

Great Plains Coca-Cola refreshes its customers' inventory with real-time order processing.

Overview

■ **Business Challenge**

A leader in the soft drink bottling industry, Great Plains Coca-Cola sought to extend that leadership by giving its customers the leanest, most efficient inventory practices possible. While its just-in-time processes were a good foundation, gaps in its order processing flow kept the company from achieving true optimization.

■ **Solution**

Great Plains worked with IBM Business Partner eTech Solutions to redesign and integrate its order processes in a way that delivered seamless real-time data flow from the field to factory floor. This synchronized data throughout the company and tightened its just-in-time processes.

■ **Key Benefits**

- 30 percent reduction in inventory costs due to tighter just-in-time processes
- Improved responsiveness to customer demand, evidenced by a doubling of the frequency of customer deliveries
- Improved merchandising productivity



Great Plains Coca-Cola Bottling Company is the sixth-largest Coca-Cola bottler in North America, with sales over US\$250 million. With a field force of 1,000 and fleet of 350 trucks, the company serves 20,000 customers in central and northeast Oklahoma and northwest Arkansas.

It's hard to find a business that's quite like soft drink bottling. While changes in bottling technologies, production scale and other key factors have been the catalyst for its constant evolution, the bottling industry continues to follow the two-tiered production model set down more than a century ago. Under this model, "parent" beverage companies such as Coca Cola and Dr Pepper produce syrup concentrate, which is then sold to a host of bottling companies—each granted an exclusive regional franchise—which mix the concentrate with water and sweeteners and package the final product into bottles and cans.

“Our large retail customers are demanding we adopt the most efficient replenishment practices. By tightening our just-in-time processes with real-time information, our new solution turns this challenge into an opportunity.”

— Jim Preslar, IT project manager, Network Administration, Great Plains Coca-Cola Bottling Company

Streamlining the distribution chain through innovation

Business Benefits

- 30 percent reduction in inventory costs due to tighter just-in-time processes
- Improved responsiveness to customer demand, evidenced by a doubling of the frequency of customer deliveries
- Drastic reduction of inventory sitting on pallets in the customer's backroom, resulting in fresher products and higher levels of customer satisfaction
- Improved merchandising productivity

The endurance of this model reflects the fact that while the soft drink market is dominated by national brands, it is in many ways a local business. Indeed, even though bottling is a manufacturing business by nature, the heat of the competitive battle extends from the end of the production line to the retail customer's shelves. In short, it's about making sure customers have the right amount of product on hand whether they're a mom-and-pop store or the largest national retailer. Achieving this requires an ability to translate what's moving off the shelves today to tomorrow's production plans, an ability that defines the crucial role of local bottlers in the value chain.

The challenge of pinpoint replenishment

Part of the difficulty of maintaining this balance is the unpredictable nature of each retailer's volumes, which can be influenced by specials or promotions that can quickly empty the shelves. This complexity is further multiplied by the growing number of products that bottlers need to manufacture and stock. The combined effect is to make it more challenging than ever for bottlers to answer their most central question— which products to make, in what quantity and how much to deliver to each customer's site. Given the complexity of the problem, and the general desire to minimize the lost revenue from out-of-stock products, most bottlers have adopted a default strategy of delivering larger shipments less frequently. But while a large, once-a-week drop-off may keep the shelves full, it also takes up valuable space in the retailer's backroom and leads to older, less fresh inventory. That's just the kind of practice that Great Plains Coca-Cola Bottling Company (www.greatplainscocacola.com) took steps to avoid.

The sixth-largest Coca-Cola bottler in North America, with sales over US\$250 million, Great Plains has a long record of setting itself apart by outperforming customer expectations. An early example of this was a system it had developed to integrate its orders from the field with its just-in-time (JIT) manufacturing processes. Under the system, field staff would take orders from the customer and call them in via cell phones to a call center, where the orders would then be manually inputted by call center staff into a queue that was periodically uploaded to the main production planning system. On the plus side, the system established a direct link between customer demand, inventory and manufacturing. The problem, however, was in precision. The fact that order processing was spread across multiple systems and relied on batch processing meant that order and inventory information was almost never completely synchronized within the company. In effect, this lack of consistency created a lingering disconnect between orders, manufacturing and inventory that prevented the company from truly optimizing its JIT processes.

“Most bottlers will put a week's worth of product into a Wal-Mart store and move a little out to the shelves at a time. Because we use real-time replenishment, you'll never find more than two or three pallets in the backrooms of our customers.”

— Jim Preslar

Fluid manufacturing meets real-time data

Great Plains realized that for its JIT operations to yield the kind of streamlining benefits they were capable of producing, it needed a faster and more seamless flow of orders from the field to its core systems. The company's first initiative was to equip its delivery drivers with wireless handheld devices running a customized order entry application it had developed using IBM WebSphere® Application Server and IBM DB2® XML Extender (which linked the mobile application to the DB2 database underlying its Lawson ERP system). By providing a more efficient and streamlined way to input order information, the wireless order entry system tightened the link between customer demand and Great Plains' JIT processes. As important as this improvement in field order entry was, the fact that order data still flowed through a cascade of batch-based systems to its final destination—the production planning system—continued to impede the company's just-in-time performance. Great Plains recognized that true optimization would only come about if it replaced its string of batch-based processes with a seamless, real-time flow that went straight from the field to its core systems.

The real-time flow envisioned by Great Plains represented a whole new level of process integration for the company, one that positioned the company for breakthrough improvements in manufacturing and inventory efficiency. Architecturally, this proposed plan would involve the functions now running on three servers being consolidated onto one. To the company's planners, however, it soon became apparent that Great Plains' existing IBM System i™ transaction processing systems—which, along with its predecessors in the IBM family, had displayed spotless reliability for nearly two decades—would nonetheless need to be upgraded to handle the growing processing load going forward. Great Plains selected the IBM System i5™ 520 due to its flexibility to expand and allocate workload, as well as its superior reliability and security. To deploy the new platform and help it put the new real-time process flow in place, the company engaged IBM Business Partner eTech Solutions (www.etechsolutions.net). After a joint six-month implementation effort involving eTech and Great Plains IT staff, the new solution was ready.

Key Components

Software

- IBM WebSphere Application Server
- IBM DB2
- IBM DB2 XML Extender

Servers

- IBM System i5 520

Business Partner

- eTech Solutions

Time frame

- Solution design: 2 months
- Infrastructure deployment: 1 month
- Integration and application redesign: 3 months

Why it matters

The soft drink bottling business is about balancing rapidly changing demand patterns—across thousands of customers—with highly fluid manufacturing capabilities. Already a leader, Great Plains raised the bar by creating a seamless, real-time process framework that mitigates the disruptive effect of a complex and unpredictable demand chain. By optimizing its internal operations, Great Plains achieved breakthrough improvements in inventory efficiency and unparalleled precision in its retail replenishment practices.

No pause in the refreshment

Already a leader among regional bottlers, Great Plains' real-time order processing solution places it among the most advanced and efficient in the U.S. The complete synchronization of order information within the company—a product of the new solution—has enabled an unprecedented level of ordering precision and extremely fast turnaround. Recalling that many bottlers make a single weekly drop-off at a large customer site, the new system now enables some Great Plains customers to receive two deliveries per day. For retail customers, this means the freshest product and a backroom that isn't clogged with pallets of inventory. For Great Plains, it means higher customer satisfaction driven by an improved ability to respond to customers' needs. Operationally, the move to real-time JIT has enabled the company to squeeze much of its excess inventory out of the distribution chain—a point underscored by the fact that Great Plains' seven cross-dock distribution centers do not carry any inventory at all. While much of the credit goes to the company's seamless internal process flow, the field automation dimension of the project also yielded important process and cost benefits and a significant decrease in ordering errors.

With product lines growing and customer tastes in constant flux, IT Project Manager Jim Preslar sees the issues of production planning and inventory management growing even more complex—just the kind of environment in which the new system is designed to thrive. “We have almost 50 new products coming out over the next year, while at the same time our large retail customers are demanding the most efficient replenishment practices,” says Preslar. “By tightening our just-in-time processes with real-time information, our new solution turns this challenge into an opportunity.”

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