Columbus State University serves extended community with flexible, scalable HP Networking solutions

Anticipated 25 percent enrollment increase drives demand for new facilities and improved technology infrastructure

"We're making steady progress toward our strategic goal of a 25 percent increase in enrollment by the fall of 2011. The flexibility and reliability of our HP infrastructure makes it possible for us to integrate remote campus locations and provide the information technology resources needed to support rapid growth."
Bob Diveley, Executive Director of Operations and Infrastructure, Columbus State University

Objective
Provide a reliable, flexible, cost-effective IT infrastructure to enable the university to meet the expanding needs of students, faculty, staff, and parents while leveraging abundant growth opportunities.

Approach
Use a Converged Infrastructure of HP ProCurve networking solutions and a consolidated, virtualized HP server and storage environment to deliver high quality services to three remote campuses, power virtual classrooms, and support a projected enrollment increase of 25 percent.

Business technology improvements
- Helps meet goal of 100 percent wireless LAN access campus-wide
- 50 percent quicker remote disk imaging with network upgrade
- Faster log-on and response time for all users
- Reduced server failure rate by more than 60 percent
- HP ProCurve Manager Plus platform helps ease network design and management

Business benefits
- Saves more than $90,000 per year in maintenance and service costs
- Provides flexible, scalable support for 25 percent enrolment increase
- Supports remote campuses and distance learning with best-in-class information services
- Increases student service capabilities without an increase in staff or budget
- Leverages regional economic growth opportunities

Regional economic bounty drives enrollment increase

Columbus State University has grown from a junior college housed in a converted hosiery mill to a major center of learning with more than 8,000 students at multiple campuses. Today, Columbus State University continues to serve Georgia's educational needs and, increasingly, the needs of students from across the country and around the world with a broad range of undergraduate and graduate level programs.

Columbus State University sits at the epicenter of two momentous developments that could mean record growth for the university. Less than 30 miles to the north in West Point, GA, Kia Motors has invested more than $1 billion in its first-ever U.S. manufacturing plant, bringing thousands of new jobs to the area. And, just to the south lies the vast Fort Benning Army base. The Defense Department's Base Realignment and Closure (BRAC) program will result in a $3.5 billion expansion of Fort Benning, a projected increase of more than 11,000 new jobs, and an influx of nearly 28,000 soldiers and their families.

These dramatic changes in the local economic and social fabric have required Columbus State to adapt in many ways. The university is already offering classes in West Point and on Fort Benning. Both locations present new challenges and non-traditional student populations that require flexible class schedules, online learning options, and reliable communications.

HP Networking delivers foundation for growth

In addition to its investment in new locations, Columbus State University is also continuing to expand the facilities and services it offers at its original 150-acre main campus in midtown Columbus and its new RiverPark campus in downtown Columbus. In order to deliver consistent, high-quality instructional experiences for all students – no matter where they may take CSU classes – the school has invested in a state-of-the-art IT infrastructure built on HP Networking solutions and HP server technology.

Among CSU's key strategic goals is to increase its enrollment to 10,000 students by the fall of 2011, an increase of approximately 25 percent over 2009 enrollment. To support this jump in enrollment, the University Information Technology Services (UITS)

"We discovered that HP ProCurve gear is not only less costly, but comes with a lifetime warranty. It wasn't a tough decision at that point. We're saving an estimated $90,000 per year in support and maintenance costs alone."
Mack Ragan, Senior Manager of Infrastructure, Columbus State University

group has been working steadily to strengthen the network infrastructure that plays such an important role in creating a unified educational community.

Columbus State University began deploying HP Networking solutions more than 10 years ago and today relies on a 100 percent HP ProCurve-based network. The CSU ProCurve network features 8212zl core switches, 5412zl and 5308xl series edge switches, as well as MSM422 Access Points for complete wired and wireless access. According to Mack Ragan, CSU Senior Manager of Infrastructure, the university's original reasons for choosing ProCurve solutions centered on the need to reduce acquisition and maintenance costs.

"We were paying a lot for support at the time with our previous vendor," Ragan explains. "We discovered that HP ProCurve gear is not only less costly, but comes with a lifetime warranty. It wasn't a tough decision at that point. Now that we are completely ProCurve, we're saving about 18 percent in support and maintenance costs alone – an estimated $90,000 per year."

Performance boost provides tangible proof

Along with a substantial saving in support and maintenance costs, another key benefit provided by its HP ProCurve network has been increased performance. "Particularly when we moved to the 5412zl switches, we saw a dramatic increase in network performance," Ragan notes. "It's a tangible improvement that users notice. Logging onto the network is much faster, as are overall speed and response time when transferring files or in communications."

He adds, "The team that manages our computer labs often needs to broadcast new disk images to up to 90 computers at a time. The performance of that process improved drastically with our move to the 5400 series switches. It's at least 50 percent faster now to do the same task."

With a continually expanding campus and growing student population, Columbus State must leverage its network to deliver the services expected by students, faculty, staff, and visitors alike. The deployment of over 250 HP ProCurve MSM422 multi-service wireless LAN access points at the CSU main campus and its RiverPark campus, about four miles away, is helping the school achieve one of its major IT goals: 100 percent wireless access for all.

"We regularly survey our student body to determine what they want when it comes to technology and their preferences for obtaining the services they need," notes Bob Diveley, CSU Executive Director

"Columbus State University's strategic plan, Goal #5, calls for '...a best-in-class technology platform and information-based services.' HP and its VARs have been invaluable partners in support of our efforts to reach that goal."
Abraham George, Chief Information Officer, Columbus State University

of Operations and Infrastructure. "One of the key findings in our surveys has been that students prefer to access university resources via their cell phones. That means we need to be 100 percent wireless accessible on every campus and dormitory, and we need to provide mobile applications that help students interact with school resources more easily."

Mobile apps leverage wireless access

To help leverage its wireless access investment, reduce the lines that can accompany each new semester, and improve overall student services, Columbus State University launched a suite of Google mobile applications for smart phones and PDAs. UITS programmers adapted the Google Mobile Apps to work with the university's Banner student information system.

"As with many universities, student enrollment is increasing while budgets remain flat," Diveley explains. "By offering information through a cell phone or PDA, we are adding to our customer service capabilities without much additional expense and helping to reduce the load on staff by providing enhanced self-service."

The Mobile Apps enable any student with a smart phone or other WiFi-enabled device to use the HP ProCurve MSM422 wireless access points to securely view account information, including financial aid, amounts owed, refunds, grades, schedules, bus schedules, and much more. Six new Mobile Apps were just introduced, including a student ID that can be scanned directly from the student's phone and a GPS-enabled classroom location system.

HP Networking solutions not only provide core-to-edge wired and wireless convergence, but also unified management and support for best-in-class third-party products. CSU uses HP ProCurve Manager Plus, a Microsoft Windows-based network management platform that enables mapping, configuration, and monitoring. "We use ProCurve Manager to perform our system-wide network firmware updates, notifications, alerts, and so on," Ragan says. "The single-pane control really simplifies network management."

Columbus State University looks to HP BladeSystem for "green" savings

Next on Columbus State's IT horizon are server and storage consolidation and virtualization. The UITS team is currently working with HP Services, Novell, and other partners to design a new core server and storage infrastructure based on HP BladeSystem and StorageWorks solutions. Originally a Dell server user, CSU is now a 100 percent HP shop, including more than 50 HP ProLiant and HP 9000 rack-mounted servers.

The conversion to an HP server infrastructure several years ago has resulted in improved uptime and reliability. "The move to HP servers cut our failure rate by two-thirds. It was really the right move for us. It reduced our total cost of ownership by reducing the time we spend rebuilding servers and chasing recurring problems. With the rate of growth we are experiencing, we can't afford to waste resources, anywhere."

According to Ragan, the server and storage consolidation project will move from the planning stages to implementation during the 2011 fiscal year. "We are looking at possibly including HP Virtual Desktop Infrastructure (VDI) in our plans. We manage about 3,000 desktop systems now for faculty, staff, and labs. The use of VDI and thin clients could really save time and resources. Through the use of HP BladeSystem technology, an HP StorageWorks SAN, and VMware software, we anticipate at least a 40 percent savings in power and cooling costs."

Columbus State University's HP ProCurve network and HP server environment combine to provide a cost-effective, easily managed infrastructure to support the university's growing population, no matter where they may be located. Easily expandable wireless access delivers the services that students want without the cost of running new wiring and other equipment.

Customer at a glance

Name:
Columbus State University

Headquarters:
Columbus, Georgia

Telephone:
706-507-8800

Number of students:
8,178

URL:
www.colstate.edu

Customer solution at a glance

Primary applications
Financial system, student information system, mobile applications for smart phones, video streaming in classrooms, teleconferencing, IP multicasting, electronic mail, file storage, office, and departmental applications

Primary hardware
- 2 HP ProCurve Switch 8212zl
- 30 HP ProCurve Switch 5412zl
- 51 HP ProCurve Switch 5406zl
- 78 HP ProCurve Switch 5308xl
- 256 HP ProCurve MSM422 Access Point wireless LAN devices
- 25 HP servers, including HP9000, HP DL380 and ML350
- 2400 HP desktop computers, comprised mostly of dc7000 series business PCs
- 30 HP notebook computers and tablets, including EliteBooks and Minis
- 200 HP LaserJet, OfficeJet Pro printers and All-in-Ones
- Sun storage area network

Primary software
- HP ProCurve Manager Plus v3.0 (PCM+)
- HP-UX 11i v2
- Google Apps for Education
- Novell OES
- Oracle
- Microsoft Windows Server
- Solaris
- Banner

The gigabit and 10GbE connectivity provided via the ProCurve network delivers ample bandwidth to support the growing use of voice over IP (VOIP) campus-wide as well as new learning tools such as video streaming and distance learning.

"We transitioned to HP ProCurve technology to help reduce our total cost of ownership and gain the advantages of a more open platform," Diveley says. "Going forward, we plan to leverage our relationship with HP to create a converged information infrastructure that helps us meet our goals for growth in enrollment, educational quality, and student services."

Share with colleagues

Get connected
www.hp.com/go/getconnected

Get the insider view on tech trends, alerts, and HP solutions for better business outcomes