ORACLE

Oracle Cloud Supply Planning

Oracle Cloud Supply Planning gives you simpler, faster, and better ways to plan and execute your operations strategy. It detects material and capacity constraints, prioritizes competing demands, and intelligently reroutes global supply to minimize disruptions. It also helps you schedule production to make the best use of your factory resources. Take advantage of opportunities as they occur with more agile, iterative supply planning in the Cloud.

PLAN GLOBAL SUPPLY

Today's supply chains are complex, with multiple tiers of internal and external nodes. You must plan for a global network of in-house production and distribution facilities, contract manufacturers, drop ship suppliers, and outside services providers. In addition, you may need to manage discrete, process, and configure-to-order manufacturing processes.

Figure 1. Quickly respond to changes in supply and demand across global networks

Capabilities

- Plan your global supply chain across multiple tiers, including outsourced manufacturing and upstream suppliers including outsourced manufacturing and upstream suppliers
- Plan process, discrete, and mixed-mode manufacturing supply
- Schedule your factory operations considering production constraints
- Dynamically prioritize and reschedule demands based upon business requirements
- Automatically evaluate material and capacity constraints, determine root causes, and recommend actions
- Model what-if changes to capacity, demand, supply, and items
- Compare the effectiveness of alternative plans
- Release the best plan for execution and cancel or reschedule supply orders as needed

Oracle Cloud Supply Planning accounts for lead times, shipping and receiving calendars, as well as material and capacity constraints across your extended supply chain so you know when you can realistically meet demand. With its comprehensive network and sourcing model, you can trade off internal vs. external production capacity, configure drop ship relationships, consolidate supply at your own facilities, or identify when a second-tier supplier's limited capacity could put demand at risk. You can choose to manage your network with a few global rules, or tailor your planning for each high-value component at a critical facility.

Generate Detailed, Executable Plans

Supply plans must accurately reflect material constraints to be executable. For example, effectivity dates on components, lot expiration dates, and inventory reservations can impact supply availability, so Supply Planning includes them in its calculations. It also accounts for any existing reservations on purchase orders, manufacturing work orders, or transfer orders. Finally, to ensure consistency with production processes, Supply Planning uses manufacturing routings to determine material and resource requirements.

When you need to plan complex configure-to-order supply, Supply Planning can consume configured product orders from model-level demand forecasts and calculate their component and resource requirements.

In addition to fulfilling orders and building supply to meet forecasted demands, supply plans also replenish buffer stock. Oracle Cloud Supply Planning manages statistical safety stock at a specified service level based on forecast error. You can also use a days-of-cover policy or set time-phased safety stock thresholds manually when needed.

Automatically Evaluate and Select Alternatives

You may consider using alternate suppliers, substitute components, and other supply options to meet customer obligations when a disruption occurs. Supply Planning automatically evaluates all available options to overcome supply constraints to meet demand on time. Planning addresses material and resource constraints simultaneously to recommend alternative resources, alternate routings and bills-of-material, secondary material sources, and suppliers as needed.

Plan Complex Manufacturing and Fulfillment

Supply Planning handles a wide variety of manufacturing and fulfillment planning requirements, including:

- **Discrete manufacturing** of make-to-stock and configure-to-order items.
- **Contract manufacturing** as well as outside processing of an operation and drop shipment of orders from suppliers directly to customers.
- **Process manufacturing** of one or more products, co-products, or by-products in a single operation. Supply Planning scales the ingredient requirements to match the quantity of the batch being manufactured, in addition to calculating the by-product output.
- **Mixed-mode manufacturing** that combines elements of discrete and process manufacturing.
- **Project-based manufacturing** that allocates supply and segregates inventory for specific tasks, projects, or groups of projects.
- **Project-driven fulfillment** of material to build and maintain capital assets.
- **Back-to-back fulfillment** that generates make, transfer, or buy supply orders to fulfill individual sales order or internal demands.
- **Drop ship fulfillment** that delivers purchased or contract manufactured items directly from the supplier to the customer.

Benefits

- Increase on-time order fulfillment while optimizing asset utilization
- Respond faster to demand changes
- Reduce inventory and obsolescence costs
- Effectively plan complex configure-to-order, drop ship, and contract manufacturing supply
- Reduce the impact of manufacturing and supply disruptions

Get the sequence right to maximize throughput

Use the production scheduling features of Supply Planning to generate feasible factory schedules, sequencing work orders on resources to maximize throughput and return on investment. Calculate, manage, and monitor schedules that the shop floor can execute, optimizing critical resources and minimizing changeover time while meeting customer demand as quickly as possible.
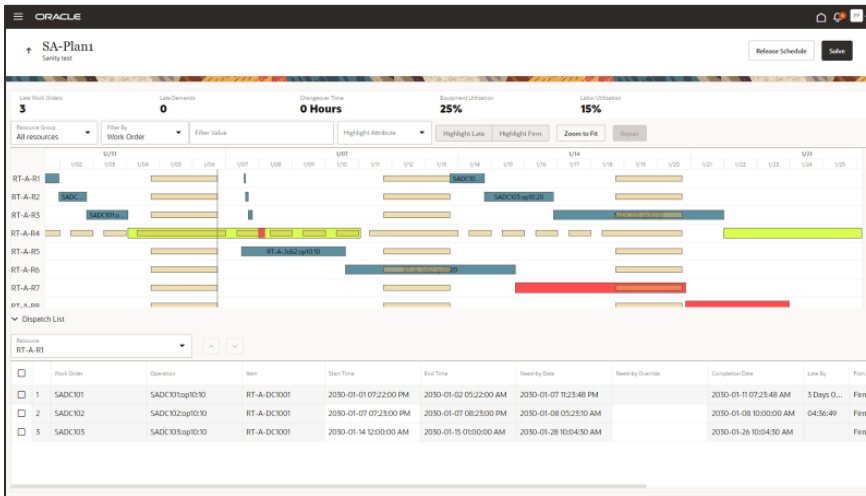

Figure 2. Use Production Scheduling to sequence factory operations

MONITOR SUPPLY CHAIN PERFORMANCE

Oracle Cloud Supply Planning launches with a global picture of your supply chain's performance. You can monitor plan performance to targets on revenue, margins, order fulfilment, turns, and more.

Instantly Access Aggregate and Detailed Information

The visual Plan Summary table provides one-click access to demands at risk, inventory, and capacity plans in context, so you don't have to search and filter reams of data to begin working.
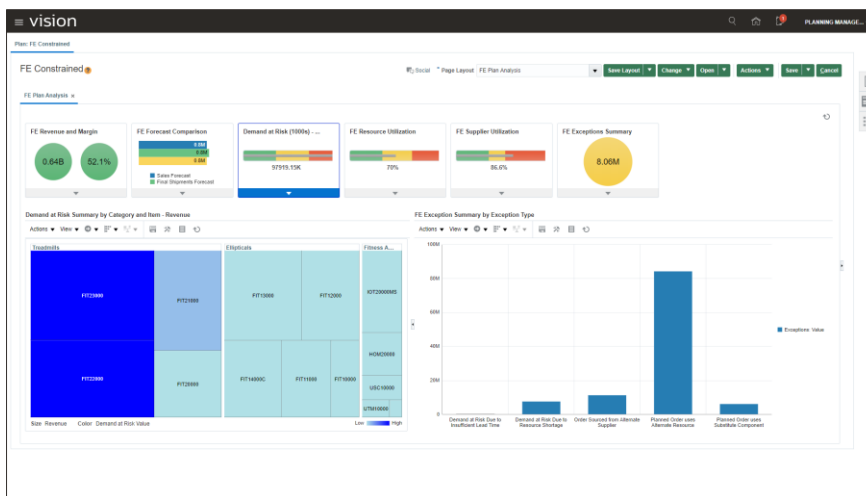

Figure 3. Visualize supply plans and performance issues at a glance

Supply Planning empowers you with contextual guided navigation to further analyze and update data across multiple dimensions. Its broad configurability also helps you

support your team's existing planning processes and evolve to new planning practices over time. You can easily:

- Change the screen layout and analytics to suit your role and objectives
- Tailor supplier, organization, resource, geography, and product hierarchies to match your business segments
- Add your own custom measures to capture unique data sources
- Perform proprietary calculations
- Build alternate plans

Understand Cross Supply Chain Linkages

Predefined worksheets offer familiar spreadsheet-like views, along with specialized tools to review resource utilization, material pegging, and reference data. These tools focus your attention on planning issues you care about, such as late orders, material shortfalls, and resource shortages. For example, the Build Plan shows material and resource requirements for an assembly over time in aggregated time buckets.

You can analyze the end-to-end supply chain relationships spanning primary items, components, or co-product and by-product items, suppliers, and resources. You can also readily focus on the specific orders driving demand and identify material and capacity shortages in order to push demand out or position available supply options to resolve them.

Diagnose Planning Issues

You can readily comprehend why the plan did what it did because it shows how need-by dates, earliest/latest start dates, consumption start dates, material available dates, and other factors cause resource overloads and demand lateness. An easy-to-use Gantt chart allows you to visualize the plan at an item level or resource level and make adjustments that work best for you without violating supply-side constraints.
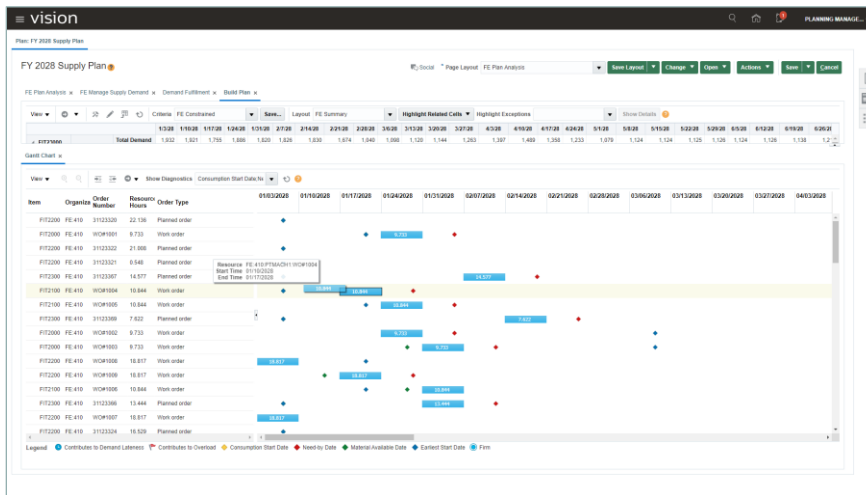

Figure 4. Use the Build Plan to trade off demand, capacity and supply

Supply Planning detects resource overloads, material shortages, order changes, and other critical events so you can plan around them. You can decide which exceptions you want to apply to a plan, create your own exceptions, and adjust exception thresholds. You can also leverage intelligent tools, such as Demand at Risk analysis, to prioritize and resolve multiple exceptions in a single action.

RESPOND TO CHANGING BUSINESS CONDITIONS

When disruptions occur, or you detect supply or demand changes, you need to be able to update your plans, consider alternative scenarios, and work with internal

Related Products

- *Oracle Cloud Demand Management* predicts and models future shipments, orders, and other demand signals.
- *Oracle Cloud Sales & Operations* aligns business plans and operations across the sales, marketing, finance, and supply chain organizations.
- *Oracle Cloud Supply Chain Collaboration* shares order forecasts with suppliers and collaborates on their supply commitments.
- *Oracle Cloud Order Management* centralizes and standardizes your order fulfillment across multiple sales channels.
- *Oracle Cloud Supply Chain Execution* defines and executes production, shipping, receiving, transfer, and other execution activities across the global supply chain.
- *Oracle Procurement Cloud* integrates sourcing, contracts, and purchasing of goods and services.

organizations, contract manufacturers and suppliers to rebalance the supply chain. Oracle Cloud Supply Planning offers many ways to respond intelligently to unexpected events.

Intercept and Act upon IoT Alerts

When Oracle Cloud Production Monitoring predicts a manufacturing equipment failure that may affect your production plans, you can review and act upon it using the intelligent Planning Advisor embedded within Oracle Cloud Supply Planning. Planning Advisor displays the location, confidence level and recommended action for each IoT prediction, and provides one-click access to the resource plan where you can select alternate resources if needed.
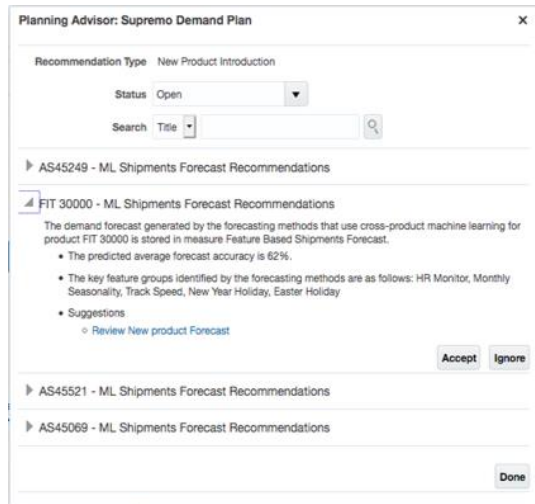
Figure 5. Respond to IoT events with Planning Advisor

Prioritize and Reschedule Your Order Backlog

Supply planners usually work to satisfy a given set of demands by resolving supply constraints. But what if you could prioritize and reschedule them based upon your latest plans and supply conditions? The backlog management features of Supply Planning leverage flexible business rules to reorder pending sales orders and transfers and simulate rescheduling alternatives. You can then accept, adjust, and release scheduled date changes to reduce delivery delays, increase sales, and achieve your margin targets, while relaxing critical supply constraints.

Backlog Management ranks competing demands based upon your criteria, such as requested date, order creation date, item category, and customer, in addition to other attributes that affect your business. You can use these intelligent recommendations to maximize the value of orders that you can ship within a fiscal period or to improve customer service. New dates, sources, and transmit modes for affected orders can be released to Oracle Cloud Order Management or to export files that you can load into an external order management system.

Simulate Multiple Plan Scenarios

With Supply Planning, you can also run multiple supply simulations using different assumptions. Plan simulations can evaluate the effect of an ECO or the potential supply disruption of a big new order. You can adjust sourcing, move supply and demand to different dates, update item attributes, bills of material, routings and resource attributes, and revise resource availability or supplier capacity to see the impact on your plan.

You can compare your plan simulations both at aggregate level (to see which generates more revenue, triggers fewer exceptions or improves other metrics) and at

detailed level (to see how the due dates on specific orders changed). You can also save simulation changes that you want to apply across multiple plans or planning runs. Waterfall analysis compares current and previous results to drive continuous improvement.

In some situations, you may not want to re-run the entire plan, but just check on the impact of any changes you've made. Supply Planning can recalculate a subset of the plan output in near real time to preview how user-initiated changes affect supply and demand quantities and dates, planned orders, resources, supplier capacities, and components.

Collaborate Internally and Externally

Planning collaboratively yields better results. You can discuss delays with manufacturing, negotiate a purchase order quantity with the buyer, or propose a safety stock policy change with other planners through embedded social networking.

Collaboration with external suppliers and contract manufacturers is just as important. Supply Planning can share your plan with trading partners through Oracle Cloud Supply Chain Collaboration. Supplier commitments are available to analyze shortages, so you can decide whether to seek another supply source. Your contract manufacturers can also digitally synchronize their on-hand balances, purchase orders, and work orders with Supply Planning to enhance end-to-end supply visibility.

Review and Release Orders for Execution

To put your plans into action, you need to send your supply order recommendations to execution systems. Supply Planning can release planned orders to procurement, inventory, and manufacturing automatically, or you can control the process manually. For example, you can review the percentage of a planned order for manufacturing that has all their components available, and release only the quantity that's ready to build. Planned supply orders may support multiple demands or peg to an individual demand (i.e., back-to-back supply). A Pegging Analysis UI helps you review these details and prioritize supplies; for example, supplies that fulfill sales orders rather than forecasted demand.

Integration of the order release process to Oracle Cloud SCM applications is built in and an out-of-box integration package to Oracle eBusiness suite is available. If you are creating plans for other on-premise ERP systems, you can also export the planned orders and changes as a file that can then be imported into your Supply Chain Execution systems.

EASY TO IMPLEMENT, INTEGRATE, AND EXTEND

Oracle Cloud Supply Planning is tightly integrated with Oracle Cloud Demand Management so you can forecast demand and plan supply in a single user interface. It's also pre-integrated with other Oracle Cloud SCM services, so you can spend less time implementing.

Supply Planning can plan supply for facilities that are still running on-premise ERP and other SCM solutions. This capability enables you to migrate your SCM processes to the cloud over time. You can use available file-based and REST integration API to integrate your existing applications, and then move the rest of your applications to the cloud later.

If you have unique requirements, you can extend Supply Planning to meet them. You can configure your own data analysis using custom time series data and configurable charts, graphs, and tables. A series of REST Application Programming Interfaces (APIs) also support two-way integration with any external programs that may be required.

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