



## SAS® Size Optimization

Combining SAS® Size Profiling and SAS® Pack Optimization to improve store-level sales, increase margins and lower operating costs

### What does SAS® Size Optimization do?

SAS Size Optimization uses powerful analytics to transform historical sales data into size-demand intelligence. The solution predicts future sales and inventory needs by size and determines the optimal case-pack supply to meet this demand. When integrated with existing merchant systems, it enables the intelligence for purchasing and allocation workflows.

### Why is SAS® Size Optimization important?

SAS Size Optimization helps retailers improve profitability by identifying and supplying the right sizes to the right stores at the right time. The solution systematizes this level of planning and execution by matching packs to size-level demand for each store.

### Who is SAS® Size Optimization designed for?

The solution is designed for any retailer that sells sized merchandise or stocks assorted products that are distributed together. Similarly, any organization that ships assorted merchandise to multiple locations could find the solution useful in optimizing shipment profiles.

Retailers thrive or perish by how they manage the details of the business. For apparel and footwear retailers, excelling at fulfilling size-level demand has been the final challenge.

For years the approach of most large retail chains was to determine an average size profile and apply it to all stores. Limited automation and massive amounts of data precluded alternative approaches. Because there are few average stores, this typically resulted in early-season stock-outs and excessive end-of-season markdowns for the same merchandise in different stores — not a viable strategy in today's hyper-competitive retail market.

Retailers are turning to more automated planning solutions with powerful analytics to accurately project each store's future sales and inventory needs by size to economically match pack-level supply to optimally meet demand.

SAS offers the industry's most sophisticated size and case-pack planning solutions, delivering higher profits and fewer losses from stock-outs, markdowns and general supply chain inefficiencies.

SAS® Size Optimization helps retailers succeed by determining size demand and incorporating it into efficient case-pack, case-ordering and allocation recommendations. By integrating with merchant planning, purchasing and allocation systems, it allows size-level execution. SAS Size Optimization consists of two primary software applications: SAS Size Profiling and SAS Pack Optimization.

### Key Benefits

- Improve sales.** SAS Size Optimization assists retailers by more accurately identifying size-level demand by location and determining pack-level quantities required to meet that need. As a result, there are fewer stock-outs across the stores and higher overall sales without increasing inventory risk.
- Increase margins.** SAS Size Optimization increases full-price, early-season sales by better matching size profiles to forecasted demand. SAS Size Optimization also reduces the need for markdowns by reducing "stranded" inventory at store level. The result is higher profit margins.
- Decrease operating costs.** Determining the right number of each available pre-pack configuration needed to economically meet demand helps maintain reasonable distribution costs. Retailers can also reduce costly break-pack and piece-pick activities within their distribution networks by raising the percentage of product supplied in multi-item pre-packs. Ultimately, this can reduce labor requirements and improve distribution center throughput.
- Improve planning team efficiencies.** Retailers are always looking for ways to streamline their teams and increase throughput and effectiveness while fighting competitive pressures that drive down margins. SAS® Size Optimization uses automated processes and procedures to improve the efficiencies of planning teams, allowing them to play a more strategic role in the organization.



## Solution Overview

SAS Size Optimization determines size-level demand at each store for any set of merchandise. This information is systematically employed in purchasing and allocation workflows to optimally use a wider set of packs. By matching pack-level supply with size demand, retailers are better able to address the unique merchandise needs of individual stores.

## Software Application: SAS® Size Profiling

### Intuitive User Interface

SAS Size Profiling adds flexibility and sophistication to the size-profiling process in a highly automated fashion through an intuitive user interface. The menus and settings provide an opportunity to inject users' business experience into the activity. The UI can be customized with preferred settings to automate the size-profiling process and allow analysts to focus on exception management.

### True Historical Demand Determination

While sales history is the primary input to the size-profiling process, there may not be enough useful data when significant stock-outs are present early in the season. In these cases, the power of SAS Analytics is employed in SAS Size Profiling to estimate size, store and weekly sales data that are either missing or constrained by previous supply conditions. This enhances the solution's ability to determine the relative demand for a given item across its size range and, consequently, the value of the resulting size profile.

### Intelligent Store Clustering

SAS Size Profiling uses world-class analytics to cluster stores exclusively by size-demand ratios. Pooling sales data from similar stores provides an ample basis for a significantly more detailed analysis. The result is a set of size profiles specific to particular styles, or even style colors, without a loss of store-level accuracy.

### Optimal Profile Generation

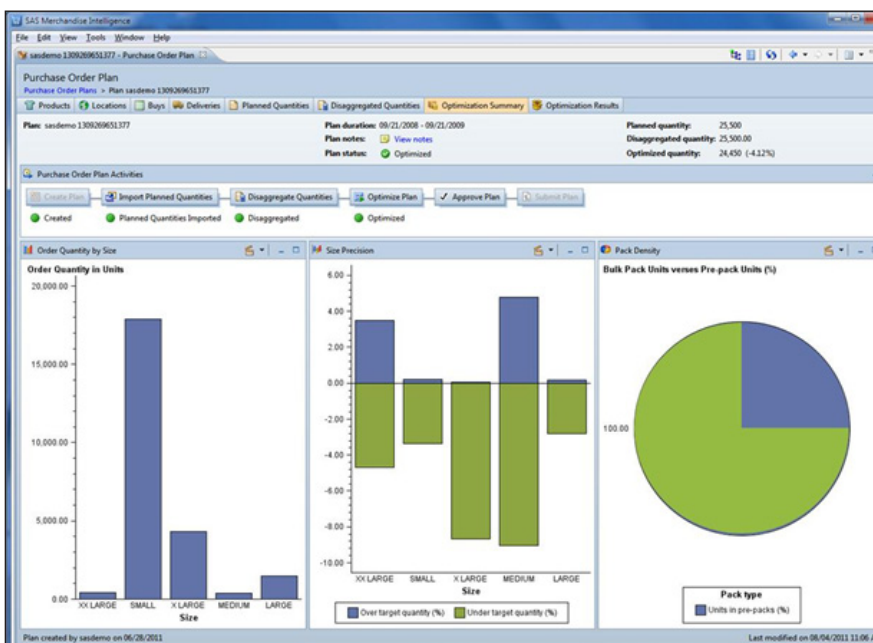
Optimal profile generation (OPG) automatically captures the critical differences in size-demand ratios within a selected set of merchandise by creating multiple profiles at lower levels of the product hierarchy. As a result, a user may pool a wide range of merchandise for the sake of workflow efficiency with the confidence that underlying variations in size demand will still be captured. OPG ultimately provides better accuracy and greater detail without requiring additional work.

### Hierarchy and Attribute-Based Profiling

SAS Size Profiling enables users to specify that merchandise at distinct points in the product hierarchy or with distinct values of a chosen attribute be profiled independently. For example, unique profiles can be automatically created for each subclass within a department or for each vendor. This results in profiles at the right level of detail that can be applied to specific planning groups in upcoming seasons.

### Precise Size-Set Management

SAS Size Profiling enables automated identification of meaningful size sets and accurate merging of size-level sales histories in order to create profiles. The solution takes advantage of user-defined size-translation tables and an automatic size-set detection capability to reduce the user's workload and help ensure profiles are created for the most desirable size ranges from the appropriate product histories.



Pack Optimization Order Performance

## Software Application: SAS® Pack Optimization

### Automated Profile Integration

Accurate size profiles bring value to retailers only when they can be put to use in everyday merchandising workflows. SAS Pack Optimization automates profile assessment by considering user-specified criteria to select the best available profile for both purchasing and allocation requests. The profile is applied to a summary volume to enable an assortment planner, buyer or allocator to view detail at the store-size level.

### Optimized Case-Pack Level Purchase Recommendations

SAS Pack Optimization is capable of transforming style-level buys into optimized pack-level order recommendations. By selecting and applying the best available profile, the solution first determines size-level store needs. It then considers the costs of both overstock and missed sales to derive the most efficient combination of packs to satisfy these needs. The final recommendation, which may include both multi-SKU and bulk packs, is sent directly to a purchasing system. The result is a fully integrated path from style-level plan to size and pack-level execution.

### Optimized Case-Pack Level Allocation Recommendations

SAS Pack Optimization integrates with retail allocation solutions to create comprehensive pack-level allocation recommendations. By simultaneously considering all available packs on hand, target inventory levels can be more consistently achieved while reducing handling costs. SAS Pack Optimization can take into account various retail preferences such as minimum presentation quantities and can also incorporate size-level, on-hand and on-order inventory data. This leads to fewer stock-outs, fewer markdowns and lower operating costs.

## Key Features

### Combining SAS® Size Profiling and SAS® Pack Optimization

- An intuitive user interface provides an easy-to-use and flexible user environment.
- “True demand” determination accounts for lost sales in historical data to provide an accurate picture of size-level demand.
- Intelligent store clustering automatically identifies stores with similar size selling patterns to enable more granular profiles.
- Optimal profile generation automatically captures variance in size-demand ratio for different product groups within the same profiling project.
- Hierarchy- and attribute-based profiling allows individual items to be analyzed and profiled independently within a broader merchandise set.
- Precise size-set management delivers the capability to manage the intricacies of size-level demand that stem from test sizes, vendor sizing differences, stock-outs and more.
  - Automatic size translation provides a standardized sizing classification hierarchy across vendors and brands.
  - Automatic Size-Set Detection identifies appropriate core size sets and automatically assigns items to the best one.
- Non-Comparison Store Classifier assigns profiles to new stores and stores with very limited selling history.
- Profile Lookup and Apply systemically selects and applies the most relevant profile to determine size need for orders and allocations.
- SAS Pack Optimization automatically determines the most cost-effective mix of case packs and bulk to meet the size needs of all stores.
- SAS Size Optimization integrates with any order management, assortment planning, allocation or warehouse management system through a service-oriented or a batch interface.
- Sales vs. demand profile view illustrates the impact lost sales have on size-level performance.
- Pack optimization order performance view summarizes how well the optimal pack portfolio meets localized size targets.
- Enhanced supply chain models support time-phased regional roll-outs, fixture-in-a-box and more.

### SAS® Size Optimization System Requirements

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



**SAS Institute Inc. World Headquarters +1 919 677 8000**

To contact your local SAS office, please visit: **[www.sas.com/offices](http://www.sas.com/offices)**

SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries. ® indicates USA registration. Other brand and product names are trademarks of their respective companies.  
Copyright © 2011, SAS Institute Inc. All rights reserved. 103270\_S80072.1111