

# **Oracle® Capacity**

User's Guide

Release 12.1

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Part No. E15189-04

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## Oracle Capacity User's Guide, Release 12.1

### Part No. E15189-04

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- Are the implementation steps correct and complete?
- Did you understand the context of the procedures?
- Did you find any errors in the information?
- Does the structure of the information help you with your tasks?
- Do you need different information or graphics? If so, where, and in what format?
- Are the examples correct? Do you need more examples?

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# Preface

## Intended Audience

Welcome to Release 12.1 of the *Oracle Capacity User's Guide*.

This guide is intended for implementers, administrators, and users of Oracle Capacity

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

## Deaf/Hard of Hearing Access to Oracle Support Services

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## Structure

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- Glossary

## Related Information Sources

Oracle Capacity shares business and setup information with other Oracle Applications products. Therefore, refer to other user guides when you set up and use Oracle Capacity.

This book is included on the Oracle E-Business Suite Documentation Library, which is supplied in the Release 12.1 Media Pack. You can download soft-copy documentation as PDF files from the Oracle Technology Network at <http://www.oracle.com/technology/documentation/>. The Oracle E-Business Suite Release 12.1 Documentation Library contains the latest information, including any documents that have changed significantly between releases. If substantial changes to this book are necessary, a revised version will be made available on the "virtual" documentation library on My Oracle Support (formerly Oracle*MetaLink*).

If this guide refers you to other Oracle E-Business Suite documentation, use only the latest Release 12.1 versions of those guides.

### Online Documentation

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

- **Online Help** - Online help patches (HTML) are available on My Oracle Support.

- **PDF Documentation** - See the Oracle E-Business Suite Documentation Library for current PDF documentation for your product with each release. The Oracle E-Business Suite Documentation Library is also available on My Oracle Support and is updated frequently.
- **Release Notes** - For information about changes in this release, including new features, known issues, and other details, see the release notes for the relevant product, available on My Oracle Support.
- **Oracle Electronic Technical Reference Manual** - The Oracle Electronic Technical Reference Manual (eTRM) contains database diagrams and a detailed description of database tables, forms, reports, and programs for each Oracle E-Business Suite product. This information helps you convert data from your existing applications and integrate Oracle E-Business Suite data with non-Oracle applications, and write custom reports for Oracle E-Business Suite products. The Oracle eTRM is available on My Oracle Support.

### Related Guides

You should have the following related books on hand. Depending on the requirements of your particular installation, you may also need additional manuals or guides.

User Guides Related to All Products:

- *Oracle E-Business Suite User's Guide*
- *Oracle E-Business Suite User Interface Standards for Forms-Based Products*

User Guides Related to Oracle Capacity:

- *Oracle E-Business Suite Flexfields Guide*
- *Oracle Bills of Material User's Guide*
- *Oracle Flow Manufacturing User's Guide*
- *Oracle Inventory User's Guide*
- *Oracle Work in Process User's Guide*

Installation and System Administration Guides:

- *Oracle E-Business Suite Concepts*
- *Oracle E-Business Suite Installation Guide: Using Rapid Install*
- *Oracle E-Business Suite Upgrade Guide, Release 11i to 12.1.1*
- *Oracle E-Business Suite Product Update Notes*

- *Oracle E-Business Suite System Administrator's Guide*

## 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 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.

## Do Not Use Database Tools to Modify Oracle E-Business Suite Data

Oracle **STRONGLY RECOMMENDS** that you never use SQL\*Plus, Oracle Data Browser, database triggers, or any other tool to modify Oracle E-Business Suite 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 E-Business Suite data, you risk destroying the integrity of your data and you lose the ability to audit changes to your data.

Because Oracle E-Business Suite tables are interrelated, any change you make using an Oracle E-Business Suite form can update many tables at once. But when you modify Oracle E-Business Suite data using anything other than Oracle E-Business Suite, 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 E-Business Suite.

When you use Oracle E-Business Suite to modify your data, Oracle E-Business Suite automatically checks that your changes are valid. Oracle E-Business Suite 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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## Overview

This chapter covers the following topics:

- Overview of Capacity Planning
- Routing-Based and Rate-Based Capacity Planning
- Set Up Oracle Applications Technology

### Overview of Capacity Planning

Oracle Capacity lets you calculate your capacity load ratio by resource or production line. It ensures that you have sufficient capacity to meet your production requirements.

Oracle Capacity provides you with two levels of capacity planning:

- rough cut capacity planning (RCCP) to validate your master schedules
- detailed capacity requirements planning (CRP) to validate your MRP plans

### Routing-Based and Rate-Based Capacity Planning

You can plan capacity for individual resources assigned to operations on routings, or you can plan capacity by production line. Required and available capacity for routing-based plans are stated in hours per week per resource, and for rate-based plans by production rate per week per line. Resource requirements are also based on the effective date ranges in routings.

Resource requirements for phantom assemblies are included in the requirements for the planned orders of their parent assemblies.

### Rough Cut Capacity Planning (RCCP)

You can use rough cut requirements planning to verify that you have sufficient capacity available to meet the capacity requirements for your master schedules. In this

way, you can monitor long-term plan trends in required and available capacity. RCCP is typically restricted to key or critical resources. You should only generate an MRP plan using a master schedule that you have proved to be realistic and attainable.

### **Capacity Requirements Planning (CRP)**

You can use CRP to verify that you have sufficient capacity available to meet the capacity requirements for your MRP plans. In this way, you can identify short term discrepancies between required and available capacity.

CRP typically verifies capacity for all the resources required to meet your material plan.

### **Bills of Resources**

You can automatically generate or manually enter bills of resources. You can manually change any automatically generated bill of resource to simulate changes in available capacity. You can choose to roll up manual changes when loading a bill of resources. You can also simulate different manufacturing methods, as well as long-term plan resource requirements, by manually defining multiple bills of resources for the same item.

### **Resource Groups**

You can define resource groups, assign key or critical resources to the group, and then generate bills of resources for individual resource groups. You can then use the bill of resources to generate RCCP plans that are limited to those resources assigned to your resource group. You can also specify a resource group when using many of the Oracle Capacity inquiries and reports.

### **Simulation**

You can modify the availability of individual resources, group together your modifications in a simulation set, and generate RCCP and CRP plans for individual simulation sets.

### **Multi-Department Resources**

You can define resources that are shared across multiple departments, and generate RCCP and CRP plans that show individual (by department) or aggregate capacity load ratio for the shared resource.

### **Capacity Load Ratio**

The output of both RCCP and CRP is a statement of your capacity load ratio—by resource or by production line. Oracle Capacity calculates capacity load ratio using the following formula:

$$\text{capacity load ratio} = \text{required capacity} / \text{available capacity}$$

Analysis of your capacity load ratio can reveal one of three situations:

- Overload
- Underload
- Balance

#### **Overload**

Overload exists when your required capacity is *greater than* your available capacity.

#### **Underload**

Underload exists when your required capacity is *less than* your available capacity.

#### **Balance**

Balance exists when your required capacity *equals* your available capacity.

See Also

- Overview of Rough Cut Capacity Planning
- Overview of Capacity Requirements Planning
- Overview of Bills of Resources

## **Set Up Oracle Applications Technology**

The setup steps in this chapter tell you how to implement the parts of Oracle Applications specific to Oracle Capacity.

You also need to complete the following setup steps:

- Performing system-wide setup tasks such as configuring concurrent managers and printers.
- Managing data security, which includes setting up responsibilities to allow access to a specific set of business data and complete a specific set of transactions, and assigning individual users to one or more of these responsibilities.

Also, if your product uses Oracle Workflow to, for example, manage the approval of business documents or to derive Accounting Flexfield values via the Account Generator, you need to set up Oracle Workflow.

**See Also:**

- *Oracle Applications System Administrator's Guide*
- *Oracle Workflow Guide*





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## Setting Up

This chapter covers the following topics:

- Related Product Setup Steps
- Setting Up Underlying Oracle Applications Technology
- Oracle Inventory
- Oracle Bills of Material
- Oracle Master Scheduling/MRP and Oracle Supply Chain Planning
- Setup Flowchart
- Setup Checklist
- Resource Groups
- Defining Resource Groups
- Capacity Modifications and Simulation
- Creating Simulation Sets
- Multi-Department Resources
- Horizontal Plan Display Options
- Defining CRP Display Options
- Profile Options
- Implementing Profile Options Summary

### Related Product Setup Steps

The following steps may need to be performed to implement . These steps are discussed in detail in the Overview of Setting Up sections of other Oracle product users guides.

## Setting Up Underlying Oracle Applications Technology

You need to complete several setup steps, including:

- Performing system-wide setup tasks such as configuring concurrent managers and printers
- Setting up an Oracle Applications System Administrator responsibility. See: Setting Up Oracle Applications System Administrator, *Oracle Applications System Administrator's Guide* .
- Managing data security, which includes setting up responsibilities to allow access to a specific set of business data and complete a specific set of transactions, and assigning individual users to one or more of these responsibilities.
- Set up your Oracle Applications Set of Books. See: Defining Sets of Books, *Oracle General Ledger User's Guide*.
- Setting up Oracle Workflow

For more information, see *Oracle Applications System Administrators Guide* and *Oracle Workflow Guide*.

## Oracle Inventory

Make sure you set up Inventory as described in Overview of Inventory Structure, *Oracle Inventory User's Guide*. Ensure that all the following steps have been completed:

- Define your planners.
- Define your UOM conversions.
- Define your item planning information. If you manufacture your assemblies repetitively ensure that you define your repetitive planning information.

## Oracle Bills of Material

Make sure you set up Bills of Material as described in Overview of Setup, *Oracle Bills of Material User's Guide*. In addition to the set up, ensure that all the following steps have been completed:

- Define your Organization Calendar.
- Define your Bills of Material.
- Define your Routings.

- Calculate your Routing Lead Times.
- Define Resources.

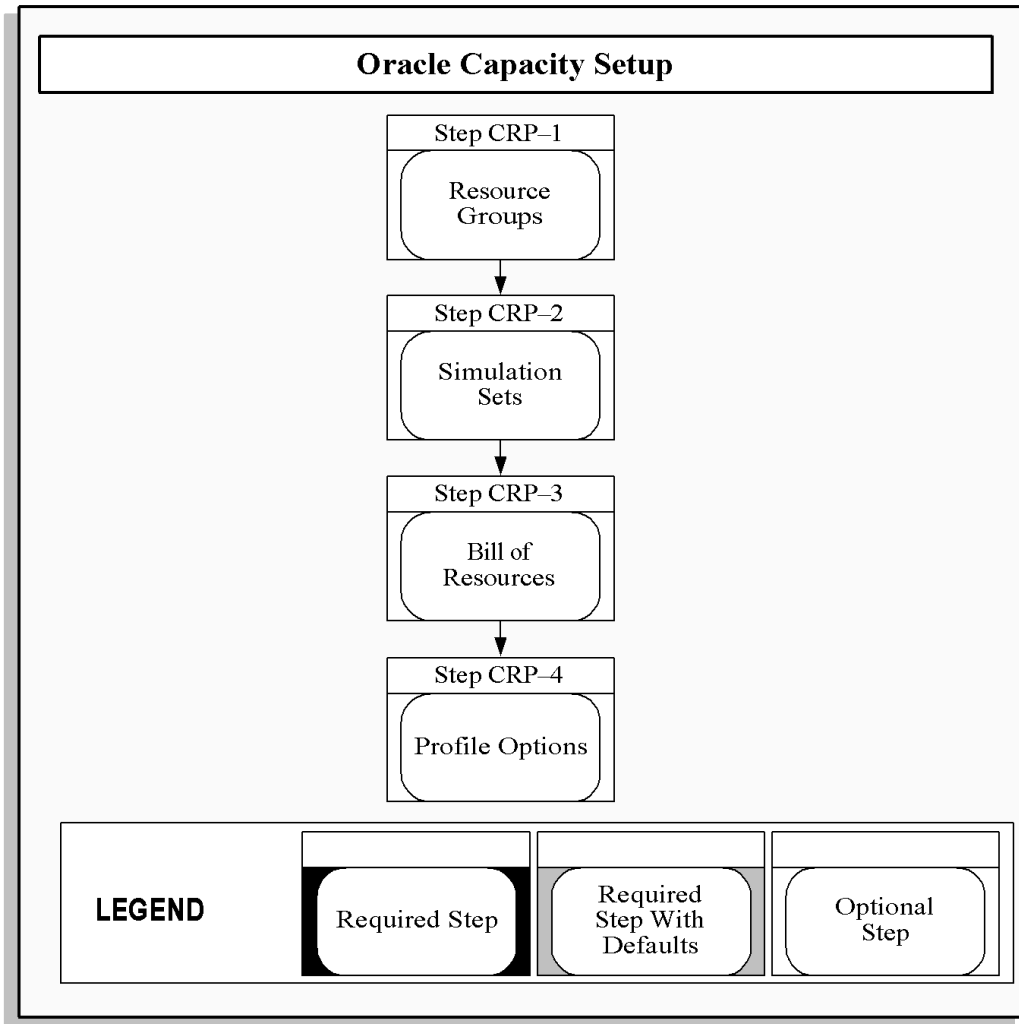
## Oracle Master Scheduling/MRP and Oracle Supply Chain Planning

Make sure you set up Master Scheduling/MRP and Supply Chain Planning as described in the *Master Scheduling/MRP and Supply Chain Planning User's Guide*. In addition to the set up, ensure that all the following steps have been completed:

- Define your Master Scheduling/MRP Setup Parameters.
- Define your Planning Parameters.
- Start the Planning Manager.

## Setup Flowchart

The steps shown here are the set up steps just for the Capacity product. Setup steps can be Required, Optional, or Required Step With Defaults. The steps shown here are all classified as Optional. This means that you need to perform Optional steps only if you plan to use the related feature or complete certain business functions.



For more information, see Setup Flowchart, *Oracle Master Scheduling/MRP* and *Oracle Supply Chain Planning User's Guide*.

## Setup Checklist

After you log on to Oracle Applications, complete these steps to implement Oracle Capacity.

Step No.	Required	Step Title	AIW Level
Step 1	Optional	Define Resource Group	Not Applicable

Step No.	Required	Step Title	AIW Level
Step 2	Optional	Define Simulation Sets	Not Applicable
Step 3	Optional	Define and Load Bill of Resources	Not Applicable
Step 4	Optional	Set Profile Options	Not Applicable

### **Step 1: Define Resource Groups (Optional)**

Resource group can be used to group together your key or critical resources. You can define multiple resource groups and then assign selected resources to a resource group in Oracle Bills of Material.

### **Step 2: Define Simulation Sets (Optional)**

Simulation sets are used to simulate different shop floor conditions by modifying the routing-based available capacity for a resource. You can specify a simulation set when reviewing RCCP and CRP plans, and review the effects of the resource modifications on your master schedules and MRP plans.

### **Step 3: Define and Load Bill of Resources (Optional)**

A bill of resources is a statement of all resource requirements necessary to build an item. A resource requirement can be for a department/resource combination or it can be for a production line.

### **Step 4: Set Profile Options (Optional)**

Profile options specify how Oracle Capacity controls access to and processes data. In general, profile options can be set at one or more levels. System administrators use the Profile Options form to set profile options at the site, application, responsibility, and user levels.

Use the Profile Options form to set profile options only at the user level. You can update your personal profile options if you want to override the defaults provided by Oracle Capacity Personal profiles allow you to control data access and processing options at the user level.

## **Resource Groups**

You can define multiple resource groups. You can then assign selected resources to a resource group in Oracle Bills of Material. You might create a resource group, for example, to group together your key or critical resources.

You can choose a specific resource group when using the bill of resources load to generate a bill of resources. You can then use the bill of resources to generate a RCCP

plan that only considers the resources contained in your resource group.

You can limit reports and inquiries to a specific resource group when viewing or reporting your RCCP and CRP plans. See also:

- Defining a Department, *Oracle Bills of Material User's Guide*
- Defining a Resource, *Oracle Bills of Material User's Guide*
- Defining Resource Groups
- Assigning Operation Resources, *Oracle Bills of Material User's Guide*

## Defining Resource Groups

You can define and update resource groups to group similar resources that help you plan capacity and easily generate bill of resource information.

### To define resource groups:

#### Steps:

1. Navigate to the CRP Resources Groups Lookups window.

2. Enter a unique resource group Code.

You can define a maximum of 250 resource groups, and you cannot change the values in this field after you commit a resource group. To remove an obsolete resource group you can either disable the code, enter an end date, or change the meaning and description to match a replacement code.

3. Enter a descriptive Meaning of the resource group

4. Enter an extended Description of the resource group.

You can display the description along with the meaning to give more information about your resource group

5. Enter the effective date From which the resource group becomes active.

You cannot use the resource group before this date. If you do not enter a start date, your resource group is valid immediately.

6. Enter the date on which this resource group expires.

**Note:** You cannot use the resource group after this date. Once a resource group expires, you cannot assign this resource group to resources, but *can* query records that already use the resource group. If you do not enter an end date, your resource group is valid

indefinitely.

7. Check Enabled to indicate whether the resource group is enabled.

If you do not check Enabled, you *cannot* assign any resources to your resource group, but *can* query records that already use this resource group.

8. Save your work.

See Also: Resource Groups

## Capacity Modifications and Simulation

You can simulate different shop floor conditions by modifying the routing-based available capacity for a resource using simulation sets. You can specify a simulation set when reviewing RCCP and CRP plans, and review the effects of the resource modifications on your master schedules and MRP plans.

**Note:** Rate-based items are not included in simulation sets.

You can use a simulation set to group multiple capacity modifications for a specific department, resource, and shift combination. When making a capacity modification, you can add a workday, delete a workday or modify the number of capacity units available to the shift.

The following table illustrates how you could use capacity modifications to simulate a ramp-up schedule for a new resource, D1, R4, due to be installed on 07-MAR. In this example, Production can estimate that it will be six weeks before the resource is fully operational. One unit of D1, R4 is assigned to Shift 1 which is available 6 hours/day, 5 days/week.

Capacity modifications are always added to existing capacity. With no capacity modifications the available hours for D1, R4 is  $1 \times 6 \times 5 = 30$  hours/week. The capacity modification for 01-JAN to 04-MAR creates additional available hours of  $1 \times 6 \times 5 = 30$ . The net available hours for the period is  $30 - 30 = 0$  hours/week. The capacity modification for 07-MAR to 11-MAR creates additional available hours of  $-1 \times 5 \times 5 = -25$  hours/week. The net available hours for the period is  $30 - 25 = 5$  hours/week.

***Ramp-up Schedule for D1, R4***

<b>Modification</b>	<b>Date From</b>	<b>Date To</b>	<b>Time From</b>	<b>Time To</b>	<b>Capacity Change</b>	<b>Simulation Set</b>
Modify capacity	01-JAN	04-MAR	06:00	12:00	-1	Set 1
Modify capacity	07-MAR	11-MAR	07:00	12:00	-1	Set 1
Modify capacity	14-MAR	18-MAR	08:00	12:00	-1	Set 1
Modify capacity	21-MAR	25-MAR	09:00	12:00	-1	Set 1
Modify capacity	28-MAR	01-APR	10:00	12:00	-1	Set 1
Modify capacity	04-APR	08-APR	11:00	12:00	-1	Set 1

The following table illustrates the impact of the capacity modifications on the net available hours for D1, R4 for the entire ramp-up period.

***Impact of Capacity Modifications***

<b>Date From</b>	<b>Date To</b>	<b>Available Hours</b>	<b>Capacity Modification</b>	<b>Net Hours Available</b>
01-JAN	04-MAR	30	-30	0
07-MAR	11-MAR	30	-25	5
14-MAR	18-MAR	30	-20	10
21-MAR	25-MAR	30	-15	15
28-MAR	01-APR	30	-10	20
04-APR	08-APR	30	-5	25



Date From	Date To	Available Hours	Capacity Modification	Net Hours Available
11-PR	.	30	.	30

You can choose to implement a simulation set in Oracle Work in Process. The work in process scheduling process considers the capacity modifications contained in the implemented simulation set when generating detailed shop floor schedules.

**Note:** This method is suggested for short-term capacity changes only. If you want to make a permanent capacity change, you should update your department, resource, and shift information in Oracle Bills of Material

See Also

- Defining a Department, *Oracle Bills of Material User's Guide*
- Creating Simulation Sets
- Creating a Workday Calendar, *Oracle Bills of Material User's Guide*

## Creating Simulation Sets

You can define and update simulation sets to group resource changes for routing-based capacity requirements planning.

Assign simulation sets when you make capacity modifications to resources you assign to departments in Oracle Bills of Material.

**Note:** Rate-based items are not included in simulation sets.

### Steps:

1. Navigate to the Simulation Sets window.
2. Enter a unique simulation set Name.
3. Select the Use in Scheduling check box to use the capacity modifications associated with this simulation set when scheduling jobs and schedules in Oracle Work in Process.
4. Save your work.

See Also:

- Defining a Department, *Oracle Bills of Material User's Guide*
- Capacity Modifications and Simulation

## Multi-Department Resources

You can define resources that can be shared across multiple departments in Oracle Bills of Material. You can generate RCCP and CRP plans for multi-department resources and optionally aggregate the requirements across all departments that share the resource.

The following table illustrates how Oracle Capacity shows the individual requirements, by department, for a multi-department resource, D1, R2, owned by department D1.

***Individual Requirements for D1 and R2***

Week Start Date	Using Department	Required Hours	Available Hours	Capacity Load Ratio
31 JAN	D1	240	140	171%
31 JAN	D2	120	140	86%
31 JAN	D3	40	140	29%

The following table illustrates how Oracle Capacity shows the aggregate requirement for the same multi-department resource, D1, R2, owned by department D1.

***Aggregate Requirements for D1 and R2***

Week Start Date	Department	Required Hours	Available Hours	Capacity Load Ratio
31 JAN	D1	400	140	286%

See Also

Defining a Department, *Oracle Bills of Material User's Guide*

## Horizontal Plan Display Options

### Defining RCCP Display Options

Display options control what information is displayed in your horizontal plan for rough

cut capacity planning.

1. Navigate to the Selection window from View RCCP.
2. Select a master Schedule.
3. Select a Bill of Resource.
4. Optionally, select a Simulation Set, Dept. Class, Department, Resource Type, or Resource.
5. On the Tools menu, select Preferences to display the Preferences window.
6. Check or uncheck routing based and rate based options.
7. Enter a Display Factor, Decimal Places, and Field Width to define how data is displayed.
8. Choose Reset to use your previously saved selections.
9. Choose Save to use and save your preference selections for current and subsequent sessions.
10. Choose Apply to use your preference selections for the current session only.

**See Also:**

- Routing-Based CRP
- Rate-Based CRP
- Viewing CRP
- Defining CRP Display Options

## Defining CRP Display Options

Display options control what information is displayed in your horizontal plan for capacity requirements planning. This information is accessed in the Planner Workbench in Oracle Master Scheduling/MRP and Oracle Supply Chain Planning

**To define CRP display preferences:**

1. Navigate to the Planner Workbench of Oracle Master Scheduling/MRP or Oracle Supply Chain Planning.
2. Navigate to the Preferences window from the Tools menu.

3. Choose the Horizontal Capacity Planning tabbed region.

**Note:** See the Oracle Capacity Glossary for descriptions of plan information settings.

4. Check each type of plan information you want displayed in your horizontal capacity plan.
5. Check or uncheck routing based and rate based options.
6. Choose Save to use and save your preference selections for current and subsequent sessions.
7. Choose Apply to use your preference selections for the current session only.

See Also

- Routing-Based CRP
- Rate-Based CRP
- Viewing CRP

## Profile Options

During implementation, you set a value for each user profile option to specify how Oracle Capacity controls access to and processes data.

Generally, the system administrator sets and updates profile values. See: Setting User Profile Options, *Oracle Applications System Administrator's Guide*.

## Implementing Profile Options Summary

The table below indicates whether you (the User) can view or update the profile option and at which System Administrator levels the profile options can be updated: at the user, responsibility, application, or site levels.

A *Required* profile option requires you to provide a value. An *Optional* profile option already provides a default value, so you only need to change it if you don't want to accept the default.

Profile Option	User	System Admin - User	System Admin - Resp	System Admin - App	System Admin - Site	Required
CRP:Default Bill of Resource Set Name	Update	Update	Update	Update	Update	No
CRP:Spread Discrete Requirements	View	View	View	View	View	No

CRP:Default Bill of Resource Set Name: Specifies the bill of resource set name that defaults when navigating to any of the bill of resource windows.

CRP:Spread Discrete Requirements: Indicates whether the discrete job load is placed on the first day of the operation or spread over the duration of the operation. This profile is predefined as No upon installation.

**See Also:**

- Overview of User Profiles, *Oracle Applications User's Guide*
- Setting Your Personal User Profile, *Oracle Applications User's Guide*
- Common User Profile Options, *Oracle Applications User's Guide*
- Profile Options in Oracle Application Object Library, *Oracle Applications User's Guide*



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## Rough Cut Capacity Planning (RCCP)

This chapter covers the following topics:

- Overview
- Routing-Based RCCP
- Rate-Based RCCP
- Generating RCCP
- Viewing RCCP
- Overview of Bills of Resources
- Bill of Resources Example
- Usage Rate
- Setback Days
- Source Item
- Entering Items On a Bill of Resources
- Creating a Bill of Resources
- Defining Bill of Resource Requirements
- Loading a Bill of Resources
- Viewing a Bill of Resources
- Viewing Bill of Resource Items
- Viewing Bill of Resource Requirements
- Viewing RCCP Resources

### Overview

RCCP verifies that you have sufficient capacity available to meet the capacity requirements for your master schedules.

RCCP is a long-term plan capacity planning tool that marketing and production use to balance required and available capacity, and to negotiate changes to the master schedule and/or available capacity. You can change your master schedules by changing master schedule dates and increasing or decreasing master schedule quantities. You can change your available capacity by adding or removing shifts, using overtime or subcontracted labor, and adding or removing machines.

RCCP is a gross capacity planning technique that does not consider scheduled receipts or on-hand inventory quantities when calculating capacity requirements. Your rough cut capacity plans are therefore a statement of the capacity required to meet your gross production requirements.

Use RCCP to validate your master schedules against key and critical resources before you use the planning process to generate detailed MRP plans. This ensures that you use a realistic, achievable master schedule to drive the planning process.

You can perform rough cut capacity planning at two levels:

- Use *routing-based* RCCP if you want to plan rough cut capacity by resource. Required and available capacity are stated in hours per week per resource.
- Use *rate-based* RCCP if you want to plan your rough cut capacity by production line. Required and available capacity are stated by production rate per week per line.

If you want to use RCCP, but would like to restrict the process to key or critical resources, you can define groups of selected resources and review RCCP plans for specific resource groups only. You can define resource groups in Oracle Capacity and Oracle Bills of Material. You assign resources to resource groups in Oracle Bills of Material.

**See Also:**

- Defining a Resource, *Oracle Bills of Material User's Guide*
- Defining Resource Groups
- Defining a Department, *Oracle Bills of Material User's Guide*

## Routing-Based RCCP

Routing-based RCCP calculates and compares required capacity to available capacity for the individual resources you assign to operations on your routings. Required and available capacity are stated in hours per week per resource.

### Required Hours Calculation

Routing-based RCCP:

- Calculates the required hours for each resource by taking each master schedule



entry for a bill of resource item, and multiplying the master schedule quantity by the total hours on each bill of resource requirement that references the resource.

- Calculates the required date for each resource by offsetting the master schedule date by the setback days defined on the bill of resource requirement. Since Oracle Capacity assumes infinite capacity, all the required hours for the resource are allocated to the required date.
- Buckets the required hours into weekly buckets.

**Note:** Resource requirements are based on the effective date ranges in routings. Resource requirements for phantom assemblies are included in the requirements for the planned orders of their parent assemblies.

The following table shows three master schedule entries for A and illustrates how, for each entry, routing-based RCCP calculates required hours and dates for D1, R2. Remember that during the bill of resource load, Oracle Capacity calculated that 24 hours of D1, R2 is required to build one unit of A, and that setback days for D1, R2 is 3 days. In this example, 10 units of item A are required on 07-FEB. Routing-based RCCP calculates the required hours as  $10 \times 24 = 240$  hours, and the required date as 07-FEB - 3 days = 02-FEB. 05-FEB and 06-FEB are non workdays.

***Required Hours and Required Dates for D1, R2***

Item	Master Schedule Date	Master Schedule Qty	Required Hours	Required Date
A	07-Feb	10	240	02-Feb
A	10-Feb	10	240	07-Feb
A	15-Feb	10	240	10-Feb

The following table illustrates how routing-based RCCP buckets the required hours for D1, R2 into weekly buckets. The example assumes that the first bucket starts on 31-JAN.

***Bucketed Required Hours and Required Dates for D1, R2***

Week Start Date	Department	Resource	Required Hours
31-Jan	D1	R2	240

Week Start Date	Department	Resource	Required Hours
07-Feb	D1	R2	480

## Available Hours Calculation

Routing-based RCCP calculates available hours for a resource using the resource availability information you define in Oracle Bills of Material.

You can define resources, departments, shifts, and shift calendars in Oracle Bills of Material. Having defined your departments, resources, and shifts, you can assign shifts to resources and resources to departments.

Routing-based RCCP calculates available hours for a resource by summing the available hours for each shift that uses the resource using the following formula:

$$\text{available hours} = \text{capacity units} \times \text{shift hours per day} \times \text{shift days per week} \times \text{efficiency} \times \text{utilization}$$

For 24 hour resources, routing-based RCCP modifies the formula as follows:

$$\text{available hours} = \text{capacity units} \times 24 \text{ hours per day} \times \text{workdays per week} \times \text{efficiency} \times \text{utilization}$$

Capacity units represents the number of resource units available to a department. Shift hours per day and shift days per week reflect the availability times you specify for each shift. Workdays per week reflect the number of workdays in the week based on the workday calendar you define using the Define Workday Calendar window in Oracle Bills of Material.

The following table illustrates how routing-based RCCP would calculate available hours for D1, R2 assuming that you have assigned it to two shifts, Shift 1 and Shift 2. In this example, the available hours for D1, R2 on Shift 1 is  $2 \times 6 \times 5 \times .90 \times 1.2 = 64.8$  hours. Routing-based RCCP would calculate the total hours available for D1, R2 as  $64.8 + 86.4 = 151.2$  hours per week.

### Available Hours for D1, R2

Shift	Capacity /Units	Shift Hours/Day	Shift Days/Week	Shift Efficiency	Shift Utilization	Available Hours
1	2	6	5	.9	1.2	64.8

Shift	Capacity /Units	Shift Hours/Dat	Shift Days/Week	Shift Efficiency	Shift Utilization	Available Hours
2	2	8	5	.9	1.2	86.4

## Load Ratio

Routing-based RCCP calculates capacity load ratio for each resource by dividing the total required hours per week by the total available hours per week, using the following formula:

$\text{capacity load ratio} = \text{required hours} / \text{available hours}$

The following table illustrates how routing-based RCCP would calculate capacity load ratio for D1, R2 for the weeks starting 31-JAN and 07-FEB. In this example, the capacity load ratio for D1, R2, for the week starting 31-JAN, is  $240/140 \times 100\% = 171\%$

### Capacity Load Ratio for D1, R2

Week Start Date	Required Hours	Available Hours	Load Ratio
31-Jan	240	140	174%
07-Feb	480	140	343%

Notice that rough cut analysis reveals that D1, R2 is overloaded in both periods. This is illustrated in the following diagram.

### See Also

- Defining a Department, *Oracle Bills of Material User's Guide*
- Defining a Resource, *Oracle Bills of Material User's Guide*

## Rate-Based RCCP

Rate-based RCCP calculates and compares required capacity to available capacity for production lines rather than the individual resources assigned to operations on your routings. Required and available capacity are stated by production rate per week per line.

You can associate a production line with an individual item or a product family item, enabling you to perform rate-based RCCP on the item.

## Required Rate Calculation

Rate-based RCCP uses bills of resources to determine rate-based capacity requirements.

The following table illustrates the repetitive resource requirements generated by the bill of resource load assuming B and C are defined as repetitive assemblies in Oracle Work in Process. Cumulative resource requirements are shown in bold.

### *Bill of Resources for A, B, and C*

Item	Line	Setback Days	Usage Qty	Source Item
A	1	4	2	B
A	1	4	3	C
B	1	2	1	B
C	1	2	1	C

B and C are defined as repetitive assemblies and assigned to production lines in Oracle Work in Process.

### *Production Line Details for B and C*

Item	Line	Line Priority	Prod Rate	Max Hourly Rate	Line Hours/Day	Line Days/Week
B	1	1	75	100	12	5
B	2	2	50	100	6	5
C	1	1	100	100	12	5

## Line Priority

You can use line priorities to indicate your preferred production lines for building a repetitive assembly. Line priority is used by Oracle Master Scheduling/MRPs repetitive schedule allocation process to allocate aggregate repetitive schedules to individual lines. In this example, Line 1 is the preferred line for building item B.

## Production Rate

Production rate represents the maximum hourly rate that you can build an assembly on a particular line. The production rate you specify for an assembly can never exceed the maximum hourly rate specified for the line in Oracle Work in Process.

## Maximum Hourly Rate

Maximum hourly rate represents the maximum production rate for a production line across all assemblies.

Rate-based RCCP:

- Calculates the required rate for each line by taking each master schedule entry for a bill of resource item, and using the repetitive schedule allocation process to allocate the master schedule rate across individual production lines.
- Calculates the required date for each rate by offsetting the master schedule end date by the setback days defined on the bill of resource requirement. Since Oracle Capacity assumes infinite capacity, all of the required rate for the production line is allocated to the required date.
- Buckets the required rates into weekly buckets.

**Note:** Resource requirements are based on the effective date ranges in routings. Resource requirements for phantom assemblies are included in the requirements for the planned orders of their parent assemblies.

The following tables shows master schedule entries for A and illustrates how rate-based RCCP converts the entries into required rates and dates for B and C.

### ***Master Schedule for A***

Item	Master Schedule Start Date	Master Schedule End Date	Master Schedule Quantity
A	07-FEB	07-FEB	100
A	10-FEB	10-FEB	100
A	15-FEB	15-FEB	100

Remember that setback days for B is 4 days, and that the usage quantity for B is 2. Setback days for C is 4 days, and the usage quantity is 3. 05-FEB and 06-FEB are non

workdays.

***Required Dates and Required Rates for B and C***

Item	Rate Start Date	Rate End Date	Daily Rate
B	01-Feb	01-Feb	200
C	01-Feb	01-Feb	300
B	04-Feb	04-Feb	200
C	04-Feb	04-Feb	300
B	09-Feb	09-Feb	200
C	09-Feb	09-Feb	300

The following table illustrates how the repetitive schedule allocation process would allocate the two repetitive schedules across Lines 1 and 2 using the line priorities and production rates specified earlier.

***Repetitive Schedule Allocation***

Item	Line	Required Date	Max Hourly Rate	Production Rate	Load Factor	Load Rate
B	1	200	100	75	1.33	267
C	1	300	100	100	1	300

## Required Rate

Required rate represents the production rate allocated to an individual production line by the repetitive schedule allocation process. In this example, there is sufficient capacity to allocate the entire required rate for B to Line 1 since Line 1 has a production rate of 75/hour for B, and is available for 12 hours/day. Similarly, there is sufficient capacity to allocate the entire required rate for C to Line 2.

## Load Factor

Rate-based RCCP uses load factors to aggregate required rates across a line since

different items often require different production rates on the same line. Aggregating load rates rather than required rates ensures that line requirements generated by different items are aggregated on an equal basis. Rate-based RCCP calculates load factors using the following formula:

$$\text{load factor} = \text{max hourly rate} / \text{production rate}$$

In this example, the maximum hourly rate for Line 1 is 100/hour, and the production rate for item B on Line 1 is 75/hour. Rate-based RCCP would calculate the load factor for item B on Line 1 as  $100/75 = 1.33$ .

## Load Rate

Load rate represents the weighted required rate for a production line. Rate-based RCCP calculates load rates using the following formula:

$$\text{load rate} = \text{required rate} \times \text{load factor}$$

In this example, the required rate for item B on Line 1 is 200/hour, and the load factor for item B on Line 1 is 1.3. Rate-based RCCP would calculate the load rate as  $200 \times 1.33 = 267$  units per hour.

The previous table illustrates the required rate for each item/line combination for one day. Rate-based RCCP aggregates the load rates by line and stores them as a required rate for the line for each day within the period defined by the rate start and end dates.

The following table illustrates the required rates and dates for Line 1.

***Required Dates and Required Rates for Line 1***

Line	Required Date	Required Rate
1	01-Feb	567
1	04-Feb	567
1	09-Feb	567

The following table illustrates how rate-based RCCP uses required dates to bucket the required rates for Line 1 into weekly buckets. The example assumes that the first bucket starts on 31-JAN.

**Bucketed Required Dates and Required Rates for Line 1**

Week Start Date	Line	Required Rate
31-Jan	1	1134
07-Feb	1	567

**Available Rate Calculation**

Rate-based RCCP calculates the available rate for a production line using the line availability information you define in Oracle Work in Process and Oracle Bills of Material.

Rate-based RCCP calculates the available rate for a production line using the following formula:

**available rate = max hourly rate x line hours**

**per day x line days per week**

Line hours per day represents the start and stop times you specify for the line in the Production Line window in Oracle Work in Process. Line days per week reflect the number of workdays in the week based on the workday calendar you defined in Oracle Bills of Material.

The following table illustrates how rate-based RCCP would calculate the available rate for Line 1 assuming that you have defined the line to be available 12 hours per day, 5 days per week. In this example, rate-based RCCP would calculate the available rate for Line 1, for the week starting 31-JAN, as  $100 \times 12 \times 5 = 6,000$  units per week.

**Available Rate for Line 1**

Line	Max Hourly Rate	Line Hours/Day	Line Days/Week	Available Rate
1	100	12	5	6,000

**Load Ratio Calculation**

Rate-based RCCP calculates capacity load ratio for each line by dividing the total required rate per week by the total available rate per week, using the following formula:

**capacity load ratio = required rate / available rate**



The following table illustrates how rate-based RCCP would calculate capacity load ratio for Line 1 for the weeks starting 31-JAN and 07-FEB. In this example, the capacity load ratio of Line 1 for the week starting 31-JAN is  $1134/6000 \times 100\% = 18.9\%$ .

***Capacity Load Ratio***

Week Start Date	Required Date	Available Rate	Capacity Load Ratio
31-Jan	1134	6000	18.9%
07-Feb	567	6000	9.4%

Notice that the rough cut analysis reveals that Line 1 is underloaded in both weeks. This information is illustrated in the following diagram.

## Generating RCCP

You can generate your routing-based and rate-based RCCP plans on-line for any master schedule you choose. You can specify a bill of resources, a simulation set, and a resource group when generating your RCCP plan, and you can optionally choose to aggregate requirements for multi-department resources across all the departments that share them.

## Viewing RCCP

You can display the rough-cut capacity requirements for a master schedule you specify to compare the capacity requirements to available capacity and review the weekly capacity load ratio. You can display capacity plans for individual resources, in hours per resource per week, or for production lines, by production rates per week per line.

Prerequisites: Before you can review the RCCP, you must load or manually enter at least one bill of resources.

### **To review routing-based rough cut capacity:**

**Steps:**

1. Navigate to the Selection window from View RCCP.
2. Select a master Schedule.
3. Select a Bill of Resources set to calculate the rough-cut capacity plan for the schedule.
4. Optionally, enter a Simulation Set to include the capacity modifications within the

simulation set when calculating available capacity.

5. Enter a Cutoff Date up to which to display the rough-cut capacity plan.

The plan horizon date you specified when you launched the plan is used if you do *not* enter a Cutoff Date.

**Note:** To minimize the amount of processing time, enter an earlier date.

6. Choose Routing Based.
7. Optionally, enter a department class.
8. Optionally, enter a Department for which you want to display the rough-cut capacity plan.
9. Optionally, enter a Resource Type, such as Machine, Person, or Space.
10. Optionally, enter a Resource associated with the Department.
11. Choose Resource to display the available and required capacity for the department and resource for a given master schedule in the Resource window.

**Note:** You can query in Load Ratio to see for which dates a department/resource is overloaded/underloaded. For example, specify ">100" in the query to see which weeks this department/resource is overloaded. See: Performing Query-by-Example and Query Count, *Oracle Applications User's Guide*.

12. In the Resource window, choose Horizontal Capacity Plan to view available and required capacity for the department and resource.

### **To review rate-based rough cut capacity:**

#### **Steps:**

1. Navigate to the Selection window from View RCCP in the Navigator.
2. Select a master Schedule.
3. Select a Bill of Resources set to calculate the rough-cut capacity plan for the schedule.
4. Optionally, select a Simulation Set to include the capacity modifications within the

simulation set when calculating available capacity.

5. Enter a Cutoff Date up to which to display the rough-cut capacity plan.

The plan horizon date you specified when you launched the plan is used if you do *not* enter a Cutoff Date.

**Note:** To minimize the amount of processing time, enter an earlier date.

6. Choose Rate Based.
7. Enter a production Line for which you want to display the rough-cut capacity plan.
8. Choose Resource to display the available and required capacity for the production line for a given master schedule in the Resource window.
9. In the Resource window, choose Horizontal Capacity Plan to view available and required capacity for the production line.

**Note:** You can query in Load Ratio to see for which dates a department/resource is overloaded/underloaded. For example, specify ">100" in the query to see which weeks this department/resource is overloaded. See: Performing Query-by-Example and Query Count, *Oracle Applications User's Guide*.

10. In the Resource window, choose Horizontal Capacity Plan to view available and required capacity for the department and resource.

### **To generate a graphical display of capacity data:**

#### **Steps:**

1. Navigate to the Resource window.
2. Check the Resource(s)
3. Choose Horizontal Capacity Plan.
4. Choose Graph.

See Also

- Creating a Bill of Resources
- Loading a Bill of Resources

- Creating Simulation Sets
- Defining Resource Groups
- Routing-Based RCCP
- Rate-Based RCCP
- Bill of Resources Example
- RCCP Rate-Based Report
- Defining RCCP Display Options
- Defining CRP Display Options
- Overview of Repetitive Planning, *Oracle Master Scheduling/MRP User's Guide*

## Overview of Bills of Resources

The first step in calculating rough cut capacity requirements, for both routing-based and rate-based RCCP, is to create bills of resources. A bill of resources is a statement of all resource requirements necessary to build an item. A resource requirement can be for a department resource combination or it can be for a production line. In routing-based resources the requirements are based on the effective date ranges in routings. Resource requirements for phantom assemblies are included in the requirements for the planned orders of their parent assemblies.

You can automatically generate bills of resources by copying your current routing information when you load a bill of resources or create them manually. You can manually update a bill of resources that you have generated using the bill of resources load. You can choose to roll up the manual changes when loading or reloading a bill of resources.

When generating bills of resources automatically, the bill of resources load process explodes each item to the bottom of its bill of material structure. It then rolls up the resource requirements for each subassembly and component, level by level, and calculates cumulative resource requirements for the parent item.

**Note:** The bill of resources load only looks at *current* bills of material and routings, and ignores any engineering, bill, and routing changes scheduled to occur in the future.

When entering or updating single level bill of resource requirements, where the bill of resource item and the source item are the same, you can enter one repetitive resource requirement only. Since a repetitively manufactured item is built from start to finish on a single production line, it does not make sense to specify requirements for more than

one line. By contrast, discretely manufactured items often require the use of multiple resources during their manufacturing process. Each resource requirement must be for a department resource combination or a production line, but not both.

When using the bill of resources load process, you can choose to generate bills of resources for all items or a range of items. You can load a bill of resources for an individual item or a product family item. When you load a bill of resources for a product family item, you can roll resource requirements from its member items. Later, you can use these resource requirements to analyze capacity requirements for each member item and for the product family item.

You can also specify a resource group to restrict the bill of resources load to key or critical resources.

See Also

- Loading a Bill of Resources
- Creating a Bill of Resources

## Bill of Resources Example

The following examples illustrate how the bill of resources load process calculates single level resource requirements for two components, B and C, and rolls them up to their parent item, A, as cumulative resource requirements. The following table illustrates the bill of material for A.

***Bill of Material for A***

Level	Item	Quantity
1	A	1
.2	.B	2
.2	.C	3

The following table illustrates the corresponding routings and associated resource usages for items A, B, and C.

#### *Routings for A, B, and C*

Item	Op Seq	Dept	Resource	Basis	UOM	Usage Rate
A	10	D3	R1	Item	HR	4
A	20	D3	R2	Item	HR	4
B	10	D2	R1	Item	HR	6
B	20	D2	R2	Item	HR	6
C	10	D1	R1	Lot	HR	8
C	20	D1	R2	Item	HR	8

## Usage Rate

Usage rate represents the amount of resource required to build one unit of an item at a particular operation. The usage rate is stated by the unit of measure you define in Oracle Bills of Material.

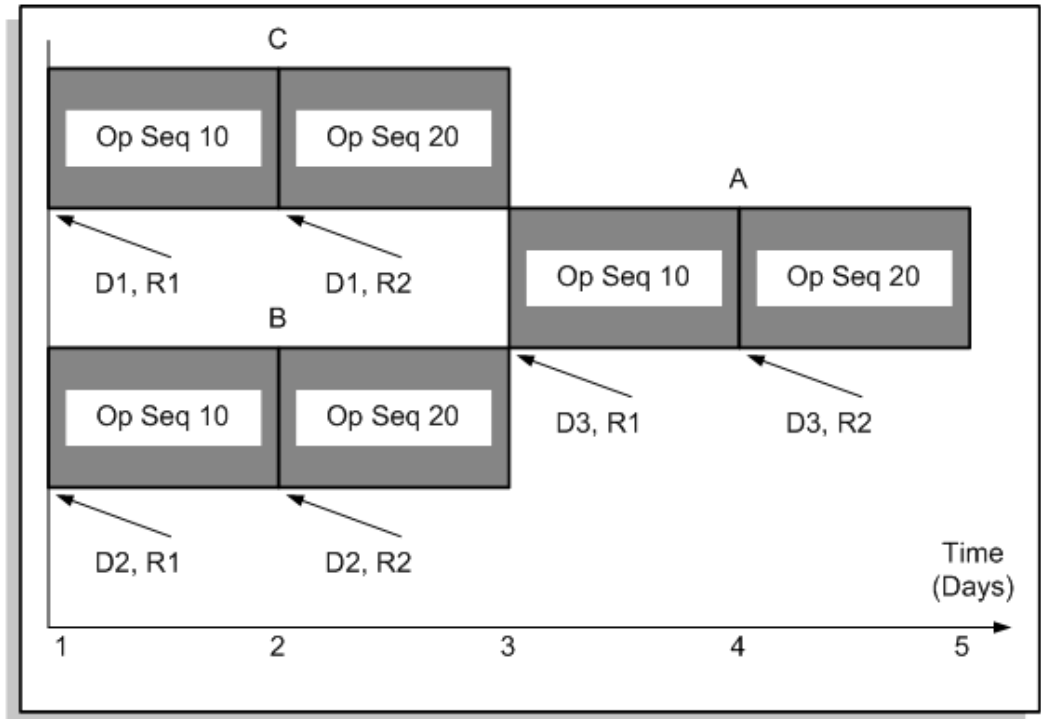
In the Bill of Resources Example, building one unit of C at operation 20 requires 8 hours of D1, R2.

Oracle Capacity only plans routing-based capacity for resources that have a unit of measure that is time-based and can be converted to hours.

## Setback Days

The following diagram illustrates the routing information in the Bill of Resources Example, as well as setback days for each department resource combination. Setback days represents the number of days before the completion of an item that a particular resource requirement is needed. In this example, C's lead time is 2 days. D1, R2 is needed at the start of operation 20 on day 2. The setback days for the resource requirement for D1, R2 is therefore 1 day.

Setback days are calculated using the resource offset percent and item lead times calculated by the Oracle Work in Process scheduler during the Oracle Bills of Material lead time rollup process.



The following table illustrates the bills of resources that the bill of resources load would generate for A, B, and C based on the bill of material and routing information detailed in the previous tables. These are used by routing and rate-based RCCP to calculate resource requirements for master schedule entries.

**Bills of Resources for A, B, and C**

Item	Op Seq	Dept	Res	Set Back Days	Reqd Hrs	Usage Qty	Basis	Total Hrs	Source Item
A	10	D3	R1	2	4	1	Item	4	A
A	20	D3	R2	1	4	1	Item	4	A
A	10	D2	R1	4	6	2	Item	12	B
A	20	D2	R2	3	6	2	Item	12	B
A	10	D1	R1	4	8	3	lot	8	C
A	20	D1	R2	3	8	3	Item	24	C

Item	Op Seq	Dept	Res	Set Back Days	Reqd Hrs	Usage Qty	Basis	Total Hrs	Source Item
B	10	D2	R1	2	6	1	Item	6	B
B	20	D2	R2	1	6	1	Item	6	B
C	10	D1	R1	2	8	1	lot	8	C
C	20	D1	R2	1	8	1	Item	8	C

### Required Hours

Required hours represents the number of resource hours required per resource unit to build one unit of an item at an operation. Required hours are derived from the usage rate and unit of measure you specify in Oracle Bills of Material. See: Resource Usage, *Oracle Bills of Material User's Guide*.

If you have defined a usage rate using a unit of measure other than hours, then the bill of resource load process converts it to an hourly rate. In the Bill of Resources Example, building one unit of C at operation 20 requires 8 hours per unit of D1, R2.

### Basis

Basis is used to specify whether a resource is required on a per item or per lot basis. Basis has a direct impact on the total hours required of a resource at an operation.

### Usage Quantity

Usage quantity represents the number of a given component required to build a bill of resource item, and is derived from the usage quantity on the item's bill of material. In the Bill of Resources Example, 3 units of C are required to build each unit of A.

### Total Hours

Total hours represents the total number of resource hours required to build one unit of an item at an operation.

If the resource basis is Item, increasing the number of items to be processed at an operation increases total hours. For example, doubling the number of items that require grinding doubles the total hours required of a grinder. The relationship between total hours, required hours, and usage quantity for Item basis resources is represented by the following formula. In the Bill of Resources Example, all resources except D1, R1 are item basis resources.

$$\text{total hours} = \text{required hours} \times \text{quantity}$$

If the resource basis is Lot, increasing the number of items to be processed at an operation does not have an effect on total hours. For example, doubling the number of



items that require drying does not double the total hours required of a drying room. The relationship between total hours and resource units for Lot basis resources is represented by the following formula. In the Bill of Resources Example, D1, R1 is a lot basis resource.

$$\text{total hours} = \text{required hours}$$

## Source Item

Source item is used to identify the component that generates an individual resource requirement. Source item facilitates resource requirement traceability when single level resource requirements are rolled up to become cumulative resource requirements for a parent item. For single level resource requirements, the bill of resources item and source item are the same. For cumulative resource requirements, they are not.

In the Setback Days table, notice how single level resource requirements for components B and C are rolled up to become cumulative resource requirements for A. Note how the setback days and total hours change for the cumulative requirements.

For example, 4 days are required to build A, based on item lead times of 2 days each for A, B, and C. D1, R2 is needed at the start of operation 20 on day 2. Setback days for D1, R2 becomes 3 days when the resource requirement for D1, R2 is offset from the completion date of A rather than the completion date of C.

## Entering Items On a Bill of Resources

**To enter items:**

1. Navigate to the Bill of Resource Items window.
2. Enter the name of the Item for which you want to define a bill of resources.
3. Save your work.

See Also

Viewing Bill of Resource Items Master-detail Relationships, *Oracle Applications User's Guide*

## Creating a Bill of Resources

You define and update bills of resources to calculate rough-cut capacity plans for your master schedules without defining detailed bills or routings. You can also simulate different manufacturing methods as well as long-term plan resource requirements by defining multiple bills of resources for items. You can also use a bill of resource to simulate changes to existing routings and bills of material.

You can also update bills of resources that you automatically generated when you

loaded the bill of resources.

#### Prerequisites

Before you create a bill of resources, you must define at least one:

- bill of resource name
- assembly
- department
- resource

#### To create a bill of resources:

1. 1. Navigate to the Bill of Resources window.
2. Enter the bill of resource or bill of resource set Name.
3. Enter a disable date that the bill of resources becomes Inactive On.
4. Save your work.

#### See Also

Viewing Bill of Resources, Loading a Bill of Resources Defining a Department, *Oracle Bills of Material User's Guide* Defining a Resource, *Oracle Bills of Material User's Guide* Profile Options

## Defining Bill of Resource Requirements

When entering or updating single level bill of resource requirements, where the bill of resource item and the source item are the *same* item, you can only enter one repetitive resource requirement.

**Note:** Repetitively manufactured items are built, from start to finish, on a single production line. You *cannot* define resource requirements for more than one production line.

For any resource requirement you can specify a department resource combination or a production line, but not a department resource combination *and* a production line.

**Note:** If you update a rolled up resource requirement (where the bill of resource item and the source item are *not* the same), the Origination of the resource requirement is *not* updated to Manual Addition. This ensures that if you perform subsequent bill of resource loads with the

Maintain Manual Updates parameter set to Yes, Oracle Capacity does not generate *duplicate* resource requirements.

### To enter or display main/current bill of resource requirements for a bill of resources

1. Navigate to the Bill of Resource Requirements window.
2. Choose Main to display main/current bill of resource requirements.
3. Enter a Department within your organization that consists of one or more people, machines, or suppliers.

You can only enter a department resource combination if you have not entered a line.

4. Enter a time-based Resource assigned to this department. If you enter a Department, you *must* enter a resource in this field.
5. Enter a production Line for the item.

You can only enter a line if you have *not* entered a department resource combination.

6. Enter the Source Item that generates the bill of resource requirement.

If the bill of resource requirement is generated by a component of the bill of resource item, the source item identifies the component. If you specify a Line, you can only choose an item that has been assigned to the Line. This Line is the lead time line for the item.

7. Enter the Setback Days for the bill of resource requirement.

Oracle Capacity begins at the end of the assembly lead time and counts back to the date that the bill of resource requirement is required by the bill of resource item.

For example, if 6 days are required to complete the bill of resource item and the bill of resource requirements is needed on the second day, Setback Days is 4 days.

8. Enter the number of source item components required to manufacture one unit of the bill of resource item in Usage Quantity.

This is the exploded quantity from the bill of resources item's bill of material.

9. Enter the Origination of the resource entry:

*Manual addition:* You have manually added this bill of resource requirement to your bill of resources. *Manual update:* You have manually updated this bill of resource requirement.

*Load:* This bill of resource requirement is automatically calculated during the load

bill of resource set process.

**Note:** If you update a rolled up resource requirement (where the bill of resource item and the source item are *not* the same), the origination of the resource requirement is *not* updated to Manual addition. This ensures that if you perform subsequent bill of resource loads with the Maintain Manual Updates option set to Yes duplicate resource requirements are not generated. See: Loading a Bill of Resources

10. Enter the Total Hours required for the resource to manufacture the bill of resource item.
11. Save your work.

**See Also:**

- Viewing Bill of Resource Requirements
- Master-detail Relationships, *Oracle Applications User's Guide*
- Source Item
- Setback Days
- Basis
- Required Hours
- Total Hours

## Loading a Bill of Resources

The load bills of resource process explodes all end assemblies to the bottom of the bill of material structure. It then rolls up the resource usage for each component and calculates the cumulative resource requirements for the bill of resource item.

You can load bills of resource for all items, a range of items, or models and options only. You can optionally choose a resource group when automatically generating your bills of resource, allowing you to calculate rough cut capacity plans for your key or critical resources only.

**Note:** You can automatically generate bills of resources by copying your current routing information when you load a bill of resources or create them manually.

### To automatically load a bill of resources:

Steps:

1. Navigate to the Load Bill of Resource window.
2. In the Parameters window, complete the following Steps 3-11.
3. Enter the name of the Bill of Resource Set.
4. Enter Yes in Maintain Manual Additions if you want Oracle Capacity to consider any manual additions you have made to the bills of resources.
5. A manual addition is a *new* bill of resources requirement that you have added to your bill of resources.
6. Enter Yes in Maintain Manual Updates if you want Oracle Capacity to consider any manual updates you made to your bills of resources.
7. A manual update is an *existing* bill of resources requirement that you have manually updated.
8. Select a Resource Group to calculate rough cut plans for a group of selected resources.
9. Select a Rollup Items option:  
*All items:* Load bills of resources for all items. You *must* use this option the first time you load your bills of resources.  
*Models and option classes only:* Load bills of resources for models and option classes only.
10. Enter Yes in Rollup MPS Items if you want to include multiple levels of MPS parts in your bills of resources. If you enter No, lower level MPS items are excluded when creating a bill of resource for a parent MPS item.

**Note:** Oracle Capacity creates and maintains the parent MPS and component MPS bill of resources separately. If you enter Yes, all MPS items are included at multiple levels in the bill of material in one bill of resource for the parent item. A separate bill of resource is created for each additional MPS item. Use this option to calculate rough cut capacity requirements and avoid double counting requirements for an MPS.

11. Enter a beginning item in a range of system items in Item From. Oracle Capacity loads bills of resource from this value to the To value.

12. Enter an ending item in a range of system items in the To field. Oracle Capacity loads bills of resource from the Item From field to this value.
13. Choose OK.
14. Choose Submit in the Load Bill of Resource window.

**See Also:**

- Submitting a Request, *Oracle Applications User's Guide*
- Defining Resource Groups

## Viewing a Bill of Resources

You can view the bill of resources within a bill of resource set.

**Steps:**

1. Navigate to the Bill of Resources window from View Bill of Resource.
2. Select a bill of resources Name.
3. Optionally, choose Items for a list of items associated with this bill of resources.
4. Optionally, select an Item and choose Resource Requirements to view its resource requirements.

**See Also:**

- Creating a Bill of Resources
- Viewing Bill of Resource Items
- Viewing Bill of Resource Requirements

## Viewing Bill of Resource Items

You can view items associated with a bill of resources or bill of resource set.

**Steps:**

1. Navigate to the Bill of Resources window.
2. Select a bill of resource or bill of resource set Name.
3. Choose Items to review bill of resource items.

**See Also:**

- Creating a Bill of Resources
- Entering Items on a Bill of Resources
- Viewing Bill of Resource Requirements

## Viewing Bill of Resource Requirements

To review requirements associated with a bill of resources:

1. Navigate to the Bill of Resource Items window.
2. From the View menu, select Query by Example, Enter. Then enter a bill of resource or bill of resource set name in the Bill of Resource Items window.
3. Choose Resource Requirements to review bill of resource items.

**See Also:**

- Defining Bill of Resource Requirements
- Master-detail Relationships, *Oracle Applications User's Guide*
  - Source Item
  - Setback Days
  - Basis
  - Required Hours
  - Total Hours

## Viewing RCCP Resources

To review rough cut capacity planning resources associated with a bill of resources:

1. Navigate to the Selection window from View RCCP.
2. Select a Master Schedule.
3. Select a Bill of Resource.
4. Optionally, enter a Simulation Set to include the capacity modifications within the simulation set when calculating available capacity.

5. Choose Routing Based in the Resource Basis region to display the rough-cut capacity plan for a discrete environment. Optionally, enter a Department Class for which you want to display the rough-cut capacity plan.
6. Optionally, enter a Department for which you want to display the rough-cut capacity plan.
7. Optionally, enter a Resource Type, such as Machine, Person, Space, or Amount.
8. Optionally, enter a Resource associated with the Department. Optionally, enter a Resource Group associated with the Resource.
9. Choose Resource to display the available and required capacity for the department and resource for a given master schedule in the Resource window.
10. In the Resource window, choose Horizontal Capacity Plan to view available and required capacity for the department and resource.

**See Also:**

- Creating a Bill of Resources
- Entering Items on a Bill of Resource
- Viewing Bill of Resource Requirements



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## Capacity Requirements Planning (CRP)

This chapter covers the following topics:

- Overview of Capacity Requirements Planning
- Routing-Based CRP
- Required Hours Calculation
- Required Hours for Planned Orders and Repetitive Schedules
- Required Hours for Discrete and Non-Standard Jobs
- Available Hours Calculation
- Load Ratio Calculation
- Rate-Based CRP
- Required Rate Calculation
- Maximum Hourly Rate
- Load Factor
- Load Rate
- Available Rate Calculation
- Load Ratio Calculation
- Generating CRP
- Viewing CRP
- Resource Requirements Snapshot
- Resource Requirements Snapshot Example
- Resource Requirements from Oracle Bills of Material
- Runtime Quantity
- Basis
- Resource Offset

- Resource Requirements from Oracle Work in Process
- Operation Hours Required
- Operation Hours Expended
- Operation Start Date

## Overview of Capacity Requirements Planning

CRP verifies that you have sufficient capacity available to meet the capacity requirements for your MRP plans.

CRP is a shorter term capacity planning tool than rough cut capacity planning (RCCP). Like RCCP, CRP is used by marketing and production to balance required and available capacity, and to negotiate changes to the master schedule and/or capacity requirements.

CRP is a more detailed capacity planning tool than rough cut capacity planning in that it considers scheduled receipts and on-hand inventory quantities when calculating capacity requirements. Your detailed capacity plans are therefore a statement of the capacity required to meet your net production requirements.

As with RCCP, you can perform detailed capacity planning at two levels. If you want to plan detailed capacity by resource, then you should use routing-based CRP. Required and available capacity are stated in hours per week per resource.

If you prefer to plan your detailed capacity by production line, use rate-based CRP. Required and available capacity are stated by production rate per week per line.

If you wish to use CRP, but would like to restrict the process to key or critical resources, you can define groups of selected resources and review CRP plans for specific resource groups only. You can define your resource groups in Oracle Capacity and Oracle Bills of Material. You can assign resources to resource groups in Oracle Bills of Material.

You can also create a routing for a product family item.

## Routing-Based CRP

Routing-based CRP calculates and compares required capacity to available capacity for the individual resources you assign to operations on your routings.

Required and available capacity are stated in hours per week per resource.

## Required Hours Calculation

Unlike routing-based RCCP, which uses master schedule quantities and bills of resources to calculate capacity requirements, routing-based CRP calculates capacity requirements using the dates and quantities generated by the planning process. Total requirements are calculated by summing the requirements generated by:

- planned orders
- repetitive schedules
- discrete jobs
- non standard jobs

## Required Hours for Planned Orders and Repetitive Schedules

For planned orders for items that use Item basis resources, routing-based CRP calculates required hours using the following formula:

$$\text{required hours} = \text{runtime quantity} \times \text{order quantity}$$

Routing-based CRP treats repetitive schedules as if they were planned orders for each day in the period spanned by the schedule start and end dates. Thus, for the repetitive schedules, order quantity is the suggested daily rate.

For planned orders for items that use Lot basis resources, routing-based CRP calculates required hours using the following formula. Notice that for Lot basis resources, the order quantity has no impact on required hours.

$$\text{required hours} = \text{runtime quantity}$$

The following table shows four plan entries for C, and illustrates how, for each entry, routing-based CRP calculates required hours and dates for D1, R2. Using resource requirements loaded from Oracle Bills of Material - Oracle Capacity determined that 8 hours of D1, R2 are required to build one unit of C, and that the resource offset for D1, R2 is 0.5. See: Bill of Resources Example, Assume a lead time of 2 days for building C. In this example, 18 units of C are required on 03-FEB. These 18 units represent derived demand from the discrete job for 6 units of A due on 07-FEB. Routing-based CRP calculates the required hours for D1, R2 as  $18 \times 8 = 144$  hours. Routing-based CRP calculates the required date as  $03\text{-FEB} - (2 \times (1 - 0.5)) = 03\text{-FEB} - 1 = 02\text{-FEB}$ . 05-FEB and 06-FEB are non workdays.

***Required Hours and Dates for D1, R2***

Item	Plan Date	Plan Qty	Required Hours	Required Date
A	03-Feb	18	144	02-Feb
A	03-Feb	12	96	02-Feb

Item	Plan Date	Plan Qty	Required Hours	Required Date
A	08-Feb	30	240	07-Feb
A	11-Feb	30	240	10-Feb

The following table illustrates how routing-based CRP uses required dates to bucket the required hours for D1, R2 into weekly buckets. The example assumes that the first bucket starts on 31-JAN.

***Bucketed Required Hours and Required Dates for D1, R1***

Week Start Date	Department	Resource	Required Hours
31-Jan	D1	R2	240
07-Feb	D1	R2	480

Routing-based CRP treats suggested repetitive schedules as if they were planned orders for each workday between the schedule start date and the schedule end date, and calculates required hours and required dates using the same calculations illustrated in the previous example.

## Required Hours for Discrete and Non-Standard Jobs

Routing-based CRP calculates required hours for discrete and non-standard jobs using the following formula:

$$\text{total hours} = \text{required hours} - \text{expended hours}$$

Since the Snapshot loads operation start dates directly from Oracle Work in Process, required dates are already known and there is no need for routing-based CRP to calculate them.

Oracle Capacity calculates required hours and dates for all discrete and non-standard jobs, and adds them to the required hours and dates calculated for planned orders and repetitive schedules for each resource.

## Available Hours Calculation

Like routing-based RCCP, routing-based CRP calculates available hours using the resource availability information you define in Oracle Bills of Material.

You can define resources, departments, shifts, and shift calendars in Oracle Bills of Material. Having defined your departments, resources, and shifts, you can assign shifts to resources and resources to departments.

Routing-based CRP calculates available hours for a resource by summing the available hours for each shift that uses the resource using the following formula:

$$\text{available hours} = \text{capacity units} \times \text{shift hours per day} \times \text{shift days per week} \times \text{efficiency} \times \text{utilization}$$

For 24-hour resources, routing-based CRP modifies the formula as follows:

$$\text{Available hours} = \text{capacity units} \times 24 \text{ hours per day} \times \text{workdays per week} \times \text{efficiency} \times \text{utilization}$$

Capacity units represents the number of resource units available to a department. Shift hours per day and shift days per week reflect the availability times you specify for each shift in Oracle Bills of Material. Workdays per week reflect the number of workdays in the week based on the workday calendar you define in Oracle Bills of Material.

The following table illustrates how routing-based CRP would calculate available hours for D1, R2, assuming that you have assigned it to two shifts, Shift 1 and Shift 2. In this example, the available hours for D1, R2 on Shift 1 is  $2 \times 6 \times 5 = 60$  hours. Routing-based CRP would calculate the total hours available for D1, R2 as  $60 + 80 = 140$  hours per week.

***Available Hours for D1, R2***

Shift	Capacity Unit	Shift Hours/Day	Shift Days/Week	Available Hours
Shift 1	2	6	5	60
Shift 2	2	8	5	80

## Load Ratio Calculation

Routing-based CRP calculates capacity load ratio for each resource by dividing the total required hours per week by the total available hours per week, using the following formula:

$$\text{capacity load ratio} = \text{required hours} / \text{available hours}$$

The following table illustrates how routing-based CRP would calculate capacity load

ratio for D1, R2 for the weeks starting 31-JAN and 07-FEB. In the Resource Requirements Snapshot Example, the capacity load ratio for D1, R2, for the week starting 31-JAN, is  $240/140 \times 100\% = 171\%$ .

**Capacity Load Ratio for D1, R2**

Week Start Date	Required Hours	Available Hours	Capacity Load Ratio
31-Jan	240	140	171%
07-Feb	480	140	343%

Notice that D1, R2 is overloaded for both weeks.

## Rate-Based CRP

Rate-based CRP calculates and compares required capacity to available capacity for production lines rather than individual resources assigned to operations on your routings. Required and available capacity are stated in production rate per week per line.

You can associate a production line with a product family item.

## Required Rate Calculation

Unlike rate-based RCCP, which uses master schedule quantities and bills of resources to determine capacity requirements, rate-based CRP calculates capacity requirements using the dates and quantities generated by the planning process.

Rate-based CRP calculates capacity requirements and availabilities for items you have defined as repetitive assemblies and assigned to production lines in Oracle Work in Process.

B and C are defined as repetitive assemblies and assigned to production lines in Oracle Work in Process.

**Production Line Details for B and C**

Item	Line	Line Priority	Production Rate	Max Hourly Rate	Line Hours/Day	Line Days/Week
B	Line 1	1	75	100	12	5

Item	Line	Line Priority	Production Rate	Max Hourly Rate	Line Hours/Day	Line Days/Week
B	Line 2	2	50	100	6	5
C	Line 1	1	100	100	12	5

### Line Priority

You can use line priorities to indicate your preferred production lines for building a repetitive assembly. Line priority is used by Oracle Master Scheduling/MRP's repetitive schedule allocation process to allocate aggregate repetitive schedules to individual lines. In this example, Line 1 is the preferred line for building item B.

### Production Rate

Production rate represents the maximum hourly rate that you can build an assembly on a particular line. The production rate you specify for an assembly can never exceed the maximum hourly rate specified for the production line you defined in Oracle Work in Process.

## Maximum Hourly Rate

Maximum hourly rate represents the maximum production rate for a production line across all assemblies.

Rate-based CRP:

Calculates the required rate for each line by taking each suggested repetitive schedule on your MRP plan and using the repetitive schedule allocation process to allocate the planned rate across individual production lines.

Determines the required date for each rate during the gross-to-net explosion performed by the planning process.

Buckets the required rates into weekly buckets.

Note that there is no need to offset rate start and end dates since lead time offsets are applied during the planning process. The following tables show three plan entries for A.

**Master Schedule for A**

Item	Order Start Date	Order End Date	Order Quantity
A	07-Feb	07-Feb	100
A	10-Feb	10-Feb	100
A	15-Feb	15-Feb	100

Remember that the lead times for A, B, and C are 2 days each, and that the usage quantities for B and C are 2 and 3 respectively. 05-FEB and 06-FEB are non workdays.

**Required Dates and Required Rates for B and C**

Item	Rate Start Date	Rate End Date	Daily Rate
B	01-Feb	01-Feb	200
C	01-Feb	01-Feb	300
B	04-Feb	04-Feb	200
C	04-Feb	04-Feb	300
B	09-Feb	09-Feb	200
C	09-Feb	09-Feb	300

The following table illustrates how the repetitive schedule allocation process would divide the two repetitive schedules across Lines 1 and 2 using the line priorities and production rates specified earlier.

**Repetitive Schedule Allocation**

Item	Line	Required Rate	Max Hourly Rate	Production Rate	Load Factor	Load Rate
B	Line 1	200	100	75	1.33	267



Item	Line	Required Rate	Max Hourly Rate	Production Rate	Load Factor	Load Rate
C	Line 1	300	100	100	1	300

### Required Rate

Required rate represents the production rate allocated to an individual production line by the repetitive schedule allocation process. In this example, there is sufficient capacity to allocate the entire required rate for B to Line 1 since Line 1 has a production rate of 75/hour for B, and is available for 12 hours/day. Similarly, there is sufficient capacity to allocate the entire required rate for C to Line 2.

## Load Factor

Rate-based CRP uses load factors to aggregate required rates across a line since different items often require different production rates on the same line. Aggregating load rates rather than required rates ensures that line requirements generated by different items are aggregated on an equal basis. Rate-based CRP calculates load factors using the following formula:

$$\text{load factor} = \text{max hourly rate} / \text{production rate}$$

In this example, the maximum hourly rate for Line 1 is 100/hour, and the production rate for item B on Line 1 is 75/hour. Rate-based CRP would calculate the load factor for item B on Line 1 as  $100/75 = 1.33$ .

## Load Rate

Load rate represents the weighted required rate for a production line. Rate-based CRP calculates load rates using the following formula:

$$\text{load rate} = \text{required rate} \times \text{load factor}$$

In this example, the required rate for item B on Line 1 is 200/hour, and the load factor for item B on Line 1 is 1.3. Rate-based CRP would calculate the load rate as  $200 \times 1.33 = 267$  units per hour.

The previous table illustrates the required rate for each item/line combination for one day. Rate-based CRP aggregates the load rates by line and stores them as a required rate for the line for each day within the period defined by the rate start and end dates.

The following table illustrates the required rates and dates for Line 1.

**Required Dates and Required Rates for Line 1**

Line	Required Date	Required Rate
Line 1	01-Feb	567
Line 1	04-Feb	567
Line 1	09-Feb	567

The following table illustrates how rate-based CRP uses required dates to bucket the required rates for Line 1 into weekly buckets. The example assumes that the first bucket starts on 31-JAN.

**Bucketed Required Dates and Required Rates for Line 1**

Week Start Date	Line	Required Rate
31-Jan	Line 1	1134
07-Feb	Line 1	567

## Available Rate Calculation

Like rate-based RCCP, rate-based CRP calculates the available rate for a production line using the line availability information you define in Oracle Work in Process and Oracle Bills of Material.

Rate-based CRP calculates the available rate for a production line using the following formula:

**available rate = max hourly rate x line hours per day x line days per week**

Line hours per day represents the start and stop times you specify for the production line in Oracle Work in Process. Line days per week reflect the number of workdays in the week based on the workday calendar you define in Oracle Bills of Material.

The following table illustrates how rate-based CRP would calculate the available rate for Line 1 assuming that you have defined it to be available 12 hours per day, 5 days per week. In this example, rate-based CRP would calculate the available rate for Line 1, for the week starting 31-JAN, as  $100 \times 12 \times 5 = 6,000$  units per week.

#### ***Available Rate for Lines 1***

Line	Max Hourly Rate	Line Hours/Day	Line Hours/Week	Available Rate
Line 1	100	12	5	6,000

## Load Ratio Calculation

Rate-based CRP calculates capacity load ratio for each line by dividing the total required rate per week by the total available rate per week, using the following formula:

$$\text{capacity load ratio} = \text{required rate} / \text{available rate}$$

The following table illustrates how rate-based CRP would calculate capacity load ratio for Line 1 for the weeks starting 31-JAN and 07-FEB. In the Resource Requirements Snapshot Example, the capacity load ratio of Line 1 for the week starting 07-FEB is  $1134/6000 \times 100\% = 18.9\%$ .

#### ***Capacity Load Ratio***

Week Start Date	Required Date	Available Rate	Capacity Load Ratio
31-Jan	1134	6000	18.9%
07-Feb	567	6000	9.4%

Notice that the rough cut analysis reveals that Line 1 is underloaded in both weeks.

## Generating CRP

You can generate your routing-based and rate-based CRP plans, on-line, for any material requirements plan you choose. You can specify a simulation set, and a resource group when generating your CRP plan, and you can optionally choose to aggregate requirements for multi-department resources across all the departments that share them.

#### **See Also:**

- Creating Simulation Sets
- Defining Resource Groups

- Capacity Planning, *Oracle Master Scheduling/MRP and Oracle Supply*
- *Chain Planning User's Guide*

## Viewing CRP

You can use the Planner Workbench in Oracle Master Scheduling/MRP and Oracle Supply Chain Planning to view capacity information. You can display the weekly capacity requirements for a material requirements plan. You can compare capacity requirements to available capacity and review weekly capacity load ratio. You can display capacity plans for individual resources, in hours per resource per week, or for production lines, by production rates per week per line.

See Also

Viewing Capacity Information from the Planner Workbench, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*

### To view capacity information:

1. Navigate to the Planner Workbench.
2. Find the plan for which you want to find capacity information.
3. Choose Resources.  
The Find window appears.
4. Enter your search criteria in any of the following fields:
  - Org
  - Department Class
  - Department/Line
  - Maximum Rate
  - Minimum Rate
  - Owning Department
  - Resource
  - Resource Type
5. Select a Condition.

6. Enter a value for From and, if necessary, one for To.
7. Choose Find to find capacity information that matches the search criteria you just entered.

The Resource window appears.

**Note:** You can query in Load Ratio to see for which dates a department/resource is overloaded/underloaded. For example, specify ">100" in the query to see which weeks this department/resource is overloaded. See: Performing Query-by-Example and Query Count, Oracle Applications User's Guide

### **To generate a graphical display of capacity data**

You can view a graph of the horizontal capacity data. The graph contains:

- all horizontal plan data
  - a graph comparing load to capacity
  - optionally, a pivot table
1. Navigate to the Resource window.
  2. Check the Resources.
  3. Choose Horizontal Capacity Plan.
  4. Choose Graph.

## **Resource Requirements Snapshot**

The first step in calculating detailed capacity requirements, for both routing and rate-based CRP, is to load resource requirements from Oracle Bills of Material and Oracle Work in Process. This is done by the Snapshot during the planning process.

The capacity requirements calculated for each resource by routing-based CRP represent the summation of the requirements generated by planned orders, suggested repetitive schedules, discrete jobs, and non-standard jobs. The Snapshot loads resource requirements for planned orders and suggested repetitive schedules from Oracle Bills of Material and loads resource requirements for discrete and non-standard jobs from Oracle Work in Process.

The resource requirements loaded from Oracle Bills of Material are also used by rate-based CRP when calculating rate requirements on production lines. Resource requirements are based on the effective date ranges in routings. Resource requirements for phantom assemblies are included in the requirements for the planned orders of their

parent assemblies.

## Resource Requirements Snapshot Example

The following examples illustrate the resource requirements load by the Snapshot for two components, B and C, and their parent item, A. The following table illustrates the bill of material for A.

### *Bill of Material for A*

Level	Item	Quantity
1	A	1
.2	.B	2
.2	.C	3

The following table illustrates the corresponding routings and associated resource usages for items A, B, and C.

### *Routings for A, B, and C*

Item	OpSeq	Dept	Resource	Basis	UOM	Usage
A	10	D3	R1	Item	HR	4
A	20	D3	R2	Item	HR	4
B	10	D2	R1	Item	HR	6
B	20	D2	R2	Item	HR	6
C	10	D1	R1	Lot	HR	8
C	20	D1	R2	Item	HR	8

### Usage Rate

Usage rate represents the amount of resource required to build one unit of an item at a particular operation. The usage rate is stated the unit of measure you specify when defining the resource in Oracle Bills of Material. In the Resource Requirements

Snapshot Example, building one unit of C at operation 20 requires 8 hours of D1, R2.

**Note:** Oracle Capacity only plans routing-based capacity for resources that have a unit of measure that is time-based and can be converted to hours.

See Also: Basis

## Resource Requirements from Oracle Bills of Material

The following table illustrates the resource requirements loaded by the Snapshot from Oracle Bills of Material. These are used by routing-based CRP to calculate resource requirements for planned orders and repetitive schedules.

Table: Resource Requirements for A, B, and C

## Runtime Quantity

Runtime quantity represents the number of resource hours required per resource unit to build one unit of an item at an operation. Runtime quantity is derived from the usage rate and unit of measure you specify in Oracle Bills of Material. If you have defined a usage rate using a unit of measure other than hours, the Snapshot converts it to an hourly rate.

Runtime quantity is analogous to the required hours generated by the bill of resource load process in RCCP. In Resource Requirements Snapshot Example, building one unit of A at operation 20 requires 8 hours per unit of D1, R2.

## Basis

Basis is used to specify whether a resource is required on a per item or per lot basis. Basis has a direct impact on the hours required of a resource at an operation.

If the resource basis is Item, increasing the number of items to be processed at an operation increases required hours. For example, doubling the number of items that require grinding doubles the hours required of a grinder. The relationship between required hours, runtime quantity, and order quantity for Item basis resources is represented by the following formula. In the example, all resources except D1, R1 are item basis resources.

If the resource basis is Lot, increasing the number of items to be processed at an operation does not have an effect on required hours. For example, doubling the number of items that require drying does not double the hours required of a drying room. The relationship between required hours and runtime quantity for Lot basis resources is represented by the following formula. In the Resource Requirements Snapshot Example, D1, R1 is a lot basis resource.

## Resource Offset

Routing-based CRP applies resource offsets to lead times to determine the time period before the completion of an item that a resource is required. This time period, which is analogous to the setback days calculated by the bill of resource load for RCCP, is calculated using the following formula:

Routing-based CRP then calculates resource requirement dates by applying the resource offset to order due dates using the following formula:

Order date represents the planned order due date for planned orders and the completion date for discrete and non-standard jobs. Routing-based CRP treats suggested repetitive schedules as if they were planned orders for each workday between the schedule start date and the schedule end date, so for repetitive schedules, order date represents any date for which the schedule is active.

In RCCP, setback days for bills of resources is derived from processing lead times that are calculated by the lead time rollup process using the lead time lot size for the item. This is necessary since RCCP cannot anticipate what actual demand quantities will be placed via a master schedule. Since CRP uses actual planned order, repetitive schedule, and work in process job quantities, it can use the more accurate lead times calculated by the planning process using the following formula:

As a result of these more accurate lead times, CRP calculates resource requirement dates that are more realistic than those calculated by RCCP.

## Resource Requirements from Oracle Work in Process

The following table illustrates the resource requirements loaded by the Snapshot from Oracle Work in Process. These are used by routing-based CRP to calculate resource requirements for discrete and non-standard jobs. The example assumes that you have defined a discrete job for 6 units of A, due to complete on 07-FEB. 05-FEB and 06-FEB are non workdays.

***Resource Requirements from a Discrete Job for A***

Item	Op Seq	Dept	Res	Operation Hours Required	Operation Hours Expended	Operation Start Date
A	10	D3	R1	24	0	03-Feb
A	20	D3	R2	24	0	04-Feb



## **Operation Hours Required**

Operation hours required represents the number of hours required to complete the total job quantity scheduled for an item at an operation.

## **Operation Hours Expended**

Operation hours expended represents the number of hours that have been consumed by partial completion of the total job quantity at an operation.

If a job has not yet started consuming resources at an operation, then expended hours is zero. In this example, no resources have been consumed so far by the discrete job for A.

## **Operation Start Date**

The operation start date represents the date when a resource is expected to be consumed. Oracle Capacity assumes that all resources for an operation are consumed at the start date of the operation.



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## Reports

This chapter covers the following topics:

- Overview of Reports
- Bill of Resources Report
- CRP Rate-Based Report
- CRP Routing-Based Report
- RCCP Rate-Based Report
- RCCP Routing-Based Report

### Overview of Reports

This section explains how to submit report requests and briefly describes each Capacity report. For additional information on planning reports and processes, see Reports, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning*.

### Bill of Resources Report

Use the Bill of Resources Report to review your bills of resources. You can use bills of resources to calculate rough cut capacity plans for your master schedules without defining detailed bills or routings. You can also simulate different manufacturing methods as well as long-term plan resource requirements by defining multiple bills of resources for items. You can also use a bill of resource to simulate changes to existing routings and bills of material.

#### Report Submission

In the Submit Requests window, enter Bill of Resources Report in the Name field.

#### Report Parameters

Bill of Resource Set: Enter the name of the bill of resource set.

Resource Group: Enter a resource group to restrict the capacity plan to the resources

contained within the group.

Items From/To: To restrict the report to a range of items, select the beginning and ending item numbers

**See Also:**

Submitting a Request, *Oracle Applications User's Guide*

## CRP Rate-Based Report

The CRP Rate-Based Report displays detailed capacity information for repetitively planned items manufactured on rate based lines for a selected material requirements plan. You can display the report information in a combination of weekly and periodic buckets. You can report on lines where load ratio falls below or exceeds a specified percentage. You can report capacity information on all production lines, a range of lines, or a specific line. You can optionally include requirements details that displays each resource requirement along with information pertaining to the source of the requirement.

**Note:** You can launch this report from Master Scheduling/MRP and Oracle Supply Chain Planning modules.

### Report Submission

In the Submit Requests window, enter CRP Rate-Based Report in the Name field.

### Report Parameters

- Plan Name: Enter an MRP plan name for which you want to report a capacity requirements plan.
- Periods: Choose one of the following time periods:
  - 12: Report the capacity plan for 12 periods.
  - 24: Report the capacity plan for 24 periods.
  - 36: Report the capacity plan for 36 periods.
  - 48: Report the capacity plan for 48 periods.
- Weeks: Enter the number of weeks. Together with the number of periods you chose, this determines how many weeks and how many months appear in the report.

For example, suppose you choose 24 periods and 10 weeks. Oracle Capacity displays 10 of the 24 periods on the report as weeks and the remaining 14 periods as months.

This field presents as valid choices only those values that insure whole month

buckets in the rest of the report. For example, suppose your organization calendar has a 445 weekly quarter pattern, and that the current date falls in the third week of the first period in the quarter. Oracle Capacity presents only those values that correspond to the end of future months; thus, you see choices for 1 (end of current month) 5 (end of next month) and 10 weeks (end of quarter.)

- Include Costs: Choose one of the following options:
  - No: Do not display the standard cost of each resource.
  - Yes: Display the standard cost of each resource. Display the cost estimate for each period, equal to the resource cost times the total requirements for a period; plus any applicable department overhead.
- Include Requirements Detail: Choose one of the following options:
  - Yes: Include the vertical requirements listing. This listing displays each resource requirement along with information on the MRP source of the requirement.
  - No: Do not report the vertical requirements listing.
- Resource Underloaded: Enter a percentage to use as the minimum percent cutoff.
- Resource Overloaded: Enter a percentage to use as the maximum percent cutoff.
- Line From/To: To restrict the report to a range of production lines, select the beginning and ending production lines.
- Horizontal Display Factor: Enter a space saving factor by which all numbers in the horizontal listing section are divided by. For example, if the horizontal display factor is 100, 1050.25 is displayed as 1050. Oracle Capacity displays 1 as the default.

**See Also:**

- Defining MRP Names, *Oracle Master Scheduling/MRP User's Guide*
- Submitting a Request, *Oracle Applications User's Guide*

## CRP Routing-Based Report

The CRP Routing-Based Report displays the capacity requirements plan for a given material requirements plan you specify, as well as information on resource availability. You can use this information to adjust capacity and/or the MRP or MPS plans. You can sort the report by department or resource. You can include requirements and cost detail. You can specify the periods and number of weeks within the periods for which to display information. You can display modified capacity information for a selected simulation set. You can report on aggregate requirements for multi-department

resources.

**Note:** You can launch this report from Master Scheduling/MRP and Oracle Supply Chain Planning modules.

### Report Submission

In the Submit Requests window, enter CRP Routing-Based Report in the Name field

### Report Parameter

- **Plan Name:**(Required, Default): Enter an MRP plan name for which you want to report a capacity requirements plan.
- **Simulation Set** (Required, Default) : Enter a simulation set to include the capacity modifications within the simulation set when calculating available capacity.
- **Periods** (Required, Default): Choose one of the following options:
  - 12: Report the capacity plan for 12 periods.
  - 24: Report the capacity plan for 24 periods.
  - 36: Report the capacity plan for 36 periods.
  - 48: Report the capacity plan for 48 periods.
- **Weeks** (Required default): Enter the number of weeks. Together with the number of periods you chose, this determines how many weeks and how many months appear in the report.

For example, suppose you choose 24 periods and 10 weeks. Oracle Capacity displays 10 of the 24 periods on the report as weeks and the remaining 14 periods as months.

This field presents as valid choices only those values that insure whole month buckets in the rest of the report. For example, suppose your organization calendar has a 445 weekly quarter pattern, and that the current date falls in the third week of the first period in the quarter. Oracle Capacity presents only those values that correspond to the end of future months; thus, you see choices for 1 (end of current month) 5 (end of next month) and 10 weeks (end of quarter.)

- **Aggregate Requirements** (Required, Default):
  - No: Do not aggregate requirements for multi-department resources.
  - Yes: Aggregate requirements for multi-department resources.
- **Sort** (Required, Default): Choose one of the following options:

- Department: Report the capacity plan sorted by department.
- Resource: Report the capacity plan sorted by resource.
- **Include Costs**(Required, Default):
  - No: Do not display the standard cost of each resource.
  - Yes: Display the standard cost of each resource. Display the cost estimate for each period, equal to the resource cost times the total requirements for a period; plus any applicable department overhead.
- **Include Requirements Detail**(Required, Default): Choose one of the following options:
  - Yes: Include the vertical requirements listing. This listing displays each resource requirement along with information on the MRP source of the requirement.
  - No: Do not report the vertical requirements listing.
- **Resource Underloaded** (Required, Default): Enter a percentage to use as the minimum percent cutoff.
- **Resource Overloaded** (Required, Default): Enter a percentage to use as the maximum percent cutoff.
- **Resource Group** (Required, Default): Enter a resource group to display the capacity plan for the resources within the group.
- **Department From** (Required, Default): Enter a beginning department in a range of departments. Oracle Capacity reports the capacity plan from this value to the To value.
- **Department To** (Required, Default): Enter an ending department in a range of departments. Oracle Capacity reports the capacity plan from the From value to this value
- **Resource From** (Required, Default): Enter a beginning resource in a range of resources. Oracle Capacity reports the capacity plan from this value to the To value
- **Resource To**(Required, Default): Enter an ending resource in a range of resources. Oracle Capacity reports the capacity plan from the From value to this value.
- **Horizontal Display Factor** (Required, Default): Enter a space saving factor by which all numbers in the horizontal listing section are divided by. For example, if the horizontal display factor is 100, 1050.25 is displayed as 1050. Oracle Capacity displays 1 as the default.

### See Also

- Defining MRP Names, *Oracle Master Scheduling/MRP and Supply Chain Planning User's Guide*
- Creating Simulation Sets, Submitting a Request, *Oracle Applications User's Guide*

## RCCP Rate-Based Report

The RCCP Rate-Based Report displays the rough-cut capacity information for repetitively planned items manufactured on rate based lines for a selected master schedule and a bill of resource. You can display the report information in a combination of weekly and periodic buckets. You can report on lines where load ratio falls below or exceeds a specified percentage. You can report rough-cut capacity information on all lines, a range of lines, or a specific line.

**Note:** You can launch this report from Master Scheduling/MRP and Oracle Supply Chain Planning modules.

**Report Submission:** In the Submit Requests window, enter RCCP Rate-Based Report in the Name field.

### Report Parameters

- Schedule Name: Enter a master schedule name for which you want to generate a rough-cut capacity planning report.
- Bill of Resources: Enter a bill of resources to calculate the rough-cut capacity plan for the schedule.
- Periods: Choose one of the following time periods:
  - 12: Report the rough-cut capacity plan for 12 periods.
  - 24: Report the rough-cut capacity plan for 24 periods.
  - 36: Report the rough-cut capacity plan for 36 periods.
  - 48: Report the rough-cut capacity plan for 48 periods.
- Weeks: Enter the number of weeks. Together with the number of periods you chose, this determines how many weeks and how many months appear in the report.

For example, suppose you choose 24 periods and 10 weeks. Oracle Capacity displays 10 of the 24 periods on the report as weeks and the remaining 14 periods as months.

This field presents as valid choices only those values that insure whole month



buckets in the rest of the report. For example, suppose your organization calendar has a 445 weekly quarter pattern, and that the current date falls in the third week of the first period in the quarter. Oracle Capacity presents only those values that correspond to the end of future months; thus, you see choices for 1 (end of current month) 5 (end of next month) and 10 weeks (end of quarter.)

- Include Costs: Choose one of the following options:
  - No: Do not display the standard cost of each resource
  - Yes: Display the standard cost of each resource. Display the cost estimate for each period, equal to the resource cost times the total requirements for a period; plus any applicable department overhead.
- Include Requirements Detail: Choose one of the following options:
  - Yes: Include the vertical requirements listing. This listing displays each resource requirement along with information on the master schedule source of the requirement.
  - No: Do not report the vertical requirements listing.
- Resource Underloaded: Enter a percentage to use as the minimum percent cutoff.
- Resource Overloaded: Enter a percentage to use as the maximum percent cutoff.
- Line From: Enter a beginning line in a range of production lines. Oracle Capacity reports the rough-cut capacity plan from this value to the To value.
- Line To: Enter an ending line in a range of production lines. Oracle Capacity reports the rough-cut capacity plan from the From value to this value.
- Horizontal Display Factor: Enter a space saving factor by which all numbers in the horizontal listing section are divided by. For example, if the horizontal display factor is 100, 1050.25 is displayed as 1050. Oracle Capacity displays 1 as the default.

**See Also:** Submitting a Request, *Oracle Applications User's Guide*

## RCCP Routing-Based Report

The RCCP Routing-Based Report displays the rough-cut capacity for a master schedule you specify, as well as information on resource availability. This report shows what resources are required for your future production tasks based on a master schedule. This allows you to adjust capacity and/or the master schedule to ensure that you can produce the master schedule. You can sort the report by department or resource. You can include requirements and cost detail. You can specify the periods and number of weeks within the periods for which to display information. You can report rough-cut

capacity plans for a selected bill of resource and you can report on aggregate requirements for multi-department resources. You can display modified capacity information for a selected simulation set.

**Note:** You can launch this report from Master Scheduling/MRP and Oracle Supply Chain Planning modules.

**Report Submission:** In the Submit Requests window, enter RCCP Routing-Based Report in the Name field.

**Report Parameters:**

- **Schedule Name:** Enter a master schedule name for which you want to generate a rough-cut capacity planning report.
- **Bill of Resources:** Enter a bill of resources to calculate the rough-cut capacity plan for the schedule.
- **Simulation Set:** Enter a simulation set to include the capacity modifications within the simulation set when calculating available capacity.
- **Periods:** Choose one of the following time periods:
  - 12: Report the rough-cut capacity plan for 12 periods.
  - 24: Report the rough-cut capacity plan for 24 periods.
  - 36: Report the rough-cut capacity plan for 36 periods.
  - 48: Report the rough-cut capacity plan for 48 periods
- **Weeks:** Enter the number of weeks. Together with the number of periods you chose, this determines how many weeks and how many months appear in the report.

For example, suppose you choose 24 periods and 10 weeks. Oracle Capacity displays 10 of the 24 periods on the report as weeks and the remaining 14 periods as months.

This field presents as valid choices only those values that insure whole month buckets in the rest of the report. For example, suppose your organization calendar has a 445 weekly quarter pattern, and that the current date falls in the third week of the first period in the quarter. Oracle Capacity presents only those values that correspond to the end of future months; thus, you see choices for 1 (end of current month) 5 (end of next month) and 10 weeks (end of quarter.)

- **Aggregate Requirements:** Choose one of the following options:
  - *N0*: Do not aggregate requirements for multi-department resources.

- *Yes*: Aggregate requirements for multi-department resources.
- **Sort**: Choose one of the following options:
  - **Department**: Report the rough-cut capacity by department.
  - **Resource**: Report the rough-cut capacity by resource.
- **Include Costs**: Choose one of the following options:
  - **No**: Do not display the standard cost of each resource.
  - **Yes**: Display the standard cost of each resource. Display the cost estimate for each period, equal to the resource cost times the total requirements for a period; plus any applicable department overhead.
- **Include Requirements Detail**: Choose one of the following options:
  - **Yes**: Include the vertical requirements listing. This listing displays each resource requirement along with information on the master schedule source of the requirement.
  - **No**: Do not report the vertical requirements listing.
- **Resource Underloaded**: Enter a percentage to use as the minimum percent cutoff.
- **Resource Overloaded**: Enter a percentage to use as the maximum percent cutoff.
- **Resource Group**: Enter a resource group to display the rough-cut capacity plan for the resources within the group.
- **Department From**: Enter a beginning department in a range of departments. Oracle Capacity reports the rough-cut capacity plan from this value to the To value.
- **Department To**: Enter an ending department in a range of departments. Oracle Capacity reports the rough-cut capacity plan from the From value to this value.
- **Resource To**: Enter an ending resource in a range of resources. Oracle Capacity reports the rough-cut capacity plan from the From value to this value.
- **Horizontal Display Factor**: Enter a space saving factor by which all numbers in the horizontal listing section are divided by. For example, if the horizontal display factor is 100, 1050.25 is displayed as 1050. Oracle Capacity displays 1 as the default.

**See Also:**

- Creating a Simulation Set

- Submitting a Request, *Oracle Applications User's Guide*

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## Tools Menu

### Tools Menu

Depending upon the currently active window and other conditions, the Tools menu includes:

- Work Dates: Displays work dates.
- Week Start Dates: Displays work dates that are the beginning of the week.
- Period Start Dates: Displays work dates that are the beginning of the work period.
- Repetitive Period Start Dates: Displays work dates that are the beginning of the repetitive planning period.
- Preferences: Navigates to the Preferences window where you can define your display options for the horizontal plan and supply/demand detail.

**See Also:**

- Defining RCCP Display Options
- Defining CRP Display Options



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# Windows and Navigator Paths

## Windows and Navigator Paths

This appendix shows you the navigator path for each Oracle Capacity window. Refer to this appendix when you do not already know the navigator path for a window you want to use.

### Capacity Windows and Navigator Paths

Although your system administrator may have customized your navigator, typical navigational paths include the following:

#### *For windows described in other manuals*

<b>See</b>	<b>Refer to this manual for a complete window description</b>
BOM	Oracle Bills of Material User's Guide
CST	Oracle Cost Management User's Guide
Flex	Oracle Applications Flexfields Manual
GL	Oracle General Ledger User's Guide
HR	Oracle Human Resources User's Guide
PO	Oracle Purchasing User's Guide
MRP	Oracle Master Scheduling/MRP and Supply Chain Planning User's Guide

<b>See</b>	<b>Refer to this manual for a complete window description</b>
SYS	Oracle System Administrator's Guide
User	Oracle Applications User's Guide

**Note:** Text in brackets ([ ]) indicates a button.

<b>Window Name</b>	<b>Navigation Path</b>
Bill of Resource Items	Bill of Resources > Bill of Resource Items Bill of Resources > View Bill of Resource Items
Bill of Resource Requirements	Bill of Resources > Bill of Resource Items > [Resource Requirements]
Bill of Resources	Bill of Resources > Bill of Resource Bill of Resources > View Bill of Resource
Change Organization (See MRP)	Other > Change Organization
Concurrent Requests Summary (See User)	Other > Request
CRP Resource Groups Lookups	Setup > Resource Group
Horizontal Plan (RCCP)	Capacity Plan > View RCCP > [Resource] > [Horizontal Capacity Plan]
Load Bill of Resource	Bill of Resources > Load Bill of Resource
Personal Profile Values	Other > Profile
Preferences	Capacity Plan > View RCCP > Tools > Preferences
Resource (RCCP)	Capacity Plan > View RCCP > [Resource]
Selection (RCCP)	Capacity Plan > View RCCP



Window Name	Navigation Path
Simulation Sets	Setup > Simulation Set
Submit Requests	Reports



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# Character Mode Forms and Corresponding GUI Windows

## Character Mode Forms and Corresponding GUI Windows

This appendix describes character mode forms with their corresponding GUI windows or processes.

The following table matches character mode forms with their corresponding GUI windows or processes. This information supplements Windows and Navigator Paths in the product online documentation. Text in brackets ([ ]) indicates a button.

The GUI Navigator paths are based on the Capacity Planner responsibility.

For more information on any window, navigate to the window and choose the help icon.

Character Mode Form and Menu Path	GUI Window or Process, and Navigation Path
Change Organization	Change Organization
\Navigate Other Change Org	Navigator: Other > Change Organization
Define Bill of Resource Sets	Bill of Resources
\Navigate Bill of Resource Sets	Navigator: Bill of Resources > Bill of Resource
Define Resource Groups	CPR_RESOURCES_GROUPS QuickCodes
\Navigate Setup Resource Group	Navigator: Setup > Resource Group

Character Mode Form and Menu Path	GUI Window or Process, and Navigation Path
Define Simulation Sets	Simulation Sets
\Navigate Setup Simulation Sets	Navigator: Setup > Simulation Set
Enter Bill of Resources	Bill of Resource Items
\Navigate Bill of Resources Enter	Navigator: Bill of Resources > Bill of Resource > [Items]  or Navigator: Bill of Resources > Bill of Resource Items  or Bill of Resource Requirements Navigator: Bill of Resources > Bill of Resource > [Items] > [Resource Requirements]  or Navigator: Bill of Resources > Bill of Resource Items > [Resource Requirements]  or Bill of Resources Navigator: Bill of Resources > Bill of Resource
Flexbuilder Test Screen	The FlexBuilder is replaced by the Account Generator feature using Oracle Workflow. See: Account Generator ( <i>Oracle Applications Flexfields Guide</i> )
\ Navigate Application Flexfield FlexBuilder Tes	
Load Bill of Resources	Load Bill of Resource
\Navigate BillOfResources Load	Navigator: Bill of Resources > Bill of Resource > [Items] > [Load] or Navigator: Bill of Resources > Load Bill of Resource or Navigator: Bill of Resources > Load Bill of Resource Items > [Load]
Run Reports	Submit Request window
\ Navigate Report	See: Submit Requests ( <i>Oracle Applications User's Guide</i> )  Navigator: Reports > Run
Update Personal Profile Options	Personal Profile Values
\Navigate Other Profile	Navigator: Other > Profile

Character Mode Form and Menu Path	GUI Window or Process, and Navigation Path
View Bill of Resource \\Navigate Inquiry BillOfResources	<p>Bill of Resources Items</p> <p>Navigator: Bill of Resources &gt; View Bill of Resource &gt; [Items] or</p> <p>Navigator: Bill of Resources &gt; View Bill of Resource Items or</p> <p>Bill of Resources Requirements Navigator: Bill of Resources&gt; View Bill of Resource &gt; [Items] &gt; [Resource Requirements] or</p> <p>Navigator: Bill of Resources&gt; View Bill of Resource Items &gt; [Resource Requirements] or</p> <p>Bill of Resources Navigator: Bill of Resources&gt; View Bill of Resource</p>
View Capacity Plan \\Navigate Inquiry CRP	<p>Horizontal Plan (CRP)</p> <p>Navigator: Capacity Plan &gt; View CRP &gt; [Resource] &gt; [Horizontal Capacity Plan] or</p> <p>Preferences Navigator: Capacity Plan &gt; View CRP. From the Special Menu choose Preferences or</p> <p>Resource (CRP) Navigator: Capacity Plan &gt; View CRP &gt; [Resource] or</p> <p>Selection (CRP) Navigator: Capacity Plan &gt; View CRP or</p> <p>Resource Details (CRP) Navigator: Capacity Plan &gt; View CRP &gt; [Resource] &gt; [Horizontal Capacity Plan] &gt; [Resource Details]</p>
View Concurrent Requests \\Navigate Other Requests	<p>Concurrent Requests Summary</p> <p>Navigator: Other &gt; Request or</p> <p>Concurrent Requests Navigator: Other &gt; Request &gt; [Open] or</p> <p>Requests window From any window choose View My Requests from the Help Menu</p>

Character Mode Form and Menu Path	GUI Window or Process, and Navigation Path
View Concurrent Requests	Requests window
\Navigate Other Requests	See: Viewing Requests (Oracle Applications User's Guide)  Navigator: Concurrent > Requests Choose:  View Output button – to view Request Output  View Log button – to view Request Log  Use the Menu to choose: Special > Managers – to view Manager Log
View Reports	Requests window
\ Navigate Report View	See: Viewing Requests (Oracle Applications User's Guide)  Navigator: Concurrent > Requests Choose:  View Output button – to view Request Output
View Rough Cut Capacity Plan	Horizontal Plan (RCCP)
\Navigate Inquiry RoughCut	Navigator: Capacity Plan > View RCCP > [Resource] > [Horizontal Capacity Plan] or  Preferences Navigator: Capacity Plan > View RCCP. From the Special menu choose Preferences or  Resource (RCCP) Navigator: Capacity Plan > View RCCP > [Resource] or  Selection (RCCP) Navigator: Capacity Plan > View RCCP

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# Glossary

## **Acceptable Early Days**

An item attribute the planning process uses to decide when to suggest rescheduling orders for the item to an earlier date. The planning process only suggests rescheduling orders for the item if the order is due to be received into inventory before the acceptable early date. This attribute is used when it is more economical to build and carry excess inventory for a short time than it is to reschedule the order. This attribute applies to discretely planned items only. The attribute for repetitively planned items is Overrun Percentage

## **Acceptable Rate Decrease**

An item attribute the planning process uses to decide how much to decrease current daily rates for the item inside the planning time fence. The planning process does not suggest a new daily rate less than the current daily rate minus the acceptable rate decrease amount. If you do not define a value for this attribute, the planning process assumes that there is no lower limit to the new daily rate it can suggest for the item inside the planning time fence. If you set this attribute to zero, the planning process assumes it cannot suggest any rate less than the current daily rate inside the planning time fence. Inventory defaults the value of this attribute to zero. This attribute lets you minimize short term disruption to shop floor schedules by restricting short term rate change suggestions. This attribute applies to repetitively planned items only.

## **Acceptable Rate Increase**

An item attribute the planning process uses to decide how much to increase current daily rates for the item inside the planning time fence. The planning process does not suggest a new daily rate that is greater than the current daily rate plus the acceptable rate increase amount. If you do not define a value for this attribute, the planning process assumes there is no upper limit to the new daily rate that it can suggest for the item inside the planning time fence. If you set this attribute to zero, the planning process assumes it cannot suggest any rate greater than the current daily rate inside the planning time fence. Inventory defaults the value of this attribute to zero. This attribute lets you minimize short term disruption to shop floor schedules by restricting short term rate change suggestions and applies to repetitively planned items only.

**accounting period**

The fiscal period a company uses to report financial results, such as a calendar month or fiscal period.

**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.

**action result**

A possible outcome of an order cycle action. You can assign any number of results to a cycle action. Combinations of actions/results are used as order cycle action prerequisites. *See also order cycle, cycle action.*

**actual demand**

The demand from actual sales orders, not including forecasted demand.

**aggregate repetitive schedule**

The sum of detail schedules for an item across all work in process manufacturing lines in terms of a daily rate, and a start and end date.

**aggregate resources**

The summation of all requirements of multi-department resources across all departments that use it.

**anchor date**

The start date of the first repetitive planning period. It introduces consistency into the material plan by stabilizing the repetitive periods as time passes so that a plan run on any of the days during the first planning period does not change daily demand rates.

**append option**

Option or choice to append planned orders to an MRP plan or an MPS plan during the planning process. Append either after the last existing planned order, after the planning time fence, or for the entire plan. The append option is used with the overwrite option. See overwrite option

**application building block**

A set of tables and modules (forms, reports, and concurrent programs) that implement closely-related entities and their processing.

**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.

**automatic rescheduling**

Rescheduling done by the planning process to automatically change due dates on scheduled receipts when it detects that due dates and need dates are inconsistent

**available capacity**

The amount of capacity available for a resource or production line.

**backward consumption days**

A number of days backwards from the current date used for consuming and loading forecasts. Consumption of a forecast occurs in the current bucket and as far back as the backward consumption days. If the backward consumption days enters another bucket, the forecast also consumes anywhere in that bucket. When loading a forecast, only forecasts of the current date minus the backward consumption days are loaded. Therefore, you can use backward consumption days to load forecasts that are past due.

**base model**

The model item from which a configuration item was created.

**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 resource set**

A group of bills of resources. A bill of resource set can have one or many bills of resources within it.

**bill of resources**

A list of each resource and/or production line required to build an assembly, model, or option.

**bill-to address**

The customer's billing address. It is also known as invoice-to address. It is used as a level of detail when defining a forecast. If a forecast has a bill-to address associated with it, a sales order only consumes that forecast if the bill-to address is the same.

**bucket days**

The number of workdays within a repetitive planning period.

**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:  $ATP = \text{Planned production} - \text{committed demand}$ .

**capable to deliver**

Ability to promise product for customer orders based on uncommitted inventory, planned production, material, capacity, transportation resources, and transit time.

**capacity**

modification Deviation to available resources for a specific department shift.

**capacity requirements planning**

A time-phased plan comparing required capacity to available capacity, based on a material requirements plan and department/resource information. See routing-based capacity and rate-based capacity

**carry forward days**

A number of days shifted forward (or backward when using a negative number) when copying a forecast into another forecast or a master schedule into another master schedule. The load process shifts any entries on the source forecast (or schedule) onto the destination forecast (or schedule) forward or backward by this many days.

**chase production strategy**

A production strategy that varies production levels to match changes in demand. This production strategy results in minimal inventory carrying costs at the expense of fluctuating capacity requirements.

**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% 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).

**concurrent manager**

Components of your applications concurrent processing facility that monitor and run time-consuming tasks for you without tying up your terminal. Whenever you submit a request, such as running a report, a concurrent manager does the work for you, letting you perform many tasks simultaneously.

**confidence percent**

The degree of confidence in a forecast that the forecasted item becomes actual demand. When loading schedules from a forecast, the confidence percent is multiplied by the forecast quantity to determine the schedule quantity.

**configuration item**

The item that corresponds to a base model and a specific list of options. Bills of Material creates a configuration item for assemble-to-order models.

**CRP planner**

A process that may optionally be run as part of the planning process. The CRP planner calculates capacity requirements for resources and production lines using the material requirements calculated by the planning process.

**current aggregate repetitive schedule**

The sum of all current work in process repetitive schedules for an item for all lines for a given period in terms of a daily rate, and a start and end date. Current aggregate repetitive schedules can be firm or partially firm. If all current repetitive schedules for an item are firm, then the current aggregate repetitive schedule for the item is also firm. If some, but not all the current repetitive schedules for an item are firm, then the current repetitive schedule is partially firm.

**current date**

The present system date.

**current projected on-hand**

Quantity on-hand projected into the future if scheduled receipts are not rescheduled or cancelled, and new planned orders are not created as per recommendations made by the planning process. Calculated by the planning process as current supply: (nettable quantity on hand + scheduled receipts) - gross requirements. Note that gross requirements for projected on hand does not include derived demand from planned orders. Note also that the planning process uses current due dates rather than suggested due dates to pass down demand to lower level items. See projected available balance.

**cutoff date**

An indication of the last date to be included in a plan or horizon.

**daily rate**

The number of completed assemblies a repetitive schedule plans to produce per day. Also known as production rate. See repetitive rate

**database diagram**

A graphic representation of application tables and the relationships among them.

**deliver-to location**

A location where you deliver goods previously received from a supplier to individual requestors.

**demand class**

A classification of demand to allow the master scheduler to track and consume different types of demand. A demand class may represent a particular grouping of customers, such as government and commercial customers. Demand classes may also represent different sources of demand, such as retail, mail order, and wholesale

**demand management**

The function of recognizing and managing all demands for products, to ensure the master scheduler is aware of them. This encompasses forecasting, order management, order promising (available to promise), branch warehouse requirements, and other sources of demand.

**Demand Time Fence Days**

Days Item attribute used when you set the Planning Time Fence attribute to User-defined time fence. Master Scheduling/MRP calculates the demand time fence for the item as the plan date (or the next workday if the plan is generated on a non workday) plus the value you enter here.

**Demand Time Fence**

Item attribute used to determine a future time inside which the planning process ignores forecast demand and only considers sales order demand when calculating gross requirements for an item. Use this attribute to identify a time fence inside which you wish to build to sales order demand only to reduce the risk of carrying excess inventory. A value of Cumulative manufacturing lead time means Master Scheduling/MRP calculates the demand time fence for the item as the plan date (or the next work-day if the plan is generated on a non workday) plus the cumulative manufacturing lead time for the item. A value of Cumulative total lead time means Master Scheduling/MRP calculates the demand time fence for the item as the plan date (or the next workday if the plan is generated on a non work-day) plus the total manufacturing lead time for the item. A value of Total lead time means Master Scheduling/MRP calculates the demand time fence for the item as the plan date (or the next workday if the plan is generated on a non workday) plus the total lead time for the item. A value of User-defined time fence means Master Scheduling/MRP calculates the demand time fence for the item as the plan date (or the next workday if the plan is generated on a non workday) plus the value you enter for Planning Time Fence Days for the item.

**department**

An area within your organization that consists of one or more people, machines, or suppliers. You can also assign and update resources to a department.

**dependent demand**

Demand for an item that is directly related to or derived from the demand for other items.

**destination forecast**

The forecast you load into when copying a forecast into another forecast.

**disable date**

A date when an Oracle Manufacturing function is no longer available for use. For example, this could be the date on which a bill of material component or routing operation is no longer active, or the date a forecast or master schedule is no longer valid.

**discrete job**

A production order for the manufacture of a specific (discrete) quantity of an assembly, using specific materials and resources, in a limited time. A discrete job collects the costs of production and allows you to report those costs, including variances, by job. Also known as work order or assembly order.

**dock date**

The date you expect to receive a purchase order.

**due date**

The date when scheduled receipts are currently expected to be received into inventory and become available for use.

**end assembly pegging**

A Pegging item attribute option the planning process uses to decide when to calculate and print end assemblies for the item on the Planning Detail Report. Even if you do not select this option, you can still calculate and view end assemblies for the item on-line.

**end date**

Signifies the last date a particular quantity should be forecast on a forecast entry. From the forecast date until the end date, the same quantity is forecast for each day, week or period that falls between that time frame. An entry without an end date is scheduled for the forecast date only.

**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.

**engineering item**

A prototype part, material, subassembly, assembly, or product you have not yet released to production. You can order, stock, and build engineering items.

**entity**

A data object that holds information for an application.

**exception message**

A message received indicating a situation that meets your predefined exception set for an item, such as Items that are overcommitted, Items with excess inventory, and Orders to be rescheduled out.

**exploder**

The first of the three processes that comprise the planning process under the standard planning engine. The exploder explodes through all bills of material and calculates a low level code for each item. The low level codes are used by the planner to ensure that net requirements for a component are not calculated until all gross requirements from parent items have first been calculated. The exploder runs before the snapshot and

planner. Under the memory-based planning engine, the memory-based snapshot performs exploder functions.

**finished good**

Any item subject to a customer order or forecast. See also product

**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.

**firm scheduled receipt**

A replenishment order that is not modified by any planning process. It may be a purchase order, discrete job, or repetitive schedule. An order is firm planned so that the planner can control the material requirements plan.

**Fixed Days Supply**

An item attribute the planning process uses to modify the size and timing of planned order quantities for the item. The planning process suggests planned order quantities that cover net requirements for the period defined by the value you enter here. The planning process suggests one planned order for each period. Use this attribute, for example, to reduce the number of planned orders the planning process would otherwise generate for a discretely planned component of a repetitively planned item.

**Fixed Lot Size Multiplier**

An item attribute the planning process uses to modify the size of planned order quantities or repetitive daily rates for the item. For discretely planned items, when net requirements fall short of the fixed lot size multiplier quantity, the planning process suggests a single order for the fixed lot size multiplier quantity. When net requirements for the item exceed the fixed lot size multiplier quantity, the planning process suggests a single order with an order quantity that is a multiple of the fixed lot size multiplier quantity. For repetitively planned items, when average daily demand for a repetitive planning period falls short of the fixed lot size multiplier quantity, the planning process suggests a repetitive daily rate equal to the fixed lot size multiplier quantity. When average daily demand for a repetitive planning period exceeds the fixed lot size multiplier quantity, the planning process suggests a repetitive daily rate that is a multiple of the fixed lot size multiplier quantity.

**fixed order quantity**

An item attribute the planning process uses to modify the size of planned order quantities or repetitive daily rates for the item. When net requirements fall short of the fixed order quantity, the planning process suggests the fixed order quantity. When net requirements for the item exceed the fixed order quantity, the planning process

suggests multiple orders for the fixed order quantity. For discretely planned items, use this attribute to define a fixed production or purchasing quantity for the item. For repetitively planned items, use this attribute to define a fixed production rate for the item. For example, if your suppliers can only supply the item in full truckload quantities, enter the full truckload quantity as the fixed order quantity for the item.

**flow manufacturing**

Manufacturing philosophy utilizing production lines and schedules instead of work orders to drive production. Mixed models are grouped into families and produced on lines balanced to the TAKT time.

**focus forecasting**

A simulation-based forecasting process that looks at past inventory activity patterns to determine the best simulation for predicting future 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.

**forecast consumption**

The process of subtracting demand generated by sales orders from forecasted demand thereby preventing demand being counted twice in the planning period.

**forecast date**

The date for a forecast entry for an item. A forecast for an item has a forecast date and an associated quantity.

**forecast demand**

A part of your total demand that comes from forecasts, not actual sales orders.

**forecast end date**

A forecast end date implies that until that date, the same quantity is scheduled for each day, week, or period that falls between the forecast date and the end date. A forecast date with no forecast end date is the quantity for that particular day, week, or period, depending on the bucket size.

**forecast end item**

The parent item for components that receive exploded forecasts during forecast explosion. Used to identify the highest level planning or model item from which forecasts for a component can be exploded.



**forecast entry**

A forecast for an inventory item stated by a date, an optional rate end date, and quantity.

**forecast explosion**

Explosion of the forecast for planning and model bills of material. The forecasted demand for the planning or model bill is passed down to create forecasted demand for its components. You can choose to explode the forecast when loading a forecast.

**forecast level**

The level at which a forecast is defined. Also, the level at which to consume a forecast. Example forecast levels include items, customers, customer bill-to, and customer ship to locations.

**forecast load**

The process of copying one or more source forecasts into a single destination forecast. When copying forecasts, you can choose to overwrite all or a subset of existing entries in the destination forecast, specify whether to explode the source forecast, and specify whether to consume the source forecast. You can choose to modify the source forecast by a modification percent, or roll the source forecast forward or backward by a specified number of carry forward days. You can also load compiled statistical and focus forecasts from Inventory, and you can use the forecast interface table to load forecasts into Master Scheduling/MRP from external sources.

**forecast set**

A group of complementing forecasts. For each forecast set, you specify a forecast level, consumption use, update time fence days, outlier update percents, disable date, default time bucket and demand class. A forecast set can have one or many forecasts within it.

**forward consumption days**

A number of days forward from the current date used for consuming and loading forecasts. Consumption of a forecast occurs in the current bucket and as far forward as the forward consumption days. If the forward consumption days enters another bucket, the forecast consumes anywhere in that bucket, as well.

**gross requirements**

The total of independent and dependent demand for an item before the netting of on-hand inventory and scheduled receipts.

**hard reservation**

Sales order demand that you firm by reserving selected inventory for the purposes of material planning, available to promise calculations, and customer service issues.

**independent demand**

Demand for an item unrelated to the demand for other items.

**internal requisition**

See internal sales order, purchase requisition.

**internal sales order**

A request within your company for goods or services. An internal sales order originates from an employee or from another process as a requisition, such as inventory or manufacturing, and becomes an internal sales order when the information is transferred from Purchasing to Order Management. Also known as internal requisition or purchase requisition.

**kanban**

A visual signal to drive material replenishment. A Kanban system delivers material into production as needed to meet demand.

**lead time line**

The production line Bills of Material uses to calculate the processing lead time for a particular repetitive assembly, since lead times may vary on different production lines.

**level production strategy**

A production strategy that maintains stable production levels despite changes in demand. The level production strategy results in minimal fluctuations in capacity requirements at the expense of additional inventory carrying costs.

**line balancing**

Organizing work on the production line so that resources can be synchronized to daily demand.

**line priority**

The line priority indicates which production line to use to build assemblies. You create repetitive schedules on the highest priority line first, then, if the line capacity is less than demand, additional repetitive schedules are created on other lines in decreasing order of their line priority. For example, if demand is for 1000 units per day on two lines with a daily capacity of 750, the line with the highest priority is loaded with 750 and the lower priority line with 250.

For lines of equal priority, the load is allocated evenly across lines.

**load factor**

The maximum hour rate divided by the production rate for a given repetitive assembly and production line.

**load rate**

The required rate multiplied by the load factor for a given production line.

**load ratio**

Required capacity divided by available capacity.

**loader worker**

An independent concurrent process in planning engine, launched by the snapshot monitor, that loads data from operating system files into tables.

**low level code**

A number that identifies the lowest level in any bill of material that a component appears. Low level codes are used by the MRP planner to ensure that net requirements for the component are not calculated until all gross requirements from parent items have first been calculated.

**manual rescheduling**

The most common method of rescheduling scheduled receipts. The planning process provides reschedule messages that identify scheduled receipts that have inconsistent due dates and need dates. The impact on lower level material and capacity requirements are analyzed by material planners before any change is made to current due dates.

**master demand schedule**

The anticipated ship schedule in terms of rates or discrete quantities, and dates.

**master production schedule (MPS)**

The anticipated build schedule in terms of rates or discrete quantities, and dates.

**master schedule**

The name referring to either a master production schedule or a master demand schedule. See master demand schedule and master production schedule

**master schedule load**

The process of copying one or more source forecasts, master schedules, or sales orders into a single destination master schedule. When copying forecasts, you can choose to include all or a subset of sales orders, specify whether to consider demand time fence, and specify whether to consume the source forecast during the load. You can also specify update options to control consumption of the source forecast during the load. When copying master schedules, you can choose to modify the source master schedule by a specified number of carry forward days. When loading sales orders, you can choose to load all or a subset of sales orders, and you can specify whether to consider the demand time fence during the load. You can use the master schedule interface table

to load master schedules from external sources.

**material requirements planning (MRP)**

A process that utilizes bill of material information, a master schedule, and current inventory information to calculate net requirements for materials.

**material scheduling method**

During the planning process, the method used to determine when to stage material used in the production of a discrete job. You can schedule material to arrive on the order start date or the operation start date where a component is required.

**Maximum Order Quantity**

An item attribute the planning process uses to modify the size of planned order quantities or repetitive daily rates for the item. For discretely planned items, when net requirements exceed the maximum order quantity, the planning process suggests the maximum order quantity. For repetitively planned items, when average daily demand for a repetitive planning period exceeds the maximum order quantity, the planning process suggests the maximum order quantity as the repetitive daily rate. Use this attribute, for example, to define an order quantity above which you do not have sufficient capacity to build the item.

**maximum rate**

The maximum number of completed assemblies a production line can produce per hour.

**minimum firm rate**

The aggregate schedule that is partially firm since only some of the detail schedules are firm within a particular time frame

**Minimum Order Quantity**

An item attribute the planning process uses to modify the size of planned order quantities or repetitive daily rates for the item. For discretely planned items, when net requirements fall short of the minimum order quantity, the planning process suggests the minimum order quantity. For repetitively planned items, when average daily demand for a repetitive planning period falls short of the minimum order quantity, the planning process suggests the minimum order quantity as the repetitive daily rate. Use this attribute, for example, to define an order quantity below which it is not profitable to build the item.

**minimum rate**

The minimum number of completed assemblies a production line can produce per hour.

**mixed model map**

Used to design balanced lines. The projected volume and mix of demand for a group of products is used to calculate weighted average work content times. These averages are compared to TAKT time in order to regroup events into balanced operations, and reallocate resources.

**model bill of material**

A bill of material for a model item. A model bill lists option classes and options available when you place an order for the model item.

**modification percent**

Used to modify the destination master schedule entries or forecast entries you are loading by a percent of the source entries.

**module**

A program or procedure that implements one or more business functions, or parts of a business function in an application. Modules include forms, concurrent programs, and subroutines.

**MPS**

See master production schedule.

**MPS explosion level**

An option for a master demand schedule that lets you limit the explosion through unnecessary levels during the MPS planning process. Set the explosion level to the lowest level on the bill of material that an MPS-planned item exists so the planning process does not need to search through all levels for MPS-planned items.

**MPS plan**

A set of planned orders and suggestions to release or reschedule existing schedule receipts for material to satisfy a given master schedule for MPS-planned items or MRP-planned items that have an MPS-planned component. Stated in discrete quantities and order dates.

**MPS-planned item**

An item controlled by the master scheduler and placed on a master production schedule. The item is critical in terms of its impact on lower-level components and/or resources, such as skilled labor, key machines, or dollars. The master scheduler maintains control for these items.

**MRP**

See material requirements planning.

**MRP plan**

A set of planned orders and suggestions to release or reschedule existing schedule receipts for material to satisfy a given master schedule for dependent demand items. Stated in discrete quantities and order dates.

**MRP-planned item**

An item planned by MRP during the MRP planning process.

**multi-department resource**

A resource whose capacity can be shared with other departments.

**nervousness**

Characteristic exhibited by MRP systems where minor changes to plans at higher bill of material levels, for example at the master production schedule level, cause significant changes to plans at lower levels.

**net change simulation**

Process used to make changes to supply and demand and re-plan them.

**net requirements**

Derived demand due to applying total supply (on-hand inventory, scheduled receipts, and safety stock quantities) against total demand (gross requirements and reservations). Net requirements, lot sized and offset for lead time, become planned orders. Typically used for rework, prototype, and disassembly.

**option**

An optional item component in an option class or model bill of material.

**option class**

A group of related option items. An option class is orderable only within a model. An option class can also contain included items.

**option class bill of material**

A bill of material for an option class item that contains a list of related options.

**option item**

A non-mandatory item component in an option class or model bill of material.

**order date**

The date an order for goods or services is entered. See also work order date.

**order modifier**

An item attribute that controls the size of planned orders suggested by the planning process to mimic your inventory policies.

**organization**

A business unit such as a plant, warehouse, division, department, and so on. Order Management refers to organizations as warehouses on all Order Management windows and reports.

**origination**

The source of a forecast entry or master schedule entry. When you load a forecast or master schedule, the origination traces the source used to load it. The source can be a forecast, master schedule, sales order, or manual entry.

**outlier quantity**

The amount of sales order left over after the maximum allowable amount (outlier update percent) was used to consume a forecast.

**outlier update percent**

The maximum percent of the original quantity forecast that a single sales order consumes. It is used to limit forecast consumption by unusually large sales orders.

**overload**

A condition where required capacity for a resource or production is greater than available capacity.

**overrun percentage**

An item attribute the planning process uses to decide when to suggest new daily rates for the item. The planning process only suggests a new daily rate for the item if the current daily rate exceeds the suggested daily rate by more than the acceptable overrun amount. This attribute lets you reduce nervousness and eliminate minor rate change recommendations when it is more economical to carry excess inventory for a short time than it is to administer the rate change. This attribute applies to repetitively planned items only. The related attribute for discretely planned items is Acceptable Early Days. See acceptable early days.

**overwrite option**

Option to overwrite existing orders on an MRP plan or an MPS plan during the planning process. Without overwriting, you can keep your existing smoothed entries as well as add new ones. By overwriting, you erase the existing entries and add new one according to the current demand. The overwrite option is used with the append option. See append option.

**payback demand**

Temporary material transfer when one project borrows demand from another project.

**payback supply**

Temporary material transfer when one project lends supply to another project.

**percent of capacity**

The required hours divided by the available hours for any given department, resource, and shift combination.

**period**

*See accounting period.*

**pipe**

Allows sessions in the same database instance to communicate with each other. Pipes are asynchronous, allowing multiple read and write access to the same pipe.

**plan horizon**

The span of time from the current date to a future date that material plans are generated. Planning horizon must cover at least the cumulative purchasing and manufacturing lead times, and is usually quite a bit longer.

**planned order**

A suggested quantity, release date, and due date that satisfies net item requirements. MRP owns planned orders, and may change or delete the orders during subsequent MRP processing if conditions change. MRP explodes planned orders at one level into gross requirements for components at the next lower level (dependent demand). Planned orders along with existing discrete jobs also serve as input to capacity requirements planning, describing the total capacity requirements throughout the planning horizon.

**planned purchase order**

A type of purchase order you issue before you order actual delivery of goods and services for specific dates and locations. You normally enter a planned purchase order to specify items you want to order and when you want delivery of the items. You later enter a shipment release against the planned purchase order when you actually want to order the items.

**planner delete worker**

An independent concurrent process, launched by the memory-based planner, that removes previous plan output from the tables. It runs only when the memory-based planner runs without the snapshot.



**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 bill of material**

A bill of material for a planning item that contains a list of items and planning percentages. You can use a planning bill to facilitate master scheduling and/or material planning. The total output of a planning bill of material is not limited to 100% (it can exceed this number by any amount).

**planning exception set**

A set of sensitivity controls used to define exceptions in your plan. You define the exception set according to your selected criteria and then report on exceptions that meet those criteria. You can assign an exception set to an item.

**planning horizon**

The amount of time a master schedule extends into the future.

**planning manager**

A process that performs once-a-day and period maintenance tasks. These tasks include forecast consumption, master schedule relief, forecast and master schedule loads, and other miscellaneous data cleanup activities.

**planning process**

The set of processes that calculates net material and resource requirements for an item by applying on-hand inventory quantities and scheduled receipts to gross requirements for the item. The planning process is often referred to as the MPS planning process when planning MPS-planned items only, and the MRP planning process when planning both MPS and MRP-planned items at the same time. Maintain repetitive planning periods is another optional phase in the planning process.

**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. For discretely planned items, the planning process cannot suggest new planned orders for the item or suggest rescheduling existing orders for the item to an earlier date. For repetitively planned items, the planning process can only suggest new daily rates that fall inside the acceptable rate increase and acceptable rate decrease boundaries defined for the item. A value of Cumulative manufacturing lead time means Master Scheduling/MRP calculates the

planning time fence for the item as the plan date (or the next workday if the plan is generated on a non workday) plus the cumulative manufacturing lead time for the item. A value of Cumulative total lead time means Master Scheduling/MRP calculates the planning time fence for the item as the plan date (or the next workday if the plan is generated on a non workday) plus the total manufacturing lead time for the item. A value of Total lead time means Master Scheduling/MRP calculates the planning time fence for the item as the plan date (or the next workday if the plan is generated on a non workday) plus the total lead time for the item. A value of User-defined time fence means Master Scheduling/MRP calculates the planning time fence for the item as the plan date (or the next workday if the plan is generated on a non workday) plus the value you enter for Planning Time Fence Days for the item.

**Planning Time Fence Days**

An item attribute Master Scheduling/MRP uses when you set the Planning Time fence attribute to User-defined time fence. Master Scheduling/MRP calculates the planning time fence for the item as the plan date (or the next workday if the plan is generated on a non workday) plus the value you enter here.

**postprocessing 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.

**primary line**

See lead time line.

**processing lead time**

The time required to procure or manufacture an item. For manufactured assemblies, processing lead time equals the manufacturing lead time.

**product**

A finished item that you sell. See also finished good.

**production line**

The physical location where you manufacture a repetitive assembly, usually associated with a routing. You can build many different assemblies on the same line at the same time. Also known as assembly line.

**production rate**

Hourly rate of assemblies manufactured on a production line.

**production relief**

The process of relieving the master production schedule when a discrete job is created. This decrements the build schedule to represent an actual statement of supply.

**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.

**purchase order**

A type of purchase order you issue when you request delivery of goods or services for specific dates and locations. You can order multiple items for each planned or standard purchase order. Each purchase order line can have multiple shipments and you can distribute each shipment across multiple accounts. See standard purchase order and planned purchase order.

**purchase requisition**

An internal request for goods or services. A requisition can originate from an employee or from another process, such as inventory or manufacturing. Each requisition can include many lines, generally with a distinct item on each requisition line. Each requisition line includes at least a description of the item, the unit of measure, the quantity needed, the price per item, and the Accounting Flexfield you are charging for the item. See also internal sales order.

**rate-based capacity**

Capacity planning at the production line level. Required capacity, available capacity, and capacity load ratio are calculated for individual production lines. Required and available capacity are stated in terms of production rate per line per week.

**read consistency**

A consistent view of all table data committed by transactions and all changes made by

the user, up to the time of the read.

**repetitive MRP plan**

A set of optimal repetitive schedules which satisfy a given master schedule for repetitive items.

**repetitive planning**

The planning of demand or production for an item in terms of daily rates rather than discrete quantities.

**Repetitive Planning (item attribute)**

An item attribute the planning process uses to decide whether to plan material requirements for the item in terms of discrete quantities or repetitive daily rates.

**repetitive planning period**

A period, defined as a number of days, that smooths the production rate over time. With repetitive planning periods, you can prevent your planned repetitive production rate from fluctuating too frequently.

**repetitive processing days**

The number of days you plan to work on a repetitive schedule, from the first unit start date to the last unit start date.

**repetitive rate**

The daily rate for a repetitive schedule. See daily rate.

**repetitive schedule**

The process of dividing suggested aggregate repetitive schedules and allocating them across individual production lines, based on predefined line priorities and production rates.

**repetitive schedule allocation**

The process of dividing suggested aggregate repetitive schedules and allocating them across individual production lines, based on predefined line priorities and production rates.

**required capacity**

The amount of capacity required for a resource or production line.

**required hours**

The number of resource hours required per resource unit to build one unit of the bill of resources item.

**required rate**

The production rate allocated to an individual production line by the repetitive schedule allocation process.

**requisition**

See purchase requisition and internal sales order.

**rescheduling assumption**

A fundamental piece of planning process logic that assumes that existing open orders can be rescheduled into closer time periods far more easily than new orders can be released and received. As a result, the planning process does not create planned order receipts until all scheduled receipts have been applied to cover gross requirements.

**reservation**

A guaranteed allotment of product to a specific sales order. A hold is placed on specific terms that assures that a certain quantity of an item is available on a certain date when transacted against a particular charge entity. Once reserved, the product cannot be allocated to another sales order or transferred in Inventory. Oracle Order Management checks ATR (Available to Reserve) to verify an attempted reservation. Also known as hard reservation.

**resource**

Anything of value, except material and cash, required to manufacture, cost, and schedule products. Resources include people, tools, machines, labor purchased from a supplier, and physical space.

**resource group**

Resources grouped together according to user-defined criteria to facilitate bill of resource generation and capacity planning.

**resource offset percent**

An operation resource field that represents, as a percent of the processing lead time for an item, the item when a resource is required on a routing. For example, if the processing lead time for an item is 10 days, and the resource is required on the fourth day, then the resource offset percent is 30%. Capacity uses resource offset percent to calculate setback days during the bill of resource load process.

**resource roll up**

Rolls up all required resources for a end assembly based on the routing and bill of material structure.

**resource set**

A grouping of bills of resources.

**resource hours**

The number of hours required by a repetitive schedule, discrete job or planned order.

**resource units**

The number of units of a resource available for this resource at this operation.

**rough cut capacity planning**

The process of converting the master schedule into capacity needs for key resources. See routing-based capacity and rate-based capacity

**rough cut planner**

The routine that automatically calculates required resources for rough cut capacity planning (done when running a report or inquiry).

**Rounding Control**

An item attribute the planning process uses to decide whether to use decimal or whole number values when calculating planned order quantities or repetitive rates for the item. A value of Do not round order quantities the planning process uses and displays decimal values when calculating planned order quantities and suggested repetitive rates for the item. A value of Round order quantities means the planning process rounds decimal values up to the next whole number when calculating planned order quantities and suggested daily rates for the item. Planned order quantities and suggested daily rates are always rounded up, never down. The planning process carries any excess quantities and rates forward into subsequent periods as additional supply.

**routing-based capacity**

Capacity planning at the resource level. Required capacity, available capacity, and capacity load ratio are calculated for individual resources assigned to operations on routings.. Required and available capacity are stated in terms of hours per resource per week.

**safety stock**

Quantity of stock planned to have in inventory to protect against fluctuations in demand and/or supply.

**Safety Stock (item attribute)**

An item attribute the planning process uses to decide whether to use fixed or dynamically calculated safety stock quantities when planning material requirements for the item. A value of MRP-planned percent means the planning process plans to safety stock quantities it calculates dynamically as a user-defined percentage of the average gross requirements for a user-defined number of days. The user-defined percentage is defined by the value you enter for the Safety Stock Percent attribute for the item. For discretely planned items, the user-defined number of days is defined by the value you

enter for the Safety Stock Bucket Days attribute for the item. For repetitively planned items, the planning process uses the repetitive planning period rather than Safety Stock Bucket Days. These safety stock quantities are dynamic in that they vary as a function of the average gross requirements calculated by the planning process for the item. A value of Non-MRP planned means the planning process plans to safety stock quantities calculated and maintained in Inventory. These safety stock quantities are fixed in that the Snapshot loads them from Inventory before the planning process and they do not vary unless they are recalculated in Inventory.

### **Safety Stock Bucket Days**

An item attribute the planning process uses when you set the Safety Stock attribute for the item to MRP-planned percent. The planning process dynamically calculates safety stock quantities for the item by multiplying the average gross requirements for the item, over the time period defined by the value you enter for Safety Stock Bucket Days, by the value you enter for Safety Stock Percent.

### **Safety Stock Percent**

An item attribute the planning process uses when you set the Safety Stock attribute for the item to MRP-planned percent. The planning process dynamically calculates safety stock quantities for the item by multiplying the average gross requirements for the item, over the time period defined by the value you enter for Safety Stock Bucket Days, by the value you enter for Safety Stock Percent.

### **safety stock quantity**

The quantity suggested by MRP as additional supply needed for safety stock. This quantity can change according to an effective date set in Inventory.

### **schedule date**

The date for a master schedule entry for an item. A schedule for an item has a schedule date and an associated quantity. For Order Management, it is considered the date the order line should be ready to ship, the date communicated from Order Management to Inventory as the required date any time you reserve or place demand for an order line.

### **schedule end date**

For repetitive items, defines the end of the repetitive rate for a master schedule.

### **schedule entry**

A schedule for an inventory item. For discrete items, stated by a date and quantity. For repetitive items, stated by a date, schedule end date, and quantity.

### **schedule smoothing**

The manual process of entering quantities and dates on the master production schedule that represent a level production policy.

**scheduled receipt**

A discrete job, repetitive schedule, nonstandard 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.

**set transaction read-only**

An ORACLE RDBMS command that allows you to consider all the transactions committed after its execution. No transactions are written after the command is executed. See read consistency.

**setback days**

The number of days set back from the assembly due date that a resource is required to build the assembly.

**shift**

A scheduled period of work for a department within an organization.

**ship-to address**

A location where items are to be shipped.

**shipment relief**

The process of relieving the master demand schedule when a sales order ships. This decrements the demand schedule to represent an actual statement of demand.

**Shrinkage Rate**

An item attribute the planning process uses to inflate the demand for the item to compensate for expected material loss. Enter a factor that represents the average amount of material you expect to lose during your manufacturing process. For example, if an average 20% of all units of the item fail final inspection, enter a shrinkage rate for the item of 0.2. In this example, the planning process always inflates net requirements for the item by a factor of 1.25 ( $1 / 1 - \text{shrinkage rate}$ ).

**simulation schedule**

Unofficial schedules for personal use that contain the most current scheduled item information. You can print Simulation schedules, but you cannot confirm or send them via EDI.

**simulation set**

A group of capacity modifications for resource shifts to simulate, plan, or schedule capacity.



**snapshot**

The only phase under the memory-based planning engine. The snapshot takes a snapshot or picture of supply and demand information at a particular point in time. The snapshot gathers all the information about current supply and demand that is required by the planner to calculate net material requirements, including on-hand inventory quantities and scheduled receipts. Under the memory-based planning engine, explosion and planning occur in the snapshot phase.

**snapshot delete worker**

An independent concurrent process launched by the snapshot monitor that deletes planning data from the previous planning run.

**snapshot monitor**

A process, launched by the memory-based snapshot, that coordinates all the processes related to the memory-based planning engine.

**snapshot task**

A task performed by the snapshot or a snapshot worker during the planning process.

**snapshot worker**

A group of independent concurrent processes controlled by the snapshot monitor that brings information into flat files. This information comes from Work in Process, Bill of Materials, on-hand quantities, purchase orders, firm planned orders, routings, and Work in Process job resource requirements.

**soft reservation**

The planning process considers sales order demand soft reservation.

**source forecast**

When loading a forecast into another forecast, the source forecast is the forecast you load from.

**standard planning engine**

A planning engine that drives the planning process. This planning engine consists of three phases, each of which follows a strict sequence: the exploder, the snapshot, and the planner. These phases are followed by two optional phases: CRP planner, and maintain repetitive planning periods. See memory-based planning engine, planning process.

**standard purchase order**

A type of purchase order you issue when you order delivery of goods or services for specific dates and locations for your company. Each standard purchase order line can have multiple shipments and you can distribute the quantity of each shipment across

multiple accounts. See purchase order.

**statistical forecasting**

A mathematical analysis of past transaction history, last forecast quantities, and/or information specified by the user to determine expected demand.

**suggested aggregate repetitive schedule**

The optimal repetitive schedule suggested by MRP to satisfy a given master schedule. The optimal schedule represents aggregated production for all lines and considers the constraints of planning periods, item lead *time*, *firm schedules*, *time fence control*, *acceptable rate changes and overrun amounts*.

**suggested repetitive schedule**

The schedule for an individual production line for a specific item that is derived from the Suggested aggregate schedule. MRP divides the suggested aggregate schedule for a specific line and item based on the production line attributes: priority, minimum and maximum rates.

**TAKT time**

Operational cycle time the rate at which products need to be manufactured on the line. Aids in establishing the daily rates for the production line.  $\text{TAKT Time} = \frac{\text{effective resource hours available per day}}{\text{Average daily demand}}$

**time bucket**

A unit of time used for defining and consuming forecasts. A bucket can be one day, one week, or one period.

**time fence**

A policy or guideline established to note where various restrictions or changes in operating procedures take place. The planning process cannot create or reschedule orders within the planning time fence. This gives the planner the ability to stabilize the plan and thereby minimizing the nervousness of the system.

**time phased requirements**

Requirements for resources where the need dates are offset by the lead time for those resources.

**two-level master scheduling**

A technique that facilitates the forecast explosion of product groupings into related master production schedules. The top-level MPS is usually defined for a product line, family or end product while the second-level is defined for key options and components.

**underload**

A condition where required capacity for a resource or production is less than available capacity.

**utilization**

Ratio of direct time charged to the clock time scheduled for the resource.

**work order date**

The date to begin processing the paperwork for the discrete job. This date is offset from the start date by the preprocessing lead time.

**worker**

An independent concurrent process that executes specific tasks. Programs using workers to break large tasks into smaller ones must coordinate the actions of the workers.



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