implementation approach to Model the lead time is by using the item post processing lead time or by using the item / Approved Suppliers List (ASL) lead time.

For detailed setup instruction, see "Inter-Location Transit Times" in *Oracle Shipping Execution User's Guide*.

Resource Capacity

Oracle Global Order Promising shares the same resources and routing information as Oracle Advanced Supply Chain Planning.

To designate a specific resource for Capable-To-Promise check:

1. Sign on using the Manufacturing and Distribution Manager responsibility.

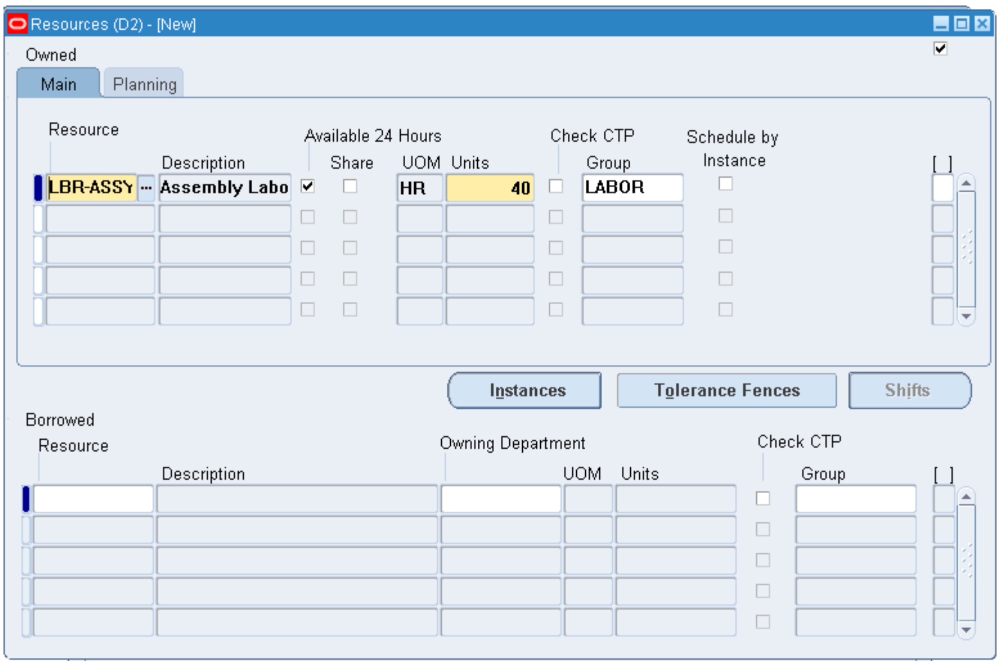
2. From the Navigator, select Bills of Materials, then select Routings and then Departments.

3. Select the department to which the resource belongs.

4. Click the Resources button. The Resources window appears.

   This window shows the resources that have the Enable the Check CTP flag selected.

Resources Window



> **Note:** Oracle Global Order Promising:
>
> - Uses only primary resource capacity, not alternate resource capacity, during Capable-To-Promise (CTP) calculation.
>
> - Supports network routing only when planning method = Planning %.

For details on how to set up routing, see "Setting up Routings" under "Supply Chain Modeling" in *Oracle Advanced Planning and Scheduling User's Guide.*

Supplier Capacity

Oracle Global Order Promising checks supplier capacity when performing the CTP calculation. It uses the same supplier capacity information used in Oracle Advanced Supply Chain Planning. You can define multiple supplier sources. Oracle Global Order Promising checks the supplier capacity in the order of the source rank defined in the sourcing rule.

During the capable-to-promise process, Oracle Global Order Promising uses supplier capacity calendars that indicate the working and non-working days of the supplier. Supplier capacity is only accumulated on working days according to the supplier capacity calendar.

For more information about setting supplier capacity constraints, see "Supply Chain Modeling" in *Oracle Advanced Supply Chain Planning Implementation and User's Guide*.

Profile MRP: ATP Assignment Set

This profile points to an assignment set that contains the Sourcing Rule that defines the movement of goods from shipping organizations to customers. This profile is set up at the source instance. If you plan to use Region/Zone level sourcing, you must set this profile to NULL.

Profile MSC: ATP Assignment Set

This profile points to an assignment set that contains the Sourcing Rule that defines the movement of goods from shipping organizations to customers. This profile is set up at the destination instance. The MRP: ATP Assignment Set defined at the source instance takes precedence over the MSC: ATP Assignment Set. If you plan to use region or zone level sourcing, you need to set the latter set instead of the MRP: ATP Assignment Set.

Data Collection and Run Plan

Once you finish setup at the source instance, you need to run Collection.

For details, see Setting Up, page 2-1.

Once you finish setup on the destination side, you need to launch the ASCP plan that is used for ATP. Review plan output for correctness because Oracle Global Order Promising uses the result.

ATP Logic

For Request with Specified Shipping Organization

If a request has a shipping organization specified, then only search for availability from the specified organization and its sources.

1. Check availability for the item at that organization based on the Check ATP flag. If the organization is the shipping organization, check for the entire requested

quantity. If the organization is a source-from organization for the shipping organization or supply organization for a lower level component, check for the remaining shortage. If both the Check ATP flag and the Component ATP flag are set to None, then no ATP check is performed. If the Check ATP flag is set to Materials, then an ATP check is performed for the item on the request date. If supply is sufficient on the request date, the system goes to Step 5.

2. If the Component ATP flag is set to None, the request is not satisfied and the system goes to Step 4. Otherwise, it goes to Step 5.

3. If the Component ATP flag of the item in Step 1 is not set to None, determine the sourcing of the item:

    1. If source is Make At, the bill of material is exploded to get to the next level component (if The Component ATP Flag contains the Material check) and resource (if the Component ATP Flag contains the Resource check) to check availability.

        - If resource availability is insufficient, go to Step 4.

        - If resource availability is sufficient, go to the next step.

        - Repeat Step 1 for the components of the item in Step 1.

    2. If the source is Buy From, then supplier capacity is checked. If capacity is insufficient, go to Step 4. If supply is sufficient, go to Step 5.

    3. If the source is Transfer From, go to the source-from organization to check availability. Repeat Step 1 for the item in the source-from organization.

4. ATP has failed to satisfy this request. From request date, forward scheduling for this request is performed. The system searches for the earliest date that it can get the remaining quantity. The earliest date is the ATP date. If the ATP date is less than or equal to the Latest Acceptable Date (LAD), then the ATP status is success. Otherwise, the ATP status is failure. Note that the calling application determines the LAD.

    Note: In case of a set, Oracle Global Order Promising honors the earliest of the given LADs.

5. ATP has successfully found supply on the request date. ATP returns the request date as the ATP date, and success as the ATP status.

For Request Without a Specified Shipping Organization

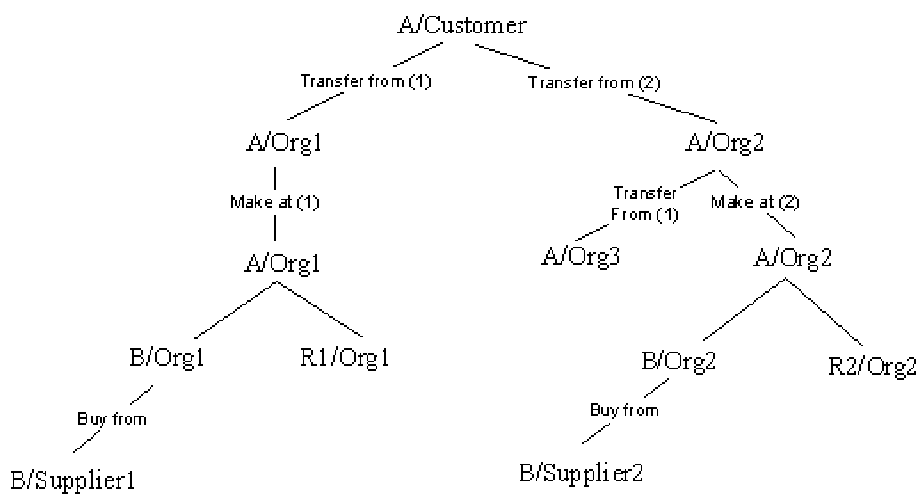
If a request does not specify a shipping organization, start with the shipping organization with the highest rank from sourcing rule. If the ranks are the same, then select the one that has the highest percentage. If the percentages are the same, then select any one. In the following example, the shipping organization Org1 will be selected first.

Using the above logic for the following supply chain, a request from a customer for item A without a specific shipping warehouse triggers Oracle Global Order Promising do the following:

For each of the shipping warehouses, starting from the highest ranked one, obtain the ATP Date and ATP status:

- If ATP status = success, return shipping warehouse, ATP Date, status, and other information.
- If ATP status = failure, go to the next shipping organization.
- If ATP status = failure for all the shipping organizations, return shipping warehouse, ATP Date, status, and other information from the highest ranked organization.

Supply Chain for Item A



Forward Scheduling

Forward scheduling refers to looking beyond the request date to find a future supply that can meet the shortage.

In forward scheduling with out enhanced forward ATP, Oracle Global Order Promising looks for supply to cover the shortage from each individual source. A source can be found:

- Using scheduled receipts

- Using other sources, such as make, transfer, or buy (each source is evaluated individually)

Oracle Global Order Promising uses the first source that promises with in the Latest Acceptable Date (LAD).

> **Note:** In the case of forward scheduling with out enhanced ATP, Oracle Global Order Promising does not combine supply from more than one or multiple sources in forward scheduling.

An order will be scheduled if the ATP date is on or before the Latest Acceptable Date. Otherwise, Oracle Global Order Promising will return the ATP date without scheduling the order.

Enhanced Forward ATP

Using enhanced forward ATP, Oracle Global Order Promising returns the best possible promise date by considering the availability of all the supply sources, as well as considering multiple sources of supply together, while determining availability. This minimizes any delays to the order and returns a better promised date.

Enhanced Forward ATP Example

You receive an order for an end item for 100 units with a requested ship date on the current date (day 1) with LAD) day 4.

- Quantity: 100
- Requested ship date: Day 1
- Latest acceptable date: Day 4

This table shows the supply picture for the end item.

Organization	Sourcing Type	Day 1	Day 2	Day 3	Day 4
Org 1	Scheduled receipts and on-hand	10	10	10	10
Org 1	Make - Rank: 1 - Lead Time: 0 days)	20	30	50	50

Organization	Sourcing Type	Day 1	Day 2	Day 3	Day 4
Org 2	Transfer - Rank: 2 - Lead Time: 1 day)	30	30	100	120
Supplier (Dock Date)	Buy: - Rank: 3 - Lead Time: 0 days)	20	40	40	50

All of the components are available for manufacturing and the manufacturing lead time is zero days.

The supplier capacity is dock type supplier capacity.

The enhanced forward ATP uses the combined availability of all sources on a particular to evaluate whether the order can be satisfied completely. In this case, it can meet the order earliest by day 3.

It promises the order from:

- Scheduled receipts and on-hand: 10 units
- Make capable to promise: 30 units
- Transfer capable to promise: 30 units, transfer the 30 available units from Org 2 on day 2 to reach Org 1 on day 3
- Buy capable to promise: 30 units, the supplier capacity on day 3

Setting Up Enhanced Forward ATP

To set up enhanced forward ATP, set profile option MSC: Use Enhanced Forward ATP to Yes.

Since enhanced forward ATP can use a large number of iterations to reach the best promise date, it may slow down the GOP engine. Oracle recommends that you use a small value for the infinite time fence, ideally the cumulative lead time. You may see improvements in product family ATP, bill of material/routing/sourcing effectivity ATP, allocated ATP, and component substitution with enhanced forward ATP.

Incremental Forward Scheduling

GOP enhanced its method of searching for supply beyond the Requested Date by implementing Incremental Forward Scheduling (IFS). IFS creates greater visibility to short-term supplies that are being phased out through an Engineering Change Order (ECO). It increments the Requested Date by a pre-specified number of days until it finds sufficient supply, thereby eliminating excessive delays in scheduled dates

Understanding Incremental Forward Scheduling

To apply Incremental Forward Scheduling, you need to set three profiles:

- MSC: Use Enhanced Forward ATP
- MSC: Request Date Increment in Forward Scheduling (In Days)
- MSC: Maximum Increments in Forward Scheduling ATP

MSC: Use Enhanced Forward ATP

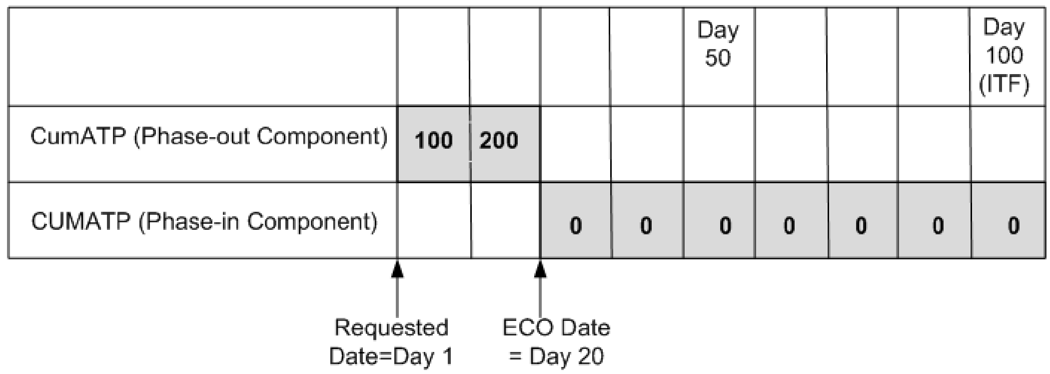
This profile has three possible values:

- No: This is the default value.
- Binary Search based Requested Date: This profile is identical to the YES value in previous releases. It enables the existing binary search, in which GOP searches for supply by iteratively changing the Requested Date. It uses an internal binary search mechanism to search between the Requested Date and the Infinite Time Fence Date.
- Increment based Requested Date: This profile implements Incremental Forward Scheduling. GOP searches for supply on an internal Requested Date as determined by the increments you set for the previous Requested Date and by the number of working days you specify.

MSC: Request Date Increment in Forward Scheduling (In Days)

This profile determines the number of working days that GOP increments the Requested Date.

> **Note:** This profile is relevant only if the value of the MSC: Use Enhanced Forward ATP profile is set to Increment Based Requested Date.



MSC: Maximum Increments in Forward Scheduling ATP

This profile sets the maximum number of increments that GOP applies when looking for supply. The default value for the number of increments is 7. If, after 7 increments, GOP does not find the complete availability, the system schedules the order on the Infinite Time Fence (ITF).

For example, if we set MSC: Maximum Increments in Forward Scheduling ATP to 3 and GOP cannot find sufficient supply by the Requested Date, it searches for supply on the Requested Date plus 3 day, then Requested Date plus 6 days and so on, until it has incremented up to 7 times.

In the same example, if there is a needed supply of 150 units, and GOP can find only 100 units on the Requested Date of Day 1, it looks for sufficient supply on Day 4, Day 7, and Day 10. On Day 10, GOP finds sufficient phase-out component supply and schedules the order on Day 10. If you were to schedule using the Infinite Time Fence, rather than Incremental Forward Scheduling, you would find sufficient phase-out component supply and schedule the order on Day 100.

> **Note:** Incremental Forward Scheduling is enabled through a site level profile. Once it is enabled, it applies to all demands.

How to Use Incremental Forward Scheduling

Incremental forward scheduling provides scheduling results that are advantageous in many scenarios, as illustrated in the examples that follow.

Example

Example 1: Supply of New Component is Unavailable

This example compares the results of using Iterative Forward Scheduling and Incremental Forward Scheduling to determine your demand schedule when there is no new component available. Both calculations use the following criteria:

- Component Lead Time Offset = 3 days
- Demand = 100 units of A_Engine

- Requested Date = 02 February 2015 ITF/plan end date = 13 May 2015
- ITF/plan end date = 13 May 2015

End Item	Component	Effective Date	Disable Date
A_Engine	A_Piston	12_Aug_14	03_Apr_15
	A_Pistonsub1	03_Apr_15	

Supply	02-Feb	09-Feb	16-Feb	23-Feb	02-Mar	09-Mar	16-Mar	23-Mar	30-Mar	06-Apr	13-Apr	20-Apr
A_Piston	10	20	30	40	50	60	70	80	90	100	100	100
A_Pistonsub1	0	0	0	0	0	0	0	0	0	0	0	0

Results of Example 1 Using Iterative Forward Scheduling

The following table shows the results of the example when they are calculated using Iterative Forward Scheduling.

Request Date	ITF Date/ Last Supply Date	ITF Date/ Request Date	Divide by 2	Need by Date	Check Component Supply Date (subtract 3 day FLT)	Comments
02-Feb-15	13-May-15	100	50	24-Mar	19-Mar-15	10 units available on 2-Feb, net 90 are required. The new component has no supply and there is insufficient supply available. GOP continues to do the binary search going forward.
02-Feb-15				18-Apr-15	14-Apr-15	New component has no supply and the old component is disabled. GOP continues to do the binary search going forward.
02-Feb-15				01-May-15	28-Apr-15	New component has no supply and the old component is disabled. GOP continues to do the binary search going forward until it reaches ITF (13-May-15)

Results of Example 1 Using Incremental Forward Scheduling

The following table shows the results of the example when they are calculated using Incremental Forward Scheduling. Profile MSC: Request Date Increment in Forward Scheduling (In Days) = 15.

End Item Request Date (a)	ITF Date/ Last Supply Date	ITF Date/ Request Date	Divide by 2	GOP Internal Request Date during incremental search (b), working days only	Date on which Component Supply Checked (b-3) day lead time)	Comments
02-Feb-15	N/A	N/A	N/A	23-Feb-15	18-Feb-15	30 units of A_Piston are available, not the required 90.
02-Feb-15	N/A	N/A	N/A	16-Mar-15	11-Mar-15	60 units of A_Piston are available, not the required 90.
02-Feb-15	N/A	N/A	N/A	6-Apr-15	1-Apr-15	90 units of A_Piston are available. The order is scheduled.

When you use Incremental Forward Scheduling, GOP is able to schedule the demand on 06-April-2015, whereas if you use Iterative Forward Scheduling, your demand cannot be scheduled until 13 May 2015.

Example

Example 2: Supply of New Component is Available

In this example, a new component, A_Pistonsub1, is available and is used by Incremental Forward Scheduling.

- Component Lead Time Offset = 3 days
- Demand = 110 units of A_Engine
- Requested Date = 02 February 2015

End Item	Component	Effective Date	Disable Date
A_Engine	A_Piston	12_Aug_14	03_Apr_15
	A_Pistonsub1	03_Apr_15	

Supply	02-Feb	09-Feb	16-Feb	23-Feb	02-Mar	09-Mar	16-Mar	23-Mar	30-Mar	06-Apr	13-Apr	20-Apr	24-Apr
A_Piston	10	20	30	40	50	60	70	80	90	100	100	100	100
A_Pistonsub1	0	0	0	0	0	0	0	0	100	100	100	100	100

Results of Example 1 Using Iterative Forward Scheduling

Using Iterative Forward Scheduling, GOP schedules the demand on 17-April.

Request Date	ITF Date/ Last Supply Date	ITF Date/ Request Date	Divide by 2	Need by Date	Check Component Supply Date (subtract 3 day FLT)	Comments
02-Feb-15	13-May-15	100	50	24-Mar-15	19-Mar-15	70 units available on 19-Mar, net 100 are required. The new component is not effective and there is insufficient supply available. GOP continues the binary search going forward.
02-Feb-15				18-Apr-15	14-Apr-15	New component is effective and there is sufficient supply available. The order is scheduled on 17-April.

Example

Results of Example 2 Using Incremental Forward Scheduling

Using Incremental Forward Scheduling, GOP schedules the demand on 27 April. Iterative Forward Scheduling schedules the demand on 17 April.

End Item Request Date (a)	ITF Date/ Last Supply Date	ITF Date/ Request Date	Divide by 2	GOP Internal Request Date during incremental search (b), working days only	Date on which Component Supply Checked (b-3) day lead time)	Comments
02-Feb-15	N/A	N/A	N/A	23-Feb-15	18-Feb-15	100 units are required
02-Feb-15	N/A	N/A	N/A	16-Mar-15	11-Mar-15	100 units are required
02-Feb-15	N/A	N/A	N/A	6-Apr-15	1-Apr-15	90 units are available, not the 100 required. The order is not scheduled.
02-Feb-15	N/A	N/A	N/A	27-Apr-15	22-Apr-15	The order is scheduled.

Example

Example 3: Supply of Two Components Is Available

In this example, GOP has supply from two sources to schedule demand.

- Component Lead Time Offset = 3 days
- Demand = 150 units of A_Engine
- Requested Date = 02 February 2015
- ITF/plan end date = 13 May 2015

End Item	Component	Effective Date	Disable Date
A_Engine	A_Piston	12_Aug_14	03_Apr_15
	A_Pistonsub1	03_Apr_15	17_Apr_15
	A_Pistonsub2	17_Apr_15	

Supply	02 Feb	09 Feb	16 Feb	23 Feb	02 Mar	09 Mar	16 Mar	23 Mar	30 Mar	06 Apr	13 Apr	20 Apr	27 Apr	04 May	11 May
A_Piston	10	20	30	40	50	60	70	80	90	100	100	100	100	100	100
A_Pistonsub1	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100
A_Pistonsub2	0	0	0	0	0	0	0	0	0	0	150	150	150	150	150

Results of Example 3 Using Iterative Forward Scheduling

Using Iterative Forward Scheduling, GOP schedules demand for 01-May.

Request Date	ITF Date/ Last Supply Date	ITF Date/ Request Date	Divide by 2	Need by Date	Check Component Supply Date (subtract 3 day FLT)	Comments
02-Feb-15	13-May-15	100	50	24-Mar-15	19-Mar-15	10 units available on 2-Feb, net 140 are required. Only 70 units of A_Piston are available.
02-Feb-15				18-Apr-15	14-Apr-15	140 units are required, only 100 unit of sub1 are available. GOP continues the binary search.
02-Feb-15				01-May-15	28-Apr-15	Order is scheduled for 01-May-15

Results of Example 3 Using Incremental Forward Scheduling

Calculating the demand release schedule using Incremental Forward Scheduling, GOP schedules the demand on 27 April, which is prior to the date of 01 May 15, which is calculated using with Iterative Forward Scheduling.

End Item Request Date (a)	ITF Date/ Last Supply Date	ITF Date/ Request Date	Divide by 2	GOP Internal Request Date during incremental search (b), working days only	Date on which Component Supply Checked (b-3) day lead time)	Comments
02-Feb-15	N/A	N/A	N/A	23-Feb-15	18-Feb-15	30 units of A_Piston are available, not the required 140.
02-Feb-15	N/A	N/A	N/A	16-Mar-15	11-Mar-15	60 units of A_Piston are available, not the required 140.
02-Feb-15	N/A	N/A	N/A	6-Apr-15	1-Apr-15	90 units of A_Piston are available, not the required 140. The order is not scheduled.
02-Feb-15	N/A	N/A	N/A	27-Apr-15	22-Apr-15	150 units of sub2 are available. GOP schedules the order on 27-April.

Reviewing the above chart, it appears that GOP could have scheduled the demand by compiling parts of the order and scheduling demand for 22 April. This is possible by using:

- 10 units of A_Piston on 2 February
- 100 units of sub1 on 3 April
- 40 units of sub2 on 17 April

Constraints of Incremental Forward Scheduling

GOP uses Iterative Forward Scheduling and Incremental Forward Scheduling when there is insufficient supply of the Sales Order by the Requested Date. When using an Incremental Forward Scheduling search, GOP tries to fill the order by looking at supply on only two dates:

- the original Requested Date when it finds partial availability
- the incremented Requested Date when it finds the entire remaining quantity

For example, if the end item supply shortfall is 100 units, in every incremental search, GOP looks for the entire 100 units of shortfall. If it finds only 80 units, it does not search for an addition 20 units; it will search again for the full 100 shortfall units. Only the components that are effective on these two dates are considered and consumed.

Transit Lead Time

Transit lead time can exist from your shipping warehouse to customers and between organizations. The transit lead time days are considered as calendar days.

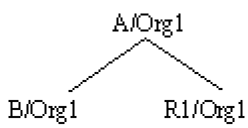
For more details on calculating calendar days, see Shipping, Receiving, and Carrier Calendars, page 6-33.

Detailed Logic for Make Item

Work Order Start Date

In the following example, Item A can be made using component B and requires resource R1. Oracle Global Order Promising calculates the start date of the job by offsetting manufacturing lead time from item A request date. For example, the item A fixed lead time = 1 day, variable lead time = 0.5 day. A request for an item A quantity of 10 on Day 10 means the job start date would be Day 4 (Day 10 – 1 – 10 * 0.5 = Day 4).

The following diagram show the supply chain for Make Item A.



If the job start date falls before today's date or within the Planning Time Fence (PTF) of the item, Oracle Global Order Promising fails to meet the demand on request date.

The start date calculation is based on the manufacturing calendar of the organization. In this example, if Day 5 and Day 6 are non-working days, then the start date should be Day 2.

> **Note:** PTF is calculated at the time of each plan run. The PTF Date = the date the plan runs + PTF days. If the PTF control is off at the plan level, then PTF = the date the plan runs.
>
> ATP considers the value that is greater between the system date and the calculated date as the PTF date.

Resource Requirement Calculation

Oracle Global Order Promising calculates resource requirement as follows:

For resources with basis of Item:

Demand quantity * Resource usage / (Reverse cumulative yield * Resource efficiency %* Resource utilization %)

For resources with basis of Lot:

Resource usage / (Reverse cumulative yield * Resource efficiency %* Resource utilization %)

Oracle Global Order Promising uses resource offset % to determine when to check resource availability. The logic is:

- Compute resource start date: Resource start date = Demand request date – (1– offset %) * manufacturing lead time
- Sort resources by the start date from earliest to latest.
- Check availability of a resource on the start date of the next resource in the previous sort.

Example: Item A has the following resources that have the CTP flag selected on its routing:

R1	Op 10	Offset=0%	Usage=1hr
R2	Op 20	Offset=60%	Usage=2hr

A's Fixed lead time = 0 day and Variable lead time = 0.4 day

Assume 100% resource utilization and efficiency. Reverse cumulative yield = 1.

Request for A for quantity 10 on Day 5. No A on Day 5. Oracle Global Order Promising performs capable-to-promise.

is available

1. R1 start date = Day 5 – (1 – 0%) * (0 + 10 * 0.4) = Day 1.
2. R2 start date = Day 5 – (1 – 60%) * (0 + 10 * 0.4) = Day 3.
3. Sort R1 and R2.
4. Check R1 availability on Day 3.
5. Check R2 availability on Day 5.

Resources Availability Calculation

Oracle Global Order Promising cumulates resource availability from the PTF date of the assembly item to which the resource belongs. The PTF date is calculated by Oracle Advanced Supply Chain Planning. If the Planning Time Fence checkbox is not selected in the plan option, then Oracle Advanced Supply Chain Planning uses the plan start date as the PTF date.

In the previous example, assume that the A PTF date is D2. Each day has net availability of resource, but cumulative availability only starts on Day 3.

Resource	1	D1	D2	D3	D4	D5	D6	D7
R1	Net	3	5	5	10	10	10	10
	Cum	0	0	5	15	25	35	45

Shared Resources

Shared resource is a resource owned by a department, but it can be used by other departments. Oracle Global Order Promising looks for the availability in the owning department and sums the requirement from all departments that use the resource.

Batch Resources

Oracle Global Order Promising supports the ability to accurately consider the capacity of batch resources.

For details, see Batch Resource Considerations, page 4-41.

Component Requirement Calculation

Oracle Global Order Promising checks component availability on the work order start date. The required quantity is calculated as follows:

Demand quantity * Component usage / Reverse cumulative yield

Component Availability Calculation

Oracle Global Order Promising uses cumulative supply up to the component requirement date. The cumulative quantity starts from the plan start date.

Component Substitution

ATP supports the use of substitute components if the primary component is not available.

For details, seeComponent Substitution, page 4-39.

Detail Logic for Buy Item

The following example explains the detail logic for a buy item.

Item B in Org 1 can be sourced from Supplier 1. Check ATP attribute for B is set to Material. Component ATP attribute for B is set to Material. A request comes for B for a quantity of 10 on Day 9 in Org 1.

Lead time information:

- Post processing lead time for B = 1 day.
- Processing lead time for B = 2 days.
- Preprocessing lead time for B = 1 day.
- Processing lead time for Supplier1 = 3 days.
- Item B PTF date = Day 4.

Net and cumulative availability picture is as the follows:

Item	Row Type	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
B/Org1	Net	1	0	0	0	0	1	0	0	0
B/Org1	Cum	1	1	1	1	1	2	2	2	2
B/Supplier1	Net	10	10	15	15	20	10	10	10	10
B/Supplier1	Cum	10	20	35	50	70	80	90	100	110

Oracle Global Order Promising performs the following actions:

1. A quantity of 2 is available on Day 9. Shortage is 8.
2. The Component ATP flag is set to Material. A sourcing rule to purchase the item from Supplier1 exists. Go to the next step. Otherwise, ATP fails to meet the request date.
3. Item B has 1 day post-processing lead time, which means that we must receive the item from Supplier1 on Day 8 (dock date = Day 8). If the item's post processing lead

time puts the receipt date before today's date or on or before the PTF date, then ATP fails to meet the request date.

4. Checks to see if supplier has sufficient time to process. The time needed = item's preprocessing lead time + approved supplier list's processing lead time = 4 days. If the approved supplier list's processing lead time is not defined, item's processing lead time will be used and is calculated as (fixed lead time + variable lead time * quantity). The request to Supplier 1 is Day 8. Day 8 - 4 days = Day 4. Since it is greater than today's date, the supplier has sufficient time. If it is < today, ATP fails to meet request date.

5. Checks supplier capacity on the dock date at the supplier. In this example, it is Day 8. A cumulative quantity of 100 is available on Day 8, which is sufficient quantity to cover the shortage of 8. ATP succeeds.

Detail Logic for Transferred Item

Oracle Global Order Promising first ensures that the receiving organization has sufficient time to process the receipt. It offsets the demand date of the item in the receiving organization by item's post processing lead time. If the result is before today's date or on or before planning time fence date, ATP fails to meet the demand on request date.

The demand date in the source-from organization is calculated by offsetting transit lead time. Oracle Global Order Promising will honor the shipping method and its lead time from the sourcing rule. If shipping method and lead time are not present on the sourcing rule, Oracle Global Order Promising uses the default shipping method and its lead time defined in the shipping network for the two organizations. If no default shipping method is indicated, then 0 lead time is assumed.

After offsetting the transit lead time, if the demand date in the source-from organization is before today's date, Oracle Global Order Promising fails to meet the request. Otherwise, it proceeds with checking availability in the source-from organization based on the item's ATP attributes in that organization.

Planned Order

Oracle Global Order Promising creates planned order supply when it determines that capacity is sufficient to make, buy, or transfer an item. These planned orders will be visible from Planner Workbench in Oracle Advanced Supply Chain Planning. The planned order created by Oracle Global Order Promising does not have pegging information.

When a sales order is canceled, Oracle Global Order Promising removes the sales order demand from the plan, but it does not remove any planned order created previously to satisfy the sales order. The supply is available for new sales order demand.

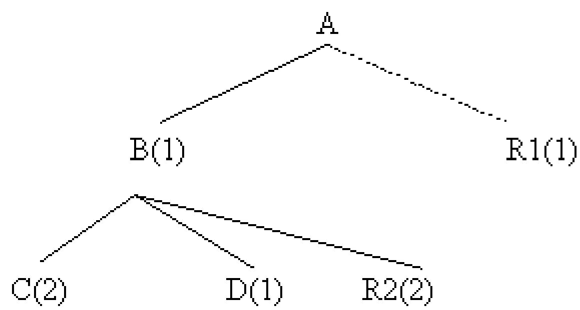
Examples

The supply and demand figures in the following examples are expressed in the primary unit of measure of the referenced item or resource.

Multi-Level ATP in a Single Organization

Assume assembly A has the following bill in Org1.

Multi-Level ATP



Lead time information for A and B is as shown in the following table:

Item	Fixed Lead Time	Variable Lead Time
A	0	0.1
B	1	0.01

The routing information for Item A and Item B is as shown in the following table:

Item	Operational Sequence	Resource	Usage	Lead Time Offset
A	1	R1	1	0
B	1	R2	2	20%

Planning information for Item A and Item B from an MRP run on Date1 is as shown in the following table. Assume every day is a working day.

Supply / Demand Type	Item A	Item B	Item C	Item D
Sales Orders	10	5	50	40
Forecasts	100	10	75	60
Dependent Demand	0	145	270	135
Scheduled Receipts	5	25	50	50
Planned Order	105	135	345	185
ATP	100	10	75	60

Suppose we have the cumulative ATP quantities from the planning run as shown in the following two tables:

Item	Date1	Date2	Date3	Date4	Date5	Date6	Date7
A	100	100	110	110	150	160	170
B	10	10	10	200	255	260	270
C	10	75	85	85	85	90	100
D	50	60	60	60	60	65	70

Resource	Date1	Date2	Date3	Date4	Date5	Date6	Date7
R1	16	16	16	16	20	22	24
R2	16	16	16	16	22	24	26

The values of the Check ATP flag and Component ATP flag of the request item determine the level of the ATP check, which may cause different results for the same request. Assume that the Check ATP flag at bill level is Yes for all items.

Example 1-1 Request 100 of Item A on Date4 in Org1

Item	Check ATP Flag	Component ATP Flag
A	Materials	None

We do have ATP quantity 100 on Date4. ATP date is Date4.

Example 1-2 Request 120 of Item A on Date4 in Org1

Case 2.1

Item	Check ATP Flag	Component ATP Flag
A	Materials	None

1. We do not have ATP quantity 120 on Date4.

2. Component ATP flag is None. We cannot go to the next level. ATP fails for this request.

   For Item A, we can have 110 on Date4 and 120 on Date5. ATP date is Date5.

Case 2.2

Item	Check ATP Flag	Component ATP Flag
A	Materials	Materials
B	Materials	None

1. We do not have 120 of Item A on Date4.

2. The Component ATP flag is Materials. The shortage is 10 for Item A. The lead time to build 10 of Item A is one day. Therefore, we need 10 of Item B on Date3 to build this simulated supply of 10.

3. We do have 10 of Item B on Date3, so the ATP date is Date4; use 110 of Item A on Date4 and 10 of Item B on Date3.

Case 2.3

Item	Check ATP Flag	Component ATP Flag
A	Materials	Materials and Resources
B	Materials	None

1. We do not have 120 of Item A on Date4. The shortage is 10.
2. The Component ATP flag of Item A is Materials and Resources. Simulate a supply of Item A for quantity 10. Explode the bill to the next level. The lead time to build 10 of Item A is 1 day. We need 10 of Item B on Date3 and 10 R1 on Date3 to build 10 of Item A

   We do have 10 R1 on Date3.

   We do have 10 of Item B on Date3, so ATP date is Date4. Use 110 of Item A on Date4, 10 of Item B on Date3, and 10 of R1 on Date3.

Example 1-3 Request 165 of Item A on Date5 in Org1

Item	Check ATP Flag	Component ATP Flag
A	Material Only	Material and Resource
B	Material Only	Material and Resource
C	Material Only	None
D	Material Only	None

1. We do not have 165 of Item A on Date5. The shortage is 15.
2. The Component ATP flag of Item A is Materials and Resources. Simulate a supply of Item A for quantity 15. Explode the bill to the next level. The lead time to build 15 of Item A is 2 days. We need 15 of Item B on Date3 and 15 of R1 on Date3 to build 15 of Item A.
3. We do have 15 R1 on Date3.
4. However, we only have 10 of Item B on Date3, and the shortage is 5.
5. The Component ATP flag of Item B is Materials and Resources. Simulate a supply of Item B for quantity 5. Explode the bill to the next level. The lead time to build 5 of Item B is 2 days. We need 10 of Item C and 5 of Item D on Date1, and 10 R2 on

Date2 (Date3-CEIL((1+0.01*5)*80%)).

6. We do have 10 R2 on Date2.

7. We do have 10 of Item C and 5 of Item D on Date1, so the ATP date is Date5. Use 150 of Item A on Date5, 10 of Item B on Date3, 15 of R1 on Date3, 10 of Item C on Date1, 5 of Item D on Date1, and 10 of R2 on Date2.

Example 1-4 Request 130 of Item A on Date3 in Org1

Case 4

Item	Check ATP Flag	Component ATP Flag
A	Material Only	Material and Resource
B	Material Only	None

1. We do not have 130 of Item A on Date3.

2. The Component ATP flag of Item A is Materials and Resources. Simulate a supply of Item A for quantity 20. Explode the bill to the next level. The lead time to build 20 of Item A is 2 days. We need 20 of Item B on Date1 and 20 R1 on Date1 to build 20 of Item A.

3. We do not have enough R1 on Date1. ATP fails for this request on the request date.

4. We can only make 16 of Item A since we only have 16 R1 available on Date1.

5. We can only make 10 of Item A since we only have 10 of Item B available on Date1 although we have 16 R1 available on Date1. The request date ATP quantity is 120.

6. Do forward scheduling from sysdate (Date1) for Item A with quantity 10.

7. The earliest date we can have another 10 R1 is Date5 (the supply picture of R1 has been changed since we used 10 R1 in Date1 to build 10 of Item A).

8. The earliest date we can have 10 of Item B is Date4 (the supply picture of Item B has been changed since we used 10 of Item B in Date1 to build 10 of Item A).

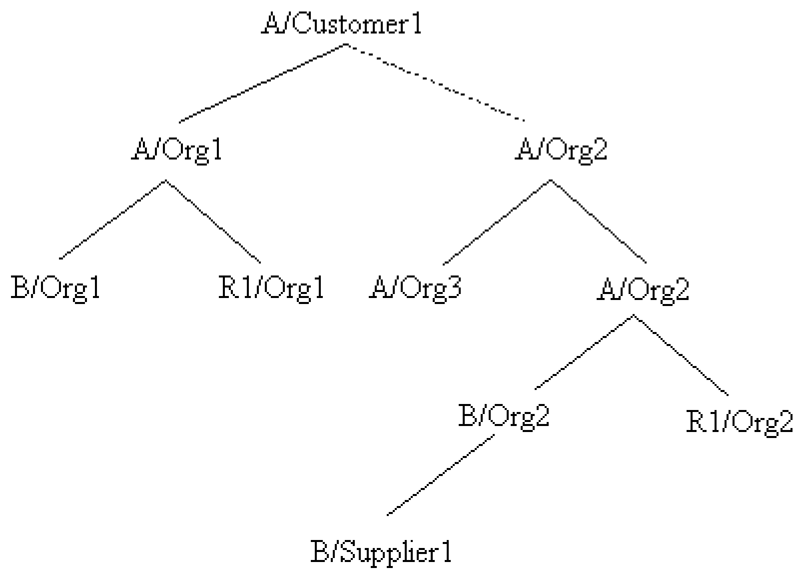
9. Considering lead time, the earliest date we can have 10 of Item A built is Date6 (= max (Date4 + 1, Date5 +1)).

10. If we do not build 10 of Item A, we can have 130 of Item A on Date5. Date5 < Date6. The ATP date is Date5. We can provide 130 on Date5.

Multi-Level ATP for a Supply Chain BOM

The supply chain bill looks like the following figure:

Supply Chain Bill Example



For an item with no associated sourcing information, the item is assumed to be make or buy based on the make/buy code of the item. If the item is buy, then Oracle Global Order Promising assumes infinite capacity.

Assume that Customer1 has the following sourcing rule, shown in the next table, with assembly A.

Source Type	Org	Rank	Shipping Lead Time
Transfer from	Org1	1	1 day
Transfer from	Org2	2	2 days

Org1

The bill and routing for item A in Org1 is the same as the information provided in the previous example. No sourcing information is defined for item A in Org1, and the make/buy code is make for item A. Item A in Org1 is assumed to have an implicit supply chain bill, which is shown in the following table:

Source Type	Org	Rank
Make at	Org1	1

The cumulative ATP quantities in Org1 are shown in the following table:

Item	Date1	Date2	Date3	Date4	Date5	Date6	Date7
A	100	100	110	110	150	160	170
B	10	10	10	200	255	260	270
R1	16	16	16	16	20	24	26

Org2

The supply chain bill for item A in Org2 is shown in the following table:

Source Type	Org	Rank	Shipping Lead Time
Transfer from	Org3	1	1 day
Make at	Org2	2	0 days

Item A in Org2 uses the common bill from item A in Org1. The fixed lead time of Item A is 0, and the variable lead time is 0.1 day.

Item B is a buy item, and it sources from Supplier1 with a lead time of 0 days. Assume Supplier1 can provide 100 of Item B for Org2 from Date1 to Date10.

The cumulative ATP quantities in Org2 are shown in the following table:

Item/Resource	Date1	Date2	Date3	Date4
A	100	120	120	150
B	10	40	50	60
R1	16	16	16	16

Org3

The cumulative ATP quantities in Org3 are shown in the following table:

Item	Date1	Date2	Date3	Date4	Date5
A	20	20	20	20	30

> **Note:** Assume that the Component ATP flag for all items in every organization is set to Yes.

Assume that the Latest Acceptable Date is the same as the request date for all the following cases:

Example 2-1 Customer1 Requests 100 of Item A with Date5 Delivery Date

Item	Org	Check ATP Flag	Component ATP Flag
A	Org1	Material Only	None
A	Org2	Material Only	None

1. The system checks the availability of 100 of Item A on Date4 at Org1. The item is available. Therefore, ATP date is Date4 from Org1 and Customer1 will receive it on Date5 because shipping lead time is 1 day. This request is satisfied by using 100 of Item A on Date4 in Org1.

Example 2-2 Customer1 Requests 120 of Item A with Date5 Delivery Date

Item	Org	Check ATP Flag	Component ATP Flag
A	Org1	Material Only	None
A	Org2	Material Only	Material and Resource

1. The system checks the availability of 120 of Item A on Date4 at Org1. Item A has enough supply on Date5. The ATP date in Org1 is Date5 and Customer1 receives it on Date6. From Org1, we will not be able to satisfy the request.

2. The system checks the availability of 120 of Item A on Date3 at Org2. The item is available. ATP date is Date3 from Org2, and Customer1 will receive it on Date5.

The request is satisfied by using 120 of Item A in Org2 on Date3.

Example 2-3 Customer1 Requests 145 of Item A with Date5 Delivery Date

Item	Org	Check ATP Flag	Component ATP Flag
A	Org1	Material Only	None
A	Org2	Material Only	Material and Resource
A	Org3	Material Only	None

1. The system checks the availability of 145 of Item A on Date4 at Org1. The request cannot be satisfied in Org1. Item A has enough availability on Date5. The ATP date in Org1 is Date5 and Customer1 will receive it on Date6.

2. The system checks the availability of 145 of Item A on Date3 at Org2. A sufficient quantity of Item A is not available, and the shortage is 25.

3. 3. The Component ATP flag is Material and Resources. Item A can be obtained from two sources:

    1. Transfer from Org3

    2. Make at Org2.

       Oracle Global Order Promising starts with the higher ranked source.

4. Oracle Global Order Promising checks the availability at Org3 and tries to transfer 25 of Item A from Org3 on Date2 to cover the shortage. Only 20 are available, so the shortage is 5.

5. Oracle Global Order Promising checks the availability at Org2 and tries to make 5 of Item A to cover the shortage. Five of Item B and 5 R1 on Date2 are needed. Sixteen of R1 is available on Date2. Ten of Item B is available on Date2. ATP date is Date3 from Org2, and the customer receives it on Date5. The request is satisfied on the requested date by using 120 of Item A in Org2 on Date3, 20 of Item A in Org3 on Date2, 5 of R1 in Org2 on Date2, and 5 of Item B in Org2 on Date2.

Component Substitution

ATP supports the use of substitute components if the primary component is not available. If sufficient quantity of primary component is not available, the ATP searches for substitute components.

Many substitutes are possible for a primary item. In this case, the sequence of search for substitutes is determined by substitute priority, which is a flex field in the Bill of Material.

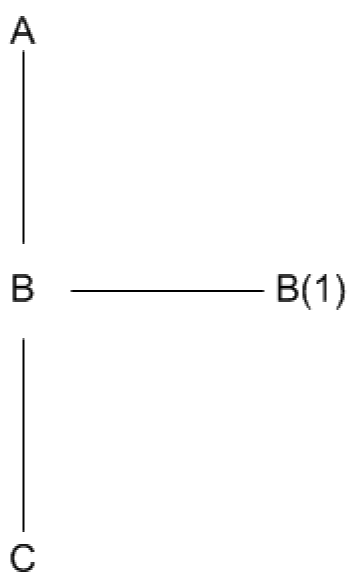
ATP splits demand among the primary and substitute components. For example:

- Demand for 10 comes for item A.
- Item A has Item B as a component.
- Item B has two substitutes: B1 and B2.
- Item B has 2 available, B1 has 4 available, and B2 has 20 available.

Then, the ATP results will return 2 for Item B, 4 for B1, and 4 for B2. It will not just return 10 for B2.

Consider the Bill of Material, shown below, where A is made up of component B. B can be substituted by B(1) whenever B does not exist.

Bill of Material Example



Oracle Global Order Promising searches for substitute components before doing a multi-level search. If an insufficient quantity of A is available to meet the requirement on a given date, then the quantity for B is checked. If that quantity is also not enough, then the substitute B(1) is considered. If that quantity is also not sufficient, then C, which is a component of B, is considered.

Oracle Global Order Promising does not search for the components of B(1), which is the substitute for B.

If the demand is not satisfied even after the inclusion of B(1) and C, then Oracle Global

Order Promising searches forward to find a date when the shortage can be met. In forward scheduling, substitute components are not considered.

MRP: Include Substitute Components

This site-level profile must be enabled in order to consider substitute components in the ATP inquiry.

Batch Resource Considerations

Oracle Global Order Promising supports the ability to accurately consider the capacity of batch resources when performing Capable-To-Promise based on planning data. Batch resources are resources that can process multiple units of the same item or multiple units of different items simultaneously.

Batch resource capacity is expressed along two dimensions:

- Time dimension: How long each load takes to process.
- An additional size dimension that expresses the maximum size of each load: The number of units in each load, maximum weight of each load, or maximum volume of each load.

Oracle Global Order Promising considers the capacity of batch resources by converting multiple dimensions into a single dimension, such as unit-hours. Oracle Global Order Promising uses the cumulative available capacity for the Capable-To-Promise calculation. For example:

Batch Resource Heat_Treat_1 is for heat-treating pistons. The capacity information is:

- Volume of 100 cubic feet
- Availability 8 hours / day
- Capacity / day = 100 cubic feet * 8 hours = 800 cubic feet-hours

The capacity requirement:

- Piston1 requires 2 hours of processing and occupies 1 cubic foot
- CTP inquiry for a quantity of 100 Piston1 on Day 2. Capacity needed = 1 cubic foot* 2 hours * 100 units = 200 cubic feet-hours.

The following table shows the capacity picture of Heat_Treat_1 at the time of the Capable-To-Promise inquiry:

Capacity	Day 1	Day 2
Total capacity	800 cubic feet-hours	800 cubic feet-hours
Consumed capacity	700 cubic feet-hours	600 cubic feet-hours
Net capacity	100 cubic feet-hours	200 cubic feet-hours

The next table shows the capacity picture of Heat_Treat_1 after the CTP inquiry and after the order is scheduled:

Capacity	Day 1	Day 2
Total capacity	800 cubic feet-hours	800 cubic feet-hours
Consumed capacity	700 cubic feet-hours	800 cubic feet-hours
Available capacity	100 cubic feet-hours	0 cubic feet-hours

The CTP inquiry returns a result of Day 2.

Resource batching is honored only for constrained MRP/DRP plans and when routings (not bills-of-resources) are used and when items are planned at the individual item level as opposed to the product family level.

> **Note:** Oracle Global Order Promising does not support the Batching window functionality.

To invoke Capable-To-Promise for batch resources:

Set the profile option MSO: Global Batchable Flag to Yes to set up the resource as a batch resource.

For details, see Setting Up Batch Resources, *Oracle Advanced Planning and Scheduling Implementation and User's Guide.*

Enforcing Purchasing Lead Time Constraint

Oracle Global Order Promising honors the Enforce Purchasing Lead Time Constraints plan option for constrained plans. When this option is not selected, Oracle Global Order Promising will not enforce purchasing lead time as a hard constraint when performing a CTP check. It only ensures that the demand due date is greater than the PTF date.

If your supplier provides frequent supplier capacity updates, then you may want to refer to the supplier capacity updates to check the ability to deliver material to your dock.

To enforce the purchasing lead time constraint:

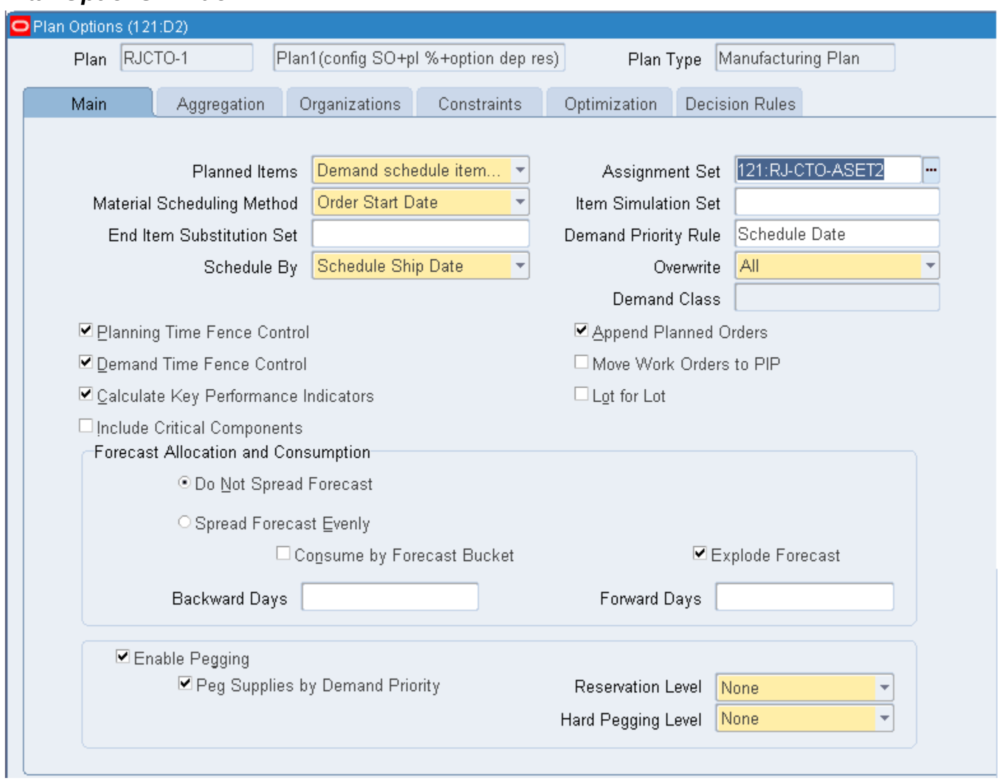
1. Log into Oracle Global Order Promising with the Advanced Supply Chain Planner responsibility.

2. Select an instance: organization.

3. Select Plan Options.

   The Plan Options window appears.

   Plan Options window



4. In the Constraints tab, select Enforce Purchasing Lead Time Constraints.

You can enable or disable this option for constrained plans. For unconstrained plans, Oracle Global Order Promising always enforces the purchasing lead time during the CTP process

Configuration ATP

A Configure-To-Order environment is one where the product or service is assembled or kitted on receipt of the sales order. This chapter provides a detailed explanation of order promising for items used in a configure-to-order environment.

Oracle Global Order Promising supports Configure-To-Order (CTO) environment. You can designate any optional items as well as included items for ATP check. This provides an accurate availability date for the end configuration.

Business Application

In a configure-to-order environment, it is not always possible or practical to project and plan for every possible configuration. Inventory is planned and held at component level. To accurately promise a customer order, you need to check availability based on the actual options selected. Oracle Global Order Promising lets you promise sales order for configuration based on the selected options.

Items Used in Configure-to-Order Environment

The following items may be used in a configure-to-order environment.

- ATO Model
- PTO Model
- ATO Item
- Kit (PTO Item)

Examples of the above items are below. In all the examples, the component usage is assumed to be 1.

Examples

ATO Model

Level	Item	BOM Item Type	Mutually Exclusive	Optional	Assemble-To-Order
0	Laptop X11	ATO Model	-	-	Yes
1	- Base System	Standard	No	No	No
2	- - Board	Standard	No	No	No

Level	Item	BOM Item Type	Mutually Exclusive	Optional	Assemble-To-Order
2	- - Network Card	Standard	No	No	No
2	- - Graphics Card	Standard	No	No	No
1	- Processor Class	Option Class	Yes	No	Yes
2	- - Mobile Pentium®4 2.2 GHz	Standard	No	Yes	No
2	- - Mobile Pentium®4 2.0 GHz	Standard	No	Yes	No
2	- - Mobile Pentium®4 1.8 GHz	Standard	No	Yes	No
2	- - Mobile Pentium®4 1.7 GHz	Standard	No	Yes	No
1	- Memory Class	Option Class	Yes	No	Yes
2	- - 256 MB	Standard	No	Yes	No
2	- - 512 MB	Standard	No	Yes	No
2	- - 640 MB	Standard	No	Yes	No
1	- Monitor Class	Option Class	Yes	No	Yes
2	- - 17in Flat Screen	Standard	No	Yes	No
2	- - 19in Flat Screen	Standard	No	Yes	No
1	- Modular Drive Class	Option Class	No	No	Yes
2	- - 24X CD-ROM	Standard	N/A	Yes	No

Level	Item	BOM Item Type	Mutually Exclusive	Optional	Assemble-To-Order
2	- - 8X Max DVD ROM	Standard	N/A	Yes	No
2	- - 24X CD-RW	Standard	N/A	Yes	No
2	- - 24X CD-RW/DVD Combo	Standard	N/A	Yes	No

PTO Model

Level	Item	BOM Item Type	Mutually Exclusive	Optional	Pick Components
0	Laptop X11 Deluxe	PTO Model	-	-	Yes
1	- Laptop X11	ATO Model	No	No	No
1	- External Mouse	Option Class	No	Yes	No
2	- - Logitech Optical Mouse	Standard	No	Yes	No
2	- - COMPAQ mouse	Standard	No	Yes	No
1	- Wireless Networking Card	Option Class	No	Yes	Yes
2	- - External TrueMobile 1150 PC Card	Standard	No	Yes	No
2	- - Internal TrueMobile 1150 miniPCI card	Standard	No	Yes	No
1	- Laptop case	Standard	No	No	No
1	- External Speaker	Optional Class	No	Yes	Yes

Level	Item	BOM Item Type	Mutually Exclusive	Optional	Pick Components
2	- - Premium Speaker	Standard	No	No	No
2	- - Speaker Manual	Standard	No	No	No

ATO Item

Level	Item	BOM Item Type	Mutually Exclusive	Optional	Assemble-To-Order
0	Laptop X11-1	Standard	-	-	Yes
1	- Base System	Standard	N/A	No	No
1	- Mobile Pentium®4 2.2 GHz	Standard	N/A	No	No
1	- 512 MB	Standard	N/A	No	No
1	- 17in Flat Screen	Standard	N/A	No	No
1	- 24X CD-RW/DVD Combo	Standard	N/A	No	No

Kit

Level	Item	BOM Item Type	Mutually Exclusive	Optional	Pick Components
0	External Speaker	Standard	No	-	Yes
1	- Premium Speaker	Standard	No	No	No
1	- Speaker Manual	Standard	No	No	No

ATO Model

If you implement Oracle Advanced Supply Chain Planning and promise orders based on the output from the ASCP plan, you can promise configuration orders based on the availability of optional items and resource in the entire supply chain bill. You may use two types of ATO models:

- Single-Level, Single-Org ATO Model
- Multi-Level, Multi-Org ATO Model

A Single-Level, Single-Org ATO Model refers to an ATO Model that does not have another ATO Model as its component. In addition, it is neither sourced from a different organization nor procured from a supplier, in the shipping organization.

A Multi-Level, Multi-Org ATO Model refers to a supply chain bill that has an ATO Model as a non-phantom component of another ATO Model or the Model at any level can be sourced from an organization other than the shipping organization.

> **Note:** An ATO Model is like a product family. Therefore, it is recommended to not define an ATO Model under a product family.

For details on demand planning and planning process description, see *Oracle Advanced Supply Chain Planning Implementation and User's Guide* and *Oracle Demand Planning Implementation and User's Guide*.

Setup

Refer to the Setting Up, page 2-1 chapter for the mandatory and optional setup steps.

ATP Item Attributes and Component ATP

You need to set the Check ATP item attributes.

Here are the setup scenarios:

1. ATO Model is manufactured.

   The availability of the ATO Model depends on the availability of its components and resources. You can set the ATP item attributes as following:

Item Type	Check ATP	Component ATP
ATO Model	• None	• Material • Material and Resource • Resource
Option Class	• None	• Material • Material and Resource • Resource
Mandatory Item	• Material • None	• Material • Material and Resource • Resource • None • None
Optional Item	• Material • None	• Material • Material and Resource • Resource • None • None

2. ATO Model is procured.

   The availability of the Model depends on the supplier capacity or beyond the procurement lead time. You can setup ATP attributes as following:

Item Type	Check ATP	Component ATP
ATO Model	• None	• Material
Option Class	• None	• None
Mandatory Item	• None	• None
Optional Item	• None	• None

3. The Model is manufactured.

   The availability of the Model comes from a supply schedule, which typically represents an aggregate capacity constraint of the Model. The availability may or may not depend on the options selected. You can setup the ATP attributes as following:

Item Type	Check ATP	Component ATP
ATO Model	• Material	• None • Material
Option Class	• None	• Material • None
Mandatory Item	• Material	• Material • None
Optional Item	• Material	• Material

4. The Model is procured.

   The availability of the Model comes from a supply schedule which is used to represent supplier capacity. You can setup the ATP attributes as following:

Item Type	Check ATP	Component ATP
ATO Model	• Material	• None
Option Class	• None	• None
Mandatory Item	• None	• None
Optional Item	• None	• None

Note: When the Check ATP flag is set to None for an optional item or a mandatory item, the Component ATP flag should also be set to None.

Create Config Item for ATO Model item attribute

Set this attribute to Based on Model to perform match to existing configuration check.

Supply Chain: Sourcing Rule, Bills of Distribution, & Assignment Set

You will be able to define sourcing rules or bills of distribution for an ATO Model.

For detail instruction on how to setup sourcing rules or bills of distribution, and assignment set, see: Setting up the Supply Chain, *Oracle Advanced Planning and Scheduling User's Guide*.

Source Model from Supplier

When you source an ATO Model from a supplier, you can define supplier capacity for the ATO Model. If you set Component ATP to Material for the ATO Model, Oracle Global Order Promising checks the supplier capacity for the Model.

MRP: Default Sourcing Assignment Set/ MRP: ATP Assignment Set

Set these profiles to the assignment set that defines the supply chain for your Model.

The plan for ATP uses the plan level assignment set that defines the supply chain for your Model. The sourcing definition for the Model in this assignment set must be the same as the sourcing definition in the following profiles:

- MRP: ATP Assignment Set. - ATP checks the setting for this profile during order promising.

- MRP: Default Sourcing Assignment Set - Oracle Configure To Order checks the setting for this profile to create the bill of material (BOM) and sourcing for a configuration.

To define supplier capacity for a procured Model:

1. In the Navigator, select Purchasing > Supply Base > Approved Supplier List.

2. Query for the ATO Model item, select Global, then click the Attributes button to enter the planning attributes.

3. Define the Supplier Capacity for the ATO Model.

This is the total capacity for all configurations of the base Model that the supplier can produce.

ATP Logic

Match to Existing Configuration

Oracle Global Order Promising determines whether a new sales order matches to an existing configuration if the profile BOM: Match To Existing Configuration is set to Yes.

- If a matching configuration is found in an ATP enabled plan, then Oracle Global Order Promising will check the availability using the matched configuration item. Existing supply for the configuration item will be used. Additional supply may be created based on the Component ATP flag setting for the configuration item as well as the supply available for the lower level component and resources. After the order is scheduled, demand is placed on the configuration item. Oracle Global Order Promising uses the matched item for available-to-promise checks both before and after it is linked to a sales order.

    - For a Multi-Level Multi-Org ATO Model, Oracle Global Order Promising supports matching at any level where there is an ATO Model.

    - The matched configuration will not be present on an order line until you explicitly progress the order to create the configuration item. That process step should find and match to the same configuration item that Oracle Global Order Promising uses.

- If the new sales order does not match with any existing configured item, Oracle Global Order Promising creates a temporary bill of material (BOM) and routing structure for the new configuration request and promises the delivery date based on when the configuration will be available. This bill of material (BOM) includes the Standard Mandatory Components (SMC) applicable to each organization. The demand will be placed for the Model, atpable options and standard mandatory components.

For details on how option specific sourcing is used, see: Example, page 4-58.

To perform a match to configuration check:

1. In the Navigator, select Order Management > Orders, Returns > Sales Orders.

   The Sales Orders window appears.

2. Enter a sales order and click Availability.

   The Availability window appears with the ATP results. Oracle Global Order Promising performs a match to configuration check and returns the earliest possible date.

3. Click ATP Details.

   The ATP Details window displays the matched configuration details.

Change Management

In some industry, configuration change can be at a higher rate. Customers may change their requirement and choose different options.

When a configuration is changed and the order gets rescheduled, Oracle Global Order Promising returns the supply back to the option that is de-selected and schedules the new options selected. This ensures the correct availability picture for all the options.

Oracle Global Order Promising performs the following during order rescheduling:

1. It removes the sales order demand for the configuration item.

2. If any of the supply that pegs to the configuration sales order demand is a planned order supply, Oracle Global Order Promising creates a negative Order Rescheduling Adjustment to net out that portion of the supply.

3. Oracle Global Order Promising frees up any optional item, standard mandatory item or resource supplies by creating a positive Order Rescheduling Adjustments to net out the planned order demand that comes from the planned order of the configuration item for these items and resources.

4. If the sales order that is unscheduled consumes forecast for a specific configuration item, then Oracle Global Order Promising will not place adjustments for the configuration item supply. Therefore, there will be no adjustment for the optional items and standard mandatory items.

Detail explanation on adjustment with respect to forecast:

Forecasts can be specified for both Configuration Items and corresponding base Models at any level in the bills of material (BOM). Forecasts can be Global (applicable to all Organizations) or Local (specific to individual organization). Corresponding to this, the following consumption scenarios arise:

1. Configuration Item forecast is consumed to fulfill the sales order or lower level demands.

2. Only Model is forecast and this is consumed to fulfill the sales order or lower level demands.

3. Both Configuration Item and Model's forecasts are consumed to fulfill the sales Order or lower level demands.

ATP offsets the consumption and creates adjustments in the following manner.

- Demand Relief: The sales order demand is set to 0. Adjustments are applied to Planned Order Demands to the extent of the consumption of the forecast of the Model. If only the Model's forecast is consumed, the entire Planned Order Demand will be offset. If only the configuration item's forecast is consumed then the behavior is the same as that of a standard item where Planned Order Demands are not relieved.

- Supply Relief: The supply adjustments mirror the Demand offsets. The Planned Order pegged to the Sales Order is offset completely. If more than one supply is pegged to a demand, the relief will happen only on the allocated quantity for the demand. Adjustments are applied to Planned Orders Allocated Quantities to the extent of the consumption of the Forecast of the Model. If only the Model's forecast is consumed, the entire Planned Order allocated quantity will be offset. If only the configuration item's forecast is consumed then the behavior is the same as that of a standard item where Planned Orders are not relieved.

- Resource Requirement Relief: The Resource Requirement adjustments match those of the Supply that they are tied to. In case of Lot Based Resources, these will be adjusted only when allocated and supply quantities are the same, for example, when supplies are not distributed between multiple lines/orders.

For details on Forecast Consumption and Explosion by Planning, see *Oracle Advanced Supply Chain Planning Implementation and User's Guide*.

> **Note:** If no new orders are scheduled, Oracle Advanced Supply Chain Planning recommends cancellation of the real supplies in the next plan run.

The Order Rescheduling Adjustment is visible in the Planner Workbench. You may optionally choose to display the rescheduling adjustments in the Planners Workbench by setting the profile MSC: Display Order Rescheduling Supplies to Yes.

For details on how change management is used, see: Example, page 4-58.

Option Specific Sourcing

A model-option combination may not always be produced at a specific source. There can be restrictions associated with specific options like equipment limitations, and engineering qualifications. If a model requires a specific option, you can predefine that it will be sourced from a reduced set of sources. Oracle Configure-To-Order enables you to specify a sub-set of the model sources as valid sources for a model-option combination. Oracle Global Order Promising honors this setup and schedules a date for a configuration, based upon the sub-set of the model sourcing that is valid for the specific configuration. The configuration bill of material (BOM) is created in the reduced set of sources only.

> **Note:** Oracle Configure to Order may create configuration item in an org that is not on the list of valid orgs based on the Option Specific Sourcing rule. When you perform an ATP inquiry for such item in applications such as Oracle Order Management, Oracle Configure to Order validates the item-org combination and flags such error. However, this validation is not available on the destination instance. You need to provide a valid organization while performing ATP inquiry for such item.
>
> For more details on configuration item creation, see *Oracle Configure to Order Implementation Guide*.

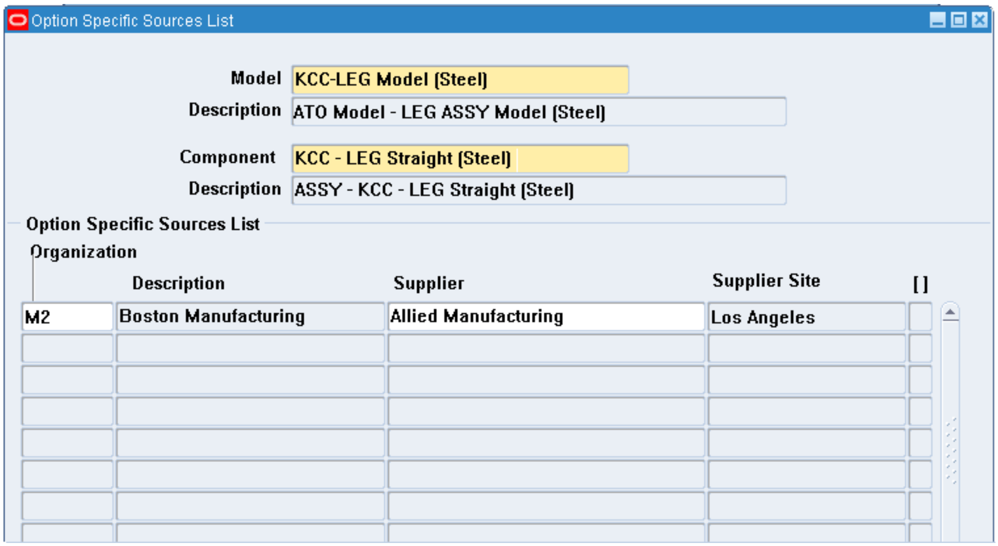
For details on how option specific sourcing is used, see Example, page 4-58.

To define option specific sourcing:

1. In the Navigator, select Advanced Planning > Source Instance Setups > Sourcing > CTO Option Specific Sourcing List.

   The Option Specific Sourcing List window appears.

Option Specific Sourcing List window



2. Define valid sources for each model-option configuration.

Oracle Global Order Promising uses the option specific sources list to restrict available sources when promising the ATO Model.

- Option specific sources on a child model restrict its parent model's available sources.

- Oracle Configure-to-Order performs the following:

  - The configured item's bill of material (BOM) and routing are created only at the subset of organizations required by the option specific sources setup.

  - New sourcing rules and assignments are created for the option specific sources model and its parent models.

For details on how to setup configuration creation based on option specific sourcing, see *Oracle Configure To Order User Guide.*

To set the item attribute to Based to Model:

1. In the Navigator, select Items > Organizations > Master Item.

   The Master Items window appears.

2. Set Create Configured Item, BOM to Based on Model.

For details on setting item attributes, see *Oracle Configure-To-Order User Guide*.

Option Dependent Resource Support

Option dependent resource means that certain resources are only needed when certain options are selected. Oracle Global Order Promising considers non-option dependent resources and option dependent resources for those options selected during its availability calculation.

To define option dependent resources:

1. In the Navigator, select BOM > Routing.
2. Define the routing for the ATO Model. For each operation, select the Option Dependent checkbox as required.
3. In the Navigator, select BOM >BOM.
4. Define the BOM for the ATO Model. Assign the optional component to the operation as required.
5. In the Operation Resources window, enter the time (in hours) that a resource is required for that operation.

   You can view the calculated resource hours in the Resource Requirements window.

   The Auto-create configuration process creates the configured item's bill of material with only the specified options. In the same way, it creates the configured item's routing with only those operations that are mandatory and the option specific operations linked to the options that you select. Oracle Global Order Promising creates a temporary bill of material and routing in the same way as Auto-create configuration process.

   > **Note:** Oracle Global Order Promising uses pre-calculated lead time for a model and does not roll-up the lead time based on selected options.

For details on Auto-create Configuration process, see *Oracle Configure to Order User Guide*.

Global Availability

If an ATO Model can be sourced from multiple shipping warehouses, Oracle Global Order Promising recommends a shipping warehouse based on the availability in each of the warehouses.

For details about setting up sourcing rules for shipping warehouses, see:

Single-Level Supply Chain ATP, page 3-3 or, Multi-Level Supply Chain ATP, page 4-2.

For details about viewing availability information, see: ATP Inquiry, page 6-1.

Infinite Time Fence

Oracle Global Order Promising honors the infinite time fence for an ATO Model. The Model must have either the Check ATP attribute or Component ATP attribute enabled or both the attributes enabled.

Supplier Capacity for Procured Model

You can constrain procured configurations based on the aggregate capacity available for the base Model of the configuration. This means that you can state the capacity for the supplier-supplier site in terms of how many of the base ATO Model can be built. Oracle Advanced Supply Chain Planning constrains all planned orders, requisitions, and purchase orders of all configurations of a base Model to its aggregate capacity value. Planned orders for the ATO item will also consume this aggregate capacity. Oracle Global Order Promising checks the supplier capacity defined for the base Model when scheduling a sales order for the Model.

Consistent Interface to All Calling Applications

Any application that attempts to interface with Oracle Global Order Promising for models (ATO or PTO) needs to send the Model and selected options to Oracle Global Order Promising. Oracle Global Order Promising does the following:

- For ATO Model, it will derive the standard mandatory components
- For PTO Model, the calling application has the choice of either having Oracle Global Order Promising derive the included items or pass the included items to Oracle Global Order Promising.

Examples

Matching to Existing Configuration

The ATO Model is as follows:

Level	Item	Check ATP	Component ATP	Item Type	Op Seq
0	Laptop X11	-	Material & Resouce	Model	
1	- Base System	Material	Material	Standard mandatory component	10

Level	Item	Check ATP	Component ATP	Item Type	Op Seq
2	-- Board	-	-	Component of standard mandatory component	10
2	-- Network card	Material	-	Component of standard mandatory component	10
2	-- Graphics card	-	-	Component of standard mandatory component	10
1	- Processor Class	-	Material	Option class	10
2	-- Mobile Pentium® 4 2.2 GHz	Material	-	Optional item	10
2	-- Mobile Pentium® 4 2.8 GHz	Material	-	Optional item	10
2	-- Mobile Pentium® 4 3.4 GHz	Material	-	Optional item	10
1	- Memory Class	-	-	Optional item	10
2	-- 256 MB	-	-	Optional item	10
2	--512 MB	-	-	Optional item	10
1	- Monitor Class	-	-	Option class	10
2	--15.4" Display	-	-	Optional item	10
2	--14.1" Display	-	-	Optional item	10

Level	Item	Check ATP	Component ATP	Item Type	Op Seq
2	--12.1" Display	-	-	Optional item	10
1	- Modular Drive Class	-	Material	Option class	20
2	-- 24X CD-RW/DVD Combo	Material	-	Optional item	20

The routing is as follows:

Item	Operation Seq	Option Dep	Res urce	Usage	Basis	Offset
Laptop X1	10	No	Assembler	3hr	Item	0%
Laptop X1	20	Yes	Tester	1hr	Item	80%
Process Class	Common routing to Laptop	-	-	-	-	-
Memory Class	Common routing to Laptop	-	-	-	-	-
Monitor Class	Common routing to Laptop	-	-	-	-	-
Modular Drive Class	Common routing to Laptop	-	-	-	-	-

Both the resources, Assembler and Tester, have the Capable-to-Promise flag enabled.

Lead Time

Item	Fixed Lead Time	Variable Lead Time
Laptop X1	0	0.11 day
Base System	0	0.01 day

Existing Configuration Item

There is an existing configuration item Laptop X11*23694 for base Model Laptop X11. It has the following bill of material:

Laptop X11*23694

Base System

Board

Network card

Graphics car

Mobile Pentium 4 2.2 GHz

256 MB

14.1'' Display

Laptop X11

Process Class

Memory Class

Monitor Class

It has the following routing:

Item	Operation Seq	Option Dep	Resource	Usage	Basis
Laptop X11*23694	10	No	Assembler	3hr	Item

The cumulative availability picture for the items that have the Check ATP attribute set is as follows:

Item/Resource	Day 1	Day 2	Day 3
Base System	10	5	10

Item/Resource	Day 1	Day 2	Day 3
Network Card	8	10	15
Mobile Pentium®4 2.2 GHz	10	20	30
Mobile Pentium® 4 2.8 GHz	10	20	30
Mobile Pentium® 4 3.4 GHz	10	20	30
24X CD-RW/DVD Combo	0	10	10
Laptop X11*23694	5	0	0
Assembler	10	20	30
Tester	10	20	30

A sales order comes with a request date of Day 1 for a quantity of 10 units, with the following selected options:

- Mobile Pentium 4 2.2 GHz
- 256 MB
- 14.1'' Display

Oracle Global Order Promising processes the order as follows:

1. A matched configuration Laptop X11*23694 is found for the order. (Assuming the matching profile is turned on.)
2. The matched configuration item is used for checking availability.
3. On Day 1, there is availability of 5.
4. In order to make 5 unit of the configuration, it will take 1 day = CEIL(0 + 5 *0.11). The components must be available on Day 0 in order to make the end assembly item. Since, Day 0 is past due, the remaining quantity cannot be manufactured on Day 1. ATP now tries to project the date when the remaining quantity could be manufactured.
5. There is enough availability of the Base System, Mobile Pentium 4 2.2 GHz on Day 1.

6. The sales order can be promised on Day 2.

An ATP Inquiry for the above order shows you the following in the ATP Details window, summary region:

Item	Matched Configuration	Request Date Qty	Ship Date	Days Late
Laptop X11	Laptop X11*23694	5	Day 2	1
Mobile Pentium 4 2.2 GHz	-	-	Day 2	0
256 MB	-	-	Day 2	0
14.1" Display	-	-	Day 2	0

Explanation:

- The Days Late field shows the difference between the date the item is required and date the item is available. It is applicable for every line.
- There are many fields in the summary region. Some fields such as Request Date Qty, Schedule Ship Date, Schedule Arrival Date, and Org are only meaningful for the ATO Model line.
- The pegging region shows the pegging for the matched configuration item. For further information on how Oracle Global Order Promising displays the pegging, see ATP Inquiry.

No matched configuration is found

The ATO Model for this example is the same as used in Example, page 4-58.

A sales order comes with request date of Day 1 and the following selected options:

-Mobile Pentium 4 2.2 GHz

-256 MB

-14.1" Display

- 24X CD-RW/DVD Combo

Oracle Global Order Promising processes the order as follows:

1. No match is found. (Assume that the profile BOM: Match to Existing Configuration is set to Yes.)

2. Temporary bill of material and routing are created for the configuration. These are used during capable-to-promise calculation.

The temporary bill of material is as follows:

Temporary configuration item

Base System

Board

Network card

Graphics car

Mobile Pentium 4 2.2 GHz

256 MB

14.1" Display

Laptop X11

Process Class

Memory Class

Modular Drive Class

The temporary routing is as follows:

Item	Operation Seq	Option Dep	Resource	Usage	Basis
Temp	10	No	Assembler	3hr	Item
-	20	Yes	Tester	1hr	Item

1. In order to make 10 units of the configuration, it will take 2 day = CEIL(0 + 10 *0.11). The earliest possible promise date would be Day 3.

2. The availability picture is:

   - The Base System, Mobile Pentium 4 2.2 GHz is available on Day 1.
   - 24X CD-RW/DVD Combo is available only on Day 2.
   - The resource Assembler is required on Day 1 and is available on Day 1.
   - The resource Tester is required on Day 2 and is available on Day 2.

3. A job can only start on Day 2 due to 24X CD-RW/DVD Combo availability, and

takes 2 days to finish. Therefore, the sales order can be promised on Day 4.

4. After scheduling the above sales order, a sales order demand is placed for the ATO Model. A planned order demand is placed for the atpable standard mandatory components and optional items. Resource requirement are placed for ctpable resources.

Unscheduling or canceling a sales order

Note that the data used in this example are independent from the data used in the previous examples.

The supply demand detail from the ATP plan is as follows:

Item	Order Type	Qty	Order Num
Laptop X11*23694	Sales Orders	-10	12345
-	Planned Order	10	0
Base System	Planned Order Demand	-10	0
-	Planned Order	10	0
Mobile Pentium 4 2.2 GHz	Planned Order Demand	-10	0
-	Planned Order	10	0

There is a resource requirement of 30 hours on day 3 due to the planned order of Laptop X11*23694.

Pegging for the above supply demand from the ATP plan:

Laptop X11*23694 Qty 10 on Day 3 (Sales Order 12345)

Laptop X11*23694 Qty 10 on Day 3 (Planned order)

Op 10 Assembler Qty 30 on Day 2

Base System Qty 10 on Day 2 (Planned order demand)

Base System Qty 10 on Day 2 (Planned order)

Mobile Pentium 4 2.2 GHz Qty 10 on Day 2 (Planned order demand)

Mobile Pentium 4 2.2 GHz Qty 10 on Day 2 (Planned order)

> **Note:** The pegging is illustrated conceptually. Not all the details or lines are shown.

Based on the plan output, ATP picture is as follows:

Item/Resource	Supply/Demand	Day 1	Day 2	Day 3
Laptop X11*23694	Supply	0	0	10
-	Demand	0	0	-10
-	Net ATP	0	0	0
Base System	Supply	0	10	0
-	Demand	0	-10	0
-	Net ATP	0	0	0
Mobile Pentium 4 2.2 GHz	Supply	0	10	0
-	Demand	0	-10	0
-	Net ATP	0	0	0
Assembler	Supply	0	50	0
-	Demand	0	-30	0
-	Net ATP	0	20	0

If the above sales order is unscheduled or cancelled, Oracle Global Order Promising make the following supply demand adjustments to the plan based on pegging information in the plan:

Item	Order Type	Qty	Order Num
Laptop X11*23694	Sales Orders	0	12345
-	Planned Order	10	-
-	Order Scheduling Adjustment	-10	-

Item	Order Type	Qty	Order Num
Base System	Planned Order Demand	-10	-
-	Planned Order	10	-
-	Order Scheduling Adjustment	10	-
Mobile Pentium 4 2.2 GHz	Planned Order Demand	-10	-
-	Planned Order	10	-
-	Order Scheduling Adjustment	10	-
Assembler	Planned Order	-30	-
-	Order Scheduling Adjustment	30	-

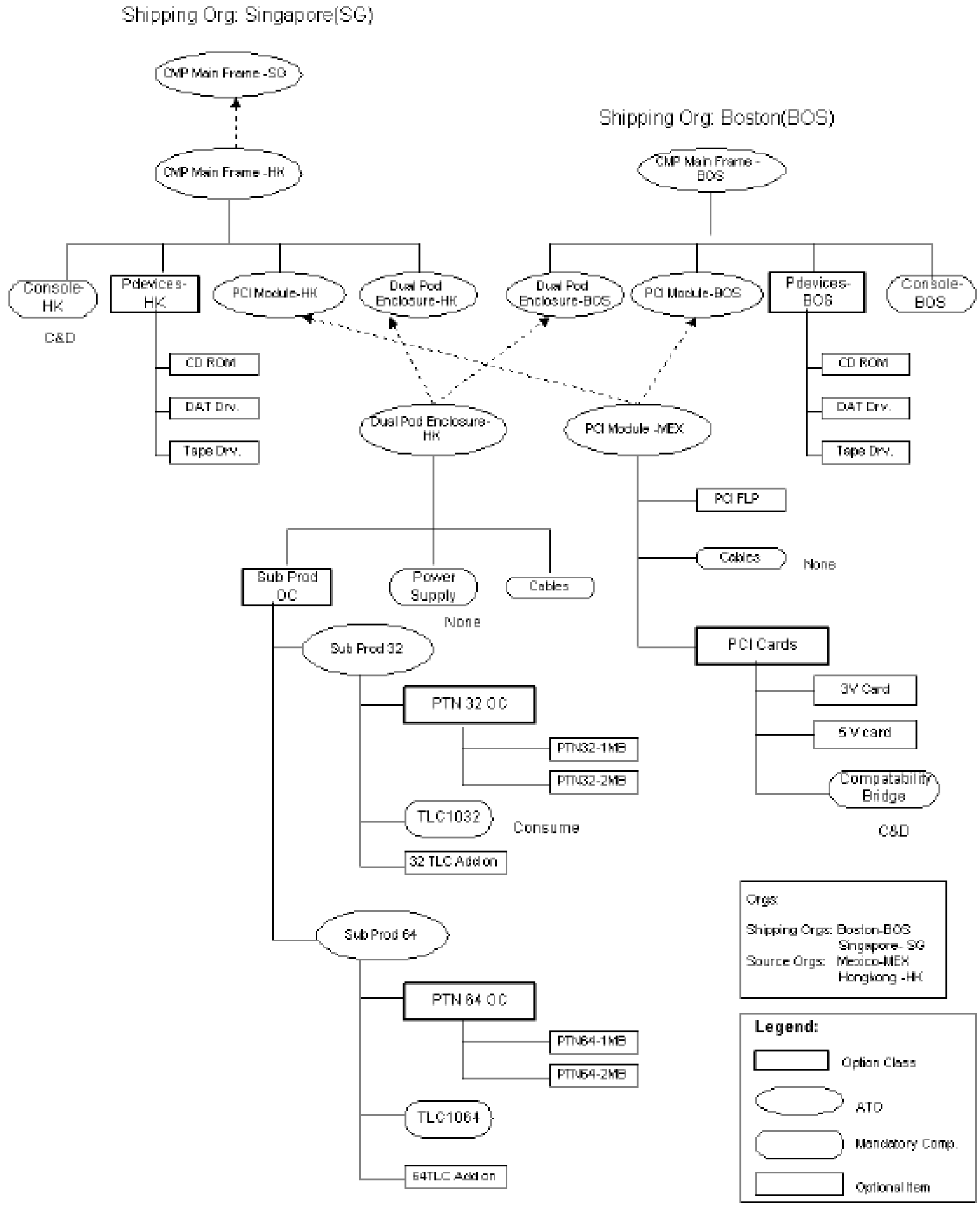
ATP picture will be:

Item/Resource	Supply/Demand	Day 1	Day 2	Day 3
Laptop X11*23694	Supply	0	0	0
-	Demand	0	0	0
-	Net ATP	0	0	0
Base System	Supply	0	10	0
-	Demand	0	0	0
-	Net ATP	0	10	0
Mobile Pentium 4 2.2 GHz	Supply	0	10	0
-	Demand	0	0	0

Item/Resource	Supply/Demand	Day 1	Day 2	Day 3
-	Net ATP	0	10	0
Assembler	Supply	0	50	0
-	Demand	0	0	0
-	Net ATP	0	50	0

Multi-Level Multi-Org ATO

Supply Chain Bill



Sourcing relationships are shown in dotted lines and the BOM relationships are shown in continuous lines. The BOM and the sourcing is defined using Oracle Bills of Material and Oracle Supply Chain Planning or Oracle Advanced Planning Solution. You can find the item names within each of the nodes. The item name is followed by a two-letter code to identify the organizations.

CMP MainFrame has four configurable ATO Model assemblies: PCI module, Dual Pod Enclosure, Sub Prod 32, and Sub Prod 64. The company sells CMP MainFrames from its shipping organizations at Boston and Singapore. It has three manufacturing sites: Hong Kong, Mexico, and Boston. CMP MainFrames are assembled in Boston and Hong Kong. The PCI module is manufactured and sourced at the Mexico facility. Dual Pod Enclosures are manufactured and sourced at Hong Kong along with the components Sub Prod32 and Sub Prod64. Optional items CD ROMs, DAT Drives, and Tape Drives can be sold as spares from either Boston or Hong Kong.

An order is accepted at the Singapore organization with the following selected options:

1. CMP MainFrame
2. CD-ROM
3. PTN32-2MB
4. 32TLC Add-On
5. 5V Card

The following table shows the ATP item attributes setting:

Item	Org	Check ATP	Component ATP
CMP MainFrame	SG	-	Material
CMP MainFrame	HK	-	Material
Console	HK	Material	-
P Devices	HK	-	-
CD ROM	HK	Material	-
PCI Module	HK	-	-
PCI Module	MEX	-	-
Cables	MEX	-	-
PCI Cards	MEX	-	-
5V Card	MEX	-	-

Item	Org	Check ATP	Component ATP
Compatibility Bridge	MEX	-	-
Dual Pod Enclosure	HK	-	-
Sub Prod OC	HK	-	-
Power Supply	HK	-	-
Sub Prod 32	HK	-	Material
PTN-32 OC	HK	-	Material
PTN32-2MB	HK	Material	-
TLC1032	HK	-	-
32TLC Add-On	HK	Material	-

The cumulative availability picture for the items that have the Check ATP attribute set is described as follows:

Item	Org	Day 1	Day 2	Day 3	Day 4	Day 5
Console	HK	10	20	30	30	30
CD ROM	HK	10	15	30	30	30
PTN32-2MB	HK	20	30	30	40	40
32TLC Add-On	HK	12	12	30	30	30

Lead time setup:

- There is transit lead time of 1 day between all the organizations.
- CMP MainFrame (HK) lead time: fixed lead time = 0 and variable lead time = 0.05 day.
- Dual Pod Enclosure lead time: fixed lead time = 0 and variable lead time = 0.05 day.

- Routing is not shown in this example. Assume that resource capacity check is not needed.

A sales order for the above configuration for quantity of 10 on Day 5 can be promised on Day 5.

An ATP inquiry for the above order will show the following result in the ATP Details window:

Item	Matched Configuration	Org	Request Date Qty	Ship Date	Days Late
CMP MainFrame	-	SG	10	Day 5	0
CD-ROM	-	SG	0	Day 5	0
PTN32-2MB	-	SG	0	Day 5	0
32TLC Add-On	-	SG	0	Day 5	0
5V Card	-	SG	0	Day 5	0

The Org field only shows the shipping organization for the top ATO Model.

ATP Pegging shows the following result:

1 (D) CMP MainFrame - Org SG Qty 10 On Day 5

2 (S) CMP MainFrame - Transfer From Org HK Qty 10 On Day 5

3 (D) CMP MainFrame - Org HK Qty 10 on Day 4

4 (S) CMP MainFrame - Make At Org HK Qty 10 on Day 4

5 (D) Console - Org HK Qty 10 on Day 3

6 (S) Console - Org HK Qty 30 on Day 3

7 (D) P devices - Org HK Qty 10 on Day 3

8 (D) CD ROM - Org HK Qty 10 on Day 3

9 (S) CD ROM - ATP Org HK Qty 30 on Day 3

10 (D) Dual Pod Enclosure - Org HK Qty 10 on Day 3

11 (S) Dual Pod Enclosure - Make At Org HK Qty 10 on Day 3

12 (D) Sub Prod - Org HK Qty 10 on Day 2

13 (D) Sub Prod 32 - Org HK Qty 10 on Day 2

14 (S) Sub Prod 32 - Make At Org HK Qty 10 on Day 2

15 (D) PTN 32 OC - Org HK Qty 10 on Day 1

16 (D) PTN32-2MB - Org HK Qty 10 on Day 1

17 (S) PTN32-2MB - ATP Org HK Qty 20 on Day 1

18 (D) 32 TLC Add-On - Org HK Qty 10 on Day 1

19 (S) 32 TLC Add-On - ATP Org HK Qty 12 on Day 1

Explanation:

- In pegging, different graphical icons are used for supply and demand. In the above representation, the icons are represented by (S) and (D) respectively.
- Option classes appear on the same level as its components. They are treated as phantom items.
- Since there is 1 day transfer lead time, the demand line below the Transfer From supply lines reflect the 1 day lead time offset.
- The demand pegging line for the components of an ATO Model reflect the lead time offset of the Model. For example, the lead time for 10 units of CMP MainFrame = round (0 + 0.05 * 10) = 1 day. In order to make 10 units of CMP MainFrame on Day 4, Console is needed on Day 3. Line 5 reflects that.

Demand Flow

Upon scheduling a sales order, Oracle Global Order Promising inserts demand for items that have Check ATP and Component ATP enabled into the ASCP plan used for ATP purpose. The demand picture of the above example is after scheduling:

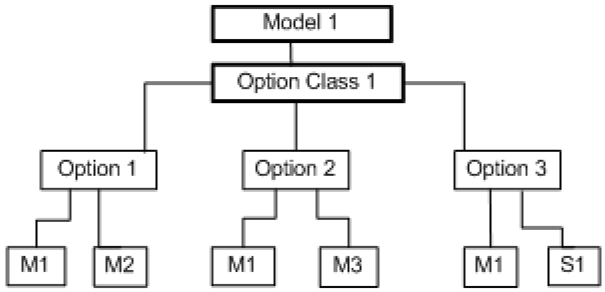
Item	Org	Check ATP	Component ATP	Demand
CMP MainFrame	SG	-	Material	Sales Order
CMP MainFrame	SG	-	-	Planned Order
CMP MainFrame	HK	-	Material	Planned Order Demand
CMP MainFrame	HK	-	-	Planned Order
Console	HK	Material	-	Planned Order Demand

Item	Org	Check ATP	Component ATP	Demand
P Devices	HK	-	-	None
CD ROM	HK	Material	-	Planned Order Demand
PCI Module	HK	-	-	None
PCI Module	MEX	-	-	None
Cables	MEX	-	-	None
PCI Cards	MEX	-	-	None
5V Card	MEX	-	-	None
Compatibility Bridge	MEX	-	-	None
Dual Pod Enclosure	HK	-	-	Planned Order Demand
Dual Pod Enclosure	HK	-	-	Planned Order
Sub Prod OC	HK	-	-	None
Power Supply	HK	-	-	None
Sub Prod 32	HK	-	Material	Planned Order Demand
Sub Prod 32	HK	-	Material	Planned Order
PTN-32 OC	HK	-	Material	None
PTN32-2MB	HK	Material	-	Planned Order Demand
TLC1032	HK	-	-	None
32TLC Add-On	HK	Material	-	Planned Order Demand

Option Specific Sourcing

Model 1 has three options: Option 1, Option 2 and Option 3.

Option Specific Sourcing Structure



M1, M2, M3 denote the manufacturing organization. S1 denotes a supplier.

- If an order for Model 1 only has option 1, the valid sources would be M1 and M2.
- If an order for Model 1 only has option 2, the valid sources would be M1 and M3.
- If an order for Model 1 only has option 3, the valid sources would be M1 and S1.
- If an order for Model 1 has option 1 and option 2, the only valid source would be M1.
- If the new item creation attribute is set to Based on Model, the item is created in M1 and the Order Management validation organization.
- The bill of material and routing is created in M1 only.
- New sourcing is created and assigned to the configuration item.
- If no valid source is found based on the options selected and option specific sourcing setup, Oracle Global Order Promising will show an error and will not schedule the sales order.

PTO Model

Front-end applications such as Oracle Order Management and Oracle Configurator are used to configure a PTO Model. When the PTO Model has Ship Model Complete checked, Oracle Order Management groups the PTO Model, selected option class, included items, and selected optional items into a set for ATP check. Otherwise, Oracle Order Management treats each PTO line with included items and selected options independently for availability check.

Setup

Refer to the Setting Up, page 2-1 chapter for the mandatory and optional setup steps.

ATP Item Attributes

- Set the Check ATP item attribute.
- The Component ATP is not relevant for PTO Model and option classes.

Item Type	Check ATP	Component ATP
PTO Model	• None	Material Only
Option Class	• None	Materail Only
Included Item	• Material • None	• Material • Material and Resource • Resource • None • None
Optional Item	• Material • None Resource	• Material • Material and Resource • None • None

Examples

PTO Model has Ship Model Complete set to Yes

A sales order has items with options. The ATP item attributes for these items are shown below:

Level	Item	Check ATP	Component ATP
0	Laptop X11 Deluxe	-	Material

Level	Item	Check ATP	Component ATP
1	- Laptop X11	-	Material
2	- - Base System	Material	-
3	- - - Board	-	-
3	- - - Network Card	Material	-
3	- - - Graphics Card	-	-
2	- - Processor Class	-	-
3	- - - Mobile Pentium®4 2.2 GHz	Material	Yes
2	- - Memory Class	-	-
3	- - - 256 MB	-	-
2	- - Monitor Class	-	-
3	- - - 19in Flat Screen	-	-
2	- - Modular Drive Class	-	-
3	- - - 24X CD - RW/DVD Combo	Material	Yes
1	- External Mouse	-	-
2	- - Logitech Optical Mouse	Material	Yes
1	- Laptop Case	Material	Yes

The cumulative availability picture for the items that have Check ATP attribute set is described as follows:

Item	Day 1	Day 2	Day 3
Base System	0	5	10
Network Card	8	10	15
Mobile Pentium®4 2.2 GHz	10	20	30
24X CD-RW/DVD Combo	0	10	10
Logitech Optical Mouse	0	0	20
Laptop Case	10	20	30

Aa sales order demand in the above configuration for a quantity of 10 with a request date of Day 3 can be promised on Day 3.

An ATP inquiry for the above order will show the following result in the ATP Details window:

Item	Matched Configuration	Request Date Qty	Ship Date	Days Late
PTO Model line	-	0	-	0
Laptop X11 Deluxe	-	10	Day 3	0
Laptop X11	-	10	Day 3	0
Base System	-	0	Day 3	0
Processor Class	-	0	Day 3	0
Mobile Pentium®4 2.2 GHz	-	0	Day 3	0
Memory Class	-	0	Day 3	0
256 MB	-	0	Day 3	0
Monitor Class	-	0	Day 3	0

Item	Matched Configuration	Request Date Qty	Ship Date	Days Late
19in Flat Screen	-	0	Day 3	0
Modular CD/DVD Drive	-	0	Day 3	0
24X CD-RW/DVD Combo	-	0	Day 3	0
External Mouse	-	10	Day 3	0
Logitech Optical Mouse	-	20	Day 3	0
Laptop Case	-	30	Day 3	0

Explanation:

- Request Date Qty reflects the supply available on the date the items are needed.
- Since, all the items are available on Day 3, the sales order can be promised on Day 3.

PTO Model has Ship Model Complete set to No

In this case, each individual line can be shipped on the Ship Date.

An ATP inquiry for the above order will show the following result in the ATP Details window:

Item	Matched Configuration	Request Date Qty	Ship Date	Days Late
PTO Model line	-	0	-	0
Laptop X11 Deluxe	-	10	Day 3	0
Laptop X11	-	10	Day 3	0
Base System	-	0	Day 3	0
Processor Class	-	0	Day 3	0

Item	Matched Configuration	Request Date Qty	Ship Date	Days Late
Mobile Pentium®4 2.2 GHz	-	0	Day 3	0
Memory Class	-	0	Day 3	0
256 MB	-	0	Day 3	0
Monitor Class	-	0	Day 3	0
19in Flat Screen	-	0	Day 3	0
Modular CD/DVD Drive	-	0	Day 3	0
24X CD-RW/DVD Combo	-	0	Day 3	0
External Mouse	-	0	Day 3	0
Logitech Optical Mouse	-	0	Day 3	0
Laptop Case	-	0	Day 3	0

ATO Item

Setup

Verify that you have performed the mandatory and optional setup steps explained in the Setup chapter.

ATP Item Attributes

Oracle Global Order Promising treats an ATO Item like a standard item. The following setting is supported:

- The ATO Item is forecasted and planned. There is statement of supply for the ATO item. Oracle Global Order Promising for the ATO Item is based the supply for the ATO Item. In this case, the ATO Item is similar to a standard item from order promising point of view. The ATO aspect significance is on the transactional side.

You should enable Component ATP Flag to address the components of the ATO Item.

Item Type	Check ATP	Component ATP
ATO Item (Standard)	• Material Only	• Material • Material and Resource • Resource • None
- Components (Standard)	• Material Only • None	• Material • Material and Resource • Resource • None

Oracle Global Order Promising first checks the availability of the ATO Item. If there is not enough supply, it goes to its components to perform capable-to-promise check based on the Component ATP for the ATO Item.

Examples

Using an ATO Item

The ATP Item attributes for the items are shown below:

Item	Check ATP	Component ATP
Laptop X11-1	Material	Material
- Base System	Material	-
- Mobile Pentium®4 2.2 GHz	Material	-
- 512 MB	-	-
- 17in Flat Screen	-	-

Item	Check ATP	Component ATP
- 24X CD-RW/DVD Combo Material	-	-

The cumulative availability picture for the items that have Check ATP attribute set is described as follows:

Item	Day 1	Day 2	Day 3
Laptop X11-1	1	1	1
Base System	10	20	30
Mobile Pentium®4 2.2 GHz	10	20	30
24X CD-RW/DVD Combo	10	10	10

Laptop X11-1 lead time:

- Fixed lead time = 0
- Variable lead time = 0.05 day

An ATP inquiry for a sales order demand of the ATO item for quantity of 10 with request date of Day 2 can be promised on Day 2.

The ATP Details window shows the following result:

Item	Matched Configuration	Request Date Qty	Ship Date	Days Late
Laptop X11-1	-	10	Day 2	0

ATP Pegging shows the following:

(D) Laptop X11-1 - Org Qty 10 On Day 2

(S) Laptop X11-1 - ATP Org Qty 1 On Day 2

(S) Laptop X11-1 - Make At Org Qty 9 on Day 2

(D) Base System - Org Qty 9 on Day 1

(S) Base System - Org Qty 10 on Day 1

(D) Mobile Pentium®4 2.2 GHz - Org Qty 9 on Day 1

(S) Mobile Pentium®4 2.2 GHz - Org Qty 10 on Day 1

Kit

A kit, also known as a PTO Item, is a standard item with Pick Component item attribute checked. When an order is created in Oracle Order Management for a PTO item, Oracle Order Management explodes the next level components of the PTO item and groups the items into a set and passes the set to Oracle Global Order Promising for availability check.

Setup

Refer to the Setting Up, page 2-1 Chapter for the mandatory and optional setup steps.

ATP Item Attributes

Oracle Global Order Promising supports the following ATP item attribute setting for Kit:

1. Check availability for the Kit.

Item	Check ATP	Component ATP
PTO Item (Standard)	Material	None
- Next Level Components (Standard)	None	None

2. Check availability for the components of the Kit.

Item	Check ATP	Component ATP
PTO Item (Standard)	None	• None
- Next Level Components (Standard)	Material	• Material • Material and Resource • Resource • None

Oracle Global Order Promising checks the availability for the components on the request date of the PTO item. Oracle Global Order Promising returns a Ship Date that is either the request date or a later date if any ATP-able items are not available.

Examples

Using a PTO Item

The ATP item attributes for the items are shown below:

Level	Item	Check ATP	Component ATP
0	External Speaker	-	-
1	- Premium Speaker	Material	-
1	- Speaker Manual	Material	-

The cumulative availability picture for the items that have Check ATP attribute set is described as follows:

Item	Day 1	Day 2	Day 3
Premium Speaker	0	0	10
Speaker Manual	10	10	10

An ATP inquiry for a sales order demand of the PTO item for quantity of 10 with request date of Day 2 can be promised on Day 3.

An ATP inquiry for the above order will show the following result in the ATP Details window:

Item	Matched Configuration	Request Date Qty	Ship Date	Days Late
External Speaker	-	10	Day 2	0
Premium Speaker	-	0	Day 3	1
Speaker Manual	-	10	Day 2	0

Product Family ATP

Oracle Manufacturing lets you define product family item as a percentage composition of member items. If the product family item is setup to perform ATP based on product family, then once an ATP Inquiry is launched for a member item the ATP is actually performed against the product family item. Since Oracle Advanced Supply Chain Planning lets you plan for such items, you can define Bills of Resources to check and verify the available capacity for capable-to-promise for your critical resources.

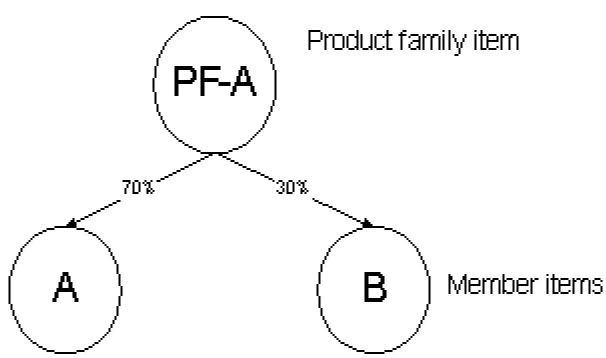
> **Note:** With the current setup for Product Family ATP, for a given item you can either perform ATP:
>
> - Based on product family item
> - Or based on the individual member items

If ATP is based on planning output, Oracle Global Order Promising views the entire planning horizon and does not differentiate between the various buckets and aggregation you have defined for the ATP enabled plan.

Business Application

In a customer driven manufacturing environment, it may not always be possible to forecast exact demand of the end item. However, it may be possible to define aggregate requirements and forecast at an aggregate level, instead of at the item level. This is shown in the following diagram:

Product Family Item Aggregation



When an order is scheduled for ATP based on planning data, the sales order is scheduled against the product family item. After data collection and plan rerun, the sales order demand for the member item is present in the plan where the member items are planned.

Setup

Once you defined product family item and the product family item / member item relationship, you need to perform the following setup to enable ATP based on Product Family.

Check ATP Item Attribute

It needs to be set to Material for product family item in order to perform Product Family ATP.

You must set the Check ATP flag for all the member items to be Material when using Product Family ATP. Otherwise, an incorrect result can occur. This is because the demand and supply for product family is an aggregation of the demand and supply of the member items.

Component ATP Item Attribute

The product family item can be set to:

- Resource only: check material availability for item at this level. System performs CTP if ATP is based on planning data.
  - None: no need to check ATP at this level.

    Note: Material and Material & Resource options are not supported for product family items.

When ATP is based on the product family level, the Component ATP flag for the member items is not a factor in the setup.

ATP Logic

1. If the requested item is not a member of a product family item, go to step 2. Otherwise go to step 3.

2. ATP is performed on requested item. For details, see: ATP Logic, page 6-18. End.

3. If Check ATP item attribute for the product family item is set to None, go to step 2. Otherwise go to step 4.

4. If product family item is found in multiple plans, then use the plan that serves as feeder plan to the other. For example, if an MPS plan feeds into an MRP plan and product family item exists in both the plans, Oracle Global Order Promising uses the MPS plan.

5. If there is enough cumulative supply for the product family item, then ATP

succeeds. The request date is the ATP date. End. Otherwise go to next step.

6. If Component ATP flag is set to Resource, then go to next step. Otherwise, perform forward scheduling. Go to step 8.

7. If MPS plan is used, then use Bills of Resource for capacity check. If MRP plan is used, then use routing for capacity check. If there is sufficient capacity to build the shortage, then ATP succeeds, otherwise perform forward scheduling. Go to step 8.

8. Perform Forward Scheduling. For details, see: Forward Scheduling, page 4-13.

Capable-To-Promise for Product Family Item

When product family is in an MPS plan, you define Bills of Resource (BOR) for product family item. If you set Component ATP item attribute for the product family item to Resource, Oracle Global Order Promising uses Bills of Resource for capable-to-promise check.

When product family is in MRP plan, you define routing for product family item. However if member items also exist in MRP plan and have routing defined, you should not define routing for product family item because that will load resource twice if same resources are used in both routing. Thus, you should set Component ATP item attribute for the product family to None.

Examples

Member Items and the Product Family Item in the Same Plan

Planning uses the ATP enabled plan for ATP Inquiry and sales order scheduling, as long as the plan contains the product family demand and supply. When the product family item and members are part of the same plan and the plan is ATP enabled then ATP uses this plan for the inquiry and order scheduling.

Assume the plan you use is an MRP plan. Product family item is PF1 with member items A at 50% and B at 50%. The Item Aggregation bucket in the plan is set to Item for all buckets.

Supply / Demand picture in the plan is the following:

Category	Item	Order Type	Date	Quantity
Demand	PF1	Forecast	Day X	100
Supply	PF1	Planned Order	Day X	100

Category	Item	Order Type	Date	Quantity
Demand	A	Product Family/Model/OC Dependent Demand	Day X	50
Supply	A	Planned Order	Day X	50
Demand	B	Product Family/Model/OC Dependent Demand	Day X	50
Supply	B	Planned Order	Day X	50

Availability picture for PF1 is as follows:

Category	Item	Day X
Supply	PF1	100
Demand	PF1	0
Net	PF1	100
Cum	PF1	100

A sales order (1001) for member item B for 60 units on Day X. Oracle Global Order Promising promises the order based on product family item (PF1) availability picture. After scheduling, Supply / Demand picture is the following:

Category	Item	Order	Date	Quantity
Demand	PF1	Forecast	Day X	100
Demand	PF1	Sales Order Number 1001	Day X	60
Supply	PF1	Planned Order	Day X	100

Category	Item	Order	Date	Quantity
Demand	B	Product Family/Model/ OC Dependent Demand	Day X	50
Supply	B	Planned Order	Day X	50
Demand	A	Product Family/Model/ OC Dependent Demand	Day X	50
Supply	A	Planned Order	Day X	50

After you rerun the plan, the Supply / Demand picture shows:

Category	Item	Order	Date	Quantity
Demand	PF1	Sales Order Number 1001	Day X	60
Demand	PF1	Forecast	Day X	40
Supply	PF1	Planned Order	Day X	100
Demand	B	Sales Order Number 1001	Day X	60
Supply	B	Planned Order	Day X	60
Demand	A	Product Family/Model/OC Dependent Demand	Day X	20
Supply	A	Planned Order	Day X	20
Demand	B	Product Family/Model/OC Dependent Demand	Day X	20

Category	Item	Order	Date	Quantity
Supply	B	Planned Order	Day X	20

Member Item and the Product Family Item in Separate Plans

This is the scenario where product family item is planned in an MPS plan while members are planned in an MRP plan. MPS plan feeds into MRP plan. The product family item exists in both plans. Oracle Global Order Promising uses the MPS plan for promising.

For example, item A is a MRP planned item and item PF1 is a MPS planned item. You generate a production plan and feed the production plan as a demand schedule to a manufacturing plan. Suppose both the plans are ATP enabled. If you choose to perform ATP using Product family item then the production plan will be used for ATP inquiry and sales order scheduling.

Assume product family item is PF1 with member items A (50%) and B (50%).

The Supply / Demand picture in the MPS plan is the following:

Category	Item	Order	Date	Quantity
Demand	PF1	Forecast	Day X	100
Supply	PF1	Planned Order	Day X	100

The Supply / Demand picture in the MRP plan is the following:

Category	Item	Order	Date	Quantity
Demand	PF1	Forecast	Day X	100
Supply	PF1	Planned Order	Day X	100
Demand	A	Product Family/Model/OC Dependent Demand	Day X	50
Supply	A	Planned Order	Day X	50

Category	Item	Order	Date	Quantity
Demand	B	Product Family/Model/OC Dependent Demand	Day X	50
Supply	B	Planned Order	Day X	50

A sales order (1001) for member item B for 60 units on Day 1. Oracle Global Order Promising is able to promise the order based on product family item (PF1) availability in the MPS plan. After scheduling, Supply / Demand picture is the following:

The Supply / Demand picture in the MPS plan is the following:

Category	Item	Order	Date	Quantity
Demand	PF1	Forecast	Day X	100
Supply	PF1	Planned Order	Day X	100
Demand	PF1	Sales Order 1001	Day X	60

The Supply / Demand picture in the MRP plan is the following:

Category	Item	Order	Date	Quantity
Demand	PF1	Forecast	Day X	100
Supply	PF1	Planned Order	Day X	100
Demand	A	Product Family/Model/OC Dependent Demand	Day X	50
Supply	A	Planned Order	Day X	50
Demand	B	Product Family/Model/OC Dependent Demand	Day X	50
Supply	B	Planned Order	Day X	50

After you rerun the plan, the Supply/ Demand picture in the MPS plan is:

Category	Item	Order	Date	Quantity
Demand	PF1	Forecast	Day X	40
Supply	PF1	Planned Order	Day X	100
Demand	PF1	Sales Order 1001	Day X	60

The Supply / Demand picture in the MRP plan is:

Category	Item	Order	Date	Quantity
Demand	PF1	Sales Order Number 1001	Day X	60
Demand	PF1	Forecast	Day X	40
Supply	PF1	Planned Order	Day X	100
Demand	B	Sales Order Number 1001	Day X	60
Supply	B	Planned Order	Day X	60
Demand	A	Product Family/Model/OC Dependent Demand	Day X	20
Supply	A	Planned Order	Day X	20
Demand	B	Product Family/Model/OC Dependent Demand	Day X	20
Supply	B	Planned Order	Day X	20

For detailed explanation on planning logic, see: Planning Logic, *Oracle Advanced Planning and Scheduling User's Guide*.

Combined Item-Product Family ATP

Oracle Global Order Promising supports time-phased order promising by which you can promise orders by checking the availability of a requested item within an Aggregate time fence (ATF) and beyond that, you can use the product family to which the requested item belongs.

AGF is a time period beyond which Oracle Global Order Promising switches between end items and product family items using the Available-To-Promise (ATP) rule.

Business Application

Oracle Global Order Promising enables you to perform order promising using the availability of the requested item in the short term and the aggregate availability (the sum of the availability from all members) in the long term.

This functionality provides the flexibility to accommodate high-demand variations in order promising. It also allows sufficient lead time for preparing the actual product combination. It enables you to take advantage of aggregate supplies beyond a well-defined time period in the planning horizon, where end items are interchangeable within product families.

Setup

Perform the following setup steps:

1. In Inventory > Setup > Rules > Available To Promise > ATP Rules window, set the Aggregate Order Promising Time Fence to one of the following:

   - None - Oracle Global Order Promising uses the product family for order promising across the planning horizon.

   - Demand Time Fence - Within the demand time fence, Oracle Global Order Promising uses the end-item for order promising; beyond the time fence, it uses the product family item.

   - Planning Time Fence - Within the planning time fence, Oracle Global Order Promising uses the end-item for order promising; beyond the time fence, it uses the product family item.

   - User Defined - Within the user-defined time fence, Oracle Global Order Promising uses the end-item for order promising; beyond the time fence, it uses the product family item.

     You must assign this ATP rule to a product family item.

2. Run an ATP plan with the forecast either at the item level or the product family level.

   After the plan runs, ATP post-plan processing launches automatically.

> **Note:** If you run the plan with the ATP flag deselected and then select the ATP flag, you need to run the ATP Post Plan Processing concurrent program manually.

Using Combined Item-Product Family ATP with Allocated ATP

If you want to use Combined Item-Product Family ATP with Allocated ATP, perform the following setup steps:

1. Ensure that the allocation rules are valid throughout the planning horizon/infinite time fence.

   Oracle Global Order Promising does not support invalid rules. For example, the allocation rule for a member item is valid from day 1 to day 5, the allocation rule for the product family item is valid from day 5 to day 10, and the allocation rule for the member item is valid again from day 10 to the end of the planning horizon. Oracle Global Order Promising will consider this an invalid rule.

2. Define the allocation rule at the product family level.

   If you define the allocation rule only at member item level, your results may be unpredictable.

3. For percentage based allocation, you can define the allocation rule at the member item level or not.

The following sections explainsvarious scenarios and valid allocation rule setup if you intend to use combined item-product family ATP and allocated ATP.

Percentage-Based Allocation

- Allocation rule is defined only at the member item level (No allocation rule is defined the product family item)

  This setup is not recommended because of unpredictable results. (ATP will not error out, but it may generate erroneous results)

- Allocation rule is defined only at the product family item level.

  For example, the product family item has a rule valid through the planning horizon.

- Allocation rules are defined for both the member and product family item.

  For example, member1 has rule AllocM1, and member2 has rule AllocM2, and the product family has rule AllocPF valid through the planning horizon.

Oracle Global Order Promising uses the allocation rule for the demanded member item until the ATF (AllocM1 or AllocM2) beyond which it uses the product family allocation rule (AllocPF).

Note: For this allocation method, the allocation hierarchy and priority of the member item rule and product family item rule must be the same.

Demand Priority-Based Allocation

- Allocation rule is defined only at the member item leve. (No allocation rule is defined for the product family item.)

  This setup is not recommended because of unpredictable results. . ATP will not error out, but it may generate erroneous results.

- Allocation rule is defined only at the product family item level

  For example, the product family item has rule ALLOCPF valid through the planning horizon.

- Allocation rules are defined for both for the member and the product family item.

- Oracle Global Order Promising disregards the allocation rule for the demanded member item and uses the product family allocation rule for the entire planning horizon.

ATP Logic

This feature enables Oracle Global Order Promising to divide the time horizon into two regions for the item region and the product family region. In the item region, supply and demand are at the item level. In the product family region, supply and demand are the sum of all the member items for the product family item.

Demand Spread Calculation

To keep track of the proper supply consumption inside and outside the ATF, Oracle Global Order Promising uses a pseudo demand called the product family demand spread. You use the product family demand spread to divide the actual demand into no more than two portions that represent the region where the supplies that satisfy the actual demand lie: one inside the ATF and one outside the ATF.

- If the actual demand is outside the ATF date (ATF Date), then the portion inside the time fence appears on the ATF Date. The portion outside the ATF appears on the same date as the actual demand date.

- If the actual demand is inside the ATF Date then the portion inside the time fence appears on the actual demand date. The portion outside the ATF appears on the ATF Date.

The quantities of these portions equal the amount of supplies consumed by this demand from the respective time regions. Thus, the remainder of the availability calculation (net availability, backward consumption) can be computed correctly.

You can view the product family demand spread and the ATF date in the Horizontal Plan and View Allocation Workbench windows.

Between plan runs, when scheduling a new sales order demand, ATP calculates the product family demand spread as follows: When a demand exceeds the cumulative supply on the request ship date, Oracle Global Order Promising consumes the item supply up to the request ship date. For the shortage, it consumes supplies as close to the demand due date as possible.

See the example for further illustration on how the Product Family Demand Spread is calculated.

Net Availability Calculation

Oracle Global Order Promising first calculates the net for each bucket for both the member items and the product family. The net is based on the demand spread values, not on the actual demand.

Backward Consumption and Forward Consumption Calculation

Backward consumption and forward consumption take place independently inside the two regions based on the net availability.

Cumulative Supply

Cumulative supply is calculated daily. After the ATF date, the cumulative supply is added to the product family numbers to yield the product family cumulative supply.

Demand Spread Calculation Following a Plan Run

Following a plan run, Oracle Global Order Promising refreshes the supply and demand picture as well as re-calculates the product family demand spread based on the plan pegging.

- If a portion of the demand is satisfied using (pegged to) the supply inside the ATF date, that portion of the demand will contribute to the product family demand spread quantity inside the ATF date.

- If a portion of the demand is satisfied using (pegged to) the supply outside the ATF date, that portion of the demand will contribute to the product family demand spread quantity outside the ATF date.

Capable-To-Promise

Oracle Global Order Promising performs a capable-to-promise (CTP) check based on the bill of material (BOM) and routing of the requested item. If the supply is created outside the ATF, the supply rolls up to the product family level so that it is available for consumption at the product family level.

Allocated ATP

- Allocated ATP based on user-defined allocation percentage: Oracle Global Order Promising applies the allocation percentage to an item's supply inside the ATF and allocation percentage to aggregate supply outside the ATF . For details on the logic used for the allocation based percentage, see Percentage based allocation, page 4-94.

- Allocated ATP based on demand priority: The supply and demand are allocated to the corresponding demand class based on the end demand's demand class. Beyond the ATF , the supply and demand are aggregated by the demand class.

ATP Override

Oracle Global Order Promising calculates the demand spread during ATP override as follows:

Scenario 1

When the request ship date and the demand satisfied date are both within the ATF, a single spread demand with the complete quantity will appear on the request ship date.

Scenario 2

When the request ship date is inside the ATF but the demand satisfied date is outside the ATF, two demand spreads appear:

- On the request ship date with the quantity equal to the cumulative quantity on the ATF date

- The balance quantity is spread to the day after the ATF date

If the cumulative quantity on the ATF date is 0, Oracle Global Order Promising places a single demand spread on the day after the ATF date

Scenario 3

When the request ship date and demand satisfied date are both outside the ATF, two demand spreads appear:

- On the ATF date with quantity equal to the cumulative quantity on the ATF date

- The balance quantity is spread to the request ship date.

If the cumulative quantity on the ATF date is 0, Oracle Global Order Promising places a single demand spread on the request ship date.

Examples

The following examples illustrate how the combined item-product family ATP feature works.

Demand Spread Calculation

This example illustrates how Oracle Global Order Promising performs demand spread calculation in various scenarios. For all the scenarios described below, the ATF date is Day 5.

Scenario 1

A sales order has the request ship date inside the ATF date and is scheduled to ship inside the ATF date.

The initial ATP picture is:

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
Supply	10	10	10	10	10	50	50	50	50
Demand	0	0	0	0	0	0	0	0	0
Product Family Demand Spread	0	0	0	0	0	0	0	0	0
Net	10	10	10	10	10	50	50	50	50
Cum	10	20	30	40	50	100	150	200	250

Explanation:

Oracle Global Order Promising schedules a sales order with the request ship date of Day 2 for quantity 110, on Day 7.

The ATP picture after the sale order is scheduled:

Explanation:

- On the request ship date (Day 2), there is cumulative item availability of 20. There is a shortage of 90.
- The product family demand spread inside the ATF date will be –20 at this point.
- Oracle Global Order Promising performs forward scheduling to look for the date where the shortage can be covered.

- The shortage can be covered on Day 7.
- Oracle Global Order Promising schedules the sales order on Day 7.
- On Day 7, there is enough product family supply to cover the shortage. Therefore, the product family demand spread outside the ATF is –90.
- Since the order is scheduled outside the ATF, the product family demand spread inside the ATF will be place on the ATF date.

Scenario 2

A sales order has the request ship date inside the ATF date and is scheduled to ship inside the ATF date.

Scenario 2 considers the end of scenario 1 as the initial ATP picture.

Oracle Global Order Promising schedules a sales order with the request ship date of Day 2 for a quantity of 15 on Day 2.

The ATP picture after the sale order is scheduled:

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
Supply	10	10	10	10	10	50	50	50	50
Demand	0	–15	0	0	0	0	–110	0	0
Product Family Demand Spread	0	–15	0	0	–20	0	–90	0	0
Net	10	–5	10	10	–10	50	–40	50	50
Cum	5	5	15	15	15	25	25	75	125

Explanation:

Only one product family demand spread is available because the sales order only needs to consume the item supply.

Scenario 3

Scenario 3 considers the end of scenario 2 as the initial ATP picture.

Oracle Global Order Promising schedules a sales order with the request ship date of Day 6 for quantity of 30, on Day 8.

A sales order has the request ship date outside the ATF and is scheduled outside the

ATF.

The ATP picture after the sale order is scheduled:

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
Supply	10	10	10	10	10	50	50	50	50
Demand	0	–15	0	0	0	0	–110	–30	0
Product Family Demand Spread	0	–15	0	0	–20	0	–90	–30	0
Net	10	–5	10	10	–10	50	–40	20	50
Cum	5	5	15	15	15	25	25	45	95

Explanation:

Only one product family demand spread is available because the sales order only needs to consume the aggregate supply outside the ATF.

Scenario 4

A sales order has the request ship date inside the ATF and is scheduled to ship after the ATF.

Scenario 4 considers the end of scenario 3 as the initial ATP picture.

Oracle Global Order Promising schedules a sales order with the request ship date of Day 1 for a quantity of 22 on Day 6.

The ATP picture after the sale order is scheduled:

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
Supply	10	10	10	10	10	50	50	50	50
Demand	0	–15	0	0	0	–22	–110	–30	0
Product Family Demand Spread	0	–15	0	0	–32	–10	–90	–30	0

Net	10	–5	10	10	–22	40	–40	20	50
Cum	3	3	3	3	3	3	3	23	73

Explanation:

- On the request ship date (Day 1), the cumulative item availability is 5. The shortage is 17.
- The product family demand spread inside the ATF date will be –5 at this point.
- Oracle Global Order Promising performs forward scheduling to look for the date when the shortage can be covered.
- The shortage can be covered on Day 6.
- The sales order will be scheduled on Day 6.
- On Day 6, there is product family supply of 10. Therefore, product family demand spread outside the ATF is –10.
- The remaining shortage (7) is covered using the item supply inside ATF . Therefore, the additional product family demand spread of –7 is added inside the ATF .
- Total product family demand spread equals (–5) + (–7) = –12 and is placed on Day 5.

Scenario 5

A sales order has a request ship date inside the ATF and is scheduled after the ATF . A new planned order (through the CTP process) is created on the schedule date.

The initial ATP picture is:

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
Supply	5	5	5	5	5	10	10	10	10
Demand	0	0	0	0	0	0	0	0	0
Product Family Demand Spread	0	0	0	0	0	0	0	0	0
Net	5	5	5	5	5	10	10	10	10

Cum	5	10	15	20	25	35	45	55	65

Oracle Global Order Promising schedules a sales order with a request ship date of Day 4 for a quantity of 60 on Day 7. It creates a new planned order of 40, based on the capacity availability.

The ATP picture after the sale order is scheduled is:

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
Supply	5	5	5	5	5	10	50		10
Demand	0	0	0	0	0	0	–60	0	0
Family Product Demand Spread	0	0	0	0	–20	0	–40	0	0
Net	5	5	5	5	–15	10	10	10	10
Cum	5	5	5	5	5	15	25	35	45

Explanation:

- On the request ship date (Day 4), the cumulative item availability is 20. The shortage is 40.
- The product family demand spread inside the ATF date will be –20 at this point.
- Oracle Global Order Promising performs forward scheduling to look for the date when the shortage can be covered.
  - If using planned supply, the earliest available date is Day 9.
  - If creating new supply based on available capacity, the earliest available date is Day 7 (assume CTP gives Day 7).
- Since the CTP result gives a better date than scheduled receipts do, Oracle Global Order Promising schedules the order on Day 7 and creates a new supply of 40 on Day 7.

  Note: Oracle Global Order Promising does not support combining scheduled receipt and additional supply when forward scheduling.

- Oracle Global Order Promising creates a product family demand spread of –40 on Day 7.
- Oracle Global Order Promising also creates a product family demand spread of –20 on Day 5.

ATP Override When the ATF is Defined

Assume that:

- The Aggregate Order Promising Time Fence is set to Demand Time Fence and is for 5 days
- The forecast for product family item PF-1 is for 20 units per day.
- The product family item is PF-1 with member items M-A at 50 percent and M-B at 50 percent.
- A demand of 90 units of member item on Day 7 for M-A exists.

The initial demand and supply picture is as:

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
Supply M-B	10	10	10	10	10	20	20	20
Demand M-B (SO)	0	0	0	0	0	0	–90	0
Product Family Demand Spread M-B (SO)	0	0	0	0	0	0	–40	0
Net M-B	10	10	10	10	10	0	0	20
Cum M-B	10	20	30	40	50	50	50	70

A new sales order of 58 units of member item M-B comes on Day 7 with an ATP override. Oracle Global Order Promising places the sales order on Day 7 based on the ATP Override logic described in ATP Override, page 6-35. The product family demand spread is calculated as:

- 50 units on day 5
- 8 units on day 7

The new demand and supply picture is:

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
Supply M-B	10	10	10	10	10	20	20	20
Demand M-B (SO)	0	0	0	0	0	0	–148	0
Product Family Demand Spread M-B (SO)	0	0	0	0	–50	0	–48	0
Net M-B	10	10	10	10	40	20	28	20
Cum M-B	0	0	0	0	0	0	0	12

Allocated ATP

Allocated Available To Promise enables you to allocate scarce material among multiple sales channels. Based on your business strategy, you can establish an allocation rule that ranks the sales channels. You can time phase the allocation to reflect changes in your monthly or quarterly objectives. During order promising, Oracle Global Order Promising honors the allocation rule and calculates order due dates based on allocated supply.

Oracle Global Order Promising supports two allocation methods for different business needs:

- Allocated ATP based on user-defined allocation percentage
- Allocated ATP based on demand priority

For the user-defined allocation percentage method, you specify a time phased allocation percentage for your sales channel or customers. The percentage is applied to total supply to yield allocated supply. Oracle Global Order Promising promises orders based on allocated supply. You can designate priorities to the sales channel or customers on the allocation rule. When allocated supply from a higher priority sales channel or customer is not available, Oracle Global Order Promising automatically uses available supply from a lower priority sales channels or customers to promise orders from higher priority sales channels or customers.

For demand priority based allocation method, you prioritize demand, such as forecast and Master Demand Schedule (MDS). Supply is allocated based on the prioritized demand. The resultant supply is used for order promising. This method also enables you to designate priority for the sales channels. When there is not enough allocated supply from a higher priority sales channel, Oracle Global Order Promising automatically uses available supply from lower priority sales channel to promise orders from higher priority sales channels.

The following section describes the two allocation methods in detail.

Allocated ATP Based on User-Defined Allocation Percentage

For allocation method, you define specific allocation percentages for your sales channel or customers. The allocation percentage is applied to total supply, and the resultant allocated supply is used for order promising.

You can define two types of hierarchies to represent your various sales channels. You use demand classes that are single-level and user-defined or you use these three levels of customer classes:

- Customer Class
- Customer
- Site

You can designate any items you want to allocate.

Business Application

When supply is scarce, a supplier may decide to ration the supply based on a ratio; for example, the forecast demand ratio. In this way, you can give every customer some of the supply. You can fine tune the allocation percentage so that high-priority customers receive more and lower priority customers receive less. Allocated ATP lets you enter the allocation percentage based on your business rules. Different businesses may group demand differently. Some businesses group demand into different sales channels and allocate supply to each sales channel. Others may first group demand into regions and then to customers in each region. Allocated ATP provides two allocation hierarchies to meet different needs.

Setup

After you perform the mandatory and optional setup steps described in the Setup chapter, perform these additional steps to use Allocated ATP.

To perform allocation, complete these setup steps:

1. Set profile options.
2. Define demand class or customer class.
3. Define allocation rule.
4. Assign allocation rule.
5. View the allocation, after the plan runs.

Profile MSC: Enable Allocated ATP

To enable allocation, set the profile option MSC: Enable Allocated ATP to Yes.

Profile MSC: ATP Allocation Method

Set the allocation method you want to use from two possible values. For Allocated ATP based on Allocation Percentage, select: User Defined Allocation Percentage.

Profile MSC: Class Hierarchy

This profile determines the type of hierarchy that will be used. This profile has two values:

- Demand Class: single level.
- Customer Class: three levels; customer class, customer, and site

Profile MSC: Enable ATP Workflow

When one of the following actions occurs, workflow notifications are automatically triggered and sent to the item planner and sales representative or the customer contact:

- ATP fails on request date during scheduling
- ATP succeeds only by taking allocation from a lower priority demand class.

Profile MSC: Allocated ATP Forward Consumption Method

Set the MSC: Allocated ATP Forward Consumption Method profile option to one of the following:

- Reduce future supply from the lowest priority - to use the available future supply from the lowest priority demand class. If every demand class is at the same priority, the demand class that has a shortage consumes its own future supply.
- Reduce available supply from any priority - to use the available supply from any

demand class. Oracle Global Order Promising accounts for a committed demand before it allows more promises.

Define Demand Classes

If you are using demand class hierarchy, set up demand classes to represent the various sales channels. For details, see "Setting Up Demand Classes" in *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*.

Define Customer Class Hierarchy

If using customer class hierarchy, set up customer classes and assign a customer class to a customer. For details, see "Setting Up Customer Classes" in *Oracle Receivables User's Guide*.

Define Allocation Rules

Allocation rules must be defined on the destination server. These rules determine how the supply is allocated.

Allocation rules have the following features: effective dates, percentages, and priorities.

- Allocation Effective Dates. You define time-phased allocation percentages and the ATP engine determines which allocation percentage to use based on the dates of the supplies and demands. For on-hand supplies, the system uses the allocation that is effective today. The allocation hierarchy must be the same across the entire planning horizon. Consistent hierarchy must be ensured for all items that have a supply chain or BOM relationship.

- Allocation Percentages. You define allocation percentages for each node in the hierarchy, and your supply is allocated to those nodes based on the allocation percentages. If the total percentages do not add up to 100 percent on each level, then the remaining percentages are assigned to a system-generated node called Other.

- Allocation Priorities. You define priorities against your allocation rules to be used to take supply from other nodes if supply is not available. Priorities are assigned to each node on each level, and you take only from those with a lower priority.

- Service Level. Not used.

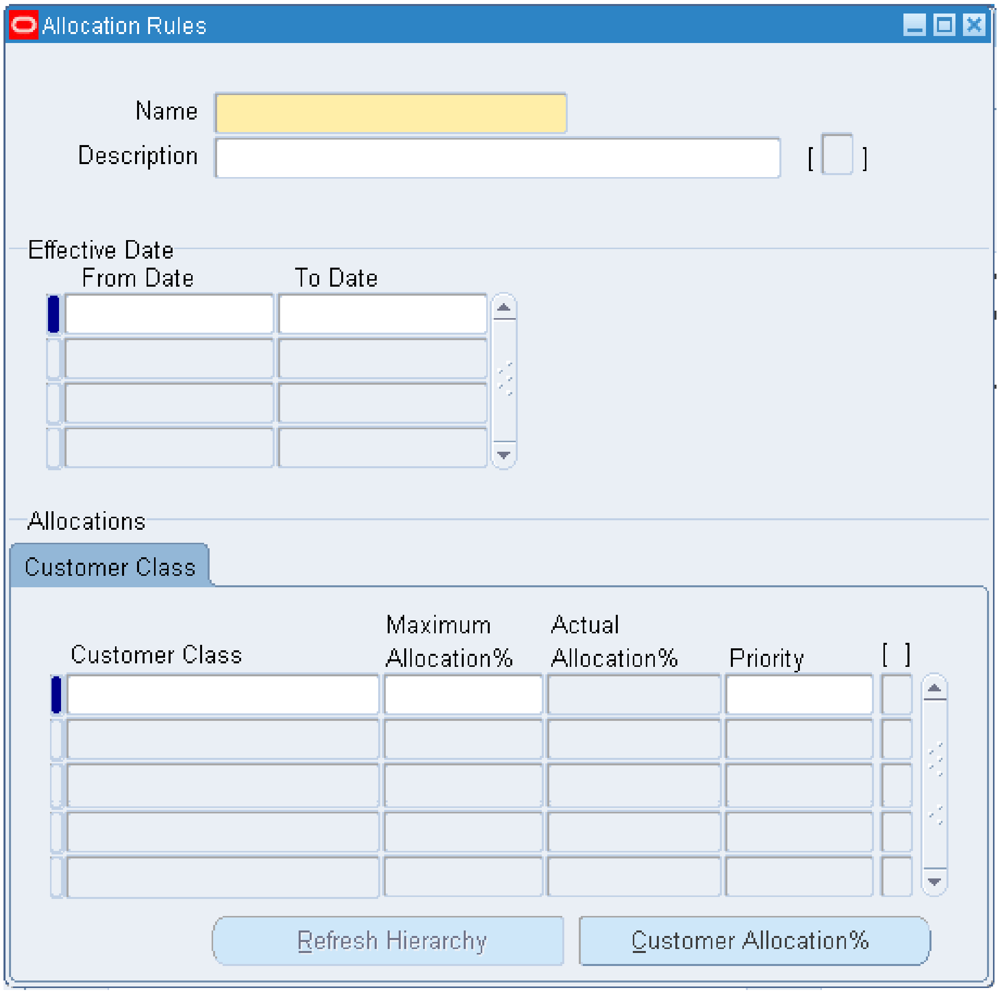
To define allocation rules:

1. From the Navigator, choose Advanced Supply Chain Planning.

2. Select ATP, select Allocation, and then select Define Allocation Rule.

   The Allocation Rules window appears.

Allocation Rules Window



3. Enter a name, description, and the effective dates for the rule. For each demand class or node in a customer class hierarchy, assign an allocation percentage and priority.

Assign Allocation Rules

Once the rules are defined, you must assign them so that Oracle Global Order Promising knows which rule to use for each item. You assign allocation rules only too items, which refers to the items that have independent demand. You should not assign allocation rules to components or resources because an allocation rule is honored after plan runs, thus, is only applicable to end items. Allocation rules can be assigned at the following levels, from least specific to most specific:

- Global

- Item Category (those categories that are part of the planning category set)
- Item
- Organization
- Item/Organization

A more specific level can override a more general level assignment. For example, if a particular item has a rule and its category has a different rule, then the effective rule will be the item rule.

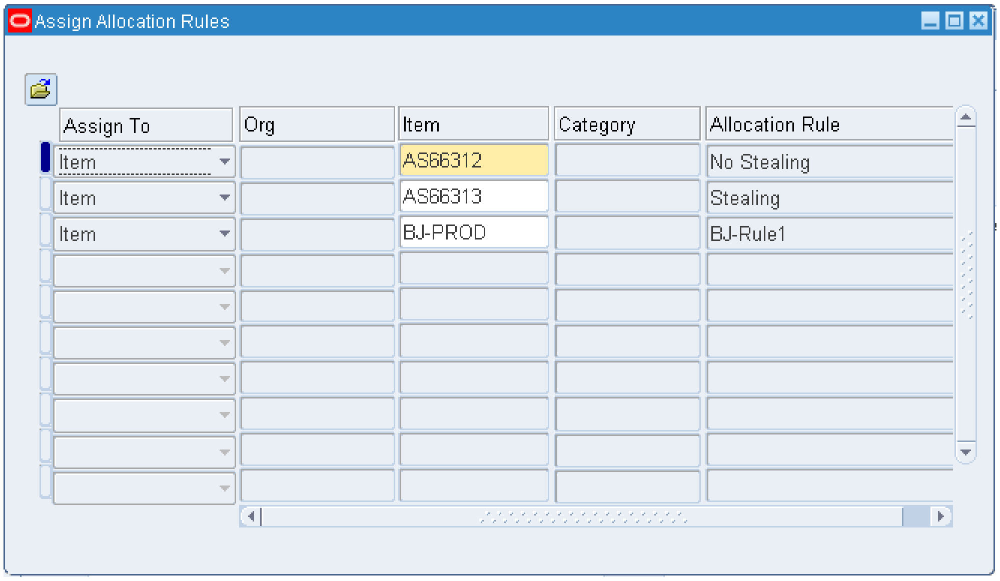
> **Note:** Global Order Promising does not support percentage-based allocation for components of ATO Model or ATO item. Components of an ATO Model can be options and standard mandatory components.

To assign allocation rules:

1. From the Navigator, select Advanced Supply Chain Planning.
2. Select ATP, then Allocation, and then select Assign Allocation Rules.

   The Assign Allocation Rule window appears.

Assign Allocation Rule Window



3. Select a level in the Assign To column.

4. Select the correct level. Depending on the level you have chosen, you must fill in the respective column.

5. In the Allocation Rule column, either enter the name of the Allocation Rule or select the rule from the full list.

Refreshing Allocations

Oracle Global Order Promising stores information about items their associated allocation rules for fast access during order promising. To do this, a concurrent program, Refresh Allocation Hierarchy, is launched automatically every time you make or change an allocation assignment. However if you update an existing allocation rule that has an assignment, you need to manually launch this concurrent program. Click the Refresh Hierarchy button on the Allocation Rule window to manually launch the program.

The refresh allocation hierarchy process must be complete before the changes take effect in the ATP result.

View Allocation

Once you define an allocation rule and assign the rule to your item, if you already have an ATP plan that contains the items, then you can view the allocation result. In this workbench, the left-hand side is the tree structure that represents your hierarchy. You can choose a node and view the horizontal plan. For example, a particular site within a customer-for-customer class hierarchy or a demand class for a demand-class hierarchy. The horizontal plan gives an overall view of the total demand, total supply, net ATP, and cumulative ATP for the total and for the particular node that you chose.

In addition, you can change the allocation percentages and priorities for any node directly from the workbench and immediately view the effects. To do this, select any of the nodes and complete the Define Allocation Rules form.

To view allocations:

1. Select the Advanced Supply Chain Planner responsibility.
2. Select ATP, then Allocation, and then select, View Allocation.
3. Enter the Organization, and then enter the item.
4. Choose an allocation node from the allocation hierarchy.

Data in the View Allocation Workbench

For each allocation node, you can view:

- Supply: The total supply for this item in the ATP plan * actual allocation percentage.
- Demand: Oracle Global Order Promising regards the following items as demand: sales order, planned order demand, work in process job demand, sales order MDS, reservation, safety stock demand, and manual MDS.
- Net: The net equals Supply – Demand.
- Cum: The cumulative quantity after net, backward and forward consumption for any negative net.
- Backward: The quantity after backward consumption.
- Demand Adjustment: The quantity after forward consumption.
- Adjusted Supply: The supply quantity adjusted to meet the demand.
- Allocation %: The percentage of allocation.
- Actual Allocation %: the actual allocation percentage
- Unallocated Data: The unallocated quantity available. In unallocated data, you can view:
    - The total unallocated supply for the item.

- The total demand for the item.
- The net (Supply – Demand) for the item.
- The cumulative quantity (Cum) after netting, backward and forward consumption.
- The total allocation for a demand class/customer class.

In Total, you can view:

- The total supply for the item. Be aware that the value displayed by a parent allocation node is the sum of its child nodes.
- The total demand.
- The net (Supply – Demand).
- The cumulative quantity (Cum) after netting, backward and forward consumption.

Use the following options to refresh the allocation data:

- Recalculate: Select to retrieve the current allocation data from all the nodes and recompute the allocation for the parent nodes.
- Refresh Screen: Select to refresh the display in the View Allocation Workbench window with the recomputed allocation data.

You can also view the following information in the View Allocation Workbench window:

Supply/Demand Data

Double-click a value displayed in the horizontal plan.

The Supply/Demand window appears. This window displays the supply and demand details for the value that you select.

For more details on the Supply/Demand window, see Supply/Demand, page 6-12.

Hide/Show Row_name

Right-click and select Hide >*Row_name* or Show >*Row_name* to hide or show a row in the View Allocation Workbench window.

Copy horizontal plan

Right-click and select Copy horizontal plan to copy the horizontal plan.

Save Settings

You can adjust the row height and column widths of the fields that appear in the horizontal plan and save these settings.

1. Highlight a row or a column and drag (using the mouse) to adjust the size.

2. Right-click and select Save Settings to save your settings for future display.

Hide/Show graph

Right-click and select Hide/Show graph to hide or show the graph in the View Allocation Workbench window.

Hide/Show Set

Right-click and select Hide Set or Show Set to hide or show the associated rows for the:

- Total: Displays the total supply, demand, net, and cumulative quantity

- Unallocated availability: Displays the unallocated supply, demand, net and cumulative quantity

To set the preferences for View Allocation Workbench:

1. Log onto Oracle Global Order Promising with the Advanced Supply Chain Planner responsibility.

2. Select the organization instance.

3. Select Supply Chain > Plan > Workbench.

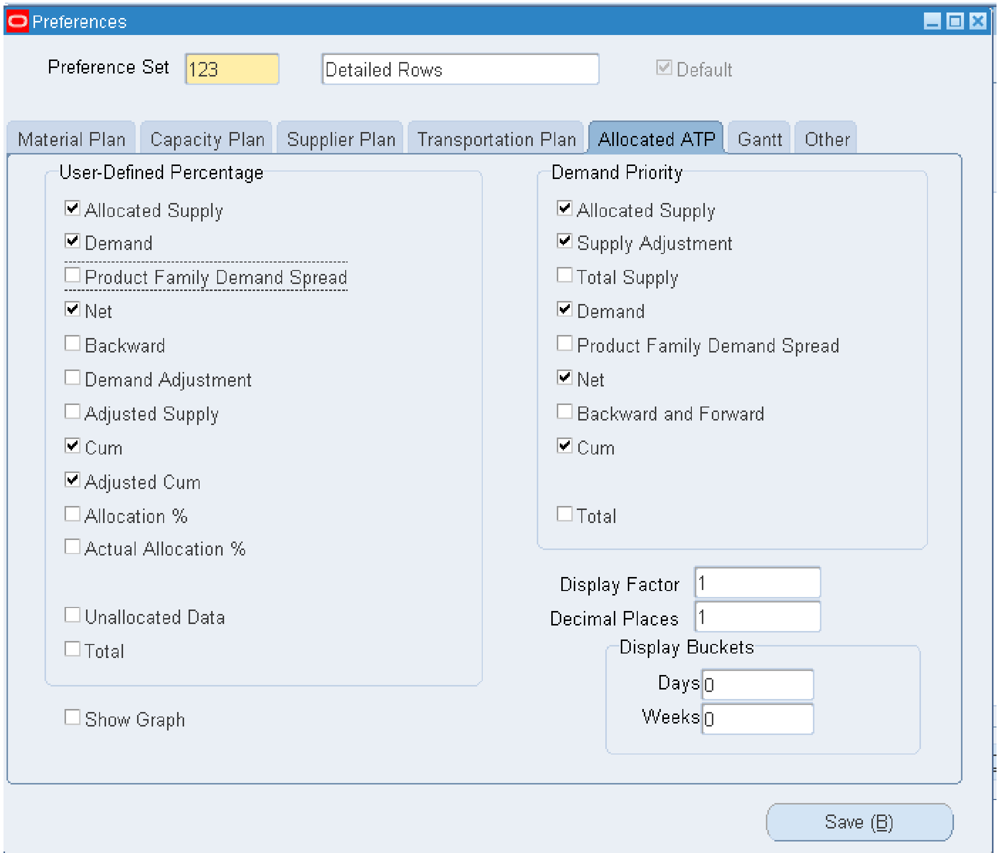
4. Select a plan.

5. Select Tools > Preferences.

   The Preferences window appears.

6. Click the Allocated ATP tab.

Preferences window, Allocated ATP tab



7. In the User-Defined Percentage Based Allocation section, select the checkboxes that correspond to the fields that you want to view in the View Allocation Workbench window.

   These fields are selected by default:

   - Allocated Supply
   - Demand
   - Net
   - Cum

   Note: Depending on the option that you selected for the MSC: Allocated ATP Forward Consumption Method profile option, the related set of fields is enabled on this tab.

The Allocated ATP tab also contains the following fields:

Field	Description
Display Factor	Specify a number by which you want to multiply to the numbers in the horizontal plan. For example, if you specify 0.001 in this field, then the number 1000000 appears as 1000 in the horizontal plan.
Decimal Places	Specify the number of decimal places that you want to display for values in the View Allocation Workbench window.
Show Graph	Select the checkbox to show a graph in the View Allocation Workbench.
Day =	Specify a number to set the time bucket type to days.
Week =	Specify a number to set the time bucket type to weeks

ATP Logic

Applying Allocation Rule

For each supply, Oracle Global Order Promising applies the allocation rule that is effective for the date of that supply.

For any past due supply or demand except sales order demand, Oracle Global Order Promising allocates the supply or demand using the allocation rule effective on the past due date. If the allocation rule on the past due date is not available, then Oracle Global Order Promising uses the rule effective on today's date.

Allocation Stealing and Forward Scheduling

For demand from a demand class, Oracle Global Order Promising first uses its own allocated supply. If a shortage exists, it takes supply from lower priority demand classes, starting from the next lower priority as defined in the allocation rule. This process is often referred to as backward stealing. If a shortage still exists after backward stealing, then Oracle Global Order Promising performs CTP to see if more supply can be generated. If a shortage still exists after performing CTP, then the order is late.

Next, Oracle Global Order Promising determines when the shortage can be satisfied by finding the availability date based on the scheduled receipt. During this check, the system only uses availability from the demand class itself, no stealing occurs. Then it performs a forward CTP to find a date when the shortage can be made. The answer is the better date resulting from the two methods.

Forward Consumption

In Allocated ATP based on User-Defined Allocation percentage method, when the committed cumulative demand exceeds the cumulative allocated supply for a demand class, Oracle Global Order Promising performs forward consumption of the supply to accommodate the shortage. Therefore, when a demand class has a shortage after consuming its own allocated supply and available supply from a lower priority, the forward consumption method lets you decide how to adjust the allocated availability based on the MSC: Allocated ATP Forward Consumption Method profile option. Oracle Global Order Promising provides you with two methods for performing a forward consumption:

- Reduce future supply from lowest priority
- Reduce available supply from any priority

Reduce Future Supply From Lowest Priority

For this method, Oracle Global Order Promising calculates the availability for each demand class using the following steps:

1. Start from the highest priority demand class.
2. For each demand class:
   1. Calculate the net and backward consumption
   2. If a higher priority demand class is short, adjust from what is available from the demand class in Step 2-1.
   3. If a shortage still exists and a lower priority demand class exists, then stop. Otherwise, reduce the future supply to account for the shortage.

      Note: If all demand classes are at the same priority, the demand that has a shortage, consumes its own future supply.

For details, see the following examples:

- Forward consumption: scenario 1, page 4-124
- Forward consumption: scenario 2, page 4-126
- Forward consumption: scenario 3, page 4-128
- Forward consumption: scenario 4, page 4-129

Reduce available supply from any priority

In this method, Oracle Global Order Promising calculates the availability for each demand class using the following steps:

1. Start from the highest priority demand class.

2. For each demand class:

    1. Calculate the net and backward consumption.

    2. If a shortage for a higher priority demand class exists, adjust from what is available (step 2a).

    3. If the demand class is of the lowest priority, then stop.

3. Calculate the unallocated availability by reducing the total supply to cover the existing committed demand, including backward and forward consumption.

4. The adjusted cumulative for each demand class is the minimum of the supply the demand class could have (Step 2b) compared to the available supply available or the unallocated availability (Step 3). The adjustment starts from the highest priority demand class. Therefore, the availability of a lower priority demand class is reduced to account for shortages from previous periods. The available supply is reduced to account for the shortage from a lower priority demand class.

For details, see the following examples:

- Forward consumption: scenario 5, page 4-130

- Forward consumption: scenario 6, page 4-132

- Forward consumption: scenario 7, page 4-134

- Forward consumption: scenario 8, page 4-137

- Forward consumption: scenario 9, page 4-138

Examples

The following examples illustrate how allocated ATP can be used. The first example is simple and shows allocated ATP based on percentages. The second and third examples incorporate the priorities, thus showing the stealing functionality. The first two examples use the demand-class hierarchy. The final example shows how ATP works with a customer-class hierarchy.

Simple Example To Illustrate How Allocation Is Calculated

In this case, the supplier is using two demand classes to represent various sales channels. Demand Class b (DCb) contains customers that are more important to this supplier, and thus the supplies wants to guarantee that 60% of the total supply is allocated to this group of demands. The following table shows the allocation rule:

Demand Class	Percentage
DCa	40
DCb	60

The supply and demand picture for this example is shown in the following table. One sales order is coming from Demand Class a (DCa) for 20. Two sources of supply exist: a work order for 25 and a purchase order for 35.

Demand and Supply	Demand Class	Quantity
Demand Sales Order	DCa	20
Supply Work Order	-	25
Supply Purchase Order	-	35

The overall availability picture is 25 + 35 – 20 = 40. This value is calculated by adding the total supplies and subtracting the already committed demand of 20. If no allocation exists, the availability for any ATP requests from any demand class is 40.

With the allocation rules in place, this supply is rationed to the demand classes based on the predefined percentages.

For Demand Class a (DCa):

Demand and Supply	Quantity
Demand Sales Order	20
Supply Work Order	10 = (25 * 40%)
Supply Purchase Order	14 = (35 * 40%)

Thus, the ATP quantity for this demand class is 4 = 10 + 14 – 20.

For Demand Class b (DCb):

Demand and Supply	Quantity
Supply Work Order	15 = (25 * 60%)
Supply Purchase Order	21 = (35 * 60%)

Thus, the ATP quantity for this demand class is 36 = 15 + 21 – 0.

Therefore, with the allocation rules, demand class DCb is guaranteed to be allocated 60 percent of the supply, which is 36. Without these rules in place, customers from demand class DCa could continue to submit orders and when a demand came from demand class DCb, no supply would be available.

Allocation stealing example

This example illustrates how allocated ATP works with both percentages and priorities. The supply is allocated to the demand classes based on the percentages that are defined within the allocation rules. However, if a higher priority demand class still needs more supply, they can take the necessary supply from lower priority demand classes.

The allocation rule is as follows:

Demand Class	Priority	Percentage
DC1	1	30
DC2	2	20
DC3	3	50

In this example, the supplier has defined three demand classes. In addition to assigning demand classes to these percentages, he has ranked the priorities of these demands. In this scenario, Demand Class c (DCc) has the largest number of customers and, thus, is allocated the largest percentage of the available supply. However, Demand Class a (DCa) has more important customers. Thus, DCa should be allowed to take the supply from the other demand classes if they want to submit an order.

The allocation picture is as follows assume that the total supply is 100 per day):

Demand Class	Row Type	Day 1	Day 2	Day 3
DC1	Supply	30	30	30

Demand Class	Row Type	Day 1	Day 2	Day 3
-	Demand	20	10	10
-	Net	10	20	20
-	Cum	10	30	50
DC2	Supply	20	20	20
-	Demand	10	0	0
-	Net	10	20	20
-	Cum	10	30	50
DC3	Supply	50	50	50
-	Demand	30	30	30
-	Net	20	20	20
-	Cum	20	40	60

A sales order demand comes into DC2 on Day 2 for a quantity of 60. Oracle Global Order Promising does the following:

- On Day 2, cumulative availability for DC2 = 30. The shortage is 30.
- A lower priority demand class, DC3, has a cumulative availability of 40 on Day 2. Steal 30 from DC2.
- Return success.

The allocation picture after scheduling the above sales order is:

Demand Class	Row Type	Day 1	Day 2	Day 3
DC1	Supply	30	30	30
-	Demand	20	10	10

Demand Class	Row Type	Day 1	Day 2	Day 3
-	Net	10	20	20
-	Cum	10	30	50
DC2	Supply	20	20	20
-	Demand	10	60	0
-	Net	10	–40	20
-	Cum	0	–30	20
DC3	Supply	50	50	50
-	Demand	30	30	30
-	Net	20	20	20
-	Cum	20	40	60

This allocation is what you see in View Allocation Workbench. Even though the cumulative availability of DC3 is internally adjusted, it is currently not showing in the user interface.

That is, the availability for DC3 is actually:

Demand Class	Row Type	Day 1	Day 2	Day 3
DC3	Supply	50	50	50
-	Demand	30	30 + 30	30
-	Net	20	–10	20
-	Cum	10	10	30

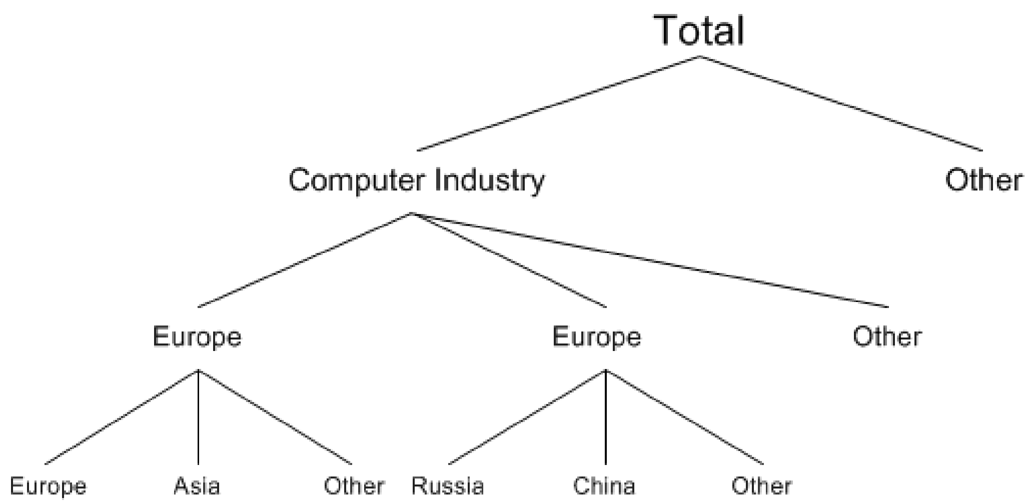
DC3 can promise only sales order demand for 10 either on Day 1 or Day 2.

Allocation Using Customer Class Hierarchy

This example illustrates how allocated ATP works with customer class hierarchy. The supply is allocated to the customer classes, customers, and sites based on the percentages that were defined in the allocation rules.

The following diagram illustrates a customer class hierarchy:

Customer Class Hierarchy Example



The following percentages and priorities were defined in the allocation rule. The actual percentage is calculated by multiplying the entered percentage by the allocation percentage of the parent. For example, the computer industry has three customers: Dell, IBM, and Other. The percentages for those three must equal 100. The entered percentage for Dell is 40, thus, the actual percentage of the total that Dell receives is 40 percent of what the Computer Industry is allocated, which is 28 percent.

Allocation Rule

The following tables show the allocation rule:

Customer Class Level

Customer Class	Priority	Percentage	Actual Percentage
Computer Industry	1	70	70
Other	2	30	30

Customer Level

Customer Class	Customer	Priority	Percentage	Actual Percentage
Computer Industry	Dell	1	40	28
Computer Industry	IBM	2	40	28
Computer Industry	Other	3	20	14

Site Level

Customer Class	Customer	Site	Priority	Percentage	Actual Percentage
Computer Industry	Dell	Europe	1	50	14
Computer Industry	Dell	Asia	2	25	7
Computer Industry	Dell	Other	3	25	7
Computer Industry	IBM	Russia	1	50	14
Computer Industry	IBM	China	1	25	7
Computer Industry	IBM	Other	1	25	7

Assume 1000 units total supply every day. The allocation picture is:

> **Note:** In this example, only a few nodes are selected to show the row types.

Customer Classes	Customer	Site	Priority	Row Type	Day 1	Day 2	Day 3
Computer Industry	Dell	Europe	1 -1 -1	Supply	140	140	140
-	-	-	-	Demand	100	100	200

Customer Classes	Customer	Site	Priority	Row Type	Day 1	Day 2	Day 3
-	-	-	-	Net	40	40	–60
-	-	-	-	Cum	20	20	20
Computer Industry	Dell	Asia	1-1-2	-	0	0	0
Computer Industry	Dell	Other	1-1-3	-	0	0	0
Computer Industry	IBM	Russia	1-2-1	-	0	0	0
Computer Industry	IBM	China	1-2-1	Supply	70	70	70
-	-	-	-	Demand	30	100	10
-	-	-	-	Net	40	–30	60
-	-	-	-	Cum	10	10	70
Computer Industry	IBM	Other	1-2-1	-	0	0	0
Computer Industry	Other	-	1-3	-	0	0	0
Other	-	-	2	-	0	0	0

Explanation of allocation stealing:

- A demand for Computer Industry-Dell-Europe can steal available supply from all the other nodes.
- A demand for Computer Industry-IBM-Russia can steal available supply only from Computer-Industry-Other or Other.
- A demand for Other cannot steal.

Forward Consumption: Scenario 1

In this example, the total cumulative supply is greater than the total cumulative demand and the MSC: Allocated ATP Forward Consumption Method profile option is set to reduce future supply from lowest priority.

The top priority demand class has more demand than supply due to stealing. This example illustrates that in the course of normal stealing, the net availability picture remains correct.

Demand Class	Row Type	D1	D2	D3
DC1 (P1)	Allocated Supply	10	10	10
-	Demand	0	–55	0
-	Net	10	–45	10
-	Backward	0	–35	10
-	Demand Adjustment	0	0	0
-	Adjusted Availability	0	0	10
-	Cumulative quantity	0	0	10
DC2 (P2)	Allocated Supply	10	10	10
-	Demand	0	–2	0
-	Net	10	8	10
-	Backward	10	8	10
-	Demand Adjustment	0	–18	0
-	Adjusted Availability	0	0	10
-	Cumulative quantity	0	0	10
DC3 (P3)	Allocated Supply	10	10	10
-	Demand	0	–2	0
-	Net	10	8	10

Demand Class	Row Type	D1	D2	D3
-	Backward	10	8	10
-	Demand Adjustment	0	–17	0
-	Adjusted Availability	1	0	10
-	Cumulative quantity	1	1	11
Sum of DC Cumulative quantity	-	1	1	11

Explanation:

- DC1 has a shortage of –35 on D2.
- The DC2 supply is reduced by –18 to meet the demand of DC1.
- The DC3 supply is reduced (–17) to meet the demand of DC1.

Forward Consumption: Scenario 2

In this example, the total cumulative supply is less than the total cumulative demand and the MSC: Allocated ATP Forward Consumption Method profile option is set to reduce future supply from lowest priority.

This example illustrates that if overall supply changes, Oracle Global Order Promising allocates the available supply from the lowest demand class (or the last of the lowest priority demand classes) to the demand class that has a shortage. You may have to manually adjust to re-distribute future supply (in this example, D4) more to the lowest priority demand class.

Demand Class	Row Type	D1	D2	D3	D4
DC1 (P1)	Supply	10	10	10	30
-	Demand	0	–15	0	0
-	Net	10	–5	10	30
-	Backward	5	0	10	30
-	Demand Adjustment	0	0	0	0

Demand Class	Row Type	D1	D2	D3	D4
-	Adjusted Availability	5	0	10	30
-	Cumulative quantity	5	5	15	45
DC2 (P2)	Supply	10	10	10	30
-	Demand	0	–45	0	0
-	Net	10	–35	10	30
-	Backward	0	–25	10	30
-	Demand Adjustment	0	0	0	0
-	Adjusted Availability	0	0	10	30
-	Cumulative quantity	0	0	10	40
DC3 (P3)	Supply	10	10	10	30
-	Demand	0	–24	0	–5
-	Net	10	–14	10	25
-	Backward	0	–4	10	25
-	Demand Adjustment	0	–25	0	0
-	Adjusted Availability	0	0	0	6
-	Cumulative quantity	0	0	0	6
Sum of DC Cumulative quantity	-	5	5	25	91

Explanation:

- DC2 has a shortage of –25 on D2.

- The DC3's supply is reduced by –25 to meet the demand of DC2.

Forward consumption: scenario 3

In this example, the demand classes are the same and different priorities and the MSC: Allocated ATP Forward Consumption Method profile option is set to reduce future supply from lowest priority.

This example illustrates a scenario in which one higher priority demand class has stealing but the other does not.

Demand Class	Row Type	D1	D2	D3
DC1 (P1)	Supply	10	10	10
-	Demand	–5	–12	0
-	Net	5	–2	10
-	Backward	3	0	10
-	Demand Adjustment	0	0	0
-	Adjusted Availability	3	0	10
-	Cumulative quantity	3	3	13
DC2 (P1)	Supply	10	10	10
-	Demand	–4	–34	0
-	Net	6	–24	10
-	Backward	0	–18	10
-	Demand Adjustment	0	0	0
-	Adjusted Availability	0	0	10
-	Cumulative quantity	0	0	10
DC3 (P2)	Supply	10	10	10
-	Demand	–3	–16	0

Demand Class	Row Type	D1	D2	D3
-	Net	7	–6	10
-	Backward	1	0	0
-	Demand Adjustment	0	–1	0
-	Adjusted Availability	0	0	8
-	Cumulative quantity	0	0	8
DC4 (P2)	Supply	10	10	10
-	Demand	–4	–4	0
-	Net	6	6	10
-	Backward	6	6	10
-	Demand Adjustment	0	–17	10
-	Adjusted Availability	0	0	5
-	Cumulative quantity	0	0	5
Sum of DC Cumulative quantity	-	3	3	36

Explanation:

- DC2 has a shortage of –18 on D2.
- DC3 can supply only –1 to meet the demand of DC2.
- DC4 accounts for the remaining shortage on, before and beyond D2 because DC4 is the last demand class among the lowest priority demand classes.

Forward Consumption: Scenario 4

In this example, the demand classes are at the same priority and the MSC: Allocated ATP Forward Consumption Method profile option is set to reduce future supply from lowest priority.

Demand Class	Row Type	D1	D2	D3
DC1 (P1)	Supply	10	10	10
-	Demand	0	–25	0
-	Net	10	–15	10
-	Backward	0	–5	10
-	Demand Adjustment	0	0	0
-	Adjusted Availability	0	0	5
-	Cumulative quantity	0	0	5
DC2 (P2)	Supply	10	10	10
-	Demand	0	–15	0
-	Net	10	–5	10
-	Backward	5	0	10
-	Demand Adjustment	0	0	0
-	Adjusted Availability	5	0	10
-	Cumulative quantity	5	5	15
Sum of DC Cumulative quantity	-	5	5	20

Explanation:

- DC1 has a shortage of –5 on D2.
- DC1 and DC2 are at the same priority level. Therefore, DC1 consumes its own future supply to meet the shortage.

Forward Consumption: Scenario 5

In this example, the total cumulative supply is greater than the total cumulative demand and the MSC: Allocated ATP Forward Consumption Method profile option is set to reduce available supply from any priority.

This example illustrates a scenario in which a top priority demand class has more demand than supply because of stealing.

Demand Class	Row Type	D1	D2	D3
Unallocated	Supply	30	30	30
-	Demand	0	–59	0
-	Net	30	–29	30
-	Cumulative quantity	1	1	31
DC1 (P1)	Allocated Supply	10	10	10
-	Demand	0	–55	0
-	Net	10	–45	10
-	Backward	10	–35	10
-	Demand Adjustment	0	0	0
-	Adjusted Availability	0	0	10
-	Cumulative quantity	0	0	10
-	Adjusted Cumulative quantity	0	0	10
DC2 (P2)	Allocated Supply	10	10	10
-	Demand	0	–2	0
-	Net	10	8	10
-	Backward	10	8	10
-	Demand Adjustment	0	–18	0
-	Adjusted Availability	0	0	10
-	Cumulative quantity	0	0	10

Demand Class	Row Type	D1	D2	D3
-	Adjusted Cumulative quantity	0	0	10
DC3 (P3)	Allocated Supply	10	10	10
-	Demand	0	–2	0
-	Net	10	8	10
-	Backward	10	8	10
-	Demand Adjustment	0	–17	0
-	Adjusted Availability	1	0	10
-	Cumulative quantity	1	1	11
-	Adjusted Cumulative quantity	1	1	11
Sum of DC Adjusted Cumulative quantity	-	1	1	31

Explanation:

- On D2, DC1 has a shortage of –35.
- DC1 consumes the supply of –18 from DC2 and –17 from DC3.

Forward Consumption: Scenario 6

In this example, the total cumulative supply is less than the total cumulative demand and the MSC: Allocated ATP Forward Consumption Method profile option is set to reduce available supply from any priority.

This example illustrates that if overall supply changes, Oracle Global Order Promising allocates the available supply from the lowest demand class (or the last one from the lowest priority demand classes) to the demand class that has a shortage. You may have to manually adjustment the allocation percentage to re-distribute the future supply (in this example, D4) more to lowest priority demand class.

Demand Class	Row Type	D1	D2	D3	D4
Unallocated	Supply	30	30	30	90
-	Demand	0	–84	0	–5
-	Net	30	–54	30	85
-	Cumulative quantity	0	0	6	91
DC1 (P1)	Supply	10	10	10	30
-	Demand	0	–15	0	0
-	Net	10	–5	10	30
-	Backward	5	0	10	30
-	Demand Adjustment	0	0	0	0
-	Adjusted Availability	5	0	10	30
-	Cumulative quantity	5	5	15	45
-	Adjusted Cumulative quantity	0	0	6	45
DC2 (P2)	Supply	10	10	10	30
-	Demand	0	–45	0	0
-	Net	10	–35	10	30
-	Backward	0	–25	10	30
-	Demand Adjustment	0	0	0	0
-	Adjusted Availability	0	0	10	30
-	Cumulative quantity	0	0	10	40

Demand Class	Row Type	D1	D2	D3	D4
-	Adjusted Cumulative quantity	0	0	0	40
DC3 (P3)	Supply	10	10	10	30
-	Demand	0	–24	0	–5
-	Net	10	–14	10	25
-	Backward	0	–4	10	25
-	Demand Adjustment	0	–25	0	0
-	Adjusted Availability	0	0	10	25
-	Cumulative quantity	0	0	10	35
-	Adjusted Cumulative quantity	0	0	0	6
Sum of DC Adjusted Cumulative quantity	-	0	0	6	91

Explanation:

- On D1, total availability is 0. DC1 can have only 0 instead of 5.
- On D4, total availability is 91. DC1 should have 45. Therefore, the adjusted cumulative is 45.

Forward Consumption: Scenario 7

In this example, the demand classes have the same and different priorities and the MSC: Allocated ATP Forward Consumption Method profile option is set to reduce available supply from any priority.

This example illustrates a scenario in which one higher priority demand class has stealing and the other does not.

Demand Class	Row Type	D1	D2	D3
Unallocated	Supply	40	40	40

Demand Class	Row Type	D1	D2	D3
-	Demand	–16	–69	0
-	Net	24	–29	40
-	Cumulative quantity	0	0	35
DC1 (P1)	Supply	10	10	10
-	Demand	–5	–12	0
-	Net	5	–2	10
-	Backward	3	0	10
-	Demand Adjustment	0	0	0
-	Adjusted Availability	3	0	10
-	Cumulative quantity	3	3	13
-	Adjusted Cumulative quantity	0	0	13
DC2 (P1)	Supply	10	10	10
-	Demand	–4	–34	0
-	Net	6	–24	10
-	Backward	0	–18	10
-	Demand Adjustment	0	0	0
-	Adjusted Availability	0	0	10
-	Cumulative quantity	0	0	10
-	Adjusted Cumulative quantity	0	0	10
DC3 (P2)	Supply	10	10	10

Demand Class	Row Type	D1	D2	D3
-	Demand	–3	–19	0
-	Net	7	–9	10
-	Backward	0	–2	10
-	Demand Adjustment	0	0	0
-	Adjusted Availability	0	0	10
-	Cumulative quantity	0	0	10
-	Adjusted Cumulative quantity	0	0	10
DC4 (P2)	Supply	10	10	10
-	Demand	–4	–4	0
-	Net	6	6	10
-	Backward	6	6	10
-	Demand Adjustment	0	–18	10
-	Adjusted Availability	0	0	10
-	Cumulative quantity	0	0	10
-	Adjusted Cumulative quantity	0	0	2
Sum of DC Adjusted Cumulative quantity	-	0	0	35

Explanation:

- DC2 has a shortage of 18 on D2 that needs to be adjusted from lower priority demand classes. Since, DC3 does not have any availability after backward consumption, the entire shortage is placed on DC4 because it is the only lower priority demand class.

- DC3 has a shortage of 2 on D2. Since no demand class has a lower priority, it is left in DC3.

- The adjusted availability is calculated each day. A negative number is treated as 0.
- The cumulative quantity is calculated based on the adjusted availability.
- The adjusted cumulative is calculated for each demand class, starting from the highest priority. The cumulative of the demand class is compared to the unallocated cumulative quantity on each day from the date before the ATP infinite time fence to the first date. For DC1, the cumulative is 13 on D3, which is less than the unallocated cumulative quantity. Therefore, the adjusted cumulative for DC1 is 13. After allocating 10 to DC2 and 10 to DC3, 2 of the item are left. Even though DC4 could have 10, due to covering a shortage from a higher priority demand class, it has only 2.

Forward Consumption: Scenario 8

In this example, the demand classes are at the same priority and the MSC: Allocated ATP Forward Consumption Method profile option is set to reduce available supply from any priority.

This example illustrates a scenario in which all the demand classes are at the same priority.

Demand Class	Row Type	D1	D2	D3
Unallocated	Supply	20	20	20
-	Demand	0	–40	0
-	Net	30	–10	30
-	Cumulative quantity	0	0	20
DC1 (P1)	Supply	10	10	10
-	Demand	0	–25	0
-	Net	10	–15	10
-	Backward	0	–5	10
-	Demand Adjustment	0	0	0
-	Adjusted Availability	0	0	10

Demand Class	Row Type	D1	D2	D3
-	Cumulative quantity	0	0	5
-	Adjusted Cumulative quantity	0	0	5
DC2 (P1)	Supply	10	10	10
-	Demand	0	–15	0
-	Net	10	–5	10
-	Backward	5	0	10
-	Demand Adjustment	0	0	0
-	Adjusted Availability	5	0	10
-	Cumulative quantity	5	5	15
-	Adjusted Cumulative quantity	0	0	15
Sum of DC Adjusted Cumulative quantity	-	0	0	20

Explanation:

- No demand adjustment can be made among the demand classes because they have the same priority.
- The cumulative quantity is compared to the unallocated cumulative to obtain the adjusted cumulative amount. On D2, the unallocated cumulative is 0. Therefore, both DC1 and DC2 have 0 as the adjusted cumulative quantity.

Forward Consumption: Scenario 9

In this example, the unallocated cumulative is greater than the adjusted cumulative and the MSC: Allocated ATP Forward Consumption Method profile option is set to reduce available supply from any priority

This example illustrates a scenario in which the unallocated cumulative can be more than the sum of the adjusted cumulative from a demand class.

Demand Class	Row Type	D1	D2	D3
Unallocated	Supply	20	20	20
-	Demand	0	–15	0
-	Net	20	5	20
-	Cumulative quantity	20	25	45
DC1 (P1)	Allocated Supply	10	10	10
-	Demand	0	–15	0
-	Net	10	–5	10
-	Backward	5	0	10
-	Demand Adjustment	0	0	0
-	Adjusted Availability	5	0	10
-	Cumulative quantity	5	5	15
-	Adjusted Cumulative quantity	5	5	15
DC2 (P2)	Allocated Supply	10	10	10
-	Demand	0	0	0
-	Net	10	10	10
-	Backward	10	10	10
-	Demand Adjustment	0	0	0
-	Adjusted Availability	10	10	10
-	Cumulative quantity	10	20	30

Demand Class	Row Type	D1	D2	D3
-	Adjusted Cumulative quantity	10	20	30
Sum of DC Adjusted Cumulative quantity	-	15	25	45

Explanation:

- On D1, the unallocated cumulative is 20. The cumulative for DC1 and DC2 is 5 and 10 respectively. The sum of the cumulative quantity of the demand classes is less than the unallocated cumulative. In this scenario, Oracle Global Order Promising will allocate up to the cumulative quantity of demand classes.

- This scenario is possible because in unallocated calculation, the demand of 15 consumes supply on D2. However, in allocated calculation, the demand of 15 consumes supply from D1 and D2. Therefore, the unallocated cumulative shows more availability on D1 than the sum of cumulative from allocation.

Allocated ATP Based On Demand Priority

In this allocation method, supply is allocated based on prioritized demand. Oracle Advanced Supply Chain Planning supports this method of allocation by pegging supply based on prioritized demand. Oracle Global Order Promising uses the result.

In this method, Oracle Global Order Promising allows a high priority sales channel to steal supply from a lower priority sales channel. You define priorities against your allocation rules. These priorities can be used to steal supplies from lower priority nodes if supplies are not available. The allocation rules are assigned globally, to the item category, or to the item. Notifications are sent to you if scheduling fails or if scheduling is only successful by stealing allocation from other nodes.

Business Application

To protect your high priority customers or sales channels by securing supply based on the forecast demand for those customers, use this allocation method. Using this method, supply is allocated based on prioritized demand. A forecast or Master Demand Schedule for high priority customers or sales channels would have a higher priority (lower priority number) number associated. Thus supply would be allocated to those demands first. When orders from these customers or sales channels come, they are promised based on allocated supply.

Setup

After you perform the mandatory and optional setup steps described in the Setup chapter, you must perform these additional setup steps:

1. Run the concurrent program Create ATP Partitions. You only need to perform this step once.
2. Set the profile options that are described in the following pages.
3. Define a demand class.
4. Define an allocation rule.
5. Assign an allocation rule.
6. Enter demand by demand class.
7. Run an ATP plan.
8. Optionally, run the concurrent program ATP Post Plan Processing.
9. View the allocation.

Create ATP Partitions

Oracle Global Order Promising uses partitions, which segregate data by plan to improve performance. Run this concurrent program once, before you start using Allocated ATP.

Profile MSC: Enable Allocated ATP

To enable allocation, set the profile option MSC: Enable Allocated ATP to Yes.

Profile MSC: ATP Allocation Method

Set the allocation method you want to use. This profile has two values. For Allocated ATP based on demand priority, select Demand Priority.

Profile MSC: Class Hierarchy

This profile determines the type of hierarchy that will be used. Only Demand Class is supported in this allocation method. Select Demand Class.

Profile MSC: Enable Allocated ATP Workflow

To enable workflow notifications that are specifically for Allocated ATP, set the profile option MSC: Enable Allocated Workflow to Yes.

When one of the following actions occurs, workflow notifications are automatically triggered and sent to the item planner, sales representative, and customer contact:

- ATP fails on request date during scheduling.
- ATP is successful only by stealing allocation from a lower priority demand class.

Define Demand Classes

You need to set up demand classes to represent the various sales channels. For more information, see Setting up demand classes, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*.

Define Allocation Rules

Allocation rules must be defined on the destination server. These rules tells Oracle Global Order Promising the demand classes you are allocating and their relative priority.

- Effective Dates: Create one date range starting from today. Currently Global Order Promising does not support different allocation hierarchy for different date range.
- Demand Class: Specify the demand class that will be allocated.
- Maximum Allocation %, Actual Allocation %: These fields are used by allocation based on the user-defined allocation percentage.
- Priority: Priority is used for stealing. When a higher priority demand class does not have enough supply to promise an order, it can steal availability supply from lower priority demand classes.
- Service Level: This field is currently not used by Oracle Global Order Promising.

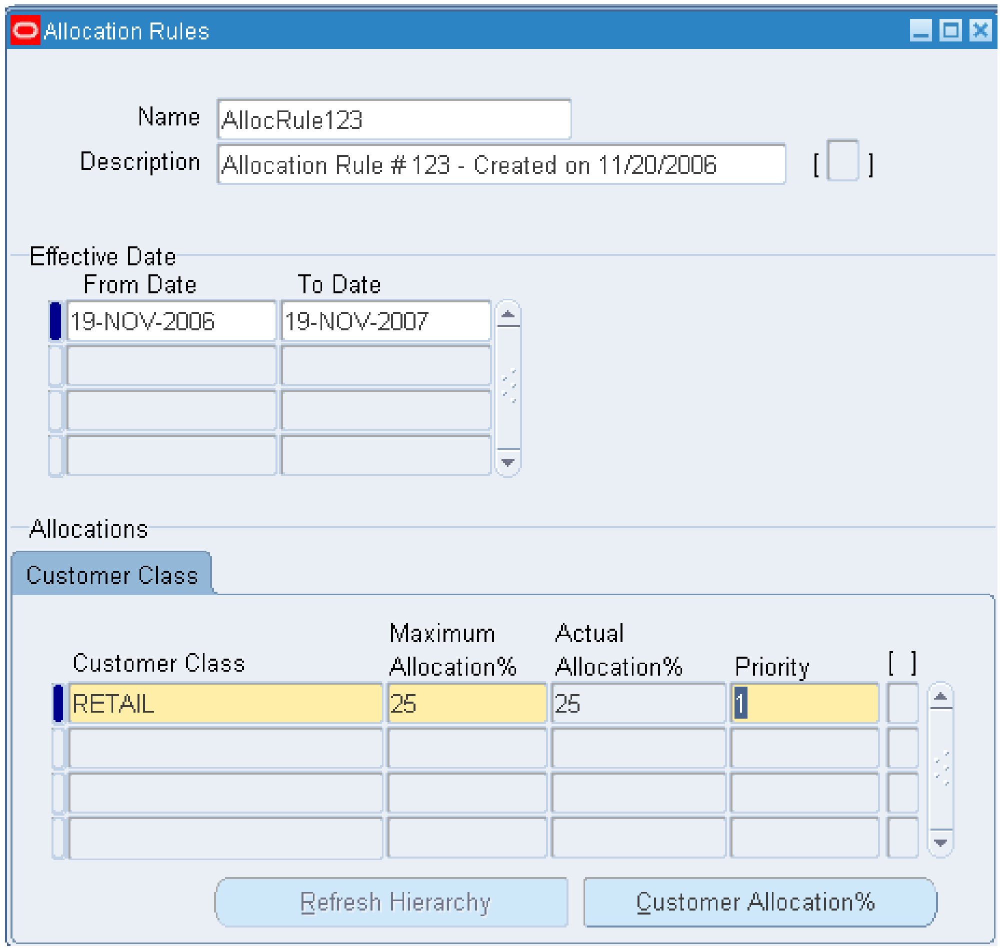
Upon saving a new allocation rule, the system inserts a row with OTHER as the demand class. This row is used as a generic bucket for excess supply or supply that is pegging to a demand class that is not on the rule.

To define allocation rules:

1. From the Navigator, choose Advanced Supply Chain Planning.
2. Select ATP, select Allocation, and then select Define the Allocation Rule.

   The Allocation Rules window appears.

Allocation Rules Window



3. Enter a name, description, and the effective dates for the rule.

4. Enter a customer class and its priority.

Assigning Allocation Rules

Once the rules are defined, you must assign the allocation rules so that Oracle Global Order Promising knows which rule to use for each item. This allocation method is only meaningful for end items. You should only assign allocation rules to items with independent demand.

Allocation rules can be defined at the following levels from least specific to most specific:

- Global
- Item Category (those categories that are part of the planning category set)

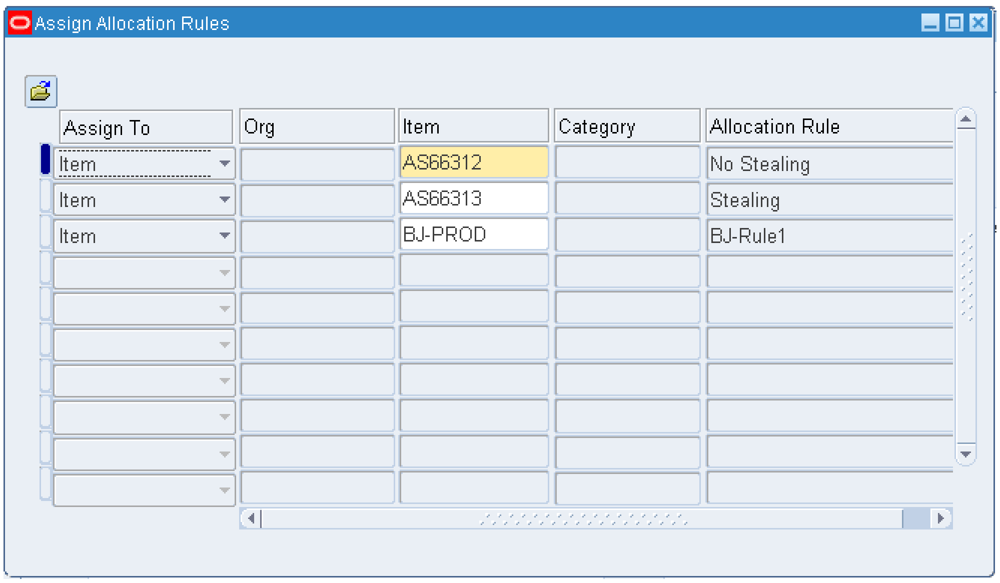
- Item
- Organization
- Item / Organization

To assign allocation rules:

1. From the Navigator, select Advanced Supply Chain Planning.
2. Select ATP, select Allocation, and then select Assign Allocation Rules.

   The Assign Allocation Rules window appears:

Assign Allocation Rules Window



3. Select level in the Assign To column.
4. Select the correct level. Depending on the level you chose, you must fill in the respective column.
5. In the Allocation Rule column, either enter the name of the Allocation Rule or select the rule from the full list.

Enter Demand by Demand Class

The allocation method enables you to have prioritize demand by demand class. Whether you are using forecast or Master Demand Schedule, you need to create the demand by demand class and indicate the priority on the demand entries. You enter the priority number in the demand entry flexfield, which is called Priority.

Run ATP Plan

Identify a particular plan, such as MPS, MRP, or DRP for ATP, by selecting the Check ATP flag of the Plan Definition window in Oracle Advanced Supply Chain Planning.

You must carefully decide the Priority Rule and pegging options. Oracle Global Order Promising uses the output.

For details on priority pegging, see "Pegging" in *Oracle Advanced Planning and Scheduling User's Guide*.

ATP Post Plan Processing

When you launch a plan that has the ATP flag selected, the plan run process automatically launches ATP Post Plan Processing at the end of the plan run. This concurrent program analyzes the plan output and summarizes the supply according to the item's allocation rule. When this program finishes successfully, you will have a valid availability picture for order promising.

If the plan does not have the ATP flag selected, then you can manually launch this concurrent program for the plan.

View Allocation

Once the ATP Post Plan Processing concurrent program successfully finishes, you can view the allocation result in View Allocation Workbench. In this workbench, the left-hand side is the tree structure representing your demand classes. You can choose a node and view the horizontal plan. The horizontal plan gives a picture over time of the total demand, total supply, net ATP, and cumulative ATP for the total and for the particular node that you chose.

To view allocations:

1. From the Navigator, choose Advanced Supply Chain Planning.
2. Select ATP, select Allocation, and then select View Allocation.

   The View Allocation window appears.
3. Enter the organization and then enter the item.
4. Select an allocation node from the allocation hierarchy.

Data in the View Allocation Workbench

You can view the following data for each allocation node:

- Supply: The total supply that pegs to independent demand for the demand class you are looking at.

- Demand: Oracle Global Order Promising regards the following as demand: sales order, planned order demand, WIP job demand, sales order MDS, reservation, safety stock demand, and manual MDS.
- Net: Net = Supply – Demand.
- Cum: The cumulative quantity after net, backward and forward consumption for any negative net.
- Supply Adjustment - The supply quantity adjusted to meet the demand
- Total Supply - The total supply available
- Backward and Forward - The quantity after backward and forward consumption
- Total: The total allocation for a demand class/customer class. In Total, you can view the following:
  - Supply: The total supply for the item.
  - Demand: The total demand for the item.
  - Net: (Supply – Demand) for the item.
  - Cum: The cumulative quantity after netting, and backward and forward consumption.

To set preferences for View Allocation Workbench:

1. Log into Oracle Global Order Promising with the Advanced Supply Chain Planner responsibility.
2. Select an instance: Organization.
3. Select Supply Chain > Plan > Workbench.
4. Select a plan.
5. Select Tools > Preferences.

   The Preferences window appears.
6. Click the Allocated ATP tab.
7. In the User-Defined Percentage Based Allocation section, select the check boxes that correspond to the fields that you want to appear in the View Allocation Workbench window.

   The following fields are selected by default:

- Allocated Supply
- Supply Adjustment
- Demand
- Net
- Cum

ATP Logic

ATP Post Plan Processing

The concurrent program uses pegging to identify the supply for a particular demand class.

The logic is as follows, for any item that has an allocation rule assigned:

- If the supply pegs to independent demand that has a demand class on the allocation rule, then the supply goes to that demand class.
- If the supply pegs to independent demand that has a demand class not present in the allocation rule, then the supply goes to the OTHER bucket.
- If the supply pegs to independent demand that does not have a demand class, then the supply goes to OTHER.
- Excess supply, which includes supply pegged to safety stock demand, goes to OTHER.
- The due date on the supply order is used to indicate the supply date for order promising.
- The following supplies are ignored: supply pegged to negative on-hand, supply pegged to shrinkage demand, and supply that Oracle Advanced Supply Chain Planning recommends to cancel.

Independent demand includes external and internal sales orders, forecast, and Master Demand Schedule.

Stealing and Forward Scheduling Logic

For a demand from a demand class, Oracle Global Order Promising first uses its own allocated supply. If a shortage occurs, it takes supply from lower priority demand classes, starting from the next lower priority as defined in the allocation rule. This practice is often referred to as backward stealing. If a shortage still occurs after stealing, Oracle Global Order Promising performs CTPe to see if more supply can be generated.

If a shortage still occurs after CTP, then the order is late.

Next, Oracle Global Order Promising determines when the shortage can be satisfied by first finding the availability date based on scheduled receipt. During this check, a high priority demand class steals from a lower priority demand class on a daily basis. This practice is often referred to as forward stealing. It performs a forward CTP to find a date when the shortage can be made. The answer is the better date offered by the two methods.

Examples

The following examples illustrate Allocated ATP based on demand priority.

> **Note:** The pegging shown is just an example, and it may vary based on factors such as the planning priority specified for a sales order or forecast.

Demonstrates the Allocation and Stealing Logic

Oracle Advanced Supply Chain Planning output is as follows:

	Demand Class	Date 1	Date 2	Date 3	Date 4	Date 5
Demand	DC1 (1)	fc11 = 20	fc12 = 20	fc13 = 20	fc14 = 20	fc15 = 20
	DC2 (2)	fc21 = 80	fc22 = 80	fc23 = 80	fc24 = 80	fc25 = 80
	DC3 (3)	fc31 = 100	fc32 = 100	fc33 = 100	fc34 = 100	fc35 = 100
Supply	-	200	200	200	200	200
ASCP Pegging	-	20-fc11 80-fc21 100-fc31	20-fc12 80-fc22 100-fc32	20-fc13 80-fc23 100-fc33	20-fc14 80-fc24 100-fc34	20-fc15 80-fc25 100-fc35

> **Note:** fc11 and others represent the forecast identifier.

Allocation rule is:

- DC1, Priority 1
- DC2, Priority 2

- OTHER, Priority 3

The ATP Allocation is as follows:

Demand Class		Date 1	Date 2	Date 3	Date 4	Date 5
DC1 (1)	Supply	20	20	20	20	20
-	Demand	0	0	0	0	0
-	Net	20	20	20	20	20
DC2 (2)	Supply	80	80	80	80	80
-	Demand	0	0	0	0	0
-	Net	80	80	80	80	80
DC3 (3)	Supply	100	100	100	100	100
-	Demand	0	0	0	0	0
-	Net	100	100	100	100	100

The sales order demand has:

- Demand Class = DC1
- Quantity = 430
- Request Date = Date 2

Assuming no CTP, the ATP Result is Request Date Quantity = 400 and Schedule Date = Date 3.

The Allocation is as follows:

Demand Class		Date 1	Date 2	Date 3	Date 4	Date 5
DC1 (1)	Supply	20	20 *+160+200*	20+*10*	20	20
-	Demand	0	0	–430	0	0

Demand Class		Date 1	Date 2	Date 3	Date 4	Date 5
-	Net	20	380	–400	20	20
-	Cum	0	0	0	20	40
DC2 (2)	Supply	80	80+*(–160)*	80+*(–10)*	80	80
-	Demand	0	0	0	0	0
-	Net	80	–80	70	80	80
-	Cum	0	0	70	150	230
DC3 (3)	Supply	100	100+ *(–200)*	100	100	100
-	Demand	0	0	0	0	0
-	Net	100	–100	100	100	100
-	Cum	0	0	100	200	300

Explanation:

- On the request date, 40 units are available from DC1, 160 from DC2, and 200 from DC3.
- After stealing, the shortage is 30 units short.
- On Date 3, 20 units are available from DC1, and the shortage is now 10. Oracle Global Order Promising can steal 10 from DC2. Thus the schedule date equals Date 3.
- After the order is scheduled for Date3, the demand appears on Date 3 under DC1. On Date 2 (request date), supply for DC2 and DC3 are adjusted to reflect backward stealing. On Date 3, supply is adjusted for DC2 to reflect forward stealing.

Demonstrates the Allocation Derivation

This example further illustrates how allocation is derived based on Oracle Advanced Supply Chain Planning pegging and allocation rules. The input to Oracle Advanced Supply Chain Planning and output from Oracle Advanced Supply Chain Planning are the same as in Example 1.

Allocation rule is:

- DC1, Priority 1
- OTHER, Priority 2

The ATP Allocation is as follows:

		Date 1	Date 2	Date 3	Date 4	Date 5
ATP Allocation	DC1 (1)	20	20	20	20	20
	OTHER (2)	180	180	180	180	180

Explanation:

- Since DC2 and DC3 do not appear on the allocation rule, the supplies that peg to demand for DC2 and demand for DC3 go to the OTHER bucket.

Prioritized Demands

The prioritized demands for two demand classes are entered into Oracle Advanced Supply Chain Planning. However, because of the order modifier, the supply is in excess.

The Order Modifier is a Fixed Order Quantity of 250.

The Oracle Advanced Supply Chain Planning Output is:

	Demand Class	Date 1	Date 2	Date 3	Date 4
Demand	DC1 (1)	fc11 = 20	fc12 = 20	fc13 = 20	0
-	DC2 (2)	fc21 = 80	fc22 = 80	fc23 = 80	0
Supply	-	250	-	250	0
ASCP Pegging	-	20-fc11 80-fc21 20-fc12 80-fc22 20-fc13 30-fc23	-	50-fc23 20-fc14 80-fc24 100-excess	0

The allocation rules are:

- DC1, Priority 1
- DC2, Priority 2
- OTHER, Priority 3

The ATP Allocation is:

	Demand Class	Date 1	Date 2	Date 3	Date 4
ATP Allocation	DC1 (1)	60	0	20	20
-	DC2 (2)	190	0	130	80
-	OTHER (3)	-	0	100	-

5

ATP Based on Planning Output: Part II

This chapter covers the following topics:

- End Item Substitution
- Support for Lot-Based Components
- Continual ATP Support
- Multiple Plans
- Improved ATP Performance Based on Summarized Data
- Unplanned Items
- Honoring Plan Recommendations for Sales Order Rescheduling
- Available to Promise and Oracle Distribution Planning
- Available to Promise and Oracle Rapid Planning

End Item Substitution

Oracle Global Order Promising supports end item substitution. End item substitution is the replacement of an item when the requested item is not available. Whether substitution occurs and how items are substituted depends on the customer or the customer site ordering the item.

Setup

After you complete the mandatory and optional setup steps described in the Setup chapter, you need to perform the following setup steps in order to use End Item Substitution capability:

1. Define item substitution relationship.

2. Set item attribute to establish a window for substitution.

3. Set profile to control the generation of supplies for CTP.

4. Set profile to control workflow notification when substitution occurs during sales order scheduling.

5. Have an available-to-promise (ATP) plan that has end item substitution enabled.

Each of these steps is explained in detail in the topics that follow.

1. Define Item Substitution Relationship

You use the Item Relationship window in Oracle Inventory to define an item substitution relationship.

For detailed instructions, see "Define a Substitution Relationship" in , *Oracle Advanced Planning and Scheduling Implementation and User's Guide*.

> **Note:** Oracle Global Order Promising currently supports only the No Substitution or Full Substitution options. It does not support partial substitution. Therefore, a request is not fulfilled by using a partial quantity from the requested item and a partial quantity from a substituted item.

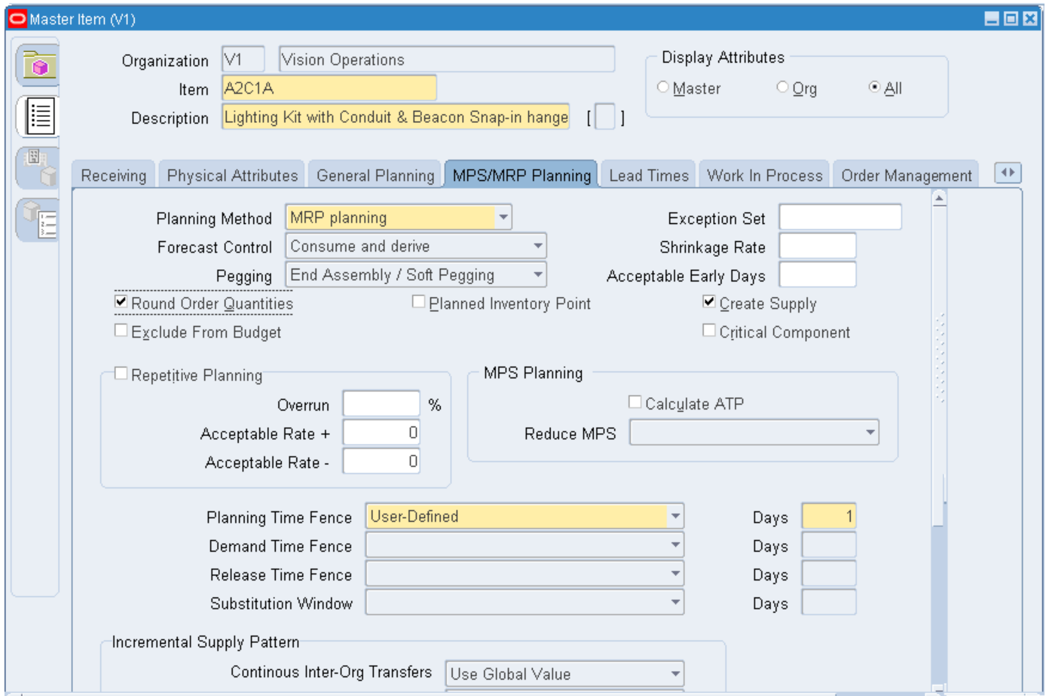
2. Set Item Attribute to Establish a Window for Substitution

While substitutions are part of regular business processes, substitutions done too far ahead of demand might not be appropriate. For example, if you find a substitute supply four weeks ahead of the demand, you may not want to substitute as you may have a good chance of producing supply for the demanded item in the next three weeks.

A substitution window allows you to limit the time frame for the substitution. You can define the substitution window for an item using the item attribute form in Oracle Inventory. The substitution window is effective in the forward direction for every demand. All substitute supplies before demand are eligible for substitution. Note that the substitution window is applicable only for substitution; if you are netting supply and demand from the same item, the substitution window does not apply.

The Item Substitution window is under Item the window on the MPS/MRP Planning tab.

Item Window



You have the following choices for a window:

- Cumulative manufacturing lead time
- Cumulative total lead time
- Total lead time
- User-defined

3. Set Profile to Control the Generation of Supplies

When Oracle Global Order Promising creates new supply during its CTP process, you can control which item Oracle Global Order Promising uses to create the new supply. This functionality is helpful when you may not want to create new supply for phased out items.

Profile MSC: Choice of Item for Which to Create Supplies in Substitute Relationship has these possible values:

- Demanded Item: Planned orders are created for the demanded item.
- Highest Level Item: Planned orders are created for the highest level item in a substitution chain for the demanded item.

- By Item Attribute: If the Create Supply item attribute is Yes, then demand is created for the demanded item with the item attribute. If the Create Supply item attribute is No, then demand is created for the nearest item in a substitution chain that has the item attribute.

  Note: Create Supply is a check box under MPS/MRP Planning tab of the Item window.

Suppose you have three Items: A, B and C, where Item B can be substituted for Item A and Item C can be substituted for Item B. You entered these two relationships in the Item Relationships form as follows:

From Item	To Item	Type	Reciprocal
A	B	Substitute	Not Checked
B	C	Substitute	Not Checked

Using typographical notation, we show this as:

- A --> B
- B --> C

We are showing which way the demand is passed from one item to its substitute.

An inferred relationship is that Item C, which can be substituted for Item B, can also be substituted for Item A. We show this as:

- A --> C

Now, we have a substitution chain that we can show as:

- A --> B --> C

In this chain, we say that C is the highest level item. Companies might define a chain such as a product being phased out. Items A and B are no longer manufactured and are being phased out. If a customer orders Item A or B, the current Item C is shipped when the supplies of A and B are gone. New planned orders are created only for C. In this scenario, you may set the profile MSC: Choice of Item for Which to Create Supplies in Substitute Relationship = Highest Level Item.

4. Set Profile to Control Workflow Notification When Substitution Occurs During Sales Order Scheduling

You must set profile MSC: Enable ATP Workflow to Yes if you want a notification to be sent to the appropriate people when an item substitution occurs during sales order scheduling.

5. Enable End Item Substitution for the ATP Plan

Oracle Global Order Promising enables substitution if the underlying Advanced Supply Chain Planning (ASCP) plan has end item substitution enabled.

For details about how to enable end item substitution in an ASCP plan, see "End-Item Level Substitution" in, *Oracle Advanced Planning and Scheduling Implementation and User's Guide.*

Note that you can optionally specify a substitution set in an ASCP Plan. If you specify one, Oracle Advanced Supply Chain Planning and Oracle Global Order Promising will only honor the substitution relationships that are associated with the named substitution set.

ATP Logic

Substitution Logic in a Single Organization

Oracle Global Order Promising uses on-hand and scheduled receipts for requested item and its substitutes before to the request date. Once ATP logic exhausts all the possible supplies from demanded and substitute items before the request date, it looks for scheduled receipts and fresh supplies in the forward direction. While evaluating scheduled receipts, Oracle Global Order Promising develops a consolidated supply picture across the requested item and its substitutes. If it cannot successfully satisfy the request, then Oracle Global Order Promising first projects an availability date, and then displays the earliest date.

Oracle Global Order Promising first evaluates the existing supply by request date for the requested item in the shipping organization. If the supply is not sufficient for the requested item, then it evaluates existing supply comprising on-hand and scheduled receipts for substitute items one by one. Global Order Promising stops evaluating when it finds enough supply for any substitute item.

If none of the substitute items can meet the requested quantity, Oracle Global Order Promising attempts to create supply based on the profile MSC: Choice of Item for Which to Create Supplies in Substitute Relationship. For example, it evaluates if the item can be made using additional capacity and components supply. If Oracle Global Order Promising cannot create enough supply for the requested item on the request date, it attempts to create supply for the substitute items one by one for the shortage of substituted items. It stops evaluating when it finds enough supply.

If none of the items can meet the request, Oracle Global Order Promising performs forward scheduling for the requested item, and then for the substitute items. Oracle Global Order Promising recommends the item that can meet the demand the earliest.

Supply Chain Search for Substitutes

Oracle Global Order Promising first evaluates the existing supply by request date for the requested item across the supply chain using breadth-first logic. If supply for the requested item is not sufficient, Oracle Global Order Promising evaluates existing supply for substitute items one by one across the supply chain using breadth-first logic. It stops when it finds supply for any substitute item.

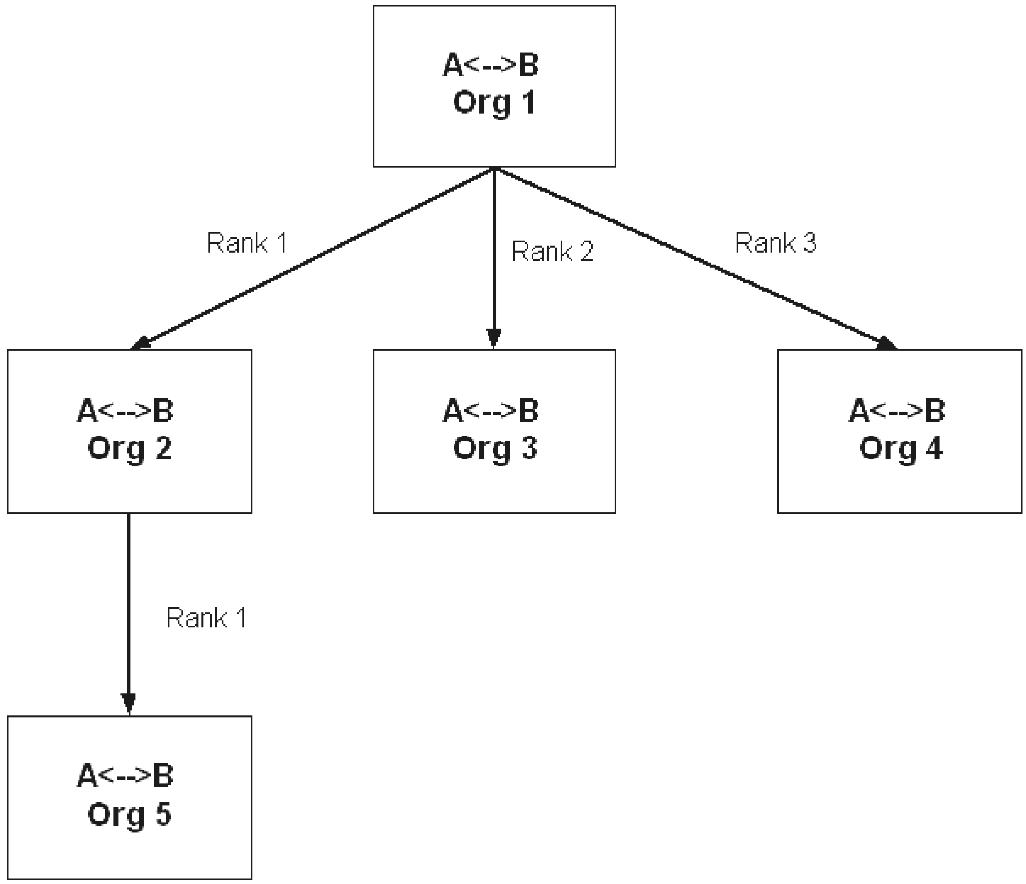
If Oracle Global Order Promising needs to suggest supply, it creates supply using existing CTP logic.

Decision Rules tab of the

Oracle Global Order Promising uses a plan-level option selection to determine if breadth-first logic needs to be applied. The plan level option is the End Item Substitution check box on the Plan Options window. If you select this check box, you get the breadth-first logic for items that have end item substitutions defined.

The following diagram illustrates the breadth-first search concept. Items A and B are two substitute items and they are enabled in different organizations. The search for existing supply of a substitute proceeds breadth first, that is, Oracle Global Order Promising searches for Items A and B in Org 1, Org 2, Org 3, Org 4, and Org 5. If you have setup your substitution, ATP searches for each item individually. If Org 3 is set to Rank 1 and Org 2 to Rank 2, and then ATP follows this path: Org 1, Org 3, Org 2, Org 4, and Org 5 while evaluating existing on-hand and scheduled receipts for both native and substitute supplies across the supply chain.

Breadth-First Search Concept



The system assumes that both Items A and B have the same sourcing rule. If substitution needs to happen in all organizations and all organizations can swap materials freely, you can expect that substitute items are enabled in all relevant organizations and that sourcing rules exist for all substitute items to ship materials to all relevant organizations. If you do not establish sourcing rules, the substitution logic does not make any assumptions about sourcing rules.

> **Note:** When end item substitution is not enabled, Oracle Global Order Promising performs a depth-first search. In the previous example, the order of this search would be:
>
> Org 2 -> Org 5 -> Org 3 -> Org 4

Resolution of Ties in the Substitution Chain

Oracle Global Order Promising provides only one item as an outcome of your supply query. In some cases, you might have a tie between a requested item and a substitute item. If both a requested item and a substitute item are available on the same day, then

Oracle Global Order Promising promises the order with the requested item.

For example, Items A, B, and C are three substitute items. You get demand for 10 units of Item A. You find 10 units of supply of both Item A and Item B on Day 3. Oracle Global Order Promising suggests Item A as the requested item.

If multiple ties exist and the requested item is not in the tie, then Oracle Global Order Promising suggests the nearest item in the substitution chain. For example, if you do not have any supply for Item A but you can find supply for both Item B and C on the same day, then Oracle Global Order Promising suggests Item B.

Substitution in Allocated ATP

Oracle Global Order Promising supports allocation of materials to various segments of your demand. When demand cannot be satisfied using allocated supply, Oracle Global Order Promising first steals any available supply from lower priority sales channels. Then, if there is a shortage after stealing, Oracle Global Order Promising performs an availability check on the substitute item.

> **Note:** Currently, Oracle Global Order Promising only supports All or None substitution.

Examples

The following examples provide illustrations of the ATP logic.

Substitution Using Supplies by Request Date

In this example, you have three items: A, A1, and A2. A2 is the highest level item in the substitution chain. A can use the A1 or A2 supply, and A1 can use the A2 supply. The following tables show you the supply and demand picture for items in the substitution chain. The two inquiries for Item A are:

1. Day 12 for 50 units

2. Day 35 for 80 units (after you schedule the first demand)

The substitution window width is 5 days for all items.

Item A

Record Type	Item	Day 2	Day 5	Day 10	Day 12	Day 15	Day 35	Day 40	Day 45
Demand	A	0	0	0	0	0	0	0	0
Supply	A	0	10	0	0	0	70	0	0

Item A1

Record Type	Item	Day 2	Day 5	Day 10	Day 12	Day 15	Day 35	Day 40	Day 45
Demand	A1	0	0	0	2	0	0	0	0
Supply	A1	0	0	0	7	0	0	0	100

Item A2

Record Type	Item	Day 2	Day 5	Day 10	Day 12	Day 15	Day 35	Day 40	Day 45
Demand	A2	0	2	0	0	0	0	0	0
Supply	A2	0	35	0	17	0	30	0	0

Demand on Day 12 for item A is satisfied by consuming 50 units of A2. Because Oracle Global Order Promising currently does not support Partial Fulfillment, the demand is fulfilled by using supply from only one item.

The promise date for the first demand is Day 12 with item A2 and an ATP quantity of 50. Oracle Global Order Promising collects substitute supplies only if the supplies are in excess and after satisfying the existing committed native demand. In this example, although 35 units of supply are available on Day 5 for item A2, only 33 units can be used for substitution because it needs to satisfy its own demand for 2 units.

Demand for Item A on Day 35 first consumes its own supply of 80 units. Supply from item A1 is not considered because of the substitution window. The promise date for the demand is Day 35 with an ATP quantity of 80. No substitution occurs.

Production Prior to Request Date

The supply picture changes so that the substitution window is set to 10 days for all items. The two inquiries for item A are: 1 on Day 12 for 50 units and on Day 35 for 80 units after you schedule the first demand. The profile MSC: Choice of Item for Which to Create Supplies in Substitute Relationship is set to Demanded Item.

Item A

Record Type	Item	Day 2	Day 5	Day 10	Day 12	Day 15	Day 35	Day 40	Day 45
Demand	A	0	0	0	0	0	0	0	0

Record Type	Item	Day 2	Day 5	Day 10	Day 12	Day 15	Day 35	Day 40	Day 45
Supply	A	0	10	0	0	0	0	5	0

Item A1

Record Type	Item	Day 2	Day 5	Day 10	Day 12	Day 15	Day 35	Day 40	Day 45
Demand	A1	0	0	0	2	0	0	0	0
Supply	A1	0	0	0	7	0	10	65	0

Item A2

Record Type	Item	Day 2	Day 5	Day 10	Day 12	Day 15	Day 35	Day 40	Day 45
Demand	A2	0	2	0	0	0	0	0	0
Supply	A2	0	35	0	17	0	0	5	0

The first demand of 50 units will be satisfied as Item A2 ATP quantity is 50 on Day 12.

The next demand of 80 units can be met in two ways:

- Use substitute supplies from Item A1 on Day 12 through Day 40, so the promise date is Day 40, or
- Use existing supply of 10 units on Day 5 and try to produce 70 units prior to the request date of Day 35, assuming you have the capacity to produce by Day 35.

Considering these two options, Oracle Global Order Promising recommends an ATP date of Day 35 based on the following supply:

- Planned order for 70 units of Item A on Day 35.
- Supply of 10 units of Item A on Day 5.

Oracle Global Order Promising suggests new supplies based on the profile MSC: Choice of Item for Which to Create Supplies in Substitute Relationship setting, if the existing supplies for a demanded item or the substitute items cannot meet the request on the request date.

Substitution using Supplies Past Request Date

There is an ATP query for Item A for 20 units on Day 10.

The setup details are:

- The substitution window width is 10 days for all items.
- Substitution between Item A and A2 becomes effective starting on Day 15. All of the other substitution definitions are applicable for the entire horizon.
- Infinite Time Fence Date is Day 35.

The profile MSC: Choice of Item for Which To Create Supplies in Substitute Relationship is set to Demanded Item. The following tables show you the supply and demand picture for items in the substitution chain:

Item A

Record Type	Item	Day 2	Day 5	Day 10	Day 12	Day 15	Day 21	Day 30	Day 45
Demand	A	0	0	0	0	0	0	0	0
Supply	A	0	2	0	2	0	1	2	0

Item A1

Record Type	Item	Day 2	Day 5	Day 10	Day 12	Day 15	Day 21	Day 30	Day 45
Demand	A1	0	0	0	0	0	0	0	0
Supply	A1	0	2	0	2	18	1	2	0

Item A2

Record Type	Item	Day 2	Day 5	Day 10	Day 12	Day 15	Day 21	Day 30	Day 45
Demand	A2	0	0	0	0	0	0	0	0
Supply	A2	0	2	0	20	0	0	0	0

Oracle Global Order Promising evaluates the substitution relationship effectivity on the

ATP request date. Only substitution relationships valid as of the request date are valid for the whole query. Oracle Global Order Promising does not evaluate the substitution effectivity on every day. Thus, A2 is not a valid substitute for A.

By the request date, neither A or A1 has sufficient supply. Since the profile MSC: Choice of Item for Which to Create Supplies in Substitute Relationship is set to Demanded Item, Oracle Global Order Promising only evaluates the possibility of creating new supply for A to meet the shortage of 18 units by the request date.

If you are able to produce 4 units of Item A by the request date Day 10, then you can satisfy 6 out of 20 units by the request date.

By the request date, you have 6 of A available and 2 of A1 available. Since Oracle Global Order Promising does not support Partial Fulfillment, it looks forward for the earliest date that the remaining shortage of 14 of A is available and the earliest date that the remaining shortage of 18 of A1 is available.

For Item A

- **Using Scheduled Receipts:** The earliest date that the shortage can be fulfilled using scheduled receipts will be Day 35 (the infinite time date).

  Creating Fresh Supplies: Assume you can create fresh supplies for 14 units of Item A on Day 25.

  Therefore, the earliest date that the 14 units of A is available is Day 25.

For Item A1

- **Using Scheduled Receipts:** The earliest date that the shortage can be fulfilled using scheduled receipts will be Day 15.

  Creating Fresh Supplies: Since the profile MSC: Choice of Item for Which To Create Supplies in Substitute Relationship is set to Demanded Item, Oracle Global Order Promising will not attempt to create fresh supplies for A1.

  Therefore, the earliest date that the 18 units of A1 is available is Day 15.

  A1 is available earlier than A. Thus, Oracle Global Order Promising recommends A1 with available date of Day 15.

Creation of Planned Supplies

The substitution chain has four itemsitems: A1, A2, A3, and A4. The highest level item in this pool is A4. You get a demand for A2, and the profile MSC: Choice of Item for Which to Create Supplies in Substitute Relationship is set to Requested Item. You can evaluate supply availability for A2, A3, and A4 assuming chaining and direction is A1 to A2 to A3 to A4. If you do not find any supply for the requested item, you can generate supply for the requested item, which is A2.

If the item you try to produce happens to be a coproduct, Oracle Global Order Promising creates supplies for all items in co-product relationships. If your item is not an item in a coproduct relationship, it may be possible to produce a substitute item instead of the demanded item, but please note that Oracle Global Order Promising will create supplies for only one item. The exception to this rule is when a requested item is involved in a coproduct relationship. If the profile MSC:Choice of Item for Which to Create Supplies in Substitute Relationship is set to Follow Item Attribute, and the Create Supply flag of the requested item is set to No in the Master Item form, Oracle Global Order Promising generates supplies for the next higher item in the substitution chain.

The table summarizes this example:

Chaining and Direction	Highest Level Item	Requested Item	Profile Option: Choice of Item	Create Supply Flag	Co-Product?	Action	Generate Supply
A1 to A2 to A3 to A4	A4	A2	Demanded Item	Yes	No	Evaluate supply availability for A2, A3, and A4.	Generate supply for requested item.
A1 to A2 to A3 to A4	A4	A2	Demanded Item	Yes	Yes	Evaluate supply availability for A2, A3, and A4.	Generate planned order for requested item and co-product supplies for the rest of the items in the co-product relationship.
A1 to A2 to A3 to A4	A4	A2	Follow Item Attribute	Yes	No	Evaluate supply availability for A2, A3, and A4.	Create supply for A2. If capacity is not found, evaluate generation of supplies for items A3 and A4. Then the supplies are created for one item.
A1 to A2 to A3 to A4	A4	A2	Highest Level Item	Yes	No	Evaluate supply availability for A2, A3, and A4.	Create supply for A4.

Example

Evaluating Supplies After Request Date

One of the purposes of substituting is to use up all the possible supplies before creating fresh supplies. This concept applies to both native supplies and substitute supplies.

In this example, Cases 1 to 4 are for a single organization; Case 5 is for a supply chain.

Case 1

A can be substituted by B. The substitute window for both items across the supply chain is set to 15 days.

The supply situation is shown in the following table:

Record Type	Item	Day 2	Day 5	Day 10	Day 12	Day 15	Day 20	Day 25	Day 45
Supply	A	5	0	0	2	0	0	0	10
Supply	B	0	2	0	8	5	3	10	0

An inquiry for 10 units of Item A on Day 12 exists, and the infinite time fence date is set to Day 45.

The first step is to determine the availability by the request date either by requested item or the substitute item. By the request date, you will have 7 units of item A and 10 units of item B.

Therefore, Item B is suggested as a substitute because it can fulfill the entire quantity using only the supply from one item. You are not able to look at the ATP details and pegging for Item A, but you have access to summary level information for Item A. You have also full access to the ATP details and pegging for Item B.

Case 2

The supply situation is shown in the following table:

Record Type	Item	Day 2	Day 5	Day 10	Day 12	Day 15	Day 20	Day 25	Day 45
Supply	A	1	0	0	2	0	0	0	10
Supply	B	0	0	0	8	5	3	10	0

In this example, there is also an inquiry for 10 units of Item A on Day 12. The first step is to evaluate the supplies prior to request date. You have 3 units of Item A and 8 units of Item B. You have to evaluate the possible production prior to the request date.

If you produce 7 units of Item A by Day 12 and 2 units of Item B by Day 12, both Items A and B have a total supply of 10 units by Day 12. Given this scenario, Oracle Global Order Promising promises the order on Day 12 using Item A. If you have a choice between the original item and a substitute item, Oracle Global Order Promising promises with the original item.

Case 3

You have 10 units of existing supply for item B, 5 units of supply for item A and you can produce 5 units of item A by the request date. Oracle Global Order Promising recommends item B because it uses up the existing supplies rather than producing item A.

Case 4

For this case, the profile MSC: Choice of Item for which to Create Supplies in Substitute Relationship is set to Follow Item Attributes. The assumption is that supplies can be created for both items.

The supply situation is shown in the following table:

Record Type	Item	Day 2	Day 5	Day 10	Day 12	Day 15	Day 20	Day 25	Day 45
Supply	A	5	0	0	2	0	1	10	0
Supply	B	0	2	0	0	5	3	10	0

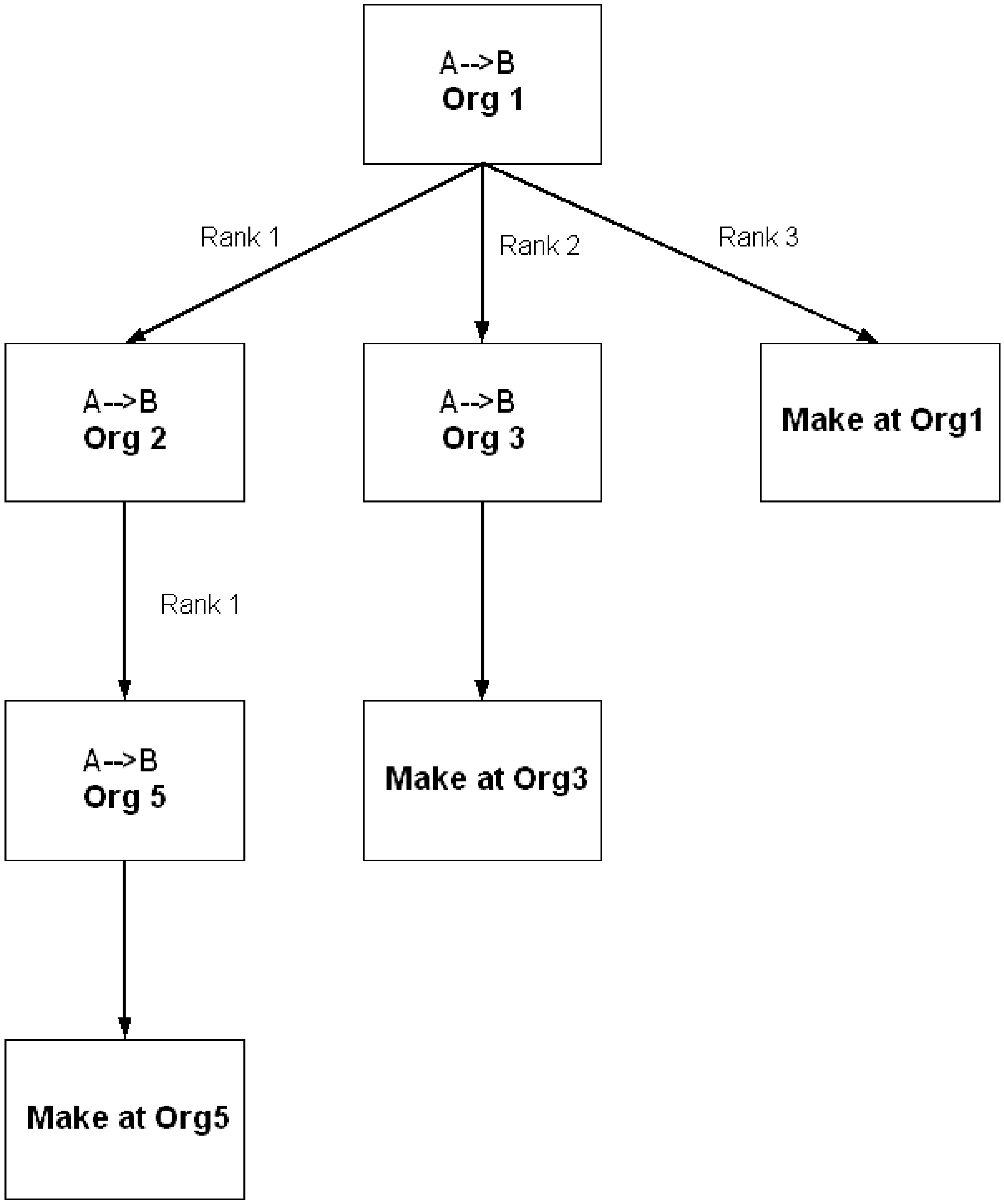
You have 7 units of Item A by request date and 2 units of Item B by the request date. Assume you do not have the capacity to produce either Item A or B by request date. The availability and production of both A and B are evaluated in the forward direction.

Evaluating scheduled receipts, you can satisfy the requested quantity by using item B by Day 20. If you use the production route, then assume you do not get the deficit produced until Day 40. The request is satisfied by item B by Day 20.

Case 5

The following diagram shows the supply chain for item A and B:

Supply Chain for Item A and B



For this example, the profile MSC: Choice of Item for which to Create Supplies in Substitute Relationship is set to Follow Item Attributes. The assumption is that supplies can be created for both items.

Consider the following supply picture as shown in the following tables. The substitution window is set to 15 days for both Items A and B. Assume that the lead time to transfer items across all organizations is 0. The request date is Day 10 and the request quantity is 100 units. The infinite time fence date set to Day 26.

Org 1

Record Type	Item	Day 2	Day 5	Day 10	Day 12	Day 15	Day 20	Day 25	Day 45
Supply	A	5	0	0	2	0	0	10	0
Supply	B	0	2	0	0	5	0	10	0

Org 2

Record Type	Item	Day 2	Day 5	Day 10	Day 12	Day 15	Day 20	Day 25	Day 45
Supply	A	10	0	0	0	2	0	16	0
Supply	B	0	0	0	0	0	15	0	20

Org 3

Record Type	Item	Day 2	Day 5	Day 10	Day 12	Day 15	Day 20	Day 25	Day 45
Supply	A	0	5	0	0	0	48	5	0
Supply	B	0	0	0	0	38	0	10	10

Org 5

Record Type	Item	Day 2	Day 5	Day 10	Day 12	Day 15	Day 20	Day 25	Day 45
Supply	A	0	10	5	0	0	2	63	5
Supply	B	0	55	0	0	0	23	5	0

Oracle Global Order Promising evaluates the supplies for Items A and B individually by using up all the on-hand and scheduled receipts prior to the request date. Later, it tries to produce the deficit by the request date.

If Oracle Global Order Promising is not successful in satisfying the request, it tries to project the availability date for the requested item as well as its substitutes by choosing the better date of:

1. Using scheduled receipts

2. Creating fresh supplies

Oracle Global Order Promising returns the item that gives the best available date.

Evaluating Item A Supply

On-hand + scheduled receipts available on request date:

Total	Org 1	Org 2	Org 3	Org 5
35	5	10	5	15

> **Note:** The order of the organization columns in the previous table shows the order in which Oracle Global Order Promising looks for supplies.

Creating new supplies on request date:

> **Additional Information:** Assume no capacity to create new supplies on the request date.

Total	Org 5	Org 3	Org 1
0	0	0	0

> **Note:** The order of the organization columns in the previous table shows the order in which Oracle Global Order Promising is trying to create new supplies.

Item A has a shortage of 65 on the request date. Oracle Global Order Promising looks forward to project a date when the shortage is available. The earliest date on which 65 units are available is Day 15. In the forward scenario, remember that : if multiple sources are available for the supply, then Oracle Global Order Promising uses the source that gives the best available date.

Oracle Global Order Promising computes the availability date as follows.

- Org 1: Scheduled receipts (Day 26 = infinite time fence)

- Org 1: Transfer from Org 2 (Day 21 = the better date of the two sources in Org 2)

        - Org 2: Scheduled receipts (Day 26 = infinite time fence)
        - Org 2: Transfer from Org 5 (Day 21 = the better date of the two sources in Org 5)
            - Org 5: Scheduled receipts (Day 25)
            - Org 5: Make (Day 21 = assume capacity to make 65 on Day 21)
    - Org 1: Transfer from Org 3 (Day 15 = the better date of the two sources in Org 3)
        - Org 3: Scheduled receipts (Day 26 = infinite time fence)
        - Org 3: Make (Day 15 = assume a capacity to make 65 on Day 15)
    - Org 1: Make (Day 16 = assume a capacity to make 65 on Day 16)

Of the four sources in Org 1, the transfer from Org 3 gives the best available date. Thus for Item A, Day 15 is the date that the requested quantity is available.

Evaluating Item B Supply

On-hand + scheduled receipts available on request date:

Total	Org 1	Org 2	Org 3	Org 5
57	2	0	0	55

Note: The order of the organization columns in the previous table shows the order in which Oracle Global Order Promising looks for supplies.

Creating new supplies on request date:

Assume there is no capacity to create new supplies on request date.

Total	Org 5	Org 3	Org 1
0	0	0	0

Note: The order of the organization columns in the previous table shows the order in which Oracle Global Order Promising creates new supplies.

Item B has a shortage of 43 on the request date. Oracle Global Order Promising looks forward to project a date when the shortage is available. The earliest date on which 43 units are available is Day 17. In the forward scenario, remember that if multiple sources are available for the supply, then Oracle Global Order Promising uses the source that gives the best available date.

Oracle Global Order Promising computes the availability date as follows:

- Org 1: Scheduled receipts (Day 26 = infinite time fence)
- Org 1: Transfer from Org 2 (Day 21 = the better date of the two sources in Org 2)
  - Org 2: Scheduled receipts (Day 26 = infinite time fence)
  - Org 2: Transfer from Org 5 (Day 21 = the better date of the two sources in Org 5)
    - Org 5: Scheduled receipts (Day 26 = infinite time fence)
    - Org 5: Make (Day 21 = assume a capacity to make 43 on Day 21)
- Org 1: Transfer from Org 3 (Day 17 = the better date of the two sources in Org 3)
  - Org 3: Scheduled receipts (Day 26 = infinite time fence)
  - Org 3: Make (Day 17 = assume a capacity to make 43 on Day 17)
- Org 1: Make (Day 17 = assume a capacity to make 43 on Day 17)

Of four sources in Org 1, the transfer from Org 3 gives the best available date. Thus for Item B, Day 17 is the date the requested quantity is available.

Based on the previous calculations, you can meet the requirement either by using Item A on Day 15, or item B on Day 17. Oracle Global Order Promising suggests Item A on Day 15 with the following details:

- 35 units of scheduled receipts of item A by the request date.
- 65 units of production of Item A in Org 3

Allocated ATP with Substitution

This section explains how allocated ATP works if stealing occurs ahead of substitution. The allocation method used here is demand priority allocation. In this example, you have two substitutable items, A and A1. You have three demand segments called tiers: T1, T2, and T3. The substitution window is 2 days. The profile MSC: Choice of Item for Which to Create Supplies in Substitute Relationship is set to Follow Item Attributes, and the assumption is that supplies can be created for both items.

Tier	Day 1	Day 2	Day 3	Day 4	Day 5
T1-A	0	0	0	7	0
T1-A1	8	0	5	0	10
T2-A	5	0	1	4	0
T2-A1	0	0	0	0	0
T3-A	3	0	2	6	0
T3-A1	0	0	0	0	0

Assume that you have demand for 8 units of Item A at tier T1 in Day 1. Oracle Global Order Promising steals 5 units from tier T2 and 3 units from tier T3 to satisfy the order. Note that it does not use the substitute available at tier T1. Then you have demand for 20 units at tier T1 on Day 3 for Item A1 after satisfying the first request for 8 units.

For Item A:

1. Three units of supply are available across all tiers.
2. Assume that you do not have any capacity to produce Item A before the request date.
3. The deficit is 17 units.
4. As shown in the previous table, you have 17 units of supply across all tiers by Day 4. Note that forward stealing is only available when demand priority allocation is used.
5. Assume that you have the capacity to product 17 units by Day 7.
6. You can promise the order for Item A by Day 4.

For Item A1:

1. Thirteen units of supply are available by the request date.
2. Assume that you do not have any capacity to produce item A1 by the request date.
3. The deficit is 7 units.
4. As shown in the previous table, you have no eligible existing supplies for A1 after the request date.

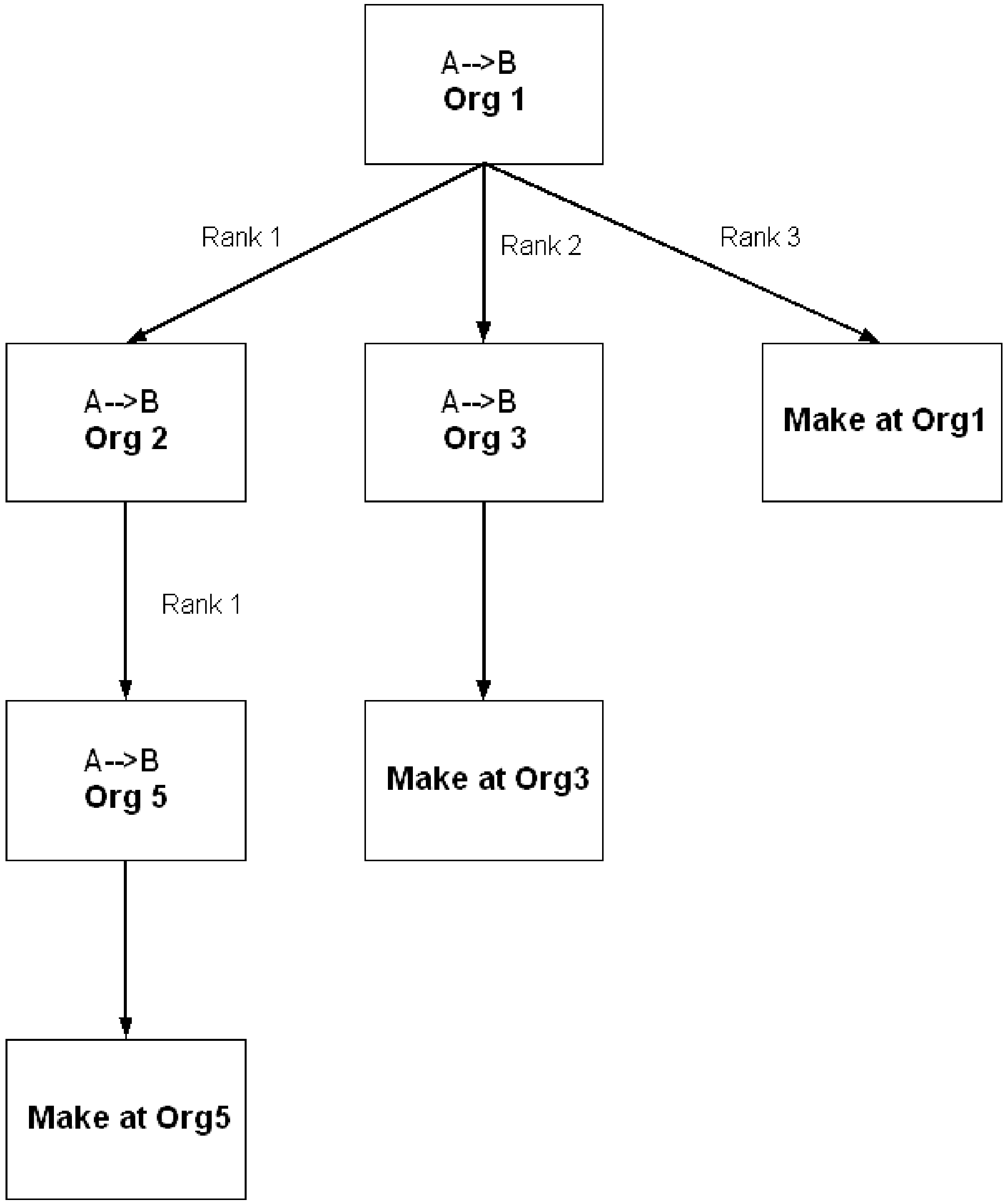
5. Assume you can produce 7 units by Day 7.

Given the previous analysis, Oracle Global Order Promising promises the order by Day 4 using Item A.

Allocated ATP In a Supply Chain

Consider a five organization supply chain setup:

Five-Organization Supply Chain



The substitution window is 2 days for Items A and B. In the following table, you get a request for 50 units of item A in tier T1 at Day 3 in the supply and demand picture of each organization. The infinite time fence date is set to Day 26. Assume no intransit lead time. The profile MSC: Choice of Item for Which to Create Supplies in Substitute Relationship is set to Follow Item Attributes, and the assumption is that supplies can be created for both items. The profile MSC: Allocation Method is set to Demand Priority.

Org 1

Tier	Day 1	Day 2	Day 3	Day 4	Day 5
T1-A	0	0	0	2	10
T1-B	2	0	0	5	10
T2-A	2	0	1	4	0
T2-B	0	2	0	2	0
T3-A	1	0	2	6	0
T3-B	0	0	0	0	5

Org 2

Tier	Day 1	Day 2	Day 3	Day 4	Day 5
T1-A	0	0	0	2	24
T1-B	0	4	0	15	3
T2-A	0	1	1	4	0
T2-B	2	0	0	2	0
T3-A	0	2	2	6	0
T3-B	5	0	0	0	5

Org 3

Tier	Day 1	Day 2	Day 3	Day 4	Day 5
T1-A	0	0	2	0	40
T1-B	0	0	0	0	0
T2-A	0	2	0	14	0

Tier	Day 1	Day 2	Day 3	Day 4	Day 5
T2-B	0	0	0	2	0
T3-A	2	0	0	6	0
T3-B	0	0	0	0	5

Org 5

Tier	Day 1	Day 2	Day 3	Day 4	Day 5
T1-A	0	0	0	2	10
T1-B	0	0	5	5	10
T2-A	0	0	1	4	0
T2-B	2	2	0	2	0
T3-A	3	5	2	6	0
T3-B	6	0	0	0	5

Evaluating Item A Supply

- By the request date, there are 29 units of Item A available across all tiers in the supply chain.
- Assume that you do not have the capacity to produce Item A by the request date.

Item A has a shortage of 21 on the request date. Oracle Global Order Promising looks forward to project a date on which the shortage is available. The earliest date that 21 units are available is Day 5. In the forward scenario, remember that: if multiple sources are available for the supply, Oracle Global Order Promising uses the source that gives the best available date.

Oracle Global Order Promising computes the availability date as follows:

- Org 1: Scheduled receipts (Day 26 = infinite time fence)
- Org 1: Transfer from Org 2 (Day 5 = the better date of the two sources in Org 2)
  - Org 2: Scheduled receipts (Day 5 = 36 are available across all tiers in Org 2)

        - Org 2: Transfer from Org 5 (Day 5 = the better date of the two sources in Org 5)
            - Org 5: Scheduled receipts (Day 5 = 22 are available across all tiers in Org 5)
            - Org 5: Make (Day 12 = assume capacity to make 21 on Day 12)
- Org 1: Transfer from Org 3 (Day 5 = the better date of the two sources in Org 3)
    - Org 3: Scheduled receipts (Day 5 = 60 are available across all tiers in Org 3)
    - Org 3: Make (Day 12 = assume capacity to make 21 on Day 12)
- Org 1: Make (Day 11 = assume capacity to make 21 on Day 11)

Of four sources in Org 1, the transfer from Org 2 gives the best available date. Thus, for Item A, Day 5 is the date the requested quantity is available.

Evaluating Item B Supply

- By the request date, there are 30 units of Item B available across all tiers in the supply chain.
- Assume that you do not have enough capacity to produce Item B by the request date.

Item B has a shortage of 20 on the request date. Oracle Global Order Promising looks forward to project a date on which the shortage is available. In the forward scenario, remember that if multiple sources for the supply are available, then Oracle Global Order Promising uses the source that gives the best available date.

Oracle Global Order Promising computes the availability date as follows:

- Org 1: Scheduled receipts (Day 5, 22 are available across all tiers in Org 1)
- Org 1: Transfer from Org 2 (Day 5 = the better date of the two sources in Org 2)
    - Org 2: Scheduled receipts (Day 5 = 25 are available across all tiers in Org 2)
    - Org 2: Transfer from Org 5 (Day 5 = the better date of the two sources in Org 5)
        - Org 5: Scheduled receipts (Day 5 = 22 are available across all tiers in Org 5)
        - Org 5: Make (Day 12 = assume capacity to make 20 on Day 12)
- Org 1: Transfer from Org 3 (Day 12 = the better date of the two sources in Org 3)
    - Org 3: Scheduled receipts (Day 26 = infinite time fence)
        - Org 3: Make (Day 12 = assume capacity to make 20 on Day 12)

- Org 1: Make (Day 9 = assume there to make 20 on Day 9)

Of four sources in Org 1, using scheduled receipts in Org 1 gives the best available date. Thus, for Item B, Day 5 is the date the requested quantity is available.

Based on the previous calculations, you can meet the requirement either by using Item A on Day 5, or Item B on Day 5. Therefore, Oracle Global Order Promising suggests Item A on Day 5, with the following details:

- 29 units of scheduled receipts of Item A by the request date across all tiers.

- 21 units of scheduled receipts of Item A by Day 5.

ATP Result

Integration with Order Management

Oracle Global Order Promising allows the calling application to decide when end item substitution can occur. This is done through a parameter in the ATP application program interface.

When an ATP inquiry or ATP scheduling occurs before an order is booked, Oracle Order Management calls Oracle Global Order Promising with end item substitution enabled. After an order is booked, the order is no longer eligible for automatic substitution in subsequent rescheduling activities.

When substitution is enabled and Oracle Global Order Promising recommends a substitute item during scheduling, the requested item is replaced by the substituted item.

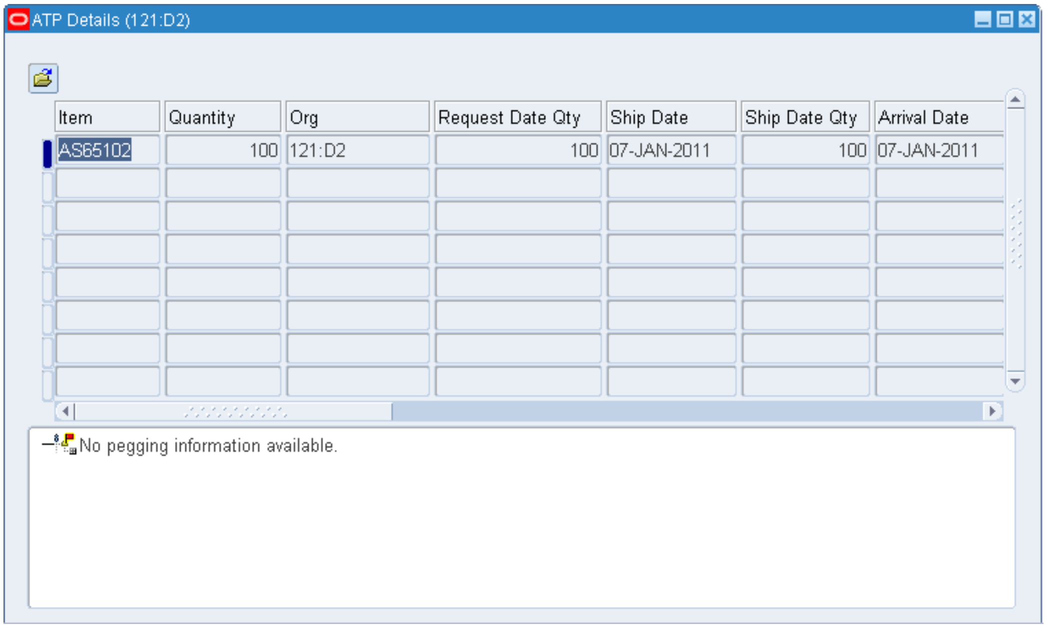
For details on how Oracle Order Management displays substitute item, see Automatic Item Substitution within Order Management in *Oracle Order Management User's Guide*.

Display of the Substituted Item in the ATP Details Window

You can access the ATP Details window either by selecting Availability within the Oracle Order Management Sales Order Pad or by selecting ATP Details within the Oracle Global Order Promising ATP Criteria window.

When substitution happens, the ATP Details window shows the following information:

ATP Details Window



When you request 100 units of item A, you see the following details in the ATP Details window provided that Item B is substituted for Item A.

Item	Org	UOM	Qty	Ship Date	Available Qty by Request Date	Original Item	Available Qty by ATP Date	Original Item Request Date Qty	Original Item ATP Date	Original Item ATP Date Qty
B	M1	Ea.	100	Day 10	20	A	100	50	Day 20	75

Table field descriptions:

- All of the fields except Original Item, Original Item Request Date Qty, Original Item ATP Date, and Original Item ATP Date Qty will be for item B.
- The Original Item column is the requested item.
- The Original Item Request Date Quantity refers to the quantity of the original item available by request date.
- The Original Item ATP Date provides you the date by which the entire requested quantity can be provided using original item.

- The Original Item ATP Date Quantity provides you the quantity that is found on the Original Item ATP Date. The available quantity can be more than the requested quantity.

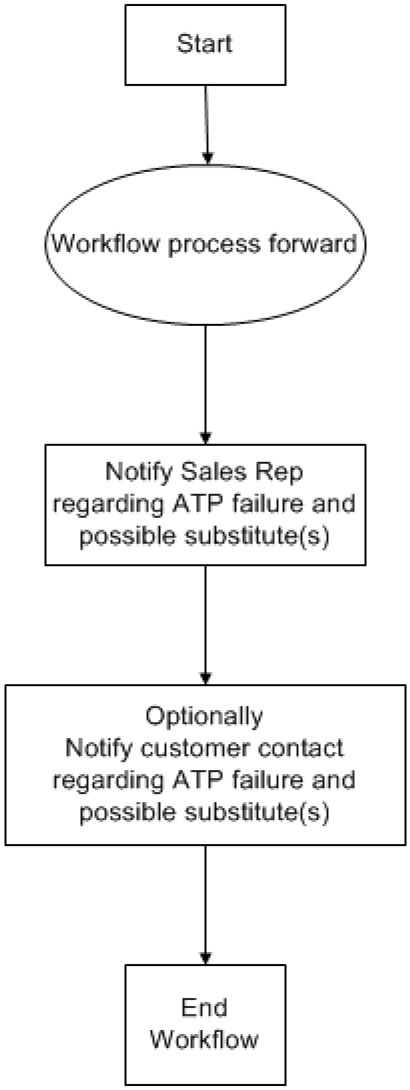
ATP Pegging Details

ATP Pegging shows the supply and demand pegging for the substitute item.

End Item Substitution Workflow

When the profile MSC: Enable ATP Workflow is set to Yes, a workflow notification is sent once the substitution occurs at the time of sales order scheduling. The following is a diagram depicting this workflow. The title for the workflow that is generated is Demand Satisfied Using End Item Substitution. This workflow is initiated upon scheduling of sales orders in Oracle Order Management.

Demand Satisfied Using End Item Substitution Workflow



The following details are shown in the workflow:

- From Item: the item for which you received the demand; the exception is for this item.
- Order Number: sales order number.
- Line Number: sales order line number.
- Original Quantity: requested quantity.
- Substitute Item: the item to which the demand was transferred.

- Organization: shipping organization.
- Substituted Quantity: demand transferred quantity.

Support for Lot-Based Components

Material requirements typically scale proportionally in many manufacturing environments. For example, the number of hard disks required to build computers would scale proportionally to the requirements quantity. However, in certain scenarios you may want to include a certain component in fixed amount irrespective of the job quantity or yield. The support for lot-based material usage allows you to calculate material requirements based on materials used for a specific "lot" of end items or products.

Business Application

Support for lot-based components allows the planner to calculate material requirements based on materials used per lot of the assembly. In a business environment, this is also referred to as requirement calculated on the basis of lot or batch. The following scenarios explain the concept in detail.

Assembly component is lot-based

In this scenario, you can include a fixed amount of material that will be used for the entire lot of the assembled products, irrespective of the size of the lot or batch. For example, you manufacture door panel assemblies, each of which consists of an injection molded panel and a lock. As part of the job start process, you will produce a fixed number of plastic door panels to cycle in the process so that you get the parameters set correctly. In such a scenario, you may want to include a certain weight of plastic resin that will be used in the job in the Bill of Materia,l irrespective of the job quantity.

Non-assembly component is lot-based

In this scenario you can include a fixed amount of material that will not be part of the yield, but will be used to initialize or activate the entire lot of end products, irrespective of the size of the lot or batch. For example, during the manufacture of DVDs, a test kit is issued to each job. The test kit contains a CD and instructions for initializing the process. A single test kit is used for the whole job.

All components in the assembly are lot-based

In this scenario, you can include a fixed amount or number of materials that can be used to test the effectiveness of the assembled lot or batch, irrespective of the size of the lot or batch. For example, during the manufacture of gas cylinders, your quality assurance procedures may require you to perform a destructive test on the first cylinder produced, regardless of the job quantity.

For a discrete manufacturing environment, the enhancement allows the planner to calculate the requirements for fixed amount of material used for a lot or batch of assembled products. For a process manufacturing environment, this enhancement allows the planner to calculate material requirements in a fixed amount or an amount expressed, expressed as an integer, for a lot or batch of assembled products. The following examples discuss lot-based material usage in discrete and process manufacturing environments.

Example: Discrete manufacturing Environment Scenario

Window locks are assembled using housing, screws, and cleaning solutions. The requirements of housing and screws will be directly proportionate to the requirement of window locks; therefore, they will be calculated on**item basis** (that is, material requirement is measured in proportion to each unit of measure (UOM) of end item). The requirement of cleaning solution is, however, independent of the requirement for window locks and, thus, will be fixed, irrespective of the size of the lot of end items assembled.

The material requirement picture for this scenario is as follows:

Component	UOM	Basis	Quantity per Assembly	Required for 500 Units of Assembly
Main Carriage	Each	Item	1	500
Screw	Each	Item	2	1000
Cleaning Solution	Gallon	Lot	1	1

Example: Process Manufacturing Environment Scenario

Food supplements are produced using base dough, mixed berries, and lemon juice. The material requirements for mixed berry and base dough scale proportionally to the finished good requirement, whereas the lemon juice directly contributes to the yield of the finished product. Thus, the material requirement for lemon juice remains constant at 100 ounces, irrespective of the quantity of food supplement to be produced.

> **Note:** In Global Order Promising, the requirements of the proportional scaled items increase proportionally, without considering whether the fixed scaling item contributes to the yield or not.

The material requirement picture for the previous scenario is as follows:

Component	UOM	Basis	Formula Quantity	Quantity After Scaling
Food Supplement (finished goods	Proportional	lb	400	800
Mixed Berry	Proportional	lb	200	400
Base Dough	Proportional	lb	100	200
Lemon Juice	Fixed	oz	100	100

Scaling Types Used for the Support of Lot-Based Components

The following scaling types are used while calculating material requirements for a component in Oracle Process Manufacturing:

- **Fixed scaling:** The material requirements for a component in an assembly do not change based on formula quantity or quantity requested. The component quantity used in the assembly remains the same, irrespective of the size of the lot or batch of finished products. For both discrete and process manufacturing environments, this scaling type enables lot-based material requirements.

- **Proportional scaling:** The material requirements for a component in an assembly are measured in proportion to the formula quantity, the requested quantity, or they are based on the list of components required in the assembly. For both discrete and process manufacturing environments, this scaling type enables item-based material requirements.

- **Integer scaling:** The material requirements for a component in an assembly are measured in **integers** and in multiples of integers. The user should specify the rounding direction and the rounding variance for integer scaling. Note that Oracle Global Order Promising does not support this scaling type.

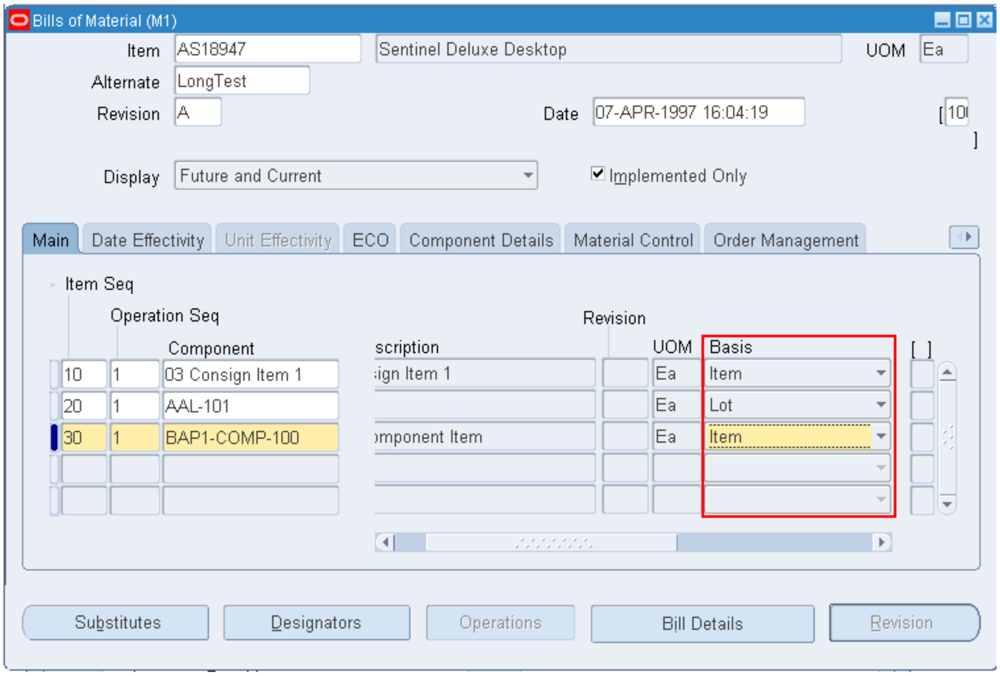
Setup

Complete the following steps to enable the support for lot-based components:

In the Bills of Material window, define:

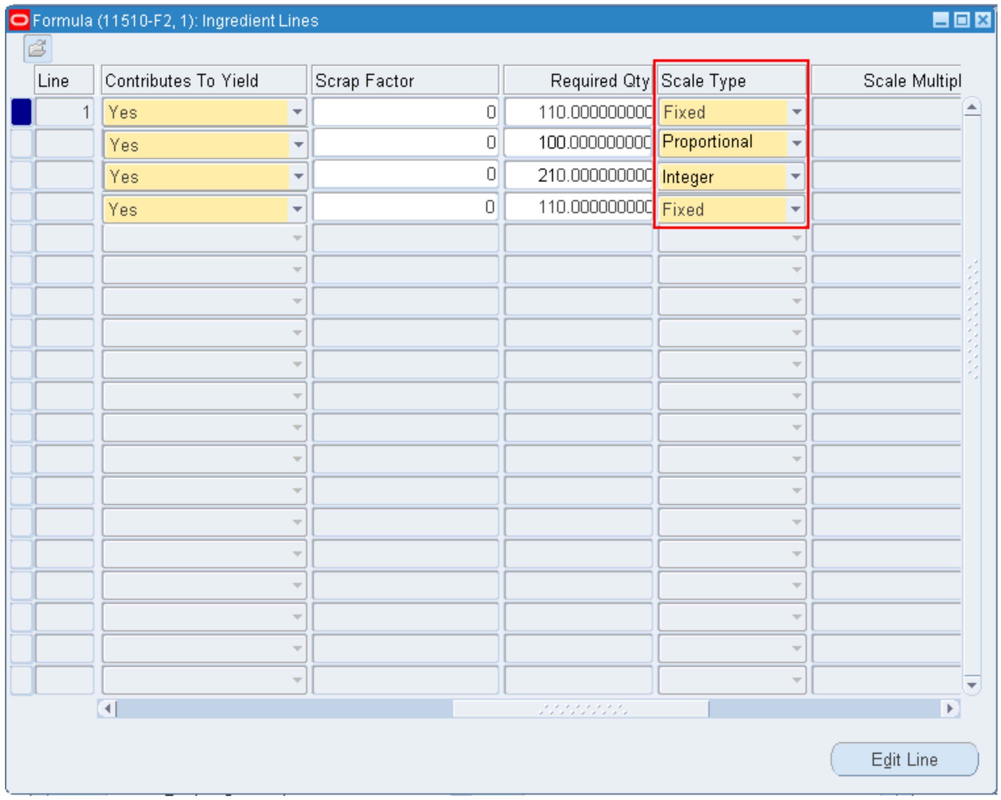
1. **Basis for calculating material requirement:**In the Main tab of the Bills of Material,
   - Select Item for item-based calculation.
   - Select Lot for lot-based calculation.

Bills of Material Window



2. **Scaling type:** In the Formula window for the Ingredient Lines, select the scaling type in the Scaling Type drop-down list.

Formula for Ingredient Lines Window



Business Process

After you define lot-based material requirements in the Bills of Materials window, this data is then collected by the planning server. The following steps explain the business process for the support of lot-based components:

1. The user defines lot-based material requirements and scaling type for a component in the Bill of Material (BOM) of the end item.

2. The system checks whether the organization is discrete manufacturing or process manufacturing.

3. The ATP process checks whether the scaling type is selected as Fixed Scaling or Proportional Scaling. The ATP process uses the bill of materials used by the manufacturing organization to decide on the scaling type and usage quantity.

    1. For both discrete and process manufacturing process, if the scaling type is selected as Fixed Scaling, the material requirement is calculated based on lot-based components.

2. For the manufacturing process, if the scaling type is selected as Proportional Scaling, the material requirement is calculated based on item-based components. Discrete manufacturing does not support Proportional Scaling. By default, the material requirement is calculated based on item-based components.

3. For Integer scaling, the following factors are considered:

   - **Scale Multiple:** A factor used to convert component requirements to an integer

   - **Rounding Direction:** A factor that indicates whether the integer quantity of the component must be rounded up or down.

   - **Rounding Variance:** The allowed variance (deviation) of the integer quantity from the non-integer quantity, in percentage terms. Using the non-integer quantity as the basis ensures that ingredient requirements scale in integers and in multiple of integers.

4. The results of the lot-based material usage functionality can be reviewed in the ATP details screen.

   Note: The Order Promising process is not affected by the lot-based material usage enhancement and is executed as usual.

   - A lot-based component can be a phantom item.

   - In case of lot-based and fixed scaled components, if the quantity of component present is less than the lot-size requirement, then we consider it to be zero.

   - For Configure-To-Order (CTO) items, the optional and included items cannot be lot-based. Only Standard Mandatory Components (SMC) may be specified as lot-based.

   - Lot-based component is used to calculate material requirement once per planned order created by a Capable-To-Promise (CTP) process. Thus, in case of backward and forward CTP,a lot-based component may be used twice.

Continual ATP Support

Oracle Global Order Promising provides continual (24 hours seven days a week) support for processing Available To Promise (ATP) requests. When you run a plan with the continual support option enabled, Oracle Global Order Promising creates a copy of the original plan. When the supply chain is being refreshed, the plan is run on the plan copy and the original plan is available for processing ATP requests.

Business Application

When you have worldwide customer services or a continual web store, you need around-the-clock order promising capability so that your customers can get immediate delivery quotes for their orders. Therefore, ATP must be operational even when the underlying supply chain plan is being refreshed. The continual ATP support option provides you with a plan to process ATP inquiries even when the plan is being refreshed.

Setup

Complete the following setup steps:

1. Set the MSC: ATP Synchronization Downtime profile option to specify an acceptable downtime duration (in minutes).

   If the order volume is high, the synchronization process can take longer complete than normal because it synchronizes the orders during plan run as well as the orders entered during the synchronization process. This profile enables you to shut down ATP for the desired period of time to allow the synchronization process to complete. Oracle Global Order Promising translates the downtime to a total number of orders based on the current synchronization speed. ATP will be shut down when the number of orders left to synchronize is at a threshold that may be sequentially processed in the time specified in the MSC: ATP Synchronization Downtime profile option. The default value is 10 minutes.

2. Set the MSC: Action Allowed on ATP Continual Plan While Running profile option to control whether the manual updates are allowed to the original plan while the plan copy is running.

   Any action taken during this time will not be migrated to the latest plan copy. Manual steps may be required to apply these changes to the latest copy of the plan.

To run a plan in continual mode:

1. Log on with the Advanced Supply Chain Planner responsibility.

2. In the Navigator, select Supply Chain Planner > Supply Chain Plan > Names.

3. Select an instance: organization.

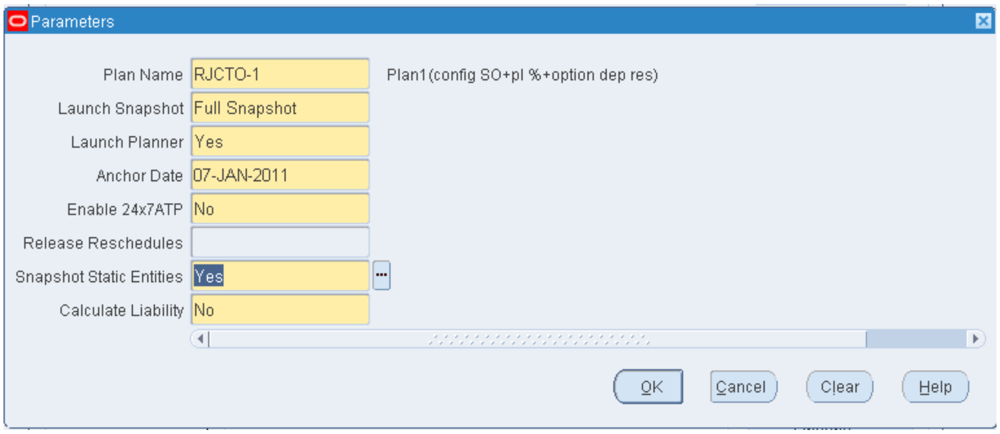
4. In the Supply Chain Plan Names window, select a plan.

5. Select the ATP checkbox.

6. Click Launch Plan.

   The Parameters window appears.

Parameters Window



7. Set Enable Continual ATP to Yes.

8. Click OK.

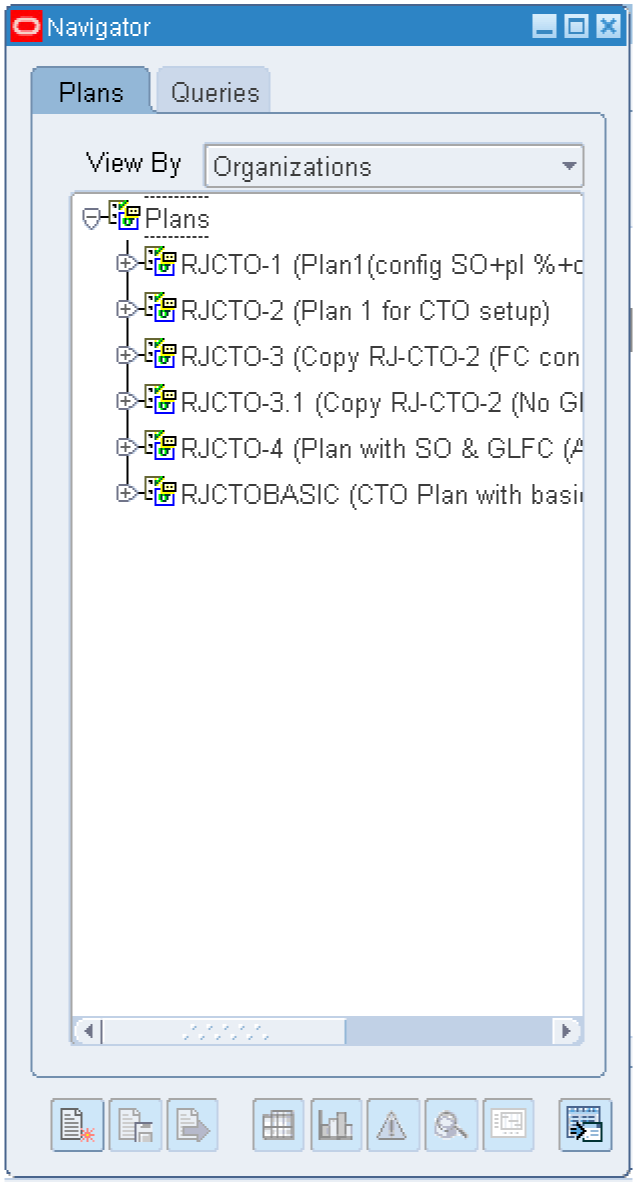
9. In the Launch SCP Plan window, click Submit.

To view the status of the ATP plan:

In the Navigator, select Supply Chain Planner > Workbench.

The Navigator window appears.

Navigator Window



The ATP plan is visible in the Planner Workbench only if the MSC: Action Allowed on ATP Continual Plan While Running profile option is set to Yes. If this profile option is set to No, the ATP plan appears in the View Plan window.

> **Note:** When a continual ATP plan is running, the Plan > Online Replan menu option remains disabled.

Example: ATP Logic

Consider the following example:

- Original ATP plan = Plan A
- Copy of the original ATP plan = Plan B

> **Note: Note:** Plan B is created by the system and is not visible to users.

When the plan run is in process on Plan B and you enter new orders, Oracle Global Order Promising provides you with schedule dates that can be promised against Plan A.

At the end of the plan run, the synchronization process takes place. In this process, orders scheduled against Plan A (during the plan run on Plan B) are checked against the new plan data in Plan B. If it is not possible to meet the original schedule date in Plan A, an exception is raised. The original schedule date of the sales order will not change. You can view the following results in the Planner Workbench:

- Orders that are synchronized.
- Orders with schedule dates that cannot be met by Plan B are listed under the Over Commitment of Sales Order exception of Plan B.

The orders are synchronized until no more are available to synchronize or to a point specified in the MSC: ATP Synchronization Downtime profile option. At this point, ATP shuts down temporarily. Any remaining sales orders are synchronized, and Plan B becomes Plan A. All new sales orders from this point forward are promised against the new ATP plan.

Technical Notes

Some scheduling transactions, such as orders with many lines, may run longer than the downtime. The synchronization process will continue to run for an extended period of time even after the new plan is in place to ensure that these transactions are processed. The extended time is the maximum of 10 minutes or the time set in the MSC: ATP Synchronization Downtime profile option.

If you terminate the synchronization concurrent request, make sure that the underlying process is terminated at the database level before you initiate another synchronization process. Consult your DBA to check whether the database processes are complete.

Effect of Failures During a Continual Plan Run

Failures may occur during various stages of a continual plan run. A plan run can fail during:

- The refresh snapshot process
- Memory-based planning
- ATP post-plan processing
- Continual ATP synchronization

The effect of a failure and the action that you need to take are discussed in the following sections.

Scenario 1: Failure during the refresh snapshot process

When the refresh snapshot process for the continual plan run fails, the original plan is available for ATP inquiry. However, the refreshed plan is not available.

Re-launch the plan to complete the plan run process. You can run collections as an optional step because this process affects the synchronization time based on the number of records that need to be synced between the original plan and the plan copy.

Scenario 2: Failure during memory based planning

When the memory based planning fails, the original plan is available for ATP inquiry. However, the refreshed plan is not available. All new scheduling requests continue to be scheduled against the original plan.

Re-launch the continual ATP plan run along with the memory based planning to complete the plan run process. You can run collections as an optional step because this process affects the synchronization time based on the number of records that need to be synced between the original plan and the plan copy and might help in minimizing the time taken for the synchronization process.

Scenario 3: Failure during ATP post plan processing

When the ATP post plan processing fails before synchronization can begin, the original plan is available for ATP inquiry. The refreshed plan is ready from the planning perspective, that is, it is visible in the Planners Workbench. However, the ATP post plan processing is complete.

Re-launch the ATP post plan processing after you analyze or resolve the issue reported in log file. The ATP continual synchronization process automatically continues after the post plan processing steps are complete.

Scenario 4: Failure during continual suchronization

Failure during ATP continual synchronization can occur at these instances:

- Before the downtime
- During the downtime and before the plans are switched
- After the plans are switched

Failure in all of these instances is discussed in the following topics.

Failure Before The Downtime

The original plan is still available for ATP inquiry. The refreshed plan is ready from the planning perspective, that is, it is visible in the Planners Workbench. However, the ATP post plan processing is not complete.

Re-launch the continual ATP synchronization process. Synchronization will continue from where the process stopped until it completes.

Failure During Downtime and Before The Plans Are Switched

the original plan is still available for ATP inquiry. The refreshed plan is ready from the planning perspective, that is, it is (visible in the Planners Workbench. However, the ATP post plan processing is not complete.

When the continual synchronization process fails and it is not possible to identify the error type, such as in rare cases when the Advanced Supply Chain Planning concurrent manager is down, the continual synchronization process might not be able to restore the original plan for ATP inquiry. Therefore, ATP will remain in downtime.

Re-launch the continual ATP synchronization process to immediately enable the original plan for ATP inquiry. The plan run will the go through the downtime, complete the switch plan process, and then complete the process.

Failure After the Plans Are Switched

Any failures after the switch plan process is complete, will minimally affect the system. The refreshed plan will be available for ATP inquiry.

Possibly some of the schedule requests in the queue for processing during the extended synchronization process might not be processed and may not be available in the refreshed copy. You may have to resolve such an issue manually.

Multiple Plans

If you use planning output for ATP, then Oracle Global Order Promising supports the inclusion of multiple plans. To include multiple plans, select the Inventory ATP check box in the plan options form for all the plans that ATP needs to use.

As Oracle Global Order Promising searches, it selects a plan for each item. Each move in a search could be down one level in the Bills of Material in a multi-level search or across the supply chain according to the assignment set. The selected plan must be a successfully run plan, and it should have a unique combination among item, organization, instance, and demand class. If this set has multiple occurrences, then Oracle Global Order Promising selects the plan with the lowest plan identification number. Only one plan should be selected for ATP for a combination of item and organization.

Situations may occur in which one plan is used as the source for another plan. For example, an MPS plan is the source for an MRP run. If the feeder plan serves as a supply schedule for a component of an end item, then you should check the plan that contains the end item for ATP. Otherwise, you can enable either the feeder plan or the destination plan for ATP.

Improved ATP Performance Based on Summarized Data

Oracle Global Order Promising response times can be improved by means of a summary approach that stores summary supply and demand information in a separate table. This approach allows each ATP request to quickly retrieve summarized availability information without computing availability from detailed supply and demand.

The summary process is accomplished through the concurrent program ATP Post Plan Processing. This concurrent program is automatically launched at the end of an ATP plan run. You manually run this concurrent program for a non-ATP plan and then enable the ATP flag of this plan.

Business Application

ATP based on summarized data allows you to quickly retrieve summarized availability information without computing availability from detailed supply and demand data. This means you can provide quick response to customers whenever an order is placed. The end result is the same as using detailed data to an end user. It is highly recommended that you use summarized data.

Setup

To enable ATP based on summarized data:

1. Set the system profile MSC: Enable ATP Summary Mode to Yes.

2. Run the ATP Partitions concurrent program. You only need to run this program once before you enable summary mode.

Oracle Global Order Promising supports two types of summarization processes:

- Full summarization

- Incremental summarization

To launch full summarization:

Run ATP Post Plan Processing.

- This program is automatically launched after the plan run if the plan is ATP enabled.

- If you run the plan without enabling ATP and then you enable ATP, this program will not be launched. You must manually launch this concurrent program.

If you need to re-run the full summarization process, you must to run ATP Post Plan Processing again.

To launch incremental summarization:

Run Load ATP Summary Based on Planning Output.

Incremental summarization adds the new supply and demand data since the last summarization onto the existing summarized data. You should schedule to run the Load ATP Summary Based on Planning Output at regular intervals.

ATP Logic

Summarization means to add up the supply and demand data on a regular basis and store the net availability picture. Performance is improved because of less supply demand data to process for each ATP request.

The full summarization process takes place after the plan run.

Incremental summarization processes only those data that are new or changed since the last summarization. You can continue with your ATP transactions during both the full summarization and incremental summarization processes.

- If you are using Allocated ATP based on User Defined Allocation Percentage, summarization is not supported.
- If the profile MRP: Calculate Supply Demand is set to Yes, Oracle Global Order Promising always uses detailed data for processing.

Manually Generating Summary Tables

While the summary tables required to support summary data based order promising are automatically triggered by the planning processes, you can also load the summary data by manually invoking the ATP Post Plan Processing concurrent program. You may want to do this if you do not want to rerun a plan before enabling summary data based order promising.

You can manually generate the Oracle Global Order Promising summary tables from either the Oracle Advanced Supply Chain Planner responsibility or the Oracle Order Management Super User responsibility.

To manually generate the Summary Tables from the Advanced Supply Chain Planner responsibility:

1. Log in using the Advanced Supply Chain Planner responsibility.

2. From the Navigator, select Other and then Request.

3. Select the Submit a New Request button.

4. Select Single Request to submit a single concurrent request.

5. Select OK.

   The Submit Request window appears.

6. From the list of values in the Names field, select ATP Post Plan Processing.

7. Select a plan name in the Plan parameter.

8. Select Submit.

Unplanned Items

Once an ATP inquiry is initiated for an item that is not planned, Oracle Global Order Promising cannot find the item in any plan. It automatically reverts to an ATP inquiry on the basis of collected data. If enough supply is not available, Oracle Global Order Promising performs forward scheduling. It cannot perform the next level bills of material explosion. For example, Oracle Global Order Promising cannot perform a Capable-To-Promise (ATP) check since it does not know which plan to use.

> **Note:** Unplanned items are items that do not appear in the ATP plan, not items with the Planning Method item attribute of Not Planned

Honoring Plan Recommendations for Sales Order Rescheduling

If you promise orders based on their order of receipt and you need to process an expedited order, the planning engine can plan by priority. The planning engine recommends rescheduling of the sales order based on the supply condition. It also recommends alternative shipping warehouses if the original shipping warehouse cannot meet the due date of the sales order demand. Therefore, the planning engine suggests an earlier fulfillment date for the expedited order, and Oracle Global Order Promising honors the date suggested by planning.

Oracle Global Order Promising nets the sales order demand on the planned ship dates or organizations suggested by planning. After the sales orders rescheduling recommendations are implemented, Oracle Global Order Promising uses the implement date to net the sales order demand. A planner may implement a ship date different from the planned ship date.

To use the plan recommended date for netting orders

Set the profile MSC: Horizontal Plan Demand Bucketing Preference to Plan Recommended Date.

To net the demand on the schedule ship date of the sales orders, set the profile to Demand Due Date.

- Oracle Advanced Supply Chain Planning (ASCP) may recommend a different ship date for sales order lines in a ship set or arrival set. Oracle Global Order Promising may net the demand of the different order lines on the different plan ship dates.

Available to Promise and Oracle Distribution Planning

The distribution planning process enables you to establish an effective distribution network for movement of materials by generating detailed material distribution plans. The plans you create can be short-term executable plans that outputs a movement plan on each of the lanes of the distribution network or a longer term plan that provides a higher level material distribution plan.

Business Application

Distribution planning provides global visibility to inventory positions in both external and internal locations. For short-term plans, this process involves continuous decision making to maintain target inventory levels at each of the destination locations and safety stock levels at each of the source locations so that uncertainties in the demand picture can be responded to quickly. Oracle Global Order Promising supports the customers to place orders against the distribution network through ATP.

The ATP support for the Distribution Planning process benefits users because they can:

- React to restricted supply situations (such as delays in supply arrival from supplier, production shortfalls in manufacturing plants, and so on) with allocation strategies.

- Replenish inventories on time according to the consumption patterns.

- Minimize inventory write offs from wastage and spoilage.

- Reduce the overall cost of moving inventory and material.

Setup

On the MPS\MRP Planning tab of the Master Item window, select the Distribution Planned checkbox to enable Distribution Plans for your organization. For more information about setting up the distribution network for your organization, see *Oracle Advanced Supply Chain Planning Implementation and User's Guide*.

Note: To work with distribution plans, you require the Distribution Planner responsibility.

ATP Logic

ATP adheres to the following logic to create the supply/demand records for distribution plans. Note that the sourcing rules and their effect on ATP are the same for distribution plans as they are for the Oracle Advanced Supply Chain Planning (ASCP) plans.

1. ATP identifies the supplies and demands to be included in netting. Note that the basic algorithm for supply/demand netting is similar to the ATP process on ASCP plans.

2. ATP provides Supply/Demand netting and ATP capability for the distribution plans. Note that the changes in supply/demand netting honor the Distribution Planning (DRP) order/origination types.

3. If the distribution organization has no supply, ATP will create a demand record of type Planned Inbound Shipment for the ordered quantity.

   For a DRP Kit, Constrained Kit Demands will be created for the items included in the kit for the ordered quantities on the planned arrival date.

4. ATP carries out supply/demand netting during the transfer from the manufacturing organization. If an excess supply exists, the manufacturing organization satisfies the demand, and ATP then creates a planned order in the manufacturing (source) organization.

5. In the distribution organization, ATP updates the supply record of type Planned Inbound Shipment with the source organization.

   Important: Global Order Promising does not support:

   - **Allocated ATP** for distribution plans. Global Order Promising does not support Allocated ATP for distribution plans. A warning message in the Plan Names window appears if the Allocated ATP profile is enabled and a distribution plan is enabled for ATP. This rule holds true for all versions of Allocated ATP.

   - **Circular sourcing** for distribution plans. It is not enabled in ATP, although it is enabled in Distribution Planning. For more information about circular sourcing, see *Advanced Supply Chain Planning Implementation and User's Guide*.

   - **Product family-based ATP** for distribution plans. Global Order

Promising does not support product family based ATP on distribution plans.

For detailed instructions for distribution plans, see *Oracle Advanced Supply Chain Planning Implementation and User's Guide*.

Available to Promise and Oracle Rapid Planning

This section describes the integration of Oracle Global Order Promising and Rapid Planning. Oracle Global Order Promising supports Rapid Planning reports in a similar manner to how it supports drilldowns to the ASCP workbench.

Sales orders and planned orders created during CTP by GOP will be visible in Rapid Planning supply demand view but do not impact material plan or resource plan.

Integration Workflow Summary

GOP and Rapid Planning integrate as described in the following sections.

- The organization establishes a baseline Rapid Planning plan that is used for Available to Promise (ATP). This plan may have been generated in an automated way through a batch process , through user interaction, and so on. In the plan options, the plan should be enabled for ATP.

- Once a baseline plan is finalized and determined to be appropriate for publishing to GOP for ATP, the plan is exported out to the Planning Data Store (PDS) through a "Save Plan" action: the "Save Plan" action is invoked either manuall, or automatically.

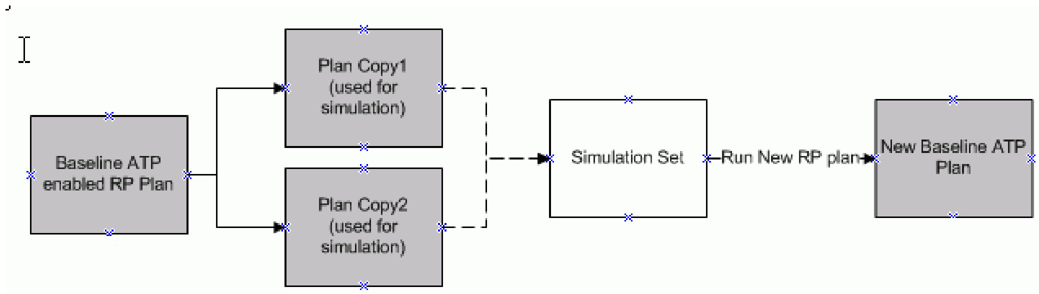
- Once the baseline plan has been exported out to the database and is available for GOP, GOP runs as usual against this plan.

- Meanwhile, what-if simulations cane carried out by multiple planners by taking individual copies of the baseline ATP enabled Rapid Planning plan. Using the write-out-to-simulation-set functionality, you can preserve any changes made during simulation to the simulation set.

- The baseline plan can be run again by referring to the simulation set. All planner changes are incorporated in the newly run plan.

- Only deployments where Rapid Planning and GOP are on the same instance will be supported in Rapid Planning.

The integration workflow between Rapid Planning and GOP is illustrated in the following diagram:



Deployment

This section explains the supported configurations in which Rapid Planning is supported, and what type of GOP support is required in each. It is assumed that Rapid Planning will be deployed in the same instance as GOP.

GOP determines which plan to promise from by considering the existing logic of:

- Plan Type
- Plan Completion Date and Time

GOP considers the Rapid Planning plan the highest priority plan type when determining which plan against which to promise an item. If an ATP enabled Rapid Planning plan exists for the item-org-instance, then Rapid Planning is considered as the most preferred plan type. If multiple Rapid Planning plans contain the requested item, then the plan with the latest completion date and time is given top priority for GOP to plan.

ATP-Enabling an Rapid Planning Plan

There is parameter in the plan options for Rapid Planning's that determines if the Rapid Planning plan is relevant for ATP. This plan option is not enabled for ATP by default.

For simulation purposes, you can easily create one or multiple copies of an existing plan. The original plan may have been marked for ATP, however, while in the process of simulation, you may not want to enable the copied plans for ATP automatically until you are done with these simulations.

To avoid the situation where GOP does ATP off a plan before it is ready for promising, the ATP Enabled field in the plan option is set to No by default, even when a plan is copied from an original ATP enabled plan. If you want the simulated plan to be considered by GOP for ATP, you must manually change this ATP Enabled field to Yes.

Displaying List of ATP Enabled Rapid Planning Plans

You can access a list of Rapid Planning plans that have been created in an instance. From that list, you can determine the most relevant for ATP. Under the Rapid Planning responsibility in the EBS Menu Structure, you have access to the Rapid Planning workbench. Once in the Workbench, the Regional Area displays all Rapid Planning plans that have been created, the plans that are enable for ATP will have "[ATP]" as a suffix to the plan name.

Non-editability of ATP Enabled Rapid Planning Plans

Rapid Planning plans that are ATP enabled are not user-editable. Therefore, such things as mass updates to an ATP plan are disabled. Similarly, all views in the Rapid Planning plan including items, bill of materials Supply-Demand, and so on, are not editable. Since ATP enabled plans are tactical plans, enterprises cannot change them manually once they are generated. If a user wants to conduct simulation on this plan, he must do so by creating a plan copy and then simulate on that copy. The ATP enabled flag is not enabled by default for the copied plan- this allows planners to make changes to the plan copy

Publishing an ATP Enabled Rapid Planning Plan Output to GOP

The output from an ATP enabled Rapid Planning, plan is accessible to GOP in a "lights-out" mode. That is, when the Rapid Planning run is completed, the plan output is exported out , in a similar way that it is exported out to the Save Plan user action, to the PDS, where it is accessible for GOP.

When an ATP enabled plan is launched after plan completion, the "Save Plan" action is automatically triggered. The plan is available for viewing as soon as the save plan action is completed.

If a non ATPable plan is made ATPable , it will not be made not be considered by promising unless it is saved using "Save Plan" action.

CTP in GOP Based on Rapid Planning Plan Output

GOP uses the data from the Rapid Planning plan to create new planned orders as required to promise an incoming sales order. The functionality is similar to the current GOP capability to create CTP planned orders.

When GOP create planned orders during CTP, these orders will be visible in Supply Demand view. How ever pegging against these orders will not be visible. There will be no impacts to "Material Plan" view and "Resource Plan" view.

Exceptions and Metrics in Rapid Planning are Not Impacted by GOP Sales Orders

Exceptions and Metrics are calculated in Rapid Planning only when a plan is re-run. There will not be any impact to exceptions or metrics because of GOP processing orders within Rapid Planning.

GOP Based on Rapid Planning Plan: Functionalities Supported

The table below details the various functionalities in GOP based on an ASCP plan, and their equivalent support status in GOP.

Topic Area	Support in GOP Based on ASCP Plan	Support in GOP Based on Rapid Planning Plan
General	Summary ATP	No

Topic Area	Support in GOP Based on ASCP Plan	Support in GOP Based on Rapid Planning Plan
General	Allocated ATP	Yes (Demand Class, Customer Class) Demand priority based allocated ATP not supported.
General	Diagnostic ATP	Yes
General	Override ATP	Yes
General	24 X 7	No
General	Global availability	Yes
General	CTO-Support	Yes
General	Item-PFATP	Yes Rapid Planning explodes all product family forecasts to the item level. The plan option PF Planning is not supported in Rapid Planning). GOP can support item-product family ATP as usual
General	End Item substitution	Yes
General	Ship set /Arrival sets	Yes
General	Order back log work bench	Yes
General	OM-Loop back	No
General	Iterative f/w scheduling	Yes
General	Shipping and receiving /Intransit/supplier capacity calendars	Yes
General	Region level sourcing	Yes

Topic Area	Support in GOP Based on ASCP Plan	Support in GOP Based on Rapid Planning Plan
CTP Material	Supplier capacity	Yes
CTP Material	Component substitution (ATP and CTP for substitute component)	Yes
CTP Material	Component usage-Item, lot, Integer (OPM)	Only Item based component usage will be supported
CTP Material	Planning time fence	Yes
CTP Material	Phantom -BOM explosion	Yes Rapid Planning plans phantoms as standard items. GOP has a profile to treat Phantoms as standard items: GOP will enable this option to make GOP behavior consistent with Rapid Planning
CTP Material	Co-products/By products	Yes
CTP Material	OPM-Formula and Recipe	Not supported since Rapid Planning does not support OPM
CTP Resource	Standard routing	Yes
CTP Resource	Flow Routing	No
CTP Resource	Network routing–OPM	No
CTP Resource	Network routing–OSFM	Limited. Rapid Planning will only use the primary path on an OSFM network routing.
CTP Resource	Batchable resource	No
CTP Resource	Shared resource	No

Topic Area	Support in GOP Based on ASCP Plan	Support in GOP Based on Rapid Planning Plan
CTP Resource	Chargeable resource	No
CTP Resource	Resource usage basis-Item, Lot, By charge (OPM)	Only Item basis supported in Rapid Planning and GOP.
CTP Resource	Resource capacity	Yes
CTP Resource	Routing for phantom	Yes: Rapid Planning and GOP plan for phantoms as standard items.

6

ATP Inquiry and Order Scheduling

This chapter covers the following topics:

- ATP Inquiry
- Diagnostic ATP
- Order Scheduling
- Shipping, Receiving, and Carrier Calendars

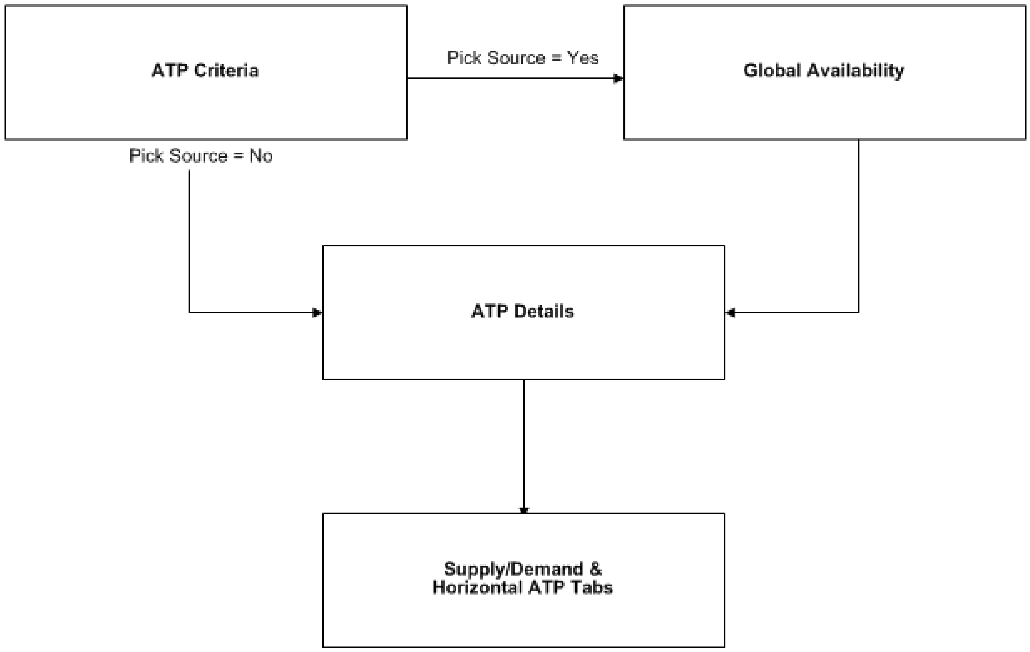
ATP Inquiry

ATP Inquiry is typically performed through an application that can place orders or quotes. This type of application makes a call to Oracle Global Order Promising with information such as item, request date, quantity, or shipping warehouse. Oracle Global Order Promising returns availability information such as quantity available on request date or earliest available date (if the request cannot be met on the request date). Then, the application determines what specific information to display to the end user.

Oracle Global Order Promising has its own user interface to allow users to perform availability checks. Using this interface, you can obtain the detailed information returned by Oracle Global Order Promising. This section explains this user interface.

The following diagram illustrates the information flow through the Oracle Global Order Promising windows:

The Selection of Windows



Each window is explained in detail in the sections that follow.

ATP Criteria

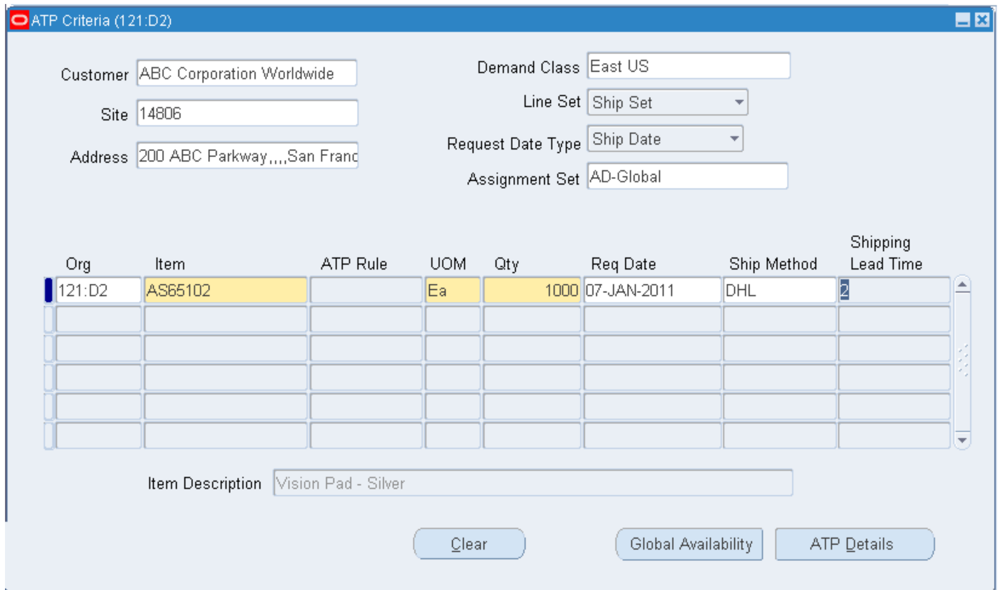
ATP Criteria lets you enter parameters for the desired ATP check.

To enter ATP Criteria:

1. Choose ATP. Then select ATP Inquiry.

   The ATP Criteria window opens.

ATP Criteria Window



The following table contains the fields and options in the ATP Criteria window:

Note: Not all of these fields are required.

Field	Description
Pick Sources	This field controls whether Oracle Global Order Promising should use all the possible shipping organizations or only use the organization you specify. • Choose No to have Oracle Global Order Promising perform an availability check in the warehouse you specify. • Choose Yes to have Oracle Global Order Promising return all the shipping warehouses, so that you can select the specific organizations on which you want Oracle Global Order Promising to perform an availability check. Thus, you can view availability from multiple supply organizations. If you choose No, the ATP Details button appears on the lower right corner of the screen. If you choose Yes, the Pick Source button appears on the lower right corner.

Field	Description
Line Set	Choose from Ship Set, Arrival Set, or [Blank]. • Ship Set indicates that the lines you enter need to be shipped together. • Arrival Set indicates that the lines you enter will arrive together at the receiving party.
Customer	Enter the customer name. If you leave this field blank, the default receiving party is your login organization. Only collected customers appear in this list.
Site	Enter the customer site.
Request Date Type	Choose between Ship Date or Arrival Date. This tells Oracle Global Order Promising whether the request date you enter in the Request Date field is meant to be request ship date or request arrival date.
Assignment Set	This is a view only field. If the ATP Inquiry window is launched at the source or destination instance, this field shows what is in the profile MRP: ATP Assignment Set. If you perform Pick Source, Oracle Global Order Promising uses the sourcing assignment set to search for all possible shipping organizations.
Demand Class	Choose the demand class from a list of values.
Org	Specify the shipping organization. If you selected Pick Source as Yes, you do not need to enter a value in this field.
Item	Specify the item.
ATP Rule	This is a view only field. It shows the ATP Rule defined for the item or organization.
UOM	Enter the unit of measure (UOM) for the item. If this UOM is not item's primary UOM, Oracle Global Order Promising coverts it to the primary UOM for calculations.
Qty	Enter the request quantity.
Req Date	Enter the request date. If you leave it blank, Oracle Global Order Promising uses today's date for the request date.

Field	Description
Item Description	This is a view only field. It shows the item description.

2. Select ATP Details.

   The ATP Details window appears with the ATP details and the pegging tree. The pegging tree shows how the demand is being met.

ATP Details

The ATP Details window has two regions:

- Summary region
- Pegging region

Summary Region

The summary region is a folder form.

> **Note:** Not all fields are shown by default.

The following table describes each field in this window:

Field	Description
Item	Shows the requested item.
Quantity	Shows the requested quantity.
Org	Shows the shipping organization.
Request Date Qty	Shows the quantity available on the request date.
Ship Date Qty	Shows the quantity available on the date that the request quantity can be met. The quantity can exceed the requested quantity.
Arrival Date	Shows the arrival date. Arrival date equals ship date plus transit lead time.

Field	Description
Request Date	Shows the request date.
Request Date Type	Shows either Ship Date or Arrival Date, based on the selection.
UOM	Shows the primary unit of measure of the requested item.
Group Ship Date	Shows the group ship date for a set, if the request is for a set.
Group Arrival Date	Shows the group arrival date for a set, if the request is for a set.
Ship Method	Shows the ship method that is passed from any calling application or default ship method defined for the shipping organization and receiver.
Shipment Method Description	Shows the description of the ship method.
Transit Lead Time	Shows the lead time associated with the above ship method.
Demand Class	Shows the demand class associated with the request.
Message	Shows any error or warning message.
Customer	Shows the customer on the request.
Ship To	Show the ship-to site of the customer.
Latest Acceptable Date	Shows the date beyond the request date that the ATP request should be considered successful, if the requested quantity can be met.
Arrival Set	Shows the set identifier passed by any calling application for grouping items in an arrival set.
Ship Set	Shows the set identifier passed by any calling application for grouping items in an ship set.
Line	Shows the order line number passed by any calling application for indication of demand line number.

Field	Description
Plan Name	Shows the ASCP plan name used for Oracle Global Order Promising, if ATP is based on planning output.
Original Item	Shows the requested item. The item field shows the substituted item.
Original Item Request Date Qty	Shows the availability of the requested item on the request date. The Request Date Qty field shows the availability of the substituted item on the request date.
Original Item ATP Date	Shows the earliest date the requested quantity for the requested item is available.
Original Item ATP Date Qty	Shows the quantity available on the Original Item ATP Date. The available quantity may exceed the requested quantity.
Status	Not used.
Days Late	Shows the days between the request date and date the supply is available for the item.
Matched Configuration	This field is only applicable for an ATO model request. When Oracle Global Order Promising finds a matched configuration, the configuration item is displayed in this field.

Pegging Region

ATP Pegging region further explains how Oracle Global Order Promising obtains the ATP results. Pegging is shown for each line in ATP Details: Summary Region.

For ATP Based on Collected Data

Oracle Global Order Promising first checks the availability on the request date. If there is a shortage, then Oracle Global Order Promising finds a date beyond request date when the shortage can be met. The pegging depicts this logic.

For example, a request for item A on Day 10 for quantity of 20 for Org 1. Only a quantity of 5 is available on request date, but the shortage can be met on Day 12.

Pegging shows the following:

- Line 1: A - Org 1 Qty 20 On Day 10

  Line 2: A - ATP Org 1 Qty 5 On Day 10

Line 3: A - ATP Org 1 Qty 30 on Day 12

Explanation:

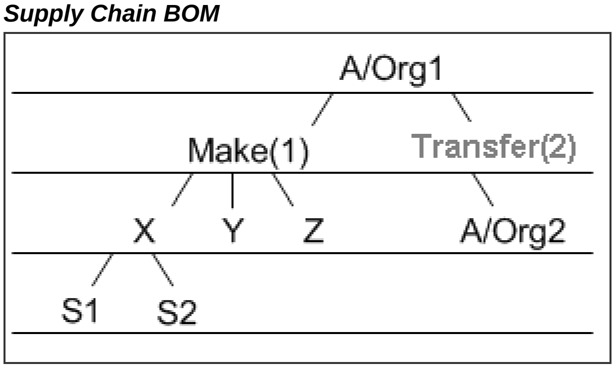
- The first line represents the demand.
- The second line represents the supply available on request date.
- The third line represents the earliest date that the remaining demand can be satisfied. The availability on that date is 30.

For ATP Based on Planning Output

When Multi-Level Supply Chain ATP is enabled, the pegging shows how Oracle Global Order Promising searches for supply throughout the supply chain.

Pegging Example: Supply Chain Bills of Materials (BOM): Item A can either be made in Org1 or transferred from Org2. Making item A is priority 1, as seen with Make(1). Also, Component X can be supplied from either S1 or S2.

Supply Chain BOM



Other setup:

- Item A has a 1 day fixed lead time, and no variable lead time.
- Item A has no post-processing lead time.
- Component X has a 1 day post-processing lead time, but no pre-processing lead time.
- S1 does not have processing lead time.
- S2 has a 2 day processing lead time.
- Transfer(2) shows the transfer of item A from Org2 to Org1, which takes a 1 day transfer lead time.

Cumulative Availability based on on-hand plus scheduled receipts is depicted in the following:

Note that D1 = today.

Org	D1	D2	D3	D4	D5
A - Org1	0	0	40	80	120
X - Org1	0	10	10	10	10
Y - Org1	0	30	90	0	0
Z - Org1	10	50	50	0	0
S1	10	10	10	10	0
S2	10	10	10	10	0
A - Org2	10	50	100	100	0

An order for item A with a quantity of 100 on D4 gives the following pegging:

1 (D) A - Org1 Qty 100 on D3

2 (S) A - ATP Org1 Qty 40 on D3

3 (S) A - Make At Org1 Qty 20 on D3

4 (D) X - Org1 Qty 20 on D2

5 (S) X - ATP Org1 Qty 10 on D2

6 (S) X - Buy S1 Qty 0 on D2

7 (D) X - Qty 10 on D1

8 (S) X - ATP Qty 10 on D1

9 (D) Y - Org1 Qty 20 on D2

10 (S) Y - Org1 Qty 30 on D2

11 (D) Z - Org1 Qty 20 on D2

12 (S) Z - Org1 Qty 50 on D2

13 (S) A - Transfer From Org2 Qty 40 on D3

14 (D) A - Org2 Qty 40 on D2

15 (S) A - ATP Org2 Qty 50 on D2

Explanation:

- In pegging, different graphical icons are used for supply and demand. In the above representation, the icons are represented by (S) and (D) respectively.
- (D) represents the demand line. Demand lines, except the first demand line, indicate the actual demand that can be placed. They do not indicate what is required.
- (S) represents the supply line. Supply lines have the following types:
  - ATP: supply from on-hand and scheduled receipts.
  - Make At: supply can be obtained from a Make At source.
  - Transfer From: supply can be obtained from a Transfer From source.
  - Buy From: supply can be obtained from a Buy From source.
- Line 2: on request date (D3), there are 40 available for A. There is a shortage of 60.
- Line 3: Oracle Global Order Promising finds components available to make 20 of A. Lines 4 to 12 explain why.
- Line 4: to make A on D3, X is needed on D2 because of the lead time offset. However, only 20 of X can be demanded on D2. Lines 5 and 8 explain why.
- Line 5: there are 10 of X available in Org1 on D2.
- Line 6: 10 units of X can be obtained from supplier S1 on D2. Lines 7 and 8 explain why.
- Line 7: X is needed from S1 on D1 due to a 1 day postprocessing lead time of X. Only 10 units of X can be demanded from S1. Line 8 explains why.
- Line 8: on D1, there are only 10 of X available from S1. S2 has a Buy From source and a 2 day processing lead time. There is not enough time to meet demand on D1. Since Oracle Global Order Promising does not use S2, there is no pegging shown for S2.
- Line 9: only 20 of X is available. Oracle Global Order Promising looks for 20 of Y. More does not help. On D2, 20 of Y can be demanded. Line 10 explains why.
- Line 10: there are 30 of Y available on D2. If there are less Y, Oracle Global Order Promising would readjust X to demand less quantity.
- Line 13: since there is still shortage of 40, Oracle Global Order Promising looks for supply at the Transfer From source. 40 of A can be transferred from Org2 on D3. Lines 14 and 15 explain why.
- Line 14: demand for A is placed in Org2 on D2 due to a 1 day transfer lead time.

- Line 15: there are 50 of A available on D2.

For details on ATP Logic, see: ATP Logic, page 6-18.

To view further details:

1. Select a supply line of the pegging tree.

2. Right-click to drill down to ATP details.

   The available options are:

   - Expand

   - Show Late Supply Only

   - Show Constraints

   - Horizontal Plan

   - Supply/Demand

   - Supply

   - Demand

   - Properties

   Note: To be able to drill down to ATP detail, you must set the profile MRP: Calculate Supply Demand to Yes before you initiate the ATP Inquiry

   However, when the profile MRP: Calculate Supply Demand is set to Yes, Oracle Global Order Promising performs extra work to retrieve and retain the detail. This makes ATP performance slower. You should only set this profile to Yes for analysis purpose.

Expand

Right-click and select Expand.

When you select this option, all the lower nodes under the pegging line that you have selected are expanded.

For example, if you highlight a pegging line for a sub-assembly and right-click to select Expand, the pegging tree displays all the detail pegging lines for that sub-assembly.

Show Late Supply Only

1. Select a supply line of the pegging tree.

2. Right-click and select Show Late Supply Only.

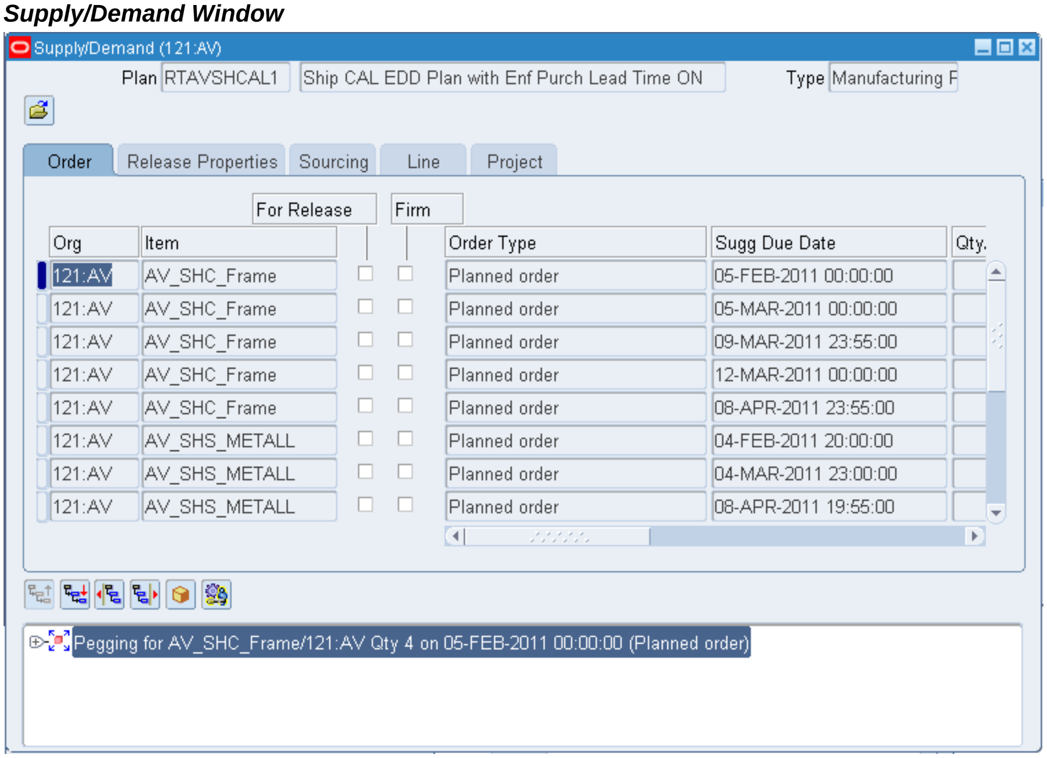
   When you select this option, the pegging region displays only those sales order lines that are receiving late supplies.

Supply/Demand

Right-click and select Supply/Demand.

This window shows supply and demand for the selected line of the pegging tree.

Supply/Demand Window



For an item, all of the supply and demand up to the item's infinite time fence appears in the Supply/Demand window. For a resource, all the supply and demand over the entire ASCP plan horizon appears.

The following table describes each field in this window:

Field	Description
Group Availability Date	This field is currently not populated.
Organization Code	This field is currently not populated.
Demand Class	This field is currently not populated.
Item/Resource	Indicates the item or resource of the pegging line.
Type	Indicates if it is an item or resource.
UOM	Shows the primary unit of measure of the item or resource.
Date	Shows the due date of supply or demand.
Supply/Demand Type	Shows the supply or demand type.
Identifier	Shows the identifier of the supply or demand.
Quantity	Shows the quantity of the supply or demand.

Horizontal ATP

Right-click and select Horizontal Plan.

The Horizontal ATP window shows material or resource availability in a horizontal time scale. It shows total demand, total supply, net available-to-promise, and cumulative available-to-promise.

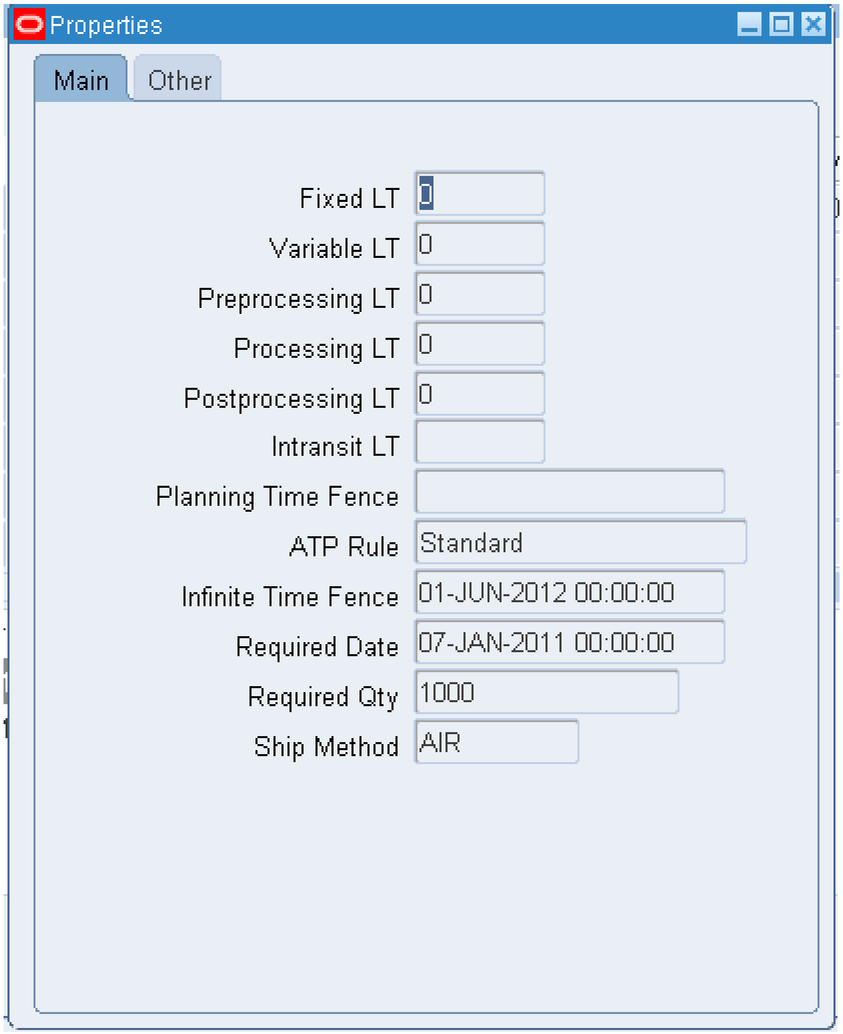
- For ATP based on collected data: the time horizon equals the item's infinite time fence defined in the ATP rule, or the date of last supply or demand.
- For ATP based on planning data: the time horizon equals the item's infinite time fence or the end of the plan horizon (if the infinite time fence is not defined).

Properties

Right-click and select Properties.

The Properties window appears.

Properties Window



Depending on whether you are viewing the properties of an item or a resource, the Properties window displays different fields. The Properties window for an item contains two tabs: Main and Other.

The display of values in the various lead time fields depends on the type of item (make/buy) and whether Oracle Global Order Promising uses a specific lead time for computing the order promising dates for the item.

For lot based components, the Other tab of the Properties window for a selected pegged item in the ATP Details window displays the following fields:

- **Component Yield:** Displays the percent of the amount of the selected item present in the assembly.

- **Usage:** The value displayed in this field defines the physical amount of the component used (1 unit, 2 units, etc.)

- **Scaling Type:** Displays either Lot or Item based on the calculation basis of material requirements.

- **Rounding Direction:** Displays the factor that indicates whether the integer quantity of the component must be rounded up or down.

- **Scale Rounding Variance:** Displays the allowed variance (deviation) of the integer quantity from the non-integer quantity, in percentage terms, with the non-integer quantity as the basis. If no rounding variance is specified, it is assumed to be 0%. This means that no deviation is allowed from the proportionally scaled quantity. In such a case, the scale multiple would not impact the requirement of that component.

- **Scale Multiple:** A factor used to convert component requirements to an integer. The value displayed in this field also ensures that components are consumed in multiples of the scaling factor.

In addition, the item quantity displayed in the pegging tree will also be based on the selected basis for material requirements.

> **Note:** The Pegging region of the ATP Details screen also displays both forward ATP and forward CTP pegging information.

Example

For a make item, Oracle Global Order Promising calculates the processing lead time using the following equation:

- Processing lead time = fixed lead time + quantity * variable lead time

For a buy item, Oracle Global Order Promising uses the following values:

- Preprocessing lead time

- Processing lead time

- Postprocessing lead time

Therefore, depending on the lead time data required for an item, the lead time fields display data in the Properties window.

Diagnostic ATP

When you perform an ATP inquiry, the ATP Details window provides you with the explanation on how the demand is satisfied. When a particular source (make, buy, or transfer) does not have any supply, the pegging region in the ATP Details window will not show the source. If you need to analyze the result and find out the constraint, you can perform an ATP inquiry in the diagnostic mode. In addition to detail views mentioned above, you can:

- View all the supply sources on the pegging tree
- Filter the pegging tree to show only the constraint nodes
- View additional details about the pegging line, such as property, supply/demand, and horizontal plan.

Business Application

When a source of supply does not have any availability during a capable-to-promise check, a planner might want to diagnose the underlying constraint that leads to a promise date being later than the request date. ATP Detail/Pegging displays the constraints and lets you quickly determine the reasons for not being able to return a promise date that meets the request date.

To view supply constraints in the Diagnostic ATP mode:

1. Log into Oracle Global Order Promising with the Advanced Supply Chain Planner responsibility.
2. Select an instance: organization.
3. Select ATP > ATP Inquiry.

   The ATP Criteria window appears.
4. Select Tools > Enable Diagnostic ATP.

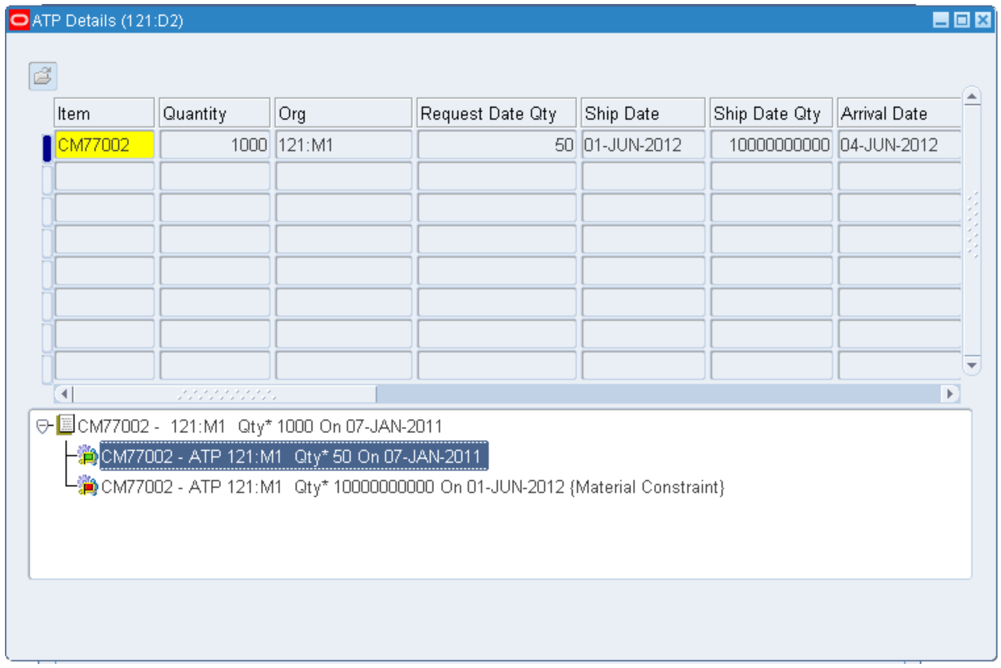
   Tools Menu Options

5. Enter your ATP criteria in and click ATP Details.

   The ATP Details window appears.

ATP Details Window: Diagnostic ATP Mode



6. View the constraint(s) in the pegging region.

Show Constraints

1. Select a supply line of the pegging tree.

2. Right-click and select Show Constraints.

> **Note: Note:** The Show Constraint option is enabled only in the diagnostic ATP mode.

When you select this option, it only expands the paths that contain constraints under the pegging line that you have highlighted. The rest of the nodes in the pegging tree will be abbreviated, represented by (+).

For example:

An order for item A with a quantity of 100 on D4 gives the following pegging:

1 - (D) A - Org1 Qty 100 on D3

2 (S) A - ATP Org1 Qty 40 on D3

3 - (S) A - Make At Org1 Qty 10 on D3

4 - (D) X - Org1 Qty 20 on D2

5 (S) X - ATP Org1 Qty 10 on D2

6 - (S) X - Buy S1 Qty 0 on D2

7 - (D) X - Qty 10 on D1

8 - (S*) X - ATP Qty 0 on D1 (Material Constraint)

9 - (D) Y - Org1 Qty 20 on D2

10 (S) Y - Org1 Qty 30 on D2

11 - (D) Z - Org1 Qty 20 on D2

12 (S) Z - Org1 Qty 50 on D2

13 - (S) A - Transfer From Org2 Qty 50 on D3

14 - (D) A - Org2 Qty 50 on D2

15 (S) A - ATP Org2 Qty 50 on D2

If X is the only constraint, the pegging tree with the Show Constraint option displays the following:

1 - (D) A - Org1 Qty 100 on D3

2 (S) A - ATP Org1 Qty 40 on D3

3 - (S) A - Make At Org1 Qty 10 on D3

4 - (D) X - Org1 Qty 20 on D2

5 (S) X - ATP Org1 Qty 10 on D2

6 - (S) X - Buy S1 Qty 0 on D2

7 - (D) X - Qty 10 on D1

8 - (S*) X - ATP Qty 0 on D1 (Material Constraint)

9 + (D) Y - Org1 Qty 20 on D2

10 + (D) Z - Org1 Qty 20 on D2

11 + (S) A - Transfer From Org2 Qty 50 on D3

ATP Logic

In diagnostic mode:

- ATP checks across the supply chain to perform backward scheduling and shows all the constraints encountered during scheduling of the requested quantity.
- If demand is not met by the request date, then ATP does not perform a forward scheduling to project a date on which the demand could be met.
- ATP does not project the partial amount that could be available by the request date.

- ATP does not provide information about the substitute item that is used in place of the requested item in regular ATP inquiry.

- The full requested quantity is placed as demand at each node. However, if that node has additional sources, then the last source for that node opens a planned order supply equal to the demand placed at that node, minus the planned order supplies acquired from other sources.

> **Note:** When you perform Diagnostic ATP, the response is slower than non Diagnostic ATP because Oracle Global Order Promising needs to store all the pegging data during diagnostic ATP.

When you enable the diagnostic mode, each constrained pegging line in the pegging tree is appended with the type of constraint and the earliest due date of the planned order. The types of constraints that you can see on the pegging line are:

Manufacturing lead time constraint

For a make item, when Assembly Requirement Date - (preprocessing lead time + fixed lead time + quantity * variable lead time). Today, no supply can be obtained and the supply pegging line will show 0 as the supply quantity. ATP categories this as a manufacturing lead time constraint.

For example:

Assembly A has component B

Fixed lead time = 0

Variable lead time = 0.1 day

The pegging tree for 100 of A on D5 in Org 1 will look like:

(D) - DEMAND A Org 1 Date 5 Qty 100

(S) - ATP A Org 1 Date 5 Qty 0

(S*) - Make A Org 1 Date -1 Qty 0 (Manufacturing Lead time Constraint: Due Date D6)

Explanation:

- In pegging, different graphical icons are used for supply and demand. In the above representation, the icons are represented by (S) and (D) respectively.

- (D) represents the demand line. Demand lines indicate the actual demand that can be placed. They do not indicate what is required.

- (S) represents the supply line. Supply lines have the following types:
    - ATP: supply from on-hand and scheduled receipts.

- Make At: supply can be obtained from a Make At source.
- Transfer From: supply can be obtained from a Transfer From source.
- Buy From: supply can be obtained from a Buy From source.

- (S*) represents the supply line with a constraint.
- On the requested date D5, A is not available. Therefore, there is a shortage of 100.
- Oracle Global Order Promising finds components available to make 100 of A only on D6, which is one day after the requested date. This is a manufacturing lead time constraint.

Purchasing lead time constraint

For a buy item, when Requirement Date - (postprocessing lead time - preprocessing leave time - (the approved supplier list's processing lead time or item's processing lead time)) Today, no purchase supply can be obtained and the supply pegging line will show 0 supply quantity. ATP categories this as a purchasing lead time constraint.

For example:

Item A is purchased from supplier S1.

A's postprocessing lead time = 2 days

Preprocessing lead time = 1 day

S1's processing lead time = 3 days

The pegging tree for 100 of A on D5 in Org 1 will look like:

(D) - Demand A D5 Qty 100

(S) - ATP A D5 Qty 0

(S*) - Buy A S1 D -1 Qty 0 (Purchasing Lead time Constraint. Due Date: D6)

Explanation:

Org 1 cannot buy any quantity of B from S1 due to the processing lead time of 3 days required for S1, and the preprocessing lead time of 1 day as well as postprocessing lead time of 2 days for Org 1. This is a purchasing lead time constraint.

Transfer lead time constraint

For a transfer item, when Requirement Date - (postprocessing lead time + transit lead time) < Today, no supply can be transferred and the Transfer From supply pegging line shows 0 as the supply quantity. ATP categorizes this as a transfer lead time constraint.

For example:

Item A is transferred from Org1 to Org2.

A's postprocessing lead time=2 days

The pegging tree for 100 of A on D1 in Org 2 will look like:

(D) - Demand A Org 2 D1 Qty 100

(S) - ATP A Org 2 D1 Qty 0

(S*) - Buy A Org 2 D1 Qty 0 (Transfer lead time constraint. Due Date: D2)

Explanation:

Item A has a postprocessing lead time of 2 days and cannot be transferred on D1 from Org 2. This is a transfer lead time constraint.

Planning time fence constraint

When no supply can be created due to a planning time fence constraint, the supply pegging line shows 0 as the supply quantity.

For example:

Assembly A has component B.

Fixed lead time = 0

Variable lead time = 0.1 day

Planning time fence date = D5

The pegging tree for 100 of A on D5 in Org 1 will look like:

(D) - DEMAND A D5 Qty 100

(S) - ATP A D5 Qty 0

(S*) - Make A D5 Qty 0 (PTF Constraint. PTF Due Date: D5)

In this example, the planning time fence due date is more constrained than the manufacturing lead time date. When two constraints are met for a supply line, Oracle Global Order Promising follows two rules to decide the constraint to be displayed on the pegging line:

1. When the lead time constraint and planning time fence constraint both exist, the pegging line displays the constraint that causes a later due date. If the due date in both the cases are equal, then the planning time fence constraint is displayed.

2. When a pegging line encounters a lead time or a planning time fence constraint, no further pegging will be available.

Material/resource constraint

ATP marks all the lowest level supply nodes that do not satisfy the demands as material or resource constraints. A lowest level node is a node that does not have any sources to fulfill the residual demand left after consuming the ATP quantity. The nodes that qualify for this category are:

- ATP node for supplier
- ATP node for resource
- ATP node for an item for which ATP Components flag is set to N in a organization

ATP categorizes a supply line as a material or resource constraint depending on the type of constraint met while scheduling for the requested quantity.

Resource constraint:

When there is not enough availability for a resource, ATP categorizes this as a resource constraint.

For example:

Item A needs to be made and transferred from Org 2 to Org 1.

Intransit lead time = 1 day

The pegging tree for 5 of A on D5 in Org 1 will look like:

(D) - Make A Org 2 D4 Qty 5

(D) - Demand R Org 2 D4 Qty 30

(S*) - ATP R Org 2 D4 Qty 20 (Resource Constraint)

Explanation:

- On D4, 5 of A needs to be made in Org 2 due to a 1 day intransit lead time.
- To make A on D5, R is needed on D4 because of the lead time offset. Demand for 30 of R is placed in Org 2 on D4 due to a 1 day intransit lead time.
- On D4, there are only 20 of R available in Org 2. This is a resource constraint.

Material constraint:

When Oracle Global Order Promising looks for supply for an item, it first checks to see if there is existing on-hand supply or scheduled receipts. This is called ATP quantity. If there is not enough supply, it then performs a capable-to-promise check to see if the item is available through a make, transfer or buy sources option. When the ATP quantity is less than the required quantity and there is no other source to obtain the supply, ATP categorizes this as a material constraint.

For example:

Item A needs to be bought by Org 1 from supplier S1.

The pegging tree for 30 of A on D2 in S1 will look like:

(D) - Demand A S1 D2 Qty 30

(S*) - ATP A S1 D2 Qty 5 (Material Constraint)

Explanation:

- On D2, demand for 30 of A is placed in S2.
- On D2, there are only 5 of A available in S2. This is a material constraint.

Calendar constraint:

If the schedule ship or arrival date falls on a non working day, Oracle Global Order Promising categorizes this as a calendar constraint.

For example:

Org 1 needs item A from supplier S1 on D2. The transit lead time is 1 day and D1 is a non working day for S1.

The pegging tree for 30 of A on D2 in S1 will look like:

(D) - Demand A S1 D2 Qty 30

(S*) - ATP A S1 D2 Qty 5 (Calendar Constraint)

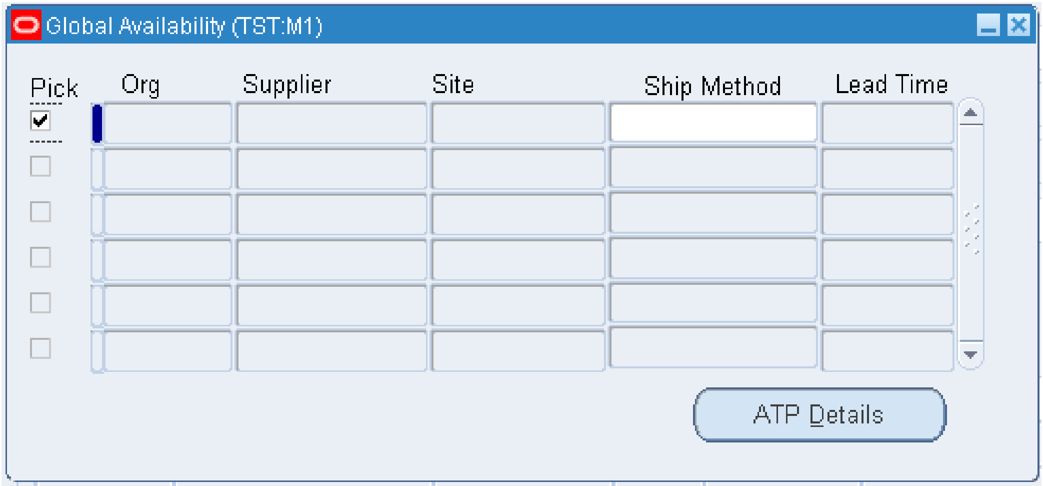
Explanation:

- On D2, demand for 30 of A is placed in S2.
- D1 is a non working day for S1 and the transit lead time is 1 day. Therefore, Item A cannot arrive at Org 1 on D2. This is a calendar constraint.

Global Availability

When you have Pick Source set to Yes and you have selected Pick Source, the ATP Sources and Global Availability window, as seen below, opens. Selecting Pick Source with the Yes setting triggers Oracle Global Order Promising to use sourcing rules to find all the possible shipping organizations.

ATP Sources and Global Availability Window



The following table describes the fields in this window:

Field	**Description**
Pick	Indicates whether or not the item will be picked.
Org	Organization short code.
Supplier	Not currently used.
Site	Not currently used.
Ship Method	Shows the default shipping method defined for the shipping organization to the receiving party. Oracle Global Order Promising accepts Ship Method as a parameter in its Calling API. If any calling application calls ATP with a specific Ship Method, Oracle Global Order Promising checks to see if the ship method is defined in Transit Lead Time as a valid ship method between the shipping organization and receiving party. If it is a valid ship method, Oracle Global Order Promising honors it. Otherwise, it uses the default ship method. If there is no default ship method, a 0 lead time if assumed.
Lead Time	Shows the lead time associated with the ship method.

Once you select or deselect the shipping organizations, then you can retrieve the ATP Details to obtain ATP results for each selected shipping organization.

Order Scheduling

This section discusses the features that help you schedule requests in Oracle Global Order Promising.

Ship Date and Arrival Date Calculation

Scheduling sales orders for ATP as well as non-ATP items is carried out through Oracle Global Order Promising. Oracle Global Order Promising calculates supply at day level and returns Schedule Ship Date and Schedule Arrival Date with a timestamp of 23:59:00.

Note that ATP does not support time zones. There could be discrepancies in the time stamps of the scheduled ship date when compared to request dates. You can see discrepancies in the scheduled ship date even if you have existing inventory.

The timestamp display of 23:59:00 is applicable to all of the following:

- ATP and non-ATP items
- Override and non-override mode scheduling
- ATP based on planning or ATP based on collection
- Single line request and Set request
- Requests with or without the latest acceptable date

If ATP is based on planning output, Oracle Global Order Promising creates supply and demand orders with the timestamp of 23:59:00 in the plan. The orders include:

- Demand date of sales order
- Demand date of planned order demand in the Planners Workbench
- Supply date of planned order in the Planners Workbench
- Resource requirement date

> **Note:** Oracle Global Order Promising performs the return date calculation by checking the Scheduled Arrival Date against shipping, receiving, and carrier calendars. For details, see: Shipping, Receiving, and Carrier Calendars, page 6-33.

Examples

A few examples to illustrate how Oracle Global Order Promising calculates the

Schedule Ship Date and Schedule Arrival Date in different scenarios are given in the following sections.

In all the 3 examples, assume that:

- The transit lead time is 0.
- The receiving calendar is setup as 24x7.

Non-ATP items with past due and non-past due request dates

Scenario Description	ATP Return Date
A single line request for a non-ATP item with a non-past due request date. • Requested ship date = 20-DEC-2003 10:23:57 • System date = 12-DEC-2003 13:20: 26	• Schedule Ship Date = 20-DEC-2003 23:59:00 • Schedule Arrival Date = 20-DEC-2003 23:59:00
Two lines request for non-ATP items in a ship set with non-past due request dates. • Requested ship date for line 1 = 20-DEC-2003 10:34:27 • Requested ship date for line 2 = 25-DEC-2003 11:34:17 • System date = 12-DEC-2003 13:20: 26	For line 1: • Schedule Ship Date = 20-DEC-2003 23:59:00 • Schedule Arrival Date = 20-DEC-2003 23:59:00 For line 2: • Schedule Ship Date = 25-DEC-2003 23:59:00 • Schedule Arrival Date = 25-DEC-2003 23:59:00 For the group: • Group Ship Date = 25-DEC-2003 23:59:00 • Group Arrival Date = 25-DEC-2003 23:59:00

Scenario Description	ATP Return Date
Two lines request for non-ATP items in an arrival set with non-past due request dates. • Requested arrival date for line 1 = 20-DEC-2003 10:34:27 • Requested arrival date for line 2 = 25-DEC-2003 11:34:17 • System date = 12-DEC-2003 13:20:26	For line 1: • Schedule Ship Date (1) = 20-DEC-2003 23:59:00 • Schedule Arrival Date (1) = 20-DEC-2003 23:59:00 For line 2: • Schedule Ship Date (2) = 25-DEC-2003 23:59:00 • Schedule Arrival Date (2) = 25-DEC-2003 23:59:00 For the group: • Group Ship Date = 25-DEC-2003 23:59:00 • Group Arrival Date = 25-DEC-2003 23:59:00
A single line request for a non-ATP item with a past due request date • Requested ship date = 5-DEC-2003 10:23:57 • System date = 12-DEC-2003 13:20:26	• Schedule Ship Date = 12-DEC-2003 23:59:00 • Schedule Arrival Date = 12-DEC-2003 23:59:00

Scenario Description	ATP Return Date
Two lines request for non-ATP items in a ship set with past due request dates • Requested ship date for line 1 = 10-DEC-2003 10:34:27 • Requested ship date for line 2 = 5-DEC-2003 11:34:17 • System date = 12-DEC-2003 13:20:26	For line 1: • Schedule Ship Date = 12-DEC-2003 23:59:00 • Schedule Arrival Date = 12-DEC-2003 23:59:00 For line 2: • Schedule Ship Date = 12-DEC-2003 23:59:00 • Schedule Arrival Date = 12-DEC-2003 23:59:00 For the group: • Group Ship Date = 12-DEC-2003 23:59:00 • Group Arrival Date = 12-DEC-2003 23:59:00
Two lines request for non-ATP items in an arrival set with past due request dates • Requested ship date for line 1 = 10-DEC-2003 10:34:27 • Requested ship date for line 2 = 5-DEC-2003 11:34:17 • System date = 12-DEC-2003 13:20:26	For line 1: • Schedule Ship Date = 12-DEC-2003 23:59:00 • Schedule Arrival Date = 12-DEC-2003 23:59:00 For line 2: • Schedule Ship Date = 12-DEC-2003 23:59:00 • Schedule Arrival Date = 12-DEC-2003 23:59:00 For the group: • Group Ship Date = 12-DEC-2003 23:59:00 • Group Arrival Date = 12-DEC-2003 23:59:00

Note: The Group Ship Date and Group Arrival Date is displayed as the Schedule Ship Date and Schedule Arrival Date for the set on the sales order.

ATP and non-ATP items in the same request but not in a set

<table>
<tr><th>Scenario Description</th><th>ATP Return Date</th></tr>
<tr><td>Two lines where:
Line 1 = Non-ATP item
Line 2 = ATP item
The ATP item is available in sufficient quantity on the requested date.
Requested ship date for line 1 = 20-DEC-2003 10:34:27
Requested ship date for line 2 = 25-DEC-2003 11:34:17
System date = 12-DEC-2003 13:20:26</td><td>For line 1:
Schedule Ship Date = 20-DEC-2003 23:59:00
Schedule Arrival Date = 20-DEC-2003 23:59:00
For line 2:
Schedule Ship Date = 25-DEC-2003 23:59:00
Schedule Arrival Date = 25-DEC-2003 23:59:00</td></tr>
</table>

ATP and non-ATP items in the same request and in a set

<table>
<tr><th>Scenario Description</th><th>ATP Return Date</th></tr>
<tr><td>Two lines in a ship set where:
Line 1 = Non-ATP item
Line 2 = ATP item
The ATP item is available in sufficient quantity on the requested date.
Requested ship date for line 1 = 20-DEC-2003 10:34:27
Requested ship date for line 2 = 25-DEC-2003 11:34:17
System date = 12-DEC-2003 13:20:26</td><td>For line 1:
Schedule Ship Date = 20-DEC-2003 23:59:00
Schedule Arrival Date = 20-DEC-2003 23:59:00
For line 2:
Schedule Ship Date = 25-DEC-2003 23:59:00
Schedule Arrival Date = 25-DEC-2003 23:59:00
For the group:
Group Ship Date = 25-DEC-2003 23:59:00
Group Arrival Date = 25-DEC-2003 23:59:00</td></tr>
</table>

Scenario Description	ATP Return Date
Two lines in an arrival set where: Line 1: Non-ATP item Line 2: ATP able item The ATP item is available in sufficient quantity on the requested date. • Requested ship date for line 1 = 20-DEC-2003 10:34:27 • Requested ship date for line 2 = 25-DEC-2003 11:34:17 • System date = 12-DEC-2003 13:20:26	For line 1: • Schedule Ship Date = 20-DEC-2003 23:59:00 • Schedule Arrival Date = 20-DEC-2003 23:59:00 For line 2: • Schedule Ship Date = 25-DEC-2003 23:59:00 • Schedule Arrival Date = 25-DEC-2003 23:59:00 For the group: • Group Ship Date = 25-DEC-2003 23:59:00 • Group Arrival Date = 25-DEC-2003 23:59:00

Override ATP

The override ATP feature enables you to schedule a sales order on a date earlier than the product available date. You can schedule an order on a date where there is not enough supply or on a non-working day.

A Sales order overcommitment exception will be generated when you override ATP and you can view the exception in the Planner Workbench. In addition to this, you can send workflow notification to concerned users such as planners.

Business Application

During business transactions, due to exceptional circumstances, you might have to schedule and ship orders for which your supply chain plan does not show availability. For instance, there could be occasions when:

- You receive a fresh demand and it is possible to bring the supply in early to meet the demand
- You can use the capacity that is allocated to another product's forecast for the requested product
- You decide to push out an existing low priority order to accommodate the higher priority order

- You need to ship an order on a non-working date.

In such scenarios, you might want to override ATP and make a commitment to your customer. Global Order Promising provides you with the option of allowing authorized users to override ATP.

Setup

You need to perform the following setup steps:

1. Set the profile option OM: Authorize to Override ATP to Yes.

2. Set the profile option MSC: Enable ATP Workflow. This is optional and can be set if you want to send a notification to any responsibility like Advanced Supply Chain Planner or Distribution Manager.

To Override ATP:

You can override the ATP on a sales order using the Sales Order window in Oracle Order Management.

For details on how Oracle Order Management performs an ATP override, see Overriding ATP in *Oracle Order Management User's Guide*.

ATP Logic

Using Oracle Order Management, you can override the Schedule Ship Date or Schedule Arrival Date depending on the request date type.

- When the Schedule Ship Date is overridden, Oracle Global Order Promising calculates the arrival date by adding the transit lead time to the Schedule Ship Date.

- When the Schedule Arrival Date is overridden, Oracle Global Order Promising calculates the ship date by offsetting the transit lead time. If the ship date falls on a non-working day according to the manufacturing calendar of the shipping organization, the ship date is moved to the previous working day.

Once the Schedule Ship Date is determined, Oracle Global Order Promising will perform the same supply consumption calculation assuming the request date is the Scheduled Ship Date. Any shortage beyond the request date may trigger creation of new supply through capable-to-promise process with due date beyond the request date.

> **Note:** You can only override a date and not time. Oracle Global Order Promising will use the end of day timestamp (23:59:00) for any scheduling actions.

Example

Supplies and Demands for A and B are as follows. B is a component of A. A's manufacturing lead time is 1 day.

For item A

Record Type	Item	D1	D2	D3	D4
Supply	A	0	0	0	0
Demand	A	0	0	0	0

For item B

Record Type	Item	D1	D2	D3	D4
Supply	A	0	10	10	10
Demand	A	0	0	0	0

You have a sales order for 10 of A on D2, which cannot be met. Therefore, you perform an override ATP. The supply/demand picture after override ATP is:

For item A

Record Type	Item	D1	D2	D3	D4
Supply	A	0	0	10	0
Demand	A	0	10	0	0

For item B

Record Type	Item	D1	D2	D3	D4
Supply	A	0	10	10	10
Demand	A	0	10	0	0

Explanation: The ATP date when 10 of A can be promised is D3. However, an override ATP has been performed to meet the demand on D2.

Shipping, Receiving, and Carrier Calendars

Oracle Global Order Promising checks the shipping and receiving calendars that have been assigned to specific organizations, carriers, and customers for scheduling sales orders. Oracle Global Order Promising ensures that the scheduled ship and arrival dates on sales orders as well as the ship dates, dock dates on planned orders during the Capable-To -Promise process fall on valid working days according to the various shipping and receiving calendars.

Shipping calendars indicate when a shipment can start from a source organization or a supplier. Use of the shipping calendar ensures that the shipment is shipped on a valid day according to the shipping calendar of the shipping organization or the supplier.

Receiving calendars indicate when an organization or a customer can receive a shipment into the facility. Use of the receiving calendar ensures that the shipment arrives at the receiving site on a valid day according to the organization or customer's receiving calendar.

Carrier intransit calendars indicate the days when a certain carrier operates for transporting the shipment. Use of the carrier intransit calendar ensures that the shipment is planned for transportation on a valid day according to the carrier calendar. The duration of any shipment that uses the carrier accounts for the transit calendar.

Business Application

In a supply chain, each entity, such as the supplier, manufacturer, or distribution center, can have constraints or preferences for shipping or receiving goods in or out of its facilities on specific days. For example, a manufacturing facility may be able to ship goods only on certain days of the week.

The support of shipping, receiving, and carrier calendars facilitates the process of scheduling sales orders by checking the days on which each entity can perform the required activity. Therefore, you can provide accurate dates during order promising. This scheduling also helps to reduce the manual intervention required to adjust shipping and receiving dates.

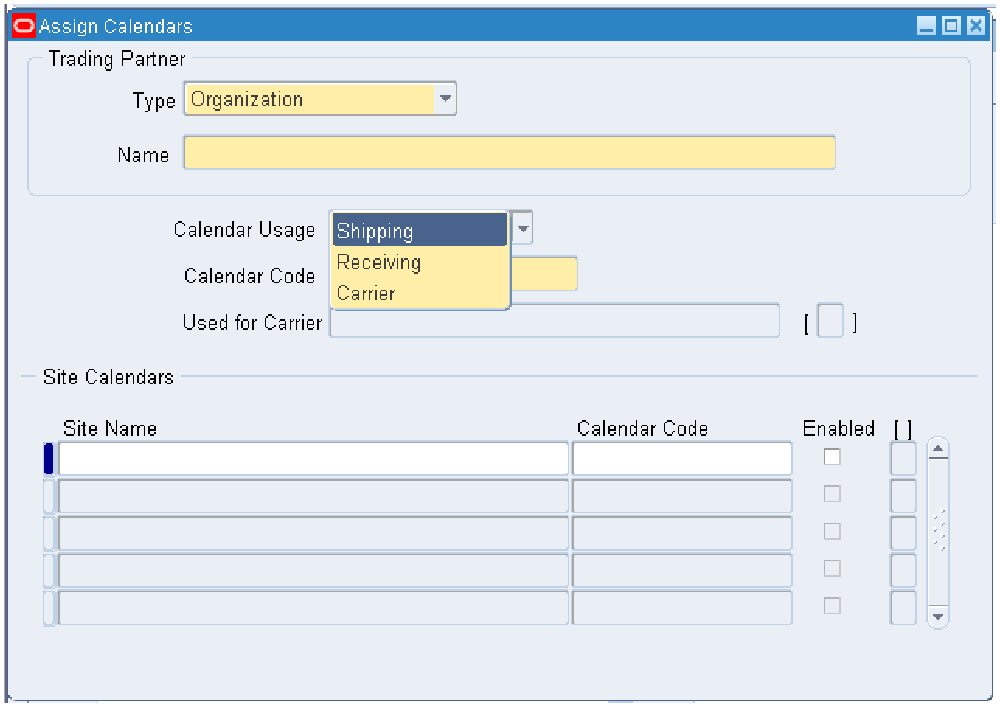
Setup

Complete the following steps to use calendars for scheduling ship and arrival dates:

1. Select Order Management > Shipping > Setup > Calendars > Assign.

   The Assign Calendars window appears.

Assign Calendars window



2. Define the calendar that you want to use.

3. Run Collection.

4. Run an ATP-enabled plan if the profile INV: Capable to Promise is set to ATP/CTP Based on Planning Output.

For more details about setting up calendars, see *Oracle Shipping User Guide* and *Oracle Advanced Supply Chain Planning Implementation and User's Guide*.

If you do not want to use any calendar for scheduling ship and arrival dates, set the profile MSC: Use Shipping/Receiving Calendars to No. When you set this profile to No, Oracle Global Order Promising performs order promising without checking the schedule dates against a calendar. Therefore, the response time of Oracle Global Order Promising will be faster, resulting in improved ATP performance.

ATP Logic

Oracle Global Order Promising verifies the schedule ship date against the shipping organization's calendar. It verifies the schedule arrival date against the carrier transit calendar as well as the customer/site receiving calendar.

If the requested date does not fall on a shipping date, Oracle Global Order Promising moves the request date to a previous shipping date. If goods are available on this date, then it becomes the schedule ship date. If availability is beyond this date but falls on a non-shipping date, then Oracle Global Order Promising uses the next valid shipping date as the schedule ship date beyond the availability date.

For details on calendar constraints, see Diagnostic ATP, page 6-15.

ATP Override

For a sales order with an ATP override, Oracle Global Order Promising leaves the overridden date as it is and checks the other dates against the calendars. For example, if you override the schedule ship date, Oracle Global Order Promising leaves the schedule ship date and checks the transit lead time against the carrier calendar and the schedule arrival date against the customer's receiving calendar.

Example: Using Calendars

This example shows how Oracle Global Order Promising uses the shipping, receiving, and carrier calendars.

Assume that the carrier transit time is 4 days.Working days are indicated by **w**.

This table shows the working and non-working days for the shipping, receiving, and carrier organizations. The letter w represents working days in the table. Non-working days are blank.

Calendar Type	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
Organization shipping calendar	w	w	w	-	w	w	w	-	w	w
Carrier calendar	w	w	w	w	-	w	w	-	w	w
Customer receiving calendar	w	w	-	w	w	w	w	w	-	w

Note that w represents working days in the above table. The non-working days are left blank.

If you have a sales order with the request ship date on D4, Oracle Global Order Promising calculates the schedule ship date and schedule arrival date as follows:

- D4 is a non-working day for the shipping organization. Therefore, the schedule ship date is D3.

- The carrier needs 4 days for transporting the items to the customer's site. D5 and D8 are non-working days for the carrier organization. Therefore, the carrier reaches the customer's site on D9.
- D9 is a non-working day for the receiving organization. Therefore, the schedule arrival date is D10.

7

Order Backlog Workbench

This chapter covers the following topics:

- Order Backlog Workbench
- Selection Criteria for Scheduling with the Order Backlog Workbench
- Scheduling Order Lines with the Order Backlog Workbench

Order Backlog Workbench

The Order Backlog Workbench is a powerful graphics tool that enables you to easily manage the order lines that you want to reschedule. This workbench is especially useful when a significant issue, such as item shortage, occurs within your supply chain, manufacturing line, or distribution chain, and you need to react rapidly to reschedule groups of order lines affected by the item shortage.

- Once you select orders for scheduling using system processing constraints and user-defined controls, the order lines are processed in a simulated scheduling mode and presented for your review.

> **Note:** You must select and schedule order lines before you can navigate to the Order Backlog Workbench.

During the review process, you can:

- Take actions based on system exceptions or errors resulting from simulated scheduling.
- Update or modify the simulated scheduled dates or source organizations for order lines presented.
- Accept or cancel all the simulated order line scheduling information.
- Firm selected order lines for simulated rescheduling.

- Select and accept a selected order line simulation results.
- View the Oracle Global Order Promising Pegging Detail information.
- Reschedule the order line information presented in the simulated schedule mode again.

Once you are satisfied with your scheduling simulation results, you should save your changes. Your new order line scheduling information will be updated for selected order lines.

> **Note:** The Order Backlog Workbench does not support rescheduling of the ATO model. It excludes any order lines that are part of an ATO model or in a set with an ATO model during rescheduling.

Order Backlog Scheduling Process

The process for scheduling an order backlog is as follows:

1. Define Priority Rules by determining the processing order to use when scheduling orders through the scheduler.
2. Define filter criteria to enable you to determine order line selection criteria for scheduling within the Order Backlog Workbench.
3. Schedule orders using the Order Backlog Workbench.
    1. Simulate Order Scheduling: shows the scheduling simulation results by:
        - Exceptions
        - Order Number
        - Organization / Item
    2. Select to:
        - Firm all or selected simulated order lines scheduling results.
        - Pick all or selected simulated order lines scheduling results.
        - Save all scheduling simulation results.
        - Cancel all scheduling simulation results.
        - Modify the simulated order line schedule dates or source organization fields, and simulate scheduling again based on the modifications made.

Perform any of the functions previously listed until satisfied.

4. Save your work. Once your simulation is saved, simulated order line schedule dates and sources become the scheduled date and source organization for all order lines selected.

Order Backlog Workbench User Interface

The Order Backlog Workbench consists of these three panes within a window:

- Navigator Tree
- Reschedule Lines Results
- Order Line Pegging Information

Navigator Tree

The Navigator Tree controls the display of information for the Reschedule Lines Results and Order Line Pegging panes within the Workbench. Drill down to the different levels on the Exceptions, Orders, and Items tabs to view the order line and pegging information.

Exceptions Tab

The Exceptions tab is the default tab that Order Backlog Workbench displays in the Navigation Tree pane. This tab shows a tree containing the order line exceptions that occurred during simulated scheduling.

Exceptions are grouped and displayed by exception type, and a corresponding number appears to the right of each exception tree node to denote the number of occurrences for each of the exception types that occurred during simulated scheduling.

Exception Tree Drill-Down Details

Details of the exception tree drill-down are:

- + Exceptions

  + Exception Folder Name

  + Order Number

Orders Tab

The The Orders tab displays a folder tree of all orders selected for simulated scheduling. Orders within this folder tree appear in ascending order.

Order Tree Folder Drill-Down Details

- + Sales Orders

  + Order Number

  + Independent (Order) Lines

Items Tab

The Items tab displays a folder tree of all items contained within order lines that were selected for simulated scheduling. The system sorts items alphanumerically by the organization against which they were scheduled.

Item Tree Folder Drill-Down Details

Details of the item tree folder drill-down are:

Details of the item tree drill-down are:

- + Organizations

  + Organization Name

  + Product Families

  + Product Family

  + Categories

  + Item Category Sets

  + Item Category Set code combinations

Reschedule Lines Results

The Reschedule Lines Results pane displays order line information based on cursor placement within the Navigator pane.

If the Item field is highlighted in yellow, then simulated scheduling encountered an error during processing, and the order line was not modified in any way. Specific scheduling error messages can be seen in the Error column.

The Reschedule Lines Results pane displays the following order line information:

- Firm Checkbox
- Item
- Order Line Number
- Quantity Ordered
- Order Line UOM
- Ship from Org

- Ship Date (Scheduled Date)
- Scheduled Arrival Date
- Available Quantity
- Group Ship Date
- Group Arrival Date
- Request Date Quantity
- Requested Ship Date
- Requested Arrival Date
- Firm Source Org
- Firm Ship Date
- Firm Arrival Date
- Latest Acceptable Date
- Ship Method
- Lead Time
- Demand Class
- Ship Set
- Arrival Set
- Customer
- Location (Customer Site)
- Status (Order Line Status)
- Error

Order Line Pegging Information

The Order Line Pegging Information pane displays pegging information based on the cursor location within the Navigator tree.

Note: If no information is contained within the Pegging Information window, based on the cursor location within Order Backlog Workbench, then

- The entity referenced in the Navigator tree, such as Organization, is not related to pegging.
- The item or order line that is referenced is not ATP-enabled.
- The item or order line does not currently reside in Oracle Global Order Promising collection tables.

If you select a node element within the Order Line Pegging pane and select Details, the Oracle Global Order Promising ATP Details window appears.

For more information on the ATP Details window, see ATP Details, page 6-15.

Selection Criteria for Scheduling with the Order Backlog Workbench

As a prerequisite, you must define at least one sequencing (priority) Rule before you use the Order Backlog Workbench. The terms sequencing rule and priority rule are used interchangeably.

Priority Rules

Oracle Advanced Planning Solution uses priority rules to determine the processing order used when scheduling orders through the scheduler. You can:

- Define a default scheduling order processing priority rule.
- Disable a priority rule.
- Define single or multiple criteria within a priority rule to further define the processing order that the scheduler uses during line scheduling.

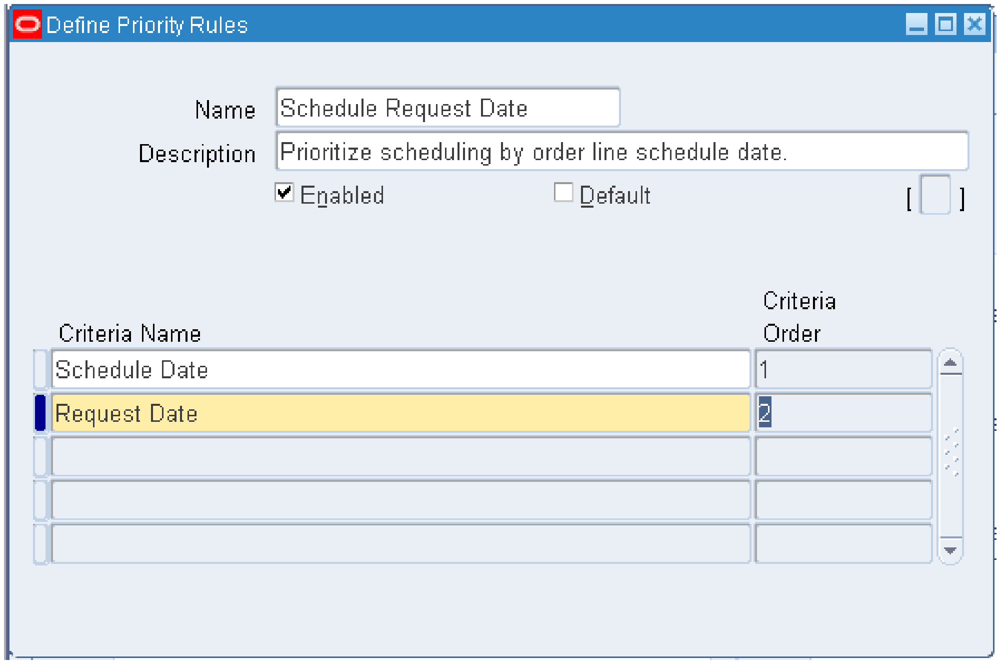
Priority rules are not instance-specific. They are defined by selecting specific criteria that determine the order input to the scheduler.

Note: At least one priority rule must be defined prior to utilizing the Order Backlog Workbench for scheduling.

To define Priority Rules:

1. Navigate to the Define Priority Rules window.

Define Priority Rules Window



2. Enter a Name for the priority rule.

3. Enter a Description for the priority rule.

4. Select the Enabled checkbox to enable the priority rule to be used by the scheduler.

5. Choose whether the priority rule will be used as the default priority rule when the schedule is executed.

   Select the Default checkbox to use the priority rule as the default rule.

   > **Note:** If another priority rule was defined as the default priority rule and you select the Default check box, you will see a decision box asking if you want to update the current default priority rule to the rule you are currently modifying. Select Yes to update your default priority rule.

6. Select the criteria name of the priority rule in the Criteria Name field. Values are:

   - Promise Date
   - Request Date
   - Sales Order and MDS Entities priority

- Scheduled Date

7. Select the criteria processing order that the scheduler will use when scheduling order lines. Enter a numeric value in the Criteria Priority field.

8. Save your work.

   Note: Once a priority rule is successfully saved, you can only update:

   - The Enabled checkbox
   - The Default checkbox

   You can add additional criteria to the priority rule.

To schedule orders using the Order Backlog Workbench:

1. Navigate to the Order Backlog Workbench.

   The Schedule Orders window appears.

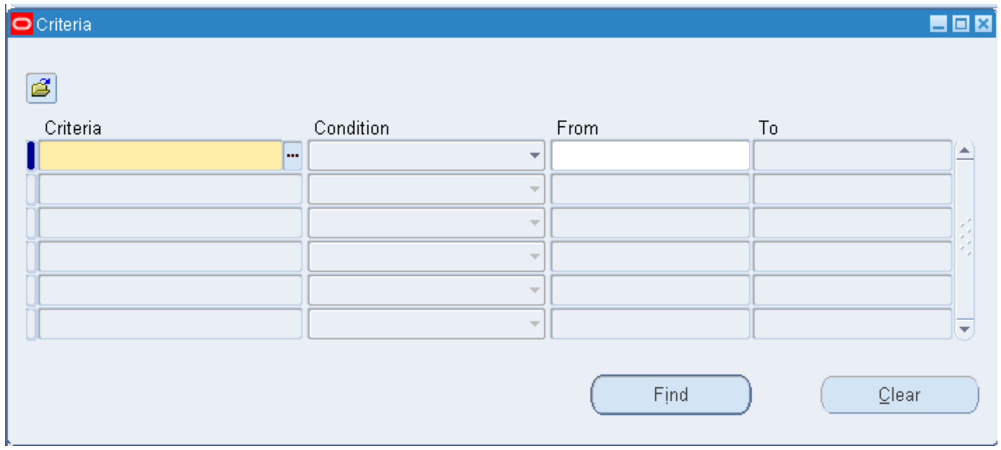
2. 2. Determine your order selection with filter criteria for scheduling by selecting one of the following:

   - Select the Filter Criteria Name and proceed to Step 3, or
   - Select the Filter Criteria Name you want to modify and click the Create/Edit button.
   - Click the Create/Edit button if you want to enter new filter criteria information.

     Note: Select the Exclude Picked Lines checkbox to avoid the rescheduling of order lines that are pick released.

   The Criteria folder window appears. The window title is Criteria.

Criteria Window



Create your order selection criteria for scheduling. Order selection is determined by current order line status and the filter criteria you defined.

- Order lines that have a current status of Shipped or Cancelled are not selected for simulated scheduling.
- Order lines whose source is External, for example, drop-ship order line are also not selected for simulated scheduling.

The Schedule Orders window uses Oracle Applications Folder technology to save filter criteria for reuse. Users can create filter criteria and save it to a folder, or they can query an existing folder and modify the filter criteria. You are not allowed to enter filter criteria for scheduling without first saving the criteria to a folder.

1. Either edit the filter criteria for the folder selected, or enter new filter criteria. Select the Field name from the list of values for Task:
   - Customer
   - Item name
   - Order Number
   - Project Number
   - Promise Date
   - Requested Arrival Date
   - Requested Ship Date

- Scheduled Arrival Date
- Scheduled Shipped Date
- Ship from org

2. Select an operator for your criteria from these values:
   - Equals
   - Is Not (Equal)
   - Less Than
   - At Most
   - At Least
   - Greater Than
   - Between
   - Outside
   - Is Empty
   - Is Entered
   - Among

3. Further define your query criteria values by entering limiting values in the From and To fields. Enter values appropriate to the Field Name selected.

   For example, if you are interested in displaying order lines that have a scheduled order date two weeks from today, enter the present date in the From field and a date two weeks from the present date in the To field.

4. Save your work to a folder. From the File menu, select Save As to save your folder. When you save your folder, there are several options available. Once you save your folder, close the Criteria window.

   For more information on using folders within Oracle Order Management, see "Private Folders" in *Oracle Order Management User's Guide*.

5. Select the scheduling priority rule.

6. Choose whether to overwrite or preserve all the existing source organizations for the current order line sources during scheduling.

- Select No to use the current order line source information. Use existing sourcing rules and priority rules to determine the order line schedule date.

- Select Yes to overwrite current order line source information. Use any source for your order, based upon sourcing and priority rules for scheduling, and use the modified sourcing information during scheduling to determine order line scheduled date.

  Note: If no order source is specified on the order line, then the order source is determined by your Sourcing Rule ranking. Ensure that your profile MRP: ATP Assignment Set is properly defined.

7. Manually sequence the processing order during scheduling for your order lines or allow the system to schedule your order lines, based on the sequencing rule chosen by selecting Manual Sequence.

   Selecting Manual Sequence enables a user, based on query criteria, to schedule, sequence, firm, or delete order lines that are selected for rescheduling.

   1. Once you select Manual Sequence, the system queries open sales orders based on filter criteria that contain order lines. Then, the system displays the orders based on the sequencing rule selected in the Order Sequencing window.

   2. Select the Firm check box if you do not want a particular order line processing sequence to be modified when you click Apply

   3. Apply.

      For example, suppose you update sequence 1 to sequence 5, sequence 6 to sequence 8, and select the Firm checkbox for sequence 2. Once Apply is selected, the order line associated with sequence 2 remains sequence 2.

      If you did not select the Firm check box for sequence 2, then, based on your user changes, the order line originally associated with sequence 2 could be changed because of resequencing.

   4. Choose to update the order processing sequence during rescheduling. Select the line you want to modify, and then update the sequence number assigned to the order line.

   5. Select Apply to save the new order line sequence for use during rescheduling.

   6. Select Schedule to initiate the simulated order line scheduling.

      While scheduler is running, can track the process using the Progress window. Progress window to track

The Progress window continually updates the progress of the rescheduling concurrent program. The following information appears:

- Total Lines #: Total order lines selected for scheduling.
- Remaining: Total order lines remaining to be scheduled.
- Time Remaining: Ttotal time remaining to process order lines currently not scheduled.
- Complete: Total order lines that have completed scheduling.
- Progress Indicator Bar: Graphic indicator of the current order lines scheduled as a percentage of the total order lines selected for scheduling.

  Once the indicator bar reaches 100 percent and the Remaining field displays 0, select OK to see the scheduling results.

  Results are presented within the Order Backlog Workbench.

Scheduling Order Lines with the Order Backlog Workbench

Once order lines are scheduled and processed, users see the Order Backlog Workbench, a graphical user interface that enables users to review, manage, and process simulated order line scheduling results.

To manage simulated order line scheduling results:

1. Review the following reschedule exceptions generated during the rescheduling process:

   Note: Select Create/Edit in the Schedule Orders window and define the criteria to search for the order lines to be re-scheduled.

Exception Name	Message Received When
Item Shortage	ATP date is greater than the latest acceptable date.
Modified Source	The new shipping warehouse is different from the original shipping warehouse.

Exception Name	Message Received When
Later Than Old Schedule Date	The new schedule ship date is greater than the old schedule ship date.
Later than Promise Date	The new schedule ship date is greater than the promise date.
Later than Request Date	The new schedule ship date is greater than the original request date.
Errors	Unexpected error is encountered.

2. Modify the schedule date and source organization's fields for order lines.

3. Accept the current order line scheduling information.

4. Firm the current order line information.

   Select the Firm checkbox if you:

   - Want to accept current simulation scheduling information for an order line.

   - Do not want a particular order line to be modified during any additional simulated rescheduling that may occur within the workbench for the current workbench simulation session.

     For details, see Reschedule Lines Results, page 7-4

5. Modify simulated scheduling information.

   - You can modify only the Schedule Date and Source Organization fields for an order line.

   - Firm an order line or group of order lines, and then process new a new scheduling simulation using the current order line information by selecting Reschedule.

     For details, see Reschedule Lines Results, page 7-4.

   Accept simulated scheduling recommendations by clicking Save.

   Once you Save, all simulated scheduling results for order lines are committed to the database. The Order Backlog Workbench closes, and the user sees the Schedule Orders window.

6. Reject simulated scheduling recommendations by clicking Cancel.

Simulated scheduling information is discarded, order line information is not updated within the database, the Order Backlog Workbench closes, and the user sees the Schedule Orders window.

> **Note:** ATP in the Order Backlog Workbench is based on the detail supply demand tables, regardless of the profile setting for MSC: Enable ATP Summary Mode.

8

Troubleshooting

This chapter covers the following topics:

- Troubleshooting
- Debugging
- SQL Queries

Troubleshooting

This section provides a detailed explanation on Oracle Global Order Promising:

- Troubleshooting
- Debugging
- SQL Queries

Troubleshooting

The following are error messages Oracle Global Order Promising users may receive, and how to troubleshoot these messages.

> **Note:** The lookup codes are passed from the Oracle Global Order Promising API to the calling module, which displays the error messages to the users.

ATP Based on Collected Data Errors

Error Message	Code	Message Received When	To Resolve this Message
Try ATP again later.	130	The complete / target collection or sales order collection is running.	Wait until so_tbl_status in msc_apps_instances is set to Null or 0.
Summary Concurrent program is running. Try ATP later.	160	The Load Summary Based on Collected Data concurrent program is running in complete refresh mode, and ATP is offline.	Wait until the Load Summary Based on Collected Data concurrent program completes successfully.
Invalid ATP rule or No ATP rule defined.	57	A valid ATP rule is not assigned to the item or the organization.	Assign a valid ATP Rule to the item or the organization level. Run collections to collect the new item definition and organization setup.
Unable to meet the request quantity.	52	The infinite time fence is not defined in the ATP Rule, and Oracle Global Order Promising cannot find the entire requested quantity within the Manufacturing calendar of the organization.	Define the infinite time fence in the ATP Rule or ensure that sufficient supply is available for the item within the calendar limits.
Unable to find a calendar date.	47	• The calendar is not assigned to that organization. • The order request date is outside of the calendar. • The calendar is not built, not collected, or collected.	Do one of the following: • Assign the calendar to the organization. • Extend the length of time on the calendar. • Build the calendar.
No APS instance defined. Set APS instance and run collections.	140	The instance for Oracle Global Order Promising is not defined in the Advanced Planning and Scheduling server.	Define the instance to collect the data to the APS server. For details, see: System Setup, page 2-1.

Error Message	Code	Message Received When	To Resolve this Message
Wrong Check ATP setup for product family item and member item.	180	Member items for a product family item have Check ATP set to Material, if the product family item has Check ATP set to Material. However, when the requested member item has Check ATP set to None, this error occurs.	Set the Check ATP attribute to Material for the member item that failed with that product family.
One of the group elements or mandatory components failed.	19	Lines in a ship or arrival set receive this error when any line in the set has an error. For example, in a three line ship set where one line has the error Plan not Found, the other two lines get this error message.	Correct the error for the line item that has an error message other than this error message. Then the entire ship or arrival set will not fail.
ATP has detected invalid objects. Contact your system admin.	220	Some ATP packages are invalid.	Contact your database administrator. This error typically relate to applying the correct patch.
ATP processing error.	23	-	Contact your system administrator to investigate the problem.
INV: Capable to Promise must be same at source and destination.	230	The profile INV: Capable to Promise is set differently at the source than at the destination.	Set the profile INV: Capable to Promise to the same value in both the source and destination instances.
Cannot meet request date or latest acceptable date	53	Scheduling fails because the demand cannot be satisfied for the latest acceptable date, but the demand can be satisfied at a later date.	Excess supply is required for this item.
ATP not applicable.	61	Item is not ATP capable.	No action is needed unless the item should be ATP-capable.

Error Message	Code	Message Received When	To Resolve this Message
No Sources.	80	Sourcing is not defined for that customer. Thus, Oracle Global Order Promising cannot select the shipping organization in the ATP Assignment Set.	Globally define all organization sourcing rules and assign them to the appropriate levels for that customer in the ATP Assignment Set. Note that Bills of Distribution and local sourcing rules are not applicable.
This item is not collected. Please run Data Collection.	85	An ATP-capable able item was not collected.	Run collections to collect the item.
No Assignment Set.	90	Both the MRP: ATP Assignment Set at source and destination are null.	Define at least one assignment set. You must do this when you want Oracle Global Order Promising to recommend a shipping warehouse.

ATP Based on Planning Data Errors

Error Message	Code	Message Received When	To Resolve this Message
Plan not found.	120	For Standard Items, this error is generated only when the plan is running or has errored out. For the Multi-Level, Multi-Org ATO Model: • The plan that contains the model is not ATP-capable. • The model is not included in any ATP-capable plan. • The plan is running or has errored out.	For Standard Items, the plan that contains the item is running or has errored out. Try ATP after the plan run has completed successfully For the Multi-Level, Multi-Org ATO Model: • Make the plan ATP-capable and run the Analyze Plan Partitions concurrent program. • Define and run the plan to successful completion. • Try ATP after plan has run successfully.
Plan not found. ATP is calculated using collected data.	150	If standard items are not found in any ATP-capable plan, use collected data to find availability.	No action is needed. If you expect the item should have a plan, make sure that the plan is ATP-capable and has been run successfully.
Run ATP Post Plan Processing concurrent program.	200	The ATP Post Plan Processing concurrent program has not been run for the ATP-capable plan.	Run the ATP Post Plan Processing concurrent program. If you are not using demand priority based Allocated ATP or Summary Based ATP, make sure the related profile is set correctly.
Summary Concurrent program is running. Try ATP later.	160	The ATP Post Plan Processing concurrent program is still running.	Wait until the ATP Post Plan Processing concurrent program has finished running.

Error Message	Code	Message Received When	To Resolve this Message
MRP: Default Assignment Set sourcing not in sync with ATP Plan.	240	Only applicable for multi-level, multi-org ATO models: the sourcing defined for the model in the assignment set assigned to the profile MRP: Default Assignment Set is not the same as the sourcing defined in the assignment set used in the ATP plan.	Only applicable for multi-level, multi-org ATO models: ensure that the ATO model has the same sourcing and is the same in the two assignment sets is used in profile and plan.
Unable to find a calendar date.	47	One of the following conditions occurs: • The calendar is not assigned to that organization. • The order request date is outside of the calendar. • The calendar is not built, nor collected, or both.	Do one of the following: • Assign the calendar to the organization. • Extend the length of time on the calendar. • Build the calendar.
No APS instance defined. Set APS instance and run collections.	140	The instance for Oracle Global Order Promising has not be is not defined in the Advanced Planning and Scheduling server.	Define the instance to collect the data to the APS server. For details, see: System Setup, page 2-1.
Wrong Check ATP setup for product family item and member item.	180	Member items for a product family item have Check ATP set to Material, if the product family item has Check ATP set to Material. However, when the requested member item has Check ATP set to None, this error occurs.	Set the Check ATP attribute to Material for the member item that failed with that product family.

Error Message	Code	Message Received When	To Resolve this Message
One of the group elements or mandatory components failed.	19	Lines in a ship or arrival set receive this error when any line in the set has an error. For example, in a three line ship set where one line has the error Plan not Found, then the other two lines get this error message.	Correct the error for the line item that has an error message other than this error message. Then the entire ship or arrival set will not fail.
ATP has detected invalid objects. Contact your system administrator.	220	Some ATP packages are invalid.	Contact your database administrator. This erroris typically related to applying the correct patch.
ATP processing error.	23	One of several possible errors occurred.	Contact your system administrator to investigate the problem.
INV: Capable to Promise must be same at source and destination.	230	The profile INV: Capable to Promise is set differently at the source than at the destination.	Set the profile INV: Capable to Promise to the same value in both the source and destination instances.
Unable to meet the latest acceptable date.	53	The scheduling fails because the demand cannot be satisfied for the latest acceptable date, but the demand can be satisfied at a later date.	Excess supply is required for this item.
ATP not applicable.	61	Item is not ATP-capable.	No action is needed unless the item should be ATP-capable.
No Sources.	80	Sourcing is not defined for that customer. Thus, Oracle Global Order Promising cannot select the shipping organization in the ATP Assignment Set.	Globally, define all organization sourcing rules and assign them to the appropriate levels for that customer in the ATP Assignment Set. Note that Bills of Distribution and local sourcing rules are not applicable.

Error Message	Code	Message Received When	To Resolve this Message
This item is not collected. Please run Data Collection.	85	An ATP-capable item was not notcollected.	Run collections to collect the item.
No Assignment Set.	90	Both the MRP: ATP Assignment Set at source and destination are null.	Define at least one assignment set. You must do this when you want Oracle Global Order Promising to recommend a shipping warehouse.
Options selected have exclusive sources.	350	Two or more options needed to build a configuration can only be sourced from different organizations.	Review option-specific sourcing rules defined for your options to ensure that the configuration can be manufactured in at least one source.
No valid source for this configuration.	310	There option-specific sourcing rules do not match the sourcing rules for the model.	Review the sources rules for the model and the option specific sourcing rules to ensure that at least one model sourcing rule can build this configuration.
Failure during ATP Match process.	320	A failure occurred when attempting to match your order to existing configurations.	-

Note: For both ATP Based on Collected Data and Planning Data tables, each customer has only one table to use.

Other Data Errors

Error	When Error Occurs	To Resolve this Message
Collection Process Fails.	The collections process fails due to invalid state of msc_atp_plan_sn snapshot.	Set the following event in the init. ora file to: EVENT = 32333 trace name context forever, level 8
ATP performance is slow.	-	Do the following: • Set the profile MRP: Calculate Supply Demand to No on both the source and destination. • Set the profile MSC: ATP Debug Mode to None on both the source and destination. • Apply the latest ATP patch. • Run the Purge ATP Temp Table concurrent program to delete the temporary data (supply, demand, horizontal plan, pegging) for each ATP transaction. This concurrent program purges the temporary data according to the age of the data you specify for deletion. You should run this program daily or even hourly if your ATP transaction volume is high. Parameter of the concurrent program: **Age of Entry (in hours):** Specify the age of the data you want to delete. For example, if you enter 1, this program will delete any data that is more than 1 hour old.

Error	When Error Occurs	To Resolve this Message
Some past due sales orders, supplies, or demands are not included in the ATP.	-	For ATP based on collected data, check the ATP Rule assigned to the item: • From the collection workbench, verify that the sales orders, supplies, and demands in question are collected to the destination. • To verify that an ATP Rule exists for the item. • To verify the values for Past Due Days supply and demand attributes in the ATP Rule. If values exist, ATP only considers the past-due demand and supply for that many days. For example, for a 5-day Past Due Demand, ATP only considers the past due demand that falsl under the last 5 working days before the sysdate. To consider all past due demand, these fields should be left blank. For ATP based on planned data, check the ATP Rule assigned to the item: • From the collection workbench to verify that the sales orders, supplies, and demands in question are collected to the destination. • From the planners workbench to verify that the sales orders are included in the plan. If they are not, investigate why the sales orders are not included in the plan.

Error	When Error Occurs	To Resolve this Message
Some supplies and demands are missing.	When a sales order is not present in ATP supply and demand details, and the supply is not present in ATP supply and demand details.	Check if this supply and demand is visible in the Collections Workbench: • If ATP is based on planning output, check if this supply and demand is in the plan. • If certain purchase orders or work orders are missing, make sure Planning Manager is up and running if the profile MRP: Consume MPS is set to Yes. • If the on-hand quantity from a certain subinventory is missing, check if that subinventory is ATP-capable when ATP is based on collected data. If supply or demand records are missing, run the SQL query (for Error 11: some supplies and demands are missing) to determine if collection was successful in bringing the supply and demand from the source to the destination.
Subscript Beyond Count.	Internal error.	Contact your system administrator or contact Oracle Support to investigate the problem.

Error	When Error Occurs	To Resolve this Message
Delivery Lead Time Not Calculated.	For Lead Time set between the customer location and the source organization's location: • The internal location is not created for the customer site. • Intransit Lead times are not specified for the Ship method between Orgs Ship From and the specified internal location. For lead time set between customer ship-to site location, customer region, or customer zone: • The intransit lead time is not defined between the region or zone to which the customer ship- to location belongs and the source organization's location. No lead time exists at the region or zone level where the customer's ship-to site falls under a specific region or zone.	For Lead Time set between the customer location and the source organization's location: • Create an internal location in the Organization and associate the Customer's Ship to location with it. • Define the Intransit Lead times between the Organization's Ship From and this internal location. Also make sure that one of the available ship methods is selected as the default ship method. For lead time set between customer ship-to site location, customer region, or customer zone: • Define the intransit lead time between the region or zone to which the customer ship to site belongs and the source organization's location. Ensure that one of the available ship methods is selected as the default ship method.

Debugging

ATP Debug File

The ATP debug file contains process information that helps facilitate ATP debugging whenever logging a tar or bug. In a Standalone Planning Server Configuration, ATP produces one ATP debug file. In an Integrated Planning Server Configuration, ATP produces one ATP debug file at the source and one ATP debug file at the destination.

To Produce an ATP Debug File for a Standalone Planning Server Configuration:

1. Set the profile MSC: ATP Debug Mode to Debug Only at the user level of the source instance.

2. Run the following query to find the location where the ATP debug file is created:

   select ltrim(rtrim(value))

   from

   (select value from v$parameter2

   where name='utl_file_dir'

   order by rownum desc)

   where rownum <2;

   Ensure that the query returned no * values at the end of utl_file_dir value. Also, ensure that this directory is writable.

3. Run the ATP Inquiry for the item.

4. When the test case is complete, pick latest session file from the location determined in the first step.

5. Upload the debug:.

   - Complete Steps 1 to 4 on both the source and destination instance.

   - Set profile MSC: ATP Debug Mode back to None at the appropriate site level after generating the debug file. If the profile option is not set back to None, then the ATP performance degrades.

To Produce an ATP Debug File for an Integrated Planning Server Configuration:

1. At the instance where the query is performed, set the profile MSC: ATP Debug Mode to Debug Only at the user level.

2. Run the following query to find the location where the ATP debug file is created:

   select ltrim(rtrim(value))

   from

   (select value from v$parameter2

   where name='utl_file_dir'

order by rownum desc)

where rownum <2;

Ensure that the query returned no * values at the end of utl_file_dir value. Also, ensure that this directory is writable.

3. Run the ATP Inquiry for the item.

4. Pick the latest session file from the location determined in the first step, when the test case is complete.

Debugging Areas

People commonly debug the following areas to ensure that the basic setup and ATP calculations are correct.

Oracle Global Order Promising Architecture

- The source view, mrp_ap_apps_instances, must contain one row. Verify that the Enable ATP checkbox is enabled for a correct instance in the instance setup UI. The instance_id column must contain the instance id assigned to this source instance on the APS instance.

- The destination table, msc_apps_instances, may contain as many rows as the collected source instances.

- The complete / target collections must be completed at least once before using ATP.

- For ATP based on collected data to work correctly, the collections process must be completed successfully. A value of zero or null in the st_status column of the msc_apps_instance table for the source instance indicates that collections for this source have been run successfully, and ATP can be performed against this instance. If this column contains any other value, then collections are running or collections have errored out.

  For details about ATP based on collected data, see Data Collection, page 2-8.

- For ATP based on planning data to work correctly, collections and the plan run must be completed successfully. Plan_completion_date and data_completion_date columns in msc_plans table for the plan are populated if the plan has completed successfully. If any of these columns contains a null value, then the plan has errored out. The plan must be relaunched and completed successfully before performing the ATP check against this plan.

Oracle Global Order Promising Database Links

- Run the following query to verify the database link at the source:

  Select substr(a2m_dblink, 1, 35), substr(m2a_dblink, 1, 35) from mrp_ap_apps_instances;

a2m_dblink must contain the database link that points from the source to the destination.

m2a_dblink must contain the database link that points from the destination to the source.

- Run the following query to verify the database link at the destination:

  Select substr(a2m_dblink, 1, 35), substr(m2a_dblink, 1, 35) from msc_apps_instances where instance_code = l_instance_code;

  where l_instance_id = instance_id of the source instance;

  a2m_dblink must contain the database link that points from the source to the destination.

  m2a_dblink must contain the database link that points from the destination to the source.

SQL Queries

> **Note:** Your organization's database administrator should be the person designated to run these SQL Scripts.

A basic understanding of the architecture of Oracle Global Order Promising is helpful. The following notes may also be helpful:

- Data Collection is responsible for gathering all the relevant data in the Source Instance from the INV, BOM, PO, OE, MRP, and WIP schemas, and duplicating the data in the MSC schema for ATP and Oracle Advanced Supply Chain Planning purposes.

- Since you can collect data from more than one instance, MSC has its own item numbering system that is seen in MSC_SYSTEM_ITEMS. This means that each item is assigned a new INVENTORY_ITEM_ID in MSC_SYSTEM_ITEMS when it is collected. The Source Inventory Item ID is stored under SR_INVENTORY_ITEM_ID.

- SR_% is used in many common column names to denote a value on the Source Instance.

- Many tables contain the first column PLAN_ID.
  - The PLAN_ID "-1" is reserved for the Collected Data.
  - Positive PLAN_ID numbers are for the ASCP planning data generated when a

plan is executed in Oracle Advanced Supply Chain Planning.

    - Some collected data is used regardless of ATP type being executed, and do not need a PLAN_ID. Sourcing rules is an example.

- MSC_PLANS and MSC_PLAN_PARTITIONS contain the setup data for your plans. For example, Collections is PLAN_ID = -1 in MSC_PLANS.

- If you collect data from more than one instance, then the SR_INSTANCE_ID column in the MSC_% tables becomes very important since the data from the two different instances can be exactly the same with the exception of this value.

- The ORGANIZATION_ID does not change in the MSC tables. It is differentiated by the SR_INTANCE_ID when collecting from more than one instance.

Basic Queries

The basic queries below retrieve item and plan information to start diagnosis of an item problem:

From the Source instance, the following gives you:

- The organization_id for your organization_code

- The inventory_item_id which is the sr_inventory_item_id is MSC_SYSTEM_ITEMS

  Select

  i.concatenated_segments,

  i.inventory_item_id,

  i.organization_id

  from

  mtl_system_items_kfv i,

  mtl_parameters p

  where

  i.concatenated_segments like '&Item_name'

  and i.organization_id = p.organization_id

  and p.organization_code = '&Organization_code'

  and i.organization_id = p.organization_id;

  Use

  &Organization_Code = Enter your Org Code when prompted

  &Item_name = Enter your Item Name when prompted

The following query gives you:

- The instance_id of your source instance

- The instance_code of your source instance

  Select

  instance_id, instance_code

  from

  mrp_ap_apps_instances;

From the destination, the two following queries should produce results to allow for most of the various variables:

- Select

  substr(item_name,1.30) Item_name,

  sr_inventory_item_id,

  inventory_item_id,

  organization_id

  from

  msc_system_items

  where

  sr_inventory_item_id = &Source_Inventory_item_id

  and organization_id = &Organization_id

  and sr_instance_id = &Instance_ID

  and plan_id = -1;

  USE

  &Source_Inventory_item_id = from first query on the source

  &Organization_id = organization_id from the first quest on the source

  &Instance_ID = from the second query of on the source

Data Error SQL Queries

These SQL queries address the ATP Based on Collected Data Errors, page 8-1 and the Other Data Errors, page 8-8 from the Troubleshooting section.

Error 47: Unable to find a calendar date.

Two possible issues:

- The calendar is not assigned to the organization.

  Select

  calendar_code,

  calendar_exception_set_id

  from

  msc_trading_partners

  where

  sr_instance_id = &Instance_id

  and sr_tp_id = &Organization_id

  and partner_type = 3;

  Use

  &Instance_id = instance id of the source instance

  &Organization_id = organization id of the item

  If the above two columns are not populated, then a calendar has not been assigned to the organization. Assign a calendar to the organization and run Data Collections with a Complete Refresh.

- The request date is outside the date range of the calendar assigned to the organization.

  Select

  Min(calendar_date),

  Max(calendar_date)

  from

  msc_calendar_dates

  where

  sr_instance_id = &Instance_id

  and calendar_code = '&Calendar_code'

  and exception_set_id = &Calendar_exception_set_id;

  Use

  &Instance_id = instance id of the source instance

  &Calendar_code = calendar code from query in section a

  &Calendar_exception_set_id = calendar exception set id from query in section a

Error 57: Invalid ATP Rule or No ATP Rule defined.

Select

nvl(msi.atp_rule_id, tp.default_atp_rule_id) atp_rule_id

from

msc_system_items msi,

msc_trading_partners tp

where

msi.sr_inventory_item_id = &Source_Inventory_item_id

and msi.sr_instance_id = &Instance_id

and msi.organization_id = &Organization_id

and plan_id = -1

and tp.sr_instance_id = msi.sr_instance_id

and tp.sr_tp_id = msi.organization_id

and tp.partner_type = 3;

Use

&Source_Inventory_item_id = source inventory item id

&Instance_id = instance id of the source instance

&Organization_id = organization id of the sourcing organization

Error Code 85: This item is not collected. Please run Data Collection.

Select

item_name,

atp_flag,

atp_components_flag

from

msc_system_items

where

sr_inventory_item_id = &Source_Inventory_item_id

and sr_instance_id = &Instance_id

and plan_id = -1;

- Use

  &Source_Inventory_item_id = source inventory item id

&Instance_id = instance id of the source instance

&Organization_id = organization id of the item

> **Note:** If the above query does not return a row for the organization that you are expecting, then the item has not been collected. Check the item's setup on the source instance. Run Data Collections with a Complete Refresh or Target Refresh. Then check for the item again.

Error 120: Plan not found.

Execute the following query:

- Select

  distinct(plan_id) Plan_id

  from

  msc_atp_plan_sn;

Then:

- Select

  plan_id,

  from

  msc_atp_plan_sn

  where

  sr_inventory_item_id = &Source_Inventory_item_id

  and sr_instance_id = &Instance_id

  and organization-id = &Organization_id;

  Use

  &Source_Inventory_item_id = source inventory item id

  &Instance_id = instance id of the source instance

  &Organization_id = organization id of the item

> **Note:** If the above query does not return any data, then:
>
> - The Plan has not been made ATP-able. Check that the Inventory ATP Flag is the plan options is checked.
>
> - The Plan has not run successfully. Then:

Select

plan_completion_date,

data_completion_date,

plan_id

from

msc_plans

where

compile_designator = '&Plan_name';

Use

&Plan_name.

The name of the plan.

If plan is run successfully, then above two date columns should be populated.

- The Plan does not contain the item. Then:

  Select

  item_name

  from

  msc_system_items

  where

  plan_id = &Plan_id

  and sr_inventory_item_id = &Source_Inventory_item_id

  and sr_instance_id = &Instance_id

  and organization-id = &Organization_id;

  Use

  &Plan_id = The Plan_id from above

  &Source_Inventory_item_id = source inventory item id

  &Instance_id = instance id of the source instance

  &Organization_id = organization id of the item

Error 140: No APS instance defined. Set APS instance and run collections.

Run the following queries on the source instance:

- Select

  a2m_dblink from mrp_ap_apps_instances;

  > **Note:** The above query should return the name of only one valid database link.

Error 220: ATP has detected invalid objects. Contact your system admin.

The following query provides some of the possible invalid objects in the database:

- Select

  owner,

  object_name,

  object_type,

  status

  from

  all_objects

  where

  status = 'INVALID'

  and object_name like 'MSC%'

  and object_type != 'UNDEFINED';

Then:

- Select

  owner,

  object_name,

  object_type,

  status

  from

  all_objects

  where

  status = 'INVALID'

  and object_name like 'MRP%'

  and object_type != 'UNDEFINED';

Note: If any objects are owned by APPS_MRC, ignore them. Recompile the rest of invalid objects returned, and report the errors for each object that cannot be recompiled.

Error 230: INV: Capable To Promise must be same at source and destination.

Run the following queries on both source and destination:

- Select

  FND_PROFILE.value('INV_CTP') from dual;

  Note: This profile must be the same in both instances and should only be set at the site level.

Other Data Error: Some past due sales orders, supplies, or demands are not included in the ATP.

Select

rule_name,

past_due_demand_cutoff_fence,

past_due_supply_cutoff_fence,

include_sales_orders,

include_purchase_orders,

include_discrete_wip_receipts,

include_nonstd_wip_receipts,

include_discrete_mps,

include_rep_mps,

include_rep_wip_receipts

from

msc_atp_rules

where

rule_id = &ATP_Rule_id

and sr_instance_id = &Instance_id;

Use

&ATP_Rule_id = rule id determined using query in the section above

&Instance_id = instance id of the source instance

Note: For any supply and demand types that have values returned as 1, ATP only considers the past due demand and supply for that many days.

For example: for Past Due Demand Days of 5 days, ATP only considers past due demands that fall under the sysdate of 5 days. To consider all past due demands, these fields should be left blank.

A

Profile Options

This appendix covers the following topics:

- Oracle Global Order Promising Profile Options

Oracle Global Order Promising Profile Options

Oracle Global Order Promising uses several types of profile options, including:

- MRP Profile Options
- MSC Profile Options
- INV Profile Options
- BOM Profile Options

The following sections contain tables that list the profile option names, values, and descriptions.

MRP Profile Options

The following table lists and defines the MRP profile options used by Oracle Global Order Promising:

Profile Option Name	Valid Values	Default Value	Description
MRP: ATP Assignment Set	Text	Null	The assignment set name for use with Oracle Global Order Promising. When set to Null, Oracle Global Order Promising uses the assignment set from profile MSC: ATP Assignment Set from Oracle Advanced Planning Solution instance. Update this profile at site level on the source instance.
MRP: ATP Database Link	Text	Null	Determines whether distributed Oracle Global Order Promising is used. Set this profile at the source instance. The value should equal the value you entered in the 'From Source to APS' of the source instance you defined in the Instance form. This is a site-level profile.
MRP: Calculate Supply Demand	Yes No	Yes	When set to Yes, this profile controls whether detailed supply / demand data is retrieved and retained for viewing during an ATP Inquiry. This data is viewed by selecting ATP Details in the Inquiry form. Performance can be slowed when the profile is set to Yes. For better performance, set it to Yes, run an ATP Inquiry and view the details, and thenset it back to No. Set this profile to Yes only when you need to view the detailed supply demand and horizontal plan information for an ATP inquiry. You can set the profile at the user level.
MRP: Include Substitute Components	Yes No	No	Indicates whether to include substitute components in the Oracle Global Order Promising calculation. Users can update at the site level. This setting is only applicable when ATP is based on Oracle Advanced Supply Chain Planning output.
MRP: Set Category for Backlog Form	Text	(varies)	Use this profile option to indicate which items belonging to this category set appear in the Backlog Scheduling Workbench tree navigator. If no value is entered, no items appear in the Backlog Scheduling Workbench tree navigator. You can update this profile at the site level.

MSC Profile Options

The following table lists and defines the MSC profile options used by Oracle Global Order Promising:

Profile Option Name	Valid Values	Default Value	Description
MSC: Action Allowed on ATP 24x7 Plan While Running	Yes No	No	Determines whether manual updates are allowed to the original plan when the plan copy is running. Values are: • Yes: The ATP plan appears in the Workbench window while it is running. You can make changes to the plan. However, the changes will not appear in the refreshed plan. • No: The ATP plan appears only in the View Plan window.

Profile Option Name	Valid Values	Default Value	Description
MSC: Allocated ATP Forward Consumption	Reduce future supply from lowest priority Reduce available supply from any priority	Null	Determines the type of forward consumption that Oracle Global Order Promising can perform to accommodate the shortage faced by a demand class. Values are: • Reduce future supply from lowest priority: Use the available supply from the lowest priority demand to account for the shortage of a demand class. If every demand class is at same priority, reduce the future supply to cover the shortage for a demand class. • Reduce available supply from any priority: A promised demand is the most important demand that you need to meet. Oracle Global Order Promising starts the adjustments from the higher priority demand class. That is, Oracle Global Order Promising reduces the availability of a lower priority demand class before a higher priority demand class to account for shortages from a previous period. Thus, it reduces the available supply to account for the shortage from lower priority demand classes.
MSC: ATP 24x7 Synchronization Downtime	Any number between 0 and 999	Null	Determines the approximate ATP downtime (in minutes) to cover the time required to synchronize and to switch over to the refreshed plan during the plan synchronization process. Oracle Global Order Promising internally translates this value into the number of orders to process. You should set the value for this profile based on the sales order volume during the ATP 24x7 plan run. This profile option also determines the duration of the extended synchronization process. This process is executed for the duration of the ATP downtime or 10 minutes, whichever is larger.

Profile Option Name	Valid Values	Default Value	Description
MSC: ATP Allocation Method	User-Defined Allocation Percentage Demand Priority	Null	This site-level profile determines the allocation method used by ATP. This is a site level profile. Values are: • User-Defined Allocation Percentage • Demand Priority
MSC: ATP Assignment Set	Text	Null	Indicates name of the assignment set that Oracle Global Order Promising uses to identify all the possible shipping organizations. Oracle Global Order Promising uses this assignment set if the profile MRP: ATP Assignment Set is Null on the ERP instance. Users can update it at the site level in the Planning instance.
MSC: ATP Capacity Allocation	Yes No	No	Set it to No. You should only set it to Yes with specific instruction from Oracle Applications development.
MSC: ATP Debug Mode	Debug Only Debug and Database Trace Database Trace Only None	Null	Determines whether to enable debug messages within Oracle Global Order Promising. You can update it at the user level. Values are: • Debug Only: ATP generates a log file for an ATP request. • Debug and Database Trace: ATP generates a log file and a database trace file. • Database Trace Only: ATP generates a database trace file. • None: ATP does not generate a log file or a database trace file.

Profile Option Name	Valid Values	Default Value	Description
MSC: ATP Enforces Lead Time for ATO Models	• Yes • No	Yes	Indicates whether ATP enforces lead time for ATO models or not. • Yes - Enforces lead time for ATO models. • No - Does not enforce lead time for ATO models.
MSC: Class Hierarchy	Demand Class • Demand Class • Customer Class	Demand Class Customer Class	Indicates which allocation hierarchy to use. Users can update it at the site level. Values are: • Demand Class: User-defined, single-level hierarchy. • Customer Class: Has three levels: customer class, customer, and site.
MSC: Collection Window for Trading Partner Changes (Days)	Integer >= 0	Null	Use when collections for the trading partners entity is run in complete mode. Specifies the number of days backwards for collecting changes in customer names, customer sites, vendors, and vendor sites. A Null value means all changes are collected.
MSC: Custom Allocation	Yes No	No	If set to Yes and MSC Class Hierarchy is set to Customer Class, Customer Allocated ATP performance is improved. This profile can be used only in the following cases: • The item can be only an end item allocation, not a component allocation. That is, the item cannot be a component of another BOM. • No CTP exists. No planned order demand allocation and CTP suggested supply or demand allocation exists.

Profile Option Name	Valid Values	Default Value	Description
MSC: Display Order Rescheduling Supplies	Yes No	No	Determines whether the rescheduling supplies appear in the Planner Workbench. Values are: • Yes: Displays the rescheduling supplies details in the Planner Workbench. • No: he rescheduling supplies details are hidden from the Planner Workbench This profile is provided for debugging and analysis only. Therefore, you should set this profile to No in a production environment.
MSC: Enable Allocated ATP	Yes No	No	Use this profile option to indicate whether allocated order promising is used. Users can update this profile at the site level.
MSC: Enable ATP Summary Mode	Yes No	No	Enables the summarization of supply / demand data for improved performance. This is a site level profile. Values are: • Yes: Enable ATP Summary Mode. • No: Disable ATP Summary Mode.
MSC: Enable ATP Workflow	• Yes • No	No	Controls the generation of workflow notifications to send to the planner. This is a site-level profile. Valid values are: • Yes: Generate ATP Workflow Notifications. • No: Do not generate ATP Workflow Notifications.

Profile Option Name	Valid Values	Default Value	Description
MSC: Excess and Safety Stock by Demand Class	Yes No	No	Controls the allocation of supply or demand that pegs to excess or safety stock in the case of allocated ATP using the demand-priority based method. Values are: • Yes: If such supply or demand has a demand class, and if the demand class exists on the allocation rule, then allocate the supply or demand to the demand class. If the supply or demand does not have a demand class or if the demand class does not exist on the allocation rule, then allocate the supply or demand to OTHER. • No: Allocate such supply or demand to OTHER.
MSC: Forward Stealing Logic & Enhanced Forward ATP	Yes No	No	When set to Yes, supply searches are more efficient in the forward pass. The software: • Considers multiple sources of supply (make, transfer, buy) together. • Considers component substitution in the forward pass. **Caution:** Enabling this profile could significantly affect performance, and it must be enabled only after due analysis.

Profile Option Name	Valid Values	Default Value	Description
MSC: Horizontal Plan Demand Bucketing Preference	Plan Recommended Date Demand Due Date	Demand Due Date	Determines which date is used for bucketing demands. Values are: • Plan Recommended Date: Demands are bucketed based on the dates recommended by the planning engine. • Demand Due Date: Demands are bucketed based on the schedule ship date on the sales orde.r
MSC: OTHER with Zero Allocation Percent is Valid Demand	Yes No	No	When set to Yes, demand classes with 0% allocation are considered as valid demand classes for allocated ATP calculations. When set to No, demand classes with 0% allocations are not considered as valid demand classes for allocated ATP calculations.
MSC: Perform ATP Check for Internal Sales Orders	Yes No, only if Destination Organization on ISO is not part of Plan	No	Determines if an ATP check is performed for internal sales orders.
MSC: Sales Orders Offset Days	Integer >= 0	Null	Collects completed sales orders within the offset duration. For example, if Sales Orders Offset Days is set to 90, all the sales orders completed in the past 90 days are collected. Can be defined at the site level. A Null value means all closed sales orders are collected.

Profile Option Name	Valid Values	Default Value	Description
MSC:Select sourcing rules in ATP based on	Sysdate, Request Date	Sysdate	Use this profile option to specify the basis of sourcing rule effectivity dates for available -to-promise. Valid values are: - Sysdate: The sourcing rule effectivity date is based on the system date - Request Date: The sourcing rule effectivity date is based on the greater of Request Date or Planning Time Fence Date For example: - MSC:Select sourcing rules in ATP based on = Request Date - Item has five days leadtime and no on- hand - Item currently sourced from supplier A - Item will change sourcing to Supplier B on Dat 10 - Customer A calls today and requests item to ship on Day 20 - you would need to order the product on Day 14 to arrive on Day 19, then ship on Day 20 - Available-to-promise chooses Supplier B for this order based on Request Date
MSC: Sourcing History Start Date Offset (in months)	Integer >= 0	Null	Offsets the starting date of sourcing history calculations and is used in conjunction with the following collections parameters: • Purge Sourcing History = Yes • Recalculate Sourcing History = Yes These settings delete and then calculate Sourcing History (in months) from the Start date determined by the profile option value (in months). System performance might degrade when you set a high value for this profile option and the high volume of source transaction data is high.

Profile Option Name	Valid Values	Default Value	Description
MSC: Use Enhanced Forward ATP	Yes/No	No	Use this profile option to specify whether the GOP engine should use enhanced forward ATP: Valid values are: - Yes: Use enhanced forward ATP - No: Do not use enhanced forward ATP
MSC: Use Shipping/Receiving Calendars	Yes No	Yes	Determines whether shipping/receiving/carrier calendars are used for order promising. Values are: • Yes: Uses the shipping, receiving, and carrier calendars to schedule ship and arrival dates. • No: Uses only the organization's manufacturing calendar to schedule ship dates at each level.

INV Profile Options

The following table lists and defines the INV profile options used by Oracle Global Order Promising:

Profile Option Name	Valid Values	Default Value	Description
INV: Capable to Promise	ATP/CTP Based on Planning Output ATP Based on Collected Data	ATP Based on Collected Data	This is a site-level profile. Values are: • ATP/CTP Based on Planning Output: Select this value if you want to use the Oracle Advanced Supply Chain Planning output for order promising. • ATP Based on Collected Data: Select this value if you want to use collected data for order promising.

Profile Option Name	Valid Values	Default Value	Description
INV: External ATP	Global ATP Server None	-	Only applicable for Oracle Global Order Promising for non-Oracle Applications on Release 11*i* source. Set up only on the source instance. Do not set this up for an Oracle Applications Release 11*i* instance. Set this profile to Global ATP Server if Oracle Global Order Promising is deployed. This is a site level profile.

BOM Profile Options

The following table lists and defines the BOM profile option used by Oracle Global Order Promising:

Profile Option Name	Valid Values	Default Value	Description
BOM: Match To Existing Configuration	• Yes • No	No	Determines whether Oracle Global Order Promising matches a sales order to an existing configuration. Values are: • Yes: Attempts to match a sales order to an existing configuration. • No: Schedules a sales order without a match to existing configuration check.

B

Application Program Interface

This appendix covers the following topics:

- Available-To-Promise Application Program Interface

Available-To-Promise Application Program Interface

Description

The Available-To-Promise (ATP) API is a public API that can be used to calculate the material and resource availability across a supply chain. The API accepts information about an item or group of items, checks the availability for the items and returns the availability picture for the items.

The specification of the ATP API follows:

PROCEDURE Call_ATP

p_session_id	IN OUT	NUMBER,
p_atp_rec	IN	MRP_ATP_PUB.ATP_Rec_Typ,
x_atp_rec	OUT NOCOPY	MRP_ATP_PUB.ATP_Rec_Typ,
x_atp_supply_demand	OUT NOCOPY	MRP_ATP_PUB. ATP_Supply_Demand_Typ,
x_atp_period	OUT NOCOPY	MRP_ATP_PUB.ATP_Period_Typ,
x_atp_details	OUT NOCOPY	MRP_ATP_PUB.ATP_Details_Typ,

x_return_status	OUT	VARCHAR2,
x_msg_data	OUT	VARCHAR2,
x_msg_count	OUT	NUMBER

Where:

1. p_session_id: This is the session identifier of the user transaction. The session id is passed to ATP API from the calling module. Call msc_atp_global. get_atp_session_id(.....) API; this will guarantee that session_id remains unique through various calls.

2. p_atp_rec: This record of tables contains information about items for which resource and material availability check needs to be done. This record is explained in detail in another section.

3. x_atp_rec: This record of table contains resource and material availability information generated by ATP for items passed to ATP API in p_atp_rec. This record is explained in detail in another section.

4. x_atp_supply_demand: This record of tables contains information about supplies and demands ATP considered to check the availability. This record is explained in detail later in another section.

5. x_atp_period: This record of tables contains net supply and demand picture for the items for the whole time horizon during which availability is checked. This record is explained in detail later in the document.

6. x_atp_details: This record of tables is not used by ATP.

7. x_return_status: This variable contains the overall status of ATP check. There are three possible value for this variable:

   - FND_API.G_RET_STS_SUCCESS: The return value is 'S'. It means ATP request was successful.

   - FND_API.G_RET_STS_ERROR: The return value is 'E'. It means that some error occurred during ATP check.

   - FND_API.G_RET_STS_UNEXP_ERROR; The return value is 'U'. It means that an unexpected error occurred during ATP check.

8. x_msg_data: This variable is not used by ATP.

9. x_msg_count: This variable is not used by ATP.

Nested Tables

The following nested tables are used for defining data types of members in a record:

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6
TYPE	number_arr	IS	TABLE	of	number
TYPE	char1_arr	IS	TABLE	of	varchar2(1)
TYPE	char3_arr	IS	TABLE	of	varchar2 (3Available-To-Promise
TYPE	char7_arr	IS	TABLE	of	varchar2 (7Available-To-Promise
TYPE	char10_arr	IS	TABLE	of	varchar2 (10Available-To-Promise
TYPE	char15_arr	IS	TABLE	of	varchar2 (15Available-To-Promise
TYPE	char20_arr	IS	TABLE	of	varchar2 (20Available-To-Promise
TYPE	char30_arr	IS	TABLE	of	varchar2 (30Available-To-Promise
TYPE	char40_arr	IS	TABLE	of	varchar2 (40Available-To-Promise
TYPE	char80_arr	IS	TABLE	of	varchar2 (80Available-To-Promise

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6
TYPE	char2000_arr	IS	TABLE	of	varchar2 (2000);
TYPE	date_arr	IS	TABLE	of	date;

Description of MRP_ATP_PUB.ATP_Rec_Typ

Call MSC_ATP_CLOBAL.Extend_ATP for extending this record

TYPE ATP_Rec_Typ is RECORD

Row_Id	char30_arr,
Instance_Id	number_arr,
Inventory_Item_Id	number_arr,
Inventory_Item_Name	char40_arr,
Source_Organization_Id	number_arr,
Source_Organization_Code	char7_arr,
Organization_Id	number_arr,
Identifier	number_arr,
Demand_Source_Header_Id	number_arr,
Demand_Source_Delivery	char30_arr,
Demand_Source_Type	number_arr,
Scenario_Id	number_arr,
Calling_Module	number_arr,
Customer_Id	number_arr,

Customer_Site_Id	number_arr,
Destination_Time_Zone	char30_arr,
Quantity_Ordered	number_arr,
Quantity_UOM	char3_arr,
Requested_Ship_Date	date_arr,
Requested_Arrival_Date	date_arr,
Earliest_Acceptable_Date	date_arr,
Latest_Acceptable_Date	date_arr,
Delivery_Lead_Time	number_arr,
Freight_Carrier	char30_arr,
Ship_Method	char30_arr,
Demand_Class	char30_arr,
Ship_Set_Name	char30_arr,
Arrival_Set_Name	char30_arr,
Override_Flag	char1_arr,
Action	number_arr,
Ship_Date	date_arr,
Arrival_Date	date_arr,
Available_Quantity	number_arr,
Requested_Date_Quantity	number_arr,
Group_Ship_Date	date_arr,

Group_Arrival_Date	date_arr,
Vendor_Id	number_arr,
Vendor_Name	char80_arr,
Vendor_Site_Id	number_arr,
Vendor_Site_Name	char80_arr,
Insert_Flag	number_arr,
OE_Flag	char1_arr,
Atp_Lead_Time	number_arr,
Error_Code	number_arr,
Message	char2000_arr,
End_Pegging_Id	number_arr,
Order_Number	number_arr,
Old_Source_Organization_Id	number_arr,
Old_Demand_Class	char30_arr
Ato_delete_flag	char1_arr,
Attribute_01	number_arr,
Attribute_02	number_arr,
Attribute_03	number_arr,
Attribute_04	number_arr,
Attribute_05	char30_arr,
Attribute_06	char30_arr,

Attribute_07	char30_arr,
Attribute_08	char30_arr,
Attribute_09	date_arr,
Attribute_10	date_arr,
Customer_name	char80_arr,
Customer_class	char30_arr,
Customer_location	char40_arr,
Customer_country	char60_arr,
Customer_state	char60_arr,
Customer_city	char60_arr,
Customer_postal_code	char60_arr,
Substitution_typ_code	number_arr,
Req_item_detail_flag	number_arr,
Request_item_id	number_arr,
Req_item_req_date_qty	number_arr,
Req_item_available_date	date_arr,
Req_item_available_date_qty	number_arr,
Request_item_name	char40_arr,
Old_inventory_item_id	number_arr,
Sales_rep	char255_arr,
Customer_contact	char255_arr,

Subst_flag	number_arr,
Top_Model_line_id	number_arr,
ATO_Parent_Model_Line_Id	number_arr,
ATO_Model_Line_Id	number_arr,
Parent_line_id	number_arr,
Match_item_id	number_arr,
Config_item_line_id	number_arr,
Validation_Org	number_arr,
Component_Sequence_ID	number_arr,
Component_Code	char255_arr,
Line_number	char80_arr,
Included_item_flag	number_arr,
Atp_flag	char1_arr,
Atp_components_flag	char1_arr,
Wip_supply_type	number_arr,
Bom_item_type	number_arr,
Mandatory_item_flag	number_arr,
Pick_components_flag	char1_arr,
Base_model_id	number_arr,
Oss_error_code	number_arr,
Matched_item_name	char255_arr,

Cascade_model_info_to_comp	number_arr,
Sequence_number	number_arr,
Firm_flag	number_arr,
Order_line_number	number_arr,
Option_number	number_arr,
Shipment_number	number_arr,
Item_desc	char255_arr,
Old_line_schedule_date	date_arr,
Old_source_organization_code	char7_arr,
Firm_source_org_id	number_arr,
Firm_source_org_code	char7_arr,
Firm_ship_date	date_arr,
Firm_arrival_date	date_arr,
Ship_method_text	char255_arr,
Ship_set_id	number_arr,
Arrival_set_id	number_arr,
Project_id	number_arr,
Task_id	number_arr,
Project_number	char30_arr,
Task_Number	char30_arr,
Attribute_11	number_arr,

Attribute_12	number_arr,
Attribute_13	number_arr,
Attribute_14	number_arr,
Attribute_15	char30_arr,
Attribute_16	char30_arr,
Attribute_17	char30_arr,
Attribute_18	char30_arr,
Attribute_19	date_arr,
Attribute_20	date_arr,
Attribute_21	number_arr,
Attribute_22	number_arr,
Attribute_23	number_arr,
Attribute_24	number_arr,
Attribute_25	char30_arr,
Attribute_26	char30_arr,
Attribute_27	char30_arr,
Attribute_28	char30_arr,
Attribute_29	date_arr,
Attribute_30	date_arr,
Atf_date	date_arr,
Plan_id	number_arr,

Original_request_date	date_arr,
Receiving_cal_code	char14_arr,
Intransit_cal_code	char14_arr,
Shipping_cal_code	char14_arr,
Manufacturing_cal_code	char14_arr,
Internal_org_id	number_arr,
First_valid_ship_arrival_date	date_arr
Party_site_id	number_arr,

1.	Row_Id: The row_id in database for an order. This field is used only in 10.7 and 11.0 versions of application. This field is optional for later versions.
2.	Instance_Id: Instance identifiers of the requesting module. This is mandatory if calling_module is 724. For other calling modules, instance_id is obtained from MRP_AP_APPS_INSTANCES.
3.	Inventory_Item_Id: Inventory Item ID for which the ATP check needs to be done. This field is mandatory.
4.	Inventory_Item_Name: Name of the items. If not provided, then ATP may populate this field.
5.	Source_Organization_Id: Shipping Organization ID. This is the inventory organization that you want the ATP check performed against. If not provided, ATP calculates the shipping organization ID using sourcing rules based on provided customer_site_id/organization_id.
6.	Source_Organization_Code: Shipping Organization Code. ATP populates this field based on Source_Organization_Id.
7.	Organization_Id: Receiving organization ID. Either organization_id or customer_id must be provided but both should not be provided.

8.	Identifier: Order line ID. This field is mandatory for scheduling, unscheduling, and rescheduling.
9.	Demand_Source_Header_Id: Header ID for Order. This field is not mandatory.
10.	Demand_Source_Delivery: This field is used along with demand_source_header_id and demand_source_type to uniquely identify an order in Order Management. This field is not mandatory.
11.	Demand_Source_Type: This field is used along with demand_source_header_id and demand_source_delivery to uniquely identify an order in Order Management. This field is not mandatory.
12.	Scenario_Id: This field is for ATP internal use.
13.	Calling_Module: Module that called ATP. • 724 indicates planning server • 660 indicates OM • 708 indicates configurator • -1 indicates backlog scheduling workbench
14.	Customer_Id: ID of the customer for whom ATP check needs to be done. Either organization_id or customer_id must be provided but both should not be provided.
15.	Customer_Site_Id: Ship to Site ID of the receiving Customer Site. If this field is not provided then ATP cannot do global sourcing and ship method/delivery lead time calculation.
16.	Destination_Time_Zone: Time zone of the requesting organization. ATP does not support this field at present.
17.	Quantity_Ordered: Quantity ordered for the items expressed in Quantity_UOM. This field is mandatory. For unscheduling, this field must be 0.
18.	Quantity_UOM: Unit of measurement of items ordered. This field is mandatory.
19.	Requested_Ship_Date: Requested ship date for the items. Either requested_ship_date or requested_arrival_date must be provided but both should not be provided.

20.	Requested_Arrival_Date: Requested arrival date for the items. Either requested_ship_date or requested_arrival_date must be provided but both should not be provided.
21.	Earliest_Acceptable_Date: Earliest acceptable date by which the requester is ready to accept the order in case ATP check fails on requested ship or arrival date. This feature is not used by ATP at present.
22.	Latest_Acceptable_Date: Latest acceptable date by which the requester is ready to accept the order in case ATP check fails on requested ship or arrival date.
23.	Delivery_Lead_Time: Delivery lead time between shipping and receiving organization. If not provided, then ATP calculates it based on ship method provided to ATP or else default ship method setup between ship-from Org and ship-to site. Customer_Site_ID must be provided for ATP to make this calculation.
24.	Freight_Carrier: Freight Carrier used for the shipment. This feature is not used by ATP at present.
25.	Ship_Method: Ship method to be used for shipping. If delivery_lead_time is provided then this is not required. Otherwise, ATP tries to calculate delivery_lead_time based on provided ship method. If the ship_method provided is not a valid one between the source organization and receiving organization/customer, then ATP uses the default shipping method. If the default shipping method is set between the source organization and receiving organization/customer, then ATP will assign the default ship method to this field else this field will be left empty. Customer_Site_ID must be provided for ATP to make this calculation.
26.	Demand_Class: Demand class under which customer or requesting organization falls. This field is not mandatory.
27.	Ship_Set_Name: Name of the ship-set. For line items, this field remains empty. Either Ship_set_name or Arrival_Set_Name should be passed, and not both. All lines in a set must be passed consecutively.
28.	Arrival_Set_Name: Name of the arrival-set. For line items, this field remains empty. Either Ship_set_name or Arrival_Set_Name should be passed, and not both.

29.	Override_Flag: Indicates ATP to honor the requested date irrespective of availability of the requested items. Possible values: • Y • N
30.	Action: Type of Inquiry. This field is mandatory. Possible Values: • 100 - ATP Inquiry • 110 - Scheduling • 120 - Rescheduling
31.	Ship_Date: Date on which requested item will be shipped. This field is populated by ATP.
32.	Arrival_Date: Date on which requested item will arrive. This field is populated by ATP.
33.	Available_Quantity: Quantity available on ship date. This field is populated by ATP.
34.	Requested_Date_Quantity: Quantity available on requested ship/arrival date. This field is populated by ATP.
35.	Group_Ship_Date: Ship date for whole ship set. This field is populated by ATP in case of ship set.
36.	Group_Arrival_Date: Arrival date for arrival set. This field is populated by ATP for both ship set and arrival set.
37.	Vendor_Id: Vendor ID from where item needs to be requested. This field is not used by ATP.
38.	Vendor_Name: Vendor Name. This field is not used by ATP.
39.	Vendor_Site_Id: ID of vendor site from where item needs to be requested. This field is not used by ATP.
40.	Vendor_Site_Name: Vendor site name. This field is not used by ATP.

41. Insert_Flag: Flag to indicate if supply/demand and period details are calculated or not. If this field is set to 1, then ATP calculates supply/demand and period details. Unless the user needs to see supply demand details, for performance reasons this field should be set to something other than 1.

42. OE_Flag: Indicates if it is an internal sales order or not. Possible values:

- Y
- N

43. Atp_Lead_Time: ATP Lead Time for Configure-to-Order Models/ Option Classes/ Option Items etc. This field is populated by ATP.

44. Error_Code: Error code of the error occurred during ATP check. Check MTL_DEMAND_INTERFACE _ERRORS lookup for a complete list of error codes and corresponding error messages.

45. Message: Error message for the error occurred during ATP check. This field is not used by ATP.

46. End_Pegging_Id: Pegging ID for the ultimate parent. This field is populated by ATP.

47. Order_Number: Order number in Order management.

48. Old_Source_Organization_Id: This field is used for unscheduling/rescheduling and indicates ID of Organization where item was scheduled initially.

49. Old_Demand_Class: Used for unscheduling/rescheduling and indicates the demand class under which item was scheduled initially.

50. Ato_delete_flag: Indicates if the item requested for Unscheduling is part of an ATO Model. Possible values are Y or N. This field is obsolete in 11.5.10.

51. Attribute_01: Used for passing source document line id for internal sales orders.

52. Attribute_02: Used for diagnostic ATP.

- 1 for on
- 2 for off

53. Attribute_03: Reserved for future ATP functionalities.

54.	Attribute_04: ATP uses this flag internally to pass refresh number in 24x7 processing.
55.	Attribute_05: ATP uses this flag internally to pass visible demand flag for ATO items.
56.	Attribute_06: ATP uses this flag internally to pass ATP_FLAG for an item from source to destination
57.	Attribute_07: ATP uses this flag internally to pass back the name of the plan used by ATP for inquiry.
58.	Attribute_08: Reserved for future ATP functionalities.
59.	Attribute_09: Reserved for future ATP functionalities.
60.	Attribute_10: Reserved for future ATP functionalities.
61.	Customer_name: Name of ship-to customer entered on the sales order pad. Currently, this field is not used by ATP.
62.	Customer_class: Reserved for future ATP functionalities.
63.	Customer_location: Customer location of ship-to customer entered on the sales order pad. Currently, this field is not used by ATP.
64.	Customer_country: Country of ship-to customer entered on the sales order pad.
65.	Customer_state: State of ship-to customer entered on the sales order pad.
66.	Customer_city: City of ship-to customer entered on the sales order pad.
67.	Customer_postal_code: Postal code of ship-to customer entered on the sales order pad.

68. Substitution_typ_code: Type of substitution that should be performed on the line. Possible values:

- All or Nothing
- Mixed
- Refer to item attribute
- No Substitution

69. Req_item_detail_flag: Indicates whether ATP details of original items should be provided or not in case a substitute is used to satisfy the demand.

- 1 - Provide requested item's details
- 2 - Do not provide requested item's details.

70. Request_item_id: Source inventory item id of the requested item in case substitute is used to satisfy the demand.

71. Req_item_req_date_qty: Request date quantity for requested item. This field is populated by ATP only if the Req_item_detail_flag field is set to 1 and susbtitution occurs. .

72. Req_item_available_date: Date on which requested item is available. This field is populated by ATP only if the Req_item_detail_flag field is set to 1 and substitution occurs.

73. Req_item_available_date_qty: Quantity of requested item on ATP date. This field is populated by ATP only if the Req_item_detail_flag field is set to 1. This field is populated only if substitution occurs.

74. Request_item_name: Name of the requested item. This field is populated only if substitution occurs.

75. Old_inventory_item_id: Source inventory item ID for the item used during last scheduling session for the line.

76. Sales_rep: Name of the sales representatives listed on the order line. If this is not provided, then workflow notification is not sent in case of substitution.

77. Customer_contact: Name of the customer contact listed on the order line. If this is not provided, then workflow notification is not sent in case of substitution.

78.	Subst_flag: Contains 1 if substitution occurs for the line.
79.	Top_Model_line_id: Line ID of the top model for an ATO/PTO configuration
80.	ATO_Parent_Model_Line_Id: Line ID of parent ATO configuration.
81.	ATO_Model_Line_Id: Line ID of the top ATO model configuration.
82.	Parent_line_id: Line ID of the parent item in case of ATO/PTO models.
83.	Match_item_id: Source inventory item ID for the matched configuration.
84.	Config_item_line_id: Line ID of the configuration item linked to a sales order.
85.	Validation_Org: Validation organization ID for the calling instance.
86.	Component_Sequence_ID: Sequence ID of an option item/class in the BOM of an ATO model.
87.	Component_Code: Component code of an option item/class in the BOM of an ATO model.
88.	Line_number: Line number of an item on sales order.
89.	Included_item_flag: Indicates whether calling module has already exploded included items for a PTO model/Kit or not. • Null, 1, or 2 - Calling module has exploded included items • 3- Calling module has not exploded included items
90.	Atp_flag: ATP flag for an item. This field is for internal ATP use. .
91.	Atp_components_flag: ATP Components flag for an item. This field is for internal ATP use.
92.	Wip_supply_type: WIP Supply type for an item. This field is for internal ATP use.
93.	Bom_item_type: BOM item type for an item. This field is for internal ATP use.
94.	Mandatory_item_flag: Indicates whether the item is mandatory for PTO model or not. This field is applicable only when the Included_item_flag field is set to 2. This field is for internal ATP use.

95. Pick_components_flag: Pick components flag for an item.

96. Base_model_id: Inventory item id for the base model for a matched configuration.

97. Oss_error_code: Code of the error encountered while evaluating option specific sourcing.

98. Matched_item_name: Name of the matched configuration. This field is populated by ATP in case matched ATO configuration is found.

99. Cascade_model_info_to_comp: Indicates whether availability result information for top ATO model should be cascaded to its components or not. Possible values:

    - Null, 1, 2 - Model information is cascaded to its components.
    - 3 - Model information is not cascaded to its components

100. Sequence_number: Sequence in which items are passed to ATP for availability check.

101. Firm_flag: Indicates whether line has been firmed or not. This field is specifically used for Order Backlog Workbench.

102 Order_line_number: Line number for an item on Order backlog workbench. This field is specifically used for Order Backlog Workbench.

103. Option_number: Number for on option on Order backlog workbench. This field is specifically used for order backlog workbench.

104. Shipment_number: Shipment number for on option on Order backlog workbench. This field is specifically used for Order Backlog Workbench.

105. Item_desc: Description of an item on Order backlog workbench. This field is specifically used for Order Backlog Workbench.

106. Old_line_schedule_date: Old schedule date for a give line on Order Backlog Workbench. This field is specifically used for Order Backlog Workbench.

107. Old_source_organization_code: Code of an organization in which order was last scheduled. This field is specifically used for Order Backlog Workbench.

108. Firm_source_org_id: Code of an organization in which order was last scheduled. This field is specifically used for Order Backlog Workbench.

109.	Firm_source_org_code: Code of the source organization. This field is specifically used for Order Backlog Workbench.
110.	Firm_ship_date: Firm ship date. This field is specifically used for Order Backlog Workbench.
111.	Firm_arrival_date: Firm arrival date. This field is specifically used for Order Backlog Workbench.
112.	Ship_method_text: Ship method description. This field is specifically used for Order Backlog Workbench.
113.	Ship_set_id: ID for the ship set. This field is specifically used for Order Backlog Workbench.
114.	Arrival_set_id: ID for arrival set. This field is specifically used for Order Backlog Workbench.
115.	Project_ID: ID of the project with which line is associated. This field is specifically used for Order Backlog Workbench.
116.	Task_ID: ID of the task with which line is associated. This field is specifically used for Order Backlog Workbench.
117.	Project_number: Project number. This field is specifically used for Order Backlog Workbench.
118.	Task_number: Task number. This field is specifically used for Order Backlog Workbench.
119.	Attribute_11: Reserved for future ATP functionalities.
120.	Attribute_12: Reserved for future ATP functionalities.
121.	Attribute_13: Reserved for future ATP functionalities.
122.	Attribute_14: Reserved for future ATP functionalities.
123.	Attribute_15: Reserved for future ATP functionalities.
124.	Attribute_16: Reserved for future ATP functionalities.
125.	Attribute_17: Reserved for future ATP functionalities

126. Attribute_18: Reserved for future ATP functionalities.

127. 127Attribute_19: Reserved for future ATP functionalities.

128. Attribute_20: Reserved for future ATP functionalities.

129. Attribute_21: Reserved for future ATP functionalites.

130. Attribute_22: Reserved for future ATP functionalities.

131. Attribute_23: Reserved for future ATP functionalities.

132. Attribute_24: Reserved for future ATP functionalities.

133. Attribute_25: Reserved for future ATP functionalities.

134. Attribute_26: Reserved for future ATP functionalities.

135. Attribute_27: Reserved for future ATP functionalities.

136. Attribute_28: Reserved for future ATP functionalities.

137. Attribute_29: Reserved for future ATP functionalities.

138. Attribute_30: Reserved for future ATP functionalities.

139. Atf_date: ATF date associated with the combined item-product family item. This field is used for internal ATP processing.

140. Plan_id: ID of the plan used to satisfy the demand.

141. Original_request_date: Original request date for the order. This field is used for internal ATP processing.

142. Receiving_cal_code: Code for the receiving calendar of the customer associated with the line. This field is used for internal ATP processing.

143. Intransit_cal_code: Code for the In-transit calendar for the customer associated with the line and the source organization. This field is used for internal ATP processing.

144. Shipping_cal_code: Code for the shipping calendar of the source organization. This field is used for internal ATP processing.

145.	Manufacturing_cal_code: Code for the manufacturing calendar of the manufacturing organization. This field is used for internal ATP processing.
146.	Internal_org_id: ID of the receiving organization in case of internal sales order.
147.	First_valid_ship_arrival_date: If the request date type is Ship, this field contains the first valid ship date after the system date as per the shipping calendar for the source organization. If the request date type is Arrival, then this field contains the first valid arrival date after the system date as per the receiving calendar of the customer.
148.	Party_site_ID: This field contains party site indentifier for ship-to customer site
149.	Part_of_set: Used in the context of lines that are added to an existing set. If it is set to Y, ATP will validate the scheduled date with the date passed by Oracle Order management for the existing set. If the scheduled date does not meet the date, it will fail. If it fails, ATP removes the pegging created since leaving it might lead to dual consumption.

Data Validation for ATP_REC_TYPE

- Either requested_ship_date or requested_arrival_date should be provided. Error will be generated if none or both of these dates are provided
- If delivery lead time and source organization id are specified then organization_id and customer_site_id could be null. If either delivery lead time or source organization are not specified, then at least one of these fields should be populated to enable ATP to do global sourcing and delivery lead time calculation.
- Instance_ID must be provided if calling_module is 724.
- Inventory_Item_ID field should contain a valid inventory item ID.
- Quantity_ordered field should contain a valid quantity.
- Quantity_UOM should contain a valid unit of measurement value.
- Action field should contain a valid Action type. See the description of action field for valid values.
- Old_Source_Organization_id and Old_Demand_class should be provided in case of order rescheduling.
- Substitution_typ_code should always be populated if substitution needs to be done for the item.

- Old_inventory_item_id should always be populated for a substituted line in case of order rescheduling.
- Top_Model_line_id, ATO_Model_Line_Id, Parent_line_id, Config_item_line_id, Component_Sequence_ID and Component_Code fields should always be populated for Inquiry on ATO models.
- Either Validation_Org or Source_organization_id field should always be populated.

Description of MRP_ATP_PUB.ATP_Supply_Demand_Typ

TYPE ATP_Supply_Demand_Typ is RECORD

Col. 1	Col. 2
Level	number_arr,
Identifier	number_arr,
Inventory_Item_Id	number_arr,
Request_Item_Id	number_arr,
Organization_Id	number_arr,
Department_Id	number_arr,
Resource_Id	number_arr,
Supplier_Id	number_arr,
Supplier_Site_Id	number_arr,
From_Organization_Id	number_arr,
From_Location_Id	number_arr,
To_Organization_Id	number_arr,
To_Location_Id	number_arr,
Ship_Method	char30_arr,

Col. 1	Col. 2
Uom	char3_arr,
Disposition_Type	number_arr,
Disposition_Name	char80_arr,
Identifier1	number_arr,
Identifier2	number_arr,
Identifier3	number_arr,
Identifier4	number_arr,
Supply_Demand_Type	number_arr,
Supply_Demand_Source_Type	number_arr,
Supply_Demand_Source_Type_Name	char80_arr,
Supply_Demand_Date	date_arr,
Supply_Demand_Quantity	number_arr,
Scenario_Id	number_arr,
Pegging_Id	number_arr,
End_Pegging_Id	number_arr,
Original_Item_Id	number_arr,
Original_Supply_Demand_Type	number_arr,
Original_Demand_Date	date_arr,
Original_Demand_Quantity	number_arr,
Allocated_Quantity	number_arr,

Col. 1	Col. 2
Pf_Display_Flag	number_arr,

1. Level: Indicates the level of supply/demand in pegging.
2. Identifier: A unique identifier to identify a line (Order line number in case of OM).
3. Inventory_Item_Id: Inventory item ID (Product Family ID in case of product family).
4. Request_Item_Id: Inventory Item ID.
5. Organization_Id: Organization ID of Organization where supply/demand is placed.
6. Department_Id: Department ID of the department to which resource belongs.
7. Resource_Id: Resource ID.
8. Supplier_Id: Supplier ID.
9. Supplier_Site_Id: Supplying Site ID.
10. From_Organization_Id: Shipping Organization ID. This field is not used by ATP at present.
11. From_Location_Id: Shipping Location ID. This field is not used by ATP at present.
12. To_Organization_Id: Receiving Organization ID. This field is not used by ATP at present.
13. To_Location_Id: Receiving Location ID. This field is not used by ATP at present.
14. Ship_Method: Ship Method Used. This field is not used by ATP at present.
15. Uom: Unit of Measurement.
16. Disposition_Type: This field is not used by ATP.
17. Disposition_Name: This field contains Order Number.
18. Identifier1: This field contains instance ID.
19. Identifier2: This field is not used by ATP.
20. Identifier3: This field contains demand ID in case of demand, and transaction ID in

case of supplies for resource or components.

21. Identifier4: This field is not used by ATP.
22. Supply_Demand_Type: Type of supply demand. Possible values:
    - 1 - Demand
    - 2 - Supply
23. Supply_Demand_Source_Type: Type of Supply/Demand.
24. Supply_Demand_Source_Type_Name: This field is not used by ATP at present.
25. Supply_Demand_Date: Date of Supply/Demand.
26. Supply_Demand_Quantity: Supply/Demand Quantity.
27. Scenario_Id: This field is not used by ATP at present.
28. Pegging_Id: Pegging ID for the current record.
29. End_Pegging_Id: Top Parent's pegging ID.
30. Original_Item_Id: ID of the Original Item
31. Original_Supply_Demand_Type: Type of the original supply/demand. This is applicable only for supplies and demands of items that are members of time-phased enabled product families.
32. Original_Demand_Date: Date of the original demand. This is applicable only for demands of items that are members of time-phased enabled product families.
33. Original_Demand_Quantity: Quantity of the original demand. This is applicable only for demands of items that are members of time-phased enabled product families.
34. Allocated_Quantity: Allocated quantity of the supply/demand - This field is used for internal ATP processing.
35. Pf_Display_Flag: Indicates whether to display in ATP supply demand window.

Description of MRP_ATP_PUB.ATP_Period_Typ

TYPE ATP_Period_Typ is Record

Col. 1	Col. 2
Level	number_arr,
Identifier	number_arr,
Inventory_Item_Id	number_arr,
Request_Item_Id	number_arr,
Organization_Id	number_arr,
Department_Id	number_arr,
Resource_Id	number_arr,
Supplier_Id	number_arr,
Supplier_Site_Id	number_arr,
From_Organization_Id	number_arr,
From_Location_Id	number_arr,
To_Organization_Id	number_arr,
To_Location_Id	number_arr,
Ship_Method	char30_arr,
UOM	char3_arr,
Total_Supply_Quantity	number_arr,
Total_Demand_Quantity	number_arr,
Period_Start_Date	date_arr,
Period_End_Date	date_arr,
Period_Quantity	number_arr,

Col. 1	Col. 2
Cumulative_Quantity	number_arr,
Identifier1	number_arr,
Identifier2	number_arr,
Scenario_Id	number_arr,
Pegging_Id	number_arr,
End_Pegging_Id	number_arr,
Identifier4	number_arr,
Demand_Class	char80_arr,
Class	char80_arr,
Customer_Id	number_arr,
Customer_Site_Id	number_arr,
Allocated_Supply_Quantity	number_arr,
Supply_Adjustment_Quantity	number_arr,
Backward_Forward_Quantity	number_arr,
Backward_Quantity	number_arr,
Demand_Adjustment_Quantity	number_arr,
Adjusted_Availability_Quantity	number_arr,
Adjusted_Cum_Quantity	number_arr,
Unallocated_Supply_Quantity	number_arr,
Unallocated_Demand_Quantity	number_arr,

Col. 1	Col. 2
Unallocated_Net_Quantity	number_arr,
Total_Bucketed_Demand_Quantity	number_arr,
Unalloc_Bucketed_Demand_Qty	number_arr

1. Level: Indicates the level of supply/demand in pegging.
2. Identifier: A unique identifier to identify a line (Order line ID in case of OM).
3. Inventory_Item_Id: Inventory Item ID (Product family ID in case of product family).
4. Request_Item_Id: Inventory Item ID.
5. Organization_Id: Organization ID of the organization where supply/demand is placed.
6. Department_Id: Department ID of the department to which resource belongs.
7. Resource_Id: Resource ID.
8. Supplier_Id: Supplier ID.
9. Supplier_Site_Id: Supplying site ID.
10. From_Organization_Id: Shipping Organization ID. This field is not used by ATP at present.
11. From_Location_Id: Shipping Location ID. This field is not used by ATP at present.
12. To_Organization_Id: Receiving Organization ID. This field is not used by ATP at present.
13. To_Location_Id: Shipping Organization ID. This field is not used by ATP at present.
14. Ship_Method: Ship Method used. This field is not used by ATP at present.
15. Uom: Unit of Measurement.
16. Total_Supply_Quantity: Total supplies for a period.
17. Total_Demand_Quantity: Total demands for a period.

18. Period_Start_Date: Start date for a period.

19. Period_End_Date: End date for a period.

20. Period_Quantity: Net Supply-Demand quantity for that period.

21. Cumulative_Quantity: Cumulative quantity for a period after doing backward consumption, forward consumption and accumulation.

22. Identifier1: Instance ID.

23. Identifier2: This field is not used by ATP.

24. Scenario_Id: This field is for ATP internal use.

25. Pegging_Id: Pegging ID for the current record.

26. End_Pegging_Id: Pegging ID of the top parent.

27. Identifier4: Sysdate allocation percentage. Used by allocation workbench during allocated ATP based on user defined allocation percentage.

28. Demand_Class: Demand class. Used by allocation workbench.

29. Class: Customer class. Used by allocation workbench.

30. Customer_Id: Customer ID. Used by allocation workbench.

31. Customer_Site_Id: Customer site ID. Used by allocation workbench.

32. Allocated_Supply_Quantity: Supply allocated to a demand class on a date. Used by allocation workbench.

33. Supply_Adjustment_Quantity: Supply adjustment. Used by allocation workbench.

34. Backward_Forward_Quantity: Figures after backward and forward consumption. Used by allocation workbench.

35. Backward_Quantity: Figures after backward consumption. Used by allocation workbench.

36. Demand_Adjustment_Quantity: Demand adjustment. Used by allocation workbench.

37. Adjusted_Availability_Quantity: Figures after demand class consumption. Used by allocation workbench.

38. Adjusted_Cum_Quantity: Adjusted cumulative quantity. Used by allocation

workbench.

39. Unallocated_Supply_Quantity: Unallocated supply. Used by allocation workbench.

40. Unallocated_Demand_Quantity: Unallocated demand. Used by allocation workbench.

41. Unallocated_Net_Quantity: Unallocated net. Used by allocation workbench.

42. Total_Bucketed_Demand_Quantity: Bucketed Demand. Used only in PF time phased ATP.

43. Unalloc_Bucketed_Demand: Unallocated bucketed demand. Used in rule based and time phased ATP.

Description of MRP_ATP_PUB.ATP_Details_Typ

TYPE ATP_Details_Typ is RECORD

Col. 1	Col. 2
Level	number_arr,
Identifier	number_arr,
Request_Item_Id	number_arr,
Request_Item_Name	char40_arr,
Inventory_Item_Id	number_arr,
Inventory_Item_Name	char40_arr,
Organization_Id	number_arr,
Organization_Code	char3_arr,
Department_Id	number_arr,
Department_Code	char10_arr,
Resource_Id	number_arr,

Col. 1	Col. 2
Resource_Code	char10_arr,
Supplier_Id	number_arr,
Supplier_Name	char80_arr,
Supplier_Site_Id	number_arr,
From_Organization_Id	number_arr,
From_Organization_Code	char3_arr,
From_Location_Id	number_arr,
From_Location_Code	char20_arr,
To_Organization_Id	number_arr,
To_Organization_Code	char3_arr,
To_Location_Id	number_arr,
To_Location_Code	char20_arr,
Ship_Method	char30_arr,
Uom	char3_arr,
Supply_Demand_Type	number_arr,
Supply_Demand_Quantity	number_arr,
Source_Type	number_arr,
Identifier1	number_arr,
Identifier2	number_arr,
Identifier3	number_arr,

Col. 1	Col. 2
Identifier4	number_arr,
Scenario_Id	number_arr

Available-To-Promise

ATP does not use ATP_Details_Typ at present.

MSC_ATP_CUSTOM.CUSTOM_POST_ATP_API

Type MSC_ATP_CUSTOM is package.

This package provides the framework for customers and consultants to:

- Extend the ATP post plan allocation
- Manipulate the output of ATP Call

Extend the ATP post plan allocation

Before ATP post plan allocation, a call is made to the hook MSC_ATP_CUSTOM. Custom_Pre_Allocation, passing the plan_id as a parameter. In the hook, custom code can be written for any processing before ATP post plan allocation.

> **Note:** All the exceptions raised are caught in the calling procedure and ATP post plan allocation continues as if there were no exception.

Manipulate the output of ATP Call

After ATP call is made, then a call is made to the hook MSC_ATP_CUSTOM. Custom_Post_ATP_API with parameter details.

- p_atp_rec -- Input table. This table contains information generated by ATP engine. This is same as MRP_ATP_PUB.ATP_Rec_Typ for which details are given in CALL_ATP API public documentation.
- x_atp_rec -- Output table. This table contains modified information.
- x_modify_flag -- This flag indicates whether information generated by ATP is modified in this API or not. Values:
    - 1- Information has been modified
    - 2- No Changes

- x_return_status -- Return Status from the API

To print any debug message in the concurrent program log file a call could be made to the procedure MSC_UTIL.Msc_Log passing the string to be printed as a parameter.

Description of MSC_ATP_CUSTOM.CUSTOM_POST_ATP

Call MSC_ATP_CLOBAL.Extend_ATP for extending this record

TYPE ATP_Rec_Typ is RECORD

Row_Id	char30_arr,
Instance_Id	number_arr,
Inventory_Item_Id	number_arr,
Inventory_Item_Name	char40_arr,
Source_Organization_Id	number_arr,
Source_Organization_Code	char7_arr,
Organization_Id	number_arr,
Identifier	number_arr,
Demand_Source_Header_Id	number_arr,
Demand_Source_Delivery	char30_arr,
Demand_Source_Type	number_arr,
Scenario_Id	number_arr,
Calling_Module	number_arr,
Customer_Id	number_arr,
Customer_Site_Id	number_arr,
Destination_Time_Zone	char30_arr,

Quantity_Ordered	number_arr,
Quantity_UOM	char3_arr,
Requested_Ship_Date	date_arr,
Requested_Arrival_Date	date_arr,
Earliest_Acceptable_Date	date_arr,
Latest_Acceptable_Date	date_arr,
Delivery_Lead_Time	number_arr,
Freight_Carrier	char30_arr,
Ship_Method	char30_arr,
Demand_Class	char30_arr,
Ship_Set_Name	char30_arr,
Arrival_Set_Name	char30_arr,
Override_Flag	char1_arr,
Action	number_arr,
Ship_Date	date_arr,
Arrival_Date	date_arr,
Available_Quantity	number_arr,
Requested_Date_Quantity	number_arr,
Group_Ship_Date	date_arr,
Group_Arrival_Date	date_arr,
Vendor_Id	number_arr,

Vendor_Name	char80_arr,
Vendor_Site_Id	number_arr,
Vendor_Site_Name	char80_arr,
Insert_Flag	number_arr,
OE_Flag	char1_arr,
Atp_Lead_Time	number_arr,
Error_Code	number_arr,
Message	char2000_arr,
End_Pegging_Id	number_arr,
Order_Number	number_arr,
Old_Source_Organization_Id	number_arr,
Old_Demand_Class	char30_arr
Ato_delete_flag	char1_arr,
Attribute_01	number_arr,
Attribute_02	number_arr,
Attribute_03	number_arr,
Attribute_04	number_arr,
Attribute_05	char30_arr,
Attribute_06	char30_arr,
Attribute_07	char30_arr,
Attribute_08	char30_arr,

Attribute_09	date_arr,
Attribute_10	date_arr,
Customer_name	char80_arr,
Customer_class	char30_arr,
Customer_location	char40_arr,
Customer_country	char60_arr,
Customer_state	char60_arr,
Customer_city	char60_arr,
Customer_postal_code	char60_arr,
Substitution_typ_code	number_arr,
Req_item_detail_flag	number_arr,
Request_item_id	number_arr,
Req_item_req_date_qty	number_arr,
Req_item_available_date	date_arr,
Req_item_available_date_qty	number_arr,
Request_item_name	char40_arr,
Old_inventory_item_id	number_arr,
Sales_rep	char255_arr,
Customer_contact	char255_arr,
Subst_flag	number_arr,
Top_Model_line_id	number_arr,

ATO_Parent_Model_Line_Id	number_arr,
ATO_Model_Line_Id	number_arr,
Parent_line_id	number_arr,
Match_item_id	number_arr,
Config_item_line_id	number_arr,
Validation_Org	number_arr,
Component_Sequence_ID	number_arr,
Component_Code	char255_arr,
Line_number	char80_arr,
Included_item_flag	number_arr,
Atp_flag	char1_arr,
Atp_components_flag	char1_arr,
Wip_supply_type	number_arr,
Bom_item_type	number_arr,
Mandatory_item_flag	number_arr,
Pick_components_flag	char1_arr,
Base_model_id	number_arr,
Oss_error_code	number_arr,
Matched_item_name	char255_arr,
Cascade_model_info_to_comp	number_arr,
Sequence_number	number_arr,

Firm_flag	number_arr,
Order_line_number	number_arr,
Option_number	number_arr,
Shipment_number	number_arr,
Item_desc	char255_arr,
Old_line_schedule_date	date_arr,
Old_source_organization_code	char7_arr,
Firm_source_org_id	number_arr,
Firm_source_org_code	char7_arr,
Firm_ship_date	date_arr,
Firm_arrival_date	date_arr,
Ship_method_text	char255_arr,
Ship_set_id	number_arr,
Arrival_set_id	number_arr,
Project_id	number_arr,
Task_id	number_arr,
Project_number	char30_arr,
Task_Number	char30_arr,
Attribute_11	number_arr,
Attribute_12	number_arr,
Attribute_13	number_arr,

Attribute_14	number_arr,
Attribute_15	char30_arr,
Attribute_16	char30_arr,
Attribute_17	char30_arr,
Attribute_18	char30_arr,
Attribute_19	date_arr,
Attribute_20	date_arr,
Attribute_21	number_arr,
Attribute_22	number_arr,
Attribute_23	number_arr,
Attribute_24	number_arr,
Attribute_25	char30_arr,
Attribute_26	char30_arr,
Attribute_27	char30_arr,
Attribute_28	char30_arr,
Attribute_29	date_arr,
Attribute_30	date_arr,
Atf_date	date_arr,
Plan_id	number_arr,
Original_request_date	date_arr,
Receiving_cal_code	char14_arr,

Intransit_cal_code	char14_arr,
Shipping_cal_code	char14_arr,
Manufacturing_cal_code	char14_arr,
Internal_org_id	number_arr,
First_valid_ship_arrival_date	date_arr
Party_site_id	number_arr,

1.	Row_Id: The row_id in database for an order. This field is used only in 10.7 and 11.0 versions of application. This field is optional for later versions.
2.	Instance_Id: Instance identifiers of the requesting module. This is mandatory if calling_module is 724. For other calling modules, instance_id is obtained from MRP_AP_APPS_INSTANCES.
3.	Inventory_Item_Id: Inventory Item ID for which the ATP check needs to be done. This field is mandatory.
4.	Inventory_Item_Name: Name of the items. If not provided, then ATP may populate this field.
5.	Source_Organization_Id: Shipping Organization ID. This is the inventory organization that you want the ATP check performed against. If not provided, ATP calculates the shipping organization ID using sourcing rules based on provided customer_site_id/organization_id.
6.	Source_Organization_Code: Shipping Organization Code. ATP populates this field based on Source_Organization_Id.
7.	Organization_Id: Receiving organization ID. Either organization_id or customer_id must be provided but both should not be provided.
8.	Identifier: Order line ID. This field is mandatory for scheduling, unscheduling, and rescheduling.
9.	Demand_Source_Header_Id: Header ID for Order. This field is not mandatory.

10.	Demand_Source_Delivery: This field is used along with demand_source_header_id and demand_source_type to uniquely identify an order in Order Management. This field is not mandatory.
11.	Demand_Source_Type: This field is used along with demand_source_header_id and demand_source_delivery to uniquely identify an order in Order Management. This field is not mandatory.
12.	Scenario_Id: This field is for ATP internal use.
13.	Calling_Module: Module that called ATP. • 724 indicates planning server • 660 indicates OM • 708 indicates configurator • -1 indicates backlog scheduling workbench
14.	Customer_Id: ID of the customer for whom ATP check needs to be done. Either organization_id or customer_id must be provided but both should not be provided.
15.	Customer_Site_Id: Ship to Site ID of the receiving Customer Site. If this field is not provided then ATP cannot do global sourcing and ship method/delivery lead time calculation.
16.	Destination_Time_Zone: Time zone of the requesting organization. ATP does not support this field at present.
17.	Quantity_Ordered: Quantity ordered for the items expressed in Quantity_UOM. This field is mandatory. For unscheduling, this field must be 0.
18.	Quantity_UOM: Unit of measurement of items ordered. This field is mandatory.
19.	Requested_Ship_Date: Requested ship date for the items. Either requested_ship_date or requested_arrival_date must be provided but both should not be provided.
20.	Requested_Arrival_Date: Requested arrival date for the items. Either requested_ship_date or requested_arrival_date must be provided but both should not be provided.

21. Earliest_Acceptable_Date: Earliest acceptable date by which the requester is ready to accept the order in case ATP check fails on requested ship or arrival date. This feature is not used by ATP at present.

22. Latest_Acceptable_Date: Latest acceptable date by which the requester is ready to accept the order in case ATP check fails on requested ship or arrival date.

23. Delivery_Lead_Time: Delivery lead time between shipping and receiving organization. If not provided, then ATP calculates it based on ship method provided to ATP or else default ship method setup between ship-from Org and ship-to site. Customer_Site_ID must be provided for ATP to make this calculation.

24. Freight_Carrier: Freight Carrier used for the shipment. This feature is not used by ATP at present.

25. Ship_Method: Ship method to be used for shipping. If delivery_lead_time is provided then this is not required. Otherwise, ATP tries to calculate delivery_lead_time based on provided ship method. If the ship_method provided is not a valid one between the source organization and receiving organization/customer, then ATP uses the default shipping method. If the default shipping method is set between the source organization and receiving organization/customer, then ATP will assign the default ship method to this field else this field will be left empty. Customer_Site_ID must be provided for ATP to make this calculation.

26. Demand_Class: Demand class under which customer or requesting organization falls. This field is not mandatory.

27. Ship_Set_Name: Name of the ship-set. For line items, this field remains empty. Either Ship_set_name or Arrival_Set_Name should be passed, and not both. All lines in a set must be passed consecutively.

28. Arrival_Set_Name: Name of the arrival-set. For line items, this field remains empty. Either Ship_set_name or Arrival_Set_Name should be passed, and not both.

29. Override_Flag: Indicates ATP to honor the requested date irrespective of availability of the requested items. Possible values:
    - Y
    - N

30.	Action: Type of Inquiry. This field is mandatory. Possible Values: • 100 - ATP Inquiry • 110 - Scheduling • 120 - Rescheduling
31.	Ship_Date: Date on which requested item will be shipped. This field is populated by ATP.
32.	Arrival_Date: Date on which requested item will arrive. This field is populated by ATP.
33.	Available_Quantity: Quantity available on ship date. This field is populated by ATP.
34.	Requested_Date_Quantity: Quantity available on requested ship/arrival date. This field is populated by ATP.
35.	Group_Ship_Date: Ship date for whole ship set. This field is populated by ATP in case of ship set.
36.	Group_Arrival_Date: Arrival date for arrival set. This field is populated by ATP for both ship set and arrival set.
37.	Vendor_Id: Vendor ID from where item needs to be requested. This field is not used by ATP.
38.	Vendor_Name: Vendor Name. This field is not used by ATP.
39.	Vendor_Site_Id: ID of vendor site from where item needs to be requested. This field is not used by ATP.
40.	Vendor_Site_Name: Vendor site name. This field is not used by ATP.
41.	Insert_Flag: Flag to indicate if supply/demand and period details are calculated or not. If this field is set to 1, then ATP calculates supply/demand and period details. Unless the user needs to see supply demand details, for performance reasons this field should be set to something other than 1.

42.	OE_Flag: Indicates if it is an internal sales order or not. Possible values: • Y • N
43.	Atp_Lead_Time: ATP Lead Time for Configure-to-Order Models/ Option Classes/ Option Items etc. This field is populated by ATP.
44.	Error_Code: Error code of the error occurred during ATP check. Check MTL_DEMAND_INTERFACE _ERRORS lookup for a complete list of error codes and corresponding error messages.
45.	Message: Error message for the error occurred during ATP check. This field is not used by ATP.
46.	End_Pegging_Id: Pegging ID for the ultimate parent. This field is populated by ATP.
47.	Order_Number: Order number in Order management.
48.	Old_Source_Organization_Id: This field is used for unscheduling/rescheduling and indicates ID of Organization where item was scheduled initially.
49.	Old_Demand_Class: Used for unscheduling/rescheduling and indicates the demand class under which item was scheduled initially.
50.	Ato_delete_flag: Indicates if the item requested for Unscheduling is part of an ATO Model. Possible values are Y or N. This field is obsolete in 11.5.10.
51.	Attribute_01: Used for passing source document line id for internal sales orders.
52.	Attribute_02: Used for diagnostic ATP. • 1 for on • 2 for off
53.	Attribute_03: Reserved for future ATP functionalities.
54.	Attribute_04: ATP uses this flag internally to pass refresh number in 24x7 processing.

55.	Attribute_05: ATP uses this flag internally to pass visible demand flag for ATO items.
56.	Attribute_06: ATP uses this flag internally to pass ATP_FLAG for an item from source to destination
57.	Attribute_07: ATP uses this flag internally to pass back the name of the plan used by ATP for inquiry.
58.	Attribute_08: Reserved for future ATP functionalities.
59.	Attribute_09: Reserved for future ATP functionalities.
60.	Attribute_10: Reserved for future ATP functionalities.
61.	Customer_name: Name of ship-to customer entered on the sales order pad. Currently, this field is not used by ATP.
62.	Customer_class: Reserved for future ATP functionalities.
63.	Customer_location: Customer location of ship-to customer entered on the sales order pad. Currently, this field is not used by ATP.
64.	Customer_country: Country of ship-to customer entered on the sales order pad.
65.	Customer_state: State of ship-to customer entered on the sales order pad.
66.	Customer_city: City of ship-to customer entered on the sales order pad.
67.	Customer_postal_code: Postal code of ship-to customer entered on the sales order pad.
68.	Substitution_typ_code: Type of substitution that should be performed on the line. Possible values: • All or Nothing • Mixed • Refer to item attribute • No Substitution

69.	Req_item_detail_flag: Indicates whether ATP details of original items should be provided or not in case a substitute is used to satisfy the demand. • 1 - Provide requested item's details • 2 - Do not provide requested item's details.
70.	Request_item_id: Source inventory item id of the requested item in case substitute is used to satisfy the demand.
71.	Req_item_req_date_qty: Request date quantity for requested item. This field is populated by ATP only if the Req_item_detail_flag field is set to 1 and susbtitution occurs. .
72.	Req_item_available_date: Date on which requested item is available. This field is populated by ATP only if the Req_item_detail_flag field is set to 1 and substitution occurs.
73.	Req_item_available_date_qty: Quantity of requested item on ATP date. This field is populated by ATP only if the Req_item_detail_flag field is set to 1. This field is populated only if substitution occurs.
74.	Request_item_name: Name of the requested item. This field is populated only if substitution occurs.
75.	Old_inventory_item_id: Source inventory item ID for the item used during last scheduling session for the line.
76.	Sales_rep: Name of the sales representatives listed on the order line. If this is not provided, then workflow notification is not sent in case of substitution.
77.	Customer_contact: Name of the customer contact listed on the order line. If this is not provided, then workflow notification is not sent in case of substitution.
78.	Subst_flag: Contains 1 if substitution occurs for the line.
79.	Top_Model_line_id: Line ID of the top model for an ATO/PTO configuration
80.	ATO_Parent_Model_Line_Id: Line ID of parent ATO configuration.
81.	ATO_Model_Line_Id: Line ID of the top ATO model configuration.
82.	Parent_line_id: Line ID of the parent item in case of ATO/PTO models.

83.	Match_item_id: Source inventory item ID for the matched configuration.
84.	Config_item_line_id: Line ID of the configuration item linked to a sales order.
85.	Validation_Org: Validation organization ID for the calling instance.
86.	Component_Sequence_ID: Sequence ID of an option item/class in the BOM of an ATO model.
87.	Component_Code: Component code of an option item/class in the BOM of an ATO model.
88.	Line_number: Line number of an item on sales order.
89.	Included_item_flag: Indicates whether calling module has already exploded included items for a PTO model/Kit or not. • Null, 1, or 2 - Calling module has exploded included items • 3- Calling module has not exploded included items
90.	Atp_flag: ATP flag for an item. This field is for internal ATP use. .
91.	Atp_components_flag: ATP Components flag for an item. This field is for internal ATP use.
92.	Wip_supply_type: WIP Supply type for an item. This field is for internal ATP use.
93.	Bom_item_type: BOM item type for an item. This field is for internal ATP use.
94.	Mandatory_item_flag: Indicates whether the item is mandatory for PTO model or not. This field is applicable only when the Included_item_flag field is set to 2. This field is for internal ATP use.
95.	Pick_components_flag: Pick components flag for an item.
96.	Base_model_id: Inventory item id for the base model for a matched configuration.
97.	Oss_error_code: Code of the error encountered while evaluating option specific sourcing.
98.	Matched_item_name: Name of the matched configuration. This field is populated by ATP in case matched ATO configuration is found.

99.	Cascade_model_info_to_comp: Indicates whether availability result information for top ATO model should be cascaded to its components or not. Possible values: • Null, 1, 2 - Model information is cascaded to its components. • 3 - Model information is not cascaded to its components
100.	Sequence_number: Sequence in which items are passed to ATP for availability check.
101.	Firm_flag: Indicates whether line has been firmed or not. This field is specifically used for Order Backlog Workbench.
102	Order_line_number: Line number for an item on Order backlog workbench. This field is specifically used for Order Backlog Workbench.
103.	Option_number: Number for on option on Order backlog workbench. This field is specifically used for order backlog workbench.
104.	Shipment_number: Shipment number for on option on Order backlog workbench. This field is specifically used for Order Backlog Workbench.
105.	Item_desc: Description of an item on Order backlog workbench. This field is specifically used for Order Backlog Workbench.
106.	Old_line_schedule_date: Old schedule date for a give line on Order Backlog Workbench. This field is specifically used for Order Backlog Workbench.
107.	Old_source_organization_code: Code of an organization in which order was last scheduled. This field is specifically used for Order Backlog Workbench.
108.	Firm_source_org_id: Code of an organization in which order was last scheduled. This field is specifically used for Order Backlog Workbench.
109.	Firm_source_org_code: Code of the source organization. This field is specifically used for Order Backlog Workbench.
110.	Firm_ship_date: Firm ship date. This field is specifically used for Order Backlog Workbench.
111.	Firm_arrival_date: Firm arrival date. This field is specifically used for Order Backlog Workbench.

112.	Ship_method_text: Ship method description. This field is specifically used for Order Backlog Workbench.
113.	Ship_set_id: ID for the ship set. This field is specifically used for Order Backlog Workbench.
114.	Arrival_set_id: ID for arrival set. This field is specifically used for Order Backlog Workbench.
115.	Project_ID: ID of the project with which line is associated. This field is specifically used for Order Backlog Workbench.
116.	Task_ID: ID of the task with which line is associated. This field is specifically used for Order Backlog Workbench.
117.	Project_number: Project number. This field is specifically used for Order Backlog Workbench.
118.	Task_number: Task number. This field is specifically used for Order Backlog Workbench.
119.	Attribute_11: Reserved for future ATP functionalities.
120.	Attribute_12: Reserved for future ATP functionalities.
121.	Attribute_13: Reserved for future ATP functionalities.
122.	Attribute_14: Reserved for future ATP functionalities.
123.	Attribute_15: Reserved for future ATP functionalities.
124.	Attribute_16: Reserved for future ATP functionalities.
125.	Attribute_17: Reserved for future ATP functionalities
126.	Attribute_18: Reserved for future ATP functionalities.
127.	127Attribute_19: Reserved for future ATP functionalities.
128.	Attribute_20: Reserved for future ATP functionalities.
129.	Attribute_21: Reserved for future ATP functionalites.

130.	Attribute_22: Reserved for future ATP functionalities.
131.	Attribute_23: Reserved for future ATP functionalities.
132.	Attribute_24: Reserved for future ATP functionalities.
133.	Attribute_25: Reserved for future ATP functionalities.
134.	Attribute_26: Reserved for future ATP functionalities.
135.	Attribute_27: Reserved for future ATP functionalities.
136.	Attribute_28: Reserved for future ATP functionalities.
137.	Attribute_29: Reserved for future ATP functionalities.
138.	Attribute_30: Reserved for future ATP functionalities.
139.	Atf_date: ATF date associated with the combined item-product family item. This field is used for internal ATP processing.
140.	Plan_id: ID of the plan used to satisfy the demand.
141.	Original_request_date: Original request date for the order. This field is used for internal ATP processing.
142.	Receiving_cal_code: Code for the receiving calendar of the customer associated with the line. This field is used for internal ATP processing.
143.	Intransit_cal_code: Code for the In-transit calendar for the customer associated with the line and the source organization. This field is used for internal ATP processing.
144.	Shipping_cal_code: Code for the shipping calendar of the source organization. This field is used for internal ATP processing.
145.	Manufacturing_cal_code: Code for the manufacturing calendar of the manufacturing organization. This field is used for internal ATP processing.
146.	Internal_org_id: ID of the receiving organization in case of internal sales order.

147.	First_valid_ship_arrival_date: If the request date type is Ship, this field contains the first valid ship date after the system date as per the shipping calendar for the source organization. If the request date type is Arrival, then this field contains the first valid arrival date after the system date as per the receiving calendar of the customer.
148.	Party_site_ID: This field contains party site indentifier for ship-to customer site
149.	Part_of_set: Used in the context of lines that are added to an existing set. If it is set to Y, ATP will validate the scheduled date with the date passed by Oracle Order management for the existing set. If the scheduled date does not meet the date, it will fail. If it fails, ATP removes the pegging created since leaving it might lead to dual consumption.

C

Windows and Navigator Paths

This appendix covers the following topics:

- Windows and Navigation Paths

Windows and Navigation Paths

Refer to the following sources for other windows and application information:

- *Oracle Advanced Planning and Scheduling Implementation and User's Guide*
- *Oracle Application User's Guide*

The following table lists the navigation path for each window.

- Brackets surrounding a path indicate a button selection.
- Logon responsibilities other than Advanced Supply Chain Planner, are indicated just before the navigation path.

Window Names and Navigation Paths

Window Name	Navigation Path
Allocation Rules	ATP > Allocation > Define Allocation Rule
Assign Allocation Rules	ATP > Allocation > Assign Allocation Rules
Assignment Set	Sourcing > Bills of Distribution > [Assignment Set]

Window Name	Navigation Path
ATP Criteria	ATP > ATP Inquiry
ATP Details	ATP > ATP Inquiry > [ATP Details]
ATP Rules	Inventory: Setup > Rules > Available-To-Promise
ATP Sources and Group Availability	Pick Sources
Bills of Distribution	Sourcing > Bills of Distribution
Bills of Material	Manufacturing and Distribution: Bills of Materials > Bills
Collection Workbench	Collections > View Collected Data
Define Priority Rules	Setup > Priority Rules
Find Requests	Other > Request
Horizontal ATP	ATP > ATP Inquiry > [ATP Details] > [Right-click] > Horizontal ATP
Instances	Order Management: Scheduling > ATP > Scheduling Setup > Instances
Item	Inventory: Items > Organization Items
Launch Purge Program for Collected data	Collections > Legacy Systems > Purge Collected Data [Parameters]
Launch SCP Plan	Supply Chain Plan > Launch > [Parameters]
MRPFIND	Order Management > Order, Returns > Schedule Order > [Create/Edit]
Order Backlog Workbench	Order Management > Scheduling > [Schedule]
Order Sequencing	Order Management > Order, Returns > Schedule Order > [Create/Edit] > [Manual Sequence]
Organizations	Other > Change Instance/Organization

Window Name	Navigation Path
Personal Profile Values	Other > Profile
Planning Data Collection	Collections > Oracle Systems > Data Collection
-	Collections > Legacy Systems > Collect Flat File Data
Planning Parameters	Setup > Parameters
Preferences	Tools > Preferences
Progress	Order Management > Order, Returns > Schedule Order > [Create/Edit] > [Manual Sequence] > [Apply] > [Schedule]
Properties	ATP > ATP Inquiry > [ATP Details] > [Right-click] > Properties
Regions	Sourcing > Assign Sourcing Rule > [Region/Zone column LOV]
Requests	Other > Request > [Find]
Resources	Manufacturing and Distribution Manager: Bills of Materials > Routings > Departments > [Resources]
Sales Order Pad	Order Management > Orders, Returns > Sales Order
Schedule Orders	Order Management > Order, Returns > Schedule Order
Sourcing Rules	Sourcing > Sourcing Rules
Sourcing Rule/Bill of Distribution Assignments	Sourcing > View Assignments
-	Sourcing > Assign Sourcing Rules
Submit Request	Other > Request > Submit a New Request] > Single Request
Supply Chain Planner Workbench	Supply Chain Plan > Workbench
-	Supply Chain Plan > View Plan

Window Name	Navigation Path
Supply/Demand	ATP > ATP Inquiry > [ATP Details] > [Right-click] > Supply/Demand
Transit Times	Manufacturing and Distribution: Order Management > Shipping > Setup > Regions and Zones > Transit Times
View Allocations	ATP > Allocation > View Allocation
View Assignment	Sourcing > View Assignments
View Bill of Distribution	Sourcing > View Bills of Distribution
View Sourcing Assignment Hierarchy	Sourcing > View Sourcing Hierarchy
View Sourcing Rule	Sourcing > View Sourcing Rules
Work Dates	View Work Dates

Glossary

action message

Output of the MRP process that identifies a type of action to be taken to correct a current or potential material coverage problem.

aggregate resources

The summation of all requirements of multi-department resources across all departments that use it.

allocated ATP

This term is used to describe the ability to allocate scarce supply, whether it's finished goods, or a key components or resources, to various demand channels. Whether you are performing ATP or CTP, the allocation is being considered for order promising. See Feature Highlight: ***Allocation.***

alternate bill of material

An alternate list of component items you can use to produce an assembly.

alternate resources

Different resource or a group of different resources that can be used instead of primary resource or group of resources in the job operation. Each resource, or group of resources, can form an alternate group. Alternative scheduling is when the primary group can be replaced by an alternate group in the job operation.

alternate routing

An alternate manufacturing process you can use to produce an assembly.

alternate unit of measure

All other units of measure defined for an item, excluding the primary unit of measure.

API

An application programming interface (API) is a published interface to accomplish a business or scientific function. An API defines a contract to its users by guaranteeing a published interface , but it hides the implementation details.

assemble-to-order (ATO)

An environment where you open a final assembly order to assemble items that customers order. Assemble-to-order is also an item attribute that you can apply to standard, model, and option class items.

assembly

An item that has a bill of material. You can purchase or manufacture an assembly item. *see***assemble-to-order, bill of material.**

assignment hierarchy

You can assign sourcing rules and bills of distribution to a single item n an inventory organization, all items in an inventory organization, categories of items in an inventory organization, a site, and an organization. These assignments have an order of precedence relative to one another.

assignment set

A group of sourcing rules and/or bills of distribution and a description of the items and/or organizations whose replenishment they control.

ATO

*See***assemble-to-order.**

ATO item

S*ee* **assemble-to-order item.**

ATO model

*See***assemble-to-order model.**

ATP (Available to Promise)

ATP (Available to Promise) typically refers to the ability to promise finished goods availability based on a statement of current and planned material supply.

ATP

*See***available to promise.**

available capacity

The amount of capacity available for a resource or production line.

available to promise (ATP)

The quantity of current on-hand stock, outstanding receipts and planned production which has not been committed through a reservation or placing demand. In Oracle Inventory, you define the types of supply and demand that should be included in your ATP calculation.

available-to-promise rule

A set of Yes/No options for various entities that the user enters in Oracle Inventory. The combination of the various entities is used to define what is considered supply and demand when calculating an available-to-promise quantity.

basic ATP

This term is used to describe the task of performing an ATP check against a given organization.

bill of distribution

Specifies a multilevel replenishment network of warehouses, distribution centers, and manufacturing centers (plants).

bill of material

A list of component items associated with a parent item and information about how each item relates to the parent item. Oracle Manufacturing supports standard, model, option class, and planning bills. The item information on a bill depends on the item type and bill type. The most common type of bill is a standard bill of material. A standard bill of material lists the components associated with a product or subassembly. It specifies the required quantity for each component plus other information to control work in process, material planning, and other Oracle Manufacturing functions. Also known as **product structures.**

bill of resources

A list of each resource and/or production line required to build an assembly, model, or option.

bottleneck resource

A resource whose capacity is less than the demand placed upon it. For example, a bottleneck machine or work center exists where jobs are processed at a slower rate than they are demanded.

calculate ATP

An item attribute the planning process uses to decide when to calculate and print available to promise (ATP) for the item on the Planning Detail Report. The planning process calculates ATP using the following formula: *ATP = Planned production - committed demand.*

calendar type

The period pattern used to define a manufacturing calendar.

capable to deliver

CTD (Capable-to-Deliver) refers to consideration of the transportation resources and transportation lead time to meet your customers' delivery needs. In this release, only transportation lead time is considered. Transportation resources will be added in a future release.

capable to promise

CTP (Capable to Promise) refers to the ability to determine the availability of component materials and resources to meet unplanned demands.

capacity requirements planning

A time-phased plan that compares required capacity to available capacity. It is based on a material requirements plan and department/resource information. *See***routing-based capacity and rate-based capacity.**

component

A serviceable item that is a part or feature in another serviceable item. Your customers cannot report service requests against this type of serviceable item directly. You can reference components when you enter service requests against actual end item-type serviceable items, or products. For example, if you define three inventory items, A, B, and C, where A and B are products (end item-type serviceable items) but C is a component (non-end item-type serviceable item) of A, you can enter service requests against A and B directly, but not against C. When you enter a service request against product A, you can reference C because it is a component of A. *see* **standard component.**

component demand

Demand passed down from a parent assembly to a component.

component item

An item associated with a parent item on a bill of material.

component yield

The percent of the amount of a component you want to issue to build an assembly that actually becomes part of that assembly. Or, the amount of a component you require to build plus the amount of the component you lose or waste while building an assembly. For example, a yield factor of 0.90 means that only 90 percent of the usage quantity of the component on a bill actually becomes part of the finished assembly.

compression days

The number of days the planning process suggests you compress the order (in other words, reduce the time between the start date and the due date).

discrete job

Discrete jobs are used to manufacture assemblies using specific materials and resources within a start and end date. (Also known as work order or assembly order).

end item

Any item that can be ordered or sold. *See***finished good and product.**

engineering change order (ECO)

A record of revisions to one or more items usually released by engineering.

firm planned order

An MRP-planned order that is firmed using the Planner Workbench. This allows the planner to firm portions of the material plan without creating discrete jobs or purchase requisitions. Unlike a firm order, a MRP firm planned order does not create a natural time fence for an item.

forward consumption

A mechanism used in planning during which the available future supply is consumed to meet a demand.

forecast

An estimate of future demand on inventory items. A forecast contains information on the original and current forecast quantities (before and after consumption), the confidence factor, and any specific customer information. You can assign any number of inventory items to the forecast and use the same item in multiple forecasts. For each inventory item you specify any number of forecast entries.

independent demand

Demand for an item unrelated to the demand for other items.

item routing

A sequence of manufacturing operations that you perform to manufacture an assembly. A routing consists of an item, a series of operations, an operation sequence, and operation effective dates. Edits to an Item Routing do not automatically update a job routing.

job routing

A snapshot of an item routing that has been assigned to a job. The routing is current on the day the job was created. Edits to a job routing do not automatically revert to the item routing.

master demand schedule

The anticipated ship schedule in terms of rates or discrete quantities, and dates. In ASCP, MDS is used as an input to the enterprise plan.

material constrained plan

In this plan, all material constraints that can be specified in the form of a supply schedule from manufacturing plants or by statements of vendor capacity from vendors are considered. When material availability is not a concern, resource availability constraints are used only to generate exceptions arising due to over utilization or under-utilization of resources.

material and resource constrained plan

In this plan, you can generate a plan that respects material, resource, and transportation constraints. However, no plan objectives are considered.

multilevel supply chain ATP/CTP/CTD

This term is used to describe the task of performing a multilevel BOM availability check including finished goods, components, resource, supplier capacityand transportation lead time. See Feature Highlight: **Multilevel Supply Chain ATP/CTP/CTD**

For the rest of the document, we will use Multilevel ATP as a short form for this feature.

need-by date

The need-by date for the end item is the demand date. The need-by dates for the dependent demands are calculated based on the lead-time offsets that are associated to the Items and routings used.

- If a constrained plan is run, the planning process will use the planned orders and actual routings for scheduling to derive the suggested due date.

- If an unconstrained plan is run, the suggested due date will simply be the same as the need by date.

Therefore, any differences between the lead time offsets (need by date) and actual manufacturing time (suggested due date) created by the planning process, will show up in the form of multiple exception messages.

operation data store (ODS)

Represents all the tables that act as destinations for the collected data from each data source (both Oracle applications and legacy systems). This is the input for the snapshot portion of the planning process.

When we refer to ODS-based ATP, we mean ATP based on collected data.

optimized plan

In this plan, you can generate an optimized and executable plan based on plan objectives as well as material, resource, and transportation constraints.

overload

A condition where required capacity for a resource or production is greater than available capacity.

pegging

The capability to identify for a given item the sources of its gross requirements and/or allocations. Pegging can be thought of as active where-used information.

planned order

A suggested quantity, release date, and due date that satisfies net item requirements.

Planner Workbench

You can use the Planner Workbench to act on recommendations generated by the planning process for a plan. You can implement planned orders as discrete jobs or purchase requisitions, maintain planned orders, reschedule scheduled receipts, and implement repetitive schedules. You can choose all suggestions from an MRP plan, or only those that meet a certain criteria.

planning data store (PDS)

It represents all the tables within Oracle ASCP which encompass those in the ODS and other output tables from planning. When we refer to PDS based ATP, we mean ATP based on planning output.

planning exception set

An item attribute that the planning process uses to decide when to raise planning exceptions for the item.

planning horizon

The amount of time a master schedule extends into the future.

planning time fence

A Master Scheduling/MRP item attribute used to determine a future point in time inside which there are certain restrictions on the planning recommendations the planning process can make for the item.

post-processing lead time

The time required to receive a purchased item into inventory from the initial supplier receipt, such as the time required to deliver an order from the receiving dock to its final destination.

preprocessing lead time

The time required to place a purchase order or create a discrete job or repetitive schedule that you must add to purchasing or manufacturing lead time to determine total lead time. If you define this time for a repetitive item, the planning process ignores it.

processing lead time

The time required to procure or manufacture an item. For manufactured assemblies, processing lead time equals the manufacturing lead time.

projected available balance

Quantity on hand projected into the future if scheduled receipts are rescheduled or cancelled, and new planned orders are created as per recommendations made by the planning process. Calculated by the planning process as current and planned supply (nettable quantity on hand + scheduled receipts + planned orders) minus demand (gross requirements). Note that gross requirements for projected available includes derived demand from planned orders. Note also that the planning process uses suggested due dates rather than current due dates to pass down demand to lower level items. *See* **current projected on hand**.

projected on hand

The total quantity on hand plus the total scheduled receipts plus the total planned orders.

refresh snapshot process

A database process during which the data stored in the database snapshots is updated with the new or changed data.

resource constrained plan

In this option, all resource constraints such as available machine hours, transportation capacity, as well as alternate resources are considered. Alternate bill of materials are considered only when optimized option is selected. Material constraints are used only to generate exceptions arising due to lack of material availability.

routing

A sequence of manufacturing operations that you perform to manufacture an assembly. A routing consists of an item, a series of operations, an operation sequence, and operation effective dates.

safety stock

Quantity of stock planned to have in inventory to protect against fluctuations in demand and/or supply.

schedule arrival date

The date when scheduled receipts are expected to arrive as suggested by the planning process. Also the date on which sales orders are expected to arrive at customer's location.

scheduled receipt

A discrete job, repetitive schedule, non-standard job, purchase requisition, or purchase order. It is treated as part of available supply during the netting process. Schedule receipt dates and/or quantities are not altered automatically by the MRP system.

schedule ship date

The date when you expect the supplier to ship scheduled receipts as suggested by the planning process. Also the date on which the sales order is planned for shipping to the customer.

Seiban manufacturing

A type of manufacturing environment where demand and supply are identified by Seiban numbers to peg supply to demand. This numbering system is widely used in Japan and Korea.

simultaneous resources

Two or more resources are scheduled to be working concurrently within a job operation. Each operation contains a scheduled sequence of activities and resources used in the operation. Simultaneity is implemented by having more than one resource used in an operation.

sourcing rule

Specifies how to replenish items in an organization, such as purchased items in plants.

suggested dock date

The date you expect to receive an order (to arrive on the receiving dock) as suggested by the planning process.

suggested due date

The date when scheduled receipts are expected to be received into inventory and become available for use as suggested by the planning process.

The need-by date for the end item is the demand date. The need by dates for the dependent demands are calculated based on the lead-time offsets that are associated to the Items and routings used.

- If a constrained plan is run, the planning process will use the planned orders and actual routings for scheduling to derive the suggested due date.
- If an unconstrained plan is run, the suggested due date will simply be the same as the need-by date.

Therefore, any differences between the lead-time offsets (need-by date) and actual manufacturing time (suggested due date) created by the planning process will show up in the form of multiple exception messages.

suggested order date

The date that the planning process suggests an order for goods or services is entered. The earliest order date allowed is today and no compression days are allowed.

suggested start date

The date you or your suppliers expect to start to manufacture the order as suggested by the planning process.

supply chain ATP

This term is used to describe the task of performing an ATP check against multiple sourcing organizations for a given customer request. See Feature Highlight: **ATP for Multiple Supply Locations.**

supplier flex-fences

Specifies capacity tolerance percentages that vary over time for each source. This allows you to represent the ability of your supplier to flex capacity upwards based on the amount of advanced notice you provide.

time bucket

A unit of time used for defining and consuming forecasts. A bucket can be one day, one week, or one period.

unconstrained plan

In this plan, the system performs traditional MRP type planning and assumes infinite material availability and resource capacity. Statements of material availability and resource capacity are used to generate exceptions. Demand priorities are included during the planning run to determine the appropriate pegging relationships between supply and demand.

underload

A condition in which required capacity for a resource or production is less than its available capacity.

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