

Randstad: Professional Staffing Firm Speeds PeopleSoft Performance to 350 Branch Offices



Key Challenges:

- Branch offices experienced slow response for PeopleSoft applications across framerelay WAN links back to the U.S. headquarters

Key Benefits:

- Accelerated user downloads by 25 percent
- Reduced server load and CPU utilization, enabling potential server reallocation
- Delivered high-performance load balancing and other functions, making server maintenance possible without disabling users
- Provided versatile solution that can be deployed in front of Microsoft Outlook, intranet portal, and custom applications

Dave Ritchie described the nationwide network serving 350 branch offices of Randstad North America's U.S. operation as "bandwidth challenged." The global staffing provider's North American subsidiary is based in Atlanta, with locations nationwide connected to headquarters via frame-relay links at speeds of 56-64 Kbps. Randstad agents at these sites perform time-card entry, payroll, matching talent to positions, invoicing, and billing over the company's wide-area network, using the Web-enabled version of PeopleSoft Front Office, an application suite geared toward the needs of the staffing industry.

But Randstad agents in remote offices were finding that accessing the PeopleSoft applications across their WAN was painfully slow.

Hiring the Right Talent

Late in 2003, Ritchie, Randstad's manager of hardware systems, learned about an emerging category of network devices – a single appliance that performs compression, load balancing, connection management, and other functions in front of Web servers, leaving them free to process applications. Deploying this kind of device, called an "application front end," would eliminate the need for dedicated boxes that perform load balancing and the other critical functions.

His research revealed that data compression and server offload were key capabilities needed to reduce server workloads and address application-performance problems across the company's WAN. He also wanted Transmission Control Protocol (TCP) connection management to reduce the large number of TCP connections being managed by each server and to overcome the handicap of "TCP slow start," a mechanism by which networks send a few packets at a time to make sure the connection is high quality and to avoid congestion.

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Dave Ritchie
Manager of Hardware Systems
Randstad

With the help of Jeff Cates, network engineer at Randstad, and the support of Randstad's CIO Larry Clark, a project was launched to perform a head-to-head comparison test of products from several companies. This "stress test" was run in January 2004 using Mercury's LoadRunner, an automated testing tool that placed 600+ simultaneous sessions performing a variety of transactions to stress the Randstad's servers and determine their response with each product.

Juniper Networks Gets the Job Done

The evaluation led to the deployment of the Juniper Networks DX™ 3250 application acceleration platform. The DX 3250 application front-end appliance provides a comprehensive set of features aimed at the "Web tier" of the enterprise data center: server load balancing, compression, connection management, secure sockets layer (SSL) processing, request buffering, adaptive content processing, and more.

A key factor in the decision was Juniper Networks support of an "ActiveN" architecture, which allows multiple DX platforms to concurrently perform load balancing, compression, or any of its other functions as if they were one logical unit. If one system fails, traffic is instantly redistributed across the remaining units, with no loss of service to the end user.

"With ActiveN we can use multiple DX platforms in parallel, which allows us to scale the system as our business grows," said Ritchie. "This gives us a much higher comfort level than an active-passive approach. In addition, feedback from the network engineering staff indicated that the Juniper Networks user interface is much more intuitive, with hundreds of statistics that can be organized in the ways most useful to us. This gives us the ability to probe deeply into the performance of our servers and applications.

"The DX platform also eliminated the need for an expensive load balancer, which we were considering," Ritchie continued. "The cost of the more capable Juniper Networks device is substantially less than the cost of competing load balancers. These devices have been rock solid, with no problems occurring since they went into production."

The DX 3250 platforms were installed in late February 2004 at the company's Atlanta headquarters, where they sit in front of three BEA WebLogic Web/application servers. Remote branch offices are connected across the frame-relay WAN via a T3 circuit.

Immediate Results

Results of the deployment were immediate. For remote users in the Randstad branch offices, access to the PeopleSoft Front Office application was more than 25 percent faster. "We went from getting a lot of user complaints to almost none," Ritchie said.

Randstad's web application servers saw an even more dramatic impact from the DX 3250 platform's high-performance load-balancing and connection-management capabilities. "No longer was one server bearing most of the load with no control," he said. "With the load better balanced and CPU utilization reduced, we are now in a position where I feel that we could easily eliminate one of our three Web servers, reallocating it to another project rather than buying another new server for that project. We are more confident that a server failure would not make this key application inaccessible to a third of the company, as was previously the case."

Since the implementation, Randstad has expanded the use of the Juniper Networks appliance to accelerate other applications, such as Microsoft Outlook Web Access. Plans are in the works to expand the use of the DX 3250 platform beyond the present PeopleSoft applications, having the Juniper Networks appliance accelerate access to a new e-business application.



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