AT A GLANCE WWW.BROCADE.COM

# BROCADE EDUCATION SOLUTIONS LEADERSHIP



# APPLICATION DELIVERY

# Improving the Collaborative Online Educational Experience

## **HIGHLIGHTS**

- Brocade® ServerIron® ADX delivers better SSL performance and priceperformance than competitors, preventing degraded server response times that can delay admissions, increase administrative cost, and make learning less productive, resulting in lower grades and reduced enrollment
- Nearly 4x the SSL transaction throughput of similar devices and priced at 30% less than another leading device
- Port connectivity flexibility with 16 Gigabit Ethernet ports and two 10 Gigabit Ethernet ports
- 9.4 Gbps of layer 7 throughput more than twice that of any other switch analyzed
- No impact to layer 7 load balancing throughput while processing SSL traffic flows up to 20,000 SSL TPS

Educators increasingly rely on portals to promote collaboration and the easy, secure access to classroom and campus resources – from course information and assignments, to online communities for students, faculty and staff. In addition, the Internet has created opportunities to facilitate online transactions such as registration, tuition payments and alumni donations, as well as enabling distance learning and the use of multi-media curriculum and elearning applications.

The operational and cost savings benefits of online services are clear, however the delivery of Web-based services also brings challenges. For students, faculty and staff seeking anywhere, anytime collaboration and access to resources, service expectations are high. In the classroom, applications delivered via the Web must perform on demand, every time. Transactions processed online must perform as seamlessly and securely as popular payment methods. And portals providing access to admissions applications, course enrollment and assignments, lesson plans and collaborative learning communities are expected to

deliver an experience that rivals that of the traditional institutional campus, making any degradation in performance unacceptable and intolerable.

# PROVEN SUPERIOR PERFORMANCE FOR EDUCATIONAL ENVIRONMENTS

Secure Sockets Layer (SSL) is an essential element of browser-based ecommerce and provides an effective method for securing confidential information or transactions - characteristics vital to a reliable, compliant Web experience. If an education infrastructure isn't properly sized with adequate SSL acceleration processing capacity it will slow down the application switch and reduce its capacity to perform required load balancing and server offload tasks concurrently. The consequences can be disastrous for educators relying on the Web to not only deliver cost-effective. high quality educational services, but to also support the secure collection and dissemination of information. Longer wait times for site visitors inevitably create a frustrating experience, driving users to abandon the process. The result can be an unsatisfactory experience that impacts all constituents - students, faculty, staff, alumni and the entire community.







# **SSL Transaction Performance**

In Transactions per Second 29,037 7,500 4.400 16,000 15.000 0 5000 10000 15000 20000 25000 30000 ■ Brocade ServerIron ADX 1000 Cisco ACE 4710 Citrix NetScaler 9010 Citrix NetScaler 9500

Figure 1.
ServerIron ADX 1000
maximum SSL TPS
alongside competitors
in the SSL Transaction
Performance chart excerpt
from the Tolly Test Report
#210101, January 2010,
www.tolly.com

Brocade ServerIron intelligent application delivery and traffic management solutions have led the industry for over a decade, helping to mitigate costs and prevent losses by optimizing business-critical enterprise and service provider applications with high availability, security, multisite redundancy, acceleration, and scalability. Now Brocade ServerIron ADX switches provide industry leading Layer 2 through 7 switching performance, enabling highly secure and scalable application service infrastructures.

F5 Big-IP 3600

The switches efficiently distribute unified application services by measuring server utilization and connection load in real time, providing visibility and manageability of application performance, security, and service delivery. As a result, Web applications run more efficiently and with higher availability—streamlining operations, increasing business agility, significantly reducing costs, and helping educators to provide cost effective service while ensuring the secure protection of information.

According to the Tolly Group, which benchmarked the Brocade ServerIron ADX 1000 against similar devices, the ServerIron ADX 1000 provides significantly greater SSL capacity at a lower cost-per-transaction when compared to comparable solutions. Other Tolly Group findings include:

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- The Brocade ServerIron ADX 1000 was able to process just over 29,000 SSL transactions per second, nearly twice that of its closest competitor and nearly quadruple that of another
- The Brocade ServerIron ADX 1000 provides the lowest cost per SSL TPS among products analyzed, \$1.89 compared to as high as \$10.75 from competitors
- Implementing the ServerIron ADX 1000 provides for the lowest cost per gigabit per second of layer 7 throughput, at just over \$5,800 while similar offerings cost at least twice that

- ServerIron ADX 1000 delivered over 2 Gbps of SSL throughput
- The Brocade Serverlron ADX 1000 outperformed the competition by more than 2x, processing nearly 9.4 Gbps of Layer 7 traffic, compared to a maximum of 4 Gpbs offered by others
- The Brocade ServerIron ADX 1000 is estimated to process up to 20,000 SSL TPS without degrading Layer 7 throughput

## **ABOUT BROCADE**

As a leading provider of high-performance data center, enterprise campus, and service provider networking solutions and services, Brocade enables today's complex, data-intensive businesses to optimize information connectivity and maximize the business value of their data. Brocade has pioneered numerous switching, routing, security, and application traffic management technologies to ensure highly reliable and secure data center connectivity. Today most of the world's data flows through Brocade equipment and data center networks built on Brocade technologies, so it's no wonder that Global 500 companies rely on Brocade to keep their businesses running smoothly.

For more information, visit www.brocade.com

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