LEVERAGING SHARED SERVICES TO GENERATE IMMEDIATE AND LONG-TERM RETAIL BENEFITS

SOA IN THE RETAIL SECTOR

/// VIEWPOINT PAPER

EDS an HP company

Executive Overview

Retail organizations must respond more quickly than ever to changes in consumer demand, the competitive climate and compliance requirements. To do that, they need a flexible, responsive and cost-effective IT portfolio of capabilities and assets. The shared-resource approach of the service-oriented architecture (SOA) is well suited to support a more agile retail enterprise. By adopting an incremental, opportunity-driven method of introducing SOA capabilities, retailers can reduce cost, risk and complexity, while transforming themselves into more customer-centric, responsive and profitable organizations.

Introduction

Today's retailer faces a daunting business environment. As consumer spending slows down and credit markets pull back, retailers need to gear up to respond and continue to thrive. Costs and productivity are an always-present concern in the retail segment. New low-price, international and online competitors are challenging for a share of the consumer's wallet. Retailers must react quicker than ever to the changing demands of consumers who expect service, innovation and quality to be delivered at competitive prices across a growing array of channels.

Unfortunately, retailers currently rely on information technology (IT) architectures that are outdated, brittle and incapable of supporting the evolving process needs of an agile retail enterprise. Most struggle to gather and understand key sales and customer data. They spend an inordinate amount of time and money customizing the applications needed to meet today's more numerous and complex retail processes.

To solve these challenges, retailers need an IT architecture that is flexible and resilient and can quickly and cost-effectively deploy very specific process solutions. That is why astute retailers are now evaluating and deploying SOA capabilities. SOA is a business- and process-driven approach to delivering IT capabilities using common services to perform basic business functions. In an SOA, software modules deliver the services needed to meet specific business needs. Those flexible services can be developed by, and interchanged among, various vendors – and then integrated and shared across business units and environments. Retailers can leverage this approach to simplify maintenance and drive reuse, all while reducing both the cost and complexity of achieving specific process requirements.

By leveraging shared services across applications and activities, SOA allows retailers to squeeze cost, complexity, duplicate functions and customization out of their operations.

In this viewpoint paper, EDS, an HP company, describes a process-oriented, opportunity-driven approach to the implementation of SOA in the retail environment. This phased, results-oriented approach allows companies to create services that respond flexibly to changes in consumer demand, product design and supply-chain operations. This approach encourages companies to start small, to generate efficiencies and revenues from specific process improvements, and then to extend the shared benefits of SOA as new opportunities arise.

Retail Industry Trends

The retail sector remains one of the world's most competitive industries, with retailers continually forced to anticipate changing consumer needs, to face fierce competition, and to deal with the commoditization of many previously differentiated products and services.

Retailers face pressure to drive down costs and improve productivity across all functional areas, and many are responding with strategic in-sourcing and selective outsourcing initiatives. Retail giants can shift the dynamics of the entire market to gain buying and bargaining power over suppliers. Other retail organizations simply cannot keep up, and those that fall behind typically succumb to acquisition, merger or divestiture in today's tough marketplace.

While most U.S. retailers focus on the Americas, European and Asia/Pacific competitors tend to operate more globally, and all are affected by accelerated growth in both demand and production capabilities in India, China and other emerging markets. While the $4,495 billion U.S. retail[1] sector continues to grow at a rate of 5.4 percent, competitors across the globe struggle to gain consumer wallet share in a tough market environment.

Making It Personal

Savvy retailers know they can improve service quality and customer satisfaction by tailoring the shopping experience to meet the needs and preferences of individual consumers. By capturing, understanding and using personal information, retailers can craft more specific point-of-sale (POS) offers, plan and execute more effective loyalty programs, and boost per-cart spending and long-term value. By leveraging the principles of a service-oriented solution, retailers gain an advantage through common business processes, business intelligence and true event-based workflow within the enterprise, meeting customer expectations at the point of purchase/contact.

The Data Imperative

Information is the key to many of the challenges confronting today's retailer. Of course, data captured at the POS is the crown jewel for retailers who hope to provide multichannel convenience or to offer a more personalized shopping experience. Retailers also need precise and current data to improve ordering (reduce out-of-stock situations) and merchandising, to accelerate time-to-market performance, and to support integration across geographies, channels and operating units. Just as critical to retailers today is making data accessible to legacy package systems and vendors without extensive and time-consuming integration efforts. Service-oriented principles allow retailers to reduce and improve data exchange by leveraging application adapters and common canonical data formats that minimize customization and reduce integration activities.

Channel Diversity

Today's demanding consumers have proven they are willing to buy online or by catalog, via a kiosk, in a traditional brick-and-mortar building, or in a specialized store-in-a-store setting. While this multichannel environment is more convenient for shoppers, it places tough new demands on retailers. Sellers must find ways to integrate payment systems while creating tie-ins between their physical stores and Internet shops. They must deploy systems to confirm supply and demand, to ensure they offer consistent pricing and services, and to maintain visibility and control across these diverse channels. One of the most powerful advantages of a service-oriented approach is the ability to encapsulate and leverage common business rules and processes anywhere within the enterprise. This allows for rapid solutions development as common services can be leveraged across various channels to meet customers' needs.

Safety and Regulation

Retailers must now comply with increasingly rigorous government and industry mandates, including food labeling and product traceability, port and transport security issues, International Finance Reporting Standards (IFRS), more restrictive import laws, and the need to protect the confidentiality of customer health and financial information. To meet these requirements, retailers must establish visibility and traceability at every link in the supply chain, including country origin tracking, supplier and material controls, and the capture of complete and accurate scan data. Retailers must make the investments needed to meet compliance documentation and reporting standards, while continuing to fund more mission-oriented strategic initiatives. A service-oriented solution supports true content or event-based processing, allowing retailers to enforce business rules or workflow processes to meet compliance requirements. SOA also supports the tracking of data and messages as they flow though the enterprise, thus improving visibility and traceability.

Why SOA?

Retailers face a number of highly specific challenges that call for IT architectures that are agile and responsive – and that can be adjusted quickly and cost-efficiently to meet changing functional, service and business needs.

Here are just a few specific examples of where and when a retailer might consider applying SOA standards and techniques to meet a particular functional or business requirement.

- A recent study showed that 60 percent of POS systems are more than five years old, and 21 percent of all POS systems are more than 10 years old. As POS systems continue to age and reach end of life, many retailers have investigated replacing those systems, only to discover that such a move would be complex, risky and require extensive integration and customization. By using a service-orientated approach, a retailer can minimize customization, provide greater flexibility and reduce risk. Developing common services around key functions, such as transaction logging and price maintenance, allows the retailer to streamline the data exchange process and minimize the impact to legacy systems with data mapping.
- To allow shoppers to verify pricing at on-the-floor scanning terminals, retailers in the past would replicate the PLU file in its own database. By implementing an SOA service for pricing, the scanning terminal simply accesses the pricing service through a business-driven interface. This same price-information service can then support the future implementation of electronic shelf labels, on-shelf graphic displays and other potential applications.
- A retailer might leverage SOA to apply a single, consistent tax service across its traditional retail store and e-commerce operations. Such a solution could evaluate product pricing, category and sales location to provide precise and automated tax information. Allowing business users to apply industry standards, such as Business Process Execution Language (BPEL), would extend the power of an SOA across the retail environment.

Retail SOA Benefits

An SOA can deliver measurable benefits in today's demanding retail environment. SOA has proven to be workable and cost-effective in a growing number of real-world retail implementations. As shown here, SOA:

- Allows retailers to quickly adopt more profitable business models, such as SKU rationalization, revenue optimization, self-serve kiosks, e-Commerce and consumer-direct selling
- Supports the close integration of POS, store portals, labor management systems, RFID, DSD, security and infrastructure systems
- Reduces the cost, complexity and need for process-oriented software customization, while minimizing the cost of subsequent integrations
- Encourages maximum reuse of business logic and services across retail processes
- Supports an IT approach that cuts across silo applications, supports closer integration with retail trading partners and fosters more responsive, optimized operations