Oracle SCM Cloud

Using Supply Planning

20A
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- Simulations in Supply Planning
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- Edit a Simulation Set
- Edit a Simulation Set from a Spreadsheet
- Copy Data to Simulation Sets
- Add Data from Plan Inputs to Simulation Sets
Preface

This preface introduces information sources that can help you use the application.

Using Oracle Applications

Help

Use help icons ? to access help in the application. If you don't see any help icons on your page, click your user image or name in the global header and select Show Help Icons. Not all pages have help icons. You can also access the Oracle Help Center to find guides and videos.

Watch: This video tutorial shows you how to find and use help.

You can also read about it instead.

Additional Resources

- **Community**: Use Oracle Cloud Customer Connect to get information from experts at Oracle, the partner community, and other users.

- **Training**: Take courses on Oracle Cloud from Oracle University.

Conventions

The following table explains the text conventions used in this guide.

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>boldface</td>
<td>Boldface type indicates user interface elements, navigation paths, or values you enter or select.</td>
</tr>
<tr>
<td>monospace</td>
<td>Monospace type indicates file, folder, and directory names, code examples, commands, and URLs.</td>
</tr>
<tr>
<td>&gt;</td>
<td>Greater than symbol separates elements in a navigation path.</td>
</tr>
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Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website. Videos included in this guide are provided as a media alternative for text-based help topics also available in this guide.

Contacting Oracle

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit My Oracle Support or visit Accessible Oracle Support if you are hearing impaired.

Comments and Suggestions

Please give us feedback about Oracle Applications Help and guides! You can send an e-mail to: oracle_fusion_applications_help_ww_grp@oracle.com.
1 Supply Planning Overview

Business Flows for Supply Planning

You use the Supply Planning work area, a modern planning cloud solution, to run business flows to transform demand to supply.

You can perform the following in the Supply Planning work area:

- Process data collection, inventory planning, and supply planning.
- Automate the entire sequence of planning processes or run a subset of the processes.
- Analyze and adjust your data at any stage.

The following figure illustrates the sequence of a supply planning business flow, starting from data collection, inventory planning, supply planning, and ending with execution and archival.

Data Collection

Inventory Planning

Supply Planning

Execution and Archival

Data Collection

Data collection is the first step of the planning business flow. You can collect data from various Oracle Supply Chain Management cloud applications and use the data in planning applications.

You can collect data that are primarily of three types:

- Master data: Primarily sourced from Oracle Supply Chain Management Cloud.
- Demand data: Two potential sources of demand data are sales orders that flow from the Oracle Order Management Cloud and the shipment history from the Oracle Materials Management Cloud.
• Supply data: The supply data are collected from three sources:
  - Oracle Inventory Management Cloud
  - Oracle Manufacturing Cloud
  - Oracle Purchasing Cloud

Apart from collecting data from an Oracle Fusion source system, you can also collect data from an external source system. Use the predefined collection templates (XLSM files) to collect data from an external source system.

Inventory Planning
You can use inventory planning capability to calculate the statistical safety stock based on the volatility of demand and stocking targets. It addresses diverse supply and demand patterns with multiple algorithms based on mean absolute deviation in units (MAD), mean absolute percentage error (MAPE), and arrival rate. You can set the target service levels at any dimension of the hierarchy, which enables you to segment your stocking policies by customer, channel, product family, warehouse, or other factors. You can also set the inventory manually by using mass updates when appropriate. For example, you can set the inventory manually when you launch a new product.

Supply Planning
Using supply planning, you can calculate resource and material requirements based on customer and safety stock requirements, lead times, calendars, availability, and other parameters.

You can generate unconstrained supply plans, meaning that you ignore limited resource or supplier capacity, which provides the following advantages:
  • Balances supply and demand and recommends new supplies as needed.
  • Recommends when to reschedule or cancel a supply.
  • Identifies material shortages, resource overloads, and supplier capacity overloads.
  • Identifies when supplies don't have sufficient lead time (lead time compression).
  • Plans your entire supply chain, including contract manufacturers.

Supply plans can model outsourced manufacturing and delivery scenarios, including drop ship and back-to-back orders. It also supports hub and spoke planning configurations, such as using an MPS plan as a demand schedule to an MRP plan.

Plan Execution
You can share the order recommendations and save the plan to drive execution.

By default, the supply planning processes are integrated with other Oracle SCM Cloud applications. During the plan execution, the integration helps in the following:
  • Automatically releases planned orders and reschedules of existing supplies.
  • Manually releases groups of orders when necessary.
  • Manages changes and cancellations.
  • Manage back-to-back and drop ship orders.

Planners can set up automatic release rules or release orders manually.
Overview of Supply Chain Planning Work Areas

The Oracle Supply Chain Planning Cloud solution is comprised of products designed for specific supply chain planning business processes and tasks. You perform these processes and tasks using work areas. Each of the Supply Chain Planning products provides access to one or more work areas.

The Supply Chain Planning work areas that you can use are determined by these factors:

- The products that your enterprise has licensed and configured
- The security privileges assigned to your user account

To use the Supply Chain Planning work areas, you must be aware of the following points:

- Navigation to work areas
- List of Supply Chain Planning work areas and the products to which they are applicable

Navigation to Work Areas

You can use different paths to navigate to a specific work area including:

- From the Navigator: You click the Navigator icon to see the work areas you have access to. The Supply Chain Planning work areas are listed within the Supply Chain Planning heading. The work area names are links. You click a specific work area link to access that work area.
- From the Springboard: On your home page you may have one or more springboard icons that represent a group of work areas, such as the group of Supply Chain Planning work areas. Click on the Supply Chain Planning springboard to access a set of icons, each of which represents a specific Supply Chain Planning work area. You click a specific icon to access that work area.

List of Supply Chain Planning Work Areas

The following table lists the Supply Chain Planning work areas and the Supply Chain Planning products that are applicable to each of the work areas.

<table>
<thead>
<tr>
<th>Work Area</th>
<th>Products</th>
</tr>
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<td>Oracle Fusion Global Order Promising</td>
</tr>
<tr>
<td>Demand Management</td>
<td>Oracle Fusion Demand Management</td>
</tr>
<tr>
<td>Supply Planning</td>
<td>Oracle Fusion Supply Planning</td>
</tr>
<tr>
<td>Demand and Supply Planning</td>
<td>Both of these products must be configured:</td>
</tr>
<tr>
<td></td>
<td>• Oracle Fusion Demand Management</td>
</tr>
<tr>
<td></td>
<td>• Oracle Fusion Supply Planning</td>
</tr>
</tbody>
</table>
Overview of the Supply Planning Work Area

You use the Supply Planning work area to configure, view, and analyze your real world business processes. You can use the Supply Planning work area to do the following:

- View multiple plans and plan inputs simultaneously.
- Use predefined page layouts or create user-defined page layouts to view plan data tailored for your organization.

To access the Supply Planning work area and open a plan:

1. In the Navigator, click the Supply Planning work area link.
2. Click the Plans drawer, expand Plans.
3. Right-click a plan and select Open.

Your plan by default opens in the Edit Plan page. This page consists of two main areas:

- Header
- Configurable pane

Header

The header area contains the page layout information and actionable buttons, such as Save Layout, Change, Open, Actions, Save, and Cancel. Header displays the plans, simulation sets, and plan inputs that are currently opened.
Configurable Pane
You can display the content of your plan in the configurable pane area. You can add multiple panes on the page to display your content. The Page Layout drop-down list in the header area determines the number of panes in your planning interface page.

Manage Page Layouts in Supply Planning
You can create and manage your page layouts. Use the Manage Page Layout action to modify the properties of your existing page layouts. You access a plan interface page by opening a plan from the Plans section of the Tasks pane in the Supply Planning work area.

This topic discusses the following:
- Creating a page layout
- Editing a page layout
- Managing a page layout
- Using the Plan Summary page layout

Creating a Page Layout
Page layouts are reusable across plans, simulation sets, and plan inputs. You can create page layouts or copy and then edit a page layout to create page layouts that are tailored to specific business needs.

Follow these steps to create a page layout:
1. In the **Supply Planning** work area, click the **Plans** panel tab.
2. In the Plans panel drawer, expand **Plans** list. Open a plan for which you want to create a page layout.
3. From the Page Layout drop-down list, click **Create**.
4. Specify the following details and click **Save and Close**:
   - Enter a page layout name and description.
   - Select the access level as Public or Private.
     - Select **Public** to make the plan accessible for all users.
     - Select **Private** to restrict the plan accessible to you and to a list of users that you want to provide access.
   This creates an empty pane page layout.
5. Click the **Change** drop-down list and select any layout.
   For example, select a two pane horizontal layout.
6. Click **Open** and select the pane and add the content using the **Open Table, Graph, or Tile Set** dialog.
7. Click **Save Layout**.
Editing a Page Layout
You can edit an existing page layout in two ways:

- Use the **Save** button to save the current page layout as it is currently displayed. For example, you can change the current page layout from a one pane layout to two pane layout. The next time you use this page, the layout appears as a two pane layout.
- You can also change a page layout using the **Manage** action from the page layout drop-down list.
- You cannot edit the predefined page layouts. You can copy and then edit the copy.

Managing a Page Layout
You can use Manage Page Layout to perform the following:

- Edit the page layouts that you created. You can move one pane to other using Manage page layouts. However, if you are using a public page layout, where you are not the owner, then you cannot make changes to the layout. You can only set the layout to your default layout.
- Change the layout that is used as your default layout when you initially open a plan, simulation set, or plan inputs.
- Delete layouts that you created, but are no longer needed.

Using the Plan Summary Layout
Plan Summary is a predefined page layout that contains a set of infotiles and high level graphics you can use to review the business value of a plan.

Using the Plan Summary layout, you can do the following:

- Measure the performance of a plan.
- Review plan information through the individual Key Performance Indicators (KPIs).
- Perform plan analysis using the contextual based navigation.
- Copy and configure the components of the Plan Summary page layout for your specific need.

The structure of the Plan Summary layout is a predefined set of infotiles. Using infotiles you can view the key metrics of your plan. You can further drill to the predefined analytics using the following tables or graphs:

- Revenue and Margin
- Inventory Turns
- Demand at Risk in thousands
- Rescheduling Exceptions

Overview of Supply Chain Planning Plan Types
When you create a plan, plan type is the first choice that you make. After you run a plan, you can’t edit the plan type. Supply Chain Planning provides these types of plans, which you can create, edit, run, and so on, depending on the work area that you have access to:
## Actions to Manage Your Plans

The Actions menu on the Manage Plans and the Edit Plan pages are integrated plan management pages for all plan types. When you open the Edit Plan page, note that only the plan name displays in the heading.

**Note:** Not all action options are available on both the Manage Plans page and the Edit Plan page. For example, the Compare action is only available when you are in an open plan on the Edit Plan page. Also, not all action options are available for all plan types or work areas. For example, the Planning Central work area does not include Archive, Compare, or Copy to Simulation Set in the Action menu.

The following table lists the available options in the Actions menu and the description of each option.

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Approve</td>
<td>Initiate and complete the approval process for a plan.</td>
</tr>
<tr>
<td></td>
<td>When you rerun the plan, the Approved status is removed from the Approval Status column.</td>
</tr>
<tr>
<td>Archive</td>
<td>Archive a plan.</td>
</tr>
<tr>
<td>Cancel Compare</td>
<td>Cancel the comparison of plan data.</td>
</tr>
<tr>
<td>Close</td>
<td>Close a loaded plan from memory. This option is not available for Demand Plan types.</td>
</tr>
<tr>
<td>Compare</td>
<td>Compare plan data with another plan.</td>
</tr>
<tr>
<td>Action</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Copy to Simulation Set</td>
<td>Open the Copy to Simulation Set dialog box to copy plan data to an existing simulation set. Plan data includes items, resource availability, bill of resources, and so on. This option is available only for Supply Plan and Demand and Supply Plan types.</td>
</tr>
<tr>
<td>Create</td>
<td>Open the Create Plan dialog box where you can define the plan options for your new plan. Depending on your plan type, define the scope, demand, safety stock, and supply options. The Safety Stock tab is not available for Sales and Operations Plan types.</td>
</tr>
<tr>
<td>Delete</td>
<td>Delete a plan and its archive versions. This irrevocable action purges the plan from memory and the database.</td>
</tr>
<tr>
<td>Duplicate</td>
<td>Create a copy of an existing plan to leverage previously defined plans or to perform what-if simulation analysis. You can decide whether you want to copy only the plan options or copy the plan options including plan data.</td>
</tr>
<tr>
<td>Edit Plan Options</td>
<td>Open the Plan Options dialog box where you can edit your plan options. Depending on your plan type, you can change the scope, demand, safety stock, and supply options.</td>
</tr>
<tr>
<td>Export</td>
<td>Export the data from the Search Results table on the Manage Plans page to a spreadsheet.</td>
</tr>
<tr>
<td>Load</td>
<td>Load the plan into memory. This option is available only for Sales and Operations Plan types.</td>
</tr>
<tr>
<td>Manage Tables, Graphs, and Analysis Sets</td>
<td>Open the Manage Tables, Graphs, and Analysis Sets dialog box. You can search for tables, graphs, tiles, tile sets, and analysis sets and manage them.</td>
</tr>
<tr>
<td>Open</td>
<td>Open the Edit Plan page for an existing plan. Note that only the plan name displays in the page heading.</td>
</tr>
<tr>
<td>Publish Order Forecast</td>
<td>Starts the Publish Order Forecast job. You can publish the order forecast without saving the plan to the database. This option is available in the Actions menu on the Items, Supplies and Demands, and Manage Plans page. This option is available only for Supply Plan, and Demand and Supply Plan types.</td>
</tr>
<tr>
<td>Publish Data</td>
<td>Export measure data from a plan based on a pivot table. You can export the data available in planning data measures at any aggregation level based on an existing pivot table to a file in a comma delimited (CSV) file format.</td>
</tr>
</tbody>
</table>
| Release                       | Release the plan from the Supply Chain Planning work area to another plan execution system. This option is available only for Supply Plan, and Demand and Supply Plan types.  

The Release action integrates Supply Chain Planning with other plan execution systems by publishing approved planning recommendations to execution systems. These plan recommendations can be in the form of new planned orders, rescheduled existing supplies, and canceled existing supplies.
<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request Approval</td>
<td>Request approval of a plan. This option is available only for Sales and Operations Plan types.</td>
</tr>
<tr>
<td>Reset Approval Status</td>
<td>Reset the approval status. This option is not available for Supply Plan types.</td>
</tr>
<tr>
<td>Review Plan Messages</td>
<td>Open the Review Plan Messages tab to review the warning and error messages generated by the planning processes, such as forecast generation and supply plan generation. You can also review the recommendations to address the warning and error conditions.</td>
</tr>
<tr>
<td>Run</td>
<td>Run the plan and generate data.</td>
</tr>
<tr>
<td></td>
<td>When you click Run, the Run Plan dialog box opens. In the Run Plan dialog box, you can select data refresh options, scope options, and demand and supply plan run options to generate planning data.</td>
</tr>
<tr>
<td>Save Plan to Database</td>
<td>Save the plan from the memory to the database.</td>
</tr>
<tr>
<td></td>
<td>The benefit of saving a plan to the database is that you can perform plan analysis without first loading the plan. This option is available only for Supply Plan and Demand and Supply Plan types.</td>
</tr>
<tr>
<td>View Status Details</td>
<td>Open the Plan Status Details dialog box to view all of the actions performed by any user for the selected plan. You can also export status details to a spreadsheet.</td>
</tr>
</tbody>
</table>

How You Define Planners for Supply Chain Planning

Planners are the people in your organization who are responsible for a set of items, their inventory levels, supply and demand, and so forth. For example, some typical titles of planners are Material Planner, Supply Chain Planner, and Demand Planner. All supply chain planning products use planners. You can define a specific person as a supply chain planner for the Oracle Fusion source system or for any other source system. You can also associate a planner to an item at the organization level.

Use the ScpPlannersImportTemplate.xlsm import template to create the CSV file for the Load Planning Data from Files task for planners. You can also use the Manage Planners page to define supply chain planners for each source system. Access the Manage Planners page from a Supply Chain Planning work area. Click the Tasks panel drawer and then click the Manage Planners link.

For Oracle Fusion source systems, associate the employee identification number with the planner name because Oracle Fusion Purchasing requires a valid employee identification number. When a planner releases a planned order, purchasing checks the employee identification number before creating the purchase requisition.

For external source systems, determine if the employee identification number is required when releasing planned orders. If required, use the Manage Planners page to associate the planner with their employee identification number. Or, you can use the ScpPlannersImportTemplate.xlsm template to associate the employee identification number with the planner name.
Use Oracle Fusion Product Hub to assign planners at the item-organization level. During data collections, the planning processes collect the planner-item-organization assignment. Planners can then use the planner name to search the data on most of the demand and supply planning pages.

**Review Plan Messages**

In Supply Chain Planning, you can view root causes for technical plan process failures and the recommendations to fix the issues.

After running a plan, open the Review Plan Messages table to review the warning and error messages generated by the planning processes, such as forecast generation and supply plan generation. You can also review the recommendations to address the warning and error conditions. Access the plan messages from either the Manage Plans page or the Edit Plan page.

Plan messages are available for all plan types (for example, Supply Plan or Sales and Operations Plan types) and are accessible from your respective Supply Chain Planning work area. There are three message types:

- **Warning**: Indicates an issue that can result in a future run plan error if not resolved.
- **Error**: Indicates a plan failure.
- **Recommendation**: Indicates a recommendation to resolve a plan failure or how to achieve a better run performance.

If you repeatedly run the plan, the same messages appear on the Review Plan Messages tab for each plan run. The messages will have different process identifiers and submission times.

You can delete plan messages based on the submission date. On the Review Plan Messages tab, click the Purge button. In the Purge Messages dialog box, enter a submission date with one of the operators: Equals, Before, On or before, After, On or after, Between, or Not between.

Use the following steps to open the Review Plan Messages table from the Manage Plans page:

1. From a Supply Chain Planning work area, click the **Task** drawer and select **Manage Plans**.
2. On the Manage Plans page, search for a plan.
3. In the Search Results region, select a plan.
4. Click the **Actions** list and then select **Review Plan Messages** to access the Review Plan Messages tab.

From the Search Results region, you can export the messages to a Microsoft Excel spreadsheet.

Use the following steps to open the Review Plan Messages table from the Edit Plans page:

1. From a Supply Chain Planning work area, click the **Task** drawer and select **Manage Plans**.
2. On the Manage Plans page, search for a plan.
3. In the Search Results region, select a plan. Next, click the **Actions** list and then select **Open**.
4. On the Edit Plan page, click **Open**.
5. In the Open Table, Graph, or Tile Set dialog box, search for the Review Plan Messages table. Select the table and then click **OK**.
6. On the Review Plan Messages tab, click the **Search** button.
7. In the Search Results region, view the plan messages.

From the Search Results region, you can export the messages to a Microsoft Excel spreadsheet.
Manage Notes in Supply Chain Planning

Use Notes in Supply Chain Planning to document and communicate important information about your plan. You can use notes to provide reasons for any changes made to a plan or to record decisions and assumptions that led to those changes. You can save these notes for future reference or to provide details to other users. Participants in the plan management process can annotate the data with notes to document changes and assumptions.

Notes functionality is available in the Demand Management, Supply Planning, Planning Central, and Sales and Operations work areas. You can create notes for the following:

- Plans
- Planning level members, such as items, organization, and customers
- Planning combinations, such as a specific item-organization-date-measure combination
- Exceptions

When you create a note, you must specify a note type. Note types enable notes to be categorized, which you can use as a search criteria. The following lists the predefined note types:

- General
- Assumption
- Decision
- Issue
- Possibility
- Risk
- Reference
- Special

You also specify whether the note is private or public. Private notes are visible only to the user who created the note. Public notes are visible to all the users with whom the object is associated.

From the Demand Management or the Sales and Operations work area, you can access the Notes table to display planning level members for Product hierarchies. You can create a layout to view the Notes table as part of the layout instead of as a dialog box. The Notes table is not available for Supply Planning or Planning Central.

Notes for Plans

You can create notes for plans. When you copy a plan, any notes associated with the plan are copied into the new plan.

To create a note for a plan, do the following:

1. Open the Plan Options page for your plan and click the Manage Notes icon.
2. In the Manage Notes dialog box, click Actions > Add.
3. In the Add Notes dialog box, add your notes.
4. Click OK.
5. Click Save and Close.
Notes for Planning Level Members

You can associate notes with planning-level members, such as items, organizations, and customers. You can create notes at any level of the hierarchy, such as on an individual item, on a brand, or on a product category.

Notes that you create on planning level members at lower levels in the hierarchy are visible when you open Manage Notes from an aggregate level. Notes that you create on level members are not plan-specific. This means that a note associated with a level member is visible from any plan that contains that member.

To create a note on a level member, click Create Note from the Actions menu.

To view, edit, or delete an existing note, select the level member, click Manage Notes from the Actions menu.

Notes for Planning Combinations

You can associate notes for the planning combinations, such as a specific item, organization, date, and measure combination. Planning combinations appear as cells within a table.

You can create a note at any level; however, they are only visible at the level at which they are created. For example, if you create a note at a brand, month, and measure combination, you cannot view that note at the item, day, and measure level.

If you copy a plan, then any plan-specific notes on planning combinations are also copied.

To create a note for the planning combinations, do the following:

1. Select the associated table's cell in the table.
2. Click Create Note from the Actions menu.
3. Add your notes.
4. Click Save and Close.

To view, edit or delete an existing note on a planning combination, do the following:

1. Select the Note icon from the table's cell level.
2. Click Manage Notes from the Actions menu.

Note: If you create a note on a planning combination and the associated measure is shared across plans, then the note is not plan-specific. In this case, the note is visible across all plans. If you create a note on a planning combination and the associated measure is not shared across plans, then the note is plan-specific. In this case, the note is visible within the plan in which you created it.

Notes for Exceptions

You can associate notes for exceptions. Notes on exceptions persist across plan runs. If an exception still exists after a plan is run again, then any notes associated with the exception are retained. When an exception is resolved, the exception is removed from the application. In that case, any notes associated with the exception are also removed.

To create notes for an exception, do the following:

1. Click the Note icon on the table row of the exception.
2. Add your notes.
3. Click Save and Close.

Related Topics

- Overview of Oracle Social Network
Assign Time Zones to Locations in Supply Chain Planning

You can view supplies and demands in your Supply Chain Planning work area based on the time zone of the organization, customer site, or supplier site. In addition, you can calculate precise in-transit time because supply chain planning considers the time zone difference between the source and destination locations.

The following points discuss in detail how you can collect time zone details and view orders depending on the locations' time zone:

- Update Time Zones Using Data Collections
- Assign Time Zones in Supply Network Model
- Calculate In-Transit Time
- View Time Zones in Supplies and Demands
- Release to Execution

Update Time Zones Using Data Collections

Use data collections to update organizations, customer site, or supplier site time zones. You can update the time zone in one of following three ways:

- Collect the organization's time zone from an Oracle Fusion source system.
- Collect time zones from an external source system using the organization, customer, and supplier import templates.
- Update the time zone on Customers and Suppliers tabs of the Maintain Supply Network Model page.

If you are collecting from an Oracle Fusion source system, then you can update the organization's time zone using the data collections method only. You cannot manually update the organization's time zone using the Maintain Supply Network Model page in your Supply Chain Planning work area.

Assign Time Zones in Supply Network Model

Before collecting time zones or converting time zones to a local time, you must first assign time zones to organizations, customer sites, and supplier sites. A new time zone field is available on the Organizations, Customers, and Suppliers tab of the Maintain Supply Network Model page in your Supply Chain Planning work area.

You cannot collect customer site and supplier site time zones from an Oracle Fusion source system. To update the customer site or supplier site time zone, use one of the following options:

- Use the customer or supplier import template to update the customer site or supplier site time zone. You can also use this template if you are collecting from an external source system.
- Update the customer site and supplier site time zones directly in the Maintain Supply Network Model page.

When you recollect new customer and supplier data from an Oracle Fusion source system, the existing customer site and supplier site time zone information is preserved. If you do not collect or update the customer site or supplier site time zone, then planning calculations assume that the customer site or supplier site is located in the same time zone as the organization that is associated with the demand or supply.
When you collect the supplies and demands, collections automatically convert the associated dates from the database server time zone (Coordinated Universal Time or UTC) to the local time zone based on where the event takes place. In addition, when you collect shipments and booking history from the Oracle Fusion source system for use in the Demand Management or the Demand and Supply Planning work area, collections converts the historical data from the database server time zone (UTC) to the associated organization's time zone.

### Calculate In-Transit Time

When calculating in-transit times, supply chain planning considers the time zone difference between the shipping and receiving locations. The following example shows how supply chain planning calculates the in-transit time. In this example, the customer site is located in Sydney (UTC+10) and the shipping organization is in Sacramento, California (UTC-8).

1. When planning collects a sales order with a requested arrival date of 25-March-2018, 21:00 (UTC) on the database server, the requested arrival date is offset to the customer site's time zone. The customer site's time zone is Sydney time zone (UTC+10 hours). The requested arrival date becomes 26-March-2018, 7:00 in plan inputs (Sydney time zone).
2. When you run the plan with the Refresh with current data option, the sales order is included in the plan and supply chain planning uses this date to calculate the scheduled ship date.
3. Consider the in-transit time for the selected shipping method (Air Freight) is 36 hours. Supply chain planning first calculates the scheduled ship date as 25-March-2018, 19:00 hours (Sydney time) and then converts the date to the Sacramento time. The product is shipped from Sacramento. The time zone difference is applied to the scheduled ship date by subtracting 18 hours. The scheduled ship date becomes 25-March-2018, 1:00 Sacramento time, which is used to generate the pegged supplies.
4. After completing the calculations, supply chain planning moves all the dates to the end of the day. All dates have the time stamp of 23:59:00. The time stamp is not available on the UI, but you can query the time stamp from the planning database.

Supply chain planning makes similar in-transit calculations when shipping supplies from a supplier site to an organization, or when transferring product from one organization to another.

### View Time Zones in Supplies and Demands

On the Supplies and Demands page, use the following three columns to view supplies and demands in relation to the time zone:

- Organization Time Zone
- Source Time Zone
- Destination Time Zone

The columns are not included in any predefined table layout. Create a user-defined table layout and include these columns in your table.

To display supply and demand measure values within a table such as Material Plan or Build Plan, supply chain planning assigns the measure value to the day based on the organization's local time zone. The supply and demand measure value is not assigned to a date based on a common time zone.

### Release to Execution

When you release orders that are marked for release to Oracle Cloud execution system, the release action offsets the date from the location's time zone to the database server time zone (UTC).
For example, when you release a planned make order, supply chain planning converts the need-by date from the organization's time zone to UTC.
Chapter 2

Tables, Graphs, Analysis Sets, Infotiles, and Tile Sets

How You Manage Tables, Graphs, Analysis Sets, Infotiles, and Tile Sets

You can configure the entities for tables, graphs, analysis sets, infotiles, or tile sets by using a selector tool. You can also create and manage groups on the Selector Tool page, and associate your tables and graphs with the group. To access the Selector Tool from your plan, click Actions and select Manage Tables, Graphs, and Analysis Sets. You can also navigate to the Selector Tool from the Actions menu on the table and graph toolbar.

**Note:** In the Selector Tool, the member values displayed are based on what’s configured in the Member Identifier to Display column on the Configure Planning Analytics page, Levels and Attributes tab. For example, for item, you can configure your tables and graphs to show item description instead of item name, which is what also appears when you’re in the Selector Tool.

The selector tool has the following tabs:

- Measures
- Hierarchies
- Members
- Layout
- Comparison Options

Following are the details of each tab:

- Measures: Use the Measures tab to select measures for a table or graph by moving measures from the Available Measures pane to the Selected Measures pane. The measures that you select determine the content of the other tabs. The dimensions of the measures determine the dimensions available on the Hierarchies tab and the dimension members on the Members tab. For example, if a measure is the dimension created for Product, Organization, and Time, those dimensions and their hierarchies are visible on the other tabs. You can display the available measures by Measure Group or alphabetically by using the List View or Tree View icon. A measure is usually a named time series of values that represent the following at a particular intersection of customer, organization, product, supplier, and resource dimensions:
  - Historical performance (Bookings History). This measure isn’t applicable for supply planning.
  - Future projections (Shipments Forecast)
  - A key performance indicator (Gross Margin Percentage) or a derived calculation (Projected Available Balance)

The planning process aggregates measure data from lower levels to higher levels or compute KPIs and derived calculations from other values at the same level as needed. The planning process can also allocate or spread updates made at an aggregate level to the affected cells at lower levels. Measures can be expressed in different units of measure, such as inches, dollars, kilos, or liters. Depending on the context, you can display, update, or compare measures that are in different units. The planning process can convert among different units and among different currencies (for monetary values).
• Hierarchies: Use the Hierarchies tab to select the dimensions, hierarchies, and levels to include or exclude in the table or graph. For each dimension, select the hierarchies and levels that you want to include in the graph or table. Checking the box in the Display column includes that dimension in the table or graph. Expand the dimension to view the available hierarchies. Expand the hierarchy to view the levels of the hierarchy. Checking a level includes it in the table or graph. If multiple levels are checked, the top level is displayed in the table or graph by default. Each level in the table or graph can be expanded until all checked levels are visible. The Show Unassociated check box determines whether the measure values that aren’t associated with a specific dimension in the table or graph are hidden or displayed. For example, a table could include Shipments Forecast and Net Resource Availability. Shipments Forecast has product, organization, and time as dimensions. Net Resource Availability has resource, organization, and time as dimensions. With Show Unassociated, checked, the Resource column displays the word Unassociated when viewing Shipments Forecast rows.

• Members: You use the Members tab to manually select dimension members by moving members from the Available pane to the Selected pane. If no selections are made on this tab for a dimension, the graph or table displays the dimension starting at the top level checked on the Hierarchies tab. For example, if you selected the Gregorian Calendar hierarchy with Quarter and Month on the Hierarchies tab, the graph or table displays all quarters; each quarter has an icon to drill to its months.

• Layout: You use the Layout tab to format the table or graph.

• Comparison Options: The Comparison Options tab is applicable only for tables and graphs. On the Comparison Options tab, you can compare your current plan with an archived version or an alternate plan. Use this tab to compare how specific measures have varied over time. The Comparison Options tab contains three sections: Waterfall Analysis, Trend Analysis, and Plan Comparison.

Note: The Comparison Options tab isn’t available for Oracle Planning Central Cloud.

○ In the Waterfall Analysis section, you can compare selected measures in a table or a graph with an archived plan.

Select the Use MAPE calculations check box if you have scheduled your plan archival process. MAPE calculations use the system administrator archive and not an on-demand archive.

In the Measure Archives to Use drop-down list, select one or more archives to reference. The number of weeks refers to how long the archive was created. The planning process uses the following logic for when to use an archive:

• Match the exact dates. If multiple versions of an archive are within the waterfall time frame, use the closest, most current version.
• If not match is found on the exact date, use the closest inside the range, which is +3/-3 days of a selected weekly waterfall time frame, or +15/-15 days for a monthly archive.
• If no match is found within the +3/-3 days of a selected weekly waterfall time frame, or +15/-15 days for a monthly archive, then nothing is returned.

For example, if you select 4 weeks ago, the planning process searches for the archive 4 weeks prior to today’s date, for instance, March 6. If your archives are stored at the month level and nothing is found on February 5, the planning process searches for the most recent archive within +15/-15 days.

○ In the Trend Analysis section, you can provide the number of archives that you want to reference. The planning process selects the latest archives. For example, you have five archives, where number five is the latest archive and you have specified the Number of Previous Versions to Include as 3. The planning process will select archive number five, four, and three for the comparison. The difference between Waterfall Analysis and Trend Analysis is that in Waterfall Analysis you can choose an archive created within each selected time frame that you want to compare. In Trend Analysis, you can select the number of archives that you want to compare, and only the latest archives are used for comparison.
The Plan Comparison section pertains to both archived plans and alternate plans that you consider for comparison. You can select the type of difference to display in tables or graphs for comparison. For example, you can choose to view the difference in percentage or absolute percentage.

**Using Advanced Options in the Selector Tool**

You can use the Advanced Filter criteria tools to filter data and select specific members that fulfill some criteria. Click the funnel icon in the Members tab to Access the Advanced Filter options. You can use the following filter criteria tools for predefined measures:

- **Levels**: Select by level. Select the members in a level such as Customer Site for the Customer dimension, or Period for the Time dimension.
- **Family**: Select parent or child of a dimension member. Select members based on a parent or child relationship, such as selecting the Days in a Week.
- **Attributes**: Select based on name. For example, select members based on items whose name contains Economy.
- **Measure Criteria**: Select based on meeting measure criteria. Select members that meet the criteria, such as Products for which the Gross Margin is greater than a particular value.
- **Time Range**: Select a range of dates. Select time periods based on a range, start date, or today’s date.

The advanced filter criteria tools are used in conjunction with action keywords to refine selections. The following four actions determine how to apply the criteria:

- **Replace with**: Replace the current selection, if any, with members meeting criteria.
- **Add**: Add members meeting the criteria to the current selection.
- **Keep**: Keep only the members in the current selection that meet the criteria.
- **Remove**: Remove the members from the current selection that meet the criteria.

You can apply filter criteria tools sequentially to refine your selection. For example, select all the items for a category, and then keep the top 10 items based on sales.

Click the Show Results button to see the filtered list of members based on the criteria. Removed members are shown below the filtered list. You have the option of accepting the results or resetting to the previous members.

When you accept the results, the criteria used to retrieve the accepted members appear in the Criteria Steps area of the tab. These criteria are evaluated when the table or graph is displayed. You can remove criteria steps.

- To remove a step, click the X button in a row.
- To view the result of removing a criteria, click Show Criteria Change.
- To accept the Show Criteria Change results, click Accept and then OK.
- To make the change permanent, click Save or Save and Close.
- To view the results without making the change permanent, click Apply and Close.

**Creating Analysis Sets**

An Analysis Set is a named set of criteria that can contain selected measures, dimension members, or both measures and dimension members. Use the Apply Analysis Set and Save as Analysis Set actions to apply previously made selections, or save the selections made in the Selector Tool.

Applying an existing Analysis Set to a table or graph is a quick way to select the measures and dimensions members that are frequently used.
You have the option of saving measures and dimension members. You can save the dimension members as a list, or as a script. For example, you can select the top 10 items based on sales for a January. If saved as a list, the same 10 items would always be displayed in the table or graph regardless of the current month. However, as sales data changes over time, you would want the top items in the current month to be displayed. To accomplish this, save the dimension members in a script that would evaluate the criteria whenever the table or graph is displayed.

Using the Table Drilling

After a table is created, you use drilling in the table to expand and collapse the levels within the hierarchy by which you can view different levels of aggregation. When viewing a table or graph, the dimensions and hierarchies selected in the Hierarchies tab are visible. The top selected level is visible; use drilling to view lower levels.

To drill across hierarchies or dimensions, the levels must be adjacent. Drilling is automatically available for the levels within the predefined hierarchies, but you can also configure drill pairs to drill across hierarchies or dimensions.

To display a table showing Final Shipments History with the ability to drill from customer to item, the columns customer and item must be adjacent:

1. In the Layout tab, use the View menu to select **Configure Drill Settings**.
2. Configure Drill Settings to view the existing drill pairs.
3. Click the + icon to add a new drill pair.
4. In the Drill From column select Customer and in the Drill To column select Item.

With this configuration, you can view the Shipments History values by item for each customer in the table.

**Note:** Drilling is only active between the adjacent levels on the table.

Using the Table Linking

You can link a table or graph to another table or graph passing the context of one to another by selecting **Manage Links** from the Actions menu on the toolbar.

There are two tabs:

- **To Table or Graph:** Use this tab to create a link to another table or graph.
- **From Table or Graph:** Use this tab to link to the open table or graph from another table or graph.

Use the + icon to select the table or graph to link to or link from.

- **Enable Dynamic Linking:** This check box determines whether or not Dynamic Linking is enabled. If it's enabled, then the target table or graph has the ability to be refreshed whenever the selections on the source table change.
- **Pass Highlighted Selections and Selected Members:** If this button is selected, then whatever is highlighted in the current table along with the filters in the Selector can be passed as context to the Drill To Table or Graph.

After you define the link, use the Drill icon on the toolbar to drill to the linked table or graph.

**Related Topics**

- **How You Use Levels and Attributes in Supply Chain Planning**
Create a Tile Set

You can create a tile set to group individual infotiles. Creating tile sets can be useful in cases where you want to track various metrics on a single page. You can add tile sets to a pane in a page layout.

Tip: Before you create a tile set, check whether you need to create the infotiles that you will be adding to the tile set.

To create a tile set:

1. In the Navigator, click a Supply Chain Planning work area.
2. Click Actions > Manage Table, Graphs, and Analysis Sets.
3. On the Search table toolbar, from the Actions menu, select Create > Tile Set.
4. In the Selector Tool - Create Tile Set dialog box, specify the following details:
   a. Enter name and description for the tile set.
   b. Select a group for the tile set.
5. From the Available Tiles pane, select the infotiles to include in the tile set and move them to the Selected Tiles pane.
6. Click Save and Close.

Create an Infotile

An infotile is a tile shaped component used to present a graphical summary of the data. Each infotile has one or more related tables or graphs with predefined drill-to actions to display additional information about that key performance indicator (KPI).

To create an infotile:

1. In the Navigator, click a Supply Chain Planning work area.
2. Open a plan and then click Actions > Manage Tables, Graphs, and Analysis Sets.
3. In the Manage Tables, Graphs, and Analysis Sets dialog box, in the Search Results region, click Actions and then select Create > Tile.
4. In the Selector Tool - Create Tile dialog box, on the Measures tab, select the required measures and move them from the Available Measures pane to the Selected Measures pane.
5. On the Hierarchies tab, select the dimensions, hierarchies, and levels to include or exclude in the infotile.
6. On the Members tab, select the required dimension members and move them from the Available Members pane to the Selected Members pane. If you do not select a dimension member, the infotile displays the dimension starting at the top level selected in the Hierarchies tab.
7. On the Layout tab, do the following:
   a. Select the graph type for the infotile.
   b. Expand the Content Area panel, and then click the Add Row button. You can add up to four tables or graphs to display them in the content area for that infotile.
8. Click Save and Close.
Set Measure Targets for Use in Infotiles

You can enter or update goals for a measure to track performance against the goals. Set targets by editing a measure and updating the measure goal. When the plan summary displays the measure, the goal or target for that measure is visible. You can define goals only for measures that are of data type currency, number, or percent.

For global goals, you can provide a low range or a high range. The ranges are displayed on the user interface when you view a measure in comparison with its goal. Global goals are measure level parameters and are not defined specifically for a data population.

To enter or update measure target goals, follow these steps:

1. Open the Manage Planning Measures page:
   a. In the Navigator, click a Supply Chain Planning work area link.
   b. On the Edit Plan page, click the Tasks panel tab.
   c. In the Tasks panel drawer, click the Manage Planning Measures link.
2. On the Manage Planning Measures page, select the measure and click the Edit icon.
3. On the Edit Measure page, navigate to the Advanced tab, Goals subtab.
4. In the Goals subtab, select whether low values or high values are better.
   For example, high values are better for Gross Margin, but low values are better for Demand at Risk.
5. In the Global Goals section, provide a low range or a high range.
6. Click Save and Close.

Graph Layout Options

The graph layout option is available in the Layout tab when you create or edit a graph using the Manage Tables, Graphs, and Analysis Sets option. In the graph layout options, you can define the type of graph and configure layouts and the dimension of axes. The layout options vary according to the type of graph. For example, a bar graph has X and Y-axis layout options whereas a Pie chart does not have any X or Y axis. General Options is common for all layout options and includes generic information for a graph such as title, font, and position of the graph. You can also preview a graph from the Layout tab before you save the graph. In the preview mode, you can format measures, change the layout, and modify the drill settings.

The following types of graphs are available:

- X and Y axes graphs
  - Vertical bar
  - Horizontal bar
  - Line graph
- X and Y axes graphs with additional parameters
  - Area graph
  - Combination graph
Bubble graph
- Pie graph
- Sunburst graph and Treemap graph
- Funnel graph and Radar graph
- Gauge graph

For graphs with an X, Y, or dual Y axes, you can select up to three entities in total: measures are mandatory, and you can select one or two dimension hierarchies. A dual Y-axis graph requires the measures on the Y axis. You must select one measure for the Y2 axis in the Y2 -Axis panel. Axis title and tick label rotation options are available for all axes. Tick label options are also available for the X-axis. For example, skip a certain number of labels for legibility. The Formatting panel contains visual effect options for the graph, such as 2 dimension or 3 dimension, and bar or line style.

A Combination graph includes an area, bar, and line. The measures represented by each of these options are specified in the Formatting panel.

A Bubble graph requires selections for the bubble component of the graph in addition to the X and Y axes options. Select the hierarchy and the bubble sizing measure in the Bubble panel.

A Sunburst graph is comprised of rings. Select the number of rings to display. Each ring represents a level of the hierarchy. The rings are divided into sectors for each member of the level. The size and color of the sector is determined by the measures selected for those options.

A Treemap graph is comprised of rectangles. Select the depth of the rectangles for a hierarchy. The rectangles for a level of the hierarchy are nested within the parent level rectangle. The size and color of the rectangles are determined by the measures selected for those options.

Funnel and Radar graphs require only a hierarchy and measure selection.

Gauge graphs, which are used in infotiles, require measures with goals defined.

**Why can't I edit the graph layout options?**

If you have created the graph or table, only then you can edit the layout options. Also, you cannot edit any layout options for predefined graphs or tables.

**Axis Scale Options**

Using Axis Scale Options, you can define the minimum and maximum scale values on the Y-axis, and the incremental values between them. You can define the axis scales using the following options: Minimum, Maximum, and Increment. Minimum indicates the starting point of the axis and Maximum indicates the ending point of the axis. Increment indicates the increase in values that are displayed between maximum and minimum data points. Axis Scale Options is available only for Bar, Line, Area, or Combination graphs and it is applicable for Y-axis and Y2-axis.

For each field, you can define either automatic or user-defined values. If you select Automatic, the planning process automatically adjusts the axis scale for Y-axis and Y2-axis data points. If you select Manual, you have to manually specify the scale for Y-axis and Y2-axis. For example, if you provide Minimum as 3, Maximum as 10, and Increment as 2,
then for Y-axis or Y2-axis the graph displays 3 as the lowest value and 10 as the highest value. The graph also displays data points 5, 7, and 9 as incremental values.

Measure Data in Tables

How You Can Edit Measure Data

While working in one of the Supply Chain Planning work areas, you might be editing measure data in a table. The following table provides a list of some features you can use when doing so, and where each feature is located:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configure Summaries</td>
<td>View menu</td>
</tr>
<tr>
<td>Data Calculation Options</td>
<td>Table toolbar</td>
</tr>
<tr>
<td>Lock and Unlock Cells</td>
<td>If at least one summary is configured:</td>
</tr>
<tr>
<td></td>
<td>Action menu, table toolbar, right-click in cell</td>
</tr>
</tbody>
</table>

Copy and Paste Values in Tables

Use the Copy and Paste options in the Actions menu for a table to copy cell values and paste them in editable cells. You can also copy values from one table to another within the same plan. Pasting overwrites any existing values, and any measures that are dependent on the overwritten measures are recalculated.

If your data is in an external application such as Microsoft Excel, you can use the following procedure to copy and paste your data:

1. Copy your data from the external application.
2. In your work area table, click the first editable cell from which you want the data to be pasted, and select Actions > Paste from Clipboard. The Paste from Clipboard dialog box opens.
3. Press Ctrl+V to paste your content in the dialog box. You can further edit your data in the dialog box.
4. Click Paste and Close. The copied content is pasted into the editable cells of the table.

Alternatively, you can export your table data to Microsoft Excel using the Export icon, work with your data in that application, copy your data, and bring it back into your table by using the Paste from Clipboard option. To copy data between plans, export the table data to Microsoft Excel from one plan, and use the Paste from Clipboard option to copy data into the other plan.

**Note:** You can paste values in only those cells that fall within your plan horizon. The number and orientation of the cells from which data is copied and the cells into which data is pasted must match. Only numeric data can be copied and pasted. Non-editable cells that are within a range of editable cells are skipped when data is pasted, and a warning is displayed to this effect.
Manage Data Calculation Options When Editing Measure Data in a Table

When you are working in a Supply Chain Planning work area, you might be editing measure data in tables that include dependent measures. You can use the Data Calculation Options choices to determine when calculations are performed. You access Data Calculation Options from the table toolbar for the table you are editing.

The Data Calculation Options choices are:

- Enable Automatic Calculations
- Calculate Now

Enable Automatic Calculations

When you edit data with this option selected, each time you edit a value, calculations are performed for any applicable summaries or other measures that include an expression. The Enable Automatic Calculations choice is the default selection.

Calculate Now

To choose when calculations are performed, you must first deselect Enable Automatic Calculations. When you make edits with the Enable Automatic Calculations choice deselected, you must click the Calculate Now choice when you want calculations to be performed. Calculations will be performed for all edits made since the last time calculations were performed.

If you save a table after making edits, any needed calculations will be performed, but you must refresh the table to see the results.

How You Lock Cells While Editing Measure Data or Allocating Values in a Table

When you are working in a Supply Chain Planning work area, you might be editing measure data in a table. When you have locked cells, edits, including those that spread allocations to other cells, do not change locked cells.

Note: You must configure at least one summary to enable the Lock and Unlock actions.

Lock cells by performing one of the following:

- Click the Lock action in the Actions menu.
- Click the Lock icon on the table toolbar.
- Right-click in an editable cell.
How do I enable the Lock and Unlock actions for a table when editing measure data in a table?

Configure at least one summary to enable the Lock and Unlock actions. Use the View menu for the table to configure summaries.

Can I unlock all cells at once when editing measure data in a table?

Yes, you can unlock all cells at once by using the Unlock All action from the Actions menu. This action is available in the Actions menu only if you have configured summaries.

How can I highlight editable cells in a table?

In the View menu for a table, select Highlight Editable Cells to provide a background color for cells that contain editable measures. Do note that any conditional formatting that has been applied to an editable measure or a table takes precedence over the highlight color. You can choose to save your page layout with this setting.
3 Planning Exceptions

Exceptions and Exception Sets

Overview of Exceptions and Exception Sets

On the Configure Exceptions page, you can select an exception and edit the thresholds for reporting. You can configure only those exceptions that are relevant to your Supply Chain Planning work area.

On the Configure Exception Sets page, you can restrict the exceptions that are computed as part of the plan run. You can also control the organizations, item categories, time period, and so on for which to compute exceptions.

A defined exception set is associated with a plan. The plan evaluates the exceptions using the filters associated with the exception set. The exception set executed during the plan run is defined on the Plan Options page.

How You Edit Exceptions

To edit exception parameters, select an exception on the Configure Exceptions page. You can configure only those exceptions that are relevant to your Supply Chain Planning work area.

In the Edit Exception dialog box, there is an area for General Properties and Exception Detail. Depending on the Supply Chain Planning work area that you’re in, you can see the following tabs in the Exception Detail section:

- Demand Management work area: Level, Threshold, and Notification
- Supply Planning work area: Level, Threshold, and Notification
- Planning Central work area: Level and Threshold
- Sales and Operations work area: Level, Threshold, and Notification

You can edit Level and Threshold only for those exceptions whose basis is Measure. For exceptions whose basis is Order, you can edit only the Threshold.

On the Level tab, the dimensions for the exception are derived from the base measure. You can edit the default values for hierarchy and level.

On the Threshold tab, the base measure used in the exception is compared to either a value or another measure. If the threshold is specified in terms of a value, the value is interpreted in terms of the data type of the base measure. To ensure that exceptions return meaningful values, set the threshold to an appropriately high or low value.

On the Notification tab, set up notification rules for exceptions. Configure exceptions to trigger notifications to specific users or roles. In the Details section specify the entity and condition for notifications. Notifications are sent automatically at the end of the plan run.
Configure Exception Sets

Use the Configure Exception Sets page to create, modify, or copy an exception set. The set of exceptions and their scope that is calculated by the plan is configured on the Create or Edit Exception Set page. When creating an exception set, you must first specify which exceptions to include in the set.

The exception set also enables you to restrict the generation of exceptions to specific organizations, categories, suppliers, and customers. You can then point to the exception set on the Plan Options page for a plan.

Set Filters on Planning Dimensions for Exception Reporting

After selecting available exceptions for an exception set to use in a plan, you can add filters on some of the key planning dimensions. The levels on which you can define filters are organizations, categories, suppliers, and customers.

On the Configure Exception Sets page in the Filters tab, select one or more organizations, suppliers, categories, and customers in each of the tables for which to generate exceptions. If you do not specify a filter for a level, you will generate exceptions for all records in that level. For example, if you do not specify an organization, exceptions will be generated for all planning organizations when a plan is run. If any of the organizations, categories, suppliers, or customers in the exception set are not available in the plan, they will be ignored.

In the Exception Cutoff Days field, specify the number of calendar days, starting from the plan start date, from which to generate the exceptions. If this field is blank, exceptions will be generated for the full planning horizon.

Exceptions in Plans

Plan Exceptions

Exceptions are a key element to evaluate and improve your plan in Supply Chain Planning. After you run a plan, view the exceptions to understand the quality of the plan and to get visibility of key problem areas. You can focus on key exceptions to understand their root causes. From the exceptions tables, you can drill down to other plan views for more details into the problem areas. After taking actions to resolve exceptions, run the plan again to evaluate whether the plan is now acceptable.

Oracle provides several predefined exceptions that the Supply Chain Planning processes compute after you run a plan. View these exceptions to identify problem areas in the plan that may need your attention. To view a list of the exceptions, open your plan and then open the Exceptions table.

The exception types and their calculation logic are predefined. However, to ensure that only significant deviations are highlighted, you can edit the conditions under which the exceptions are generated. You control which exceptions are calculated for a plan by specifying an exception set on the Plan Options page. View the metrics associated with exceptions, such as by count or by quantity, in tables or graphs at different hierarchical levels.

Open the predefined Exceptions table to view the exceptions grouped within the following folders:

- Demand Planning Exceptions. You can access this folder from the Demand Management, Planning Central, and Sales and Operations Planning work areas only.
• Supply Planning Exceptions. You can access this folder from the Supply Planning and Planning Central work areas only.
• Sales and Operations Planning Exceptions. You can access this folder from the Sales and Operations Planning work area only.
• Views for Multiple Exceptions. You can access this folder from the Supply Planning and Planning Central work areas only.

You can see the number of exceptions generated within parentheses after the exception name. Click the exception name to view a table with details of the exception. From the exception table, you can:

• Search for exceptions for a specific item and organization within a specified date range.
• Save the search criteria for future searches.
• Export the table to a spreadsheet, rearrange columns, and perform other standard table actions on the table.

Predefined views within the Views for Multiple Exceptions folder enable you to view all exceptions for an item, resource, or supplier within the same table.

From tables that show exception data, you can navigate in context to other plan data. This navigation capability is useful when, for example, you are viewing exceptions for an item and you also want to see its supply or resource availability.

Configure Exception Thresholds

You can control the number of exceptions that your plan generates by changing the levels at which an exception is computed and its threshold value. A higher threshold value typically results in fewer exceptions.

To configure exception thresholds, do the following:

1. From a Supply Chain Planning work area, select the Configure Exceptions task.
2. On the Configure Exceptions page, select an exception.
3. Click Actions and then select Edit.

Demand planning and sales and operations planning exceptions are measure-based exceptions. A base measure forms the foundation for these exceptions.

In the Planning Central work area, you cannot change the base measure, but you can edit the level at which the exception is computed and its threshold value.

Most supply planning exception calculations are for a specific order and are not associated with a base measure. For these types of exceptions, select the fact associated with the exception and modify the condition that specifies when to generate the exception. Think of a fact as an attribute of the exception. Typical facts are quantity and value.

Create Tables and Graphs for Exceptions

Create a table or graph for plan exceptions based on their measures, such as number of exceptions generated, and the quantity associated with the exception.

Creating a Table for Exceptions

1. In a Supply Chain Planning work area, open a plan.
2. Click the Actions button and select Manage Tables, Graphs, and Analysis Sets from the list.
3. In the Manage Tables, Graphs, Analysis Sets dialog box, click Actions. Next, select Create and then select Table.

4. On the Create Table page, do the following:
   - Enter a name for your table.
   - Select a group.
   - Enter a description.
   - Select the type of access (public or private).

5. On the Measures tab, do the following:
   - In the Available Measures section, expand the Overall Plan Health folder. The Overall Plan Health folder contains the measures associated with exceptions.
   - Select the exception facts that you want to view in the table.

6. On the Hierarchies tab, include the Exception Type hierarchy.

7. On the Members tab, select the exception types to display in the table.

8. Click Save and Close.

Creating a Graph for Exceptions

1. In a Supply Chain Planning work area, open a plan.

2. Click the Actions button and select Manage Tables, Graphs, and Analysis Sets from the list.

3. In the Manage Tables, Graphs, Analysis Sets dialog box, click Actions. Next, select Create and then select Graph.

4. On the Create Graph page, do the following:
   - Enter a name for your graph.
   - Select a group.
   - Enter a description.
   - Select the type of access (public or private).

5. On the Measures tab, do the following:
   - In the Available Measures section, expand the Overall Plan Health folder. The Overall Plan Health folder contains the measures associated with exceptions.
   - Select the exception facts that you want to view in the graph.

6. On the Hierarchies tab, include the Exception Type hierarchy.

7. On the Members tab, select the exception types to display in the graph.

8. On the Layout tab, do the following:
   - In the Graph Layout Options section, select a type of graph.
   - Configure your graph in the horizontal panels below the Graph Layout Options. The horizontal panels below the Graph Layout Options section vary, depending on the type of graph that you select. For example, if you select Pie Graph for your graph type, the horizontal panels include General Options, Pie Slice, and Formatting.

9. Click Save and Close.

Related Topics

- How You Manage Tables, Graphs, Analysis Sets, Infotiles, and Tile Sets
Create User-Defined Exceptions

You can create an exception based on your business requirements and focus on a specific area to improve your supply chain planning capabilities. For example, you can create an exception to identify resource overloads when the resource utilization percentage is greater than 110%.

User-defined exceptions are measure-based exceptions. A measure forms the foundation for that exception. After you select a measure, you can specify the dimension hierarchy and level for that measure, and the threshold value or measure to generate the exception.

Follow these steps to create a user-defined exception in a Supply Planning, Demand Management, or Sales and Operations Planning work area:

1. In a Supply Chain Planning work area, click the Tasks panel drawer and click Configure Exceptions.
2. On the Configure Exceptions tab, click Actions, and then click New.
3. On the Create Exception page, specify the general properties.
4. In the Exception Detail section, provide Level, Threshold, and Notification details.
5. Click Save and Close.
4 Planning Analytics

Overview of Planning Analytics

Configuring planning dimensions and hierarchies on the Configure Planning Analytics page is a key setup to use the analytics in Supply Chain Planning work areas. It has a unified dimensional hierarchy for various uses. Depending on your security privilege, you can also open the Configure Planning Analytics page from the Setup and Maintenance work area by selecting the following:

- **Offering**: Supply Chain Planning
- **Functional Area**: Supply Chain Planning Configuration
- **Task**: Configure Planning Analytics

To run plans successfully, you must complete the following Configure Planning Analytics tasks:

- Set Up Dimension Catalogs
- Set Up Measure Catalogs
- Set Up Levels and Attributes

You can use the default hierarchies for most of the dimensions.

If the default product catalog named Product is not collected, then you must select at least one product hierarchy. If a default product catalog is collected, then the predefined Product hierarchy is selected as a product hierarchy by default. You can optionally add or change the product hierarchy. You must include at least one product hierarchy when creating a dimension catalog.

On the Configure Planning Analytics page, Levels and Attributes tab, you can configure your planning table and graphs to display descriptions instead of codes for the following entities: Items, Organizations, Resource, Work Center, and Work Area.

Configure Planning Analytics

To run plans successfully, you must set up dimensions and dimension catalogs, measure catalogs, and levels and attributes. You can open the Configure Planning Analytics task from one of the Supply Chain Planning work areas. Depending on your security privilege, you can also open the Configure Planning Analytics page from the Setup and Maintenance work area.

**Note:** Default Catalog is the name of the predefined dimension catalog. It contains predefined hierarchies. Oracle recommends that you make a copy of the Default Catalog if changes are required, instead of editing the default catalog.
To configure planning analytics:

1. In the Navigator, click one of the Supply Chain Planning work areas or click the Setup and Maintenance work area.
   - If you clicked one of the Supply Chain Planning work areas, do the following:
     i. Click the Tasks panel tab.
     ii. In the Tasks panel drawer, click the **Configure Planning Analytics** link.
   - If you clicked the Setup and Maintenance work area, select the following:
     - **Offering**: Supply Chain Planning
     - **Functional Area**: Supply Chain Planning Configuration
     - **Task**: Configure Planning Analytics

2. On the Configure Planning Analytics page, Dimension Catalogs tab, do the following:
   a. Create a dimension catalog using the **Add Row** button, or duplicate the default dimension catalog using the **Duplicate** button.
   b. Specify what hierarchies to use in the dimension catalog by moving hierarchies from the Available pane to the Selected pane.
   c. Assign the dimension catalog to a plan that will use the set of hierarchies for analysis during the plan creation from Manage Plans.

3. Each Supply Chain Planning work area has a default measure catalog. Create a new measure catalog to add or remove measures.
   a. Use the **Add Row** button to create a new catalog or use the **Duplicate** button to duplicate an existing catalog.
   b. Specify the measures for the catalog by moving the measures from the Available pane to the Selected pane.
   c. Assign the measure catalog to a plan that will use the set of measures during the plan creation from Manage Plans.

   After you create and define a measure catalog, you can select the measure catalog for a plan from the Edit Plan Options page.

4. Click the Levels and Attributes tab and select the desired dimension and hierarchy.
   a. In the **Dimension** list, select a dimension.
   b. Optionally, in the **Hierarchy** list, select a hierarchy.
   c. Click the **Search** icon button.
   d. To change how the level name appears in pivot tables and graphs, select the row and enter the level name in the **Level Name to Display** field.

   **Note:** You can't edit the Level Name to Display field for the lowest level of the hierarchy.

   e. To display a particular member identifier in your tables and graphs, select a dimension (Product, Organization, or Resource) and level, and then select a value in the **Member Identifier to Display** column:
### Dimensions and Dimensions Catalogs

#### How You Use Dimensions and Dimension Catalogs in Supply Chain Planning

Oracle Fusion Supply Chain Planning has hierarchy levels by which you can view, compare, and analyze demands and supplies of your products over various dimensions, such as geography and organizations. Supply Chain Planning uses a single set of dimensions and hierarchies to drive aggregation context for demand planning, supply planning, embedded analytics, and management analytics.
Supply Chain Planning provides predefined planning dimensions. Each of those dimensions has a predefined hierarchy. When you implement the Supply Chain Planning offering, you must decide which dimensions and hierarchies to use for demand and supply analysis.

Each dimension catalog has a collection of hierarchies in different dimensions that is enabled for use in the plan options. By default, all predefined hierarchies are available in Planning Analytics. You can disable certain dimensions that are not relevant for your plans. For example:

- If you are only using demand plans, then supplier, resource, and order type dimensions may not be relevant
- If you are using sales and operations plans, then the order type dimension is not relevant

The following hierarchies are predefined in Supply Chain Planning:

- Customer
- Demand Class
- Exception Type
- Order Type
- Organization
- Plan
- Product
- Resource
- Supplier
- Source
- Time

Access the Configure Planning Analytics page from a Supply Chain Planning work area. Depending on your security privilege, you can also open the Configure Planning Analytics page from the Setup and Maintenance work area.

To access the Configure Planning Analytics page from a Supply Chain Planning work area:

a. Click the Tasks panel tab.
b. In the Tasks panel drawer, click the **Configure Planning Analytics** link

To access the Configure Planning Analytics page from the Setup and Maintenance work area, select the following:

- **Offering**: Supply Chain Planning
- **Functional Area**: Supply Chain Planning Configuration
- **Task**: Configure Planning Analytics

In the Dimension Catalogs tab, several hierarchies are available in various dimensions. You can specify which hierarchy to use in a particular dimension catalog. For example, you can select an organization type hierarchy, a product type hierarchy, or a customer hierarchy to use in plans for analysis. After you define a dimension catalog, you can assign it to a plan that will use the set of hierarchies for analysis.

You can select one of your dimension catalogs to be used as the default dimension catalog in plans. If you do not select a default catalog, the predefined catalog named Default Catalog is used.

**Related Topics**

- Why You Disable or Enable Dimensions for Supply Plan Measures
Considerations for Setting Up Dimension Catalogs

Supply Chain Planning provides predefined planning dimensions and each of those dimensions have predefined hierarchies. The predefined hierarchies are included in the default dimension catalog and are available in all plans.

Hierarchy Selections for the Product Dimension

A predefined Product hierarchy is included in the default dimension. The default Product hierarchy has three fixed levels: Item, Category 1, and Category 2. Other Product hierarchies (other item catalogs in Oracle Fusion Product Model that are collected into Supply Chain Planning work areas) can be optionally enabled as user-defined product hierarchies.

For Oracle Fusion Sales and Operations Planning, the Lifecycle Phase attribute is also included in the default dimension. By default, Oracle Fusion Product Model’s planning functional area catalog is collected into the Product hierarchy. For the collection to run successfully, you must create the planning functional area catalog in Product Model with the following attributes:

- Controlled at = Master-Level (not Org-Level)
- Allow hierarchy of categories = No
- Default category must be selected
- Allow multiple item category assignments = Not selected
- Catalog Content = Items at Leaf Level

If this catalog is not set up with these attributes, the planning functional area catalog is not collected and the Product hierarchy will not be populated. This will result in the forecasting engine not being able to use the product aggregation and some of the predefined tables and graphs will not work correctly.

Hierarchy Selections for the Organization Dimension

Enterprise is the default organization hierarchy and has three fixed levels: Organization, Business Unit, and Legal Entity. This default organization is defined in Oracle Fusion HCM and you can only modify it there. Optionally, you can enable other Organization hierarchies (based on regions, one per country).

Hierarchy Selections for the Customer Dimension

The default Customer hierarchy has three fixed levels: Customer site, Customer, and Customer Class. This default customer hierarchy is defined in the trading community model and you can only modify it there.

Hierarchy Selections for the Resource Dimension

The default Resource hierarchy has four fixed levels: Resource, Work Center, Work Area, and Organization. This default resource hierarchy is defined in Oracle Fusion Manufacturing and you cannot modify it.

Hierarchy Selections for the Supplier dimension

The default Supplier hierarchy has two fixed levels: Supplier Site and Supplier.

Hierarchy Selections for the Exception Type, Order Type, and Source Dimensions

Predefined Exception Type, Order Type, and Source dimensions are included in the Default dimension catalog. Each has only a single hierarchy with a single level.
Hierarchy Selections for the Time Dimension
In the Time dimension, Gregorian calendar is the only predefined hierarchy. All other hierarchies can be optionally included as user-defined hierarchies. These include workday calendars of inventory organizations collected from Oracle Fusion Supply Chain Management and fiscal calendars from Oracle Fusion Financials.

Related Topics
- Why You Disable or Enable Dimensions for Supply Plan Measures

What's a dimension in Supply Chain Planning?
A dimension is a structure that organizes data. It categorizes data to enable you to answer business questions. Commonly used dimensions are customers, products, and time.

How can I use dimensions in Supply Chain Planning?
Supply Chain Planning applications come with predefined hierarchies in the Product dimension. These predefined hierarchies are part of the Dimension catalog structure in Oracle Fusion Product Model. Integrations with Oracle E-Business Suite and third-party systems where the product dimensions can still be maintained and uploaded for use by the Oracle Supply Chain Planning Cloud applications is supported.

What's a dimension catalog in Supply Chain Planning?
In Supply Chain Planning, a dimension catalog is a selected list of dimensions enabled for use in plans. In Supply Chain Planning, a dimension catalog is a selected list of hierarchies in different dimensions that is enabled for use in plans. The Default dimension catalog appears by default, but can be changed to another dimension catalog that has been defined.

Can I modify the default dimension catalog?
Yes, you can modify the Supply Chain Planning default dimension catalog. However, if you want to make any changes, Oracle recommends that you create a duplicate of the default dimension catalog.

Measure Catalogs

How You Use Measure Catalogs in Supply Chain Planning
The measure catalog is similar to the dimension catalog. Each measure catalog has a collection of measures that you can enable for use in plans in one of the Supply Chain Planning work areas. While Oracle provides predefined measures, you can also create measures in some work areas and add them to a measure catalog.
On the Configure Planning Analytics page, Measure Catalogs tab, you can create a measure catalog and add or remove measures from a measure catalog.

The predefined measure catalog is the default. When you create a new plan, the measure catalog that is used is based on the catalog check box located on the Measure Catalogs tab. For example, the catalog check box in the:

- Planning Central work area is **Planning Central Catalog**
- Sales and Operations Planning work area is **Sales and Operations Planning Catalog**
- Demand Management work area is **Demand Management Catalog**
- Supply Planning work area is **Supply Planning Catalog**

If you change the default catalog later, the plan continues to use the same measure catalog that it was created with.

**Can I modify the default measure catalog?**

No. Although you cannot modify the default measure catalog, you can create a measure catalog, modify the list of measures, and assign it to plans on the Plan Options page.

### Levels and Attributes

#### How You Use Levels and Attributes in Supply Chain Planning

On the Levels and Attributes tab, you can enable certain item and organization attributes (standard fields or flexfields) to be available in Planning Analytics as filters. For example, you can enable PLANNER_CODE to use in an analysis to group metrics and measures by that particular attribute.

You can create a display name to use in the various pivot tables and graph configurations. For example, if the predefined level name is Product Category 2, you can enter a display name of Laptops. You can also configure which identifier to display in tables and graphs for selected hierarchies. For example, you can choose to display item name or item description in your tables and graphs.

### Displaying Descriptions in Tables and Graphs

You can analyze planning data in planning tables and graphs by using the description fields of entities in hierarchies, such as items and organizations. You can use the description fields when their primary identifier is a difficult to understand alphanumeric code. You can toggle between the code and description, or display both, in planning tables and graphs for the following entities:

- Items
- Organizations
- Resources
- Work Centers
- Work Areas

**Tip:** The organization level in the Organization dimension and the organization level in the Resource dimension are separate settings. Oracle recommends that you set them to use the same identifier.
Changing a member identifier can impact the advanced criteria in tables and graphs. If you use an advanced filter criteria in a table or graph, then the criteria will be compared to the new member identifier, which can affect the search results. The change to the member identifier can result in different or no members meeting the filter criteria. For example, many names might start with AB, but no descriptions start with AB. After you make this change, you should verify that any advanced filter criteria used are still valid.

**Note:** In the Selector Tool, the member values displayed are based on what is configured in the Member Identifier to Display column on the Configure Planning Analytics page, Levels and Attributes tab. For example, for item, you can configure your tables and graphs to show item description instead of item name, which is what also appears when you are in the Selector Tool.
5 Planning Measures

Predefined Measures in Supply Chain Planning

When you use one of the Supply Chain Planning work areas, you have access to many predefined measures. To review the details of each predefined measure, use the following:

- The Manage Planning Measures task
- A spreadsheet available at My Oracle Support

The Manage Planning Measures Task

On the Manage Planning Measures page, select a measure, and then select edit. You can review the details of the measure on the Edit Measure page even if you can't make changes to the measure.

A Spreadsheet Available at My Oracle Support

Use Doc ID 2374816.1, Oracle Supply Chain Planning Cloud: List of Predefined Measures.

The List of Predefined Measures spreadsheet contains only the core measure attributes. You can use the Edit Measures page to view all the attributes associated with a particular measure.

How You Manage Planning Measures

Use the Manage Planning Measures task to review Supply Chain Planning measures. You can edit several measures, but some measures you can only view. You use the pivot table to view the data you edited at different aggregations. The results of the edits are stored based on definitions of a measure.

This topic discusses how you can perform these tasks:

- Update the definition of a measure
- Update aggregation parameters
- Update disaggregation parameters
- Edit data of a measure

Update the Definition of a Measure

To update the definition of a measure:

1. In the Navigator, click a Supply Chain Planning work area.
2. Click the Tasks panel tab.
3. In the Tasks panel, click the Manage Planning Measures link.
4. Expand a measure group and scroll manually or use the search option to find all measures that match the search criteria.
5. Select the measure that you want to modify and then click the Edit icon.

   **Note:** Look for a check mark next to Allow editing at the top of the measure definition controls to confirm that the measure is editable.

6. Click the Aggregation and Disaggregation tab to view measure definitions.

   The dimensions, hierarchies, and levels at which data persists vary from measure to measure. For the dimensions with a check mark, the measure is defined on the current dimension. For these dimensions, each measure is defined on a single hierarchy as listed on the dialog box.

7. Click Save and Close.

---

**Update Aggregation Parameters**

Aggregation parameters control the way in which data of a measure is aggregated from the storage level to a table, graph, or infotile. Calculation Order enables you to chose between the following options:

- **Calculate and Aggregate:** Calculates the measure's expression at the lowest data level and then aggregate up.
- **Aggregate and Calculate:** Aggregates all measures referenced in the measure's expression and then calculate the expression.

**Update Disaggregation Parameters**

The disaggregation methodology is driven by the definitions of the disaggregation parameters. Disaggregation for definitions that include time can be different from disaggregation for definitions that do not include time. For noneditable measures there are no configuration in the disaggregation parameters.

The four different allocation methods are the following:

- **Same:** Indicates that all lower-level entries into which the data is being saved will receive the same value. Service level would be a good measure to use Same Value settings as the percentage being entered should not be allocated between different items and organizations.
- **Equal:** Spreads the edited value among the lower level entries into which data is being saved. Each entry receives an equal share of the update. This could commonly be seen on the time dimension, where data may be updated for a week or month, but there is no guidance on how it should be allocated to the common storage level of days. It is typically set to the time dimension to equal value to support equal allocation between the days.
- **Self:** Uses a measure's own pre-calculated values to allocate the data to the dimension member combinations. For example, item-organization. The weights for each combination are calculated and stored for the measure during plan run. These weights are used to allocate the data. For example, the forecasts for P1-Org1 and P2-Org1 are 40 and 60 respectively. Therefore, the weights used for allocation would be 40% for P1-Org1 and 60% for P2-Org1.
- **Measure:** Uses values of a different measure to allocate.

**Edit Data of a Measure**

To edit the data of a measure, open a table containing the measure, double-click the cell where the data is to be entered and then enter the data. In a table, editable and noneditable cells look similar. However, when you double-click a cell of an editable measure, the cell enables you to enter values.
Copy Data from One Measure to Another

In a Supply Chain Planning table, you can update the value of one measure by using values from another measure. In several cases, a measure can have other related measures that enable you to override the value of a base measure. For example, Sales Forecast is one of those measures:

- Sales Forecast: Base measure.
- Adjusted Sales Forecast: You can override what is in Sales Forecast.
- Final Sales Forecast: The planning process takes the Adjusted Sales Forecast, if there is one, or uses the Sales Forecast. The planning process uses the Final Sales Forecast, which takes into account any manual adjustments that you made.

You can specify the data source whose values you want to copy to the selected range of cells in the target measure. Using a table containing the three measures listed in our previous example, select a range of cells associated with the Adjusted Sales Forecast measure, click Actions and then select Edit. In the Edit Measures dialog box, use the Sales Forecast measure as the source measure for Adjusted Sales Forecast and increase it by 10 percent. If your Sales Forecast is 200, then Adjusted Sales Forecast now reflects 220.

For a measure to appear in the list of values for Source Measure in the Edit Measures dialog box, the measure must be included in the table. The measure must also conform to the same dimensions as the measure you are editing.

When editing a measure's value at an aggregate level, the value is allocated down to the lowest level. For example, when editing weekly data, the value will be allocated down to the day.

You can also edit multiple measures at a time; however, you can't have circular references. In the following example, Measure3 is used as a source measure for Measure1. But, Measure3 is also being edited at the same time to increase the measure by 10 percent.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Source Measure</th>
<th>Action</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure1</td>
<td>Measure3</td>
<td>Increase by percentage</td>
<td>10</td>
</tr>
<tr>
<td>Measure2</td>
<td>Measure2</td>
<td>Increase by percentage</td>
<td>10</td>
</tr>
<tr>
<td>Measure3</td>
<td>Measure3</td>
<td>Increase by percentage</td>
<td>10</td>
</tr>
</tbody>
</table>

In this scenario, the planning engine won't know which value of the source measure to use: the original Measure3 value, or the value of Measure3 after increasing it by 10 percent. To avoid circular references, you must handle these edits separately.

Configure Units for a Measure

You can view a measure in several units of measure (UOM) and currencies side by side without needing separate measures. By converting a single measure into various values and currencies, you get superior data consistency and do not require recalculation and data synchronization.
In addition, sometimes different products and organizations have data that is loaded externally using different units of measure. For example, vitamins sold in Europe may be shipped in bottles, while in Asia the quantities are by pill count. By defining units, you enable these values to be converted into a cohesive value, which can be aggregated in a seamless manner.

To configure units for a measure:

1. In the **Navigator**, click a Supply Chain Planning work area.
2. Click the **Tasks** panel tab.
3. In the **Tasks** panel, click **Manage Planning Measures**.
4. Locate the measure for which you want to configure units and click **Edit**.
5. On the **Advanced** tab, select the **Properties** tab.
6. Select **UOM** from the list as the default value for the **Base Units of Measure**.

   The base units of measure define the default unit of measure to which displayed data is converted. It is editable only for numeric measures, which do not have product and organization-based levels. For measures that have product and organization, the definition comes from the data source. When using the measure, you must attempt to select only the relevant UOM entries for the measure to streamline the user process.

7. Select the relevant units of measure from the **Display Unit of Measure**.

   You completed defining the unit of measure. You can view the measure using a specific table or graph.

   **Note:** To show the same measure with different unit of measures, you can create a copy from the original measure. Rename the duplicated measure to use another unit of measure of your choice. You can show the same measure as both numbers and currencies.

To override the default UOM:

1. Open a table and select **View, Format Measures** to find the measure.
2. Click the measure you want to modify and select the value from the **Unit of Measure** list.
3. Click **Save and Close**.

**Configure Currencies for a Measure**

You can view a measure in several units of measure and currencies side by side without having separate measures. By converting a single measure into various values and currencies, you get superior data consistency and do not require recalculation and data synchronization.

To configure currencies for a measure:

1. In the **Navigator**, click a Supply Chain Planning work area.
2. Click the **Tasks** panel tab.
3. In the Tasks panel, click the **Manage Planning Measures** link.
4. Locate the measure for which you want to configure currencies and click **Edit**.
5. On the **Advanced** tab, select the **Properties** tab.
6. Select **Currency** from the list as the default value for the **Base Currency**.

   The base currency defines the default currency to which displayed data is converted and is editable only for currency type measures.

7. Select the relevant currencies from the **Display Currency**.

   You completed defining the currencies for a measure. You can view the measure using a specific table or graph.
The currency value is editable only if the measure type is Currency. For numeric measures, you can change the type from Number to Currency. Select the currency that you want to use in this instance of the measure.

*Note:* To show the same measure with different currencies, you can create a copy from the original measure. Rename the duplicated measure to use another unit of measure of your choice. You can show the same measure as both numbers and currencies.

To override the default currency:

1. Open a table and select **View, Format Measures** to find the measure.
2. Click the measure you want to modify and select the value from the **Currency** list.
3. Click **Save and Close**.

### Configure Conditional Formatting for a Measure

Use conditional formatting to change the background color of a cell when a specific condition occurs. Conditional formatting is useful to draw the attention of the user for information that requires action. You define conditions for an individual measure. A measure can have one or more formats applied. The condition is evaluated at the table level using the configured units and currencies. Two tables with different units of measure or currencies defined can have different cells trigger the conditional formats.

To configure global conditions:

1. In the Navigator, click a Supply Chain Planning work area.
2. Click the **Tasks** panel tab.
3. In the Tasks panel, click the **Manage Planning Measures** link.
4. Locate the measure for which you want to apply conditions and click **Edit**.
5. On the **Advanced** tab, select the **Conditional Formatting** tab.
6. Click the **+** icon to add a row and complete the information.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure</td>
<td>Locate the measure you want to use to evaluate. Conditional format for a measure can be based on another measure.</td>
</tr>
<tr>
<td>Condition</td>
<td>Compares the selected measure to a value or another measure</td>
</tr>
<tr>
<td>Compare to Measure</td>
<td>Measure to which the selected measure is compared</td>
</tr>
<tr>
<td>Value</td>
<td>When the <strong>Compare to Measure</strong> is empty, this value is used to compare the selected measure</td>
</tr>
<tr>
<td>Color</td>
<td>Defines the color for the cell background when the condition is met</td>
</tr>
</tbody>
</table>

7. Click **Save and Close**.

To configure local overrides to conditions:

1. Open a table and select **View, Format Measures**.
2. Locate the measure that you want to modify and then select the **Use Override Conditional Formatting** check box.

3. The Conditional Formatting section appears. Select a new conditional format to use in your table.

4. For only the Build Plan table accessed through a Supply Planning work area, the Conditional Formatting section also includes the **Apply** and **Name** columns.

   In the **Apply** column, select whether you want the conditional formatting to be highlighted in your Build Plan table all the time or only when you select it from the Highlight Exceptions drop-down list.

   For example, if you set up a conditional format named Resource Overload and select **When selected**, Resource Overload appears in the Highlight Exceptions drop-down list in your Build Plan.

5. Click **Save and Close**.

---

Aggregate Levels for Measure Data Imports

Use the Supply Chain Planning Measures template to import measure data. In Demand Management, you can allocate the loaded forecast measure data to the day level. In Sales and Operations Planning, you can allocate the loaded forecast measure data at the planning level as part of a snapshot. For example, if the Financial Forecast Value measure is loaded at the Quarterly and Product Category levels, then the measure data is allocated to the month and item respectively.

You can import measure data at the following aggregate levels:

- Category level in Product dimension
- Weekly for a Manufacturing Calendar in Time dimension. Monthly and Quarterly for a Gregorian or Fiscal calendar in Time dimension.
- Customer level in Customer dimension
- Business Unit or Legal Entity level in Organization dimension
- Division, Region, or Territory level in Sales Organization dimension

You cannot import data at aggregate levels for shared measures, such as Shipments History, Adjusted Shipments History, Bookings History, and Adjusted Bookings History.

**Related Topics**

- Import Templates Used to Create CSV Files for Supply Chain Planning

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View the Audit Trail for a Measure

Use the Audit Trail of Measure Updates table to view the audit trail for a measure. The table displays details of changes made to measure values for auditing purposes. You can view the audit trail for all measure types, such as numeric, date, and string.

The Audit Trail of Measure Updates table is available for Demand Plan, Supply Plan, Demand and Supply Plan, and Sales and Operations Plan types. You can access the audit trail from your respective Supply Chain Planning work area.

Only editable measures that are part of the plan’s measure catalog appear in the Audit Trail of Measure Updates table.
Note: Only the user who updated the measure can view the previous value and new value in the audit row. Other users, who have permissions to view the audit trail, must open the Audit Trail Details page to view the details.

The security permissions are set according to the job roles on a measure group or on a specific hierarchies, such as Item, Organization, Customer or Supplier. For additional details, open the Administer Planning Security page from the task drawer of the Plan Inputs work area.

Use the following steps to view the audit trail for a measure:

1. From a Supply Chain Planning work area, click the Open button and then select a pane.
2. In the Open Table, Graph, or Tile Set dialog box, search for the Audit Trail of Measure Updates table. Select the table and then click OK.
3. On the Audit Trail of Measure Updates tab, type a specific measure name and click Search.

   You can click the Search button without typing any search criteria to display all the measures that have the audit trails.
4. In the Search Results region, you can view the audit trails for a measure, which includes the following information:
   - Measure Name: Name of the measure on which the updates were made.
   - Last Updated Date: Date and time when updates were made to the measure.
   - Updated By: Name of the user who made the updates.
   - Previous Value: Previous value for the measure.
   - New Value: New value for the measure.
   - Details: When you click Details, the Audit Trail Details page opens. You can review additional details, such as levels, members, filtered levels, and filtered members.

Manage User-Defined Measures

Create Measures and Assign to a Measure Catalog

In addition to reviewing measures, you use the Manage Planning Measure task to create, edit, duplicate, and delete measures. You can also create measure groups and add predefined and user-defined measures in them.

This topic discusses the following:

- Creating measures
- Duplicating, editing, and deleting measures
- Creating measure groups
- Assigning measures to a measure catalog

Create Measures

You can create measures with appropriate privileges if the predefined measures don't meet your business requirements. The measures that you create have the same features and functionality as predefined measures.
To create a measure:

1. In the Navigator, click a Supply Chain Planning work area link.

   You can create measures from one of the following work areas: Demand Management, Supply Planning, Sales and Operations Planning, Demand and Supply Planning, or Plan Inputs.

2. Click the Tasks panel tab.

3. In the Tasks panel, click the Manage Planning Measures link.

4. Click Create from the Actions menu.

   a. On the Create Measure page, enter a measure name and description.
   b. Select a measure group.
   c. Select a data type.
   d. Select the Allow editing check box if you want the measure to be editable in a pivot table.
   e. Select Edit Range to enable the Edit Lock tab, which controls the editable status of the measure.

      The Edit Range value determines the time range over which the measure is editable. The available values are: History, Future, History and Future.

   f. On the Aggregation and Disaggregation tab, define the dimension parameters. Select the dimensions, hierarchy, and hierarchy level within the dimension to store the measure data. When a dimension and hierarchy are selected, the default setting for the Stored Level is the lowest level of the dimension’s hierarchy. You can modify the level to store by selecting the hierarchy from the list and setting the stored level parameter within that hierarchy.

      • Aggregation Parameters: The Aggregation parameters control the way a measure’s data is aggregated. You have two options:

         o Calculate and aggregate: Calculate and Aggregate calculates the measure’s expression at the lowest data level and then aggregate up.
         o Aggregate then calculate: Aggregate and Calculate aggregates all measures referenced in this measure’s expression and then calculate the expression.

      In the Time Dimension field, select the aggregation function that controls how data is aggregated for the time dimension. The Other Dimensions fields are the same as the Time dimension fields. These options control how the data is aggregated across all the dimensions except for time. The Weighted By field is enabled only if you select Weighted Average as the aggregation parameter for either Time or Other Dimensions. It enables you to pick the measure to drive the weighted average calculation.

      The aggregation types include: Sum, Average, Weighted Average, Minimum, Maximum, Count, Latest, Median, Variance, and Standard Deviation.

      • Disaggregation Parameters: The Disaggregation Parameters control how changes to the data at an aggregated level are allocated down for storage. This is used when data changes are made in a pivot table, but also when made by the demand forecast. The weights for each combination, such as item-organization are calculated and stored for the measure during plan run. These weights are used to allocate the data. For example, the forecasts for P1-Org1 and P2-Org1 are 40 and 60 respectively. Therefore, the weights used for allocation would be 40% for P1-Org1 and 60% for P2-Org1.

      The parameters for the Disaggregation Type field are: By Measure, By Self, Equal, and Same Value. The default parameter is Equal.
The Disaggregation Basis field is enabled only if you select the Disaggregation Type as By Measure. Select the measure to use as the disaggregation basis from the list of measures.

The Secondary Basis field is enabled only if you have selected the Disaggregation Type field as By Measure or By Self. The values for Secondary Basis are Booking History Average or Shipment History Average.

The Secondary Basis measure is selected in case the basis measure has no value. You can select only measures that contain pre-calculated proportions as a secondary basis. That is, they are calculated during plan run.

g. On the Expression tab, define any new expressions for a measure. You create an expression when you have to show any value other than its stored information. The expression provides a flexible framework for an extensive variety of calculations and information. An expression for a measure references other measures, operators, and numbers.

In the Expressions subtabs:

- The Functions tab lists the available functions, a description, an example of the function's use.
- The Measures tab lists the available measures, their descriptions, and data type. The Insert button inserts the highlighted measure into the expression building area where functions or arithmetic operations can be specified.
- The Attribute tab lists the attributes available for the Product dimension at Item level. The description and data type of the attribute is shown in the description pane.

After you complete the expression, use the Validate button to ensure the syntax is correct. An error or succeeded message is displayed.

h. On the Edit Lock tab, you can define a new expression similar to the measure expression. The difference is rather than evaluating and displaying the expression result, the expression result is used to control or refine the editable status of the measure. If the expression evaluates as true, the measure is locked from editing. The expression is evaluated every time the table is run, and may change as relevant measures or attributes are modified.

i. On the Advanced tab, click the Properties tab and review the following parameters:

- If you select the Shared measure check box, then the measure is shared across plans. By default, the parameter isn’t selected and hence the measure is plan specific.
- If you select the Refresh with current data check box, then the current measure value needs a placeholder to store the result in the application. For example, a non-editable measure where the data is imported from a legacy or other application. Selecting this check box allocates a space to store the measure by the defined dimensions.
- Conversion Type enables you to define the valid Unit of Measure (UOM) and Currency conversions that will be available for a measure in a table.

Base Units of Measure defines the default unit of measure used to convert displayed data. The field is editable only for Numeric measures, which don’t have Product and Organization-based levels (for measures that have product and organization, the definition comes from the data source). Select any relevant units of measure, which may be useful in a table, graph, or tile. Only the UOMs that you select will be available for selection in a table or graph.

Base currency defines the default currency to which displayed data are converted. The field is editable for only Currency type measures.

You use Price lists to convert quantities into values, which are then converted to a currency.
• **Data Lookup** value enables you to identify a data lookup source that displays the measure as a list of value. The source attributes have 3 options: None (Default), Level, and List.
  
  ◦ If Source=Level, you must identify the level and the attribute to display in the measure list.
  ◦ If Source=List, then you can create and maintain the list of values. You can either add or remove members in this list.

j. On the Advanced tab, click the **Goals** tab to define if low or high values are better for measure goals.

k. On the Advanced tab, click the **Conditional Formatting** tab to define conditional formatting settings for the measure.

5. Click **Save and Close**.

### Assign Measures to a Measure Catalog

To use the user-defined measure in your plan, add the new measure to the plan's measure catalog. Navigate to Configure Planning Analytics, find the plan's measure catalog on the Measures Catalog tab. In the Available Measures pane, search for the new user-defined measure, and add it to the Selected Measures. After you perform a plan run you can create a table or use an existing table, and add your new measure to the table.

### Duplicate, Edit, and Delete Measures

You can duplicate, edit, or delete user-defined measures using the Manage Planning Measures task, which is available in the Tasks drawer.

To duplicate the measure: Select a measure from the list of measures, select the **Action** menu on the toolbar, and then click **Duplicate**. Duplicating the existing measure gives you a starting point for creating a new measure definition. When you duplicate a measure the default name is Copy of <original measure name>. Other definitions of the duplicated measure remain the same as the original measure.

To edit the measure: Select a measure from the list of measures, select **Actions** menu, and then click **Edit**. Editing a measure enables you to select an existing measure and edit its attributes.

To delete the measure: Select a measure from the list of measures, select **Actions** menu, and then **Delete**. A complete list of all objects including tables and measure groups are be displayed to ensure you are aware of impacts of deleting a measure.

### Create Measure Groups

Use Manage Planning Measures task to create a measure group. Measure groups are created to group measures together that you need frequently. Depending on your business need you can create measure groups and associate measures with appropriate groups.

To create a measure group:

1. In the Navigator, click a Supply Chain Planning work area link.
2. Click the **Tasks** panel tab.
3. In the Tasks panel drawer, click the **Manage Planning Measures** link.
4. Click **Create Group** from the **Actions** menu.

   ◦ Enter a name and description.
   ◦ From the Available Measures pane you can select measures and move to the Selected Measures pane.
5. Click **Save and Close**.

You can also create Measure Groups in the Selector tool when you create or edit a table or graph. In the Group field in the header section, select **Manage Groups** from the list of values. Use the plus icon, +, to add a row, type a name, and click **Save**.

### Configure Global Goals for Measures

You can define global goals for a measure using the Goals tab when you create or edit a measure. On the Create Measure page, click the **Advanced** tab and then select the **Goals** tab to configure global goals.

Define if low or high values are better. For example, a high value is good for revenue; a low value is good for expenses.

For global goals, you can provide a low range or a high range.

Goals option is available only for measures of type Currency, Number, and Percent. Using Global Goals, you can first define if low or high values are better for a measure. The ranges are displayed on the page when you are viewing a measure in comparison with its goal, for example, in an infotile. Global goals are measure level parameters and are not defined specifically for a subset of the data. For example, you cannot have a goal of 1000 for one organization and 50000 for another.
6 Planning Data Collections

Overview of Data Collections for Supply Chain Planning

To run plans from one of the Supply Chain Planning work areas, you must collect data into a planning data repository. Order promising and order management processes also use the planning data repository to promise and manage orders.

To collect data into the planning data repository, you can perform these tasks from one of the Supply Chain Planning work areas:

- Collect Planning Data: Use this task when you collect data from the Oracle Fusion source system.
- Load Planning Data from Files: Use this task when you collect data from a completely external source system.

Depending on your security privileges, you may need to manually add these tasks. In the Setup and Maintenance work area, use the following:

- Offering: Supply Chain Planning
- Functional Area: Supply Chain Planning Configuration
- Task: Collect Planning Data

The following figure illustrates the collections processes that you can use to populate the planning data repository.
Collect Planning Data

There are two steps involved in the data collection process. The Collect Planning Data process first pulls data from the Oracle Fusion source system into staging tables. The process then loads data from the staging tables into the planning data repository.

On the Collect Planning Data page, use the following tabs to select what data you want to collect:

- Reference Data
- Demand Planning Data
- Supply Planning Data

Most of the reference data are global entities. Global entities are common for all source systems. For example, Units of Measure (UOM) is common for all source systems. The supply planning and demand planning data are transactional data. Most of the transactional data are local entities. Local entities are specific to each source system. For example, On-hand Quantity is specific for each source system.

You can also select collection filters to further refine what data you want to collect. You can save your selections to collection templates.

Load Planning Data from Files

Use this option to populate the planning data repository using CSV files:

To load the planning data from files, follow these steps:

1. Create the CSV files. To create the CSV files, you can use a predefined set of Microsoft Excel files as import templates.
2. Import the CSV files. From the navigator, click File Import and Export, and create a new import. Specify scm/planningDataLoader/Import for the account.
3. Submit the Load Planning Data from Files process. When you submit the process, the process first pushes the data from the CSV files into the staging tables. The process then loads the data from the staging tables into the planning data repository.

Related Topics

- Update Existing Setup Data

Global Entities

Within data collections, Oracle Fusion Supply Chain Planning refers to certain business entities as global entities. Global entities are specific for each instance and are common for all source systems. They are common without regard to whether they are collected from the Oracle Fusion source system or collected from an external source system using the file-based data import (FBDI) method.

When collecting data for a global entity, the planning data repository stores only one record for each instance of the global entity. The data collections process removes the source system reference from the global entity and stores the data in the data repository. If the data collections process collects the same instance of a global entity from more than one source system, the data repository stores the value from the last collection.
For example, the following scenario describes the collection method of the global entity called units of measure (UOM) from three source systems, namely source system A, B, and C respectively.

- **Source system A** has an instance of UOM. During the collection of UOMs from source system A, the kilogram UOM is collected. This is the first time the kilogram UOM is collected. The data collections process creates a kilogram record in the data repository.

- **Source system B** does not have any instances of UOM. During the collection of UOMs from source system B, the data collections process does not collect the kilogram value. Since there was no record for the kilogram UOM in source system B, the data collections process does not change the kilogram record in the data repository. The record of the kilogram value from source system A is still valid.

- **Source system C** has an instance of UOM. During the collection of UOMs from source system C, the kilogram UOM is again collected. The data collections process registers the kilogram record in the data repository to match the values from source system C.

   **Note:** When you use the FBDI collection method, the global entity files require a source system. The collections framework validates that the source system matches each record’s source system. A source system identifier marks each data record.

In Supply Chain Planning, the following entities are classified as global entities:

- Order Orchestration Reference Objects
- Units of Measure and UOM Conversions
- Demand Classes
- Currency and Currency Conversion Class
- Shipping Methods (Carrier, Mode of Transport, Service Level)
- Customer and Customer Site
- Suppliers and Supplier Sites
- Regions and Zones
- Approved Supplier List
- Supplier Capacity
- Planners

**Data Collection Types for Supply Chain Planning**

When you collect planning data, one of the parameters you specify for the Collect Planning Data task is the Collection Type parameter. You can select this task from any of your Supply Chain Planning work areas. For the Collection Type parameter, you can select one of the following values:

- **Targeted:** Choose the Targeted collection type when you want to collect a significant volume of source system data. Typically, you use the Targeted collection type in scenarios such as bulk upload of transaction data, instance upgrade, and change in collection filters.

- **Net change:** Choose the Net change collection type when you want to collect changed data and new records since the last successful collection cycle.

- **Automatic selection:** Choose the Automatic collection type when you want the planning process to decide and automatically select an appropriate collection type for each of the entities.
Targeted
You use the Targeted collection type when you want to perform a complete refresh of the data in the data repository. In this mode, the planning process deletes the existing data for the selected entities from the data repository. Next, if subsequently collected from the source, the data for the selected entities replaces the deleted data.

Note: For the following data collection entities, you can use only the Targeted collection type: Item Costs, Resource Availability, Fiscal Calendars, and all Shipment and Booking History data.

Net change
When you use the Net Change collection type, you collect data incrementally. The Net Change collection type collects only changed or new data. Collecting data using the Net Change collection type is usually faster than using the Targeted collection type. You typically use the Net Change collection type when you have previously performed a Targeted collection, and now you want to keep your planning data current with your execution system data. You cannot select the demand planning data when the collection type is Net Change.

Automatic selection
You use the Automatic collection type when you are not sure which collection type to select and you want the planning process to decide the collection type for each entity. The planning process evaluates each entity on multiple factors, such as the last collected date for an entity, and decides whether to perform a Targeted or a Net Change collection for the entity. You can manually select the entities that you want to collect or you can use one of the predefined templates to select your entities. If you select one of the predefined templates, you can't make any changes in the Reference Data, Demand Planning Data, and Supply Planning Data tabs.

Manage Planning Source Systems for Data Collections
To populate the planning data repository, also known as the order orchestration and planning data repository, you collect data from the Oracle Fusion source system. On the Manage Planning Source Systems page in one of the Supply Chain Planning work areas, enable organizations for collections. Depending on your security privilege, you can also enable organizations from the Setup and Maintenance work area.

In the Setup and Maintenance work area, use the following:
- Offering: Supply Chain Planning
- Functional Area: Supply Chain Planning Configuration
- Task: Manage Planning Source Systems

The Oracle Fusion Source System
The Oracle Fusion source system is included as a source system for data collection. Supply chain planning, order orchestration, and order promising processes use data that are stored in the planning data repository. You ensure the Collections Allowed check box is enabled and manage which organizations you enable for collections.

To open the Manage Trading Community Source Systems page, navigate to the Setup and Maintenance work area and use the following:
- Offering: Supply Chain Planning
External Source Systems

You can also allow collections for external source systems if you will be loading planning data from files for Oracle Fusion Global Order Promising. You must first define the external source system on the Manage Trading Community Source Systems.

There are two types of external source systems: Others and External.

Version External

The version External source system indicates that the source system is not connected to any other Oracle Fusion applications. This source system is not integrated with Oracle Fusion Product Data Model, Oracle Fusion Trading Community Model, and Oracle Fusion Order Management Cloud. The external source system is also referred as a completely external source system. You cannot enable any other source system settings that are related to other Oracle Fusion applications. You can select the Collections allowed check box now or later depending on when you want to start collecting data. This enables the source system for data collections using the file-based import process.

Version Others

The version Others source system indicates that the source system is connected to other Oracle Fusion applications. This source system is integrated for Oracle Fusion Product Data Model, Oracle Fusion Trading Community Model, and Oracle Fusion Order Management Cloud. The following conditions are applicable when the external source is Others.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Source System Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>External system data for Items, Item Structures, and Catalogs is uploaded to Oracle Product Data Model Cloud</td>
<td></td>
</tr>
<tr>
<td>External system data for Customers, Customer Sites, Regions and Zones is uploaded to Oracle Trading Community Model Cloud</td>
<td></td>
</tr>
<tr>
<td>External system data for Sales Orders is uploaded to Oracle Order Management Cloud</td>
<td></td>
</tr>
</tbody>
</table>

For more information on types of data that can be collected for each source system, see the Import Templates Used to Create CSV Files for Supply Chain Planning topic.

Organizations Enabled for Data Collections

The process for enabling organizations varies depending on the version of the source system.

To enable organizations for data collections when the source system version is Oracle Fusion, perform the following steps:

1. Click the Manage Organization List button for your Oracle Fusion source system.
2. Click the Refresh Organization List button to update the organizations list.
3. Select the Enable for Collections check box for the organizations from which you want to collect data.

**Tip:** When performing collections during your initial setup, collect order orchestration reference objects from the predefined Oracle Fusion source system, and consider collecting organizations. After enabling organizations for collection, collect organizations first. You can confirm the collection results on the Supply Network Model page.
To enable organizations for data collections when the source system version is **External** (completely external source system), upload organizations using the file-based import process. The organizations are automatically enabled for collections.

To enable organizations for data collections when the source system version is **Others**, perform the following steps:

1. Define an organization as an item-organization in the product data model.
2. Upload the organization using the file-based import process and associate the organization with **Others** source system.

**Related Topics**

- Considerations for Enabling Organizations for Data Collections
- Define Flexfield Mappings

### How the Order Orchestration and Order Promising Processes Use the Collected Planning Data

You perform data collections to populate the planning data repository. In addition to being used by Supply Chain Planning processes, the collected data is used by Oracle Fusion Order Management order orchestration processes and by Oracle Fusion Global Order Promising processes.

**Data Collections**

You must perform data collections to populate the planning data repository, also called the order orchestration and planning data repository, with data from the Oracle Fusion source system or from a completely external source system. When you load data from an external source system, use the XLSM files to organize your data in the required format and then convert the data into CSV files. You can then upload the CSV files to the planning data repository.

**Order Orchestration**

Order orchestration processes use some reference data directly from the planning data repository. You must perform data collections for the order orchestration reference entities even if you are not using the Supply Chain Planning work areas.

**Note:** Before collecting data from your Oracle Fusion source system, you must define at least one organization for the source system. After you have set up at least one organization, you must update the organization list on the Manage Planning Source Systems page and then enable at least one of the organizations for collections. If you have not enabled any organization, then the collections process ends with an error.

**Order Promising**

The Global Order Promising processes use an in-memory copy of the data from the planning data repository. When order orchestration processes send a scheduling request or a check availability request to Oracle Fusion Global Order Promising, the order promising processes use the data stored in main memory to determine the response to send back to order orchestration. You must refresh the Global Order Promising data store after every collections so that the main memory always reflect the current.
Related Topics

- Refresh the Global Order Promising Server

How You Enable Cross-References of Entities by Data Collections

Cross-references enable you to locate the correct source value for each cross-referenced entity. When you enable entities for cross-referring, data collection pays attention to the cross-references that you have set up for certain values.

To enable cross-referencing of entities, click the Manage Planning Data Collection Processes task from your supply chain planning work area. Select the source system from the list, and then enable the available entities that you want to cross-reference during data collections.

You can view the cross-referenced data for each entity on the Cross-Reference Relationships for Collected Data page in the Plan Inputs work area.

How Planning Processes Collect Different Work Definitions and Item Structures

You may be concerned that the work definition and item structure data in your supply chain planning work area does not match with what was defined in Oracle Manufacturing Cloud. You don't need to worry. The planning application collects and uses data based on how the work definitions and item structures are defined and associated in the manufacturing source system.

Work Definitions and Item Structures in the Source System

The work definition is a primary source of data for the planning application. The planning process uses the work definition of make order items to determine component and resource requirements. In case the work definition is not defined, the planning process uses the defined item structure, but to plan for components only. If a work definition is defined and no item structure is associated to it, then you can manually add ad hoc components to it. If an item structure is associated to it, you can still add ad hoc components to the work definition, alongside the components in the item structure. Remember that while a work definition can be associated with only one item structure, one item structure can be associated with several work definitions within the parent item.
# Work Definitions and Item Structures in the Planning Data Repository

In the manufacturing source system, the work definitions and item structures for an item can be defined and associated in different ways. The following table lists the most common source system combinations and how the collections and run plan processes proceed accordingly:

<table>
<thead>
<tr>
<th>Manufacturing Cloud Definition</th>
<th>Item Structure Name and Work Definition Name in the Planning Data Repository</th>
<th>Planning Collections Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only item structure is defined for an item. No work definition is defined.</td>
<td>Item structure name exists, no work definition name</td>
<td>The planning process collects the item structure information but does not collect information for routing, operations, or item resources. The planning process uses item structure to plan components and does not plan resources.</td>
</tr>
<tr>
<td>Only work definition is defined for an item. No item structure is defined.</td>
<td>Work definition name exists, no item structure name</td>
<td>The planning process collects the work definition information to populate the item structure and routing information. The planning process populates the component information and operation sequence number in the item structure based on the ad hoc components and operation assignment available in the work definition. The planning process uses the work definition information to plan both components and resources.</td>
</tr>
<tr>
<td>Both item structure and work definition are defined for the item.</td>
<td>Both work definition name and item structure name exist</td>
<td>The planning process uses the components that are associated with the work definition to plan. The planning process does not consider any components of item structure that are not associated with the work definition. You can override the item structure component usage within the work definition. The planning process collects component attributes (such as component effectivity) from the item structure if the components are associated with the work definition. The planning process uses the work definition to plan resources.</td>
</tr>
</tbody>
</table>
Both item structure and work definition are defined for the item, but the work definition does not refer to the item structure. Ad hoc components are assigned to the work definition operations.

Work definition name exists, no item structure name

<table>
<thead>
<tr>
<th>Manufacturing Cloud Definition</th>
<th>Item Structure Name and Work Definition Name in the Planning Data Repository</th>
<th>Planning Collections Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both item structure and work definition are defined for the item, but the work definition does not refer to the item structure. Ad hoc components are assigned to the work definition operations.</td>
<td>Work definition name exists, no item structure name</td>
<td>The planning process collects the components from the work definition and not from the item structure in the Oracle Fusion Product Information Management solution. The process plans components based on work definition operation assignments and plans resources based on the work definition.</td>
</tr>
</tbody>
</table>

**Enable External Data Collection for the Oracle Fusion Source System**

Enable external data collection if you want to load transactional data from external systems. Typically, you do this if some of your supply chain processes are managed in external applications. You load the transactional data from these applications using file-based data imports (FBDI).

You can use external data sources for these functional areas: Inventory and Materials Management, Procurement, Order Management, and Manufacturing. When you enable external data collection for a functional area, be aware of these restrictions:

- You can't use configure-to-order, drop shipment, and back-to-back fulfillment.
- The entities associated with the functional area are no longer available for Oracle Fusion source collection. For example, if you enable Order Management, the Sales Orders entity won't be available on the Collect Planning Data page for you to select for Oracle Fusion source collection.

This table lists the entities for each functional area.

<table>
<thead>
<tr>
<th>Functional Area</th>
<th>Entities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventory and Materials Management</td>
<td>On-hand Quantity and Transfer Orders</td>
</tr>
<tr>
<td>Procurement</td>
<td>Purchase Orders and Requisitions</td>
</tr>
<tr>
<td>Order Management</td>
<td>Sales Orders and Reservations</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Work Order Supplies, Resource Availability, Resources, Work Definitions, and Item Structures</td>
</tr>
</tbody>
</table>
Enable External Data Collection

Use these steps to enable external data collection:

1. Select the **Manage Planning Source Systems** task in the Tasks panel from any Supply Planning work area page. Or use this task in the Setup and Maintenance work area:
   - Offering: Supply Chain Planning
   - Functional Area: Supply Chain Planning Configuration
   - Task: Manage Planning Source Systems

2. In the list of source systems, select the row that has Oracle Fusion in the **Version** column.

3. In the Actions menu, click **Select Data Sources**.

4. Select the **Enable External Data** check box, and then select the functional areas that you want to source transactional entities for.

   **Note:** Every time you enable or disable external data collection, you must run a targeted data collection to ensure complete refresh of data in the data repository.

Collect Planning Data from the Oracle Fusion Source System

How You Collect Different Data Types for Supply Chain Planning

When you collect data, you collect data from three categories: reference data, demand data, and supply data. On the Collect Planning Data page there is a tab for each of these categories.

The collected data are stored in the planning data repository.
The following figure illustrates the three categories of data that you collect from the Oracle Fusion source system to the planning data repository.

**Explanation of Callouts**

1. Reference data is primarily sourced from Oracle Fusion SCM Cloud
2. Demand data comes from Oracle Order Management Cloud Service and Oracle Materials Management Cloud Service
3. Supply data is sourced from Oracle Inventory Management Cloud Service, Oracle Manufacturing Cloud Service, and Oracle Purchasing Cloud Service

**Reference Data**

The collection process begins with reference data, which is primarily sourced from Oracle Fusion SCM Cloud. You collect the data collection entities, such as basic item, resource, organization, customers and suppliers, and calendar data.

**Note:** Oracle Fusion Sales and Operations Planning uses the Bill of Resources entity to link the make items with their associated components and resource requirements. For more information on collecting Bill of Resources from an external source system, see the Loading Planning Data from Files section.

You also use Oracle Supply Chain Planning Cloud to collect the following items:

- Item structures: To explode item-level demand into component demands and supplies.
- Work Definitions: To assign the component and resource requirements for make items.
- Units of measure: To align plan data and to convert plans from one set of units to another.
- Costs: To review plans in financial terms and evaluate the financial impact of planning decisions.
Demand Data
You collect demand data from two potential sources:

- Sales orders that flow from Oracle Order Management Cloud Service: You can use this as the basis of the demand forecast, while current orders can consume the demand in near-term forecast time buckets.
- Shipment history from Oracle Materials Management Cloud Service: You can use this to generate a shipments forecast.

Supply Data
You collect supply data from three sources:

- Oracle Inventory Management Cloud Service: This provides data related to on hand inventory, reservations, material transfers, in-transit supplies, and receipts.
- Oracle Manufacturing Cloud Service: This provides work in process status and any manufacturing work orders.
- Oracle Purchasing Cloud Service: This provides purchase requisitions and purchase orders.

Collection Filters and Collection Templates
You use collection filters and collection templates when you need to collect some common set of entities repeatedly. The collection filters and collection templates are located on the Collect Planning Data page. To open the Collect Planning Data page, click the Collect Planning Data task from one of the Supply Chain Planning work areas.

Depending on your security privileges, you can also open the Collect Planning Data page from the Setup and Maintenance work area. In the Setup and Maintenance work area, use the following:

- Offering: Supply Chain Planning
- Functional Area: Supply Chain Planning Configuration
- Task: Collect Planning Data

Collection Filters
Use collection filters to improve the performance and efficiency of the collections process, and to avoid accumulation of irrelevant data in the planning data repository. You can use several filter criteria while performing collections, such as by employing catalogs, order types, and price lists. You can also use date-based filters for collecting shipment and booking history information.

Enabling Collection Filters
To enable collection filters, you must first run the schedule process called Load Filter Names for Planning Data Collection from the Scheduled Processes work area. When you run the scheduled process, the filters get enabled in the Collect Planning Data page. Then, you can apply the filters from the next collection.

Collection Templates
Use collection templates when you want to collect a set of data repeatedly over a period. You can select either one of the predefined templates that serves your specific need, or you can create your own template and save it for future use.

When you select a predefined template from the list, the Collection Type field is defaulted to **Automatic selection** and you cannot edit the field. Also, when you select a predefined template, the Select Collection Filters field is disabled.
You can create a collection template on the Collect Planning Data page by selecting the data collection entities and saving the template for future use. For example, if you frequently collect certain supply planning transactional entities, such as On Hand, Purchase Orders, and Purchase Requisitions, then save these entities as a collection template. It reduces the overhead of selecting the same entities for subsequent collection cycles.

If the template file contains any error during the upload process, rectify the issue found in the log file and upload the template file again.

Collect Data Using Targeted Collection Type

To perform a complete refresh of the data repository used by the Supply Chain Planning products, run a targeted collection. You can run the targeted collection immediately or you can schedule the process to run later. Demand planning data can only be collected by using the Targeted collection type.

Note: Before collecting demand planning data, you must successfully run the Load Filter Names for Planning Data Collection scheduled process.

Perform the following steps to collect reference data, demand planning data, and supply planning data using the Targeted collection type.

1. Access the Collect Planning Data page from a Supply Planning work area or the Setup and Maintenance work area.
   - If you are in one of the Supply chain Planning work areas:
     i. Click the Tasks panel tab.
     ii. In the Tasks panel drawer, click the Collect Planning Data link.
   - If you are in the Setup and Maintenance work area, then select the following:
     • Offering: Supply Chain Planning
     • Functional Area: Supply Chain Planning Configuration
     • Task: Collect Planning Data

2. On the Collect Planning Data page, complete the following steps.
   - On the Parameters tab:
     i. Select your source system.
     ii. For the collection type, select Targeted.
        Demand planning data can only be collected by using the Targeted collection type.
     iii. Click Select Collection Filters to select the collection filters.
   - On the Reference Data subtab, move the required reference entities to the Selected Entities area.
   - On the Demand Planning Data subtab, set options to collect the historical demand data in the planning data repository. The planning process uses the historical demand data for statistical forecasting.
     • Collection Time Frame Options: You can specify a fixed or rolling date range for which to collect data.
       The Fixed Date Range option enables you to collect history data within a fixed date range that you specify.
The **Rolling Date Range** option enables you to collect the history data for the number of days that you specify. For example, if you forecast weekly, specify **7** in the **Number of Days to Collect** field to collect the demand history data once per week. The data collections collect the demand history data for the latest week.

Select **Roll off time periods automatically** to truncate the history data by the number of days that you specify in the **Number of days to keep** field each time you run collections for the demand history data. For example, if you prefer to forecast each week based on the history data of 52 weeks, select the **Roll off time periods automatically** check box and specify **Number of days to keep** as 364 days. This setting ensures that as you collect data every week, you keep the most recent history of 52 weeks and automatically purge history data older than 52 weeks.

- **History Measures and Attributes**: Select your shipments history and bookings history measures.
- **Collection for ETO Items**: Select **Collect history from associated base models** to collect bookings and shipments history for Engineer to Order (ETO) items from the associated base models. When you don't select this option, the history is collected from the standard ETO items.
- **History Data Options**: To collect only specific order types, select from the **Order Types to Include** list of values. By default, all order types are included.

Select **Organization - Consumption Inventory Transactions to Include** to collect consumption inventory transactions at the organization level. You can collect only the transfer orders inventory transactions or all consumption inventory transactions.

Select **Subinventory - Consumption Inventory Transactions to Include** to collect consumption inventory transactions at the subinventory level. You can collect only the transfer orders inventory transactions or all consumption inventory transactions for the organizations that you enabled for subinventory planning.

Select the **Collect amount data for history** check box to collect amount data.

- **Additional Options**: Select additional options for collections.

  - **Collect Price Lists**: Collect the price lists specified in the collections filter for price lists, or collect all price lists if no filter is specified.

  - **Collect Configure to Order Data**: If you selected history measures and attributes, then select the relevant check boxes to collect shipment history options and booking history options.

  - **Sales Organization Hierarchy**: Select **Enable sales organization hierarchy collection** to collect one or more sales hierarchies.

  o  On the Supply Planning Data subtab:

    i. Move the required supply entities to the Selected Entities area.

    ii. If you collect resource availability, then select a date range type: **Fixed** or **Relative to collection run date**.

If you selected **Fixed**, then provide a start date and an end date for collecting resource availability.

If you selected **Relative to collection run date**, then enter a number of days in the **Collection Window in Days** field. The number that you enter determines a collection window in days to collect resource availability based on a rolling time window. That rolling time window adjusts itself, based on the date that you run collections. For example, if you specify 90, then resource availability is collected for the next 90 days each time from the date of the collection run.
Note: You can save your date range type selection for resource availability collection as a collection template to use later.

iii. You can collect the existing data for the resource availability.
iv. You can also regenerate the resource availability data and then collect the data. If you select the **Regenerate data, and then collect** option, the collections process runs the **Update Resource Availability Job** scheduled process first and then collects the resource availability data.

3. (Optional) Click the Schedule tab and set collections to run as soon as possible or schedule to run at a different time.
4. Click **Submit** to start the collections process.
5. Monitor the collection status using the Scheduled Processes page.
6. Review the collected data in the Plan Inputs work area.

Related Topics
- Set Up Forecast Consumption for Transfer Orders

### Collect Data Using Net Change Collection Type

You can collect data from the Oracle Fusion source system by running the net change collection or by scheduling to run the process later. Before running a Net Change collection, you must run a Targeted collection for the selected entities. After the first Targeted collection, you can run Net Change collections.

Perform the following procedure to collect reference data and supply planning data using the net change collection type:

1. If you are in one of the Supply Chain Planning work areas, then click the Tasks panel tab. In the Tasks panel drawer, click the **Collect Planning Data** task. If you are in the Setup and Maintenance work area, then use the following:
   - Offering: Supply Chain Planning
   - Functional Area: Supply Chain Planning Configuration
   - Task: Collect Planning Data

2. Complete the following parameters for the Collect Planning Data process:
   a. Select your source system.
   b. Select the collection type as Net change.

   Note: You cannot make any changes to the filter criteria and demand planning data in the net change collection type.

   c. In the **Reference Data** tab, move the required reference entities to the Selected Entities area.
   d. In the **Supplies Planning Data** tab, move the required supply entities to the Selected Entities area.

3. (Optional) Click the **Schedule** tab and set collections to run as soon as possible or schedule to run at a different time.
4. Click **Submit** to initiate the collections process.
5. Monitor the collection status using the Scheduled Processes page.
6. Review the collected data in the Plan Inputs work area.
Enable Organization Group Collection for the Net Change Collection Type

You can use organization groups to limit the net change data collection from a source system to specific organizations. Using organization groups for collection also eliminates the chances of data overlap when multiple instances of net change collections are run at a time. Planners can run collections for their organizations without waiting for each other.

Let's take a simple example where your organization considers only the D1 and D2 distribution centers in your source system for shipments to your customers. In such a case, you can create an organization group, assign D1 and D2 to the organization group, and collect net change data specifically for this group.

**Note:** Before you begin, ensure that you have your organization groups created. A supply planner creates and manages organization groups using the Manage Organization Groups button on the Maintain Supply Network Model page.

Do these to collect net change data for an organization group.

1. Access the Collect Planning Data page or Load Planning Data from Files page from a Supply Planning work area.
2. Select the source system. Organization groups are managed within the source systems.
3. Select the Net Change collection type. You can select an organization group for data collection only when the collection type is Net Change.
4. Enable the organization group collection, and then select an organization group.
5. Perform the net change data collection. Refer to the Collect Data Using Net Change Collection Type topic in this chapter for instructions.

**Note:** After selecting your organization group and other data collection entities, you can also save your selections as a template. Refer to the Collection Filters and Collection Templates topic in this chapter for additional information.

Load Planning Data from Others and External Source Systems

How You Load Planning Data from Files

You upload data using CSV files for specific business objects using the targeted or net change method.

**Note:** To create the CSV files, you can use a set of Microsoft Excel template files that are provided for this purpose. You can download the templates from the File-Based Data Import for SCM Cloud guide in the Oracle Help Center.
You use the targeted mode when you want to refresh data for selected entities in the planning data repository. You use the net change mode to collect data incrementally. The net change collections mode collects only the changed or new data. Data collection using the net change mode is fast compared to the targeted mode. The net change mode is used to retain planning data to current with that of the executing system.

The following figure illustrates the process of collecting data from files.

To load planning data from files, you perform the following steps:

1. Create CSV files using Microsoft Excel template
2. Run the process to load planning data from files
3. Verify the load planning data process
4. Review the loaded data

Create CSV Files to Load Planning Data

To perform the Load Planning Data from Files task in one of the Supply Chain Planning work areas or Setup and Maintenance work area, you must prepare the data you want to load. You must create the necessary CSV files used to create files for import. This procedure explains how to create CSV files to prepare planning data for loading.

1. Locate the applicable file import templates (XLSM files) in the following guide: File Based Data Import for Oracle Supply Chain Management Cloud. Extract the templates to a local space.
For additional information about creating and importing CSV files, see the following section in the Oracle SCM Cloud Implementing Common Features for Oracle SCM Cloud guide: External Integration chapter, External Data Integration Services for Oracle Cloud section.

2. Open the template file for the entity you are preparing and complete the file import template worksheet.

You must enable the macros in the template file before generating the CSV file.

Caution: For the cells that contain dates, ensure that the data is set to the correct format in the data type. For example, date must be set to YYYY/MM/DD.

3. After you finish preparing the data in the worksheet, generate the CSV file. The Generate CSV File button is located in the Instructions and CSV Generation worksheet of the workbook.

4. When you save the generated CSV file, you must use the suggested name of the entity. You can add underscore and add additional characters to the file name. For example, you can name the CSV file as ShipmentHistory_abc.csv and you can name the file as LoadingCSV.zip.

5. Compress the CSV file into a zipped file format using a compression utility. You can provide any name to the zipped file.

Note: You can include multiple CSV files in a single compressed file for a source system. The load process uploads them in a sequential order. Select the CSV files and compress them directly. Do not compress the parent folder that contains the files.

This completes the preparation of a file that you will upload to collect planning data.

Data Collection Sequence

This topic explores the sequence that you should follow for data collection. Data collection involves collecting entities in a predefined sequence. The collected entities form the basis for supply planning calculations. To have accurate data, you must ensure to collect the entities in a proper sequence. You cannot collect some entities without collecting their precursor entities. The data collection sequence is very crucial when you collect data from an external source system using CSV files.

If you run targeted collections for all entities, you can ignore the sequence for collections because targeted collections automate the collection sequence for all entities within a single collections request. If you collect many entities in a single request, collections will process them according to the sequences shown in this topic. If you collect only a few entities, then you must be aware of the collections sequence information. For example, you should not collect work orders before you collect items or resources.

To make the workflow simple, the collection sequence is divided into two parts - Part A and Part B. The collection entities in Part B are dependent on the collection entities in Part A. You must collect the entities in Part A before you collect the entities in Part B. Also, the collection entities are grouped together for easier presentation. The data groups in Part A are:

- Collections Sequence Part A for Item Data
- Collections Sequence Part A for Region, Location, and Customer Data
- Collections Sequence Part A for Currency, Calendar, Demand Class, and UOM Data
The data groups in Part B are:

- Collections Sequence Part B for Sales Order and Assignment Sets
- Collection Sequence Part B for Work Orders, Work Definition, and Item Structure

Every collection sequence in Part A starts with defining a source system where the collected data will reside. If you are collecting data to the same source system, you define the source system only once. Then, use the same source system to collect all the entities.

The following figure provides an overview of the data collection sequence. The overview shows how Part A and Part B fit together to form a complete data collection flow.

Data Collection Sequence Overview

Collections Sequence Part A for Item Data
The following image shows the collections sequence to follow while collecting Item data from external source systems. This image represents only half of the entities for collecting Item data.

Note: The Organization entity is marked with an asterisk because you can collect other entities such as Planner, Item Cost, Subinventory, Carrier, Calendar Assignment, Supplier, and Supplier Site after collecting Organization. For more information on the collection sequence for these entities, see the Collections Sequence Part A for Currency, Calendar, Demand Class, and UOM Data figure. Refer to the entities that are collected after Organization. Also, ensure that you collect Location before collecting Supplier Site.
When you collect the data described here, continue to the collection sequence Part B described in the following subsections.

- Collection Sequence Part B for Sales and Order and Assignment Sets
- Collection Sequence Part B for Work Orders, Work Definition, and Item Structure
Collections Sequence Part A for Region, Location, and Customer Data

The following image shows the collections sequence to follow while collecting Regions, and Customers data from external source systems. This image represents only half of the entities for Item data.

When you collect the data described here, continue to the collection sequence Part B described in the following subsections.

- Collection Sequence Part B for Sales and Order and Assignment Sets
- Collection Sequence Part B for Work Orders, Work Definition, and Item Structure
Collections Sequence Part A for Currency, Calendar, Demand Class, and UOM Data

The following image shows the collections sequence to follow while collecting Currency, Calendar, Demand Class, and UOM data from external source systems. Also, ensure that you collect Location before collecting Supplier Site.

Note: The Calendar entity is marked with an asterisk because there are other entities that are associated with Calendar that you must collect in a sequence. To collect other entities associated with Calendar, see the Calendar Upload Sequence figure.
When you collect the data described here, continue to the collection sequence Part B described in the following subsections.

- Collection Sequence Part B for Sales and Order and Assignment Sets
- Collection Sequence Part B for Work Orders, Work Definition, and Item Structure
Collection Sequence for Calendar Data

The following image shows the collections sequence to follow for collecting the Calendar data. Calendar data is a part of the data collection in Part A. You collect the Calendar data in the following subsection: Collection Sequence Part A for Currency, Calendar, Demand Class, and UOM Data.

Calendar Upload Sequence

- Calendar
  - Calendar Shifts
  - Calendar Exceptions
  - Period Start Days
  - Week Start Dates
  - Calendar Workday Pattern
  - Generate Calendar Dates Post Collection
Collections Sequence Part B for Sales Order and Assignment Sets

The following image shows the collections sequence to follow while collecting Sales Order and Assignment Sets data from external source systems. The data entities in Part B are dependent on Part A. So, you must collect entities listed in Part A before you collect the entities in Part B.
Collection Sequence Part B for Work Orders, Work Definition, and Item Structures

The following image shows the collections sequence to follow while collecting Work Orders, Work Definition, and Item Structure data from external source systems. The data entities in Part B are dependent on Part A. So, you must collect entities listed in Part A before you collect the entities in Part B.

Templates Used to Create CSV Files

You can use the Microsoft Excel templates (XLSM files) to prepare the data for the supported collection entities. The templates are listed in the following guide: File-Based Data Import for Oracle Supply Chain Management Cloud. Extract the templates to a local drive, enter appropriate data as described in the template, and generate CSV files. Compress
the CSV files to a zipped file format and upload the .zip file to the Universal Content Manager using the File Import and Export utility. The data is then loaded from the Universal Content Manager to the planning data repository.

**Collect Data from the Oracle Fusion Source**

The following table lists the collections entities that can be loaded into the planning data repository for the Oracle Fusion source. The Collection Entity column provides the name of the entities for which you can collect the data. The XLSM File Name column provides the template name that you will download for the respective collection entity. Download the XLSM template from the File-Based Data Import for Oracle Supply Chain Management Cloud guide (FBDI guide). The Link in Data Import Guide column provides the name of the topic in the FBDI guide from where you will download the template. For example, to collect data for the Item Costs collection entity, refer to the Item Cost Import topic in the FBDI guide.

<table>
<thead>
<tr>
<th>Collections Entity</th>
<th>Link in Data Import Guide</th>
<th>XLSM File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item Costs</td>
<td>Supply Chain Planning Item Cost</td>
<td>ScpItemCostImportTemplate.xlsm</td>
</tr>
<tr>
<td>Customer Specific Item Relationships</td>
<td>Supply Chain Planning Item Substitute</td>
<td>ScpItemSubstituteImportTemplate.xlsm</td>
</tr>
<tr>
<td>Planners</td>
<td>Supply Chain Planning Planners</td>
<td>ScpPlannersImportTemplate.xlsm</td>
</tr>
<tr>
<td>Item Suppliers</td>
<td>Supply Chain Planning Approved Supplier List</td>
<td>ScpApprovedSupplierListImportTemplate.xlsm</td>
</tr>
<tr>
<td>Demand Classes</td>
<td>Supply Chain Planning Demand Classes</td>
<td>ScpDemandClassImportTemplate.xlsm</td>
</tr>
<tr>
<td>Allocation Assignments and Allocation Rules</td>
<td>Supply Chain Planning Planning Allocation Rules</td>
<td>ScpPlanningAllocationRulesImportTemplate.xlsm</td>
</tr>
<tr>
<td>ATP Assignments and ATP Rules</td>
<td>Supply Chain Planning Available-to-Promise Rules</td>
<td>ScpATPRulesImportTemplate.xlsm</td>
</tr>
<tr>
<td>Supply Update Rules</td>
<td>Supply Chain Planning Real Time Supply Updates</td>
<td>ScpRealTimeSupplyUpdatesImportTemplate.xlsm</td>
</tr>
<tr>
<td>Measures</td>
<td>Supply Chain Planning Measures</td>
<td>ScpMeasuresImportTemplate.xlsm</td>
</tr>
<tr>
<td>Booking History</td>
<td>Supply Chain Planning Bookings History</td>
<td>ScpBookingHistoryImportTemplate.xlsm</td>
</tr>
<tr>
<td>Collections Entity</td>
<td>Link in Data Import Guide</td>
<td>XLSM File Name</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>------------------------------------------------------------</td>
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<tr>
<td>Option Booking History</td>
<td>Supply Chain Planning Option Bookings History</td>
<td>ScpOptionBookingHistoryImportTemplate.xlsx</td>
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<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> This template has been superseded by the generic template ScpMeasuresImportTemplate.xlsx but will continue to be supported. Future enhancements will be made only to the generic measures template.</td>
</tr>
<tr>
<td>Shipment History</td>
<td>Supply Chain Planning Shipments History</td>
<td>ScpShipmentHistoryImportTemplate.xlsx</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> This template has been superseded by the generic template ScpMeasuresImportTemplate.xlsx but will continue to be supported. Future enhancements will be made only to the generic measures template.</td>
</tr>
<tr>
<td>Option Shipment History</td>
<td>Supply Chain Planning Option Shipments History</td>
<td>ScpOptionShipmentHistoryImportTemplate.xlsx</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> This template has been superseded by the generic template ScpMeasuresImportTemplate.xlsx but will continue to be supported. Future enhancements will be made only to the generic measures template.</td>
</tr>
<tr>
<td>Price Lists</td>
<td>Supply Chain Planning Price List</td>
<td>ScpPriceListImportTemplate.xlsx</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Collect Data from External Source - Version Others

The following table lists the collections entities that can be loaded into the planning data repository from an external source, where the version is Others. The Collection Entity column provides the name of the entities for which you can collect the data. The XLSM File Name column provides the template name that you will download for the respective collection entity. Download the XLSM template from the File-Based Data Import for Oracle Supply Chain Management Cloud guide (FBDI guide). The Link in Data Import Guide column provides the name of the topic in the FBDI guide from where you will download the template. For example, to collect data for the Items and Item Costs collection entities, refer to the Item Cost Import topic in the FBDI guide.

<table>
<thead>
<tr>
<th>Collections Entity</th>
<th>Link in Data Import Guide</th>
<th>XLSM File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Causal Factors</td>
<td>Supply Chain Planning Causal Factors</td>
<td>ScpCausalFactorsImportTemplate.xlsx</td>
</tr>
<tr>
<td>Forecast Measures</td>
<td>Supply Chain Planning Forecast Measures</td>
<td>ScpForecastMeasureImportTemplate.xlsx</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> This template has been superseded by the generic template ScpMeasuresImportTemplate.xlsx but will continue to be supported. Future enhancements will be made only to the generic measures template.</td>
</tr>
<tr>
<td>Fiscal Calendars</td>
<td>Supply Chain Planning Fiscal Calendars</td>
<td>ScpFiscalCalendarImportTemplate.xlsx</td>
</tr>
<tr>
<td>Forecasts</td>
<td>Supply Chain Planning External Forecasts</td>
<td>ScpExternalForecastImportTemplate.xlsx</td>
</tr>
<tr>
<td>Safety Stock Levels</td>
<td>Supply Chain Planning Safety Stock Levels</td>
<td>ScpSafetyStockLevelImportTemplate.xlsx</td>
</tr>
<tr>
<td>Supplier Capacity</td>
<td>Supply Chain Planning Approved Supplier Capacity</td>
<td>ScpApprovedSupplierCapacityImportTemplate.xlsx</td>
</tr>
<tr>
<td>Planned Order Supplies</td>
<td>Supply Chain Planning Planned Order Supply</td>
<td>ScpPlannedOrderSupplyImportTemplate.xlsx</td>
</tr>
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<td>Sourcing Rule and Assignments</td>
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<td>Supply Chain Planning Reservations</td>
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<td>Work Definition (Including mapping between Item Structures and Work Definitions), Work Definition Operations, and Work Definition Operation Resources</td>
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<td>Supply Chain Planning Work Order Component Demands</td>
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<tr>
<td>Cross Reference Mapping Information</td>
<td>Supply Chain Planning Cross-Reference Data</td>
<td>ScpCrossReferenceDataImportTemplate.xlsx</td>
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</table>
### Collect Data from External Source - Version External

The following table lists the collections entities that can be loaded into the planning data repository from an external source, where the version is External. The Collection Entity column provides the name of the entities for which you can collect the data. The XLSM File Name column provides the template name that you will download for the respective collection entity. Download the XLSM template from the File-Based Data Import for Oracle Supply Chain Management Cloud guide. The Link in Data Import Guide column provides the name of the topic in the File-Based Data Import for Oracle Supply Chain Management Cloud guide (FBDI guide) from where you will download the template. For example, to collect data for the Items and Item Costs collection entities, refer to the Item Cost Import topic in the File-Based Data Import for Oracle Supply Chain Management Cloud guide. All the planning-related entity names are prefixed with Supply Chain Planning in the FBDI guide.

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<tr>
<th>Collections Entity</th>
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<td>Key Customer Options</td>
<td>Supply Chain Planning Key Customer Options</td>
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</table>
Run the Load Planning Data from Files Process

To load planning data from files, first you must prepare the data you want to load. To prepare the data, download the relevant XLSM template, update the XLSM template with required data, and create the necessary CSV files for upload. This procedure explains how to load planning data from files after you have prepared the data and created CSV files.

1. From the Navigator, use the File Import and Export page to upload the previously prepared and zipped CSV files to the Universal Content Manager. Use the account scm/planningDataLoader/Import to upload the zipped file.

   **Note:** For more information about uploading files to the Universal Content Manager server, see the following section in the Oracle SCM Cloud Implementing Common Features for Oracle SCM Cloud guide: External Integration chapter, External Data Integration Services for Oracle Cloud section.

2. From one of the Supply Chain Planning work areas or Setup and Maintenance work area, Supply Chain Planning offering, select the Load Planning Data from Files task.

3. Complete the following parameters on the Load Planning Data from Files page:
   a. Select the source system.
   b. Select Collection Type: Net change or Target.
   c. Select the .zip file you previously imported into the Universal Content Manager.

4. Click **Submit**. Make a note of the process ID. You will need this process ID to review the status of the process.

Verify Collection Processes

Verify the Load Planning Data from Files Process

Perform the following steps to verify the process status of the uploaded file and review log file for any errors or warnings.

1. In the Navigator, click **Scheduled Processes**.
2. In the search area, enter the process ID you noted when you submitted during the Load Planning Data from Files process. Click **Search**.
3. Monitor the process to verify completion.

   If the process completes with warnings, select the request that shows the warning status and click the **View Log** button to review the details.

4. For the rows with errors, resolve the issues found in the log file, and then upload the CSV file again. To load only the revised rows, use the Net Change option.

Review Data in the Planning Data Repository

You can review the data collected or loaded into the planning data repository using two different options. The option you use depends on which data collection entities you want to review.
To review the data collected or loaded into the planning data repository, use one of the following options:

- Review data using the Plan Inputs page layout
- Review data using the Maintain Supply Network Model page

To review the following entities, use the Maintain Supply Network Model page:

- Organizations
- Customers
- Suppliers
- Carriers
- Interlocation Shipping Networks

To review data that is not part of the supply network model, use the Plan Inputs page layout. You can view the following data in the Plan Inputs page layout:

- Supply data
- Demand data

You can view Carriers and Suppliers using either option.

Review Data Using the Plan Inputs Page Layout

Perform the following steps to review the planning data that you loaded.

1. In the Navigator, click **Plan Inputs**.
2. From the Plans menu, right-click **Plan Inputs** and click **Open**.

   ![Plan Inputs Page Layout](image)

   **Tip:** You can set the preview pane to Full Pane for viewing your data in full pane. Click **Change** and select **Full Pane**.

3. On the Plan Inputs page, click **Open**, and click **Full Pane**.
4. On the Open Table, Graph, or Tile Set page, search for the table name.
5. Enter the criteria for the data you want to verify and click **Search**.
6. Review the data in the Search Results table.

Review Data Using the Maintain Supply Network Model Page

Perform the following steps to review the planning data using the Maintain Supply Network Model page.

1. In the Navigator, click **Plan Inputs**.
2. From the Tasks menu, click **Maintain Supply Network Model**.
3. Enter the criteria for the data you want to verify and click **Search**.
4. Review the data in the Search Results table.

### Aggregate Customer Data

#### How You Aggregate Customer Data

Use the key customer data options collections template to identify key customers. The data for these customers will be visible. For each Zone, all non-key customers' data will be aggregated to a member named All Other. By aggregating the planning data for non-key customers, you can focus your analysis on the key customers. You use the `ScpKeyCustomerOptionsImportTemplate.xlsm` to identify the key customers; the rest of the customers' data will be aggregated under an All Other member.

The data that are not identified in the upload template are aggregated to an all other member for each zone. You can view the key customers and the All Other member containing the aggregated non-key customer data when you analyze the forecasts and other data.

Identifying key customers and aggregating non-key customer data helps you to do the following:

- Organize key customer data that are required for planning
- Save time by collecting only the required data from Oracle Supply Chain Management Cloud
- Build a plan specifically for your key customers

#### How can I reset the key customer aggregated data for a plan?

After you make changes to the aggregation level values in the `ScpKeyCustomerOptionsImportTemplate.xlsm` file, you must upload the file and run the plan again.

To reset the key customer aggregated data for a plan, do the following:

1. Review the `ScpKeyCustomerOptionsImportTemplate.xlsm` file.
2. Update the Aggregation Level values for all of the Level Name values (for example, Customer) and upload the CSV file.
3. From your Supply Chain Planning work area, open the plan and enable the **Aggregate non-key customer data to All Other level member** check box. Run the plan again.

#### Considerations for Collecting Key Customer Information

Use the `ScpKeyCustomerOptionsImportTemplate.xlsm` file to identify the key customers for which nonaggregated data must be made available. For non-key customers, the aggregation level that you define in the import template determines whether the data is retained or aggregated. You can differentiate between key customers and non-key customers and use the aggregated key customer data to build a plan specifically for your key customers.

**Note:** For details regarding the `ScpKeyCustomerOptionsImportTemplate.xlsm` file, refer to the File-Based Data Import for Oracle Supply Chain Management Cloud guide. This guide is one of the guides in the Oracle Help Center for Oracle Supply Chain Management Cloud. Use the Books link for a list of the guides by category, and look for the Development category.
In the ScpKeyCustomerOptionsImportTemplate.xlsm file template:

1. Define your key customers on the KeyCusOptnHeader tab. Enter the name of a valid customer hierarchy in the Hierarchy Name column.
2. Next, enter the level of that hierarchy in the Level Name column. All customers in this level are identified as key customers.
3. To have only certain customers identified as key customers, enter the specific customer names on the KeyCusOptnMembers detail tab.
4. Set the aggregation level values for both key and non-key customers. Use the settings in the template to set the data to different aggregation levels, such as 1, 2, or 3.
5. Upload the template.

Ignore Aggregate by Zone

There are two Customer hierarchies--Customer and Customer Zone--where the lowest level of each hierarchy is Customer Site. If you don't have any key customers, leave the Hierarchy Name and Hierarchy Level columns blank on the KeyCusOptnHeader tab. All customers not named in the template (non-key customers) are aggregated into an All Other member for the hierarchy.

The upload also creates All Other Zone members for the non-key customers in the Customer Zone hierarchy. If you don't want to aggregate by zone, enter #ignore_zone in the Hierarchy Name column in the KeyCusOptnHeader.csv and leave the Level Name column blank.

Aggregation Levels

The aggregation levels are listed in the following table.

<table>
<thead>
<tr>
<th>Aggregation Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Retain all customer sites, and aggregate non-key customer sites. In addition to key customer data being available, non-key customer data is retained for plans that require data that is not aggregated. Aggregated customer data is available for plans that require aggregated non-key customer data.</td>
</tr>
<tr>
<td>2</td>
<td>Aggregate non-key customer sites. Customers that are not identified as key customers are aggregated to an All Other site by zone. However, if the Hierarchy Name and Level Name columns are blank, all customers are identified as non-key customers and aggregated to an All Other site by zone. This means that there are no key customers.</td>
</tr>
<tr>
<td>3</td>
<td>No aggregation of customer sites. All data is available at customer site level.</td>
</tr>
</tbody>
</table>

To remove the key customer designation for previously-loaded customers, use Aggregation Level 3. This enables data for all customers to be made available at the lowest level. No customers are marked as key customers.

If you select the aggregation level 3, the following happens:

- No aggregation is done. All data is at the customer site level only.
- If option 2 or 3 was used in previous collection runs, all non-key customer by zone members and data are deleted.
- Plans using the Key Customer feature become invalid and you have to run them again.
The KeyCusOptnMembers detail tab is optional. Use this tab to identify specific customers as key customers. The Hierarchy Name and Level Name column entries must be the same as the information entered on the KeyCusOptnHeader tab. Enter valid level member names in the Level Member Name column. These members are the only customers that will be identified as key customers.

- If the KeyCusOptnMembers detail tab is empty, all child members of the hierarchy level chosen in the Header tab are flagged as key customers.
- If the KeyCusOptnMembers detail tab is not empty, only the listed members are identified as key customers.

The members must be children of the hierarchy level named on the Header tab.

When you create a plan, there is an option in the Plan Options dialog box that determines what level of customer aggregation is used for the plan:

- Key customer data is available and non-key customer data is aggregated to a level member named All Other.
- No customer data is aggregated for the plan if the option is deselected.

Load Aggregated Customer Data from Oracle E-Business Suite

This topic explains the procedure you follow to load aggregated customer data from an Oracle E-Business Suite source system into your Oracle Supply Chain Planning Cloud destination system.

The procedure is comprised of the following steps:

1. Extract data from your Oracle E-Business Suite source system.
2. Prepare the Supply Chain Planning Key Customer Options file if you have defined key customers in your Oracle E-Business Suite source system.
3. Add the files to your desktop or local hard drive.
4. Import data into your Oracle Supply Chain Planning Cloud destination system.

Additional details for each step are provided in this topic.

Prerequisites

To perform the process required to extract data from your Oracle E-Business Suite source system, you must have an administrator role (Advanced Planning Administrator or Advanced Supply Chain Planner).

Your source system must be set up as one of the Trading Community Source Systems for Oracle Supply Chain Planning Cloud.

You can perform the steps to import data into your Oracle Supply Chain Planning Cloud destination system from one of the Supply Chain Planning work areas. You do not need an administrator role to perform these steps.

Extract Data

To extract the data from your Oracle E-Business Suite source system, run the Extract Data for Oracle Supply Chain Planning Cloud process.

Consider the following conditions for the MSD_DEMCUSTOMER attribute when you run the process:

- If the MSD_DEMCUSTOMERATTRIBUTE is set to null, then all sites are extracted.
- If the MSD_DEMCUSTOMERATTRIBUTE is set to none, then all records are aggregated to Default Customer Site.
- If the MSD_DEMCUSTOMERATTRIBUTE is set to a valid customer attribute, then all sites are extracted.
The extracted data is stored in a file in the zipped file format in the middle tier of your source system.

**Prepare the Key Customer Options File**

If you have defined key customers in your Oracle E-Business Suite source system, then perform these steps to prepare the Supply Chain Planning Key Customer Option file:

1. Download the template for file-based data loads for the Supply Chain Planning Key Customer Options object.
2. Add your data to the file.
3. Generate the CSV file.

For details on preparing files for loading planning data, refer to these help topics: Loading Planning Data from Files: Overview and Creating CSV Files Used to Load Planning Data: Procedure.

**Add the Files to Your Desktop or Local Hard Drive**

Locate the extracted Zip file on your Oracle E-Business Suite middle tier, and download or transfer the file to your desktop or local hard drive.

If you have defined key customers in the Oracle E-Business Suites source system, then include the Key Customer Options file in the Zip file.

**Import Data into Your Oracle Supply Chain Planning Cloud Destination System**

To import the data into your Oracle Supply Chain Planning Cloud destination system, perform these steps:

1. From the Navigator, click **File Import and Export**.
2. On the File Import and Export page, perform the upload action using these values:
   - File: The file you created
   - Account: scm/planning DataLoader/Import
3. From one of the Supply Chain Planning work areas, perform the Manage Planning Source Systems task to check if your source system is already created. If your source system is not already created, then create it with the following values:
   - Version: External.
   - Code: Must be the same as the one used for your Oracle E-Business Suite source system.
4. From a Supply Chain Planning work area, perform the Load Planning Data from Files task.
7 Supply Plans

Manage Supply Plans

Create a Plan

You can create plans and then duplicate them to save time and perform planning activities incrementally. For example, you have defined the line of business associated with an existing plan, such as organizations and items. You can create a copy from that existing plan rather than define a new plan.

Use this generic procedure to create a plan.

1. In a Supply Chain Planning work area, click the Tasks panel tab.
2. In the Tasks panel drawer, click the Manage Plans link.
3. In the Search Results region, from the Actions menu, select Create.
4. On the Create Plan page, complete the general information for the plan:
   a. Enter a name.
   b. (Optional) Provide a description for the plan.
   c. Select the plan type.
   d. Select a supply planning mode.
   e. (Optional) Select the Enable for OTBI reporting check box to make measures from a plan available in Oracle Transactional Business Intelligence (OTBI) for reporting.
   f. Select the owner.
   g. Define the access level:
      i. Select Public to make the plan accessible for all users.
      ii. Select Private to restrict the plan accessible to you and to a list of users that you want to provide access.
5. Based on the type of plan that you selected, complete the required information in one or more tabs (Scope, Demand, Safety Stock, and Supply).
6. Click Save and Close.

Note: The Supply Planning Mode attribute is only available for a supply plan, demand and supply plan, or a sales and operations plan type.

- Supply plan and demand and supply plan types: Options are Constrained and Unconstrained. Constrained is only available if you have opted in for Constraint-Based Supply Planning. Otherwise, the supply planning mode defaults to Unconstrained.
- Sales and operations plan type: The supply planning mode defaults to Aggregate.
Copy a Plan

You can create plans and then duplicate them to save time and perform planning activities incrementally. For example, you have defined the line of business associated with an existing plan, such as organizations and items. You can create a copy from that existing plan rather than define a new plan.

Use the Duplicate procedure to:

- Create a copy of an existing plan that includes the plan data.
- Create only a copy of plan options.

Use these steps to copy a plan.

1. Navigate to the Duplicate Plan dialog box:
   a. In the Navigator, click a Supply Chain Planning work area link.
   b. Click the Tasks panel tab.
   c. In the Tasks panel drawer, click the Manage Plans link.
   d. Enter the search parameters and click the Search button.
   e. In the Search Results region, select the plan that you want to copy, click Actions, and then select Duplicate.

2. In the Duplicate Plan dialog box, complete the following information for the plan:
   a. Select a copy type:
      - **Copy plan options only**: The planning process copies plan options to the duplicate plan, but not the plan data.
        Typically, when you duplicate the plan with the Copy plan options only option, the next step is to edit the plan options before running the plan.
      - **Copy plan with reference to base plan**: When you duplicate the plan with reference to the base plan, the next step is to open the copied plan as you're likely to make edits before running the plan.
        On the Manage Plans page, the Copied From column displays the name of the plan that you copied from.
      - **Copy all plan data with no reference to base plan**: The planning process makes a full, standalone copy of the plan, which can include archived measures. For approved sales and operations plans, this option enables you to create a full backup copy of your plans at the end of every planning cycle.
        On the Manage Plans page, the Copied From column is empty for the new plan because it's a standalone copy of the base plan. Therefore, there's no reference to the base plan.
        The Copy all plan data with no reference to base plan option isn't available for demand plan types.
   b. Enter a name and a description.
   c. Define the access level:
      - Select Public to make the plan accessible for all users.

Caution: If you delete the base plan or rerun the base plan with the Refresh with current data option, plans copied from the base plan become invalid.
**Chapter 7**

**Supply Plans**

- Select **Private** to restrict the plan accessible to you and to a list of users that you want to provide access.
- (Optional) Select the **Load plan after copy** check box to load the copied plan to memory. This check box isn't available for demand plan or sales and operations plan types.
- Select the owner.
- (Optional) Select the **Include archives** check box to make a standalone copy of your plan that includes archived measures. The copies of the archived versions are relabeled to remain consistent with the new plan name. This relabeling applies to both scheduled and ad hoc archive versions.
  
  The transaction history of when archived versions were created in the original plan isn't copied to the new plan. However, the new archived version names retain the date stamp and sequence number of when the archives were originally run.
  
  The **Include archives** check box is available only when:
  - The **Enable for archiving** check box is selected in the Scope: Advanced Options dialog box in the plan options.
  - The **Copy all plan data with no reference to base plan** is selected as the copy type in the Duplicate Plan dialog box.

3. Click **Save and Close**

**View a Plan**

If you already have an existing plan, you can open the plan from the Plans drawer or by using the Manage Plans task. You must always run a plan before you can view it.

To open an existing plan from the Plans drawer to view it, do the following:

1. In the Navigator, click a Supply Chain Planning work area link.
2. Click the **Plans** drawer.
3. Expand **Plans**, and select the plan of your choice.
4. Click the **Actions** button and select **Open**.

**Tip:** If you have many plans, you have an option to search a plan by using the Manage Plans task. In this case, provide appropriate search criteria and click **Search**. In the search results area, select your plan and click the **Action** button and select **Open**. Oracle recommends this method to view sales and operations plans.

**Enable Plans for OTBI Reporting**

Oracle Transactional Business Intelligence (OTBI) is a real-time, self-service reporting solution that helps you create user-defined and interactive reports. You can enable OTBI reporting for plans created in your Supply Chain Planning work area to:

- Run reports in real-time to analyze supply, demand, and sales and operations planning plans
- Generate user-configurable and easy-to-use reports by using business intelligence tools and charts
- Analyze key metrics, such as exception metrics, inventory balances, pegged quantity, and orders to be released
- Compare two or more plans that are enabled for OTBI reporting
To improve your supply chain performance, you can monitor and identify problem areas by using strategic insights into live and operational data. Compare different scenarios in real-time by using key measures to decide the best course of action. You can respond to changes by modeling complex strategies and plans to analyze and compare them. You can also define native OTBI capabilities like alerts based on exception conditions, user-defined measures, and conditional formatting to monitor or track problem areas.

To create OTBI reports, navigate to the Oracle Fusion Reports and Analytics work area. You can build reports by using the base measures available in your Supply Chain Planning work area. You can also create user-defined measures based on the base measures by using the standard business intelligence tools.

To open OTBI reports in a Supply Chain Planning work area, save the OTBI reports into the Report Components subfolder within the Transactional Analysis Samples folder. The Report Components folder is located in the shared Supply Chain Planning folder in the Reports and Analytics work area.

To enable OTBI reporting for plans, you must do the following:

- Select the Enable for OTBI reporting check box on the Plan Options page of your supply, demand, or sales and operations plan.
  
  **Note:** You must run the plan after you enable it for OTBI reporting.

- Set up reporting hierarchies by configuring the Product and Time hierarchies in the dimension catalog named Reporting Catalog. To configure the Product and Time hierarchies, use the Configure Planning Analytics task in your Supply Chain Planning work area. Depending on the reports that you want to generate, move the Product and Time hierarchies from the Available Hierarchies pane to the Selected Hierarchies pane. If you select multiple Product and Time hierarchies, ensure that you select a default hierarchy for the Product and Time hierarchies. The default hierarchies are used by default in the predefined reports.

You can build reports by using the base measures available in your Supply Chain Planning work area. You can also create user-defined measures based on the base measures by using the standard business intelligence tools.

**Accessing the OTBI Reports**

Perform these steps to access the OTBI reports:

1. In a Supply Chain Planning work area, open a plan that is enabled for OTBI reporting.
2. Click the Open button and then select a pane.
3. In the Open Table, Graph, or Tile Set dialog box, do one of the following:
   - Search for your report.
   - Filter the list by selecting Type and then Report.
4. Select a report and then click OK.
   
   The OTBI report opens in the context of the current, open plan.

When you search for reports, the list of reports in the search results includes predefined reports and user-defined reports created by you. You must save the user-defined reports into the Reports Components subfolder within the Transactional Analysis Samples folder to make them available in the Supply Chain Planning work areas. The following predefined reports are available only in the Oracle Fusion Supply Planning and Oracle Fusion Planning Central work areas:

- Build Plan by End Item
- Exception Summary by Item Order
- Details by Item
• Pegging Details by End Item
• Plan Recommendations Summary Graph

Available Measures

The following measures are available in the Oracle Fusion Reports and Analytics work area:

• Configure to Order Forecast Metrics: The following configure to order forecast metrics are available for demand plans, and demand and supply plans:
  
  o Final Option Demand Forecast
  o Final Planning Percent
  o Option Demand Forecast

  Configure to order forecast metrics support dimensions, such as Plan, Time, Product, Organization, Customer, Top Model, and Demand Class.

• Demand Management Metrics: The following demand management metrics are available for demand plans, and demand and supply plans:
  
  o Bookings Forecast
  o Bookings History
  o Bookings History Value
  o Final Bookings Forecast
  o Final Shipments Forecast
  o Shipments Forecast
  o Shipments Forecast Value
  o Shipments History
  o Shipments History Value

  Demand management metrics support dimensions, such as Time, Product, Organization, Customer, and Demand Class.

• Exception Metrics: The following exception metrics are available for supply plans, and demand and supply plans:
  
  o Exception Count
  o Exception Quantity
  o Exception Days
  o Exception Ratio
  o Exception Value

  Exception metrics support dimensions, such as Plan, Time, Product, Organization, Customer, Supplier, Manufacturing Resource, and Exception Type.

• Order Metrics: The following order metrics are available for supply plans, and demand and supply plans:
  
  o Order Quantity
  o Implemented Supply Quantity
Order Value
Order metrics support dimensions, such as Plan, Time, Product, Organization, Order Details, and Order Type.

- Pegging Metrics: The following pegging metric is available for supply plans, and demand and supply plans:
  - Pegged Quantity
    Pegging metric supports dimensions, such as Plan, Time, Product, Organization, Customer, Supplier, End Demand, and Order Type.

- Sales and Operations Planning Metrics: The following sales and operations planning metrics are available for sales and operations plans:
  - Consensus Forecast
  - Consensus Forecast Value
  - Final Sales Forecast
  - Final Sales Forecast Value
  - Sales Forecast
  - Sales Forecast Value
    Sales and operations planning metrics support dimensions, such as Plan, Time, Product, Organization, Customer, and Demand Class.

How You Compare Supply Plans and Orders

You can compare a plan with another plan or an archive of the same plan, and show the difference between them by selecting a metric.

You compare plans at two different levels:

- Compare aggregate plan metrics: You can compare two plans and understand what changed at an aggregate level. For example, you can compare metrics, such as Revenue, Demand at Risk, and Exception Count.

- Compare plans at detail level: You can query the supplies and demands when something is different between two plans using the Order Comparison screen. For example, you can compare the baseline plan with the simulation plan and filter to show only those orders where the suggested due date has changed by more than a specified number of days.

Comparing orders in the Order Comparison report is unrelated to the Compare Plan functionality for aggregate plan metrics.

Plan Comparison

The comparison of plans in a table displays the data for each plan side-by-side. To see the differences between the plans, you can select the metrics in the Comparison Options tab when creating or editing the table. The Show Difference icon in the table or graph toolbar redraws the table or graph with the selected difference metrics.

The comparison metric options are the following:

- Difference
- Percent Difference
• Absolute Percent Difference

To compare a plan:

1. In the Navigator, click a Supply Chain Planning work area.
2. From the Actions menu, select Compare, and click Plans.
3. On the Search and Select: Plan dialog, search and select the plan that you want to compare with the current plan, and click OK.
   
   You can view the table with both plans displayed.

   Tip: Click the Graph icon on the toolbar of the table to view the results in a graph.

4. Click Show Difference to view the difference between the current plan and the comparison plan.

To stop comparing the plans, select the Cancel Compare from the Actions menu.

Order Comparison

Use Order Comparison to identify the orders that have changed between two plans.

The Order Comparison page displays the demands and supplies whose key values, such as order quantity, late quantity, or suggested due date have changed between plans. Using Order Comparison you can view values of key fields from each of the two plans. In addition, you can filter based on how much the values differ between plans. For example, you can filter to only show orders whose suggested due date differs by more than five days.

Open the Order Comparison page using the Open action from the page level toolbar.

After you open the Order Comparison page, the first thing you must do is to select the plan you want to compare. The underlying plan that's already opened is the current plan.

Note: Order comparison works independently from the Compare Plan action that's available in the page-level toolbar reviewed in the previous section. The Compare Plan action has no impact on the Order Comparison page.

After you select the comparison plan, the Changed Demands and Changed Supplies tabs appear. If you perform a search without providing any search criteria, the application displays all changed demands (or changed supplies depending on tab where you perform the search). Any demands or supplies that are the same between plans aren't displayed. The values displayed in the table come from the current plan. The current plan is the plan that you opened first.

The default layout only displays a subset of the available fields for the tab. The fields available are relevant to the tab, for example, Changed Demand has demand fields; Changed Supplies have supply fields.

To display values from both plans, use the Columns to Compare action from the view menu. For example, by selecting the Order Quantity field, the table redraws and Order Quantity has a column for the current plan and the compared plan. The same functionality is available on the Changed Supplies tab.

The orders of the current plan are the driver of the tables content. This shows the following:

• Orders that are in both plans
• Orders that are in current plan and don't exist in the compared plan

Orders that are in the compared plan but not in the current plan isn't shown.

In the redrawn table, the Order Quantity has a column for the current plan and the compared plan. The same functionality is available on the Changed Supplies tab.
Define Scope Plan Options

Scope options determine the scope of the plan. Define or modify scope plan options on the Create Plan page, Scope tab or the Edit Plan Options page, Scope tab. You can configure plan organizations, items, time horizon, and planning level for demand forecasting. You can also define the filters for a plan, such as the hierarchy, level, and level members.

The Scope tab includes the following sections:

- Plan Organizations
- Forecasting Items (available only for demand plans or demand and supply plans)
- Supply Planned Items (available only for supply plans or demand and supply plans)
- Plan Parameters

Plan Organizations

Specify a hierarchy, level, and level members by which to filter the plan. Also, select the source system code to use for filtering organizations. Fields in the Plan Organizations section are required. If you select a level that's above the organization level, then organizations that belong to that parent level are included in the plan.

Forecasting Items

Specify a hierarchy, level, and level members by which to filter specific items for demand planning. Your selections are used in conjunction with your selections in the Plan Organizations section. Items that belong to a parent level are included. Fields in this section aren't required. However, if you don't specify a hierarchy, level, and level members, then you can't filter supply planned items. In this situation, your plan includes all planned items in the selected organizations, which can have performance implications.

Note: The Forecasting Items section isn't available for supply-only plans.

Supply Planned Items

For Supply Planned Item Type, select Manufacturing Plan (MRP) or Production Plan (MPS).

For Supply Planned Items, select the option to control the items to include in the supply plan. Options are:

- All planned items: This option can have performance implications.
- Demand plan items and all sales orders
- Demand plan and WIP components
- Demand plan items only
- Demand plan items, WIP components, and all sales orders

Note: The Supply Planned Items section isn't available for demand-only plans.
Plan Parameters

The Plan Parameters section is available for plans of the plan types Demand Plan, Supply Plan, and Demand and Supply Plan.

The following table describes the plan parameters.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Definition</th>
<th>Plan Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan Horizon Days</td>
<td>Number of days in the plan. Set horizon days to forecast and plan for future needs. Minimize horizon days to avoid long-running plans. Default is 180 days.</td>
<td>Demand Plan, Demand and Supply Plan</td>
</tr>
<tr>
<td>Forecasting Calendar</td>
<td>Select the forecasting calendar, which must belong to the dimension catalog associated with the plan.</td>
<td>Demand and Supply Plan</td>
</tr>
<tr>
<td>Planning Calendar</td>
<td>Select the planning calendar, which must belong to the dimension catalog associated with the plan.</td>
<td>Demand Plan</td>
</tr>
<tr>
<td>Planning Time Level</td>
<td>Set the planning time level on the Scope tab and set the Forecasting time level on the Demand tab. The time levels you can choose depend on the selected planning calendar.</td>
<td>Demand Plan</td>
</tr>
<tr>
<td>Supply Planning Calendar</td>
<td>Select a supply planning calendar, which can be a 4/4/5 calendar or a Gregorian calendar.</td>
<td>Supply Plan, Demand and Supply Plan</td>
</tr>
<tr>
<td>Supply Planning Buckets</td>
<td>Specify your supply planning buckets. The list of values for the bucket types is determined by the supply planning calendar that you specify. You can base your planning horizon on days, weeks, periods, or months. Or, you can specify a combination of daily time buckets and then specify less granular time buckets such as weeks, periods, or months. If you use two bucket types, the first bucket type must be Days.</td>
<td>Supply Plan, Demand and Supply Plan</td>
</tr>
<tr>
<td>Number of Buckets</td>
<td>Specify the number of supply planning buckets.</td>
<td>Supply Plan, Demand and Supply Plan</td>
</tr>
<tr>
<td>Parameter</td>
<td>Definition</td>
<td>Plan Types</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Do not create partial buckets</td>
<td>Select to create additional daily buckets in the plan to avoid partial buckets. &lt;br&gt;  &lt;br&gt; The planning process adds additional daily buckets to avoid the creation of partial buckets. This ensures that a week, month, or period always starts on the first defined day of that particular week, month, or period. &lt;br&gt;  &lt;br&gt; If you don’t select this option, the plan doesn’t add any additional daily buckets. Instead, the planning process creates a partial bucket and counts that partial bucket as the first week, period, or month, as specified in the plan options.</td>
<td>Supply Plan  &lt;br&gt; Demand and Supply Plan</td>
</tr>
<tr>
<td>Measure Catalog</td>
<td>Group multiple sets of measures for use in a plan. By enabling only those measures that are needed for any specific plan, you can perform a focused analysis with improved performance. A planning administrator can create and modify measure catalogs.</td>
<td>Demand Plan  &lt;br&gt; Demand and Supply Plan  &lt;br&gt; Supply Plan</td>
</tr>
<tr>
<td>Price Lists</td>
<td>Price list used in revenue calculations. The default price list for use in value calculations is Item List Price, defined in Items table for Organization and Item.</td>
<td>Demand Plan  &lt;br&gt; Demand and Supply Plan  &lt;br&gt; Supply Plan</td>
</tr>
<tr>
<td>Exception Set</td>
<td>Lists exceptions to compute as part of a plan and also filters on Organizations and Categories for computing exceptions.</td>
<td>Demand Plan  &lt;br&gt; Demand and Supply Plan  &lt;br&gt; Supply Plan</td>
</tr>
<tr>
<td>Simulation Set</td>
<td>Lists simulation sets to use in your plan. A simulation set is a set of adjustments to plan inputs. Apply a simulation set to a plan to model different business scenarios.</td>
<td>Demand Plan  &lt;br&gt; Demand and Supply Plan  &lt;br&gt; Supply Plan</td>
</tr>
</tbody>
</table>

**Related Topics**

- Actions to Manage Your Plans
- How You Use Dimensions and Dimension Catalogs in Supply Chain Planning
- Why can't I select Supply Planned Items
Safety Stock Parameters

Safety Stock Planning Methods

You can select a Safety Stock Planning Method to plan safety stock for your plan. Use the Supply Planning, Planning Central, or Demand and Supply work area to open the Plan Options page, Safety Stock tab, where you can select the safety stock planning method.

The following are the four safety stock planning methods from which to select:

- Do not plan safety stock
- User-specified values for all items
- Statistical safety stock for end items, none for all others
- Statistical for end items, user-specified for all others

**Note:** The safety stock override is used and the planning process does not calculate any values for items when the following applies:

- If the **Apply the override quantities for safety stock** check box is selected for the plan.
- If a planned item has its safety stock override item attribute set to Not Null.

**Do Not Plan Safety Stock**

Select this method if you do not want safety stock calculated or planned for any item in the plan.

If you select this method, the Parameters for Safety Stock Calculations and Parameters for Safety Stock Smoothing sections are not available.

**User-Specified Values for All Items**

Select this method to plan safety stock for all items based on the safety stock method for each item. In this case, safety stock planning does not consider statistical safety stock parameters. With this option the planning process calculates safety stock in one or more of the following ways:

- If the Safety Stock Planning Method item attribute is set to Non-MRP Planned, then you can upload safety stock quantities by using CSV files for those items.
- If the Safety Stock Planning Method item attribute is set to Days of cover, then the planning process calculates safety stock based on the user-specified days of cover for those items.
- If the Safety Stock Planning Method item attribute is blank, the planning process does not plan safety stock.

If you select this method, the Parameters for Safety Stock Smoothing section is editable. However, the Parameters for Safety Stock Calculation section is not available.

**Statistical Safety Stock for End Items, None for All Others**

Select this method to plan safety stock only for the end items that have statistical safety stock parameters defined for them. The planning process does not plan safety stock for items that do not have forecasts defined.

If you select this method, the Parameters for Safety Stock Calculation section is editable. Statistical safety stock is calculated with parameters specified at either the item level or at the measure level.
Because statistical safety stock is a single value, smoothing parameters do not apply to it, so the Parameters for Safety Stock Smoothing section is not available.

Statistical for End Items, User-Specified for All Others
Select this method to calculate and plan statistical safety stock for end items and user-specified safety stock for all other items.

If you select this method, the Parameters for Safety Stock Calculations and Parameters for Safety Stock Smoothing sections are available.

Parameters for Safety Stock Calculation
You can configure parameters in which to calculate safety stock quantities as part of Run Plan. The safety stock calculation process outputs to plan data for the related safety stock fields for each item-organization attribute. The process calculates statistical safety stock levels based on forecasts and forecast error measures.

Define or modify safety stock plan options on the Plan Options page, Safety Stock tab. The safety stock calculation process also outputs values to the plan simulation set specified on the Plan Options page, Scope tab.

Note: The Parameters for Safety Stock Calculations section is available only when one of the following safety stock planning methods is selected:
- Statistical safety stock for end items, none for all others
- Statistical for end items, user-specified for all others

The following table lists safety stock calculation parameters that you can select or configure.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use item-specific values</td>
<td>Select to specify whether the supply plan run uses item-specific values in safety stock calculations.</td>
</tr>
<tr>
<td>Service Level Percentage</td>
<td>Enter a value between 0 and 100 to set the level of customer service that you want in satisfying the product demand immediately out of inventory.</td>
</tr>
<tr>
<td>Forecast Error Type</td>
<td>Determines whether the quality of a forecast is measured by using MAD, MAPE, Intermittent, or Demand schedule specific.</td>
</tr>
<tr>
<td>Overwrite</td>
<td>Select a value to use to overwrite the previously generated or entered safety stock levels.</td>
</tr>
<tr>
<td>Save to collected data</td>
<td>If selected, then the collected data is updated with the safety stock quantities that are calculated and with safety stock quantity overrides.</td>
</tr>
</tbody>
</table>
Parameters for Safety Stock Smoothing

You use the Parameters for Safety Stock Smoothing section on the Plan Options page, Safety Stock tab to configure the following options:

- Apply safety stock change interval to all items
- Smoothing method to calculate safety stock within change interval
- Safety stock change interval in days
- Safety stock bucket start offset days
- Maximum percentage variation in safety stock values
- Minimum percentage variation in safety stock values

**Note:** The Parameters for Safety Stock Smoothing section on the Plan Options page, Safety Stock tab is available only when one of the following safety stock planning methods is selected:

- User-specified values for all others
- Statistical for end items, user-specified for all others

Apply Safety Stock Change Interval to All Items

If you enable this option, the planning process applies safety stock change interval to all items. If you disable this option, then the safety stock change interval applies only to items with Days of Cover safety stock method. Safety stock change interval is the time interval used for the smoothing within time interval functionality. If you specify an interval of 20 days, then starting from the application date, the planning process groups the safety stock calculation in 20-days bucket. The planning process then uses the smoothing method to calculate the safety stock within change interval to determine the safety stock level for the bucket.

Smoothing Method to Calculate Safety Stock Within Change Interval

Use this option for smoothing raw safety stock quantities in every interval, starting from the plan horizon. You can select Minimum, Maximum, or Average from the drop-down list. The result is always rounded up to nearest integer.

Safety Stock Change Interval in Days

Safety stock change interval is the number of working days used for smoothing safety stock within the time interval. If you specify an interval of 20 days, then starting from the application date, the planning process groups the safety stock calculation in 20-day buckets. The planning process then uses Smoothing method to calculate the safety stock within change interval to determine the safety stock level for the bucket. Enter a value greater than zero (0).

Safety Stock Bucket Start Offset Days

Use the current day for this option to ignore the impacts of high near-term demand that is possible due to high backlog demand. Enter a value greater than zero (0).

Maximum Percentage Variation in Safety Stock Values

When you use this option, the planning process does not let the safety stock deviate by more than the specified value when changing the time interval. Enter a value greater than zero (0). For example, if you specify 25 percent, the planning process sets 25 percent as the maximum percentage of change in safety stock quantity between buckets.
Minimum Percentage Variation in Safety Stock Values

When you use this option, the planning process keeps the safety stock constant across time intervals if the deviation is within the specified percentage. Enter a value greater than zero (0).

Supply Plan Inputs

Considerations for Configuring Supply Plan Attributes

You can describe the generic attributes of a supply plan, such as plan start date, end date, and time fence control on the Edit Plan Options page, Supply tab, General tab. Plan Start Date and Plan End Date are read-only fields. The planning process calculates the plan end date from the Plan Horizon Date that you define in the Scope tab. Plan End Date is the sum of Plan Start Date and Plan Horizon Date. You use the Supply Plan Attribute section to configure the following options:

- Time fence control
- Assignment set

Demand Time Fence Control

When you enable this option, planning calculations ignore forecast demands before the demand time fence date and considers only sales order demand when calculating gross requirements. Demand time fence is the time duration within which the planning process does not consider forecast demand when calculating actual demand. The demand time fence start date is the current date and the end date is specified by users.

Planning Time Fence Control

Planning time fence is the time duration within which the planning process does not alter the plan. For planned items within the planning fence, the planning process does not reschedule in order due dates or create planned orders for the item to satisfy net demand requirements. This applies to all order types including make, buy, and transfers.

However, the planning process can reschedule out or cancel an order when it determines that such an order creates excess supply. For planned items outside the planning time fence, the planning process can generate suggestions to create, reschedule, or cancel supplies in the plan.

The planning process calculates a planning time fence date for each planned item. The date is calculated based on the values of the item attributes Planning Time Fence Type and Planning Time Fence Days. The date is calculated based on the working days in the organization calendar. For all planned orders, the suggested due date cannot be earlier than the planning time fence date.

Assignment Set

Assignment Set includes the sourcing rules (hierarchy) and bills of distribution (BOD) for material flow within the supply chain. If you have already created assignment sets, you can select the required assignment set from the drop-down list. You can create an assignment set in Manage Assignment Sets from the Tasks panel drawer.

Overwrite Firm Planned Orders

You use this option to determine whether firm planned orders are retained between plan runs. When you select All from the drop-down list, the planning process overwrites all entries, planned and firm planned, from the current material
plan. When you select None from the drop-down list, the planning process does not overwrite any firm planned orders. However, it overwrites any suggested planned orders that are not firm.

To navigate to the Supply Plan Attributes section, follow these steps:

1. On the Edit Plan page, click the Tasks panel drawer.
2. In the Tasks panel drawer, click Manage Plans.
3. In the Search area, search for your plan.
4. Select the plan from the displayed search result. Click Actions and then click Edit Plan Options.
5. On the Edit Plan Options page, click the Supply tab.

The General tab displays, which include the Supply Plan Attributes section.

Forecast Processing

Forecast processing is the process by which supply planning extracts and adjusts historical forecast data from demand planning to meet the actual demand created by a sales order.

You can specify forecast processing on the Plan Options page, Supply tab, Forecast Allocation and Consumption subtab. You can define the following aspects of forecast processing:

- Forecast Spreading
- Forecast Consumption

Forecast Spreading

Forecast processing adjusts the forecast received from demand planning to make it suitable for supply planning. The planning process breaks down the forecast received from demand planning to the day level. This is known as forecast spreading.

For example, if the monthly demand forecast is 100 and you enable forecast spreading, and if there are 20 working days in the month, the planning process spreads the forecast quantity of 5 to each daily bucket.

Tip: You can select the Enable the Rounding item attribute in the product data model or a simulation set. This ensures that the spread forecast is in integers and helps to plan for items which aren't divisible.

You can only spread demand forecast evenly across all working days. Working days are determined by the calendar that you select from the Forecast Spreading Calendar drop-down list on the Plan Options page, Supply tab, General subtab, in the Allocation and Consumption section.

Select one of the following forecast spreading options:

- Spread forecast evenly: The planning process spreads forecast to daily buckets if the demand is planned at a weekly or monthly level.
- Do not spread forecast: The planning process retains the forecast at the weekly or monthly level and places the forecast at the beginning of the week or month. In the first week or first month of the plan, the planning process places the forecast at the first day of the week or the first day of the month.

You should also set the Past Due Forecast Days value on the Organizations tab of the Maintain Supply Network Model page. The planning process then aggregates all the forecasts within the past due dates of the plan and places the result at the plan start.
Forecast Consumption

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

The **Consumption Calendar** and **Consumption Bucket Type** options enable you to specify the calendar and bucket type to use for forecast consumption. Depending on the type of calendar you select, such as a 4-4-5 or Gregorian calendar, you can then specify the time bucket to use for forecast consumption. This means aligning forecast consumption with the same time bucket used for forecasting.

If you select the **Consume by forecast bucket** check box and specify values for the options Backward Consumption Buckets and Forward Consumption Buckets in the Forecast Consumption section, forecast consumption is affected. These choices create a forecast consumption window of time that consists of the backward and forward consumption days added to the sales order line schedule date. These choices determine whether planning nets sales orders from the prior or next time buckets when consuming the forecast.

For example, you specify 5 backward and 5 forward days and the forecast is in daily buckets. The consumption search first moves 5 days backward from the forecast bucket in weekdays, looking for a forecast quantity to consume. If that search is unsuccessful, consumption moves 5 days forward from the forecast bucket in weekdays. You can add an overconsumption entry to the forecast if either of the following scenarios occurs:

- When a match between the sales order and forecast dates isn't found
- When the consumed forecast quantity isn't sufficient to cover the sales order quantity

You can also specify forecast consumption for a plan by defining the following options:

- Consume forecast inside demand time fence
- Time frame for consuming forecasts with no demand class
- Prefer consumption within forecast bucket

Considerations for Configuring Forecast Allocation and Consumption

You can configure the following items in the Forecast Allocation and Consumption section on the Edit Plan Options page in one of the Supply Chain Planning work areas:

- Forecast spreading
- Forecast spreading calendar
- Consume by forecast bucket
- Backward days
- Forward days

**Forecast Spreading**

Use this option to decide whether to spread the forecast evenly or not to spread the forecast at all.

If you select **Spread forecast evenly**, the planning process spreads the forecast to daily buckets if the demand is planned at a weekly or monthly level.
If you select **Do not spread forecast**, the planning process retains the forecast at the weekly or monthly level and places the forecast at the beginning of the week or month. In the first week or first month of the plan, the planning process places the forecast at the first day of the week or the first day of the month.

### Forecast Spreading Calendar

Use this option to select the calendar of your choice to implement forecast spreading. Select one of the calendars from the drop-down list.

### Consume by Forecast Bucket

When you enable this option, the forecast consumption process does not search for forecasts and sales orders outside the consumption bucket. If you enable this option, then you cannot specify Backward Days and Forward Days.

### Backward Days

Use this option to allow a sales order demand to consume the forecast demand even if the forecast demand is a specified number of days earlier than the sales order demand. The value must be greater than zero.

### Forward Days

Use this option to allow a sales order demand to consume the forecast demand even if the forecast demand is a specified number of days later than the sales order demand. The value must be greater than zero.

To navigate to the Forecast Allocation and Consumption section, follow these steps:

1. On the Edit Plan page, click the Tasks panel drawer.
2. In the Tasks panel drawer, click **Manage Plans**.
3. In the Search area, search for your plan.
4. Select the plan from the displayed search result. Click **Actions** and then click **Edit Plan Options**.
5. On the Edit Plan Options page, click the Supply tab.

   The General tab appears. This tab includes the Forecast Allocation and Consumption section.

### Automatic Release Options

Automatic release uses scheduled processes to release planned orders automatically after the plan run completes. The following options are available in the Automatic Release Parameters section on the Plan Options page in one of the Supply Chain Planning work areas:

- Release planned orders automatically
- Include rescheduled supplies in automatic releases

### Release Planned Orders Automatically

When you enable the **Release Planned Orders Automatically** option, the planning process releases the planned orders automatically within the release time fence after the plan runs successfully.

For a supply plan or a demand and supply plan, the **Release planned orders automatically** plan option isn't copied when you copy a plan. The planning process won't release planned orders when you use the duplicated plan to perform simulations.

**Note:** Release time fence is an item-organization attribute and isn't defined in plan options.
Include Rescheduled Supplies in Automatic Releases

When you enable the Include Rescheduled Supplies in Automatic Releases option, the planning process automatically releases rescheduled supplies. This option is active only if you selected Release Planned Orders Automatically.

This option isn't available in the Replenishment Planning work area.

To navigate to the Automatic Release Parameters section, follow these steps:

1. On the Edit Plan page, click the Tasks panel drawer.
2. In the Tasks panel drawer, click Manage Plans.
3. In the Search area, search for your plan.
4. Select the plan from the displayed search result. Click Actions and then click Edit Plan Options.
5. On the Plan Options page, click the Supply tab.

The General tab appears. The Automatic Release Parameters section is a part of this tab.

Horizon for Average Daily Demand: Explained

You use Average Daily Demand to calculate Projected Available Balance: Days of Cover. Specify a value greater than zero (0). The default value is seven. You can configure the average daily demand in the Supply: Advanced Options dialog box.

Why You Include Drop Ship Demands and Supplies in Supply Chain Planning

When you select the Include drop ship demands and supplies option in the Supply: Advanced Options dialog box, all drop ship demands and supplies for planned source systems are included in the planning process. Supply chain planning supports only one source system per plan. Item-organization attributes for the drop ship validation organization are included by the snapshot. Drop ship validation organization is defined in the Organization tab of manage supply network. If you don't select this option, the planning process removes drop ship demands and supplies from the plan.

Forecast Consumption Options

Use the Forecast Consumption Parameters section in the Supply: Advanced Options dialog box to configure the following options for supply plans:

- Consume forecast inside demand time fence
- Time frame for consuming forecasts with no demand class
- Prefer consumption within forecast bracket

Navigate to the Supply: Advanced Options dialog box from the Plan Options page, Supply tab in a Supply Planning, Demand and Supply Planning, or Planning Central work area.
Consume Forecast Inside Demand Time Fence

When you enable this option, forecast consumption occurs before enforcing the demand time fence control. The forecast entries within the demand time fence are used for consumption but not as a demand. After consumption, the demand quantity for all the forecast entries within the demand time fence is zero.

When you disable this option, the demand time fence control is implemented before the forecast consumption. Forecast entries in the demand time fence are dropped as demand statements and are not used for consumption.

Time Frame for Consuming Forecasts with No Demand Class

Use this option to instruct the forecast consumption process about the order it should use to consume forecast entries when some of forecasts have a demand class and others do not have a demand class. When you select **Within each bucket** from the drop-down list, the forecast consumption process starts by consuming forecast entries on the day of the sales order. At first, it consumes entries with matching demand class and then entries with no demand class. Then it consumes forecast entries within the backward and forward consumption days. For each day, it uses the matching demand class first and then the no demand class.

When you select **After consuming demand-specific forecast** from the drop-down list, the forecast consumption process starts by consuming forecast entries on the day of the sales orders with matching demand class only. Then it consumes forecast entries within the backward and forward consumption days with matching demand class only. If there are any remaining sales order quantity, it repeats the process for forecast entries with no demand class. At first the process runs on the day of the sales order and then within the backward and forward consumption days.

Prefer Consumption within Forecast Bracket

If you enable the option, the panning process consumes the forecast within the forecast bucket. This option is dependent on your selections in the Forecast Allocation and Consumption section in the General tab. This option takes effect when you enable **Spread Forecast Evenly for Forecast Spreading** and disable **Consume by Forecast Bucket** in the General tab.

To navigate to the Forecast Consumption Parameters section in the Supply: Advanced Options dialog box, follow these steps from a Supply Planning, Demand and Supply Planning, or Planning Central work area:

1. On the Edit Plan page, click the Tasks panel drawer.
2. In the Tasks panel drawer, click **Manage Plans**.
3. In the Search area, search for your plan.
4. Select the plan from the displayed search result. Click Actions and then click Edit Plan Options.
5. On the Edit Plan Options page, click the Supply tab.
6. On the General tab, click Select Advanced Options.

   The Supply: Advanced Options dialog box opens, which include the Forecast Consumption Parameters section.

Supplier Capacity Options

You use the Supplier Capacity Parameters section to configure the following options on the Edit Plan Options page in one of the Supply Chain Planning work areas:

- Consume supplier capacity with purchase order
- Supplier capacity accumulation multiplier
Consume Supplier Capacity with Purchase Order

When you select the check box, the planning process consumes supplier capacity with all purchase orders. When you do not select the check box, the planning process consumes supplier capacity with planned orders.

Supplier Capacity Accumulation Multiplier

Use this option to set the date for the planning process to begin the supplier capacity accumulation. You provide a number which acts as a multiplier of the Supplier Item Processing Lead-time. The number must be greater than zero. Supplier capacity is the number of units per day for a specific item that the supplier can produce. To decide the date, the planning process uses the following formula for supplier capacity accumulation:

\[(\text{Multiplier} \times \text{Processing lead time}) + 1\]

For example, if the multiplier = 2 and the processing lead time = 7 days, then the supplier capacity accumulation begins on day 15.

To navigate to the Supplier Capacity Parameters section, follow these steps:

1. On the Edit Plan page, click the Tasks panel drawer.
2. In the Tasks panel drawer, click **Manage Plans**.
3. In the Search area, search for your plan.
4. Select the plan from the displayed search result. Click Actions and then click Edit Plan Options.
5. On the Edit Plan Options page, click the Supply tab.
6. On the General tab, click Select Advanced Options.

The Supply: Advanced Options dialog box opens, which include the Supplier Capacity Parameters section.

Related Topics

- How You Define the Approved Supplier List for Supply Chain Planning

Release Recommendation Options

Use the Release Recommendations Parameters section in the Supply: Advanced Options dialog box to configure the following supply plan options:

- Compression days tolerance for automatic release
- Requisition load group by
- Transfer load group by
- Released only by user

Access the Release Recommendations Parameters section from a Supply Planning, Demand and Supply Planning, Replenishment Planning, or Planning Central work area.

Compression Days Tolerance for Automatic Release

Use this option to indicate the number of compression days allowed for the automatic release of planned orders. The number of compression days applies only to automatic release of planned orders and recommendations. Compression days means the number of days reduced between the start date and due date as suggested by the planning process.

The **Compression Days Tolerance for Automatic Release** field isn't available in the Supply: Advanced Options dialog box for a replenishment plan.
Requisition Load Group By

Use this option to indicate the requisition load group when loading requisitions to purchasing. For each option, except **All**, the planning process creates one line for each planned order within each requisition.

- **All**: The planning process creates one purchase requisition for all recommended orders.
- **Item**: The planning process creates one purchase requisition for each item.
- **Buyer**: The planning process creates one purchase requisition for each buyer.
- **Supplier**: The planning process creates one purchase requisition for each supplier.
- **Category**: The planning process creates one purchase requisition for each item category.
- **Location**: The planning process creates one purchase requisition for each location.

Transfer Load Group By

Use this option to indicate the transfer load group when loading transfers to logistics. The value of **Transfer Load Group By** determines how the actual transfer order is created.

- **All**: The planning process creates all transfers in one transfer order.
- **Source and destination and ship date**: The planning process creates one transfer order for each Ship From and Ship To organization, and each ship date.
- **Source and destination, shipping method and ship date**: The planning process creates one transfer for each Ship From and Ship To organization pair, and shipping method and ship date.

Released Only by User

Use this option to specify whether to restrict implementation of planned orders and recommendations to the current user. If you enable this option, the planning process implements only those planned orders and recommendations that the current user has marked. If you disable this option, the planning process implements planned orders and recommendations that are marked by any user.

Note: This option applies only to the manual release of planned orders.

Use these steps to navigate to the Release Recommendations Parameters section in the Supply: Advanced Options dialog box:

1. Open a plan:
   - a. In a Supply Planning, Demand and Supply Planning, Replenishment Planning, or Planning Central work area, click the Tasks panel drawer.
   - b. In the Tasks panel drawer, click Manage Plans.
   - c. In the Search area, search for your plan.
   - d. Select the plan from the displayed search result.
2. On the Edit Plan page, click Actions and then click Edit Plan Options.
3. On the Plan Options page, click the Supply tab.
4. On the General subtab, click Select Advanced Options.

The Supply: Advanced Options dialog box opens, which includes the Release Recommendations Parameters section.
Time Fence Options

Use the Time Fence Parameters section to configure the following options:

- Create time fence
- Create firm planned order time fence

Create Time Fence

Use this option to instruct the planning process to create a natural time fence for an item at the completion date of the latest firm discrete job, purchase order, or transfer. The natural time fence indicates a new time fence that is set at the latest date of firm supplies. Completion date means the due date of the supply.

Note: This advanced plan option has no effect if you do not enable the Planning Time Fence Control option in the General tab.

Create Firm Planned Order Time Fence

Use this option to instruct the planning process to create a natural time fence for an item at the completion date of the latest firm planned order. Completion date means the suggested due date of the firm planned order.

Note: This advanced plan option has no effect if you do not enable the Planning Time Fence Control option in the General tab.

To navigate to the Time Fence Parameters section, follow these steps:

1. On the Edit Plan page, click the Tasks panel drawer.
2. In the Tasks panel drawer, click Manage Plans.
3. In the Search area, search for your plan.
4. Select the plan from the displayed search result. Click Actions and then select Edit Plan Options.
5. On the Edit Plan Options page, click the Supply tab.
6. On the General tab, click Select Advanced Options.

The Supply: Advanced Options dialog box opens, which includes the Time Fence Parameters section.

Technical Control Parameters

When you enable this option, the planning process implements multithreading during the plan run. Multithreading decreases the overall run time of a plan. To enable this option, click Select Advanced Options in the General tab of a supply plan and select Enable multithreading on the Supply: Advanced Options dialog box.

Why You Disable or Enable Dimensions for Supply Plan Measures

In your organization, you might not use all of the preconfigured dimensions to analyze your supply plans. To improve system and application performance while working with your supply plans, you can decide which dimensions are applicable to measures. You can disable the Customer, Supplier, Demand Class, Order Type, and Exception Type dimensions to optimize data volumes and improve query performance. The Organization, Item, Resource, and Time dimensions are always used and you can’t disable them.
When you disable a specific dimension, the planning engine preaggregates the related measures along that dimension. For example, measures such as Revenue or Sales Order Value are computed by default at the most detailed level of Organization, Item, Day, Customer Site, and Demand Class. However, this type of detailed analysis might not be necessary. You can configure your plan to compute the measure at only the Organization, Item, and Day level and ignore calculating the measure at the Customer Site and Demand Class levels.

Configure the dimensions in the Dimensions for Supply Measures section in the Supply: Advanced Options dialog box, which you open from the Plan Options page, Supply tab. The Supply: Advanced Options dialog box is accessible only for supply plans from a Supply Planning, Demand and Supply Planning, or Planning Central work area.

Note: The dimension catalog that is configured in the Configure Planning Analytics task and specified in the plan options governs the hierarchies that are available in a plan for any selected dimension. If any of the optional dimensions are not selected in the dimension catalog, those dimensions are automatically disabled in the advanced plan options.

Because tables are shared across work areas, the selector in pivot tables displays all dimensions (enabled and disabled), and you can add a disabled dimension to a table or graph. In this case, the dimension does not show individual members, but shows one aggregated row or column of All.

When you enable a supply plan for Oracle Transactional Business Intelligence (OTBI), the reports won't have any members in the disabled dimensions of a supply plan.

Related Topics
- How You Use Dimensions and Dimension Catalogs in Supply Chain Planning
- Considerations for Setting Up Dimension Catalogs

Supply Plan Options for Organizations and Schedules

Use the Organizations and Schedules subtab on the Plan Options page to configure subinventory netting, demand and supply netting, and the forecast spreading calendar, depending on the organization for a supply plan. You can also specify the demands that you want to consider in the supply plan.

Configure the supply plan options for organizations and demand schedules on the Plan Options page, Supply tab, Organizations and Schedules subtab.

Organizations

The organizations are based on the organization level members that you specify on the Scope tab of the Plan Options page.

Subinventory Netting: Enable or disable subinventories that you want to include in the netting. The subinventories are based on the organization. During data collections, the planning process collects the organization based on your configuration of the organization in the source system. If you enable the subinventory netting for a new subinventory in the source, the plan automatically includes the new subinventories that are collected after the initial plan run.

Demand and Supply Netting: Run plans with only demands or supply types depending on your requirement. You can include or exclude sales orders, reservations, on hand, purchases, transfers, and work orders for each organization in your plan. A new plan enables all the demand and supply netting options by default.

Forecast Spreading Calendar: Select a user-defined forecast spreading calendar for each organization.
- The supply planning process uses the calendar to spread aggregate forecast demand across daily buckets.
• If you don't specify any calendar at the organization level, then the supply planning process spreads the aggregate forecast evenly across daily buckets.

• The planning process uses this calendar only when you select the User-defined calendar value for the Forecast Spreading Calendar attribute in the Forecast Allocation and Consumption section. The Forecast Allocation and Consumption section is available on the Plan Options page, Supply tab, General subtab.

**Demand Schedules**

Select the demands to include in the supply plan. If the plan type is demand and supply, the demand schedule is automatically included in the supply plan. The supported types of demand schedules are:

• Demand (demand plan)
• External (external forecast)
• Production (production plan used in manufacturing plan)

Demand Measures: Click the **Select** button to access the Demand Measures dialog box where you can select the following measures:

• End Item Demand
• Option Demand
• Planning Percentage

The **Select** button for Demand Measures is enabled when the demand schedule type is Demand or Sales and Operations. The **Select** button isn't available for an external demand schedule type.

Forecast Accuracy Measures: Click the **Select** button to access the Forecast Accuracy Measures dialog box where you can select the following measures:

• Forecast Error Type for Nonintermittent Demand
• Measure for MAD or MAPE
• Measure for Intermittent Demand
• Measure for Average Interarrival Time

The Select button for Forecast Accuracy Measures is enabled when both of the following attributes are set on the Plan Options page, Safety Stock tab:

• **Safety Stock Planning Method** is set to *Statistical safety stock for end items, none for all others.*
• **Forecast Error Type** is set to *Demand schedule specific.*

Measure Levels: Select dimension levels at which to load the measure. If the demand schedule type is external or production, then the measure level option isn't available.

Ship-to Consumption Level: Select a forecast consumption level for the local demand plan.

**How You Calculate Safety Stock Based on Multiple Demand Schedules**

For supply plans or supply and demand plans, you can plan statistical safety stock for end items whose forecasts are distributed across multiple demand schedules. The planning engine calculates safety stock based on forecasts in each
demand schedule. The calculation uses either the measure values generated in each of the demand schedules or item-specific values specified for each item and organization combination.

Select your demand schedules in the Demand Schedules section on the Plan Options page, Supply tab, Organizations and Schedules subtab. The planning engine uses the forecasts and other measures from these demand schedules to plan statistical safety stock for the respective item-organization combinations.

The planning engine uses each demand schedule to drive safety stock calculations for the items that belong to that demand schedule. If the same item is present in two or more demand schedules, the planning engine selects only one demand schedule to use for safety stock calculation. Oracle recommends that you ensure that forecasts for an item in an organization are restricted to just one demand schedule.

**Configure Measure Levels for Demand Schedules**

You can select dimension levels in the Measure Levels dialog box at which to load measures into a plan. After configuring your measure levels for demand schedules, run your demand plan to generate the forecasts. Next, run the supply plan and then review the Supplies and Demands table.

You can configure dimension levels for a Supply Plan or a Demand and Supply Plan type from a Planning Central, Supply Planning, or Demand and Supply work area. To access the Measure Levels dialog box, navigate to the Plan Options page, Supply tab, Organizations and Schedules subtab. In the Demand Schedules section, click the Select button in the Measure Levels column.

**Note:** If the demand schedule type is External or Production, then the Measure Level option on the Organizations and Schedules subtab is not available.

In the Measure Levels dialog box, you can configure measure levels for the following dimensions:

- **Time:** The time hierarchy and level choices are based on the forecasting calendar used for the demand plan. You set the forecasting calendar on the Plan Options page, Scope tab, in the Plan Parameters section.
- **Demand Class:** If you leave the Demand Class level and Customer level blank and select Day for the Time level, then the forecast that comes from the demand schedule into supply planning will be aggregated at the item-organization-day level.
- **Customer:** If you want an aggregated forecast by day or month, leave the customer level blank. If you select Customer Site level, the forecast for each day is broken down into forecasts for each customer site in the demand plan. For example, you have 20 customer sites for your demand plan and select Customer Site level and Day for the Time level. You will see 20 forecasts for each day in the Supplies and Demands table.
- **Organization:** The organization hierarchy and level are fixed for the organization dimension. The Enterprise hierarchy only supports the Organization level.
- **Product:** The product hierarchy and level are fixed for the product dimension. The Product hierarchy only supports the Item level.

**Run a Supply Plan or an Integrated Plan**

Run a supply plan or an integrated plan to generate forecasts and safety stock levels and to create replenishment. An integrated plan includes both a demand and a supply plan. You can run a supply plan or a demand and supply plan from the Supply Planning, Planning Central, or Demand and Supply Planning work areas.
When you run a supply plan or an integrated plan, you can specify the scope of the plan that you want to run. You can decide whether to refresh the plan input data before running it. Also, you can run the plan immediately or you can run the plan in the background at a set time or on a repetitive schedule, such as daily or weekly.

**Note:** For a constrained supply plan, you can only run the plan in Batch mode.

After you create a supply plan or a demand and supply plan, you must run the plan to generate the data. In the Run Plan dialog box, Parameters tab, run plan options are sequenced in the order of operations: scope, demand, and supply. You also have an option to recalculate safety stock levels. The forecasting process runs first, safety stock is calculated next, and then the output is used for supply planning calculations. You can configure the following options, depending on the plan type:

- Data Refresh Options
- Scope Options
- Demand Plan Run Options
- Supply Plan Run Options

### Data Refresh Options

The following data refresh options are available:

- **Do not refresh with current data:** Select this option to run your plan with no changes to demand, including no advancement of the plan start date.

- **Refresh with selected current data:** Select this option to partially refresh your data. You can refresh transaction data and some reference data without performing a full refresh. For example, selectively refreshing Demand history and measures and Forecasts covers the following scenarios:
  - Demand history and measures: You have reloaded external or third-party forecasts and the plan must reflect these recent updates (for example, Sales Forecast, Marketing Forecast, Financial Forecast, and Shipments Forecasts).
  - Forecast: You have changed the input measure level on the Plan Options page, Supply tab, Organizations and Schedules subtab, in the Demand Schedules section. For example, you copy a plan, change the input measure level to another forecast within the same plan, and want to rerun the plan. In this scenario, specify the **Refresh with selected current data** option for Forecast. Because you changed the plan options but didn't edit the plan, the plan doesn't require a full refresh.

- **Refresh with current data:** Select this option to refresh the complete plan with the latest collected data. When you run the plan for the first time, this is the only data refresh option available and it’s selected by default. If you select this option for an integrated plan (Demand and Supply Plan type), the Plan demand and Plan supply check boxes in the Scope Options section are selected by default and can't be deselected.

### Scope Options

Scope options restrict the focus of the replan. The following scope options are available:

- **Plan demand:** Select to forecast demand when running a plan. If you selected **Refresh with current data** in the Data Refresh Options section, then this option is selected by default for an integrated plan. This option is available for Demand and Supply Plan types in the Planning Central and Demand and Supply Planning work areas.

- **Approve plan:** Select to approve the plan during the plan run. This option is available for Demand and Supply Plan types in the Demand and Supply Planning work area.
Recalculate safety stock: Select to recalculate safety stock quantities when running a plan. This option is available for Supply Plan or Demand and Supply Plan types in the Planning Central, Supply Planning, and Demand and Supply Planning work areas.

The Recalculate safety stock check box is available only when one of the following safety stock planning methods is selected on the Plan Options page, Safety Stock tab:

- Statistical safety stock for end items, none for all others
- Statistical for end items, user-specified for all others

Plan supply: Select to have the planning process calculate only the supply. If you selected the Refresh with current data check box in the Data Refresh Options section, then this option is selected by default for an integrated plan. This option is available for Demand and Supply Plan types in the Planning Central and Demand and Supply Planning work areas.

Archive plan: Select to archive data from the plan. This option is available for Supply Plan or Demand and Supply Plan types in the Supply Planning and Demand and Supply Planning work areas.

Demand Plan Run Options

The Demand Plan Run Options section is available for Demand and Supply Plan types, but isn't available for Supply Plan types.

Forecast Profiles: Select the forecasting profiles that you want to include as part of the plan. If you don't select a forecasting profile, then the forecasting process doesn't run.

Include details of forecast methods: Select to specify whether to provide details of the forecast methods that make up the forecast. This option is available for Demand and Supply Plan types in the Demand and Supply Planning work area.

Include details of causal factors: Select to specify whether to provide details of the causal factors that make up the forecast. This option is available for Demand and Supply Plan types in the Demand and Supply Planning work area.

Supply Plan Run Options

The Supply Plan Run Options section appears for unconstrained supply plans but not for constrained supply plans. You can only run constrained supply plans in batch mode. The following supply plan run options are available:

- Interactive: Select this option to run a plan into memory, without saving the plan to the database. If a typical plan is scheduled to run on weekends, you can use the Interactive option to run the plan during the week. If you select Interactive, the Schedule tab is disabled and the plan is set to run as soon as possible.

  Note: Interactive option isn't available for a constrained supply plan.

- Batch: Select this option to run the plan per a schedule. When you select this option, the Schedule tab becomes available where you can set up when to run the plan.

Use Batch to save the plan to a database. To save a plan to a database, you must run the plan at least once. The plan will be available for analysis without loading into memory.

The following two options are available for Batch:

- Save without calculated totals: Select to exclude calculated totals for items and resources while saving a plan.
% o **Save all**: Select to save all plan data, including calculated totals. This option includes calculated totals while saving a plan. For example, save all calculated measures for items in the material plan and for resources used in the resource plan such as Projected Available Balance and Net Resource Availability respectively.

### Run a Supply Plan or an Integrated Plan

Use these generic steps to run a supply plan or an integrated demand and supply plan:

1. Open the Run Plan dialog box:
   a. From a Supply Chain Planning work area, click the Plans panel tab and expand the Plans list.
   b. Select the plan that you want to run, click **Actions**, and then select **Run**.

2. In the Run Plan dialog box, Parameters, tab, expand **Details** to review the plan options:
   a. In the Data Refresh Options section, review the options and make appropriate selections.
   
   **Note:** When you run the plan for the first time, you must select **Refresh with selected current data**. This option refreshes historical data, imports sales orders, and advances the plan start date to align with the current date.

   b. In the Scope Options section, select the options that you want for the plan run.

   c. For demand and supply plan types: In the Demand Plan Run Options section, select the appropriate demand plan run options, including the forecasting profiles that you want to include as part of the plan run.

   d. For unconstrained supply plans: In the Supply Plan Run Options section, select the options that you want for the plan run.

3. If you selected Batch in the Supply Plan Run Options section, or for constrained supply plans, click the Schedule tab to set up the frequency parameters:
   a. To run the plan immediately, select **As soon as possible**.
   b. To run the plan in the background at a set time, select **Using a schedule** and then select a **Frequency**, such as **Daily** or **Weekly**.

4. Click **OK** to run the plan.

### Supply Planning Concepts

#### Daily Buckets in Supply Planning

The planning process always plans in daily buckets because it considers that demands are due at the end of the day. The planning process does not plan demands and supplies at weekly, period, or monthly level. Demands and supplies are balanced at the end of the day. The shortages or excess in demand and supplies are carried over to the next day. However, tables and graphs can aggregate daily planning results into weekly, period, or monthly level.

Demands and supplies do not have time stamps. The planning process considers that the capacity during the day can be used for resource or supplier requirements scheduled for the same day. If a planned work order can be completed in less than a day, it's scheduled on the same day as the demand due date. Also, if the work order is less than a day, the start date and the end date are same.
The planning process supports two calendars for aggregation in the planning output:

- Fiscal calendars: Supports aggregation by week and period in the tables.
- Julian calendars: Supports daily bucketing and aggregation by calendar month. The Julian calendar does not support bucketing by week.

### Requirements Explosion for Make Items

When you run a supply plan or a supply and demand plan, one of the processes that take place is requirements explosion for make items. The supply planning process reviews the supply chain item structure to ensure that there is enough supply on hand and on order to meet demand. The shortage of one item creates a demand for the items one level below it in the supply chain item structure. This process of analyzing the demand of individual components that make up an item and creating a demand for those components is known as requirements explosion.

The planning process uses the work definition of make order items to determine component requirements. The planning process makes suggestions accordingly to replenish the components that are in low supply to make the supply of the make order item easier.

### Settings that Affect Requirements Explosion for Make Items

Supply planning respects component effective dates. The planning process determines a new date for the planned make order after it takes into consideration the following:

- The components that are part of the work definition
- The operations that are part of the work definition
- The component effective dates for the make item on or before the order start date of the planned order
- The operation effective dates for the make item on or before the order start date of the planned order

**Note:** Requirements explosion is performed only for make items. If you mark a make item as a buy item, the planning process does not suggest replenishing any of its components.

### How Requirements Explosion for Make Items is Calculated

Consider the following scenario:

- Item A is a make order for which there is a sales order of 100.
- It takes two of item B and three of item C to make one of item A.

The planning process explodes the demand to a component level and creates a demand of 200 for item B and 300 of item C. The demand quantity on an item is the shortage of its parent item multiplied by the usage of the child component in the parent item.

### How Resource Scheduling Is Done

Resource scheduling can be calculated when you know the planned make order duration. The planning process uses lead times, both fixed and variable, to calculate planned make order duration. For existing work orders, the lead time is the duration of the work order. The planning process does not change the duration of the work order. You can also manually set fixed and manual lead times.
Tip: If you manually configure the lead times, then set larger values for a conservative planning result. Set smaller values for an aggressive planning result.

For example, suppose the fixed lead time = 1

Variable lead time = 0.2.

The planned order size = 10 units

Make planned order lead time = fixed + variable multiplied by order size = 1 + 0.2 multiplied by 10 = 1 + 2 = 3 days

Demand due date = Day 5

Make planned order: Suggested start date = Day 2; Suggested due date = Day 5

The calculation assumes that day 5 ends at 23:59 and so one full day of lead time pushes the start date to day 4 at 23:59. So in the example, the 3-day lead time pushes the start date to day 2.

The following calculations are used to calculate planned make order duration, routing resource duration, operation duration, and resource duration:

- Planned make order duration: The planned make order quantity is determined by total quantity of demands and order modifiers. Total make order lead time (days) = fixed lead time + quantity multiplied with variable lead time.

- Routing resource duration: Resource requirement (in hours) is calculated for item-based resource usages. Resource requirement = Quantity multiplied by Usage hours. Operation duration (in hours) is calculated by adding each resource requirement adjusted for any simultaneous resources. Total Routing Duration = Sum of the operation duration (hours).

- The operation duration and resource duration calculations are shown in the following illustrations. Each operation and resource requirement is spread over the total make lead time.

The following figure illustrates the calculation for operation duration.

\[
\text{Operation Duration (in days)} = \frac{\text{Operation (in hours) \times Total Make Order Lead Time (in days)}}{\text{Total Routing Duration (in hours)}}
\]

The following figure illustrates the calculation for resource duration.

\[
\text{Resource Duration (in days)} = \frac{\text{Resource Requirement (in hours) \times Total Make Order Lead Time (in days)}}{\text{Total Routing Duration (in hours)}}
\]

For a planned make order, the planning process performs the following task:

- Calculates duration based on fixed and variable lead times.
- Calculates required resource hours from the work definition.
• Spreads the required resource hours evenly across the calculated work order duration. If the work order has multiple operations, the duration for each operation is calculated and the resource hours are spread out within the operations for assigned resources.

Rescheduling Existing Work Order
For an existing work order, you can either continue with the existing schedule or change the schedule and assign new dates. If the work order is not rescheduled, then the planning process:

• Does not change the work order start and end dates
• Does not change the operation and resource requirement start and end dates
• Spreads each resource usage evenly over the days of the resource requirement

For example, if the resource requirement start date is Day 5 and end date is Day 6, and resource usage is 14 hours, then the planning process allocates 7 hours on Day 5 and 7 hours on Day 6. If you reschedule a work order, the job duration is preserved and does not change. The lead time for each operation and for each resource requirement remain the same. Only the start and end dates change.

Planning calculations follow these guidelines while rescheduling a work order:

• Allocate the same number of days for work order start and end dates. For example, if the end date is moved by two days, then move the start date by two days.
• Allocate the same number of days to each operation and resource requirement date. Using the previous example, move each operation and resource requirement date by two days.
• Spread each resource usage evenly over the days of the resource requirement. For example, if the resource requirement start date is Day 5 and end date is Day 6, and resource usage is 14 hours, then allocate 7 hours on Day 5 and 7 hours on Day 6.
• Adjust for days on and days off by increasing or decreasing the job, operation, and resource dates. Depending on whether days off are included or removed from the work order, the relative working days remain the same before and after the move. For example, the work order duration is 5 days, starting on Friday and ending on Tuesday including two nonworking weekend days. If the work order is rescheduled to start on Monday, the new end date becomes Wednesday. If any adjusted dates for the work order are pushed into the past, then place the dates on Day 1 of the plan. If a part of the work order is completed, then only the open quantity of the work order is scheduled. If some components and resources are consumed by the work order, then only the open component requirements and open resource usages are planned in the planning process.

How Resource Efficiency and Resource Utilization Are Calculated

While scheduling resources, the planning process uses resource efficiency and utilization that you specify at the resource level. Resource efficiency is a measure (expressed in percentage) of the actual output to the standard output expected. Resource efficiency determines the time that a resource takes to complete a task.

For example, if you expect a resource having an efficiency of 100% to complete a task in 12 hours, the resource having an efficiency of 50% would take 24 hours to complete the task. Effective usage of a resource is the ratio of resource hours as specified in routing (theoretical usage) to efficiency.
The following figure illustrates the calculation used for actual resource usage.

Actual Resource Usage = \frac{(Quantity \times Resource \ hours \ per \ resource)}{(Resource \ Efficiency \times Resource \ Utilization)}

Resource utilization is a measure (expressed in percentage) of how intensively a resource is used. For example, a resource may take frequent breaks or you may assign maintenance tasks to the resource. This indicates that a percentage of the resource time is not available for the task. The actual usage is the ratio of the resource hours as specified in routing to the product of efficiency and utilization. For example, a routing has a resource requirement for 2 hours. The efficiency and utilization of the resource is expected to be 90% and 75%, respectively. Therefore, the actual resource usage is calculated as 2.96 hours.

Actual Resource usage = (1 each multiplied by 2 hours per resource) divided by (90% multiplied by 75%) = 2 hours divided by 0.675 = 2.96 hours

For a Make Order to manufacture 50 units, using the same routing as described in the previous example, you have:

Actual Resource usage= (50 each multiplied by 2 hours per resource) divided by (90% multiplied by 75%) = 100 hours divided by 0.675 = 148.15 hour

Considering the actual resource efficiency and utilization, the planning process generates a plan. If an additional resource usage is required to satisfy a demand, the planning process recommends inflating the resource usage.

Sourcing Allocation Splits

The planning process creates supplies based on the sourcing splits (rank one only). Supply planning uses split percentages that can be specified on sourcing rules. You can rank the sources of supply that are named in the rules and bills, giving one priority over another when the planning process generates recommendations. You can also assign sourcing percentages to these sources, which lets you to allocate a portion of the total orders to each source. Sourcing allocation considers all supply sources: buy, make, and transfer.

If there are no order modifiers, then when supplies are required on a day, the planned orders for the day are split into as many planned orders as required to meet the rank one sourcing allocation splits. If there are item-attribute or supplier-order modifiers, the supply is created for the highest allocation split percent source (rank one) respecting the order modifiers. Then a supply is created for the next source, again respecting the order modifiers. The supply sources are used in allocation percent order. As each order is created, the next lower allocation percentage source is considered.

The calculation attempts to balance supply sources over the plan horizon to meet the rank one allocation percents. If supplies don’t respect the split due to existing purchase orders or order modifiers, then the planning process select sources each day to bring the plan horizon supplies into alignment with the sourcing splits. You have to create supply on the source that leads to the lowest deviation of the cumulative sourcing split from the split percentages specified in the sourcing rule. The planning process doesn’t consider historical receipts when calculating sourcing splits. Only open purchase orders, transfer orders, and make orders are considered.

The following formula is used to calculate the sourcing split each day:
If Total Supply multiplied by Source A allocation percentage > Supply for Source A, then create a new planned order for Source A (respecting order modifiers) so that supply for Source A > or = Source A allocation percentage multiplied by Total Supply, until Total Supply > or = Total Demand.

Sourcing allocation and effective dates: If a sourcing rule becomes effective on a certain date, then the planning process respects the allocation percentages from the effective date and after. The planning process doesn't consider allocation that has happened before the effective date.

For example, a plan runs on March 1st and the sourcing rule is:

- Effective January 1st until May 31st: 40 % Acme, 60 % Business World
- Effective June 1st: 50 % Acme, 50 % Consolidated

Starting June 1st, the allocation process splits 50/50 between Acme and Consolidated. The allocation process ignores the history before the effective date. The allocation process doesn't consider whether Acme has 40% or 60% of the orders before June 1st.

**Guidelines for Using Alternate Resources and Substitute Components for Planned Orders**

Use alternate resources and substitute components to plan your orders to meet high-priority demands. You can plan your orders effectively if you can firm a resource or component to a particular plan.

You can select alternate resources and substitute components for a planned order from the Supplies and Demands page in the Supply Planning work area.

- To select and firm alternate resources, select a planned order on the Supplies and Demands page and click the Edit icon from the Firm Resources column. You can also firm alternate resources by selecting the Firm Resources option in the Actions menu.
- To select and firm substitute components, select a planned order on the Supplies and Demands page and click the Edit icon from the Firm Components column. You can also firm components by selecting the Firm Components option in the Actions menu.

On the Supplies and Demands page, if Firm Resources and Firm Components columns are not visible, enable the columns by clicking View > Columns > Firm Resources and Firm Components.

**Points to Consider for Firm Resources**

Consider the following points before you firm resources:

- The order type must be a planned order and the item must have a work definition.
- The planned order is firmed when you select a resource from the Firm Resource dialog box.
- The start date of the planned order needs to be within the effective date range of the operation for which the firm resource is selected.
- To save the changes that you make in the Firm Resources dialog box, close the Firm Resources dialog box and save the Supplies and Demands page. You must rerun the plan so that the planning process can select the firmed resources.
Points to Consider for Firm Components

Consider the following points before you firm components:

- The order type must be a planned order and the item must have an item structure defined.
- For items or organizations that have work definitions: You can either change the work definition and item structure name, or select a work definition and item structure name from the Work Definition drop-down list. When you change the work definition and item structure, the planning process firms the underlying planned orders.

You can also select an item structure and work definition name from the Item Structure drop-down list. If you select an item structure and work definition, the planning process firms the underlying planned orders. Selecting a firm component in the Firm Component dialog box firms the planned order.

- The Operation Sequence Number column in the Firm Components dialog box includes the list of values (operation sequence number, effective start date) contained within the work definition.
- You must select an operation in the Firm Components dialog box to firm a component. The start date of the planned order must be within the effective date range of the operation for which the firm component is selected.

Using the Actions Menu to Firm Resources and Components

Consider the following points before you firm resources and components using the Actions menu:

- When you select multiple orders, you can select Firm Resources and Firm Components from the Actions menu.
- To firm resources, all selected rows must have the same item, organization, and the order type must be a planned order. The item and organization must have at least one work definition defined.
- To firm components, all selected rows must have the same item, organization, and the order type must be a planned order. The item and organization must have at least one work definition or one item structure defined.

Related Topics

- Considerations for Creating Work Orders from Planning With Alternate Resources and Substitute Components

Reservations in Supply Chain Planning

You can collect information about all reservations that are created by the inventory processes and view them in one of the Supply Chain Planning work areas. You can view the amount of supply that is pegged to order fulfillment lines.

Supply Chain Planning does not create reservations; it just displays all the reservations that are created by the inventory processes. You cannot edit the quantity or kind of supply that is reserved to a sales order in the configurable planners' workbench.

The following types of supply can be reserved to a sales order in the inventory:

- On hand inventory
- Work orders
- Purchase orders
- Transfer orders

Multiple sources and quantities of supply can be reserved to a single sales order fulfillment line.
There are two ways by which sales orders are pegged to supplies:

- **Multiple sales orders can be pegged to a single source of supply:** In this case, the pegged quantity does not exceed the total supply quantity. This type of reservation is done when a single source of supply is adequate enough to fulfill many sales orders.

  For example, there are 50 sales orders for item A. Each sales order is for a single unit of A. You have defined one of your supply sources as an inter-organization transfer that supplies 100 units of A. Therefore, 50 units out of the 100 units from the transfer supply can be pegged to the different sales order fulfillment lines.

- **Multiple sources of supply can be pegged to a single sales order:** In this case, the pegged quantity does not exceed the total demand quantity. This type of reservation is done when a single supply source is not adequate to fulfill a sales order which demands a large quantity of supply for an item.

  If a sales order is recorded for an item that has a high demand, multiple sources of supply can be pegged in varied quantities to that single sales order. For example, you have defined two supply sources A and B as the following: A is an inter-organization transfer and B is a purchase from an external supplier. If a sales order of 800 units for this item is recorded, a part of the supply from A and a part of the supply from B will be reserved. Those reserved quantities are then pegged to the single order fulfillment line.

Supply planning respects a demand reservation to a lot without regard to the lot expiration dates. A lot that expires on day 6 can be reserved to a demand that is due on day 10. Supply Chain Planning collects this reservation as it is and reflects all reservations on the **Supplies and Demands** page. You can only view reservations in a Supply Chain Planning work area, but you cannot modify them.

### View Pegging for Reservations

You can view all the reservations that are created by the inventory processes, in one of the Supply Chain Planning work areas.

To view the sales order fulfillment lines that are pegged to different supplies and the amount of supply reserved against each sales order, follow these steps:

1. In the **Navigator**, click a Supply Chain Planning work area.
2. Click the **Plans** drawer.
3. Expand Plans, and select the plan of your choice.
4. Click the **Action** menu and select **Open**.
5. Select the Supply Analysis page layout.
6. Navigate to the **Supplies and Demands** window and search for all sales orders. You can search by defining one or more attributes in the search criteria, like Item, Organization, or Order Type.
7. In the Search Results area, click **View** and select **Columns**.
8. Drill down to the **Manage Columns** option.
9. Move the column names Reserved Quantity and Reservation Type from the **Hidden Columns** to **Visible Columns**.
10. Optionally, you can also use the **Move selected items to the top of list** button to move these two rows to the front. This helps you to view all information related to reservations at once.

**Tip:** You can also enhance your search by setting an **Advanced** search criteria such as Reserved Quantity > 0. This would display only those sales orders which have some amount of supply pegged to them.
How You View Model Forecast and Sales Order Together

In the configure-to-order process, the execution system transacts the configured item using a unique item identifier that's different from the model item identifier. To make effective planning decisions, you need to view the model forecast, and the supply and demand orders together. You can view the model forecast and the sales order together in the Material Plan table.

By viewing the model forecast and sales order together, you can analyze and make effective supply and demand decisions in a configure-to-order environment.

Enable the Measure for a Combined View of the Model Forecast and Sales Order

To view the model forecast and the sales order together, you must enable the Configured Item Sales Orders measure. Before you enable the measure, add the measure to the measure catalog. To view the measure, assign a category to the model.

Follow these steps to enable the measure:

1. From your Supply Chain Planning work area, open a plan, and click Open > Full Pane.
2. From the Open Table, Graph, or Tile Set page, search and open the Material Plan.
3. From the Material Plan table, click the Selector Tool View Table Configuration icon from the material plan tool bar.
4. In the Measures tab, move the Configured Item Sales Orders measure from the Available Measures column to the Selected Measures column.
5. Click Save and Close.

Considerations for Changing the Organization for a Sales Order

You can change the organization for a drop ship sales order or a regular sales order, depending on the associated supplier or supplier site. The following situations summarize how the drop ship or regular sales order is affected when you change the organization.

Drop ship sales order for an outsourced manufacturing organization

You can change the current organization to any other organization. Consider the following points when you change the organization:

- If you change the current organization to another organization that has an associated supplier or supplier site, the sales order remains a drop ship sales order. The supplier and supplier site on the sales order will reflect the value associated with the new organization on the sales order.
- If you change the current organization to a drop ship validation organization, you have to manually provide a supplier or supplier site. List of values for the supplier or supplier site includes only those suppliers or supplier sites that are not associated with any organization.
- If you change the current organization to an internal organization, the supplier and supplier site are set to blank values. The drop ship sales order becomes a regular sales order.

You cannot make line edits to the supplier or supplier site in the drop ship sales order on the Supplies and Demand page.
Drop ship sales order for a drop ship validation organization

You can change your current organization to any other organization. Consider the following points when you change the organization:

- If you change the current organization to an organization that has an associated supplier or supplier site, then the supplier and supplier site on the drop ship sales order gets changed to reflect the ones associated with the new organization. The sales order still remains a drop ship sales order.
- If you change the current organization to an internal organization, the supplier and supplier site are set to blank values. The drop ship sales order becomes a regular sales order.

You can make line edits to the supplier or supplier site in the drop ship sales order on the Supplies and Demands page. List of values for the supplier or supplier site includes only those suppliers or supplier sites that are not associated with any organization.

Regular sales order for an internal organization

You can change your current organization to any other organization. Consider the following points when you change the organization:

- If you change the current organization to an organization that has an associated supplier or supplier site, the regular sales order is converted into a drop ship sales order. The supplier or supplier site in the newly converted drop ship sales order reflects the supplier or supplier site associated with the new organization.
- If you change the current organization to the drop ship validation organization, you have to manually provide a supplier or supplier site. List of values for a supplier or supplier site includes only those suppliers or supplier sites that are not associated with any organization.
- If you change the current organization to another internal organization, the sales order still remains an internal sales order.

Regular sales order for an outsourced manufacturing organization

You cannot make any changes to the organization, or to the supplier or supplier site.

How You Plan and Collaborate with Drop Ship Manufacturers

Using supply planning, you can plan and collaborate with your contract manufacturers in a configure-to-order environment. You can plan and collaborate with your contract manufacturers to drop ship customer orders directly from contract manufacturers to customers. Add each contract manufacturer as an organization in Oracle Fusion Product Information Management so that you can plan and collaborate with the contract manufacturers. You can add the contract manufacturers as item organizations, if you do not plan to enable transactions at these organizations. After you add the contract manufacturers as an organization, you can share the model and option forecast with your contract manufacturers and plan to fulfill the orders.

Using demand management, you can forecast demands for models and options at contract manufacturing locations. The planning percentages for an option can vary according to the top model, where the option is a part of the model. The planning percentages for an option can also vary by the demand class of the forecast.

You can consume forecasts for models and options in supply planning using the drop ship sales orders that the contract manufacturers fulfill. Supply planning also generates planned orders to fulfill the demand for models and options at contract manufacturing organizations. You can publish the planned order as an order forecast to Oracle Fusion Supply Chain Collaboration. You can collaborate with your contract manufacturers to receive supply commits for models and options.
Telescoping Time Buckets

Overview of Telescoping Time Buckets

With telescoping time buckets, you determine the low-level time bucket for the near term of your planning horizon. And if you want, you can also determine a different time bucket for the remainder of the planning horizon. You set up telescoping time buckets on the Plan Options page, Scope tab, in the Plan Parameters section.

Filtering, graphing, conditional formatting, and setting exception message thresholds all play a part in facilitating plan management by exception. And certainly the time dimension levels that you select for your tables and graphs help. For example, if you don't need to see plan output in days, then select weeks, periods, or months for your plan output.

You can also use telescoping time buckets to handle information overload. For example, instead of your plan calculating and planning in 100 daily buckets for a 100-day plan, the horizon can be telescoped as follows: The first 1.5 months in 45 daily buckets, and the remaining 2 months in 8 weekly buckets.

Telescoping a plan’s planning time buckets reduces granularity of calculation and the number of data points in your plan. By selecting a larger planning time bucket, you eliminate unnecessary plan precision and detail for the entire plan, or just the portion of the horizon beyond the near term. The plan consolidates output into larger time buckets that you determine, such as weekly instead of daily, monthly instead of weekly or daily, and so on. The end result is improved plan runtime performance and visibility further out into the plan without having to scroll as much.

Keep in mind that telescoping does affect the available levels for you to view and edit measure data in a supply plan. In our 45 daily plus 8 weekly buckets planning horizon, if you look beyond day 45 of the supply plan, daily viewing and editing is no longer possible. However, if you view data in a demand and supply plan, you can drill down to the daily level, even if you use telescoping time buckets. This is because demand planning allocates demand measures down to the day level.

Configure Telescoping Buckets in a Supply Plan

You can configure your supply plan to use telescoping buckets. You can set your planning horizon to include only days, weeks, periods, or months. Or you can set your supply planning buckets at two levels of granularity. For two levels, select a planning horizon that’s a combination of daily time buckets and less granular time buckets such as week, period, or month. The planning process calculates detailed plan information for the shorter time horizon (days), and plans the later part of the planning horizon with less granularity. You improve your plan run time by eliminating unneeded precision and detail for the later parts of the planning horizon.

Before you use telescoping time buckets, think about how many daily time buckets and less granular time buckets you want to use.

To use telescoping buckets, configure the plan parameters for your supply plan.

1. In a Supply Planning, Planning Central, or Demand and Supply Planning work area, open a plan and navigate to the Plan Options page, Scope tab.
2. In the Plan Parameters section on the Scope tab, select a supply planning calendar, which can be a 4/4/5 calendar or a Gregorian calendar.
3. Next, select your supply planning buckets. The list of values for the bucket types is determined by the calendar that you specify.
You can base your planning horizon on days, weeks, periods, or months. Or, you can specify a combination of daily time buckets and then specify less granular time buckets such as weeks, periods, or months. If you use two bucket types, the first bucket type must be **Days**.

4. Specify the number of buckets for each supply planning bucket.
5. Select **Do not create partial buckets** to create additional daily buckets in the plan to avoid partial buckets.

Select this option to ensure that a week, month, or period always starts on the first defined day for that particular week, month, or period. For example, a weekly bucket starts on a Monday when you designate Monday as the week start date. A monthly bucket starts on the first day of the month.

If you don’t select this option, the plan doesn’t add any additional daily buckets. Instead, the planning process creates a partial bucket and counts that partial bucket as the first week, period, or month, as specified in the plan options.

### How Demands and Supplies are Impacted in Supply Plans that Use Telescoping Time Buckets

When you configure your supply plan to use telescoping time buckets, you can set your planning horizon to include only days, weeks, periods, or months. Or you can use telescoping buckets to plan in a combination of daily time buckets and more aggregate time buckets, such as weeks, months, or periods.

Let’s say that you have a plan with time buckets larger than days.

- The net forecast quantities that remain after forecast spreading and forecast consumption are aggregated up to the planning time bucket level.
- These net forecast quantities are placed on the last working day of the planning time bucket.
- The supply planning process considers each combination of item, organization, demand schedule, demand class, customer, and customer site.

For example, suppose the net forecast quantity is 10 units per working day per combination of item, organization, and demand class in a plan with all daily buckets. Your organization is set up for 5 working days per week. The same plan with weekly buckets displays an aggregated net forecast for a quantity of 50 units for each demand class. This aggregated forecast has a suggested due date of the last working day of each weekly bucket.

These are other ways that demands and supplies are impacted when you use weekly, monthly, or period time buckets.

- All supply and demand orders and all resource requirement dates are subject to bucketing logic. In other words, for time buckets larger than days, dates calculated on supply and demand orders are bucketed to the last working day of the bucket. The working days specification is based on the supply planning calendar that you select on the Plan Options page, Scope tab, not the organization calendar.
- When you release make or transfer planned orders created in planning time buckets larger than days, the orders have a suggested due date that corresponds to the last working day of the time bucket. Buy planned orders also have a suggested due date that corresponds to the last calendar day of the bucket. However, the implement date is set as the first calendar day of the bucket. This implement date ensures that the supplier delivers the material in time to meet the entire planning time bucket’s demand for the item.
- Firm dates, implement dates, and dates in the input data such as requested ship date or scheduled ship dates aren’t subject to the bucketing logic. For example, you can firm a planned order that was previously bucketed to the last working day of the month to any day, regardless of whether day is the last day of the supply planning bucket or even a working day.
How Safety Stock is Calculated for Supply Plans That Use Telescoping Time Buckets

If you use days of cover for your safety stock calculation method, then the calculation method factors in the telescoping time buckets. If you do not use days of cover, then telescoping buckets has no impact on how safety stock is calculated.

For days of cover based safety stock calculations, the planning process prorates demand in the supply planning buckets based on the specified demand period.

Let's suppose you have an item with the safety stock planning method of Days of Cover. The Demand Period and Days of Cover values are set to 4 days. Additionally, the organization calendar has 7 working days.

![Demand and Safety Stock Table]

### Calculating Safety Stock for Day 1 (Daily Buckets)

Safety stock in the daily buckets sums the demands over the demand period. Next, that sum is divided by the demand period and multiplied by the days of cover.

In our example, the demand for Days 1 through 4 adds up to 70. This number is divided by 4 (demand period) and then multiplied by 4 (days of cover). So, the safety stock for Day 1 is 70.

### Calculating Safety Stock for Day 5 (Daily and Weekly Buckets)

When the demand straddles the daily and weekly buckets, the demand in the weekly bucket is prorated.

In our example, Days 5 through 7 are daily buckets and Day 8 is in the weekly bucket. These steps show you how to calculate safety stock for Day 5.

1. Add the demand for Days 5 through 7, which is 20 (5+5+10).
2. The next portion of the time bucket is weekly, so to get the demand for Day 8, you must prorate the week. The prorated demand for Day 8 is 10 (1/7th of 70).
3. Add the demand for the daily and prorated weekly buckets to determine the calculated safety stock for Day 5, which is 30 (20+10).

Calculating Safety Stock for Weekly Buckets

When the demand is in the weekly buckets, the safety stock is the prorated daily demand multiplied by the days of cover.

In our example, Week 2 demand is 90 units. The prorated daily demand is 12.85 (4/7th of 90) that you multiply by 4 (days of cover), which calculates to 51.4 for your safety stock for Day 9.

How Exceptions are Calculated in Supply Plans That Use Telescoping Time Buckets

When you use telescoping buckets in your supply plan, the planning process handles exception messages based on what you specify for Planning Time Buckets in plan options.

This table explains how the planning process calculates exceptions when you use time buckets larger than days.

<table>
<thead>
<tr>
<th>Exception Type</th>
<th>Calculation Logic</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Orders To Be Rescheduled In</td>
<td>The planning process generates reschedule exceptions only if the supply orders get rescheduled across planning time buckets.</td>
</tr>
<tr>
<td>• Orders To Be Rescheduled Out</td>
<td>Any reschedules of the order due dates within a planning time bucket doesn't trigger reschedule exceptions.</td>
</tr>
<tr>
<td>• Late Supply Pegged to Sales Order</td>
<td>The planning process generates late supply or late replenishment exceptions only if the supply and demand dates are in different planning time buckets.</td>
</tr>
<tr>
<td>• Late Supply Pegged to Forecast</td>
<td>For example, a sales order suggested due date is in the middle of a week. The suggested due date of the supply is the last working day of the week. In this case, the planning process doesn't generate a Late Supply Pegged to Sales Order exception.</td>
</tr>
<tr>
<td>• Late Replenishment for Sales Order</td>
<td>However, suppose you have a sales order suggested due date in the middle of a week. The suggested due date of the supply is the first working day of the following week. In this case, the planning process generates an exception.</td>
</tr>
<tr>
<td>• Late Replenishment for Forecast</td>
<td></td>
</tr>
<tr>
<td>• Items with a Shortage</td>
<td>The planning process creates an exception only if the available quantity is less than the required quantity at the planning time bucket level. The planning process evaluates item shortages by using the projected available balance on the last day of the planning time bucket.</td>
</tr>
<tr>
<td>• Items Below Safety Stock</td>
<td>The planning process ignores daily fluctuations within a planning time bucket.</td>
</tr>
<tr>
<td>• Items with Excess Inventory</td>
<td>The planning process creates an exception only if the available quantity is greater than the required quantity at the planning time bucket level. The planning process evaluates item excesses by using the projected available balance on the last day of the planning time bucket.</td>
</tr>
<tr>
<td>• Items with Excess Inventory</td>
<td>The planning process ignores daily fluctuations within a planning time bucket.</td>
</tr>
</tbody>
</table>
### Exception Type

<table>
<thead>
<tr>
<th>Exception Type</th>
<th>Calculation Logic</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Resource Overloaded</td>
<td>The planning process creates an exception only if the available capacity is less than the required capacity at the planning time bucket level. For example, in a weekly bucket, a resource can have some overloads within the week on a few days. As long as the available capacity at the week level is more than the required capacity, the planning process doesn't generate a resource overload exception. The planning process ignores daily fluctuations within a planning time bucket.</td>
</tr>
<tr>
<td>• Supplier Capacity Overloaded</td>
<td></td>
</tr>
</tbody>
</table>

### Guidelines to View and Edit Measure Data in Tables for Supply Plans That Use Telescoping Buckets

When you use telescoping buckets in your supply plan, there are some things to understand before you view plan output or edit measure data in tables.

If you use a table to view the plan output in a supply plan that includes the time dimension, the time hierarchy selected in this table must be the Supply Planning Calendar. Use this time hierarchy to ensure consistency between the level at which planning is performed and the level at which you view the plan output.

When you use telescoping buckets in a supply plan, you can't edit measure data in a table at a level lower than the supply planning bucket. For example, you can't edit data at the day level if your data in the table is at a weekly bucket. However, you can view and edit the measure data at or above the planning time bucket level.

**Note:** If you view data in a demand and supply plan, you can drill down to the daily level, even if you use telescoping time buckets. This is because demand planning allocates demand measures down to the day level. Let's walk through how viewing and editing measure data in tables works in a bit more detail.

<table>
<thead>
<tr>
<th>If you're viewing the portion of the plan horizon that's planned in:</th>
<th>Measure data that you can view or edit in tables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Buckets</td>
<td>You can view or edit the measure values in either daily, weekly, period, or monthly levels in the table.</td>
</tr>
<tr>
<td>Weekly Buckets</td>
<td>• You can view or edit the measure values in either weekly or period levels in the table. • You can't view the data at the daily granularity, even though the planning process allocates some measure data down to the day level. • You can't drill down from the week to the day level. • Any edit that you make at the period level is allocated to the last day of each of the underlying weeks within that period.</td>
</tr>
<tr>
<td>Period Buckets</td>
<td>• You can only view or edit the measure at the period granularity. • You can't drill down from the period to the week or day level. • Any edit that you make at the period level is allocated to the last day of the period.</td>
</tr>
<tr>
<td>Monthly Buckets</td>
<td>• You can only view or edit the measure at the monthly granularity.</td>
</tr>
</tbody>
</table>
These four measures work differently when you edit them.

- Gross Forecast
- Net Forecast
- Manual Demand
- Planned Orders

You can view the portion of the plan horizon that's planned in weekly buckets. Any edit that you make at the week level is allocated to the last day of the week for these four measures. After you save your plan, the supply planning process updates or creates demands and supplies. These demands and supplies have a suggested due date that's the last working day of the supply planning bucket.

Modeling a Supply Chain

How Phantom Assemblies Are Used in Supply Chain Planning

A phantom assembly, also known as phantom bill, is a nonstocked assembly that lets you group materials required to produce a subassembly. When you create a bill of material for a parent item, you can specify a component as a phantom. One bill of material can represent a phantom subassembly for one parent item, and a stocked subassembly for another parent item. A phantom bill of material enables you to manufacture and stock the assembly when necessary. For example, you can use phantoms to build and stock occasional spares for field service requirements. The planning process explodes through a phantom subassembly to the components.

Settings That Affect Phantom Assembly

The planning process ignores phantom assembly routing when you define a job or repetitive schedule. To avoid any additional lead time offset for components, you set the lead time of the phantom to zero.

How Phantoms Are Used in Planning

When model bills or option class bills are components to another bill of material, the component supply type is a phantom. Instead of passing the parent's planned orders to the phantom, netting the phantom, and passing requirements to the phantom's components, the planning process blows through the phantom to create component planned orders. For the organization parameter, you have only the Material Only option for Phantom Operation Sequence Inheritance. The planning process ignores order modifiers for items that have a phantom supply type. The planning process plans the phantom subassembly using the lot-for-lot lot-sizing technique.

Typically, phantom assemblies act as normal assemblies when they represent a top-level assembly, such as when you master schedule them or manufacture them using a discrete job. As a subassembly, however, they lose their identity as distinct assemblies and are a collection of their components. The components of the phantom subassembly are included on the job and in the planned supplies, but not the phantom itself. Using the bill of material to determine
phantoms, has two advantages: it allows for more flexibility (because a component can be a phantom in one bill and not another), and treatment of phantoms in the planning process is consistent with Oracle WIP.

How FIFO Pegging Is Used in Supply Chain Planning

Pegging is a process that the planning calculations use to link the supply with the demand, and the demand with the supply. FIFO is first in, first out. In FIFO pegging, demands are linked to supplies on a day-by-day basis. The planning processes sort demands by day, demand type, and supply quantity in ascending order. The planning processes sort supplies by day, supply type, and supply quantity in ascending order.

For all reserved demands and supplies, the planning processes first pegs demands with reservations (existing or recommended) to the reserved supply without regard to the demand type, the supply type, and dates. Pegging always respects reservations. For unreserved demands and supplies, the planning processes sort demands day by day in the following sort order:

- Past due sales orders
- All sales orders
- Manual demands

For all other demands, including forecasts and dependents demands, the planning processes sort supplies day by day in the following sort order:

- On hand
- Past-due supplies (firm by definition)
- Existing firm supplies
- Existing non-firm supplies
- Planned orders

During demand and supply netting in planning calculations, if safety stock levels are specified for an item organization, then the netting is performed considering the daily safety stock level. The planning calculations do not use the notion of safety stock demand. As there is no concept of safety stock demand, there is no pegging of a supply to a safety stock demand. The planning calculations do not peg some or all of a supply to anything when some or all of the supply is used to meet the required safety stock level. A supply, which meets a safety stock level, pegs to either future demand or is not pegged. Excess supplies because of order modifiers can peg to nothing at the end of the planning horizons.

How Shrinkage Is Calculated

The planned quantities of products sometimes decrease or shrink as they move through the production process. Shrinkage rate is an item-organization attribute, which determines the expected scrap and other losses in inventory.

To overcome the inventory shrinkage, the planning process begins with production quantities greater than the required quantity to meet the demand. The planning process considers the value that you specify for shrinkage and uses it to plan for shrinkage of an item in an organization. The planning process plans for demand by starting with a quantity that considers shrinkage and then arrive at the required order quantity. The order quantity is the quantity after the shrinkage is applied. The planning process uses the shrinkage rate and the required order quantity to determine the start quantity. The planned order needs the start quantity to account for the shrinkage.

For example, consider an item that has a shrinkage of 10%. For a demand of 100, the planning process starts with a quantity that will shrink by 10% to arrive at 100.
The planning process derives the start quantity based on the following equation:

\[
\text{Start Quantity} = \left(\frac{\text{Order Quantity}}{1 - \text{Shrinkage}}\right) \times 100
\]

\[(100 / (100-10)) \times 100 = 111.11\]

The supply planning process considers shrinkage for both planned orders and existing supplies. As work orders can be incomplete at the time of planning, you can track the status of the work order from your Supply Chain Planning work area.

**Firming Supplies**

When you firm a supply order, you can select either the start quantity or the order quantity as the firm quantity on the Supplies and Demands page. You can update either the Firm Quantity or the Firm Start Quantity column to a different value.

When you firm a planned order, the planning process updates the Firm Quantity column with the value in the Order Quantity column. You can also edit the Firm Quantity column based on your planning needs. Alternatively, you can specify the Firm Start Quantity column on a firm planned order. When you enter a value in the Firm Start Quantity column, the planning process clears the value from the Firm Quantity column.

When you rerun the plan in a simulation mode, you can see the following data:

- For the Planned Order with Firm Start Quantity specified, the Start Quantity column displays the Firm Start Quantity value. The Order Quantity column displays a value based on the following calculations:
  \[\text{Order Quantity} = \text{Firm Start Quantity} \times (1 - \text{Shrinkage}) = \text{Firm Start Quantity multiplied by (1 - Shrinkage)}\]

- For the Planned Order with Firm Quantity specified, the Order Quantity column displays the Firm Quantity value. The Start Quantity column displays a value based on the following calculation:
  \[\text{Start Quantity} = \frac{\text{Firm Quantity}}{1 - \text{Shrinkage}} - \text{Firm Quantity divided by (1 minus Shrinkage)}\]

**Calculating Shrinkage for Work Orders**

A work order can be fully complete or partially complete during collections. When you collect a work order, the collected quantity represents the start quantity. The planning process populates these three columns only for work orders. The planning process calculates the new order quantity based on the current state of completion and the expected scrap. You can review the following parameters on the Supply Planning, Planning Central, and Demand and Supply Planning work areas to track the status of the work order:

- Start Quantity
- Completed Quantity
- Scrapped Quantity
- Remaining Quantity
- Expected Scrap Quantity
- Order Quantity

During collections, the planning process collects the start quantity from the execution systems. When you release a planned order, the planning process releases the releases the start quantity back to the execution systems.
Measures Enabled to Display Start Quantity

To view the start quantity and the start dates, the planning process uses the following three measures:

- Supply Start Quantity
- Reserved Supply on Start Date
- Reserved Supply Value on Start Date

Analyze a Supply Plan

How Purchase Orders Are Scheduled

Purchase orders, also known as buy orders, enable you to accurately measure the transit time from the supplier to the organization. The following fields are included on the purchase order schedule:

- Requested Ship Date
- Promised Ship Date
- Requested Delivery Date
- Promised Delivery Date
- Buyer-managed Transportation Indicator
- Shipping Method

Buyer-managed Transportation specifies that the buying company is responsible for arranging the transportation, from picking up the requested goods to delivering to ship-to locations specified in the order. When the Buyer-managed Transportation indicator is not selected, delivery dates are populated on the purchase order and ship dates are not populated on the purchase order. When it is selected, the ship dates are populated on the purchase order and delivery dates may be populated on the purchase order.

When Buyer-managed Transportation is selected, the buyer communicates a requested ship date on Purchase Orders and the supplier provides a promised ship date in response. When not selected, delivery dates are communicated between buyer and supplier. In both cases, the purchase order also contains shipping method at the line level. Transit times can be defined between a supplier site and organization location for shipping methods. The planning process can consider transit times for purchase orders.

When the planning process creates planned purchase orders, the planning process uses the shipping method from the sourcing rule to calculate the transit time. The total lead time from planned purchase order start date to dock date includes both processing lead time and transit lead time.

When you release a planned purchase order from a Supply Chain Planning work area, the following information is sent to purchasing:

- Shipping method
- Requested ship date and requested delivery date. If Buyer-managed Purchasing is selected, then both ship and delivery dates are populated on the purchase order. If Buyer-managed Purchasing is not selected, then only the delivery dates are populated on the purchase order.

Purchase orders are scheduled backward from the order due date. Scheduling purchase order respects all valid shipping, receiving, transit, manufacturing, and supplier capacity calendars. In supply chain planning, if any dates are in
the past, then the dates are set to the plan start date. The planning process issues reschedule recommendations for the following conditions:

- When the purchase order **Buyer-managed Transportation** indicator is selected and the old ship date is different from the new ship date calculated by planning.
- When the purchase order **Buyer-managed Transportation** indicator is not selected and the old delivery date is different from the new dock date calculated by planning.

**Example of Backward Scheduling Calculations**

Consider that the suggested due date is Day 10, where postprocessing = 1 day, transit time = 2 days, processing = 4 days, and preprocessing = 2 days. The following calculations are used for backward scheduling:

- Suggested Due Date = Day 10
- Suggested Dock Date = Day 9 (Dock Date = Due Date minus Postprocessing Lead Time)
- Suggested Ship Date = Day 7 (Ship date = Dock Date minus Transit Lead Time)
- Suggested Start Date = Day 3 (Start Date = Ship Date minus Processing Lead Time)
- Suggested Order Date = Day 1 (Start Date = Preprocessing Lead Time)

**How Backward Scheduling and Order Dates Are Calculated**

Backward scheduling is the process by which lead time is applied to supply orders. When the planning mode is unconstrained, backward scheduling is performed by the planning process.

When you run a supply plan, the planning process reports constraint violations as capacity overloads and lead time exceptions so that you are alerted to supply problems. The supply for your sales order becomes due on the end demand date.

**Settings That Affect Backward Scheduling and Order Dates**

When supply is just in time for a demand, the supply completion date is the demand date. The supply is then scheduled backward to arrive at the start dates for each operation that must be completed and due dates for supply of lower-level components that make up the final supply.

During backward scheduling of dates, if the plan start date is crossed, then all earlier dates are bucketed to the plan start date. This is referred to as compression.

Backward scheduling affects order due dates in the following ways for different types of items:

- For make items, compression begins at preprocessing lead time. The first operation and each successive operation are then compressed to zero duration until there is sufficient lead time for the remaining operations to complete using the resource duration.
- For transfer and buy items, the preprocessing lead time is compressed first. The processing lead time is then compressed and if insufficient lead time remains, post processing lead time is compressed.

  **Note:** The processing time for a buy item is independent of item quantity.

You can set organization and customer receiving and shipping schedules and carrier transit schedules in the Manage Transportation Schedules section in Logistics. The only valid dates that planning calculations use for backward scheduling.
scheduling, are the working days on the manufacturing and shipping calendars. Calendar defaulting rules are used by planning to determine order dates calculations. The defaulting rules are:

- **Valid Supplier Capacity Calendar**: Either the Supplier or Supplier Site Capacity Calendar is used or a fully open calendar of 7 days, 24 hours.

- **Valid Supplier Shipping Calendar**: The Carrier, or Supplier, or Supplier Site Calendar, the Supplier, or Supplier Site Shipping Calendar, the Carrier, or Supplier Calendar, the Supplier Shipping Calendar, or a fully open calendar of 7 days, 24 hours is used.

- **Valid Organization Receiving Calendar**: Either the Carrier or Organization Calendar is used, or the Organization Receiving Calendar, or the Organization Manufacturing Calendar.

  **Note**: The defaulting rules are also applied to determine different calendars, such as Valid Organization Manufacturing Calendar, Valid Organization Shipping Calendar, Valid Customer Shipping Calendar, and Valid Transit Calendar.

### How Backward Scheduling Is Calculated

Backward scheduling is calculated based on the following:

- **Planned Make Order**: If your order is for a make item, the component due date is the start date for the operation that requires it and supply is scheduled backward. The work definition provides the information about the component and resource requirements for such an order. The new order due date becomes the date of the end demand.

  **Note**: A make planned order exists only as a planned order in supply chain planning, and is not part of manufacturing yet.

- **Work Order**: If your order is for an item which already exists as a work order, the component and resource requirements are collected from the work order itself. The planning process can shift the work order to a new set of dates without making alterations to the relationship of dates in the work order. The component due dates for that end item are collected from manufacturing.

For example, take the following scenario:

- **A** is an end item with two components **B** and **C** that have different start dates.
- **C** is a make item with two components **D** and **E** that also have different start dates.

Components **D** and **E** are in the lower level of the work definition for item **C** and they are needed for the assembly of the make planned order **C**. Similarly, components **B** and **C** are in the lower level of the work definition for item **A** and they are needed for the assembly of the work order **A**.
The following figure illustrates the relationship between components A, B, C, D, and E that are used to make an end item.

**Relationship Between Different Components**

![](image)

The planned make order rescheduled dates are determined by total quantity of demands and order modifiers. Total make order lead time (days) = fixed lead time + quantity multiplied by variable lead time.

The work order rescheduled dates are determined by component requirement start dates and end dates. If the end date is moved by 3 days, the start date is also moved by 3 days.

**Pegging Analysis View**

Using the Pegging Analysis view, you can analyze pegging relationships between supplies and demands of different items. For example, you can analyze how supplies of component items are pegged to sales orders and forecasts. The view displays the quantity of supplies that are pegged to demands.

You can group supplies by the Item, Order Type, Organization, Suggested Due Date, or Supplier attributes. Similarly, you can group demands by the Item, Order Type, Organization, Suggested Due Date, or Customer attributes. You can choose to look at demand items one level below the supply items or look at the end demand items that are pegged to the supply items. You can view the pegged supply quantity as it is or as a percentage of the total supply quantity. Pegging Criteria controls the layout of the pegging analysis view. The Application Default pegging criteria is the predefined layout. You can save the group by criteria and display options as Pegging Criteria. You can later select this Pegging Criteria from within the Pegging Analysis view. You can mark the criteria as Public or Private.

You can open the Pegging Analysis view using the drill-down action from the Items, Supplies and Demands, and Demand Fulfillment page. From the Pegging Analysis view, you can further drill down to supplies or demands depending on your need. When you drill down to supplies, you open the Supplies and Demand view where you see only the supply items. Similarly, if you drill down to demands, you open the Supplies and Demands view where you see only the demand items. You can also drill down to Items and Item Structure pages.
Create a Pegging Criteria Layout

Use Pegging Criteria to create a layout to view the pegging details. Create a Pegging Criteria from the Pegging Analysis view. After you create a criteria, you can use the criteria as the default criteria for future needs.

Follow these steps to create a pegging criteria.

1. In the Navigator, click the Supply Planning work area.
2. Click the Tasks panel tab.
3. In the Tasks panel drawer, click Manage Plans.
4. Search and open your plan.
5. Select your plan, click Actions, and then click Open.
6. In the Open Table, Graph, or Tile Set page, search for the Items, Supplies and Demands, or Demand Fulfillment page.
7. Click OK.
8. Search the demands or items.
9. Select the demands or items for which you want to perform pegging analysis.
10. Click Actions, Drill to, Pegging Analysis.
11. On the Pegging Analysis page, click the Pegging Analysis drop-down list and click Create.
12. On the Create Pegging Criteria page, enter the details and click Save and Close.

Note: To make this criteria your default criteria, select the Set as default check box on the Create Pegging Criteria page.

Build Plan View

Use the Build Plan view to analyze the end-to-end supply chain relationships that span end items, components, suppliers, and resources. You can identify inventory and capacity shortages, find the root causes, and modify your plan to resolve issues. For example, you can select specific orders, firm dates and quantities, or select alternate resources and substitute components for those orders.

From the Build Plan table, you can:

- Analyze your plan by looking at all or a subset of subassemblies, resources, and components that relate to an end item.
- Direct your focus to only those components, resources, and measures that are important to your business.
- Track the supplies of the end item and its components that are pegged to a selected demand of the end item.
- Track the resource requirements that are pegged to a selected demand of the end item.
- View individual orders that make up an aggregate quantity.
- Edit measures such as Planned Orders or Manual Demands.
- Perform a bottom-up analysis by looking at end items that use a certain component.
- Perform a resource-centric analysis by looking at all or a subset of items produced on a resource.

The Build Plan view provides a time-phased summary of supply and demand for an end item as well as a selected list of components that are used to make the end item. It also provides a time-phased summary of resource availability and resource usage of a selected list of resources used to make the end item or one of its subassemblies or components.
You can easily spot exception conditions, such as inventory shortages or resource capacity overloads. You can then trace the pegging relationships between supplies and demands across supply chain levels to determine the root causes for these exceptions. And then you can take corrective action by adding capacity, increasing supply quantities, or expediting supplies.

When you’re viewing your Build Plan, you can click buttons or drop-down lists for additional functionality.

- **Configure Build Plan**: Opens the Configure Build Plan dialog box where you can configure the list of items, resources, and suppliers to include in your Build Plan.

- **Criteria**: Select a criteria, manage existing criteria, or create a new criteria.

- **Save**: Save the current contents of the Build Plan into a named criteria.

- **Layout**: Select a layout or manage your existing layouts.

- **Highlight Exceptions**: Select an exception to highlight in your Build Plan. You set up the exception by doing the following:
  
  a. In your Build Plan, select **View, Format Measures**.
  
  b. In the Format Measures: Build Plan dialog box, select a measure and then select the **Use Override Conditional Formatting** check box.
  
  c. In the Conditional Formatting section, set up your condition.
  
  d. Next, in the **Apply** column, select whether you want the conditional formatting to be highlighted in your Build Plan table all the time or only when you select it from the Highlight Exceptions drop-down list: **Always** or **When selected**.
  
  e. If you selected **When Selected** in the **Apply** column, enter a name for your highlight exception, which appears in the Highlight Exceptions drop-down list.

- **Show Details**: Click to show the order details and make some edits. You can firm orders and also specify the work definition, source organization, shipping method, supplier, and supplier site at the order level in the Details section of the Build Plan.

- **Highlight Related Cells**: Select an option to highlight cells in the Build Plan table relative to the selected cell.

<table>
<thead>
<tr>
<th>Highlight Related Cells Action</th>
<th>Measures this Action Applies To</th>
<th>What this Action Does</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Demands</td>
<td>Any cell corresponding to a supply measure</td>
<td>The Total Demand cells that contain the dependent demands related to the selected supply cell are highlighted.</td>
</tr>
<tr>
<td>Pegged End Demands</td>
<td>Any cell corresponding to a supply measure</td>
<td>The Net Forecast, Manual Demand, Sales Orders, or Total Demand cells that contain the end demands pegged to the selected supplies are highlighted.</td>
</tr>
<tr>
<td>Pegged Supplies</td>
<td>Any cell corresponding to a demand measure</td>
<td>The supply measure cells corresponding to the supplies that end peg to the selected demand are highlighted.</td>
</tr>
<tr>
<td>Pegged Upstream Supplies</td>
<td>Any cell corresponding to a supply measure</td>
<td>The supply measure cells corresponding to the upstream supplies that peg to the selected supply are highlighted. For example, if the selected supply is a subassembly supply, the component supplies are highlighted.</td>
</tr>
<tr>
<td>Highlight Related Cells Action</td>
<td>Measures this Action Applies To</td>
<td>What this Action Does</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Pegged Downstream Supplies</td>
<td>Any cell corresponding to a supply measure</td>
<td>The supply measure cells corresponding to the downstream supplies that peg to the selected supply are highlighted. For example if the selected supply is a component supply, the pegged subassembly and finished good supplies are highlighted.</td>
</tr>
<tr>
<td>Substitute Components</td>
<td>Total Demand measure</td>
<td>The Projected Available Balance measure and the Total Supply measure of the substitute components in the time buckets up to and including the time bucket of the selected cell are highlighted.</td>
</tr>
<tr>
<td>Alternate Resources</td>
<td>Resource Requirement measure</td>
<td>The Resource Availability measure for those alternate resources in time buckets up to and including the time bucket of the selected cell are highlighted.</td>
</tr>
<tr>
<td>Related Output Supplies</td>
<td>Any cell corresponding to a supply measure</td>
<td>The other supplies that are related to the selected supply through a co-product or by-product relationship are highlighted.</td>
</tr>
<tr>
<td>Remove Highlighting</td>
<td>N/A</td>
<td>This action removes any highlighting of related cells currently displayed in the Build Plan.</td>
</tr>
</tbody>
</table>

When you open Build Plan for the first time, you might see an empty plan layout. Configure the layout to show only the components, resources, and measures that you're interested in. Create a criteria to select an item, category, or resource, and create a layout to select your measures. You can also save your work in the form of saved criteria and layouts to use for a future planning cycle.

From the Supply Planning work area, you can navigate to the Build Plan for your plan from the following tables:

- Items
- Item Structures
- Supplies and Demands
- Material Plan
- Resources
- Resource Plan
- Resource Requirements
Add or Replace Items in Your Build Plan

Use the Configure Build Plan dialog box to configure the list of items, resources, and suppliers that you want to include in your Build Plan. Select components and resources that relate to an end item, items that are produced on a specific resource, or the set of end items that relate to a specific component.

Follow these steps to add or replace items in your Build Plan.

1. Open your plan:
   a. In the Navigator, click the Supply Planning work area.
   b. Click the Tasks panel tab.
   c. In the Tasks panel drawer, click the Manage Plans link.
   d. Search for and open your plan.

2. Open the Build Plan table:
   a. From your plan, click the Open button.
   b. In the Open Table, Graph, or Tile Set dialog box, search for the Build Plan table.
   c. Select Build Plan and then click OK.

3. In the Build Plan table, click the Levels to Display drop-down list and select a level. This action determines the list of available items, resources, and supplier items that you can pick from.

<table>
<thead>
<tr>
<th>Levels to Display Choice</th>
<th>Results Shown</th>
</tr>
</thead>
<tbody>
<tr>
<td>All levels down</td>
<td>For the selected item or category, all the lower-level items and resources are shown. Components that have buy from sourcing rules are also shown in the Items section.</td>
</tr>
<tr>
<td>Next level down</td>
<td>The items, item-suppliers, and resources one level down from the selected item are shown.</td>
</tr>
<tr>
<td>All levels up</td>
<td>All the items whose multilevel supply chain bill includes the selected item are shown. Item-suppliers or resources are never displayed with this choice.</td>
</tr>
<tr>
<td>Next level up</td>
<td>All the items whose single level supply chain bill includes the selected item are shown. Item-suppliers or resources are never displayed with this choice.</td>
</tr>
<tr>
<td>Lowest level</td>
<td>For the selected item, all the leaf level components and their suppliers are shown. Resources are never displayed with this choice.</td>
</tr>
<tr>
<td>End items</td>
<td>The end items related to the selected item or resource are shown. Item-suppliers or resources are never displayed with this choice.</td>
</tr>
<tr>
<td>Produced items</td>
<td>The items whose work definitions include the selected resource are shown. Item-suppliers or resources are never displayed with this choice.</td>
</tr>
<tr>
<td>Related output items</td>
<td>For the selected item/organization or category, all items that appear as output items in the work definitions are shown.</td>
</tr>
</tbody>
</table>
4. After you select a level to display, you can do the following in the Items, Resources, and Suppliers sections:
   o Filter items and suppliers by catalog.
   o Filter items and suppliers by category.
   o Perform a query by example on columns.
   o Select all or a subset of rows to include in your Build Plan.

5. After you select the set of items, resources, and suppliers, do one of the following:
   o Click the **Add** button to add the selected items and resources to your Build Plan.
   o Click the **Replace** button to replace the current contents of your Build Plan with the selected items and resources.

Create a Build Plan Layout

When you open the Build Plan table for the first time, you see a predefined layout. You can create your own layout with preferred measures for the items, resources, and suppliers.

Follow these steps to create a layout for your Build Plan.

1. Open your plan:
   a. In a Supply Planning or a Demand and Supply Planning work area, click the Tasks panel tab.
   b. In the Tasks panel drawer, click the **Manage Plans** link.
   c. Search for and open your plan.

2. Open the Build Plan table:
   a. From your plan, click the **Open** button.
   b. In the Open Table, Graph, or Tile Set dialog box, search for the **Build Plan** table.
   c. Select **Build Plan** and then click **OK**.

3. From the Build Plan table, click the **Layout** drop-down list and then click **Manage**.
4. In the Manage Layouts dialog box, click the **Add** icon and enter values for the **Name**, **Description**, **Access**, and **Time** fields.

   The **Time** field contains options for **Day**, **Week**, **Period**, **Month**, and **Supply planning buckets**. Select **Supply planning buckets** to display the time dimension in your Build Plan that's in alignment with the planning time buckets specified in the plan options. Configure the planning time buckets on the Plan Options page, Scope tab, in the Plan Parameters section.

5. Optionally, select the **Default** check box to mark this layout as the default layout for your Build Plan.
6. Select your preferred measures in the **Available** column and move them to the **Selected** column for your item, resource, and supplier measures.
7. When you are done, click **Save and Close**.

Create Build Plan Criteria

When you open the Build Plan table for the first time, you might see an empty plan layout. Use the Criteria drop-down list in the Build Plan toolbar to create criteria or manage existing criteria. Create a criteria to select an item, category, or resource. You can set this criteria as the default criteria for all other plans.
Follow these steps to create a Build Plan criteria.

1. Open your plan:
   a. In the Navigator, click the Supply Planning work area.
   b. Click the Tasks panel tab.
   c. In the Tasks panel drawer, click the Manage Plans link.
   d. Search for and open your plan.
2. Open the Build Plan table:
   a. From your plan, click the Open button.
   b. In the Open Table, Graph, or Tile Set dialog box, search for the Build Plan table.
   c. Select Build Plan and then click OK.
3. From the Build Plan table, click the Criteria list and then click Create.
4. In the Create Criteria dialog box:
   a. Enter values for Name and Description.
   b. Select Public or Private for the type of access.
   c. Select the Favorite check box to use this criteria for all of your plans.
   d. Select the criteria as either Item, Category, or Resource.
      - If you selected Item, then select an item and organization from the list. Organization is optional.
      - If you selected Category, then select a catalog and category from the list.
      - If you selected Resource, then select a resource from the list.
5. Click Save and Close.

Filter Supplies and Demands Based On Conditions

You can narrow your search in the Supplies and Demands table by selecting a condition from the search filter. Conditions are a group of supply-related attributes with a specific value. A condition can have one or more attributes.

From an open plan, open the Supplies and Demands table and click the Manage Conditions button in the Search region. When you open the Manage Conditions dialog box, you can create and manage conditions. When you create conditions, you specify attributes for your conditions and provide a value to those attributes. The value could be a specific date or you can specify the number of days relative to another date for a given attribute.

The relative comparison options are available only for date-based attributes, such as Requested Ship Date or Actual Arrival Date. The values for relative comparison options are enabled when you select one of the following operators:

- Before
- After
- On or before
- On or after

For example, consider a scenario where you make the following selections for a condition:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attribute</td>
<td>Suggested Start Date</td>
</tr>
</tbody>
</table>
### Condition Values

<table>
<thead>
<tr>
<th>Condition</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operator</td>
<td>On or before</td>
</tr>
<tr>
<td>Relative Date</td>
<td>Scheduled Ship Date</td>
</tr>
<tr>
<td>Number of Days</td>
<td>10</td>
</tr>
</tbody>
</table>

In this case, the condition would consider the Suggested Start Date as 10 days on or before the Scheduled Ship Date. If the Scheduled Ship Date is 10-January-2020, then the condition would filter all orders whose Suggested Start Date is on or before 01-January-2020.

### Material Plan View

The Material Plan is a predefined table in Supply Chain Planning. The Material Plan table is a time-phased view of the demands, supplies, and daily balances across the plan horizon for any item and organization combination. The item, organization, and measures are displayed for the row headings, while the time periods are displayed for the column headings. Access the Material Plan table from the Planning Central or Supply Planning work area.

**Caution:** If you open the predefined Material Plan table without using any filters, it can take a long time to display the results. Oracle recommends that you create a copy of the Material Plan and add filters to reduce the item count and horizon of the material plan.

You can edit the measures at aggregate levels and allocate the measures to lower levels. For example, you can edit the manual demand measure by organization, item, and period, and then allocate that measure down to the day.

You can edit a measure's value inline by clicking in a cell and changing the value. Or, you can use mass editing capabilities that are available to adjust several cells at the same time. For example, you can increase the forecast of item X for the next three months by 30 percent.

You can also display the material plan as a graph. Each measure is plotted along the x-axis, which is the time dimension.

From the Material Plan table, you can drill down to the following tables:

- Item Exceptions
- Items
- Supplies and Demands
- Supply Chain Bill

Although you cannot modify the layout of the material plan, you can copy the material plan and configure the new layout in the following ways:

- Add or remove members and measures
- Filter members, such as items or categories
- Add conditional formatting, such as font, background color, and status icons
- Add user-defined drill-to actions
How you Prioritize Work Orders with Ready to Build Items

The Ready to Build Quantity value of a supply order represents the quantity of the supply order that can be built using only on-hand supplies of components. You can estimate the supply quantity that can be built using the pegged, on-hand components of the supply. You can decide which orders are ready to work upon and which orders you need to wait for the components to be available.

The planning process uses the Ready to Build Quantity to calculate the Ready to Build Percentage.

\[
\text{Ready to Build Percentage} = \frac{\text{Ready to Build Quantity}}{\text{Supply Quantity}}
\]

The Ready to Build Quantity uses the Consider in Clear-to-Build item attribute to determine the components that participate in the ready to build calculation for assembly items. Consider in Clear-to-Build is an item attribute which you must specify in the Items page. If you set this attribute to Yes for specific components, the calculations will consider only those components for Ready to Build calculations of the assembly items. If you set this attribute to No, those specific components don't affect the Ready to Build calculations of the assembly item.

For the component items that you want to include in the Ready to Build calculation of assembly items, you must first set the Consider in Clear-to-Build attribute to Yes in the Items page. This attribute isn't available in Oracle Product Information Management. You must set this attribute in a plan or within a simulation set.

Ready to Build Quantity and Ready to Build Percentage are calculated for supplies of Make items only.

Rework and Transform Work Orders

Rework and Transform work orders are collected during the data collections process and they are shown as Nonstandard work orders in Planning Central, Supply Planning, and Demand and Supply Planning work areas.

You create Rework work orders in Oracle Manufacturing Cloud to perform rework activities on items that have issues or defects. The objective of rework is to make those items usable to satisfy customer demand.

You create Transform work orders in Oracle Manufacturing Cloud to enhance or upgrade existing items by adding or removing selective components from existing items. The objective of Transform work orders is to transform the existing item into a new item.

Sometimes, the rework and transform activities result in the removal of components from the item being reworked or transformed. You can use the removed components to satisfy future demands. Data collection collects the removed components and you can search the removed components when you select the order type as Nonstandard work order by-product on the Supplies and Demands page. The data collection process filters out all work order demands for an item, when the item itself is manufactured by the Rework work order.

The planning process considers all Nonstandard work orders as firm order. The Nonstandard work order does not influence the calculation of natural time fences for the item.

How Plan Recommendations Are Processed

Supply chain planning can generate plan recommendations. These are suggestions to take actions that can create a balance between supply and demand. You can view these suggestions in the Recommendations exception group.
The planning process can release two primary kinds of plan recommendations.

- It can suggest new planned orders: The planning process suggests that you order some new supply to meet the demand for a certain product. All of these supply suggestions are released by planning to Oracle Fusion Supply Chain Orchestration in the form of new planned orders. This new supply can be in the form of a manufacturing job in which case the planned order is released to manufacturing. If the new supply suggestion is a purchase requisition, Supply Chain Orchestration releases the planned order to purchasing. If the new supply suggestion is a transfer, Supply Chain Orchestration releases the planned order to logistics.

- It can suggest rescheduling or cancellation of existing supplies: The planning process suggests that you reschedule or cancel a current supply because the total supply for a product might be in excess compared to the demand for it. You can cancel current planned orders that exist as discrete jobs or as purchase orders or transfer orders. Similarly, planning can also suggest that you reschedule some of the existing supply to meet demand in future. The rescheduling is done for supplies that exist as discrete manufacturing jobs, purchase orders or transfer orders.

If the planning process suggests new supply, and the planner releases the planned order, the released planned order is sent to Oracle Fusion Supply Chain Orchestration. The planned order has the following details specified in it:

- Item
- Organization
- Start date, dock date and if applicable, ship date
- Source
  - If it is a make item, the organization remains the same.
  - If it is a transfer item, the source organization must be specified.
  - If it is a buy item, the supplier and supplier site must be specified.

You can open the Supplies and Demands window from the Supply Analysis page layout to view individual planned orders. You can also open the material plan to view the aggregate total supply for your plan.

You cannot view rescheduled plan recommendations in the material plan. The material plan accepts the recommendations from supply chain planning and uses the rescheduled dates when aggregating supply. The planning calculations assume that the rescheduled recommendations are already incorporated within the aggregate supply calculations and use the rescheduled dates.

### How Plan Recommendations Are Released

One of the key execution capabilities that supply chain planning offers is that you can release plan recommendations to implement standard plan-to-produce business flows. You can release plan recommendations either from a supply plan or from a demand and supply plan.

You can either manually review and release each supply chain planning recommendation or automatically approve and release them.

The following table illustrates the plan recommendations that either the planning processes can release automatically for different order types, or you can manually release the orders:
### Order Type

<table>
<thead>
<tr>
<th>Order Type</th>
<th>Updates Suggested by Planning Calculations</th>
<th>Actions You Can Take</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase Orders</td>
<td>Quantity, Delivery Date, Firm Status</td>
<td>Reschedule, Cancel</td>
</tr>
<tr>
<td>Purchase Requisitions</td>
<td>Cancellation</td>
<td>Cancel</td>
</tr>
<tr>
<td>Work Orders</td>
<td>Start Date, Completion Date, Firm Status</td>
<td>Reschedule, Cancel</td>
</tr>
<tr>
<td>Transfer Orders</td>
<td>Start Date, Arrival Date, Shipping Method</td>
<td>Reschedule, Cancel</td>
</tr>
<tr>
<td>Sales Orders</td>
<td>Scheduled Arrival Date, Scheduled Ship Date, Shipping Method</td>
<td>Reschedule</td>
</tr>
</tbody>
</table>

**Note:** In all cases, cancellation entails releasing an order quantity of zero.

For purchase orders and transfer orders, you can manually change the input values for the updates suggested by the plan recommendations. You can do this in the planners' workbench.

The following recommendations are released by supply chain planning to Oracle Fusion Supply Chain Orchestration:

- New planned orders for make, buy, and transfer of supplies
- Reschedules of existing make, buy, and transfer supplies

Oracle Fusion Supply Chain Orchestration processes these recommendations and sends both new releases and reschedules to manufacturing, purchasing, and logistics depending on the type of supply.

The following recommendations are released by supply chain planning to Oracle Fusion Order Management:

- Reschedules of sales orders
- New planned orders for drop shipments

### Manually Release Plan Recommendations

You can manually review the plan recommendations that are generated by the planning process and then release them for execution. You can either release new planned orders as supply, or reschedule the supplies existing in the form of work orders, transfer orders and purchase orders.

To review and release plan recommendations, perform the following steps:

1. In the configurable planners' workbench, select the **Supply Analysis** page layout.
2. Navigate to the **Supplies and Demands** window and search for your orders.
3. Select one or multiple rows which show planned orders that you want to release for execution.
4. Click **Actions** and drill down to **Mark for Release**.

**Note:** Verify that the Release Status field is updated to **Marked for Release** for all the selected rows.
5. Save your changes.
6. Navigate back to the Supply Analysis page and click Actions. Select the Release option. This initiates the Release Plan process. A dialog box displays the status of the process.
7. You can also verify the status of this process by navigating to the Scheduled Processes page. Follow these steps to verify release results on the Scheduled Process page:
   a. Use the Hierarchy view. The top-level process name is Release Plan.
   b. Drill down to Release Planning Recommendations and select Load Interface Tables.
   c. Check the log file of each table to confirm the release. Also, check the submission notes for each process. The notes identify the type of release.

After you release the plan recommendations, all new, rescheduled, or canceled planned orders are sent to Oracle Supply Chain Orchestration Cloud. Navigate to the Supply Chain Orchestration work area to view requests that were not processed and check why these exceptions were created.

Release Plan Recommendations to an External Execution System

You can release plan recommendations or planned orders from Oracle SCM Cloud applications to an external execution system. When you release a planned order, the planning process generates a CSV file for the planned order. The planning process attaches the generated CSV file to the scheduled processes called Release Planning Recommendations: Release to External Source Systems. You can download the CSV file from the scheduled processes. The planning process also saves the CSV file in a Zip file format in the Universal Content Manager. The name of the Zip file is ReleasetoExternal.zip.

Prerequisite

Before you can release planned orders from Oracle SCM Cloud applications to an external execution system, you must do the following:

1. Assign your organization as an external source system.
2. Run collections from the external source system.

After you successfully run collections, you can plan your orders and release them to the external source system. The release process is same for an Oracle Fusion source system and an external source system.

Release Planned Orders

Follow these steps to release the planned orders:

1. From your Supply Chain Planning work area, click the Tasks panel.
2. Click Manage Plans and then search your plan.
3. Open the plan, and then click Actions > Release.

The planning process exports the plan in a CSV format and attaches the CSV file to the scheduled processes. Also, the planning process save the CSV file in a Zip file format in the Universal Content Manager. You can download the Zip file from the File Import and Export link in the Navigator.

For more information, see Releasing Plan Recommendations to External Systems (Doc ID 2305394.1) on My Oracle Support at https://support.oracle.com.
Create and Release Manual Planned Orders

You can create manual planned orders for buy, make, and transfer order types. For each planned order type, you can select your source specifications. After you create the manual planned orders, you can then release the orders to the relevant source application. Creating and releasing manual planned orders enables you to respond quickly to issues by creating supplies in the source applications. You can create and release manually-created planned orders from the Planning Central, Supply Planning, or Demand and Supply Planning work areas.

To create a manual planned order from the Supplies and Demands page, click the Create icon. The Create Order dialog box opens. In the Create Order dialog box, select the source type. The source type that you select enables additional parameters for the supply source.

<table>
<thead>
<tr>
<th>Source Type</th>
<th>Additional Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buy</td>
<td>• Supplier</td>
</tr>
<tr>
<td></td>
<td>• Supplier Site</td>
</tr>
<tr>
<td></td>
<td>• Shipping Method</td>
</tr>
<tr>
<td>Make</td>
<td>• Item Structure Name</td>
</tr>
<tr>
<td></td>
<td>• Work Definition</td>
</tr>
<tr>
<td>Transfer</td>
<td>• Source Organization</td>
</tr>
<tr>
<td></td>
<td>• Shipping Method</td>
</tr>
</tbody>
</table>

After you create the manual planned orders, optionally rerun your plan to determine if the new planned orders can be executed. You can then mark the manually-created planned orders for release on the Supplies and Demands page. Next, run the release process and the planning process releases your manually-created planned orders.

Circular Transfer Orders

Use circular transfer orders to rebalance your inventory at both the source and destination organizations. In Oracle Planning Central Cloud and Oracle Supply Planning Cloud, supply planning can process a transfer order that is a circular order in the plan. The supply plan considers the circular transfer order and treats it as a supply at the destination organization. The supply planning process marks both the transfer order supply and the transfer order demand as firm. This means that the plan won't recommend reschedules or cancellations for the circular transfer order, which can generate late supply exceptions or excess inventory exceptions.

For example, your sourcing rule is set to transfer supply from source organization ORG1 to destination organization ORG2. You discover that you have excess inventory in ORG2 due to a canceled sales order. You decide that you want to transfer supply from ORG2 back to ORG1, so you manually create a transfer order to move the excess inventory. The planning process includes your circular transfer order in the plan as a supply to ORG1 and is marked as a firm supply in the plan.

The planning process pegs the circular transfer demand to an existing supply. In our example scenario, the excess inventory is pegged to the transfer order demand in destination organization ORG2. The transfer supply is pegged to some demand in source organization ORG1. If there is no demand in the source organization, then the transfer order supply doesn't peg to anything.
The transfer order supply in the destination organization can be early, on time, or late for some demand. However, it can't be rescheduled by the planning process.

If the transfer order is inside the planning time fence, it can cause these supply exceptions because new supplies cannot be created:

- Late Supply Pegged to Forecast
- Late Supply Pegged to Sales Order

If the transfer order is outside the planning time fence, it can cause supply exceptions because the transfer is firm. The Items with Excess Inventory exception is generated when the Projected Available Balance on a particular day exceeds the Safety Stock Level quantity.

If the transfer order is in the past, it causes the Past Due Orders exception.

**Note:** If you create a transfer order in error, there may not be supply in the ship-from organization to use for the transfer. Circular pegging occurs in this case, with the transfer demand pegging to the transfer supply. In this situation, you should cancel the circular transfer.

### How You Publish Supply Order Details

One of the important aspects of collaborating with suppliers is to provide them an insight into the open supply orders. Collaborating with suppliers on open supply orders enables you and your suppliers to plan supply chain activities more efficiently. Supply orders are of four types: purchase order, purchase requisition, shipment in receiving, and in-transit shipment.

You can publish supply orders along with planned orders to Oracle Supply Chain Collaboration Cloud using the Publish Order Forecast scheduled process. Use the Navigator to access the Scheduled Processes page where you can select the Publish Order Forecast scheduled process. In the Process Details dialog box for the Publish Order Forecast scheduled process, you can select the following check boxes:

- **Include purchase orders in order forecast:** Includes purchase orders within the order forecast. All the open purchase orders for an item on a day are added to the planned orders on that day and published as order forecast at the supplier or supplier site level.
- **Include requisitions in order forecast:** Includes purchase requisitions within the order forecast. All the open purchase requisitions for an item on a day are added to the planned orders on that day and published as order forecast at the supplier or supplier site level.
- **Run the Supply Planning Collaboration Decomposition job:** Runs the Supply Planning Collaboration Decomposition scheduled process along with the Publish Order Forecast scheduled process.
- **Publish order details:** Publishes all four types of supply orders along with the planned orders.

### How You Publish Order Forecasts

You publish order forecast for your suppliers. The suppliers can view the forecast and send their commits to you as a supplier capacity. You do not have to save the plan to the database before publishing the order forecast.

You can publish order forecast from the following pages in the Supply Planning, Demand and Supply Planning, or Planning Central work area:

- Items
- Supplies and Demands
• Manage Plans or individual plan

When you select Publish Order Forecast from the Actions menu, the planning process submits a job in Scheduled Processes. The planning process deselects all additional parameters that are available in the Publish Order Forecast job and submits the job. If you want to select various additional parameters that are available for the Publish Order Forecast scheduled process, you must submit the job manually from the Scheduled Processes work area and select your parameters.

Points to Remember
Consider the following points before you publish the order forecast:

• When you publish the order forecast from the Manage Plans page, you publish the order forecast for all the valid suppliers within the plan.

• When you are on the Items page or the Supplies and Demand page, you can publish order forecast that belongs to one Item-Organization at a time. You cannot publish two rows of items with different Item-Organization combinations.

• The Publish Order Forecast job also launches the Supply Planning Collaboration Decomposition job. You do not have to run the decomposition job separately.

Demand Fulfillment

Review and Improve Your Demand Fulfillment

To improve the demand fulfillment of your plan, use the Demand Fulfillment table to review the at-risk demands in your plan and their related recommendations. You can take actions to accept recommendations from this page.

In the Demand Fulfillment UI, you can:

• View prioritized at-risk demands based on order values weighted by the number of associated recommendations.

• Take actions to accept or mark recommendations as complete.

• Review summary information provided for the current demand fulfillment position of your plan to analyze the potential for improvement based on selected at-risk demands. The information also provides an understanding of the expected demand fulfillment position based on accepted and completed recommendations.

To review and improve your demand fulfillment:

1. In a Supply Planning, Planning Central, or Demand and Supply work area, select the Manage Plans task.
2. On the Manage Plans page, search for and open your plan.
3. In the Page Layout list, select Plan Summary.
   Note that the tiles in the Plan Summary layout include a Demand at Risk in thousands tile.
4. In the Demand at Risk in thousands tile, click the Select Tile bar to review the Demand at Risk Summary data.
   You can review the demand at risk data through a treemap view or a table view, the treemap view is the default. To switch to the table view, click the Show Table icon.
5. To review the demand at risk data:
   • Using the treemap: Click an area in the treemap. Typically, you want to start with the area that has the highest demand at risk value. From the Drill To actions, click Demand Fulfillment.
Using the table: Click the Show Table icon. In the Demand at Risk Summary table, click a cell. Typically, you want to start with the cell that has the highest demand at risk value. From the Drill To actions, click Demand Fulfillment.

6. The Demand Fulfillment UI shows the individual orders that are at-risk and their related recommendations.

Tip: You can open the Demand Fulfillment table directly without drilling from the Plan Summary. After you open a plan, click the Open button at the page level. In the Open Table, Graph, or Tile Set dialog box, search for and select the Demand Fulfillment table. In the Demand Fulfillment UI, you can search for at-risk demands by using the filter fields in the search panel.

Review the At-Risk Demand section and the Recommendations section, and then take further actions.

How You Filter Recommendation Summaries

The recommendation summary information available on the Demand Fulfillment page can assist you in selecting at-risk demands to work on. You have a summary graph, a summary table, and a cumulative at-risk demand value slider for filtering the information to analyze the recommendations.

Recommendation Summary Graph

The recommendation summary graph shows the cumulative at-risk demand value and the related number of recommendations associated with that value. To maximize effort, aim for a low number of recommendations with the associated at-risk demand value substantial enough to make a difference in demand fulfillment percentage. Use the slider to filter by top n, the cumulative demand value.

For example, move the slider to the marker most closely matching $500,000 and click Go or arrow button to the right of the slider. After moving the slider to the left, the graph shows the at-risk demands that make up the top n of at-risk demand value.

Recommendation Summary Table

In addition to the recommendation summary graph, demand fulfillment also provides a summary table that shows you information about demand fulfillment position.

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual</td>
<td>Indicates the demand fulfillment position based on selection criteria coming from the search panel. This column is not impacted when you move the cumulative at-risk demand value slider.</td>
</tr>
<tr>
<td>Potential</td>
<td>Indicates the demand fulfillment position for a product category if all the selected at-risk demands were no longer at risk. Moving the slider to the left selects only the top n cumulative at-risk demands that meet the selection criteria coming from the search panel, thereby applying an additional filter on top of the selection criteria.</td>
</tr>
<tr>
<td>Accepted</td>
<td>Indicates the demand fulfillment position when the recommendations are accepted or completed. The values in this column change when you accept or complete the recommendations.</td>
</tr>
</tbody>
</table>
Considerations for Resolving Demand Fulfillment Recommendations

You take actions on the demand fulfillment recommendations by accepting recommendations. Five types of recommendations are associated with an at-risk demand. They are displayed in tabs under the Recommendations section on the Demand Fulfillment page.

Following are the recommendation tabs:

- Expedite Buy Orders
- Expedite Make Orders
- Expedite Transfer Orders
- Add Resource Availability
- Add Supplier Capacity

You can choose to view all recommendations associated with all at-risk demands, or choose to view the recommendations associated with the demands that you have selected.

Expedite Recommendations

You can review and accept three types of expedite recommendations:

- Expedite buy orders: This includes purchase orders, requisitions, and planned buy orders.
- Expedite make orders: This includes work orders and planned make orders.
- Expedite transfer orders: This includes transfer orders and planned transfer orders.

Expedite recommendations show when the supply is needed (expedite date) and how many days earlier (expedite days) the supply is required than currently planned.

Regardless of the type of expedite recommendation, many columns of an expedite recommendation are the same. For example, organization, item, order, expedite date, and expedite days are common to all expedite recommendations. However, some columns are specific to certain types of expedite recommendations. For example, processing lead time is specific to the make order recommendation tab.

When you accept an expedite recommendation, the order is firmed using the expedite date as the firm date. When the plan is run after accepting the recommendation, the planning process assumes the supply is available on the firm date.

Add Resource Availability Recommendation

The add resource availability and add supplier capacity recommendations are handled in similar ways. The add resource availability recommendation indicates how many hours a resource is overloaded. To resolve an add resource availability recommendation, you must increase the available hours through Oracle Fusion Manufacturing applications and then recollect the data.

If you have increased the available hours, but have not run collections yet, you can mark the recommendation as complete to indicate that you have taken action against the recommendation.
Add Supplier Capacity Recommendation

The add supplier capacity recommendation indicates how many additional units of capacity are required. To resolve an add supplier capacity recommendation, you must increase the supplier capacity. Use the CSV file method to upload an increased supplier capacity for the item.

If you have increased the capacity, but have not run collections yet, you can mark the recommendation as complete to indicate that you have taken action against the recommendation.
Constrained Supply Plans

Overview of Constraint-Based Supply Planning

With constraint-based supply planning, you can create and run supply plans that consider material and capacity constraints. Constraint-based planning improves productivity by automating the process of applying lead time and supplier capacity constraints to make planning decisions. You can focus on meeting demand on time by evaluating all possible alternatives, such as using different sources, substitute components, or alternative work definitions.

A constrained supply plan respects constraints by moving orders to earlier time buckets or offloading to an alternate resource, work definition, or supply source. If these measures are insufficient, then the constrained supply plan, as a last resort, overloads resource and supplier capacity to meet demands on time. In this sense, resource and supplier capacities are soft constraints that the planning process violates only when necessary.

In contrast to the soft constraints, a constrained supply plan in general treats lead times as hard constraints. A demand suddenly arising inside of manufacturing or procurement lead time causes the constrained supply plan to fulfill the demand late. An exception to this rule can be made for buy supplies. If the Enforce Purchasing Lead Time item attribute is set to No, then the supply planning process compresses the purchasing lead time to meet demands on time.

Now, you already know that to create a plan, the first thing that you do is define your plan options. For constraint-based supply planning, you must set the Supply Planning Mode to Constrained when you create your plan. You can specify the constrained mode only for a supply plan type or a demand and supply plan type. There are additional plan options that drive planning behavior for a constrained supply plan.

- Plan Options page, Scope tab, Plan Parameters section: Specify a combination of bucket types to define the planning horizon of a constrained plan.
- Plan Options page, Supply tab, Constraints and Decision Rules subtab.
  - Specify capacity constrained resources to indicate how your plan applies capacity constraints to resources.
  - Specify whether to apply supplier capacity constraints.
  - Select the types of alternate sources of supply that your plan can evaluate if the primary source of supply is unable to meet demand on time.
- Supply: Plan Options dialog box, Optimization Parameters tab: Do not change these default values unless advised to do so by your Oracle help desk.

Run a Constrained Supply Plan

Unlike unconstrained plans that can be run in interactive mode or in batch mode, you can only run a constrained plan in batch mode.

Constraint-Based Supply Planning Behavior

Here are some important points about the constraint-based planning behavior.

- In constraint-based supply planning, supply quantity is determined based on capacity within the processing lead time.
In unconstrained planning, the supply quantity is determined first and then the lead time of the supply is calculated using fixed and variable lead times.

- Internal lead time rollup is used to determine the Processing Lead Time of items with order modifiers, if the user-specified value isn’t feasible.

For example, suppose an item has a fixed order quantity of 100, and based on the routing-level processing time, the time required to make 100 units is 5 days.

- If the processing lead time for the item is 3 days, the planning process uses 5 days as the lead time since it’s not feasible to make 100 units in a 3 day lead time.
- If the processing lead time for the item is 7 days, the planning process uses 7 days as the lead time since the user-specified value is more than the value calculated by the internal lead time rollup.

**Prioritization of Demand**

Demands are prioritized in a particular sequence in a constrained supply plan. This prioritization drives decisions made in constrained planning on how existing supplies such as on-hand supplies are allocated to meet competing demands.

1. Sales orders by schedule date
2. Sales orders by request date
3. Sales orders by order value
4. Forecasts by suggested due date
5. Forecasts by order value

**Configure Constraints and Decision Rules**

Configure constraints and decision rules for your constrained supply plan on the Plan Options page, Scope tab, Constraints and Decision Rules subtab. You can access the Constraints and Decision Rules subtab in a Supply Planning or a Demand and Supply Planning work area. When configured, the planning process evaluates alternate sources, alternate work definitions, alternate resources, and substitute components to ensure that supply orders meet demand on time.

Perform these steps to configure the constraints and decision rules for your constrained supply plan.

1. Access the Constraints and Decision rules subtab:
   - In a Supply Planning or Demand and Supply Planning work area, open a constrained supply plan.
   - Click **Actions** and then select **Edit Plan Options**.
   - Click the Supply tab.
   - Click the constraints and Decision Rules subtab.
2. In the **Capacity Constrained Resources** drop-down list, select how you want your plan to apply capacity constraints to resources. The two types of capacity constrained resources are:
   - **All resources**: The plan treats every resource as a potential constrained resource and applies capacity constraints on all resources when calculating the plan output.
   - **Bottleneck resources only**: the plan only considers resources that have the Bottleneck attribute set to Yes as a capacity constrained resource.
Note: The resource attribute Bottleneck isn’t a source attribute. It can be specified on the Resources page. The default value for the bottleneck attribute is set to No.

3. Select **Apply Supplier Capacity Constraints** to have the plan constrain by supplier capacity when generating purchase recommendations.

4. In the Decision Rules section, select the alternate sources of supply that the plan can evaluate if the primary source of supply can’t meet demand on time.

This table describes the decision rules that you can use in your constrained plan. The table also describes how the planning process evaluates each alternative to ensure that supply orders meet demand on time.

<table>
<thead>
<tr>
<th>Decision Rule</th>
<th>Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use alternate resources</td>
<td>The planning process uses alternate resources to avoid overloads on a primary resource.</td>
</tr>
<tr>
<td>Use substitute components</td>
<td>The planning process uses substitute components to minimize demand lateness or capacity overloads. Existing supplies on primary components are used first to satisfy demand on time before the planning process selects substitutes. You can have multiple substitute components for a primary component. Supply Planning also minimizes excess inventory at the end of the planning horizon.</td>
</tr>
<tr>
<td>Use alternate item structures and work definitions</td>
<td>The planning process uses alternate item structures and work definitions when material or resource (or both) in the primary work definition and item structure are causing delay, or having overloads, in meeting demand on time. You can define priorities for alternate item structures and work definitions. The planning process uses alternate item structures and work definitions to meet demand on time. You can define priorities for alternate item structures and work definitions.</td>
</tr>
<tr>
<td>Use alternate suppliers and source organizations</td>
<td>The planning process uses alternate suppliers and source organizations to meet demand on time. By default, the planning process tries to minimize using alternate sources and alternate supplies to meet demand on time. However, if it’s necessary to use alternate sources or alternate suppliers, then the planning process uses the priority rank that’s assigned to select the alternates. Define the priority of alternate sources and alternate supplies in the sourcing rule in Supply Planning.</td>
</tr>
</tbody>
</table>

5. Click **Save and Close**.

Related Topics
- Create a Plan
- Define Scope Plan Options
Plan Considering Resource Constraints

You can generate a supply plan where resource capacity is a soft constraint that drives the selection of alternate sources of supply. In a constrained supply plan, the planning process solves resource capacity constraints by moving orders to earlier time buckets or offloading to an alternate resource. When a constraint is encountered, the planning process generates recommendations where resource capacity is available so that the demand can be fulfilled on time. For example, the recommendations can be to use an alternate resource, alternate work definition, or alternate source. The constrained supply plan only overloads resource capacity if there's no other alternative to meet demand on time.

Let's suppose a frame manufacturer can't satisfy customer demands due to the overloaded labor resource in its cutting department. To resolve this issue, they add an additional labor as an alternate in the cutting department. As a result, the planning process uses the alternate resource when the primary resource is overloaded, which resolves the overloaded issue.

Supply orders can use resource capacity in any planning time bucket within their lead time. If the lead time is larger than the required resource usage, the capacity is used up in earlier time buckets first and then in later time buckets. The supply due date is still planned as late as possible to meet the demand on time.

Resource capacity constraints impact order sizing for items without order modifiers. Consider an item with a lead time of 3 days whose production rate is 10 units per hour. A demand for this item for 480 units on Day 6, which results in the planning process creating 2 planned orders for 240 units each.

Orders that use non-bottleneck resources won't take capacity constraints into account during order sizing. These orders will be sized based on demand and will overload capacity within the lead time.

Order in Which Capacity Constraints Are Applied

The planning process applies capacity constraints in a specific order.

1. Prebuild in earlier time buckets
2. Offload to an alternate resource
3. Overload capacity

Now, let's look at an example of how the planning process handles the capacity constraints. Consider a demand for 500 units of widgets on Day 3. The production rate is 10 widgets an hour.

- The plan uses the primary resource for Days 1, 2, and 3 to produce 80 widgets per day for a total of 240 widgets.
- The plan then uses the designated alternate resource for Days 1, 2, and 3 to produce 80 widgets a day for a total of 240 widgets.
- Finally, the plan overloads the primary resource on Day 3 to produce the remaining 20 widgets needed to meet the demand of 500 widgets.

Capacity Constrained Resources

Resource constraints are applied based on the Capacity Constrained Resources attribute in plan options. The Capacity Constrained Resources attribute is on the Plan Options page, Supply Tab, Constraints and Decision rules subtab. The two types of capacity constrained resources are:

- **All resources**: The plan treats every resource as a potential constrained resource and apply capacity constraints on all resources when calculating the plan output.
• **Bottleneck resources only**: The plan only considers resources that have the Bottleneck indicator set to Yes as a capacity constrained resource in the Resources view.

**Plan Considering Material Constraints**

**Overview of How You Plan Considering Material Constraints**

You can generate a supply plan where the lead time or supplier capacity is a constraint. When you use the constrained planning mode for a supply plan, the planning process respects material lead times as hard constraints, which can’t be compressed to meet demand due dates. The planning process respects supplier capacity as soft constraints and will only overload supplier capacity if there aren’t other alternatives to meet demand on time. To control whether purchasing lead time constraints are applied during the planning process, use the Enforce Purchasing Lead Time attribute.

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**Note:** You can set the Enforce Purchasing Lead Time item attribute in Item Organization: Planning attributes when you define an item in the Product Information Management work area. Or you can set this item attribute in the Items view in the Supply Planning work area.

When the supply planning process encounters a constraint, it provides recommendations to help you to fulfill the demand on time. For example, it might recommend that you build ahead, use a substitute component, or use an alternative source.

Let’s dig a little deeper into how the planning process handles lead time constraints and supplier capacity constraints in a constrained supply plan.

**Lead Time Constraints**

Lead time constraints determine how soon new material can be made available. Within the lead time, only on-hand inventory and scheduled receipts are used to satisfy demands. Beyond the lead time or planning time fence, you can create planned orders. The quantity of these planned orders is constrained by the available supplier capacity. The planning process honors lead times, and orders can be fulfilled late to respect lead time constraints.

Purchase orders within the planning time fence or lead time can only be rescheduled out, but not rescheduled in. If a purchase order is outside of the planning time fence or lead time, then the purchase order can be rescheduled out. Also, the purchase order can be rescheduled in only until the planning time fence or lead time.

**Supplier Capacity Constraints**

Supplier capacity constraints determine how much new material can be ordered from a supplier within a given time bucket. If the supply planning process can’t find any alternatives to meet demand on time, then supplier capacity is overloaded to fulfill the demand on time.

Here are some additional points about supplier capacity constraints:

- Supplier capacity is applied as a soft constraint when planning supplies for buy items.
- Supplier capacity constraint can result in the selection of an alternate supplier.
- Supplier capacity is consumed on the suggested dock date of buy orders.
• Supplier capacity is cumulative and any unused capacity from one planning time bucket carries forward into the next bucket.

• For configure-to-order items in a constraint-based supply plan, the planning process considers capacity at the model-item level. Supplies for configurations consume supplier capacity of the base model.

Supplier Capacity Constraint Parameters

For your constrained supply plan, you can establish parameters to determine when supplier capacity starts accumulating and whether purchase orders consume supplier capacity or not. For these supplier capacity constraints, you can set two attributes in plan options in the Supply: Advanced Options dialog box, Supplier Capacity Parameters section.

• Supplier Capacity Accumulation Multiplier
• Consume supplier capacity with purchase orders

Supplier Capacity Accumulation Multiplier

The Supplier Capacity Accumulation Multiplier attribute determines when supplier capacity starts accumulating. Supplier capacity accumulates from the time bucket corresponding to the item lead time, multiplied by the supplier capacity accumulation multiplier. This attribute is located in plan options in the Supply: Advanced Options dialog box, Supplier Capacity Parameters section.

For example, you have an item with a 5-day lead time that has a supplier capacity of 20 units per day. If the supplier capacity accumulation multiplier is zero, then capacity is accumulated starting on Day 1. If supplier capacity accumulation multiplier is set to 1, then capacity is accumulated starting on Day 6.

Consume Supplier Capacity with Purchase Orders

The Consume supplier capacity with purchase orders attribute determines whether purchase orders consume supplier capacity or not. This attribute is located in plan options in the Supply: Advanced Options dialog box, Supplier Capacity Parameters section.
If you select this option, purchase orders consume supplier capacity. Use this setting when the supplier capacity stated for your supplier is inclusive of any capacity they’re going to use for purchase orders you have already placed against the supplier.

If you don’t select this option, purchase orders don’t consume supplier capacity. Use this setting when the supplier capacity stated for your supplier excludes any commitment they have already made to fulfill existing purchase orders.

Plan Considering Process Manufacturing Work Definitions

Overview of How You Plan Considering Process Manufacturing Work Definitions

In a constrained supply plan, you can plan supply based on the process manufacturing work definition as specified in Oracle Fusion Manufacturing or in other manufacturing applications. You can use a manufacturing plant to support production needs for process manufacturing and discrete manufacturing. You can plan appropriate batch quantities and account for the creation of co-products and by-product supplies along with the primary product specified in the process work definition.

Process manufacturing environments are characterized by a set of unique planning challenges. These include products, co-products, and by-products that are generated at various steps in the manufacturing process, not all of which are at the end of the process. When using Oracle Fusion Manufacturing, you can specify a work definition that captures the batch quantity and the manufacturing process. You can also specify the work definition to take into account the steps and quantities at which products, by-products, and co-products are generated, in addition to the ingredients required for the manufacturing. Supply Planning honors these work definitions when the planning process generates the plan. Additionally, you can analyze the plan in the context of the co-products and by-products generated.

Use File-Based Data Imports to upload process manufacturing work definitions into Supply Planning for sources other than Oracle Fusion Manufacturing.

Use the Recalculate action to recalculate a subset of your plan output to quickly see the impact of changes to your constrained supply plan.

Supply Planning Behavior and Concepts for Process Manufacturing

Let’s talk about the business logic employed by Supply Planning when it plans process manufacturing facilities and activities. In a constrained supply plan, you need to understand some of the behavior and concepts for process manufacturing, such as the following:

- Supply planning behavior
- Considerations when you define and plan for process manufacturing
- Batch quantity concepts
Supply Planning Behavior

The following are some supply planning behaviors for process manufacturing:

- The supply planning process plans for existing process work orders and recommends new supplies, based on process work definitions.
- The planning process recommends new supplies in proportion to the output quantities for primary, co-product, and by-product supplies.
- The batch quantity linearly scales to the primary output quantity and all the output and input items on the work definition.
- For existing process work orders, the supply planning process considers operation level scrap to determine the remaining planned quantities of output products associated with current and future operations.
- If an item is the primary output in one work definition and a co-product in another work definition, the work definition in which it’s the primary output is used to create a supply for this item to meet demand.

Considerations When You Define and Plan for Process Manufacturing

Consider these points when you define and plan for process manufacturing work definitions in a constrained supply plan.

- The unique criteria for work definition selection by supply planning is based on primary output item, work definition name, and highest production priority.
- At any given point in time, an output item can be associated to one and only one operation. The same product can't be completed from multiple operations.
- A work definition operation can complete more than one output item.
- Output of one operation can't be the input product at the last operation.
- It's not mandatory to attach any output product at the last operation.
- Item shrinkage is supported for process work orders and planned orders.

Batch Quantity Concepts

Using batch quantity while defining a work definition helps you to specify the product outputs, ingredients, and resource usages with a user-friendly range of numbers instead of small fractions or large numbers.

There are some additional batch quantity concepts. Batch quantity:

- Is the quantity of the production batch used for batch sizing and scaling.
- Is the quantity that moves between the operations in a work order.
- Linearly scales to the primary output quantity and all the output and input items in the work definition.
- Can't add up to the sum of the quantities for the output items, or the sum of the input items, or both.

Analyze Process Manufacturing Plans

In constraint-based supply planning, you can analyze the process manufacturing work definitions in your plans from several views. There are also some specific measures that support process manufacturing work definitions in a constrained supply plan.
Routings View

When you create a work definition or work order, the Routings view displays the Work Method attribute. The Work Method attribute represents the production process, or manufacturing work method. Valid values are Discrete manufacturing and Process manufacturing.

Item Structures View

In a constrained supply plan, the Item Structures view distinguishes between ingredients and output products.

- The Component Items tab contains the details about ingredients required to build an assembly, including substitute components.
- The Output Item tab shows various output types, such as primary product, co-products, and by-products produced at different operations of a process work definition. The Output Items tab is read-only.

Supplies and Demands View

These attributes in the Supplies and Demands view support process manufacturing work definitions in a constrained supply plan

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suggested Completion Date</td>
<td>The completion date for work orders and planned orders. The suggested completion date can be later than the due date of the primary product for process manufacturing.</td>
</tr>
<tr>
<td>Batch Quantity</td>
<td>The quantity of the production batch used for batch sizing and scaling. It is also the quantity that moves between the operations in a work order.</td>
</tr>
<tr>
<td></td>
<td>The batch quantity linearly scales to the primary output quantity and all the output and input items on the work definition.</td>
</tr>
<tr>
<td>Batch Quantity UOM</td>
<td>The unit of measure code of the work definition quantity (Batch Quantity).</td>
</tr>
<tr>
<td>Work Method</td>
<td>The manufacturing work method. You can select the work method in the Routings view. Value are:</td>
</tr>
<tr>
<td></td>
<td>• Process manufacturing</td>
</tr>
<tr>
<td></td>
<td>• Discrete manufacturing</td>
</tr>
</tbody>
</table>

Build Plan View

In the Build Plan view, you can select Related Output Supplies from the Highlight Related Cells drop-down list. The other supplies that are related to the selected supply through a co-product or by-product relationship are highlighted.

In the Configure Build Plan dialog box, you can select the Related Output Items option in the Levels to Display drop-down list. For the selected item/organization or category, all items that appear as output items in the work definitions are shown in the Build Plan.
Measures to Support Process Manufacturing Work Definitions

These measures support process manufacturing work definitions in a constrained supply plan.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned Order Co-Product Supply</td>
<td>Measure contains the supplies for products recommended by the supply planning process, which gets produced with primary product in the manufacturing process.</td>
</tr>
<tr>
<td>Work Order Co-Product Supply</td>
<td>Measure contains work order supplies for products that are getting produced during the manufacturing process of the primary finished good work order.</td>
</tr>
<tr>
<td>Planned Order By-Product supply</td>
<td>Measure contains the supplies recommended by the supply planning process for residual items that gets produced in the manufacturing process of the primary finished good.</td>
</tr>
<tr>
<td>Work Order By-Product supply</td>
<td>Measure contains supplies that are produced as a residual of, or incidental to, the production process of the primary finished good work order. By-product supplies aren't inventoried.</td>
</tr>
</tbody>
</table>

Automatically Evaluate and Select Alternatives to Meet Demand on Time

You can run a constraint-based supply plan that evaluates the use of alternate sources of supply to overcome demand fulfillment issues. Configure constraints and decision rules on the Plan Options page, Scope tab, Constraints and Decision Rules subtab in a Supply Planning or Demand and Supply Planning work area. When configured, the planning process evaluates alternate sources, alternate work definitions, alternate resources, and substitute components to ensure that supply orders meet demand on time.

Supply Planning Logic to Automatically Evaluate and Select Alternatives

Constrained supply planning prioritizes satisfaction of demand due dates higher than the need to respect resource or supplier capacity constraints. When a capacity constraint exists, the planning process will:

1. First try to satisfy the demand in an earlier time bucket by using the primary sources of supply.
2. If there is no capacity available on the primary on or before the demand due date, the planning process selects alternate sources of supply.
3. If there is no capacity available on the primary or the alternate on or before the demand due date to fulfill demand on time, then the planning process overloads capacity.

Supply Planning Sequence to Automatically Evaluate and Select Alternatives

The planning process uses a specific sequence for alternate selections.

1. Use alternate resources
2. Use substitute components
3. Use alternate item structures and work definitions
4. Use alternate suppliers and source organizations

Before Setting Up Constraints and Decision Rules

Before you set up your constraints and decision rules to automatically evaluate and select alternatives to meet demand on time, consider the following implementation advice:

- Define the alternates in the supply chain to meet our specific business needs. Understand that some alternates are expensive.
- Select only those alternate options in supply planning for which there is corresponding data in the source.

Alternate Resource Rules

You can use alternate resources with these supported setups:

- One alternate resource is specified for one primary resource.
- One alternate resource is specified for one primary resource, and one alternate resource is specified for the simultaneous resource.
- Multiple ranked alternate resources specified for one primary resource.

These setups aren’t supported with respect to alternate resources:

- Multiple alternate resources (used simultaneously) to replace one primary resource.
- A set of alternate resources (used simultaneously) to replace a set of primary resources (used simultaneously).

Exceptions in a Constrained Supply Plan

You can evaluate a plan and prioritize the manual changes to perform based on the exceptions generated from a plan. Oracle Supply Planning Cloud provides several exception messages for constraint-based supply planning. You can drill down on an exception to obtain more detailed information about the exception. These are the four types of exceptions for a constrained supply plan.

- Demands at Risk Exceptions
- Late Supply Exceptions
- Overloaded Capacities Exceptions
- Usage of Alternates and Substitutes Exceptions

Demands at Risk Exceptions

This table shows the demands at risk exceptions for unconstrained and constrained supply plans.

<table>
<thead>
<tr>
<th>Exception</th>
<th>Exception is generated for the following conditions:</th>
</tr>
</thead>
</table>
| Demand at Risk Due to Insufficient Lead Time | - Suggested order date is less than plan start date  
- Reschedule days is less than 0 (Reschedule in Recommendations).  
- Firm status is set to Not Firm. |
Exception | Exception is generated for the following conditions:
--- | ---

Demand at Risk Due to a Resource Capacity Shortage | Resource availability is less than the resource requirements for the resource capacity measures of any resource used in making any supply that's end-pegged to the demand.

Demand at Risk Due to a Supplier Capacity Shortage | Supplier capacity availability is less than the supplier capacity required for the supplier capacity measures of any item that's end pegged to the demand.

Late Supply Exceptions

This table shows the late supply exceptions for unconstrained and constrained supply plans.

<table>
<thead>
<tr>
<th>Exception</th>
<th>Exception is generated for the following conditions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Late Supply Pegged to Forecast</td>
<td>Days late is greater than 0 for the Days Late demand order attribute. This condition means that the demand could be at risk due to the late supply.</td>
</tr>
<tr>
<td>Late Supply Pegged to Sales Order</td>
<td>Days late is greater than 0 for the Days Late demand order attribute. This condition means that the demand could be at risk due to the late supply.</td>
</tr>
</tbody>
</table>
| Orders with Insufficient Lead Time | • Suggested order date is less than plan start date.  
• Reschedule days is less than 0 (Reschedule in Recommendations).  
• Firm status is set to Not Firm.  

**Note:** All three conditions must be met before the planning process generates the exception |
| Orders To Be Canceled | The planning process detects a supply order that's not firm for which you don't need to satisfy demand or safety stock requirements. The planning process:  
• Suggests that you cancel the supply order.  
• Continues to plan lower item structure levels as if you accepted the suggestion. |
| Orders To Be Rescheduled In | The planning process detects a supply order that's not firm with an original due date that's later than the suggested due date. The planning process:  
• Suggests that you reschedule the supply order to an earlier date.  
• Continues to plan lower item structure levels as if you accepted the suggestion. |
Exception is generated for the following conditions:

Orders To Be Rescheduled Out

The planning process detects a supply order that’s not firm with an original due date that’s earlier than the suggested due date. The planning process:

- Suggests that you reschedule the supply order to a later date.
- Continues to plan lower item structure levels as if you accepted the suggestion.

Overload Capacities Exceptions

This table shows the overload capacity exceptions for unconstrained and constrained supply plans.

<table>
<thead>
<tr>
<th>Exception</th>
<th>Exception is generated for the following conditions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource Overloaded</td>
<td>Resource utilization percentage is greater than 100.</td>
</tr>
<tr>
<td>Supplier Capacity Overloaded</td>
<td>Supplier capacity utilization percentage is greater than 100.</td>
</tr>
</tbody>
</table>

Use of Alternates and Substitutes Exceptions

This table shows the use of alternates and substitutes exceptions for only constrained supply plans.

<table>
<thead>
<tr>
<th>Exception</th>
<th>Exception is generated for the following conditions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order Sourced from Alternate Facility</td>
<td>Alternate Facility Used attribute is set to True.</td>
</tr>
<tr>
<td></td>
<td>The order is sourced from an alternate facility due to the material, resource, or lead time constraints.</td>
</tr>
<tr>
<td>Order Sourced from Alternate Supplier</td>
<td>Alternate Supplier Used attribute is set to True.</td>
</tr>
<tr>
<td></td>
<td>The order is sourced from an alternate supplier (Rank 2 supplier and higher) due to the supplier capacity constraints.</td>
</tr>
<tr>
<td>Planned Order Uses Alternate Work Definition</td>
<td>Alternate Work Definition Used attribute is set to True.</td>
</tr>
<tr>
<td></td>
<td>The planned order has used an alternate work definition due to the material, resource, or lead time constraints.</td>
</tr>
<tr>
<td>Planned Order Uses Alternate Resources</td>
<td>Alternate Resource Used attribute is set to True.</td>
</tr>
<tr>
<td></td>
<td>The planned order has used an alternate resource due to the capacity constraints.</td>
</tr>
<tr>
<td>Planned Order Uses Substitute Component</td>
<td>Substitute Component Used attribute is set to True.</td>
</tr>
</tbody>
</table>
Exception | Exception is generated for the following conditions:
---|---
 | The order has used a substitute component. The scenarios where this exception is generated are:
 | • The primary component lead time is long, which causes demand lateness (Lead Time Constraint).
 | • The supplier capacity of the primary component isn't sufficient, which causes lateness (Supplier Capacity Constant).
 | • The resource capacity for making the primary component isn't sufficient, which causes lateness (Resource Constraint).
 | • The Create Supply plan option is set to No for the primary component and there's enough on hand or capacity available on the substitute component.

Diagnose Planning Issues in Constrained Supply Plans

Overview of Calculated Order Attributes and the Gantt Chart

Calculations are more complex in a constrained supply plan than in an unconstrained plan. So, there are additional diagnostic attributes to help you diagnose issues in your constrained supply plan. The calculated order and resource requirement attributes help you understand why the supply planning process made certain decisions during the calculation process. In conjunction with these diagnostic attributes for a constrained supply plan, you can also use the Gantt Chart to:

- View orders and resource requirement duration on a timeline along with the calculated attributes.
- Visualize the timing of supplies to be manufactured and sourced to support the demand.
- Visualize how orders consume capacity on a resource.
- Interactively modify the planned dates of a supply or resource requirement. For example, use drag and drop to change a supply order or a resource activity to an earlier time or a later time.

Calculated Order Attributes

Constraint-based supply planning includes several calculated order and resource requirement attributes to help you diagnose issues in your plan. Some attributes are based on milestones on an order that are calculated as part of a plan run, such as Earliest Start Date. Other attributes are explanatory order attributes, such as Shared Supply.

Milestones

These attributes are based on milestones.

<table>
<thead>
<tr>
<th>Diagnostic Attribute</th>
<th>Applies to</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need by Date</td>
<td>Supply and resource requirement</td>
<td>The date when the supply or resource requirement must complete to satisfy demand on time.</td>
</tr>
</tbody>
</table>
### Diagnostic Attribute

<table>
<thead>
<tr>
<th>Diagnostic Attribute</th>
<th>Applies to</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earliest Start Date</td>
<td>Supply and resource requirement</td>
<td>The earliest possible date that a supply or resource activity can start, based on the nominal lead times of all pegged upstream supplies and resource activities.</td>
</tr>
<tr>
<td>Consumption Start Date</td>
<td>Supply and resource requirement</td>
<td>The date when a downstream supply or resource activity starts consuming the output of the supply or resource activity. If the supply or resource activity has multiple consumers, the earliest consumer is used to calculate this date.</td>
</tr>
<tr>
<td>Material Available Date</td>
<td>Supply and resource requirement</td>
<td>The date when the upstream supply or resource activity that feeds the supply or resource activity is planned to complete. If the supply or resource activity has multiple upstream supplies or resource activities feeding it, the latest producer is used to calculate this date.</td>
</tr>
<tr>
<td>Latest Start Date</td>
<td>Supply</td>
<td>The latest possible date that a supply can start so that it can complete by its need-by date.</td>
</tr>
</tbody>
</table>

### Explanatory Order Attributes

These attributes are based on explanatory order attributes.

<table>
<thead>
<tr>
<th>Diagnostic Attribute</th>
<th>Applies to</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributes to Overload</td>
<td>Supply</td>
<td>This attribute value is Yes if one of these conditions occurs:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• The supply is in a time bucket where it overloads supplier capacity.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• One of the resource requirements of this supply is in a time bucket where the resource capacity is overloaded.</td>
</tr>
<tr>
<td>Contributes to Overload</td>
<td>Resource requirement</td>
<td>This attribute value is Yes if the resource requirement is in a time bucket that overloads resource capacity.</td>
</tr>
<tr>
<td>Contributes to Demand Lateness</td>
<td>Supply and resource requirement</td>
<td>The attribute value is Yes if the Need-by Date minus the Earliest Start Date of the supply or resource requirement is less</td>
</tr>
</tbody>
</table>
### Diagnostic Attribute

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Applies to</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostic</td>
<td></td>
<td>than the nominal lead time of the supply or resource requirement.</td>
</tr>
<tr>
<td>Shared Supply</td>
<td>Supply</td>
<td>The attribute value is Yes if the supply is consumed by multiple demands.</td>
</tr>
<tr>
<td>Uses Order Modifier</td>
<td>Supply</td>
<td>The value is Yes if the supply quantity has been determined by the use of an item level order modifier such as Fixed Order Quantity.</td>
</tr>
<tr>
<td>Pegged to Firm</td>
<td>Supply</td>
<td>The value is Yes if the supply is pegged to a downstream firm supply.</td>
</tr>
</tbody>
</table>

### Gantt Chart

Use the Gantt Chart to view orders and resource requirement durations on a timeline along with the calculated attributes. You can also interactively modify the planned dates of a supply or resource requirement from the Gantt Chart.

You can only open the Gantt Chart in context by drilling to it from another table. Also, the Gantt chart always opens in a different pane than the pane from which you drilled from. For example, if you're using a single pane layout and open the Gantt Chart from the Supplies and Demands table, the page layout switches to a double pane (top and bottom) layout. In this situation, the Gantt chart opens in the bottom pane.

### How You Drill to the Gantt Chart

You can only open the Gantt Chart in context by drilling to it from another table. Here are the tables from which you can drill to the Gantt Chart.

<table>
<thead>
<tr>
<th>Drill to Context</th>
<th>What is Displayed in the Gantt Chart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplies and Demands</td>
<td>Supply orders</td>
</tr>
<tr>
<td>Resource Requirements</td>
<td>Resource requirements</td>
</tr>
<tr>
<td>Cells corresponding to these measures in the Material Plan, Build Plan, or a user-defined table:</td>
<td>Supply orders</td>
</tr>
<tr>
<td>• Total Supply</td>
<td></td>
</tr>
<tr>
<td>• Planned Orders</td>
<td></td>
</tr>
<tr>
<td>• Scheduled Receipts</td>
<td></td>
</tr>
<tr>
<td>• Purchase Orders</td>
<td></td>
</tr>
<tr>
<td>• Purchase Requisitions</td>
<td></td>
</tr>
</tbody>
</table>
Drill to Context | What is Displayed in the Gantt Chart
--- | ---
- Transfer Orders  
- Work Orders  
- Dependent Demands  | Resource requirements

Cells corresponding to the Resource Requirements measure in the Resource Plan, Build Plan, or a user-defined table.

Drill From the Gantt Chart to Other Tables
From the Gantt Chart, here are the tables that you can drill to and what the tables display.

<table>
<thead>
<tr>
<th>Drill From</th>
<th>Drill to Table</th>
<th>What the Table Displays</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply bar</td>
<td>Supplies and Demands</td>
<td>Supply order details</td>
</tr>
<tr>
<td>Supply bar</td>
<td>Material Plan</td>
<td>Material plan for the item-organization</td>
</tr>
<tr>
<td>Supply bar</td>
<td>Items</td>
<td>Item corresponding to the supply</td>
</tr>
<tr>
<td>Supply bar</td>
<td>Item Structure</td>
<td>Item structure corresponding to the item of supply</td>
</tr>
<tr>
<td>Supply bar</td>
<td>Routings</td>
<td>Routing of the item of the supply</td>
</tr>
<tr>
<td>Supply bar</td>
<td>Suppliers</td>
<td>Suppliers for the item corresponding to the supply</td>
</tr>
<tr>
<td>Resource Requirement bar</td>
<td>Resources</td>
<td>Resource corresponding to the resource requirement</td>
</tr>
<tr>
<td>Resource Requirement bar</td>
<td>Resource Availability</td>
<td>Resource availability of the resource</td>
</tr>
<tr>
<td>Resource Requirement bar</td>
<td>Resource Plan</td>
<td>Resource plan for the resource corresponding to the resource requirement</td>
</tr>
<tr>
<td>Resource Requirement bar</td>
<td>Resource Requirements</td>
<td>Resource requirement details</td>
</tr>
</tbody>
</table>
List of Order Attributes You Can Display

You can display these order attributes in the left pane of your Gantt Chart:

<table>
<thead>
<tr>
<th>Order Attribute</th>
<th>Automatically Displayed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Yes</td>
</tr>
<tr>
<td>Organization</td>
<td>Yes</td>
</tr>
<tr>
<td>Order Number</td>
<td>Yes</td>
</tr>
<tr>
<td>Order Quantity</td>
<td>Yes</td>
</tr>
<tr>
<td>Order Type</td>
<td>Yes</td>
</tr>
<tr>
<td>Supplier</td>
<td>No</td>
</tr>
<tr>
<td>Supplier Site</td>
<td>No</td>
</tr>
<tr>
<td>Source Organization</td>
<td>No</td>
</tr>
<tr>
<td>Ship Method</td>
<td>No</td>
</tr>
<tr>
<td>Work Definition</td>
<td>No</td>
</tr>
<tr>
<td>Item Structure</td>
<td>No</td>
</tr>
</tbody>
</table>

Supply Bar and Resource Requirements Bar

Let's discuss the characteristics of the supply bar and the resource requirement bar in your Gantt Chart.

- Supply bars span from the suggested start date to the suggested due date of the supply. If the suggested start and suggest due dates are the same, the supply bar appears as a thin line.
- Resource requirement bars span from the bucket start date of the planning time bucket that contains the start date of the resource requirements to the bucket end date of the planning time bucket that contains the end date of the resource requirement.

Show Diagnostics

You can select from the Show Diagnostics drop-down list which diagnostic attributes to display for orders and resource requirements. These are the diagnostic attributes that you can display in your Gantt Chart:

- Contributes to Demand Lateness
• Contributes to Overload
• Consumption Start Date
• Need-by Date
• Material Available Date
• Earliest Start Date
• Firm

Gantt Chart Actions
When you work in the Gantt Chart, there are some useful tool for you to use.

<table>
<thead>
<tr>
<th>Action you can take from the Actions menu or the Gantt Chart toolbar</th>
<th>Result of the action</th>
</tr>
</thead>
</table>
| Move In | Moves the selected bar in by one planning time bucket.  
**Note:** You can’t move a bar from a less granular time bucket, such as week, to a more granular time bucket, such as day. |
| Move Out | Moves the selected bar out by one planning time bucket. |
| Zoom In | Zooms in the time line display. You can’t zoom in below the planning time bucket level. |
| Zoom Out | Zooms out the time line display. |
| Refresh | Refreshes the content in the Gantt Chart. |

Moving the Bars in the Gantt Chart
Here are some pointers about moving the bars in the Gantt Chart.

• You can use the Move In and Move Out options in the toolbar or use the drag and drop action. However, you can’t move a bar to another row.
• The end date of the supply bar always snaps to the last working day of the planning time bucket that you move the bar to.
• If you move a bar to a non-working day within the daily bucket portion of the plan horizon, you will be asked if you want to move it to the previous working day.
• The time durations of the bars remain the same as you move them across planning time buckets. A replan or recalculate action can change the durations.
How to Diagnose Plan Output Using Order Attributes and the Gantt Chart

Here we have some details that show you how you can diagnose a plan output. You can view the order attributes referenced in this table from within the Supplies and Demands table or the Gantt Chart.

<table>
<thead>
<tr>
<th>Data Conditions</th>
<th>Inference</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Need by Date &lt; Earliest Start Date</td>
<td>The supply is on the critical path of demands that are within the lead time. In this case, the supply is planned to start on its earliest start date to minimize demand lateness.</td>
</tr>
<tr>
<td>• (Need by Date - Earliest Start Date) &lt; Lead Time</td>
<td></td>
</tr>
<tr>
<td>• (Need by Date - Earliest Start Date) &gt; Lead Time</td>
<td>You can move the supply to an earlier time by pulling it in to start on or after the material available date without impacting upstream feeding supplies.</td>
</tr>
<tr>
<td>• Suggested Due Date &lt; Need by Date</td>
<td>You can also pull in the supply to start on or after the earliest start date without impacting the lead time of any of the upstream supplies. However, the upstream supplies should be re-pegged or rescheduled to ensure that projected available balance of the upstream materials remain greater than or equal to zero.</td>
</tr>
<tr>
<td>• (Need by Date - Earliest Start Date) &gt; Lead Time</td>
<td>You can move the supply to a later time by pushing it out to end on or before the consumption start date. This action doesn’t impact any of the downstream consuming supplies and end demands.</td>
</tr>
<tr>
<td>• Suggested Due Date &lt; Consumption Start Date</td>
<td>You can also push out the supply to complete on or before the need-by date without impacting the lead time of any of the downstream supplies. However, the downstream supplies might need to be rescheduled or re-pegged to ensure that projected available balance stays at or above zero.</td>
</tr>
<tr>
<td>Contributes to Overload order attribute is Yes for some supplies in the pegging tree of an end demand</td>
<td>You can filter the list of supplies in the pegging tree in the Supplies and Demands table to only show those supplies that have the Contributes to Overload order attribute set to Yes. This filtering helps you to quickly understand the items that need action to make the plan feasible.</td>
</tr>
</tbody>
</table>

Simulate Changes in a Constrained Supply Plan

Overview of the Recalculate Action

Use the plan level Recalculate action to recalculate a subset of the plan output to quickly see the impact of changes to your constrained supply plan. When planning, you can make changes to planning assumptions, such as a change in resource capacity or supply and demand quantities and dates. You can also simulate the impact of plan changes by running your plan without a fresh snapshot. The output of the recalculation process is persisted into the plan. The output is also visible in different views, such as Supplies and Demands, Resource Requirements, Material Plan, Resource Plan, and Build Plan.
After you make changes in your plan, run the Recalculate process. You immediately see the effects of your changes on key relevant metrics, such as the projected available balance of affected items. You don't have to wait for the results of a full replan.

What the Recalculate Process Does

This table shows you how the Recalculate process affects your constrained supply plan when you make changes.

<table>
<thead>
<tr>
<th>If you change:</th>
<th>The Recalculate process:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A demand date or quantity, or add a demand</td>
<td>• Updates the projected available balance of the item.</td>
</tr>
<tr>
<td></td>
<td>• Updates a subset of the order attributes of the demand: Suggested Due Date, Order</td>
</tr>
<tr>
<td></td>
<td>Quantity, Days Late and Quantity by Due Date.</td>
</tr>
<tr>
<td></td>
<td>• Doesn't generate any new supplies in response to a demand increase or a new demand.</td>
</tr>
<tr>
<td><strong>Note:</strong> You can perform this change only on end demands,</td>
<td></td>
</tr>
<tr>
<td>but not dependent demands.</td>
<td></td>
</tr>
</tbody>
</table>

| The supply due date or quantity for a planned order or     | • Updates the projected available balance of the item and the items for which this     |
| existing supply                                           |   supply generates dependent demands.                                                |
| **Note:** For existing supplies, such as work orders, you  | • Updates a subset of the order attributes of the supply including Suggested Due Date,|
| can only set the firm quantity to 0. You can't set the    |   Compression days, Days Late, Reschedule Days and others.                          |
| firm quantity value lower or higher than the original     | • Updates a subset of the order attributes of the demands pegged to this supply: Days  |
|   supply quantity.                                        |   Late, Quantity by Due Date, Material Available Date.                               |
|                                                          | • Recalculates the resource requirement dates and hours based on updated supply dates |
|                                                          |   and quantities.                                                                   |
|                                                          | • Recalculates the Consumption Start date attribute and the Material Available date   |
|                                                          |   attribute of the pegged supplies one level up and down.                           |
|                                                          | • Recalculates the dependent demand dates and quantities based on updated supply     |
|                                                          |   dates and quantities.                                                             |
|                                                          | • Doesn't generate any new supplies in response to new or increased quantities of     |
|                                                          |   the dependent demands resulting from this supply change.                          |

| Add a supply or change the work definition of an existing  | • Updates the projected available balance of the item and the items for which the     |
| planned order                                             |   supply generates dependent demands.                                                |
|                                                          | • Calculates the key order attributes for the new supply.                           |
|                                                          | • Calculates new resource requirements for the order if this is a make order.        |
|                                                          | • Calculates new dependent demands for the order. All dependent demands are placed    |
|                                                          |   on the start date of the order and not on operation start date.                    |
|                                                          | • Doesn't generate any new supplies in response to new or increased quantities of the |
|                                                          |   dependent demands resulting from this supply change.                              |

| Add or modify the resource availability                    | Recalculates these measures:                                                          |
|                                                          | • Net Resource Availability                                                           |
|                                                          | • Cumulative Net Resource Availability                                               |
|                                                          | • Resource Availability                                                               |
|                                                          | • Resource Utilization Percentage                                                     |
|                                                          | Supplies won't be rescheduled in or out in response to the change in resource        |
|                                                          |   availability.                                                                      |
### If you change:

<table>
<thead>
<tr>
<th>The Recalculate process:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add or modify supplier capacity</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Reschedule a resource activity using the Gantt Chart</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Choose an alternate resource for a resource requirement</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Choose a substitute component for a planned order</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

### Differences Between the Recalculate and Run Plan Actions

Let’s look at the differences between the Recalculate action and the Run Plan action for constrained supply plans.

<table>
<thead>
<tr>
<th>Recalculate action</th>
<th>Run Plan action (without a fresh snapshot)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is a near real-time process</td>
<td>Is a batch process</td>
</tr>
<tr>
<td>Performs a local recalculation of plan output</td>
<td>Fully realigns the plan output in response to your changes</td>
</tr>
<tr>
<td>Recalculates a subset of planning measures and order attributes</td>
<td>Recalculates all planning measures and order attributes</td>
</tr>
<tr>
<td>Doesn’t recalculate pegging or exception messages</td>
<td>Recalculates pegging and exception messages</td>
</tr>
</tbody>
</table>
Comparing the Recalculate and Replan Actions

In a constrained supply plan, there are some change types that the Recalculate action doesn't respond to, and so you can only use the Replan action. Let's compare the Recalculate and the Replan actions and see which action you can use with respect to different types of changes.

<table>
<thead>
<tr>
<th>Change Type</th>
<th>Recalculate</th>
<th>Replan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes to demand and supply quantities and dates</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Create a planned order</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Change the process on an existing planned order</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Change resource activity timings</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Change item, item structure, item-supplier, or work definition attributes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Change resource attributes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Recalculate for Process Manufacturing Work Definitions

You can use the Recalculate action to recalculate a subset of your plan output to quickly see the impact of changes to your constrained supply plan.

- You can update the date and quantity of a planned order for primary output item. For existing work orders for the primary item, you can only set the firm quantity to 0.
- If you change the planned order quantity of the primary output item, then the planned orders for co-product and by-product supplies are recalculated proportionally with due dates unchanged.
- If you move in or out the supply due date of primary item, the corresponding dates for co-product and by-product supplies also move in or out by the same offset.
- If you manually create a planned order, the planned order co-product and planned order by-product supplies are also created in proportional quantities based on the work definition of the primary output item. The due
dates of co-product and by-product planned order supplies remain the same as of suggested due date of primary item’s supply. The suggested completion date will also be same as of suggested due date of primary item’s supply.

Safety Stock in a Constrained Supply Plan

Overview of Using Safety Stock in a Constrained Supply Plan

You can plan safety stock in a constrained supply plan based on user-specified values or days of cover for all items in the organizations associated with your plan. You can calculate and plan statistical safety stock for end items and plan safety stock in daily buckets and in buckets larger than days, such weeks or periods. You can also:

- Manually override safety stock quantities for items
- Recalculate safety stock quantities
- Override statistical calculation parameters

When in the constraint-based planning mode, the supply planning process fulfills safety stock demand as long as it doesn't violate any constraints. If there isn't enough material or resource capacity to build to safety stock demand, then the supply to meet safety stock demand is shifted out in time until there is enough capacity. The supply planning process calculates the days of cover-based safety stock levels in the absence of any constraints. Then those calculated levels are applied as a target when the plan is run with the constraints turned on. This process provides greater transparency to you regarding how safety stock levels are calculated for items with days of cover-based safety stock.

For more information about safety stock, refer to the Safety Stock in Planning Central and Supply Planning white paper on Oracle Cloud Customer Connect, available at this URL: https://cloudcustomerconnect.oracle.com/posts/e8a4eaff7a

Safety Stock Planning Differences Between Constrained and Unconstrained Supply Plans

There are some differences to planning safety stock in a constrained supply plan compared to an unconstrained supply plan. The way safety stock is calculated for days of cover and the way the supplies are recommended for safety stock in a constrained plan are important to note. In a constrained supply plan:

- Safety stock based on days of cover is calculated based on unconstrained dependent demand instead of constrained dependent demand.
- Orders aren't compressed to meet safety stock when purchasing lead time is enforced.
- Resource and supplier capacity won't be overloaded just to meet safety stock.

Additional Measures for Constrained Supply Plan

For constrained supply plans, the planning process calculates two additional measures for items with days of cover safety stock. These measures are only available for constrained supply plans.

- **Unconstrained Dependent Demand** is the unconstrained demand on the need-by date of a supply. This calculated measure is the sum of production forecast, planned order demand, transfer order demand, nonstandard job demand, and work order demand on the need-by date.

- **Unconstrained Average Daily Demand** is the daily average for unconstrained demand over a user-specified demand period days for the item.
Safety Stock Methods
You can use these safety stock methods in a constrained supply plan:

- Days of Cover
- User-Specified Safety Stock Level
- User-Specified Time Phased Safety Stock Level
- Calculated Safety Stock Levels Based on Forecast Error

Example of Safety Stock Planning with Lead Time Constraints
This example shows how the supply planning process plans safety stock in a constrained supply plan with a lead time constraint.

Safety Stock Planning with Lead Time Constraint
For this example, let's use these parameters:

- Nonworking days: Days 6, 7, 13, and 14
- Purchasing lead time: 3 days
- Enforce Purchasing Lead Time item attribute: Yes

In this scenario,
- The constrained supply plan enforced the purchase lead time of Item C.
• The planning process created supply on Day 4, which is the plan start date plus the lead time.
• Safety stock from Day 1 to Day 3 wasn't met because the purchasing lead time was enforced by the plan for Item C.

Example of Safety Stock Planning with a Resource Capacity Constraint

This example shows how the supply planning process plans safety stock in a constrained supply plan with a capacity constraint.

Safety Stock Planning with a Resource Capacity Constraint

For this example, let's use these parameters:

• Item D has a demand on Day 7
• Resource capacity constraint is 80 units per day
• Item D has a safety stock amount of 100 units from Day 1 through Day 7

<table>
<thead>
<tr>
<th>Item</th>
<th>ORG</th>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item D</td>
<td>M1</td>
<td>Demand</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>400</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Capacity Constraint Per Day</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Planned Order</td>
<td>80</td>
<td>20</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Safety Stock</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Projected Availability Balance</td>
<td>80</td>
<td>100</td>
<td>180</td>
<td>260</td>
<td>340</td>
<td>420</td>
<td>100</td>
</tr>
</tbody>
</table>

In this scenario,

• The planning process created supply for 80 units only on Day 1.
• The safety stock quantity of 100 units on Day 1 can't be completely satisfied because the plan can't exceed the resource capacity constraint (80 units) to meet the safety stock quantity.
Example of Safety Stock Planning with Primary and Alternate Resources

This example shows how the supply planning process plans safety stock in a constrained supply plan that uses primary and alternate resources.

Safety Stock Planning with Primary and Alternate Resources

For this example, let's use these parameters:

- Item D has a demand on Day 7
- Item D has safety stock of 100 units from Day 1 to Day 7
- Primary resource capacity per day is 80 units
- Alternate resource capacity per day is 160 units

<table>
<thead>
<tr>
<th>Item</th>
<th>ORG</th>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item D</td>
<td>M1</td>
<td>Demand</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>400</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Capacity Per Day - Primary Resource</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Capacity Per Day - Alternate Resource</td>
<td>160</td>
<td>160</td>
<td>160</td>
<td>160</td>
<td>160</td>
<td>160</td>
<td>160</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Planned Order with Primary Resource</td>
<td>80</td>
<td>0</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Planned Order with Alternate Resource</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Safety Stock</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Projected Availability Balance</td>
<td>100</td>
<td>100</td>
<td>180</td>
<td>260</td>
<td>340</td>
<td>420</td>
<td>100</td>
</tr>
</tbody>
</table>

In this scenario,

- To meet the safety stock quantity of 100 units, the planning process created supply for 80 units on the primary resource and 20 units on the alternate resource on Day 1.
• The safety stock quantity of 100 units on Day 1 is satisfied because the plan creates supplies on the primary and alternate resource without violating the capacity constraint.

How Supply Planning Respects Reservations

When you use the constrained planning mode for your supply plan, the planning process respects reservations between supplies and demands. This ensures that reservations of on-hand or on-order supplies to sales orders are honored and that the supply is treated as firm. This functionality enables you to allocate available supplies to high priority customers or high value sales orders. There won’t be any recommendations to pull-in or push-out supply when there is a change in the sales order schedule date.

The planning process supports reservations for these existing supplies:

• On-hands
• Purchase orders
• Purchase Requisitions
• WIP jobs
• Transfer orders from the Oracle Fusion source system

There are some of the key points for reservations in a constrained supply plan to keep in mind.

• All reserved supplies are considered firm by the planning process.
• For a reservation, the supply is pegged to the sales orders in the amount of the reserved quantity.
• If the reserved quantity causes resource or supply capacity overloads, the planning process overloads the respective resource or supplier capacity. In this situation, the planning process also creates an overload exception.
• If a supply is partially reserved for a demand, the rest of the supply is eligible to be pegged to other demands.
• If a demand is met only partially with reserved supplies, other unreserved supplies (existing or planned) are used to meet the rest of the demand.
• The planning process respects a demand reservation to a lot without regard to the lot expiration date.
• The planning process uses the reserved supplies and demands in the calculation of Projected Available Balance (PAB). The reserved supplies aren’t used to meet safety stock requirements.
• Reservations or reserved supply quantities can’t be edited in Supply Planning.

In the Supplies and Demands table, the **Reserved Quantity** column displays the total reserved quantity for a supply of demand. You can’t edit this field.

• For a supply, the **Reserved Quantity** column displays the total quantity reserved across all of the demands for which the supply is reserved.
• For a demand, the **Reserved Quantity** column displays the total of all supply quantities reserved for it.
• For back-to-back items, the **Reserved Quantity** column isn’t populated by any planned supply quantities.

In the Material Plan table, these columns display information about reservations.

• **Reserved Supply Quantity**: Indicates the total supply quantity that’s reserved for demands in a bucket.
• **Reserved Supply Value**: Indicates the monetary value of the total supply quantity that’s reserved for demands in a bucket.
How You Prevent Creating Planned Orders

In some business cases, you might want to prevent the creation of planned orders for particular items. You can use the Create Supply attribute to manage scenarios such as end-of-life items or phasing out of components. The Create Supply attribute also applies to end items. If set to No for an end item, all remaining demands for the end item are marked as unmet demands after using up all on-hand inventory and on-order inventory.

To prevent creating planned orders in a constrained supply plan:

1. Define your Supply Planning Mode as Constrained in the plan options for your plan.
2. Set the Create Supply attribute to No for an item-organization.
3. (Optional) Select your decision rules in the plan options. This step is required if you defined substitutes or alternates in your plan and want the supply plan to use existing supplies or recommend planned orders on them.

**Caution:** Set the **Create Supply** attribute to **No** only on required items for which you don't want to create any new supplies. Setting the attribute on the wrong items can lead to unmet demands.

Set the Create Supply Attribute

To prevent the planning process from creating planned orders for a particular item, set the **Create Supply** attribute to **No** for an item-organization. To set this attribute, from the Product Information Management work area, navigate to the Items page, Specifications tab. You can also set the Create Supply attribute in the Item simulation set that’s available in Supply Chain Planning.

This table describes how the planning process manages supplies when the **Create Supply** indicator is set to **No**.

<table>
<thead>
<tr>
<th>When Create Supply indicator is set to No for:</th>
<th>The planning process does this:</th>
</tr>
</thead>
<tbody>
<tr>
<td>End items</td>
<td>All on-hand inventory and on-order inventory is used up to satisfy demands. All remaining demands for the end item are marked as unmet demands.</td>
</tr>
<tr>
<td>Primary components</td>
<td>All demands for end items whose item structure includes this component is unmet after on-hand and existing supplies are used up to satisfy demands.</td>
</tr>
<tr>
<td>Primary components that have substitute components defined in Item Structures</td>
<td>A substitute component is used to satisfy the demand of an end item. The <strong>Use substitute components</strong> decision rule must be selected on the Plan Options page, Supply tab, Constraints and Decisions Rules subtab.</td>
</tr>
<tr>
<td>A component in a primary bill of material that has alternate bill of materials defined</td>
<td>An alternate item structure that doesn't have this component is used. The <strong>Use alternate item structure and work definitions</strong> decision rule must be selected on the Plan Options page, Supply tab, Constraints and Decisions Rules subtab.</td>
</tr>
</tbody>
</table>
Configure Your Decision Rules

To configure the decision rules for your constrained supply plan, navigate to the Plan Options page, Supply tab, Constraints and Decision Rules subtab. The Constraints and Decision Rules subtab is available in a Supply Planning or Demand and Supply Planning work area. Select decision rules as applicable to your business use case.
9 Archive Plans

Plan Archival: Explained

Supply Chain Planning provides two archival types, one that a planner can run for a plan and another archive type that only an administrator with proper security privileges can set up for MAPE statistics. For a planner, plan archival enables you to archive measures in a plan with plan context and save multiple versions of a plan’s archived measures over time. When you archive a plan, you archive a set of measures contained in the measure catalog that you chose as the archive measure catalog for the plan.

Note: You can create archives for demand, supply, integrated demand and supply, and sales and operations plans. Archival isn’t available for Oracle Planning Central Cloud.

Plan Archives

Plan archival enables you to save multiple versions of the plan where you archive the key measures at a point in time. The Waterfall Analysis and Trend Analysis tables and graphs use the plan archive to compare the current plan’s data to past versions of the plan. When viewing past versions of the plan, you can see the impact of strategic and tactical changes made to the plan. You can also compare the individual archives to the plan by selecting Compare > Archive from the Actions menu in a plan.

For example, you archive a plan in May and then market conditions in September cause adjustments to be made to the plan. You can analyze the impact of the adjustments on the plan by viewing the changes in the key performance indicators between the plan version archived in May and the current plan.

A supply chain planner can run the archiving process from an open plan by selecting the Archive option from the Actions menu. A planner can also run the archiving process by selecting the Archive option on the Run Plan page. Alternatively, you can run the archive process independently of running the plan by selecting the Archive option from the Actions menu on the Manage Plans page.

Before you can archive a plan, you must enable the plan for archiving and set up the archiving parameters. The parameters that you configure determine the time hierarchy, time level, and the measure catalog to use for the archives. Set up the archiving parameters in the Scope: Advanced Options dialog box, which you navigate to from the Plan Options page, Scope tab.

It’s good practice to back up your archive data by making a full copy of your plan that includes archives. You can access the backup plan data in the event of any temporary issue with the plan of record. On the other hand, if you want to create a standalone plan to simulate a business scenario, you probably don’t need to include archived measures.

MAPE Archives

An administrator with the correct security privileges can create an archive for MAPE statistics by running the Build Plan Archive scheduled process from the Tools work area. Generally, a supply chain planner doesn’t have the privileges to create a MAPE archive. However, an administrator with the required privileges can see the Enable for MAPE calculations check box in the Build Archive dialog box. The administrator can create archives at a week or month level.

Note: To calculate predefined measures for demand plans and sales and operations plans that use archived data, you must use a MAPE archive. The statistics calculated for the MAPE archive are used to generate the Waterfall Analysis and Trend Analysis tables and graphs.
Configure Archiving Parameters

Before you can archive plans, you must enable the archiving options.

**Note:** You can create archives for demand, supply, integrated demand and supply, and sales and operations plans. Archival is not available for Oracle Planning Central Cloud.

To configure the archiving plan options:

1. In the Navigator, click a Supply Chain Planning work area link.
2. Click **Manage Plans**, select a plan, and then select **Edit Plan Options** from the **Actions** menu.
3. On the Scope tab, click the **Select Advanced Options** button.
4. In the Scope: Advanced Options dialog box, select **Enable for archiving**.
5. Review and make changes to the archive parameters:
   - Select the calendar to use, set the archive time level.
   - Select the measure catalog to use when archiving.

**Note:** Oracle recommends that you create a measure catalog containing only measures that provide insight to the plan's changes instead of archiving every measure in the plan.

- Select an option to automatically delete archives. This results in older archives being deleted automatically if they are older than the **Most Recent Days to Keep** parameter.

6. Click **Done**.

Overview of Archival for Calculating MAPE Statistics

A Supply Chain Planning administrator with the Manage Rolling Archives security privilege can create archives for the calculation of the MAPE statistics at a week or month level. These archives are used to calculate predefined measures for demand plans and sales and operations plans that use archived data. The administrator runs the Build Plan Archive scheduled process from the Tools work area.

Shipments or bookings measures are required in the archive for MAPE statistics calculations, based on the measure used to create the forecast. If your plan forecasts shipments data, then only the shipments forecast measures are needed. If your plan forecasts bookings data, then only the bookings measures are needed. The following shipments or bookings measures are required:

- Final Shipments Forecast
- Final Shipments Forecast 3 Months Ago
- Final Shipments Forecast 3 Months Ago Latest Archive
- Final Bookings Forecast
- Final Bookings Forecast 3 Months Ago
• Final Bookings Forecast 3 Months Ago Latest Archive

To use the archives in a waterfall or trend analysis, select the **Use MAPE calculations** check box in the Selector Tool Comparison Options tab.

MAPE archives created on a rolling basis can be referenced in a user-defined measure expression that uses the Archive function. The archive type is a parameter of this function. The valid values for archive type are "Rolling" and "Adhoc."

### Archival for Calculating MAPE Statistics

A Supply Chain Planning administrator with the Manage Rolling Archives security privilege can create archives for the calculation of the MAPE statistics at a week or month level.

Perform the following steps to run the Build Plan Archive schedule process:

1. In the Navigator, under the Tools section, click the **Scheduled Processes** link to access the Scheduled Processes page.
2. Access the Process Details page for the Build Plan Archive process:
   a. On the Schedule Processes page, click the **Schedule New Process** button.
   b. In the Schedule New Process dialog box, click the **Name** list, and then click the **Search** link.
   c. In the Search and Select: Name dialog box, enter Build Plan Archive and click **Search**.
   d. Select Build Plan Archive and click **OK** to return to the Schedule New Process dialog box.
   e. In the Schedule New Process dialog box, click **OK**.
3. In the Process Details dialog box, select the plan to archive and then click the **Advanced** button.
4. On the Parameters tab, select **Do not delete archives or Delete archives automatically**.
   - If you select to delete archives automatically, enter a number in the Most Recent Days to Keep field. The archive process automatically deletes older archives based on this parameter.
5. Select the **Enable for MAPE calculations** check box and enter or select the following parameters:
   a. **Archive Time Hierarchy**: Select the calendar to use for the archive.
   b. **Archive Time Level**: Select the time level to use for the archive.
   c. **Measure Catalog for Archival**: Select the measure catalog to use when archiving.
   d. **Use default archive name**: Select to use the default archive name.
   e. **Use user-defined archive name**: Select to overwrite the default name with a user-defined name.
6. Click the Schedule tab to set up the frequency parameters.
   - To run the plan immediately, select **As soon as possible**.
   - To run the plan in the background at a set time, select **Using a schedule**. Next, select a **Frequency**, such as **Monthly** or **Weekly**, to create MAPE rolling archives for use in waterfall and trend analyses.
7. Click **Submit**.
Delete Archives

A planner can automatically delete plan archives by setting parameters in the Scope: Advanced Options dialog box, accessed from the Plan Options page, Scope tab. Only a Supply Chain Planning administrator with the Manage Rolling Archives security privilege can delete MAPE archives. In the Tools work area, the administrator can use the Delete Plan Archive schedule process to clean up unwanted archived data versions. You can delete the archives of a plan based on an archive version, a time range, or all archives for a plan.

- **Note:** When you use the Delete Plan action, the process not only deletes the plan, but it also deletes all of the archive versions associated with that plan.

Perform the following steps to run the Delete Plan Archive schedule process:

1. In the Navigator, under the Tools section, click the **Scheduled Processes** link to access the Scheduled Processes page.
2. Access the Process Details page for the Delete Plan Archive process:
   
   a. On the Schedule Processes page, click the **Schedule New Process** button.
   b. In the Schedule New Process dialog box, click the **Name** list, and then click the **Search** link.
   c. In the Search and Select: Name dialog box, enter **Delete Plan Archive** and click **Search**.
   d. Select Delete Plan Archive and click **OK** to return to the Schedule New Process dialog box.
   e. In the Schedule New Process dialog box, click **OK**.
3. In the Process Details dialog box, select the plan that you want to delete the archives for and then click the **Advanced** button.
4. On the Parameters tab, in the Plan section, select one of the following options, which are only available to administrators with the Manage Rolling Archives security privilege:
   
   a. Include MAPE archives
   b. Delete MAPE archives only
5. On the Parameters tab, in the Archive Parameters section, configure the following parameters:
   
   a. Archives to delete
   b. Delete archives with time range

   The Delete Plan Archive process filters the selected archive parameters by which MAPE archiving option you selected in the Plan section.
6. Click the Schedule tab to set up the frequency parameters.
   
   a. To run the plan immediately, select **As soon as possible**.
   b. To run the plan in the background at a set time, select **Using a schedule** and then select a frequency, such as **Monthly** or **Weekly**.
7. Click **Submit**.
10 Supply Network Model

How You Maintain Your Supply Network Model

Use the Maintain Supply Network Model page to view your collected data that includes details of organization, customers, suppliers, carriers, and interlocation shipping networks. To access the Maintain Network Model page, navigate to a Supply Chain Planning work area. Click the Tasks panel tab and then select the Maintain Supply Network Model link.

You use organizations to represent your business facilities or functions. Typically, if your business has a single physical facility that performs two different functions, then you model it as two organizations. For example, you have one facility that's a manufacturing plant and a distribution center. You can model them as two separate organizations. Additionally, if your business has one function located in two separate physical facilities, you can model those as one organization. If you modeled your facilities as one organization, you can create separate subinventories to represent inventory for each facility.

Review the Collected Data

Based on your search results, use the information on the Organization tab to do the following:

- Review organizations, including the time zones associated with the organizations, for all source systems.
- Create customer and supplier association to organizations. This is used when creating the buy-sell transfers.
- Select the drop ship validation organization. For each source system, you can select only one organization as the drop ship validation organization. You can also assign a calendar to a drop shop validation organization.
- Set past due parameters for each organization, which include:
  - Past due forecast days
  - Past due sales order days
  - Past due supply days

Use the Customer and Supplier tabs to review collected data and assign time zones to customer sites and supplier sites. If the customer site or supplier site doesn’t have an associated time zone, then the customer site or supplier site is assumed to be in the same time zone as the organization that’s associated to the demand or supply.

Use the Carrier and Interlocation Shipping Locations tabs to review collected data on carriers, shipping methods, and transit times.

Manage Organization Groups

Click the Manage Organization Groups button on the Organization tab to create and manage organization groups. Organization groups are managed within the source systems and are used to limit the net change data collection from a source system to specific organizations.
Buy and Sell Transfers

You can conduct material transfers between two organizations in a single Oracle Fusion source system by using the purchase order and sales order documents. The sales order at the source organization is used to ship the transfer. The purchase order at the destination organization is used to receive the transfer.

In the supply network model for the purchase order supply at the receiving organization:

- Define the supplier to source organization relationship and for the sales order demand at the shipping organization.
- Define the customer to destination organization relationship.

To model an organization as a supplier, update the Supplier and Supplier Site columns of the associated organization.

To model an organization as a customer, update Customer and Customer Site columns of the associated organization.

Forecast and Consume Internal Orders

To forecast and consume internal orders, assign a customer and customer site to the organization that's the destination of the transfers. Use a customer name that makes sense for the destination organization, such as M1 Transfers. After you assign a customer and customer site on the Organizations tab, select the Use Customer and Customer Site for Interorganization Transfers check box for the organization.

Note: To complete the setup to forecast and consume internal orders, you must also do the following:

- On the Collect Planning Data page, Parameters tab, Demand Planning Data subtab, select the Collect historical transfer orders check box.
- In the plan options for your plan, select the Include transfer orders check box in the Demand: Advanced Options dialog box. This check box is only available from a Demand Management, Planning Central, or Demand and Supply Planning work area.

Related Topics

- Overview of Data Collections for Supply Chain Planning
- How You Collect Different Data Types for Supply Chain Planning
- How You Load Planning Data from Files
- Set Up Forecast Consumption for Transfer Orders

Publish Order Forecasts to Suppliers

You publish order forecasts to your suppliers to enable them to commit supply and indicate their ability to meet the demand. Collaborating with suppliers by publishing an order forecast enables:

- Suppliers to send supply commits to the Original Equipment Manufacturer (OEM)
- OEMs to receive supply commits as supplier capacity

Collaboration enables suppliers to get an insight into the demand that the OEMs forecast and plan supply chain activities to meet the demand. Additionally, collaboration with suppliers enables OEMs to plan their downstream activities in the supply chain more efficiently.
Use the Collaboration Basis column in the Suppliers tab on the Maintain Supply Network Model page to indicate the basis on which you want to publish the order forecast to your suppliers. You can choose to publish the order forecast at the supplier and supplier site levels based on one of the following dates:

- **Start date**: Suppliers use the start date to know when they need to start manufacturing an order to fulfill the order on time
- **Dock date**: Suppliers use the dock date to know the date by which they need to fulfill the order

### How You Define the Approved Supplier List for Supply Chain Planning

An approved supplier list (ASL) is a repository of information that links items to the suppliers and supplier sites that provide them to either a specific ship-to-organization or the entire enterprise. An ASL can be global or specific to an organization; however, supply planning only recognizes global ASLs. The planning process collects ASLs from Oracle Fusion Procurement to determine the supplier and supplier sites for items.

Define ASL attributes in two different ways to use in supply planning. You can define some attributes in Oracle Fusion Procurement and then upload a CSV file that defines the attributes you want supply planning to use.

Define the following item-to-supplier relationships and order modifiers in Oracle Fusion Procurement:

- Supplier
- Supplier site
- Minimum order quantity
- Fixed lot multiple

To upload additional attributes for supply planning to use, you must create and collect the ASL from purchasing. You can then use the CSV file upload to define additional attributes such as the following:

- Item-supplier lead time
- Supplier capacity calendar
- Daily supplier capacity

#### Related Topics

- Supplier Capacity Options

### Associate Calendars with Supplier Sites

Use a supplier site calendar to measure processing lead times for purchases from a supplier site. You can associate a Supply Chain Planning calendar with a supplier site to use for all items sourced from that supplier site. The calendar is in the collected planning data.

You can associate a calendar with supplier sites to use if there is no calendar defined through the Approved Supplier List upload for a supplier site-item combination. From a Supply Chain Planning work area, navigate to the Maintain Supply Network Model page, Suppliers tab. In the **Supplier Site Calendar** column for a supplier, select a calendar name from the list of collected calendars. You can only edit this field if the supplier row contains a supplier site.
Assignment Sets, Sourcing Rules, and Bills of Distribution

You use assignment sets in a Supply Chain Planning work area to link sourcing rules and bills of distribution to items. Using sourcing rules, bills of distribution, and assignment sets together, you can specify how material is supplied, manufactured, and transferred across a supply chain.

Note: This topic is applicable to only the Planning Central, Sales and Operations Planning, Supply Planning, and Demand and Supply Planning work areas.

When you create sourcing rules and bills of distribution, you create descriptions of the means by which you can replenish items. However, item numbers are not specified anywhere on the definition forms, so a defined sourcing rule or bill of distribution can later be assigned to any items or groups of items. Use assignment sets to associate specific item numbers, categories, or organizations with the sourcing rules and bills of distribution.

You must use sourcing to describe the supply chain to the planning process. Use the following three structures to do so:

- Sourcing rules
- Bills of distribution
- Assignment sets

Sourcing Rules

Sourcing rules and bills of distribution determine the movement of material between organizations. These organizations include supplier, manufacturing, and distribution facilities. You can navigate to a Supply Chain Planning work area and click Manage Sourcing Rules from the Tasks drawer to create or search for an existing sourcing rule.

The three types of sources are:

- Transfer From: Interorganization shipping functionality accomplishes the transfer between internal organizations. Enter the source organization in the Organization column.
- Make At: The item is manufactured at this internal organization. Enter the manufacturing organization in the Organization column.
- Buy From: Purchase the item from an external enterprise. Data entry in the Supplier and Supplier Site columns are enabled, and the Organization column is disabled.

Allocation and Rank: The total allocation percentage for all sources within a rank must add up to 100 percent. The sources with the highest rank (lowest numeric value) get the highest priority in allocations. Planning Central only considers sources of rank one.

Bill of Distribution

When material flows through three or more organizations, bills of distribution describe supply chain links more efficiently than sourcing rules. However, any relationship that can be described by bills of distribution can also be
described by a set of sourcing rules. Typically, most users use sourcing rules rather than bills of distribution. You can navigate to a Supply Chain Planning work area and click Manage Bills of Distribution from the Tasks drawer to create or search for existing bills of distribution.

Note: Despite the name, bills of distribution do not describe an outward bound or push type of sourcing relationship. Both sourcing rules and bills of distribution are used only to pull material from sources to destinations.

Assignment Sets

You use assignment sets to link sourcing rules and bills of distribution to items. In other words, you use assignment sets to link sourcing rules, items and supply nodes. The assignment set creates the sourcing and transfer links between organizations for each item involved in a supply chain plan. Alternative supply chains can be modeled by creating alternative assignment sets. You can navigate to a Supply Chain Planning work area and click Manage Assignment Sets from the Tasks drawer to create or search for existing assignment sets.

Sourcing Assignment Hierarchy

The planning process uses a sourcing assignment hierarchy to determine the actual source of a specific item. You can assign replenishment sources at the following levels. Specific sourcing assignments override general assignment levels. The following table lists the supply sourcing hierarchy.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Item or Category</th>
<th>Applies to</th>
</tr>
</thead>
</table>
| 1    | Item - Organization    | 1. Sourcing rule  
                              2. Item-organization attributes (Make or Buy) |
| 2    | Category - Organization| N/A                                                                         |
| 3    | Item                   | 1. Bill of distribution  
                              2. Global sourcing rule                                                     |
| 4    | Category               | 1. Bill of distribution  
                              2. Global sourcing rule                                                     |
| 5    | Organization           | 1. Bill of distribution  
                              2. Global sourcing rule  
                              3. Item-master attributes (Make or Buy)                                    |
| 6    | Global                 | 1. Bill of distribution  
                              2. Global sourcing rule                                                     |

Caution: To use category in the assignment set, you must set the profile option catalog for sourcing assignments to select the catalog that is used for sourcing. Typically, the planning catalog is used. However, any collected catalog can be selected in the profile option. If the profile option is blank, then category is not available in the assignment hierarchy.
When you source supplies for sales orders and forecasts (independent demands), order promising and planning use the more detailed hierarchy. This hierarchy includes demand class, customer, and customer site which are dimensions of independent demand.

The following table lists the demand sourcing hierarchy.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Item or Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Item - Customer / customer site</td>
</tr>
<tr>
<td>2</td>
<td>Item - Customer</td>
</tr>
<tr>
<td>3</td>
<td>Item - Demand Class</td>
</tr>
<tr>
<td>4</td>
<td>Item - Region</td>
</tr>
<tr>
<td>5</td>
<td>Category - Customer / customer site</td>
</tr>
<tr>
<td>6</td>
<td>Category - Customer</td>
</tr>
<tr>
<td>7</td>
<td>Category - Demand Class</td>
</tr>
<tr>
<td>8</td>
<td>Item</td>
</tr>
<tr>
<td>9</td>
<td>Category - Region</td>
</tr>
<tr>
<td>10</td>
<td>Category</td>
</tr>
<tr>
<td>11</td>
<td>Customer / customer site</td>
</tr>
<tr>
<td>12</td>
<td>Customer</td>
</tr>
<tr>
<td>13</td>
<td>Demand Class</td>
</tr>
<tr>
<td>14</td>
<td>Region</td>
</tr>
<tr>
<td>15</td>
<td>Global</td>
</tr>
</tbody>
</table>

Using the demand sourcing hierarchy, if a demand line includes a value for demand class, then if no sourcing rule exists for Item - Customer / customer site or Item - Customer, but a rule exists for Item-Demand Class, then that rule is used to determine supply sources for the demand line.
When using the sourcing hierarchy, if two rules conflict, the more granular rule is used. To verify which source is used for an assignment set, from within the set, click the **View Sourcing** button after entering the following required parameters:

- Assignment set
- Organization
- Item
- Date

The dialog box displays which assignments apply to the item-organization-date that you selected. If multiple rules apply, then the Active Rule is marked in the form.

### Item Attributes and Order Modifiers for Supply Planning

Items represent the material that you use in manufacturing and distribution processes and store in inventory. Item attributes specify properties of each item. You set the item attributes for supply planning through the Product Information Management work area.

Use these steps to set item organization attributes for supply planning:

1. Navigate to the Product Information Management work area and open the **Manage Items** task from the Tasks drawer.
2. Search for your items.
3. Select an item and edit attributes on the specification tab. You can locate the Planning attributes under the planning section.

This table lists the attributes related to supply planning.

<table>
<thead>
<tr>
<th>Item Attribute</th>
<th>Item Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item Overview</td>
<td>Unit of Measure</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Structure Item Type</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Base Model</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Autocreated Configuration</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Assemble to Order</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Build in WIP</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Supply Type</td>
</tr>
<tr>
<td>Inventory</td>
<td>Inventory Item</td>
</tr>
<tr>
<td>Item Attribute</td>
<td>Item Structure</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>Inventory</td>
<td>Stockable</td>
</tr>
<tr>
<td>Inventory</td>
<td>Transactable</td>
</tr>
<tr>
<td>Order Management</td>
<td>Customer Orders Enabled</td>
</tr>
<tr>
<td>Order Management</td>
<td>Transfer Orders Enabled</td>
</tr>
<tr>
<td>Planning</td>
<td>Make or Buy</td>
</tr>
<tr>
<td>Planning</td>
<td>Safety Stock Method</td>
</tr>
<tr>
<td>Planning</td>
<td>Planner Code</td>
</tr>
<tr>
<td>Planning</td>
<td>Planning Method</td>
</tr>
<tr>
<td>Planning</td>
<td>Forecast Control</td>
</tr>
<tr>
<td>Planning</td>
<td>Time Fences: Demand</td>
</tr>
<tr>
<td>Planning</td>
<td>Time Fences: Release</td>
</tr>
<tr>
<td>Planning</td>
<td>Time Fences: Planning</td>
</tr>
<tr>
<td>Planning</td>
<td>Cost</td>
</tr>
<tr>
<td>Planning</td>
<td>Carrying Percentage</td>
</tr>
<tr>
<td>Planning</td>
<td>Shrinkage Rate</td>
</tr>
<tr>
<td>Planning</td>
<td>Acceptable Early Days</td>
</tr>
<tr>
<td>Planning</td>
<td>Lead Times: Processing</td>
</tr>
<tr>
<td>Planning</td>
<td>Lead Times: Preprocessing</td>
</tr>
<tr>
<td>Planning</td>
<td>Lead Times: Postprocessing</td>
</tr>
</tbody>
</table>
### Item Attribute

<table>
<thead>
<tr>
<th>Item Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning</td>
</tr>
<tr>
<td>Lead Times: Fixed</td>
</tr>
<tr>
<td>Planning</td>
</tr>
<tr>
<td>Lead Times: Variable</td>
</tr>
<tr>
<td>Planning</td>
</tr>
<tr>
<td>Minimum Order Quantity</td>
</tr>
<tr>
<td>Planning</td>
</tr>
<tr>
<td>Maximum Order Quantity</td>
</tr>
<tr>
<td>Planning</td>
</tr>
<tr>
<td>Fixed Order Quantity</td>
</tr>
<tr>
<td>Planning</td>
</tr>
<tr>
<td>Fixed Lot Multiplier</td>
</tr>
<tr>
<td>Planning</td>
</tr>
<tr>
<td>Fixed Days Supply</td>
</tr>
<tr>
<td>Planning</td>
</tr>
<tr>
<td>Rounding</td>
</tr>
<tr>
<td>Purchasing</td>
</tr>
<tr>
<td>Purchasable</td>
</tr>
<tr>
<td>Purchasing</td>
</tr>
<tr>
<td>Approved Supplier List</td>
</tr>
</tbody>
</table>

You can use these attributes for specific purposes:

- **Make or Buy**: This attribute is used by default if no sourcing rule is present.
- **Planning Method**: Use either MRP planned or MPS planned as the planning method.
- **Time Fences**: All are used by planning.
- **Buy items use the processing lead times. Make items use fixed and variable.**
- **Make, buy, transfer all use preprocessing lead time. Buy and transfer use post processing lead time.**
- **Acceptable Early Days is used if you need to reschedule existing supplies. If the supply due date is within the acceptable early days, then no reschedule out recommendation is issued.**

### Order Modifiers

You use order modifiers to obtain planned orders that you are more likely to use in your environment. For example, you may purchase an item from a supplier who only provides it on pallets of quantity 100. If you are short in some quantity, say 72, you can set the planned order quantity to 100 instead of 72 to support your requirement. You can’t apply order modifiers to phantoms.

These are the order modifiers that you can use:

- Minimum Order Quantity
- Maximum Order Quantity
Material planning uses a priority sequence (precedence) of order modifiers. It applies certain order modifiers before others and rules out certain order modifiers based on its using certain other order modifiers. The order modifier precedence is:

- **Fixed Days Supply**: One planned order for this item must cover all the shortages for the number of days specified in the value. For example, if the net requirements are 50 on Monday, 100 on Wednesday, 70 on Thursday, and you have set fixed days supply to five, the planning process creates one planned order, with quantity of 220 (50 + 100 + 70) and due on Monday. The period start dates are not fixed. In the example, the next period of five days would not always start on the following Monday but would start on the next day after Friday that has net requirements. You can adjust the fixed days supply value using the other order modifiers. Therefore, the next period of five days could be the following Wednesday through the second Tuesday.

- **Fixed Order Quantity**: You must always set the planned order quantity with this value. For example, if the net requirements are one and you have set fixed order quantity to 200, the planning process creates one planned order with quantity of 200. If set, the planning process skips to the modifier Round order quantities.

- **Fixed Lot Multiplier**: You must always have the planned order quantity with this value. For example, if the net requirements are 400 and you have set fixed lot multiple to 150, the planning process creates one planned order with quantity of 450.

- **Minimum Order Quantity**: The planned order quantity may never be less than this value. For example, if the net requirements are 100 and you have set minimum order quantity to 150, the planning process creates one planned order with quantity of 150. If set, the planning process skips to the modifier Round order quantities.

- **Maximum Order Quantity**: One planned order for this item may not have a quantity more than this value. For example, if the net requirements are 200 and you have set maximum order quantity to 150, the planning process creates two planned orders, one with quantity of 150 and the other with quantity of 50.

- **Rounding**: The planned order quantity must always be a whole number; the planning process always rounds fractional quantities up to the next highest whole number. For example, if the net requirements are 99.2 and you have selected round order quantities, the planning process creates one planned order with quantity of 100.

### Specify Catalogs for Assignment Sets

A catalog is a collection of categories used to classify items that you can organize into a hierarchy. A catalog can have a flat or single-level structure of categories or you can have a hierarchical structure of categories.

When creating assignment sets, you must specify a catalog for each assignment set. You associate an assignment set with a catalog to:

- Use the categories associated to that catalog in your assignment set.
- Link the sourcing assignments to the categories associated with the catalog.

If you do not specify a catalog for an assignment set, the assignment set uses the Catalog for Sourcing Assignments (MSC_SRC_ASSIGNMENT_CATALOG) profile option as the default catalog.

To create an assignment set and specify a catalog, use the Manage Assignment Sets task in one of the Supply Chain Planning work areas.
Note: Assignment sets are not applicable to the Demand Management work area.

Drop Shipment

Drop Shipments in Supply Planning

Drop shipments are direct shipments of material from a supplier to a customer. It’s an order fulfillment strategy where the seller doesn’t keep products in inventory. Instead, the seller relies on suppliers or contract manufacturers to build, store, and then ship orders directly to customers. The internal organization manages the process but never handles the material. In a drop shipment flow, there is one sales order to one supplier purchase order. Customer information is shared with the supplier. The internal organization bills the customer and pays the supplier.

To properly plan for drop shipments in Supply Planning, you must define the drop shipment supply chain network.

- Define drop shipment sourcing rules that determine which supplier sites support drop shipments.
- Define transit times between supplier and customer sites.
- Set up a drop ship validation organization.
- Enable the Drop Ship Validation item organization for collections.

How Drop Shipments Are Processed in Supply Planning

Supply planning recommends new planned orders for drop shipments and manages drop shipment purchase orders. The planning process pegs supply to a sales order when both of the following conditions are met:

- A sales order line is marked as a drop shipment.
- There’s an existing purchase order that’s shipped directly to the customer site on the sales order.

Although not actually a reservation, the supply planning process treats the drop shipment purchase order as a reservation. In this case, the drop shipment purchase order can’t be used for any other demand.

Set Up a Drop Shipment Validation Organization

The supply planning process uses a special organization called drop shipment organization for drop ship demands and supplies. Use the drop shipment validation organization to get various item organization attributes, such as lead times and time fences for drop ship items. You must specify a drop shipment validation organization for each source system that supports drop shipments. Specify the drop shipment validation organization value on the Manage Organizations page in the Maintain Supply Network Model task.

Caution: Supply Planning sources all demands against the drop shipment validation organization with drop shipment planned orders. For this reason, the drop shipment validation organization should not be a standard inventory organization with transactions, as there could be unexpected results.

Use the drop shipment validation organization for the following purposes:

- As the source for organization-item attributes when creating drop shipment planned orders.
- As a proxy for the organization for drop shipment forecasts and manual demands.
As a proxy for the organization during the collections of drop shipment sales orders and drop shipment history. Specify the drop shipment validation organization when you generate a forecast or create a manual demand. Drop shipment sales order bookings and shipments history are collected with the drop shipment validation organization when items are shipped from the warehouse. Demand forecasting can create forecasts for the drop shipment validation organization and release the forecasts for planning supplies. The drop shipment validation organization can be the item master for a source system, but it's not required.

The drop ship validation organization can be the item master for a source system, but it's not required.

**Note:** The drop shipment validation organization must be an item organization. When you set up the drop shipment validation organization, if the item master holds any transactions, create a new drop shipment validation organization.

To set up a drop shipment validation organization:

1. Define an item organization in the Product Information Management work area.
2. Enable the new item organization for collection from the Oracle Fusion source system.
3. Run collections to collect organization entities.
4. Perform the following steps in a Supply Chain Planning work area to complete the drop shipment sourcing setup:
   a. Navigate to a Supply Chain Planning work area.
   b. Click the **Tasks** panel tab.
   c. In the Tasks panel, click **Maintain Supply Network Model**.
   d. In the Organizations region, select the **Drop Ship Validation Organization** option.

You have completed the drop shipment validation organization setup.

---

### Set Up Drop Shipment Sourcing Rules

To properly plan for drop shipments, you must first define the drop shipment sourcing rules that determine which supplier sites support drop shipments. These are sourcing rules with a buy from supplier and supplier site source. When defined, you can assign the drop shipment sourcing rule to various aggregate levels of item and customer location. Valid item levels are item and category. Valid customer location levels are customer site, region/zone, and all locations. When you assign a drop shipment sourcing rule, you determine which supplier sites can drop ship to which customer sites.

You can apply drop shipment sourcing rules only to the independent demands. The demand sourcing hierarchy is applied for drop ship cases. If a level 1 rule is found for an item and customer or customer site, then that rule is used. Otherwise, if the highest level rule is assigned to a category-customer level, then that rule is used.

The following table lists the ranking of various demand sourcing hierarchies:

<table>
<thead>
<tr>
<th>Rank</th>
<th>Demand Sourcing Hierarchy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Item - Customer or Customer Site</td>
</tr>
<tr>
<td>Rank</td>
<td>Demand Sourcing Hierarchy</td>
</tr>
<tr>
<td>------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>2</td>
<td>Item - Customer</td>
</tr>
<tr>
<td>3</td>
<td>Item-Demand Class</td>
</tr>
<tr>
<td>4</td>
<td>Item - Region</td>
</tr>
<tr>
<td>5</td>
<td>Category - Customer or Customer Site</td>
</tr>
<tr>
<td>6</td>
<td>Category - Customer</td>
</tr>
<tr>
<td>7</td>
<td>Category - Demand Class</td>
</tr>
<tr>
<td>8</td>
<td>Item</td>
</tr>
<tr>
<td>9</td>
<td>Category - Region</td>
</tr>
<tr>
<td>10</td>
<td>Category</td>
</tr>
<tr>
<td>11</td>
<td>Customer or Customer Site</td>
</tr>
<tr>
<td>12</td>
<td>Customer</td>
</tr>
<tr>
<td>13</td>
<td>Demand Class</td>
</tr>
<tr>
<td>14</td>
<td>Region</td>
</tr>
<tr>
<td>15</td>
<td>Global</td>
</tr>
</tbody>
</table>

If an assignment set contains drop shipment rules that are already assigned to an item or a category, then you must define organization-specific rules for an item or category that's both drop shipped and also shipped to an inventory organization. If the sourcing rule for the drop ship demand includes a transfer from source or a make at, the transfer from source and make at is ignored. If there are multiple buy from sources, then the buy from sources are reapportioned to equal 100%.

**Create Drop Shipment Sourcing Rules**
To create drop shipment sourcing rules:

1. Define a global sourcing rule and specify a buy from supplier, supplier site, and supplier source system.
2. In the assignment set, assign the global sourcing rule to an assignment level that includes an item or a category. Assign the global sourcing rule to a customer or a zone as required, but you can’t assign the rule to an organization.

Define Transit Times Between Supplier and Customer Sites for Drop Shipment

After you create your drop shipment sourcing rules, you must define transit times between supplier and customer sites. There are multiple ways to define transit times between a specific supplier and a specific customer, all created in the Define Transit Times page. Constraint-based supply planning supports the following transit time lane combinations for drop shipments:

- External location to external location
- External location to region/zone
- Region/zone to region/zone

Set Up a Drop Shipment Plan

When you set up a plan for drop shipment, you can include both drop shipment sales order and standard sales orders (forecasts and supplies) from a direct shipment organization in the same plan.

To set up your plan for drop shipment:

1. From a Supply Chain Planning work area, open your supply plan or demand and supply plan.
2. From your plan, click Actions > Edit Plan Options.
3. On the Edit Plan Options page, click the Supply tab and then click Select Advanced Options.
4. On the Supply: Advanced Options page, select Include drop ship demands and supplies.
5. Optionally, you can include other direct shipment organizations.
6. Set the other plan parameters, as needed.

For example, select Create time fence to apply time fences to drop shipment forecasts.
7. Save the plan.
8. Run the plan to include the drop shipments in the plan output.

Note: In your drop shipment plan, search for supplies and demand in the drop shipment validation organization. Note that the customer information appears on the purchase order and the supplier information appears on the sales order.

Drop Shipment Forecast

Create a drop shipment forecast based on the drop shipment shipping history or booking history. You can also create plans using drop shipment forecasts to see the projected drop shipment planned orders.

To enable the drop shipment history, the collections process sets the ship from organization value of drop ship shipments and bookings history to the drop ship validation organization.
Drop shipment history has an organization reference to the drop shipment validation organization. Collecting and using the history facilitates creating a forecast for future drop ship shipments or bookings. The forecast uses the drop shipment validation organization. You can use this forecast as a demand schedule for a supply plan that includes drop shipments.

Plan Outside Processing Operations

Overview of Outside Processing

Outside processing is a business process where one or more operations of a work order are outsourced to a supplier who provides specialized manufacturing services. These services may vary depending on the nature of the industry.

Outside processing is often adopted as a strategic alternative to in-house manufacturing for the following reasons:

- To lower manufacturing costs due to production costs
- To leverage state of the art manufacturing technology
- To increase capacity to overcome production bottlenecks
- To focus on core competencies

Here's a figure which explains a business flow where three operations are required to complete a work order. Operation 10 which is machining, followed by operation 20 which is plating, and operation 30 which is assembly. Operation 20 is a supplier operation performed by outside processing.

- An Original Equipment Manufacturer (OEM) performs the first operation in-house and ships the machined parts to a supplier for plating.
- The supplier performs the plating operation and sends the plated parts to the Original Equipment Manufacturer (OEM).
- The OEM receives the plated parts and pays the supplier for performing the value added services.
In the entire process, the OEM retains the ownership of the goods that are sent to and received back from the supplier.

Note: The outside processing flow is supported for both discrete and process manufacturing.

Plan Outside Processing Operations

For constrained and unconstrained supply planning, you can plan one or more operations that are outsourced to suppliers. These operations are part of routings of items that are manufactured in-house. The outsourced supplier operations are part of manufacturing a product, where the rest of the operations are processed in-house.

Outside Processing Calculations for Constrained and Unconstrained Supply Planning

The planning process for constrained supply planning calculates duration of outside processing operations based on fixed and variable lead times:

Fixed Lead Time + (Variable Lead Time multiplied by Lead Time Lot Size)

The planning process for unconstrained supply planning calculates duration of outside processing operations a little differently:

Fixed Lead Time + (Variable Lead Time multiplied by Operation Quantity)

Here's some additional information about outside processing calculations in Supply Planning:

- The fixed and variable lead times are the operation level attribute values.
- The lead time lot size is the item level attribute value. If there are no operation yields on the subsequent operations in the work definition, the lead time lot size is the same as the supply quantity.
- The operation duration is equal to the fixed lead time when the lead time lot size is zero or null.
- The supplier operation duration is based on the organization manufacturing calendar.

For example, the duration of an operation is 7.5 hours and the organization manufacturing calendar has Saturday and Sunday on nonworking days. A supplier operation that starts on Friday at 23:00 will complete on Monday at 6:30. A supplier operation that starts on Monday at 23:00 will complete on Tuesday at 6:30.

Planning Work Orders with Outside Processing Operations

The following describes the supply planning behavior for firm and non-firm work orders.

- Firm work orders: The collected values for operation start date and operation end date of the outside processing operation within the work order is treated as firm.
- Non-firm work orders: If the supply planning process must reschedule a non-firm work order, it reschedules the operation based on the fixed and variable lead times at the operation level and the lead time lot size.

Planning Data Collections for Outside Processing Operations

Planning Data Collections collects these outside processing operation attributes for work orders and work definitions.

- Operation type: Either in-house or supplier
- Supplier
- Supplier site
- Fixed lead time
• Variable lead time
• Operation cost: Operation cost must be collected as the standard cost of the outside processing item that’s associated with the outside processing operation.

If the operation type is In-House, then the Supplier, Supplier Site, Fixed Lead Time, and Variable Lead Time attributes aren’t collected.

It’s important to collect the operation attributes at the work order level. A nonstandard work order in Oracle Fusion Manufacturing Cloud can include an outside processing operation that’s been previously defined as a standard operation. Such operations can exist only in the context of specific nonstandard work orders and can’t be part of any item work definition.

Back-to-Back Fulfillment

In the back-to-back fulfillment process flow, supply is received at a warehouse and then shipped directly to the customer. This flow is best suited for fulfillment of high-cost or slow-moving products where stock isn’t maintained in inventory. For example, you might want to use back-to-back fulfillment for items that are too expensive to maintain as on-hand inventory. Or, you might want to use back-to-back fulfillment when you don’t want to use warehouse space to stock items that rarely sell.

Supply in back-to-back fulfillment is procured and received at a warehouse only after a sales order is entered and scheduled. The sales order demand triggers the supply creation, and a link is established between the sales order and the supply. The supply is reserved against the sales order until shipping.

Back-to-back fulfillment is a fully automated order fulfillment process that includes:

• Automated selection of source of supply, internal or external
• Reservation of supply until fulfillment
• Automated response to supply and demand changes

Related Topics

• Overview of Back-to-Back Fulfillment
• How Back-to-Back Fulfillment Works

How Back-to-Back Fulfillment Is Processed in Supply Planning

Use back-to-back fulfillment to improve revenues and margins by increasing on time fill rates while reducing your inventory levels. Back-to-back ordering is a special type of ordering that matches each supply order with each sales order on a one-for-one basis.

Typically, back-to-back is a purchase order matched to a sales order and cross-docked at the warehouse. Order Promising recommends a supply source and the recommendation is sent to Supply Chain Orchestration. Supply Chain Orchestration creates the supply and always creates a reservation between the supply and the sales order line.

Supply planning collects back-to-back demands and supplies, and respects the reservations between them. The planning process generates exceptions if back-to-back supplies fall short of demands or cause resource or supplier
capacity overloads. Constrained supply planning generates planned supply for back-to-back orders that are missing supplies, but these planned orders can’t be released from the plan. You can notify Order Management to check the order line and use Order Promising to promise the line and send the supply recommendation to Supply Chain Orchestration.

To properly plan for back-to-back orders in Supply Planning, you must define the back-to-back supply chain network.

- Set the item-organization attribute **Back-to-Back Enabled** to **Yes** in the Product Information Management work area.
- Set the item-organization attribute **Planning Method** to either **MRP Planned** or **MPS Planned**.
- Specify sourcing rules for the item, which tells supply planning how to:
  - Determine the ship from organization for sales orders.
  - Determine the supply sources for bringing material in to the ship from organization.
- Add the sourcing rules to the Order Promising assignment set.
- Set up your supply plan to plan for drop shipments.
  - In the Advanced Plan Options dialog box, set the **Include drop ship demands and supplies** attribute to **Yes**.
  - Optionally, select a demand schedule that represents a drop shipment forecast.
11 Simulation Sets

Simulations in Supply Planning

You can use simulations in Supply Planning to analyze various what-if scenarios by changing or editing data in a plan. You can then run the plan with the Do not refresh with current data option selected and save the changes to a simulation set, if needed. The simulation set can then be used in future plan runs.

Simulation sets are collections of changed data that you would want to include in plan options before running a plan. A simulation set enables you to modify data on the plan output and see the impact of the changed data. For example, you can test planning results by changing item lead times or order modifiers. You can add simulation sets in Plan Options.

You can edit the attributes of the following entities before running a simulation. If you can click the attribute and it accepts a value, you can edit that attribute.

- Items
- Item Structures
- Resources
- Resource Availability
- Routings
- Routing Resources
- Supplies and Demands
- Suppliers
- Supplier Capacity

Create a Simulation Set

Perform the following steps to create a simulation set from the Plan Inputs work area:

1. In the Navigator, click the Plan Inputs work area link.
2. On the Plan Inputs page, click the Open button.
3. In the Open Table, Graph, or Tile Set dialog box, do the following:
   a. In the Search drop-down list, select Name.
   b. In the Search text box, enter the name of a table, such as Items or Resources.
   c. Click the Search icon button.
   d. Select the Items (or Research) table and click OK.
4. On the Plan Inputs page, Items tab (or Resources tab), click the Search button.
5. In the Search Results region, select one or more rows and do the following:
   a. Click Actions and then select Add to Simulation Set.
   b. In the Add to Simulation Set dialog box, click the Search: Simulation Set down arrow for a list of values, and then click Create Simulation Set.
c. In the Create Simulation Set dialog box, in the Simulation Set field, enter the name of the simulation set you want to create.
d. Click Save and Close.
e. In the Add to Simulation Set dialog box, click Save and Close.

Related Topics
- Overview of Simulation Sets

Edit a Simulation Set

Perform the following steps to edit a simulation set from the Plan Inputs work area:

1. In the Navigator, click the Plan Inputs work area link.
2. On the Plan Inputs page, click the Plans panel tab.
3. In the Plans panel drawer, do the following:
   a. Expand the list of Simulation Sets.
   b. Select a simulation set, right-click on it and select Open.
4. On the Simulation Set page, click Open and then select Full Pane.
5. In the Open Table, Graph, or Tile Set dialog box, select a table, such as Resources or Items, and then click OK.
   On the Simulation Set page, a new tab opens for the table that you selected, such as the Resources tab or the Items tab.
6. In the Search region, click Search.
7. In the Search Results region, select one or more rows. Click Actions and then select Edit from the drop-down list.
8. In the edit dialog box, you can edit some of the attributes and drill down to additional tables, depending on the table that you accessed. For example:
   o For the Resources table, you can change the Bottleneck value. You can also drill down to the Resource Availability table.
   o For the Items table, you can change the Processing Lead Time value. You can also drill down to the Suppliers table.
9. When done, click OK to return to the Simulation Set page. Changed rows and fields are marked with small colored dots.

Related Topics
- Overview of Simulation Sets
- Simulate Demand and Supply Changes

Edit a Simulation Set from a Spreadsheet

You can download simulation set data into a spreadsheet, make edits, including certain updates, additions, and deletions, and then upload it back to the simulation set. In the Plan Inputs work area, while working with the Items or Supplies and Demands table in a simulation set, use the Edit in Spreadsheet option in the Actions menu to download the table rows into a Microsoft Excel file.
Note: Before working with spreadsheets, you must download and install the desktop integration installer that is available under Navigator > Tools. Otherwise, you can't download information into or upload information from spreadsheets.

To edit the data in the Items or Supplies and Demands table of the simulation set in a Microsoft Excel spreadsheet, follow these steps:

1. In the Plan Inputs work area, click the Plans panel tab.

   Note: The simulation set can also be edited from the Planning Central, Sales and Operations Planning, and Supply Planning work areas. However, the Supplies and Demands table is available in the simulation set only when it is edited in the Supply Planning work area.

2. In the Plans panel drawer, do the following:
   a. Expand the list of simulation sets.
   b. Select the simulation set that you want to edit, right-click, and click Open. The simulation set opens.

3. In the Open menu, select Full Pane. The Open Table, Graph, or Tile Set dialog box opens.

4. Select the Items or Supplies and Demands table, and click OK. The table opens in a page in the simulation set.

5. Perform a search for the table rows in the simulation set.

6. In the Actions menu for the table, click Edit in Spreadsheet. A dialog box opens and prompts you to save or open a Microsoft Excel file.

7. Open the spreadsheet. The Connect dialog box opens and prompts you to connect to the URL for the application.

8. Click Yes. A dialog box opens and prompts you to type your credentials.

9. Sign in with your Oracle Applications Cloud credentials. The spreadsheet is refreshed with the data in the simulation set.

10. Edit the data.

<table>
<thead>
<tr>
<th>Task</th>
<th>Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>To add an item to the Items table of the simulation set</td>
<td>Click the Add Item icon in the Items menu of the spreadsheet, and provide values in the Add Item dialog box that opens. You can add an existing item or create an item that is based on an existing item.</td>
</tr>
<tr>
<td>To create an order in the Supplies and Demands table of the simulation set</td>
<td>Click the Create Order icon in the Supplies and Demands menu of the spreadsheet, and provide values in the Create Order dialog box that opens. (Not applicable to sales and operations planning.)</td>
</tr>
<tr>
<td>To edit a row</td>
<td>Modify the values in the row cells that are not grayed out. A symbol appears in the cell under the Changed column for the row.</td>
</tr>
<tr>
<td>To delete a row</td>
<td>Click the corresponding cell in the Mark for Deletion column. A symbol appears in the cell to mark the table row for deletion. To deselect the row, click the cell again.</td>
</tr>
</tbody>
</table>

11. Click the Upload icon in the Items or Supplies and Demands menu. In the Upload Options dialog box that appears, select the check boxes for the options that you want to use, and click OK. The data is uploaded to the simulation set.

12. Save the simulation set. The changes are displayed and marked with colored symbols.
Copy Data to Simulation Sets

If you have updated any data, then you can add the changed data to a simulation set. After you copy the data to a simulation set, you can run the simulation to verify your data. Then, you can include this changed data to subsequent plan runs.

Follow these steps to copy plan data to a simulation set:

1. In the Navigator, click the Supply Planning work area.
2. Click the Plans panel drawer, right-click Plan Inputs, and click Open.
3. In the Open, Table, Graph or Tile Set dialog box, search the entity that has the edited data. For example, search the items that you edited.
4. Select the rows that you have edited and saved.
5. Click the Actions menu in the Items tab and click Copy to Simulation Set.
6. Select one of the copy options:
   - Copy Selected: Copies data from the selected cells.
   - Copy All: Copies all the data in a row.
7. Add the highlighted changes to an existing simulation set or click Create Simulation Set in the Copy to Simulation Set dialog to create a new simulation set.
8. Click Save and Close.
9. Add this simulation set in Plan Options, Scope tab of the plan.

Add Data from Plan Inputs to Simulation Sets

You can make changes to data in Plan Inputs without running the plan and then include the data directly into simulation sets. You can verify the result of the simulation after the plan is run.

Follow these steps to add plan data from plan inputs to a simulation set:

1. In the Navigator, click the Supply Planning work area.
2. Click the Plans panel drawer, right-click Plan Inputs, and click Open.
3. On the Open, Table, Graph or Tile Set page, search the entity that you want to edit. For example, search the items that you want to edit.
4. Edit the data on the required rows and save the data.
5. Select the rows of edited data, click the Actions menu in the Items tab and click Add to Simulation Set.
6. Add the highlighted changes to an existing simulation set or click Create Simulation Set in the Copy to Simulation Set dialog to create a new simulation set.
7. Click Save and Close.
8. Add this simulation set in Plan Options, Scope tab of the plan.
Glossary

**dimension**
A data category used to organize business data for retrieval and preservation of values. Dimensions usually contain hierarchies of related members grouped within them. A dimension categorizes and describes measure data. For example, a measure named Price might be categorized by Product and Time, so that the price of items can be tracked over time.

**FIFO**
Abbreviation for first in, first out. A material control technique of rotating inventory stock so that the earliest inventory units received or produced are the first units used or shipped. The ending inventory therefore consists of the most recently acquired goods.

**item structure**
The hierarchical structure of a configurator model that represents a model imported as a snapshot from Oracle Fusion Product Model.

**measure**
Contains data that is organized by the measure's dimensions. For example, measures named Price and Forecast with the dimensions Product and Time would contain price data and forecast data for each product and time period.

**planning data repository**
The set of data collected from source systems and stored for use by order management, order promising, and supply chain planning processes.

**sales order**
A contractual document between a sales organization and your customer. You create a sales order in the Order Management work area. Order management also transforms a source order it receives from a source system into a sales order that it can submit to order fulfillment.

**Selector Tool**
A user interface within supply chain planning work areas used to select measures, hierarchy levels, and dimension members. Used when creating and editing tables, graphs, analysis sets, and infotiles.

**work area**
A set of pages containing the tasks, searches, and other content you need to accomplish a business goal.