

# Retail Case Study

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## COMPANY OVERVIEW

The customer is a nationwide specialty retailer of women's fashion and accessories, known for offering the latest trends of the season at attractive values. They employ more than 500 associates at their brand headquarters and approximately 7,500 part-time and full-time associates throughout their retail locations.

Most of the company's major functions including Merchandising, Design, Marketing, E-Commerce, Finance, Human Resources, IT, Loss Prevention, Purchasing and Facilities, Production and Sourcing, Planning and Allocation, Real Estate and Store Operations are housed at the brand headquarters. They operate more than 550 regular price, outlet and ecommerce stores in 44 states and are one of the fastest growing retailers in America.

## CHALLENGES

As the company's IT systems evolved over time they became very challenging and costly to operate and maintain (e.g. human capital, time, effort, opportunity cost). Many legacy systems were built from aging technology or computing environments with limited access to requisite skills in the job force.

This disparate IT infrastructure resulted in a platform that was not robust, scalable, or extensible, and was unable to support go-forward business initiative aligned with real-time inventory and cross-channel integration.

Vizuri is an award-winning IT services and expert consulting firm that combines expertise in modern software architecture, tools, and processes with a solid foundation in engineering principles and focus on open standards. Vizuri specializes in cloud enablement, enterprise application design, development, integration and performance management. Our clients benefit from our disciplined and focused approach to providing solutions that are unique and highly valued.

Additionally, Vizuri serves as a strategic partner and authorized reseller for a select group of leading Enterprise software vendors and cloud service providers including Red Hat, Open Shift, Mango DB, App Dynamics, and Amazon Web Services.



## MISSED OPPORTUNITIES

Modern retailers often have multiple distribution channels through which their products reach the market. It is often the case, however that the systems within one distribution channel (E-Commerce web site, retail location, distribution centers, etc.) are not integrated with the others (siloe), and therefore are not aware of the inventory in these other channels.

One of the most problematic effects of siloe distribution channels is known as a stock-out, or unfulfilled inventory request. As an example, a stockout occurs when a potential customer wants to buy a specific product, however the particular store they have visited doesn't have it in stock, and can't quickly find it and allow the customer to make the purchase. Being unable to purchase the item, the customer leaves the store.

The product the potential customer was looking for may be in transit to the store, at another retail location, at a warehouse or other distribution center, or available on the retailer's e-commerce site, however since it isn't at the same retail store as the potential customer it cannot be seen by that store's systems. If these distribution channels were integrated, however, a store associate could quickly locate the product and offer to have it shipped directly to the customer, thus 'saving the sale.'

To meet these challenges and a support new business initiatives, the customer therefore needed to integrate their siloe distribution channels and provide store associates with a unified view of inventory and an ability to "save the sale". This would allow them to implement a fully integrated marketing and sales program that leverages all distribution channels, promotes the brand consistently, and increases revenue.

The technical challenges required a new Order Management System (Sterling Commerce) to be implemented and integrated with existing information systems (MICROS-Retail, ATG Commerce, in-house) as well as third-party service providers (GSI Commerce) in a unified, orchestrated fashion.

## DESIRED SOLUTION

The desired solution required an integration platform that maximized cost efficiencies, removed complexity, and reduced CAPEX and OPEX costs associated with software licensing and personnel. This required the institution of standards for processes and procedures that aligned with industry standards and accepted best practices. The adoption of these standards would provide the best approach for consolidating existing operating systems and reducing platform variations, and reduced both licensing and human capital costs, and eliminated proprietary vendor integrations.

As a first step, the customer worked with Vizuri to create an IT Architectural Roadmap for integration that began with a Service Oriented Architecture (SOA) Proof-Of-Concept. The goal was to leverage out-of-the-box functionality that JBoss SOA-P provides coupled with Enterprise Integration Design Patterns to create a reference architecture and methodology that established a baseline for enhancing the timeliness and accuracy of information to/from its retail locations through enterprise integration.

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The customer then started Phase I of a multiphase project to deliver cross-channel selling to the enterprise. This phase of the project integrated MICROS-Retail Point-of-Sale (POS), Sterling Commerce Order Management System (OMS), ATG Commerce and third-party fulfillment partner GSI Commerce's Warehouse Management System (WMS) to provide inventory visibility and online ordering at the POS. This enabled store associates to ship merchandise directly to customers not found in the retail store and complete the sale that may have otherwise been lost.

The program was built upon three key architectural components that provide higher levels of customer service, product assortment, and merchandise availability independent of selling or fulfillment distribution channel:

1. The Point-of-Sale systems were enabled to look up and sell inventory at the distribution center, nearby stores, and accommodated multi-vendor SKUs to view available-to-sell inventory based on style, class and size (across all colors).
2. The Order Gateway captures special orders received from Point-of-Sale, Pushes orders to Warehouse for fulfillment, receives status updates from vendors, emails status updates to customers, and receives ship confirmations from the Warehouse.
3. The Centralized Order Integration Hub establishes a foundation for the end state, leverages existing fulfillment infrastructure, and reduces customer, manual and fault laden processes. It provides an aggregated and synchronized inventory across the network of stores and distribution centers.

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## RED HAT & JBOSS SOFTWARE: A FOUNDATION FOR SUCCESS

This solution established an intelligent Retail Brand HQ Integration Platform. JBoss SOA-P serves as the integration hub for all of the systems to integrate and exchange information. It is vendor neutral and provides a central repository for all business rules, workflows, and data exchanges. In addition, “Ask Us” Program has enabled the customer and Company to:

1. Establish an Integration Hub outside of any vendor point technology.
2. Provide a repository for centralized business rules that enables process automation and metric reporting.
3. View and report on process metrics, even long running (multiple day) processes and/or transactions.
4. Integrate with internal and external systems
  - a. Message Transformation and Enrichment
  - b. Protocol Mediation
  - c. Message Routing and Splitting
  - d. Error Reporting/Interface Compliance
5. Eliminate costly point-to-point integrations
6. Enable other systems to interface in a secure, standard, and compliant manor

Scalability, performance, and reliability were paramount and critical to the success of the program. Red Hat Enterprise Linux was selected as the core operating system for the new Sterling Commerce OMS, Oracle database, and server platform for the JBoss SOA-P and JBoss EAP environments. It was critical to the business that the systems performed under load especially during the retail holiday season.

JBoss EAP is now utilized at brand headquarters and is responsible for running the Sterling Commerce OMS. It is deployed in a highly-available configuration capable of failing over gracefully to ensure that no orders are lost.

JBoss EAP Kiosk is utilized at the Retail Stores providing a stable, uniform, and manageable environment. It is responsible for receiving messages and invoking workflow locally at the store. Its use will grow significantly in the future as it works collaboratively with the brand headquarters SOA-P infrastructure.



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## MULTI-CHANNEL DISTRIBUTION: GREATER CROSS-SELL AND HAPPIER CUSTOMERS

The initial pilot rollout to 100 of the company's retail locations was extremely successful during the holiday shopping season. The project's ROI numbers well exceeded expectations, and is projected to achieve more than 1800%. The remaining 450 retail stores have now successfully implemented the program. In addition, other business units are looking to add additional functionality and customer choice at the store through additional services. Given the positive results, New York and Company has selected the JBoss SOA-P, JBoss EAP, and JBoss EAP Kiosk cornerstone technologies of its Multi-Channel road map.

## BENEFITS

The customer is now able to deliver higher levels of customer service, product assortment and real-time inventory availability to drive revenue, consumer satisfaction, and brand equity. They have elevated their level of customer service by providing their associates with the tools to deliver value to their consumers, increase the emotional connection to their brand, and drive sales by improving the overall customer experience in stores and online.

## INTEGRATED TERMS: MAXIMIZING RETURN ON INVESTMENT

New York and Company selected Vizuri, a Premier Red Hat Business Partner with past credentials for delivering innovation to assist us on the project. Vizuri was instrumental in developing the IT Architectural Road Map, SOA proof-of-concept, Retail Store JBoss Kiosk design, and the design and build out of our SOA Reference Architecture. They were key and essential team members to the “Save the Sale” program who helped us shape

the business strategy for the intelligent Retail Brand HQ Integration Platform from inception through rollout. Vizuri's deep understanding of the customer's business goals and Red Hat products were of great value and allowed them to serve as trusted advisor to the customer.



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## ADVICE FOR OTHERS

In today's economy, companies are asking their IT departments to deliver more services and innovation with the same or less budget. Integration can be very cost-effective and is not as hard as organizations make it out to be. Our recommendations include establishing a central integration hub using open standards based technologies, providing a repository for centralized business rules outside of technology platforms (e.g. databases, third-party COTS, etc.), aligning with industry standards and best practices, and find a qualified partner to assist in your efforts.



VIZURI  
13880 DULLES CORNER LANE  
SUITE 300  
HERNDON, VIRGINIA 20171

(703) 318 7800 **PHONE**  
(703) 935 8529 **FAX**  
SOLUTIONS@VIZURI.COM **EMAIL**  
VIZURI.COM **WEB**

 [facebook.com/1vizuri](https://facebook.com/1vizuri)  
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