

Accelerating Mission-Critical Oracle's PeopleSoft Enterprise Applications for Maximum Availability

Challenge

Because Web-enabled applications consume at least 10 times the bandwidth as their client-server counterparts, congestion, particularly on limited-capacity wide-area and Internet links, slows response times to a crawl, seriously affecting productivity.

Solution

The Juniper Networks data center (DX) application acceleration platform improves response times of Web-based business applications such as PeopleSoft Enterprise, dramatically improving performance and productivity for local, remote, and mobile users.

Benefits

Deployed in the data center in front of Web and application servers, the DX platform accelerates PeopleSoft Enterprise performance by offloading repetitive, CPU-intensive tasks from Web servers. As a result, the servers perform much more efficiently because they can focus on doing what they were intended to do: serve content and fulfill requests.

In the paperless office, traditionally resource-intensive administrative tasks—everything from finance to human resources—are fully automated and performed electronically online over the corporate network. For many businesses, Oracle's PeopleSoft Enterprise applications provide the enabling technology that makes the paperless office a reality.

Designed for the most complex business requirements, PeopleSoft Enterprise applications help organizations reduce costs and increase productivity by making customers, suppliers, partners, and employees real-time, online participants in business processes. Integrated with other multivendor and homegrown applications, PeopleSoft Enterprise—part of the Oracle family of business applications along with JD Edwards EnterpriseOne, JD Edwards World, Siebel CRM, and Oracle E-Business Suite—is easily configured to meet unique customer requirements.

The Challenge

The PeopleSoft Enterprise suite of applications—including Enterprise Performance, Customer Relationship Management, Supply Chain Management, Human Capital Management, and Financials—was originally designed as a traditional client-server solution. However, since adopting a Web-based architecture with the release of PeopleSoft Enterprise 8, the application has gained in popularity because it provides employees with anytime, anywhere access without requiring client software on user desktops.

Despite its numerous benefits, the Web-based architecture is not without its drawbacks and challenges. The first casualties are performance and reliability. Because Web-enabled applications consume at least 10 times as much bandwidth as their client-server counterparts, congestion, particularly on limited-capacity wide-area and Internet links, slows response times to a crawl, seriously affecting productivity.

Operation over the Internet, even over virtual private networks (VPNs), also poses security risks that must be addressed. In addition, as the application and underlying business processes are extended to a greater number of users, scalability becomes a critical issue as the business attempts to accommodate its expanding workforce from a single, central location.

To meet these challenges, many businesses have deployed a multitude of point products in the data center to improve performance, enhance reliability, impose and enforce security policies, and keep pace with the expanding workforce. As a result, the data center has grown increasingly complex, creating maintenance and management challenges for IT.

To fully realize the benefits of the Web-based PeopleSoft Enterprise applications suite, businesses need a solution that restores performance to client-server levels for all users—local, remote, and mobile—without requiring a substantial infrastructure upgrade. The solution must also be secure and scalable while eliminating the complexity and expense of the point products currently cluttering the data center.

The Juniper Networks DX Solution: Empowering PeopleSoft Enterprise

Juniper Networks, a member of the Worldwide Oracle Partner Network, delivers the solution PeopleSoft users are looking for.

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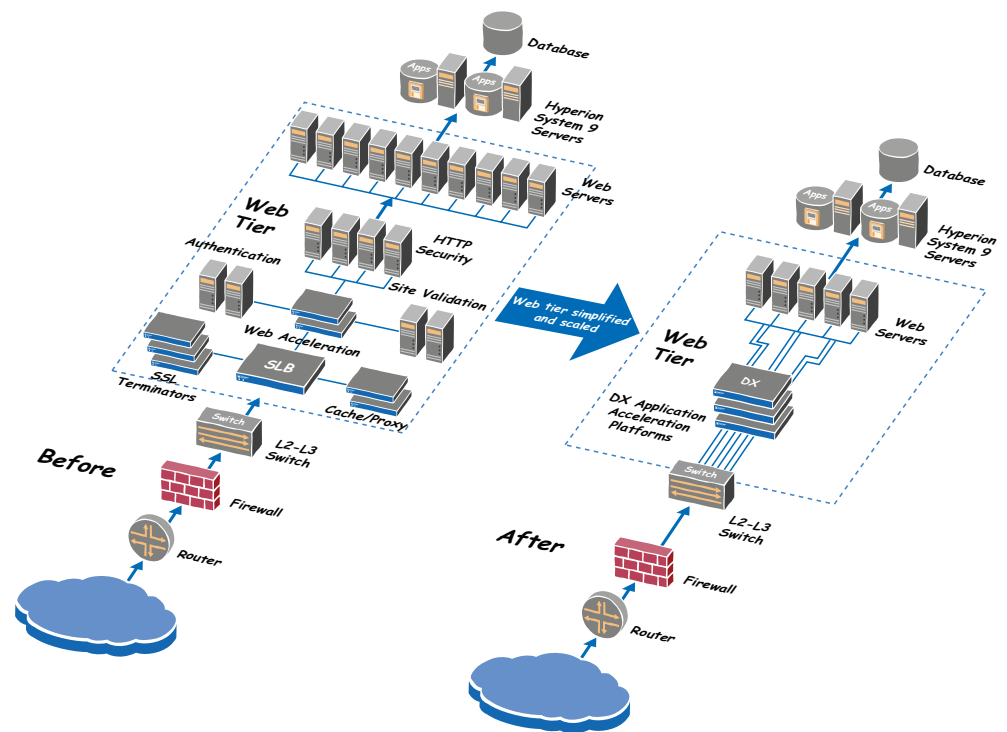


Figure 1 Data Center Network Before and After DX Deployment

To reduce complexity in the data center, the DX platform also collapses multiple services and functions, including server load balancing (SLB), Secure Sockets Layer (SSL) encryption and termination, TCP connection multiplexing, object caching, and Web-object compression, onto a single device. Such consolidation not only eliminates the need for multiple point products in the data center, reducing overhead, it also represents a highly scalable solution that easily grows with the enterprise without requiring additional infrastructure investment. For remote and mobile users accessing PeopleSoft Enterprise applications over a wide-area link, the compression features makes much more efficient use of available bandwidth, accelerating page downloads up to 50 percent.

The DX platform also provides complete application and data center security by serving as a full request-and-response-fluent bidirectional HTTP proxy that processes and rewrites all incoming requests and outgoing responses, providing a protective buffer that shields back-end resources from external threats.

Features and Benefits

The DX platform can multiplex thousands of incoming TCP connections down to just a few by taking over resource-intensive tasks such as session setup, session teardown, and SSL termination, relieving the connection-management burden on back-end servers. Processing power can now be devoted to fulfilling requests, enabling servers to process four times the normal number of transactions and deliver much faster response times for all users, whether they are local or dialing in over a 56k line.

The DX platform also provides a highly scalable solution that grows and evolves with the business, dramatically reducing data center overhead. Users can initially deploy a DX platform to provide simple SLB and SSL termination. As demands increase, additional functions such as HTTP acceleration, compression, protocol scrubbing, 3G caching, and the AppRules adaptive content processing feature can be implemented via simple license upgrades. Businesses can eliminate their multiple point products and their associated management and administration costs, reducing data center infrastructure and bandwidth costs by up to 60 percent—a significant contribution to the bottom line.

To improve overall availability and performance for very large enterprise networks, the DX platform's ActiveN scaling feature allows new DX devices to be added incrementally, as needed, to meet escalating demands. The entire DX cluster acts as a single device, linearly scaling performance. Up to 64 units can be combined in a mesh topology, delivering a new level of performance and availability.

The DX features combine to deliver a powerful solution for accelerating PeopleSoft Enterprise performance. Lab tests conducted by Oracle confirm that the DX platform improves transaction performance by up to 77 percent for remote users accessing the application across the WAN. Such performance enhancements not only improve user productivity, they also dramatically lower total cost of ownership by reducing infrastructure overhead and reducing the maintenance and management burden on the IT staff.

Solution Components

The Juniper Networks solution consists of the Juniper data center (DX) application acceleration platform.

Summary: Oracle and Juniper—The Power of Partnering

Juniper and Oracle have a longstanding relationship and a history of developing and delivering joint solutions to enterprise customers. In addition to the Oracle Partner Network, Juniper is a member of several Oracle-related user groups, including the Oracle Applications User Group (OAUG), the Oracle International Users Group (OIUG), the Quest Alliance, the Financial Services Industry User Group (FSIUG), the Healthcare Industry User Group (HIUG), the Higher Education User Group (HEUG), and the Distributors and Manufacturers User Group (DMUG). In addition, the Juniper DX platform has also been certified by Oracle with PeopleSoft Enterprise Release 8.

Next Steps

To find out how Juniper Networks data center application acceleration platforms can improve the performance of Web-enabled Oracle applications such as PeopleSoft Enterprise, contact your Juniper Networks representative.

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CASE STUDY: Santa Clara University

Business Benefits:

- Reduced bandwidth requirements by up to 10 Mbps, saving \$48,000 a year
- Increased server capacity 50 percent through connection management, I/O, and SSL processing offload
- Reduced overall number of network components in the data center

Santa Clara University, located in California's Silicon Valley, had a simple goal: provide students and faculty with Web-based access to business-critical enterprise applications without increasing the administrative burden on the IT department.

The university began by deploying Oracle's PeopleSoft Enterprise Release 8, the Web-based version of the popular application suite, to support human resources and student administration efforts, including admissions, financial aid, and course registration programs. The deployment, however, was a victim of its own success; within weeks, the university's application servers were overwhelmed with requests, and PeopleSoft Enterprise performance was slower than that of the previous client-server version. Adding three more Web servers and another application server didn't solve the problem, and neither did performance management and software tuning tools. The university needed to find a solution.

Enter the DX application acceleration platform from Juniper Networks, which promised to improve performance by offloading CPU-intensive tasks from back-end servers while accelerating page downloads via compression. After installing a single DX 3250 device, the university saw an immediate and dramatic improvement; compression reduced bandwidth usage associated with PeopleSoft Enterprise by 70 percent, and server offload features effectively doubled server capacity.

The true impact of the Juniper solution became apparent when one of the university's servers went down for more than a week—and no one even noticed a change in performance. The DX platform provided so much performance headroom that the application servers supporting PeopleSoft Enterprise had more than enough horsepower to satisfy the existing user base and more.

Thanks to the DX platform, Santa Clara University is now saving nearly \$5,000 a month in bandwidth costs. In addition, with the existing servers initially deployed to restore PeopleSoft Enterprise performance, the university is now well-equipped to handle an expected rise in demand in the coming years—without requiring any additional investments.

About Juniper Networks

Juniper Networks, Inc. is the leader in high-performance networking. Juniper offers a high-performance network infrastructure that creates a responsive and trusted environment for accelerating the deployment of services and applications over a single network. This fuels high-performance businesses. Additional information can be found at www.juniper.net.

To purchase Juniper Networks solutions, please contact your Juniper Networks sales representative at 1-866-298-6428 or authorized reseller.