

# University Accommodates Growth of Physical and Virtual Campus



Liberty University becomes one of nation's largest academic institutions through expansion of online learning programs.

## Executive Summary

### Liberty University

- **Industry:** Education
- **Location:** Lynchburg, Virginia
- **Number of Employees:** More than 6000

### CHALLENGE

- Install new technologies to handle increase of classes and students accessing classes online
- Reduce time needed to deploy new hardware
- Increase flexibility and reduce strain on power and cooling resources

### SOLUTION

- Implement UCS to help consolidate infrastructure and expand on administration tools

### RESULTS

- Created fully integrated service that allows network, application infrastructure, and systems administration to work cohesively
- Decreased deployment time of new hardware by 50 percent
- Increased application performance and scalability of online-learning program while reducing system down time from 9.7 hours to 0 hours.

“Cisco UCS has given us the flexibility and scalability we need to support our growth. The Cisco network management tools allow us to see and address stress points before they become problems, so downtime no longer raises a major concern.”

**Connie Allison**, Enterprise IT  
Communication Liaison, Liberty University

## Challenge

Liberty University is a private, Christian university located in Lynchburg, Virginia that enrolls 12,500 residential students every year. Combined with its online-learning program, the university supports nearly 100,000 students, offers 253 programs of study, and employs more than 6000 employees.

“We delivered 160,000 credit hours in 2005,” says Matthew Zealand, CIO of Liberty University. “In 2012, we are delivering over 1.3 million. While Liberty has expanded their course capacity exponentially over the past few years, the growth was greater than anticipated, and all of it happened faster than we had hoped.”

As Liberty University's student services needed to grow, a large strain on demand was placed on everything from the network to application infrastructure, and data center space to power and cooling resources. “Growth impacts everything,” Zealand says. “More students necessitate more faculty, administrators, call center agents, financial specialists, you name it. And that means more IT systems and services to support them all.”

Liberty University's pre-existing technology infrastructure was not originally designed to sustain such growth. The largely physical environment was nearing capacity, struggling to support on-campus operations, and hindering an online-learning program that was growing 25-30 percent each year. “We were having a lot of issues with maintaining uptime with our previous infrastructure,” says Connie Allison, enterprise IT communication liaison at Liberty University. “It was important for us to revitalize our technologies in order to maintain uptime. We cannot compete with other schools if our systems keep going up and down.”

After realizing that their current infrastructure would not be able to accommodate their needs, Liberty University began to look at ways to improve their infrastructure to accommodate the current number of students, and even more in the future.

## Solution

After assessing its technology at the time, Liberty University turned to Cisco to help revitalize its infrastructure to relieve data center constraints and support ongoing growth, “We need to maintain consistency in everything we do, whether it's on campus or online,” says Zealand. “This primarily falls on the shoulders of our technology systems and services. We weren't able to proactively advance our programs, our enrollment, and our mission when we are reactively dealing with data center and application issues.”

Liberty University decided to deploy the Cisco Unified Computing System™ (UCS®), which is based on Intel® Xeon® processors. Maximizing virtualization and consolidation, the Cisco® UCS environment supports all university operations, from student and

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## Product List

### DATA CENTER

- Cisco B200 Blade Servers
- B230 Blade Servers
- 6120 Fabric Interconnects
- 6248 Fabric Interconnects

## For More Information

To find out more about the Cisco Unified Computing, go to: <http://www.cisco.com/en/US/products/ps10265/index.html>.

financial services to administrative and call center systems to classroom and online applications.

"Switching to the Cisco UCS environment has really helped us consolidate our infrastructure," says Allison. "We have been able to move quickly in terms of upgrades, and new software allowing us to support the increase in students and their needs as well as being able to plan our further online expansion."

## Results

Ever since switching to Cisco UCS, Liberty University has been able to expand the reach of its programs to tens of thousands of more students. Prior to the switch, Liberty University was in a reactive mode, trying to keep its system up and running as additional strain was being put on the system. Now, with Cisco UCS, Liberty University is in a proactive model, where it can focus on capacity planning and build its infrastructure for another growth spurt. "Cisco UCS has given us the flexibility and scalability we need to support our growth," Allison says. "The Cisco network management tools allow us to see and address stress points before they become problems, so downtime no longer raises a major concern."

Instead of fixing problems, university administrators and IT staff can now focus on opportunities. "In the past, we spent most of our time responding to incidents and issues," Allison says. "Now we can explore and implement new ideas, new student services, and new university resources." This implementation of new services has fostered a second wave of growth and development at Liberty University. The university is in the process of building a state-of-the-art library, a center for cinematic arts, and a new baseball stadium. Already the nation's largest private, nonprofit educator, Liberty University also continues to expand its online learning curriculum and degrees.

"Enrollment growth places more strain and demand on everything, not just our network and application infrastructure," says Zealand. "Cisco UCS has helped us relieve data center constraints, while allowing us to accommodate ongoing growth and focus on pushing our university forward."

## About Liberty

With nearly 100,000 students studying online and on campus, Liberty University, located in Lynchburg, Va., is the largest university in Virginia, the nation's largest nonprofit university, and the largest Christian university in the world. [www.liberty.edu](http://www.liberty.edu)

