



## SAS® Service Parts Optimization

Automate and optimize service parts management

### What does SAS® Service Parts Optimization do?

SAS Service Parts Optimization enables companies to optimize their service parts inventories over a multi-echelon service network. By providing service organizations the ability to forecast short-term, new-part and lifecycle parts demand, as well as calculate optimized inventory and order quantities for parts distribution systems, the solution helps organizations maintain adequate stock levels, maximize response times and improve customer satisfaction.

### Why is SAS® Service Parts Optimization important?

SAS goes beyond the standard EOQ policies to provide an accurate forecasting environment designed specifically for service parts, combined with a true multi-echelon inventory optimization capability for optimal parts planning. While typical ERP systems attempt to optimize sequentially – leading to inflated demand forecasts and stock overages – SAS enables true multi-echelon optimization by letting you optimize inventory levels simultaneously for every SKU at every location in your network.

### For whom is SAS® Service Parts Optimization designed?

SAS Service Parts Optimization is designed for senior managers responsible for improving aftermarket customer service while maintaining or lowering parts inventory to increase profitability of aftermarket service business. The workflow is designed to enable the forecasters and inventory analysts to provide parts-demand plans, optimized inventory policies and orders suggestions to the parts buyer/planner.

With aftermarket service and higher margin sources of revenue becoming crucial differentiators in the minds of customers, organizations are looking for ways to make their aftermarket operations more effective and profitable by reducing excess parts inventory, reducing stock-outs or by lowering redistribution costs.

SAS® Service Parts Optimization helps organizations automate and optimize their service parts management by providing service groups the ability to forecast short-term, new-part and lifecycle parts demand, as well as calculate optimized inventory and order quantities for parts distribution systems. SAS software's accurate forecasting helps to maintain adequate stock levels, maximize response times and improve customer satisfaction.

SAS software's data management allows you to know how much and what kind of inventory is required at every location, as well as all associated costs for every single part. With the SAS solution's unmatched forecasting accuracy, depth and breadth, organizations can take advantage of an infinite number of models from multiple model families specific to service parts demand forecasting. The forecasting capabilities are accurate, frequent and automated, down to the SKU level.

The SAS solution is scalable to encompass hundreds of thousands – or even millions – of SKUs at every single location, so the solution can grow along with you to a large service network. Secure, customizable, persona-based interfaces provide information and capabilities to users based on their business roles. And flexible solution architecture enables

solution implementation in a phased, step-by-step manner.

### Key benefits

#### Reduced stock-outs and overages

- Forecast short-term, long-term, new product and end-of-cycle demand with confidence using the SAS Forecast Server module, providing flexibility and automation for accuracy.
- More accurate forecasts drive lower safety stock levels which can be tightened along with overall inventory – adding even more efficiencies to the overall supply chain.

#### Lower parts inventory levels and inventory carrying costs

- Calculate optimal inventory levels and replenishment policies based on user-specified constraints such as required lead times, costs and target service levels.
- Scenario modeling capability allows you to produce and compare alternate planning scenarios for multiple items, thus helping select the optimal policy from a set of policies to maintain optimized stock levels, improve customer satisfaction, and reduce ordering and inventory costs.

#### Timely, proactive planning with limited resources

- SAS Service Parts Optimization includes dedicated persona-based interfaces and workflows to support day-to-day activities of forecasting analysts, inventory analysts and buyer/planners, thus enabling them to do more in less time in a streamlined manner.
- Planners can customize key replenishment policy drivers such as review



period lengths, customer service measures, ordering rules and cost figures to streamline replenishment for specific items.

- Scenario modeling capabilities allow planners to compare planning scenarios to pick the optimal policy from a number of options so that targeted customer service levels are met.
- The solution provides planners the ability to visualize entire distribution networks so that they can review and act upon multi-echelon inventory information, making adjustments proactively where required.

### Base service parts strategy on enterprise-wide service systems

- SAS Service Parts Optimization utilizes SAS software's strength in data management to gather and consolidate large volumes of data from every echelon of the service chain, regardless of format or location across the network.

### Solution overview

#### Robust, effective data management

- Gather and consolidate large volumes of data from every echelon of the service chain, regardless of format or location.

- Transform, standardize and cleanse the data (e.g., reconcile inconsistent naming conventions) to prepare it for accurate forecasting.
- Sharpen the inputs that affect the information produced by the ERP system, thus improving the return on its investment.

#### Accurate forecasts at every level

- Automatically generate millions of statistically based, multilevel forecasts (top-down, bottom-up, middle-out) at frequent intervals.
- Produce a variety of demand forecasts, including: short-term (using historic data, event-based and failure-based); long-term (using advanced data mining techniques); new or slow-moving parts; end-of-life.
- Ensure forecast accuracy with automated diagnostics and best method selection.
- Support novice and experienced forecasters with interactive and automated model building.
- Build an infinite number of models from multiple model families specific to service and adjust model parameters as needed.

#### Multi-echelon inventory optimization

- Calculate optimal inventory levels and policies throughout the service chain based on user-specified constraints (e.g., service levels, lead times, costs) by product, location, category, SKU, etc.
- Take into account all variables on both the supply side (inventory on hand, on order, committed, in transit, etc.) and the demand side (forecasts, sales orders) for the entire network, as well as every single location.
- Account for parts pooling, transfers and reallocation for comprehensive parts planning.

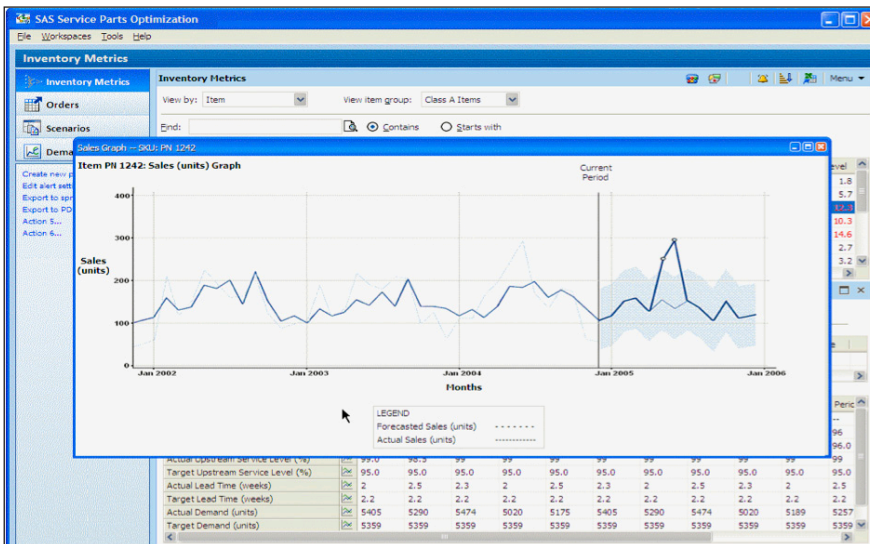


Figure 1. Inventory Metrics: Details can be shown by graph.

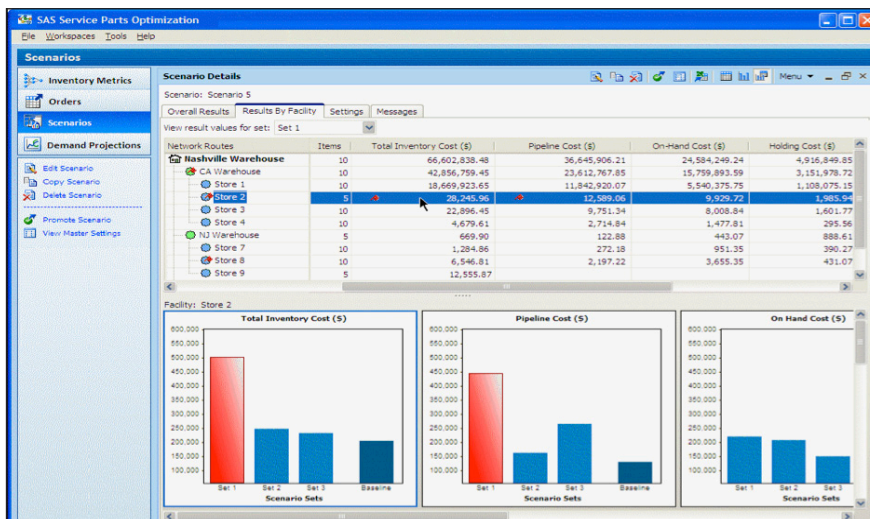


Figure 2. What-If Scenario: Ad hoc analysis by facility with alerts.

- Simultaneously plan the best inventory allocation for every location within your network.

#### **Dedicated, persona-based interfaces and workflow**

- Support day-to-day activities of forecasters, inventory and buyer/planners for parts planning, inventory optimization and replenishment with defined interfaces and workflow.

#### **Information sharing throughout the service chain**

- Leverage BI platform capabilities designed specifically for the service chain, including KPI scorecards, drillable views, snapshots and trends, and templated and customizable reports.
- Visualize the entire distribution network for multi-echelon inventory system information.
- Share summary and detailed reports on an as-needed basis with your logistic partners.
- View current performance at various levels and geographies throughout the network with an executive dashboard.
- Monitor demand and pipeline variance and receive alerts based on outliers; drill down to detailed analysis.

### **Key Features**

#### **Robust, effective data management**

- Aggregates disparate sources of service parts data, while overcoming inconsistencies and redundancy.
- Transforms, standardizes and cleanses the data to prepare it for accurate forecasting.
- Pulls data from ERP and legacy systems to maximize return on ERP investments.

#### **Accurate forecasts at every level**

- Automatically generates millions of statistically based, multilevel forecasts (top-down, bottom-up, middle-out) at frequent intervals.
- Produces a variety of demand forecasts, including: short-term (using historic data, event-based and failure-based); long-term (using advanced data mining techniques); new or slow-moving parts; and end-of-life.
- Ensures forecast accuracy with automated diagnostics and best method selection.
- Provides interactive and automated model building to support novice and experienced forecasters.
- Provides numerous models from multiple model families that are specific to service organizations – so that you can select the most suitable model.
- Permits you to adjust model parameters.

#### **Multi-echelon inventory optimization**

- Calculates optimal inventory levels and policies throughout the service chain based on user-specified constraints (such as service levels, lead times and costs) by product, location, category, SKU and more.
- Incorporates all variables on both the supply side (such as inventory on hand, on order, committed, and in transit) and the demand side (such as forecasts and sales orders) for the entire network, as well as every single location.
- Simultaneously plans the best inventory allocation for every location within your network.

#### **Dedicated, persona-based interfaces and workflow**

- Support day-to-day activities of forecasters, inventory analysts and buyer/planners for parts planning, inventory optimization and replenishment.
- Get customizable views with a forecaster interface to enable quick analysis of outliers. Included features allow for part chaining, new item forecasting and last buy analysis.
- Review, analyze and act upon the entire multi-echelon network by product or location hierarchies; drill down to lowest part/location pairing; create what-if scenarios for identifying supply chain opportunities with an inventory analyst interface.
- Optimize replenishment plans, get details on primary and secondary sourcing and determine impact of a replenishment plan on service levels and costs with the planner interface. Lock and promote optimized plans.

#### **Information-sharing throughout the service chain**

- Incorporates business intelligence capabilities designed specifically for the service chain, including: KPI scorecards, drillable views, snapshots and trends, and report template options that can be customized.
- Share summary and detailed reports with your logistic partners.
- Executive dashboard to show current performance at various levels and geographies.
- Monitor demand and pipeline variance and issue detailed alerts to report outliers.

### Part of an integrated suite

SAS® Service Parts Optimization is part of the SAS Demand Driven Planning and Optimization Suite. SAS Demand Driven Planning and Optimization is a modular suite of products designed to improve demand and inventory management processes utilizing advanced analytics, data integration, alerting, workflow, dashboards and reports. Common foundational components and interfaces (SAS Demand Driven Planning and Optimization Foundation), combined with optional modules (Forecast Analyst Workbench, Inventory Optimization Workbench, Consensus Planning, New Product Forecasting and Forecasting for SAP/APO) allow customers to address immediate business challenges and add future capabilities while protecting their current investments.

### SAS® Service Parts Optimization System Requirements

To learn more about SAS Service Parts Optimization system requirements, download white papers, view screenshots and see other related material, please visit [sas.com/service-parts-optimization](http://sas.com/service-parts-optimization).



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