

Solution Brief

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**Securing and Assuring  
Delivery of  
Lotus Domino  
Web Applications**

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In today's distributed enterprise, traditional corporate boundaries have virtually disappeared. Instead, a new "virtual workplace" has emerged where mobilized employees are scattered throughout remote locations and branch offices around the world. As a result, businesses rely more than ever on collaborative software applications that allow widely distributed team members to work together as easily as if they shared the same office.

IBM Lotus® Domino® server is just such an application. Lotus Domino server enhances user productivity by delivering a host of integrated messaging and directory services such as e-mail, calendar and scheduling capabilities, discussion databases, and address books in a unified, easy-to-manage architecture. In addition, Lotus Domino server also provides a robust platform for developing and deploying collaborative applications – such as project management tracking and customer support processes – on a wide variety of operating systems, helping organizations to be more responsive.

## Extending the Reach

To extend the reach of their Lotus Domino deployments, many businesses have web-enabled the application server so that users anywhere in the world can access the software's powerful features via a simple browser connection. This "webification" process, however, introduces a host of new challenges.

Web-enabled applications consume 10 times more bandwidth than their client-server counterparts, presenting performance

and latency problems for users accessing Lotus Domino over wide-area links. Web-based applications also place a tremendous amount of stress on the "web tier" – the web and application servers in the data center tasked with supporting the distributed workforce. As the Domino client base grows, increasing demands on the data center, response times and productivity plummet as too many users compete for a limited amount of resources.

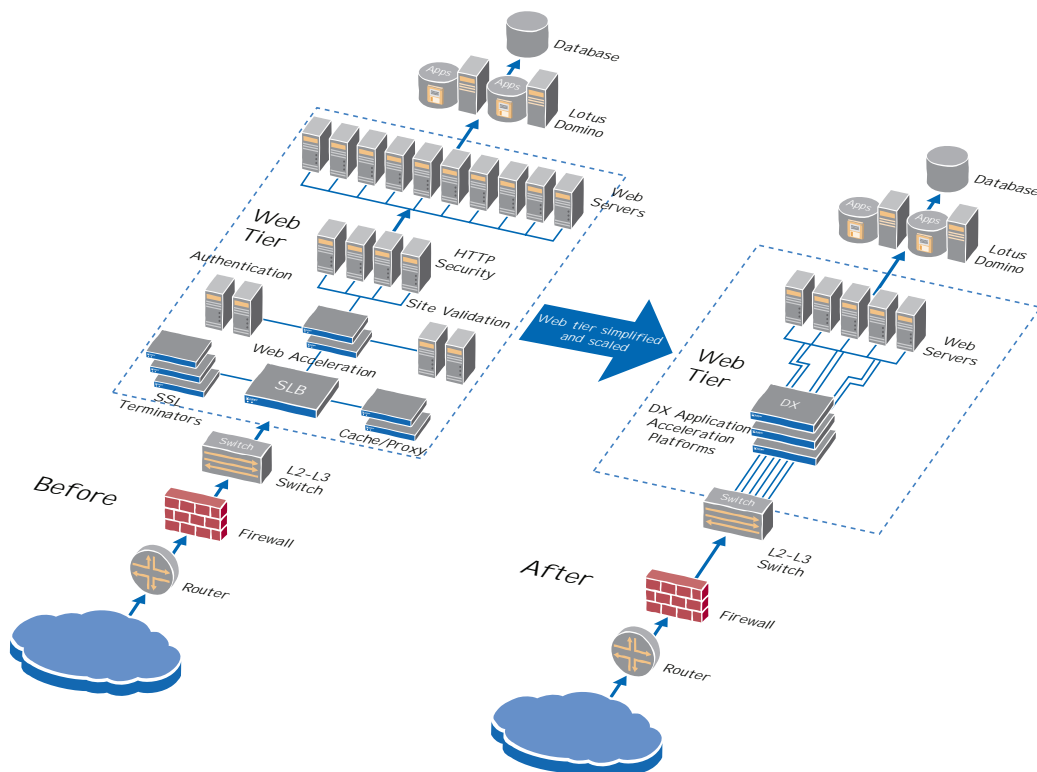
## Juniper Networks and IBM: Powerful Application Delivery Solutions

Juniper Networks, a certified IBM Business Partner, has a solution that accelerates the delivery of web-based applications such as Lotus Domino over wide-area links, improving the productivity of remote, branch-office and mobile users while reducing total cost of ownership (TCO). The Juniper solution – the data center (DX) application acceleration platform – is an innovative approach that incorporates multiple features and functions in a single platform to improve web-enabled application performance by:

- Increasing server capacity
- Improving transaction response times
- Reducing WAN bandwidth requirements

## DX Application Acceleration Platforms: Consolidating the Web Tier

To improve the performance of their web-enabled applications, many businesses have built-out their web tier by adding servers and deploying multiple point products such as server load balancers (SLBs), compression devices, SSL terminators, web



The DX platform simplifies the web tier by incorporating functionality from multiple devices into a single platform and improving server scalability and availability.

caches and HTTP proxies. The DX application acceleration platform consolidates the web tier by incorporating the functionality of these devices into a single platform, reducing data center overhead and complexity while delivering unprecedented application performance, security and availability.

Deployed in front of web, application and database servers as an “application front end” (AFE) device, the DX platform integrates transport connection multiplexing, SSL termination and acceleration, server load balancing, ultra-fast object caching, adaptive compression, and TCP slow-start mitigation to streamline application delivery from the data center. By multiplexing TCP connections, the DX platform reduces thousands of incoming client connections down to just a few, relieving the connection-management burden on web servers and allowing them to do what they do best: serve content. And by taking over resource-intensive tasks such as session set-up, session tear-down and SSL termination, the DX platform frees up considerable CPU cycles on the servers, allowing them to process four times the normal number of requests and deliver faster response times for all users, whether they are local or dialing in over a 56k line.

### DX Platform: Proven Results for Lotus Domino

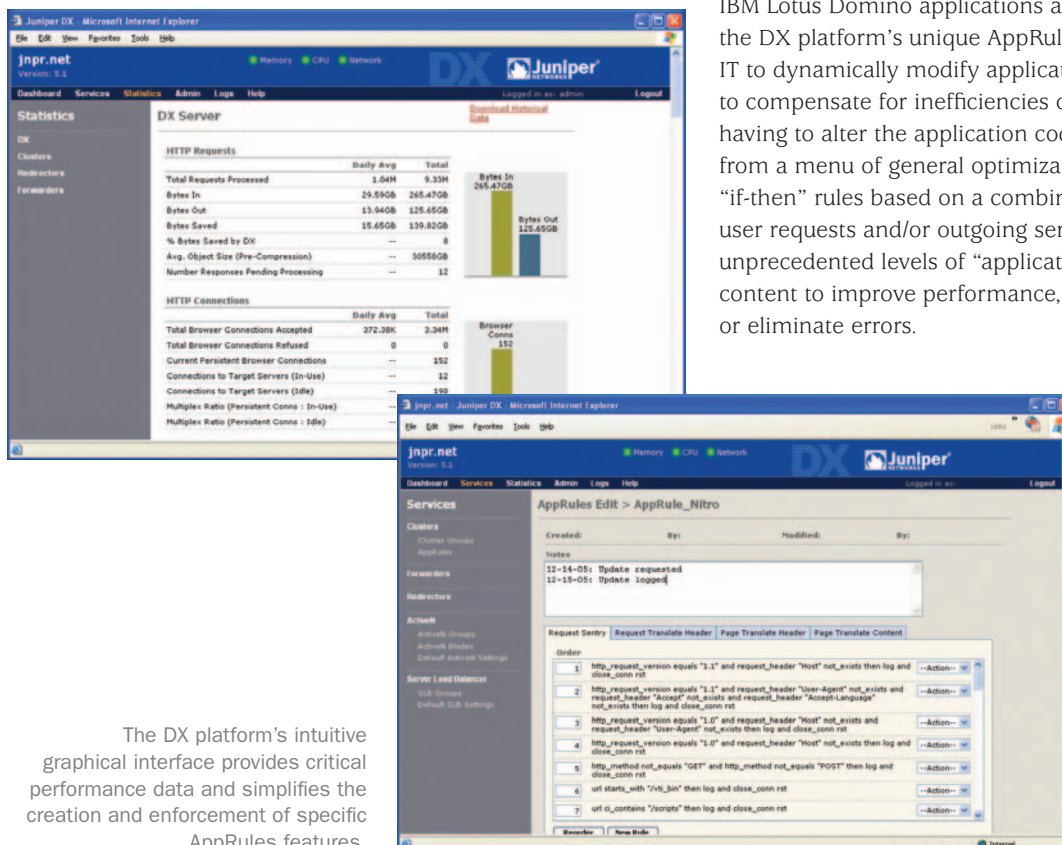
The DX platform delivers proven performance enhancements for web-based Lotus Domino deployments.

Independent third-party tests\* show that the DX platform increases Lotus Domino server capacity by upwards of 500 percent when processing SSL transactions, cutting hardware and maintenance costs in half. While processing this significantly greater load, the DX platform still produces 60 percent faster response times, dramatically improving productivity for all users, both local and remote.

In addition, third-party tests show the DX platform’s high-performance compression capabilities reduce bandwidth consumption by more than half, ensuring faster file-download performance for Domino and other web-enabled applications. Unlike other AFE solutions, which decrease bandwidth usage but often add latency and increase response times, the DX platform’s specialized algorithms reduce bandwidth while accelerating response times, providing the best of both worlds. With the DX platform, businesses can either reduce their recurring WAN costs or reserve the excess capacity for future application deployments.

### Real-time Application Changes

IBM Lotus Domino applications also benefit greatly from the DX platform’s unique AppRules™ feature, which enables IT to dynamically modify application behavior “on the fly” to compensate for inefficiencies or other problems without having to alter the application code itself. Users can choose from a menu of general optimization rules or write their own “if-then” rules based on a combination of factors for incoming user requests and/or outgoing server responses, delivering unprecedented levels of “application fluency” for transforming content to improve performance, modify workflows, and reduce or eliminate errors.



The DX platform’s intuitive graphical interface provides critical performance data and simplifies the creation and enforcement of specific AppRules features.

**Juniper and IBM: A Powerful Partnership**

Working together, Juniper and IBM provide their customers with one of the industry's most reliable, scalable, secure and assured solutions for delivering value-added, high-availability collaborative applications such as Lotus Domino and Domino Web Access

in the distributed enterprise. Armed with the DX application acceleration platform, Lotus Domino users can experience secure and assured delivery of their critical applications, anywhere in the world, without sacrificing performance or productivity.

**Case Study: Surrey County Council**

**Business Benefits:**

- Reduced bandwidth demands by 22 percent
- Improved website performance by 40 percent
- Implemented seamless failover support

Surrey County Council, one of the UK's largest regional authorities, was bound by government directive to provide its one million residents and 23,000 employees with online access to public services and information. Since budgets were tight, the IT department had to maximize existing data center and web-infrastructure resources while limiting future costs as demands increased.

One of their most pressing needs was to load-balance two existing Lotus Domino Web servers to provide seamless failover in the event of a server failure, ensuring the website would be available 24x7 without requiring onsite employee presence. Because the council used a single bandwidth service, bandwidth savings were a key consideration.

After an extensive evaluation, Surrey County Council selected the DX application acceleration platform from Juniper Networks. The reason: not only did the DX platform meet their load-balancing requirements, it also made more efficient use of existing bandwidth while providing a scalable solution that would allow the council to meet future requirements with their existing servers as more applications were rolled out.

The council noticed a measurable improvement once the DX platform was installed. Download times for the home page dropped 40 percent while bandwidth usage fell by 22 percent, enabling the council to extend the life of their current bandwidth contract without incurring any additional costs. The DX platform also exposed some previously unknown problems with the backup Lotus Domino Web server – problems that were quickly isolated and resolved. The DX platform's load balancing feature now provides seamless transfer between the servers.

In the future, Surrey County Council plans to use the DX platform to provide secure sockets layer (SSL) acceleration, and will further expand its use as more applications and services are put online to satisfy government and public demands.



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