

## University Selects Appliance-based Solution to Improve Web Access

Golden Gate University deploys next-generation ACE application switches to help ensure 24-hour Website access.

EXECUTIVE SUMMARY
<p><b>GOLDEN GATE UNIVERSITY</b></p> <ul style="list-style-type: none"> <li>• Higher Education</li> <li>• San Francisco, California</li> <li>• Number of Students: 5000+</li> </ul> <p><b>CHALLENGE</b></p> <ul style="list-style-type: none"> <li>• Aging load-balancing solution was not meeting the growing demands of students accessing Website</li> <li>• Multiple devices created power and cooling issues</li> <li>• Need platform with virtualization capabilities scalable to meet future needs</li> </ul>
<p><b>SOLUTION</b></p> <ul style="list-style-type: none"> <li>• Upgrade to an appliance-based solution to streamline the number of devices and for application delivery and optimization</li> </ul>
<p><b>BUSINESS RESULTS</b></p> <ul style="list-style-type: none"> <li>• High availability and load-balancing capabilities that enable full mirroring of the GGU IT architecture</li> <li>• Virtualization capabilities to compartmentalize and logically partition within the ACE appliance</li> <li>• Scalable performance via software licensing as the university's needs grow without the need to buy additional hardware</li> </ul>

### Challenge

Founded in 1901 in San Francisco, California, Golden Gate University (GGU) is a leading center of in-person and virtual learning that changes the lives of adult students through professional degree programs in business, law, tax, technology, and related professions. GGU offers courses that utilize the most advanced technologies and learning tools available that are designed to engage students in real-world business situations and to prepare them to compete in a volatile marketplace.

In addition to its main campus in San Francisco, Golden Gate University has regional sites located in Seattle, as well as throughout California, including Roseville, San Jose, Walnut Creek, Monterey Bay, and Los Angeles. GGU has a single data center located at their San Francisco site and uses a load-balancing platform for its employee, student and applications web portal environment. Half of GGU's more than 5000 students are enrolled through

GGU's CyberCampus, which permits students to work and study on their own schedules using the Internet, and has attracted students from five continents. With so many students from many time zones accessing teaching materials and services through the GGU Web portal, 24-hour access is mandatory.

According to Karl Ehr, IT operations manager with GGU, he and GGU's IT group began exploring replacement options for the university's aging load-balancing platform as demand for Website availability grew.

"We were looking at an aging load-balancing platform that needed upgrading, and since the time of our last product acquisition, we had deployed Cisco technology throughout our infrastructure" says Ehr. "GGU runs a very large suite of applications in an environment that is very high-demand, and I wanted to implement a solution that would have competency and training affinity with other solutions and technologies that we already have in-house, including our existing Cisco® technologies. I also wanted something that was straightforward and resilient."

## Solution

Ehr and the IT group at GGU evaluated solutions from three different vendors and finally decided on Cisco ACE 4710 Appliances.

“We were leaning towards the Cisco solution because we wanted to have the product affinity with the Cisco platforms that we already had,” says Ehr. “But we wanted to make sure our decision had been thoroughly evaluated and that we had a conscious and educated approach. After thoroughly evaluating all the offerings, Cisco ACE was the clear winner against the competitive lineup.”

According to Ehr, the straightforwardness and multifunctional aspect of the Cisco ACE 4710 was a strong selling point. “I was pleased to learn that on the ACE platform the other features weren’t somehow grossly separated away from the load balancing we had originally been looking for,” says Ehr. “With the ACE 4710, we don’t have to go to multiple places to deal with other functions such as acceleration or offloading or security because they’re all in the same runtime and accessed through the same tools and in the same manner that is so important to us.”

Ehr says the Cisco ACE 4710 Appliances have enabled the IT group to load balance and fully mirror the GGU IT architecture.

“It was important for us to be able to perform multiple tasks from the same chassis,” says Ehr. “With the ACE 4710, we can create pools of load balancing and security profiles for the production Website that are entirely separate and can be managed separately from the development and the pre-production environments, and that was not something that our previous load balancing solution was able to do.”

**“I’m most pleased with the problem the ACE 4710 has helped us solve with regards to managing our infrastructure in a world of shrinking resources while still maintaining service levels. We didn’t turn to the ACE and expand what we did; we were able to turn to this product to solve an ongoing and continuing problem that is highly critical to us and to do it in a cost-effective and nimble way that makes sense from a cost of ownership and management perspective.”**

— Karl Ehr, IT Operations Manager, Golden Gate University

The appliance nature of the Cisco ACE 4710 was also strong selling point, according to Ehr. “When we first approached Cisco regarding application security and load balancing, the conversation was focused on getting extra mileage out of our Cisco Catalyst platform that would be a Blade solution for our Catalyst 6500’s,” says Ehr. “Our conversation abruptly shifted once we realized that what we wanted was deployment flexibility and the ability to invest in an asset that we could choose to deploy with whatever data center we wanted versus only the investment we had in the Cisco Catalyst platform in our San Francisco data center. We were thrilled to discover Cisco was coming out with an appliance-sized version of its load balancing solution and decided to be an early adopter.”

According to Ehr, the Cisco ACE 4710's virtualization capabilities were vital to their decision. "Virtualization is something we are aggressively pursuing across our whole technology portfolio, not just on the network layer, but on the storage and server layers as well," says Ehr. "The ACE 4710's virtual capabilities provide a way to create resource segmentation and isolation, allowing the ACE to act like several individual virtual appliances within a single hardware appliance that can provide service for all of GGU's applications, departments, and student services."

## Results

One key benefit that Ehr and his team have experienced from the upgrade is reliable load balancing. "We were using a Website load-balancing product from another vendor that had provided reasonably good service, although it broke down more than we would have liked and required constant intervention and maintenance, which took time away from the IT group," says Ehr. "After installing and configuring the ACE platform, we have not needed to intervene, and the device has performed at 100 percent uptime, and that's really what matters in the end and that's exactly what we were looking for."

The ability for Ehr and his team to leverage virtualization for compartmentalizing the different runtime configurations within the ACE and logically partition has been another huge advantage, according to Ehr. "I don't need to purchase 'Appliance Set A' to perform production and then make a separate purchase of 'Appliance Set B' for my pre-production testing," says Ehr. "With the ACE 4710's, I make one purchase and perform several functions inside the same chassis, inside the same runtime while sandboxed away from each other, virtualized, compartmentalized so that I can achieve all of those functions in a single configuration and implementation time period."

Ehr says perhaps the biggest improvement that he and his team have seen thus far from the upgrade to the Cisco ACE 4710 Appliances is the ability to provide GGU with the same or higher levels of service around their primary applications with an ever diminishing and shrinking IT budget and IT staff.

"I'm most pleased with the problem the ACE 4710 has helped us solve with regards to managing our infrastructure in a world of shrinking resources while still maintaining service levels," says Ehr. "We didn't turn to the ACE and expand what we did; we were able to turn to this product to solve an ongoing and continuing problem that is highly critical to us and to do it in a cost-effective and nimble way that makes sense from a cost of ownership and management perspective."

Scalable performance through software licensing has been instrumental for Ehr and the IT team.

"If it comes down to a change in our business model or a change in scenario that we need to quickly and agilely respond to, we can make a simple license change as opposed to making a procurement, testing, and building cycle that usually requires additional support and professional services to implement. This is definitely a nice value proposition that Cisco has offered us with ACE 4710 that we appreciate," says Ehr.

## Next Steps

Ehr says that he and the GGU IT team are evaluating other uses for the Cisco ACE 4710 that go beyond load balancing.

“We might decide that we are going to load balance and/or secure some of our backend database traffic, but at this point we’re not suffering too badly from not having it load balanced,” says Ehr. “As we look towards some of our database upgrade paths, there looks like there is much opportunity to sharpen the resiliency of that portion of the application tier in our infrastructure, and we will be turning to the ACE platform as something we can leverage in the future.”

### PRODUCT LIST

#### Cisco Application Networking Services:

- Cisco ACE 4710 Appliances
- Cisco Catalyst 6500 Series Switches

### For More Information

Find out more about Cisco ACE 4710 Appliances, please visit <http://www.cisco.com/go/ace>.



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