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Oracle Fusion Cloud Demand Management
# Replenishment Planning

Whether you're restocking surgical supplies in a hospital chain, distributing phone accessories to stores, or delivering spare parts to a large installed base, you need to anticipate demand and replenish supply strategically. Oracle Fusion Cloud Demand Management's Replenishment Planning features segment items, organizations, and customer sites into groups with similar consumption patterns, so you can manage replenishment through policy settings. Real-time analytics highlight any shortages or overstocks, and on-line simulation and inventory rebalancing helps you correct issues on the spot. With Cloud-based deployment, out-of-the-box integration, and lights-out automation, fulfilling your distribution network's demand is easier than ever.

Meet replenishment challenges

As supply chain complexity continues to increase, enterprises must innovate to better match supply with demand. When it comes to replenishing stockrooms, depots, stores or PAR locations, the challenge is to consistently satisfy your consumers. You want to ensure they find the desired product at the right place at the right time, while minimizing inventory investment and logistics costs. Poor planning can result in stockouts that impact customer satisfaction and sales. Alternatively, it can lead to overstocks that reduce productivity, product freshness and margins.

Oracle Demand Management's Replenishment Planning features help you predict consumption and meet replenishment challenges. Since replenishment planning is a component of Oracle Demand Management, it has world class forecasting capabilities that anticipate trends, seasonal demand changes, and causal events. It's also integrated with Oracle Fusion Cloud Supply Chain Execution, so its flexible, friendly user interface gives you immediate visibility to inventory and planned movements.

Figure 1. Replenishment Planning restocks downstream locations such as stores, stockrooms, depots, and PAR locations.
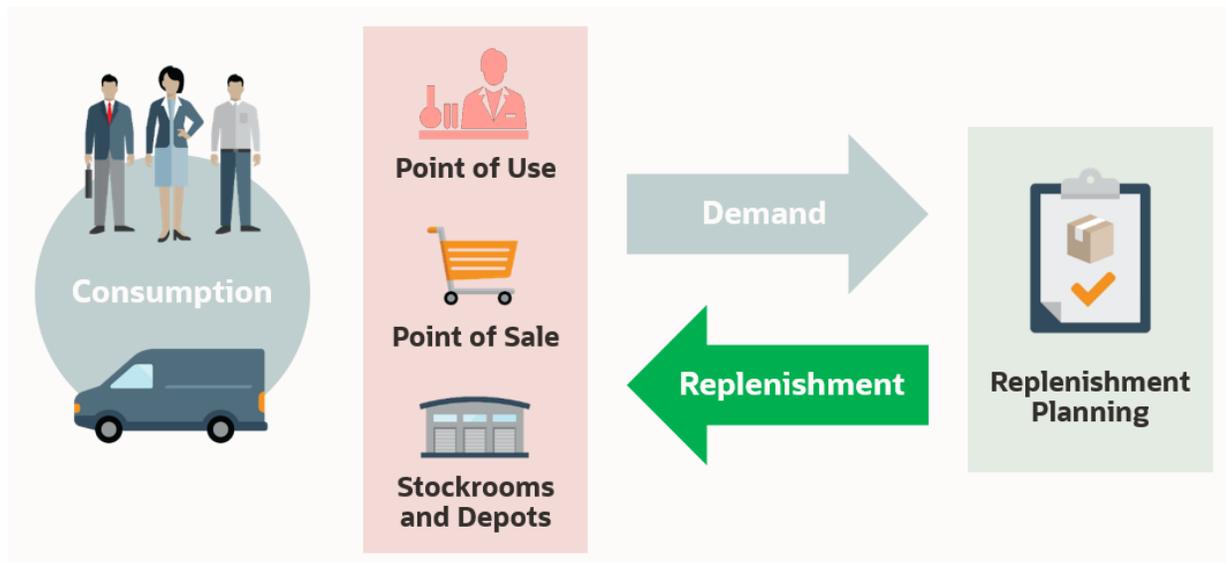
Segment the supply chain using flexible rules

Segmentation is a powerful strategy that helps mitigate inherent complexity in the supply chain. Segments identify groups of similar-performing item-location combinations and associate them with a common process or inventory policy to increase revenue, improve service levels and reduce costs. Replenishment Planning's rules-based segmentation scheme dynamically classifies item-locations into groups or segments using static, dynamic, or configured attributes. You can use multiple segment schemes depending upon business conditions.

Figure 2. The Replenishment Planning work area summarizes your segment performance.
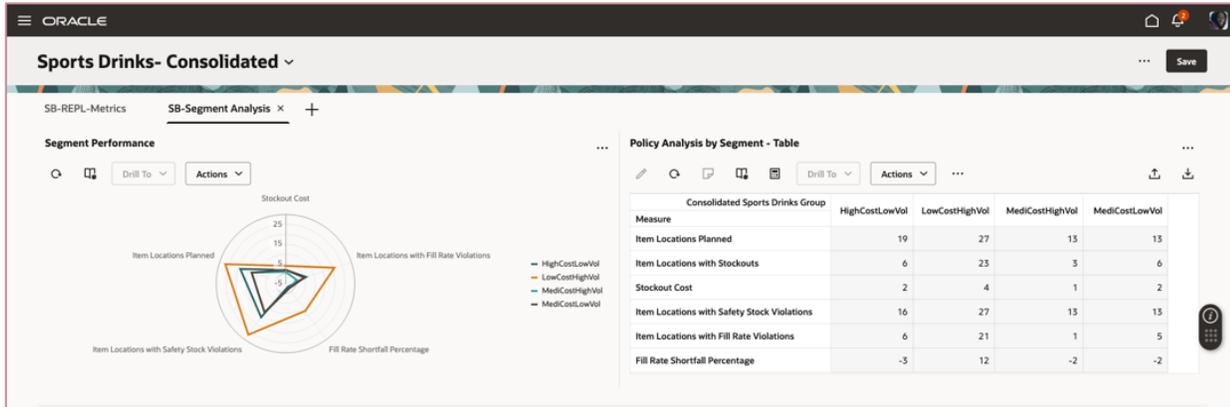
Managing by segment simplifies configuration and allows you to maintain your plans at a higher level. Built-in analytics summarize performance by segment, and let you drill down to review individual item-location combinations when issues occur.

Tailor inventory policy planning to demand segments

Replenishment planning's inventory policies help drive the inventory levels needed to meet your desired or target service levels for demand fulfillment. You can create a reusable inventory policy profile and associate it to one or more segments. All item-locations within a segment inherit the same inventory policy. However, the computation of inventory policy parameters occurs at the item-location level.

With Replenishment Planning, you can also compare the newly calculated inventory policies with existing, in-force policies at the item-location level. Between two successive computations of inventory policy parameters, the forecast may change, or a new event may cause a spike in demand, so you may need to consider changes to your inventory policy parameters. If the policy values are outside the defined threshold, you can follow a systematic policy review process to accept, retain, or manually override the new policy values. Summary analytics help you review the effectiveness of the assigned inventory policies at the segment level.

Figure 3. The Replenishment Planning work area summarizes your plan effectiveness.
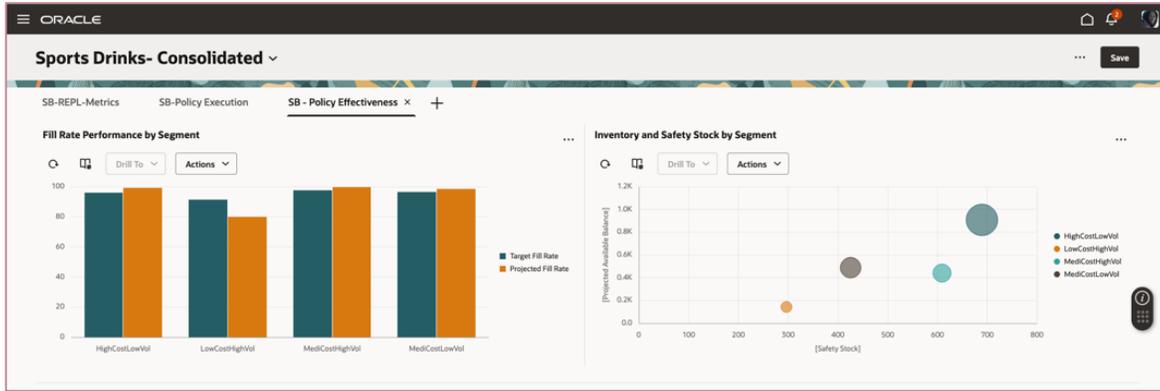
Calculate demand-driven replenishments

Replenishment planning accounts for uncertainty in demand and lead times, along with current inventory thresholds, when calculating replenishment orders to restock facilities. The replenishment orders maintain inventory positions at or above your desired inventory policy thresholds.

You can calculate inventory policy parameters and replenishments for specific segments or organizations. Replenishment orders are generated whenever the inventory position falls below the minimum threshold. Based on the specified inventory policy, the replenishment order may be a fixed order quantity or computed quantity, calculated as a difference between the maximum threshold and inventory position. The computed order quantity is adjusted for order minimum and order multiple.

Simulate replenishment results

At any time during the planning process, you can run the plan to simulate replenishments. The system applies your inputs and edits to calculate replenishment orders based upon the latest collected data. You can perform the following simulations in replenishment planning:

- *Identify inventory policy or parameter alternatives* that maximize the performance based on input targets, such as service levels, fill rates, and inventory cost. You can make changes to the policy or policy parameter and compare metrics, such as projected fill rates, inventory details, inventory carrying cost, and inventory shortages.

- *Compare baseline and simulation plans* to evaluate the impact of plan changes. You can change supply and demand, dates, and quantities that impact a replenishment plan and monitor their effects.

- *Define simulation sets* to manage replenishment plan changes and apply them to one or more plans. You can associate a simulation set with any plan that needs evaluation. Simulation changes include inventory policy, inventory policy parameters, supply and demand dates and quantities.

Inventory Rebalancing

Demand volatility, shipment delays, and invalid parameter settings can cause item shortages at some locations, while leaving others within an excess. You can now quickly respond to these imbalances by moving inventory among stores or depots when excess is available, rather than procuring from upstream warehouses or suppliers. Inventory rebalancing can save you time and money by dealing with shortages locally, while providing better service to your customers.

Figure 4. The Replenishment Planning work area summarizes your cluster performance.
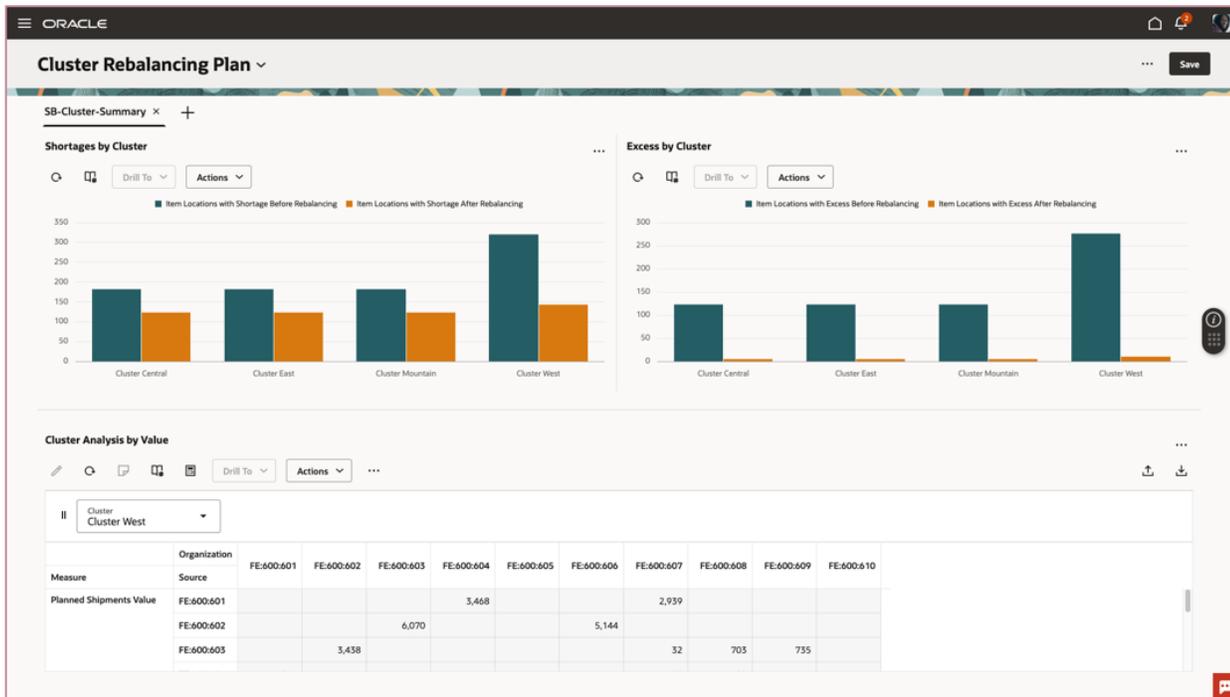
Inventory rebalancing is performed within a cluster, which is a group of locations within your replenishment network. Within a cluster, the algorithm computes the excess and shortage of each item at each location for a pre-defined period. Excess is allocated to locations with a shortage, and transfer recommendations are generated from excess locations to shortage locations (adjusted for order minimum and order multiple) if a shipping lane exists. You can also designate a "sweep" location to balance inventory across nested clusters.
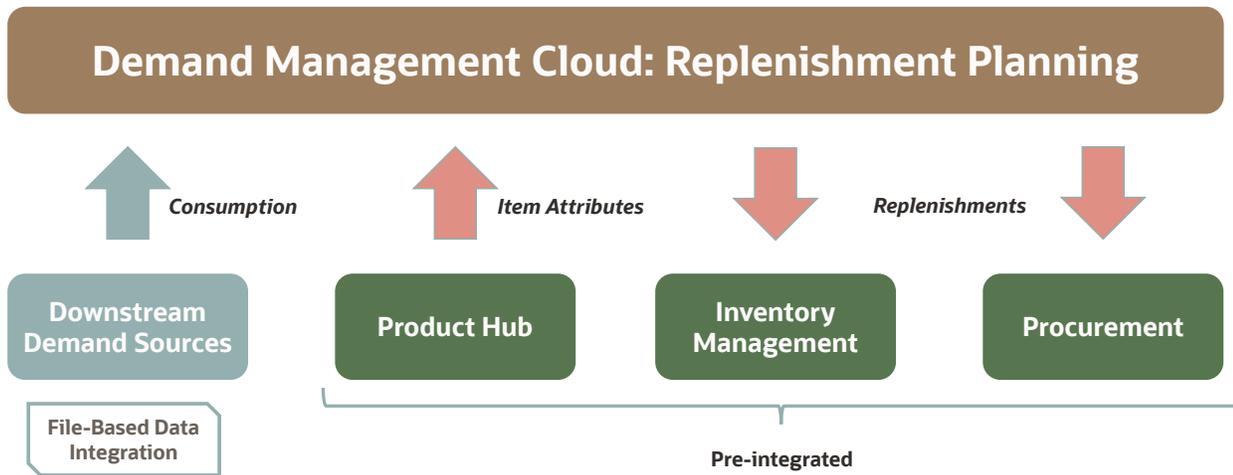
Execute the plan

You can tailor the replenishment plans to meet your business goals by specifying the segments to be planned. Replenishment plans may be run as follows:

- Using demand forecasts as the seed to compute inventory policy parameters and generate replenishment orders. The demand forecast may be an external forecast schedule or generated within the application. You can also use shipment history or consumption history collected from Oracle Supply Chain Execution to generate the forecasts.

- Automated replenishments using transactional data, such as sales orders, inventory on-hand, and purchase orders from Oracle Fusion Cloud Supply Chain Management. This data is collected in net-change mode enabling fast, frequent plan runs to for item-locations with changes in supply or demand.

When you're satisfied with the results, you can release the orders to Order Supply Chain Execution for transfer orders or movement requests and Oracle Fusion Cloud Procurement for purchase orders to be created. You can set up auto approval rules to release replenishment orders automatically after the plan run.

Figure 5. Replenishment Planning is tightly integrated with Oracle Supply Chain Management.

Demand Management Cloud: Replenishment Planning

Consumption   *Item Attributes*   *Replenishments*

| Downstream Demand Sources | Product Hub | Inventory Management | Procurement |

File-Based Data Integration

Pre-integrated

Extend your planning process as you see fit

Most Cloud ERP solutions only offer simplistic "one-size-fits-all" planning capabilities. Oracle Demand Management changes the game, with comprehensive planning tools that are not only easy to use but can evolve with your business. It is tightly integrated with Oracle Fusion Cloud Supply Planning, so you can forecast demand and plan supply in a single user interface. It's also pre-integrated with other Oracle SCM services, so you can spend less time implementing.

Replenishment Planning allows you to extend the solution for your unique business requirements. 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 (API) allow you to build two-way integration with custom extensions to any on-premise supply chain execution applications.

Take advantage of Replenishment Planning's world-class simulation, ease of use and ease of deployment to take your planning to the next level. It's simpler, faster, and better: Cloud without compromise.

Related services

The following Oracle Cloud services support Oracle Replenishment Planning:

- **Oracle Fusion Cloud Order Management** centralizes and standardizes your order fulfillment across multiple sales channels
- **Oracle Fusion Cloud Supply Chain Execution** handles inventory, costing, maintenance activities and manufacturing of both in-house and contract-manufactured goods
- **Oracle Fusion Cloud Procurement** integrates sourcing, contracts and purchasing of goods and services

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