

## bebe stores, inc.: New Data Center Architecture Improves Customer Experience



### Key Challenges:

- Accommodate increased online sales at bebe.com
- Deploy a solution to improve performance and reduce bandwidth consumption
- Replace server load balancer

### Key Juniper Networks DX Benefits:

- Reduced site bandwidth costs by 30%
- Decreased long-term hardware and software costs
- Increased sales by accelerating page load times by 43 percent
- Improved customer experience by improving download time

Stylish women turn to bebe stores, inc., which designs, develops, and produces a distinctive line of contemporary women's apparel and accessories. In the United States and Canada, bebe stores, inc. operates 204 stores, under the bebe and BEBE sport brands. In addition, bebe.com is a busy online retailer. From his San Francisco office, Hamid Mashouf, vice president of IT for bebe stores, inc., manages with his team all aspects of technology for the physical stores and for bebe.com.

In April 2003, with the steady success of bebe.com and the associated increase in traffic, it became apparent that performance and capacity issues needed to be proactively addressed as orchestrated projects, to ensure readiness for the holidays.

Upon evaluation, Mashouf determined that the entire site required a complete overhaul. The existing architecture, server hardware, and software applications were not adequate to handle increasing numbers of visitors. Mashouf also discovered slow page-download times and load failures, which caused customer frustration and could ultimately result in lost sales. The team needed a solution quickly, because the holiday season was fast approaching.

"We suffered a peeling-of-the-onion syndrome. As we investigated and solved problems in one area, we would end up digging deeper and discovering multiple other inefficiencies," said Mashouf. "We upgraded the applications to more powerful versions to handle growth. We also upgraded the entire architecture of the site and revamped the hardware. We went through two upgrades and still had problems."

Further research uncovered common performance problems associated with server load balancers. Mashouf learned that load balancers do not address the overall picture, and that tuning problems are common.

*"Our customers receive a better experience and there is less frustration."*

**Hamid Mashouf**  
Vice President of IT  
bebe stores, inc.

**The New Data Center Architecture**

Mashouf continued his research and discovered application front-end devices. He investigated several solutions and later invited two vendors for trial runs, including Juniper Networks. After a two-week trial period, Mashouf chose the Juniper Networks solution.

“We picked the Juniper Networks solution because it improved performance and had an easier interface and better reporting,” said Mashouf. “We also had a good experience with the Juniper Networks team. The technical support team was excellent and engaging. We felt a strong partnership, so we pulled the trigger.”

Within a day, the Juniper Networks DX™ 2200 application acceleration platforms were up and running at bebe. The Juniper Networks platforms are part of a new class of devices called application front ends (AFEs), a multi-function, optimized platform that addresses the performance, security, availability, management, and flexibility requirements of the new data center. The Juniper Networks AFEs focus on the Web tier, providing high-quality caching, compression, and an active failover scheme.

“We did not lose the ability to service customers during implementation,” said Mashouf. “Once installed, the DX 2200 platform helped identify the source of the page failure problems by identifying pages that had been changed with links still remaining. Also, the platform delivered very efficient multiplexing to increase stability and capacity. The devices took a lot of pressure off the Web servers and application servers.”

**Better Performance, More Secure**

“With Juniper Networks, we receive a clear, hard benefit from compression,” said Mashouf. “We calculate that we save 30 percent on bandwidth costs each month. Page load times have been reduced by 43 percent. Our customers receive a better experience and there is less frustration.

“The Juniper Networks application front ends simplified the situation, so the performance of the entire site is more predictable and easier to handle,” added Mashouf. “The Juniper Networks solution also provided additional security, enhancing both performance and security.”

In the near future, Mashouf’s team will look into ways to accelerate secure sockets layer (SSL) traffic, and they will consider Juniper Networks in the process. “Juniper Networks has given us the headroom, so that we do not have to spend the money on adding more hardware or servers.”

“Before spending too much money on hardware and consulting, entertain looking at application front-end appliances as a component of a standard architecture, instead of just the old paradigm of load balancer, Web server/application server,” Mashouf advised IT managers at other online retailers. “Adding this kind of appliance to the mix is a fundamental piece of new design architecture.”



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