



## CASE STUDY | The University of Alberta School of Business

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### **The University of Alberta School of Business Takes Course Management Online with Coyote Point Systems Application Delivery Controllers**

The University of Alberta School of Business is internationally recognized as one of Canada's top five business schools and #1 in the country for career progress. The university offers a variety of business programs at both the undergraduate and graduate levels and has over 3,000 students currently enrolled.

After adopting the Blackboard Learning Management System in 2008, The Alberta School of Business deployed Coyote Point Equalizers within their network to ensure students and faculty had non-stop, secure access to all of the university web applications.

#### OVERVIEW

##### Industry

- Education

##### Challenges

- Ensure 100% uptime of Blackboard® Learn
- Security

##### Solution

- Equalizer E450GX
- Xcel™ SSL Offload

##### Benefits

- Performance
- Secures confidential application data
- Scalability

## CHALLENGE

Today's students are more connected and technologically savvy than ever before, while universities are facing tighter budgets and rising demands. All of this has resulted in a migration from traditional classroom-centric learning models to an increased reliance on the Internet to provide information and learning tools that are more easily accessible to students and faculty.

Internationally acclaimed University of Alberta School of Business took their course management online in 2008 when they adopted the Blackboard Learning Management System. With solutions available for K-12, Higher Education and Professional Education, Blackboard Learn is the premier platform for delivering learning content, engaging learners, and measuring their performance.

The workload on the university's servers increased as the number of users accessing the network grew, and they recognized the need to find a solution that would ensure the availability and performance of their mission-critical applications.

## SOLUTION

They first looked at F5's BigIP, only to find that the price was way outside of their budget. A recommendation led them to Coyote Point where they were pleased to find all of the features and functionality they needed, at a fraction of the cost.

The university deployed three Equalizer E450GX Application Delivery Controllers across three VMware ESXI servers to maintain continuous access to uLearn, their custom web portal that links students and faculty to the

Blackboard Learning Management System.

"The price point was right, and the Coyote Point Equalizers had all of the necessary features", stated Michael Getz, Director of IT for the University of Alberta School of Business.

Designed with security and performance in mind, the E450GX was built from the ground up to maximize application performance in SSL secured environments. The E450GX combines comprehensive Layer 4-7 application load balancing with dedicated Xcel™ SSL hardware acceleration.

The ability to maintain session persistence and offload CPU intensive encrypted traffic to the Equalizer were key factors in choosing Coyote Point. The E450GX is capable of processing up to 8,500 HTTPS transactions per second and offloads CPU intensive cryptographic operations, freeing up their servers to handle delivery of the web application content.

*"There are not a lot of products out there that do what F5 can do without breaking your budget. Coyote Point absolutely excels in price and performance."*

*Michael Getz,  
Director of IT*

Coyote Point's Active Content Verification technology and load balancing algorithms insure that users are always directed to the server best able to handle the load. Twelve managed Gigabit Ethernet interfaces provide the bandwidth and flexibility to deploy multi-tiered applications without additional

hardware. In addition, Coyote Point's AJAX- based web user interface provides an intuitive, responsive management console that's always available to monitor server and application performance.

## BENEFITS

The Equalizers have been instrumental in providing exceptional performance for uLearn by load balancing the activity among several application and database servers.

### **Performance, Security & Scalability**

With two of the Equalizers running in a redundant configuration, the university is able to eliminate the possibility of any downtime of the application, servers and network.

Students and faculty alike have experienced noticeable network performance gains with the E450GXs in place, and server capacity has been increased dramatically by offloading SSL traffic.

"The Equalizers have been in place for over a year now. We have not experienced a single moment of downtime, nor have we needed to adjust the configuration since installation," added Getz. "Further, to be certain our Blackboard service was going to be rock solid prior to launching in production – we hired a company with expertise in system stress test analysis to simulate hundreds to thousands of concurrent connections performing various common tasks on the Blackboard LMS. Our three application servers reached their saturations points well ahead of the load balancers. This leads us to conclude that the Coyote Point E450GX has a greater capacity for concurrent connections than our students and instructors will ever require."