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Mike Zupper
e-commerce Project Leader

Boscov's Department Stores Keep Pace with Fast-Growing Online Sales while Avoiding Millions in Capacity Upgrade Costs

Industry:

Retail

Challenges:

- High volume/site traffic
- Slow site access
- Traffic spikes

Solution:

F5 WebAccelerator for IBM WebSphere Application

Benefits:

- Faster page views for users
- Better use of available bandwidth
- Better site performance
- Elimination of capacity upgrade costs

Overview

With 50 U.S. department stores across six Mid-Atlantic States, Boscov's generates more than \$1 billion in yearly sales. The sales at Boscov's website (www.boscovs.com) are comparable to an average Boscov's retail store, but web traffic continues to grow more than 20 percent per year with huge spikes during email promotions and the holiday shopping season. To deal with the peaks in traffic, Boscov's IT group implemented F5's WebAccelerator™ to optimize its web application performance. Among the results: while page views have doubled, CPU usage has dropped by half allowing Boscov's IT group to focus on driving sales rather than building infrastructure.

Challenge

If ever there was a model “clicks-and-bricks” retail operation, Boscov's department stores is it. As the largest family-owned department store in the U.S., this traditional full-line retailer rings up more than \$1 billion in annual sales across 50 stores in the Mid-Atlantic region. It sells everything from fashions for the whole family to a wide range of electronics including big-screen TVs and everything in between.

Similarly, on its website www.boscovs.com, shoppers can select from up to 45,000 different items, about a quarter of their

typical retail store's inventory. Orders are shipped from a Boscov's store nearest the online buyer. The keys to this extraordinary capability are up-to-the-minute detailed views of store inventories, well-defined business rules, and a top-flight IT operations group, headed by CIO Harry Roberts.

Roberts said that since Boscov's opened the “doors” of its website in 1999, business volume grew quickly to the point where its sales today are comparable to that of an average Boscov's department store. What's different is that web sales continue to grow more than 20 percent per year – growth he expects to continue.

“Interestingly,” Roberts said, “the web has allowed us to expand our reach to the entire U.S., especially Arizona and Florida where many of our customers spend their winters. From December to April, we can now capture sales that we'd otherwise have lost during those months.” In addition, he estimates that the website and its associated promotions have helped drive additional in-store sales by as much as two or three times the website's current revenues.

On a typical day, the Boscov's website fields 150,000 to 250,000 page views, all generated dynamically by their IBM



WebSphere application. That daily number soars when email promotions are issued, and rockets to as many as two million page views per day as the holiday shopping season enters full swing.

For Roberts' web team, keeping ahead of this volume while managing both promotional and seasonal peaks was a growing concern. According to Mike Zupper, e-Commerce Project Leader, the CPU utilization on the site's WebSphere servers was going up but without any commensurate sales benefit.

At times CPU usage would hit 100 percent, he said, which caused page delays and prompted numerous web shoppers to call the Boscov's call center to do their buying instead—a more costly transaction for Boscov's because it involves a customer service representative. Because access to the site was slow, customers did not want to use the site for their purchases.

"We'd know when an email promo would hit because we'd get calls from our customer service center every 15 minutes complaining about the site's lack of responsiveness and how that was overloading the customer service agents," he said.

As Roberts and Zupper tell it, they faced a straightforward dilemma about dealing with the website's steady traffic growth and frequent peaks: Should they throw raw computing power at it or search for an alternative solution?

Solution

With the cost of new backend systems upwards of \$1.2 million, plus as much as three times that amount for applications and integration, Boscov's IT department opted to buy WebAccelerator from F5 Networks for less than 10% of that cost.

This solution optimizes website performance via two primary sets of capabilities. On the browser side, it eliminates the need for browsers to download repetitive or duplicate data, ensuring better use of available bandwidth. On the server side, it extends capacity and reduces server processing by offloading repetitive data requests.

"With the F5 WebAccelerator in-house, we can control the caching rules better than a managed service and tweak as needed, without having to contact a portal vendor and wait for them to respond. Nor do we have to pay annual subscription fees," Zupper said, explaining their decision in favor of an in-house approach.

Installing the WebAccelerator devices in front of their IBM WebSphere servers was easy, he said, and the effects were immediate. "The very first day after we deployed WebAccelerator, our page views went from 300,000 a day to 600,000, average user session was reduced from 18 minutes to 10 minutes, and our CPU usage is averaging about 40-50 percent."

Behind these dramatic performance gains is a series of intelligent technologies designed to overcome problems with browsers, web application platforms and WAN latency issues that impact user performance. The best way to accelerate content is to avoid serving repetitive or duplicate data. WebAccelerator accomplishes this with two groups of functionality: Intelligent Browser Referencing and Dynamic Data Offload. Intelligent Browser Referencing is a group of capabilities that eliminates the need for the browser to download repetitive or duplicate data, as well as ensures the best use of bandwidth by controlling browser behavior. Dynamic

Data Offload increases server capacity and reduces server processing by offloading repetitive requests from the server.

Roberts added that the technical benefits of WebAccelerator translate into business benefits as well. "Because our web pages are graphic-intensive," he said, "customers are clearly getting pages faster. And we've found that customers who are quick to get their pages are quick to swipe their credit cards."

Thanks to WebAccelerator, Zupper said he doesn't get phone calls from the customer service center any more. "The calls just stopped. I honestly don't get them anymore," he said.

In Zupper's words, WebAccelerator's "care and feeding" is very low. "You just let the devices run and don't have to watch them," he explained, adding that they've since added two more WebAccelerators. "With the 'plug-and-play' deployment, it gives us the flexibility to grow as we need to."

"We consider our relationship with F5 as a very good partnership," said Roberts. "We can't afford to simply have 'vendors' anymore. Since coming to Boscov's, I've paired down our list of suppliers from 16 to six, and F5's among them. F5 has worked with us as we've grown and has always been available and super-responsive whenever a minor issue has arisen.

Most importantly, as Roberts sees it, adding F5's WebAccelerator platform to his web framework has helped him and his IT group focus more on driving Boscov's business than its technology. "I'd much rather spend our resources on extending functionality to drive sales than simply building infrastructure," he said. "And that's what F5's helping us to do—focus on sales."

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