JUNIPER HELPS ARMSTRONG ATLANTIC STATE UNIVERSITY BUILD THE BEST NETWORK AND ACHIEVE 30% SAVINGS IN MAINTENANCE

Summary

Company: Armstrong Atlantic State University

Industry: Higher Education

Challenges: As the number of mobile devices on campus exploded, there was an insatiable demand for wireless. The university needed to increase its wireless LAN capacity both in buildings and outdoors while at the same time controlling costs.

Selection Criteria: High-performance, resilient networks for campus and data center with a low total cost of ownership.

Network Solution:

- EX4500, EX4200, EX3300, and EX2200 Ethernet Switches
- WLC Series Wireless LAN Controllers
- WLA532 Series Wireless LAN Access Point
- MAG6610 Junos Pulse Gateway with SmartPass Connect
- Junosphere Classroom

Results:

- Lowered network operating cost while meeting growing demand for bandwidth
- Enabled support for online and blended learning programs
- Expanded wireless LAN capacity and Wi-Fi coverage
- Saved 30% on network maintenance costs

Located in beautiful Savannah, Georgia, Armstrong Atlantic State University focuses on student success as its singular guiding principle. With about 7,400 students, Armstrong is small enough to foster a sense of community, but large enough to offer more than 100 academic programs that prepare graduates for success in their careers and their communities. Armstrong awards the most undergraduate degrees in the allied health professions in the University System of Georgia.

Challenge

"Technology is a disruptor in the educational market," says Robert Howard, CIO at Armstrong. More students, faculty, and staff want to access coursework, applications, and information from their laptops, tablets, and smartphones—both inside and outside the classroom. As with other universities, the consumption of video, whether for education or recreation, continues to spiral upward. Armstrong's online and blended learning programs offer active duty military, veterans, and nontraditional students a pathway to learning.

"There's an insatiable demand for wireless," says Howard. As the number of mobile devices on campus exploded, the university needed to increase its wireless LAN (WLAN) capacity both in buildings and outdoors. "Our campus has a beautiful arboretum and many students like to spend time outside studying," says Howard. "But they were hamstrung because they couldn't get access to their coursework without consuming data minutes on their phones."

Armstrong must balance the advantages of a small school experience with the reality of budgets. "Our number one priority is giving the best experience to support student success at the best cost," says Howard. "We look for ways to be economical and be good stewards of the taxpayer's money while giving students the best experience possible, whether it is students who consume IT services on campus or prospective students."

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>
> - Robert Howard,
> CIO, Armstrong Atlantic State University

ARMSTRONG ATLANTIC STATE UNIVERSITY

Selection Criteria

Armstrong's network had grown organically over the years, but it had an opportunity to holistically design a network that would support the university's current and future needs—while reducing cost. The university decided to replace its incumbent network vendor.

"We had a perfect storm of funding opportunities and we were able to partner with Juniper in a way that made sense," says Howard. "We had initial capital savings, but like other IT organizations, we've been continually hit with astronomical cost increases for maintenance. Anything we can do to reduce cost is good."

Solution

Armstrong deployed Juniper's switching, security, and wireless products to enable simple, secure access to critical information and applications. "We are end-to-end Juniper," says Howard.

Armstrong uses the high-performance, highly available Juniper Networks® EX Series Ethernet Switches in its data center and campus networks, including EX4500, EX4200, EX3300, and EX2200 switches. "Using EX Series switches has reduced complexity, maximized uptime, and minimized risk to our organization," says Howard.

Juniper Networks Virtual Chassis technology enables multiple interconnected EX Series switches to operate and be managed as a single logical device, consolidating switch layers to reduce management overhead. Meanwhile, programmability delivers the flexibility required for the network to quickly respond to changing educational needs.

"Armstrong uses Virtual Chassis technology to allow for ease of management and Layer 2 hardware diversity without the complications and convergence times introduced when using Spanning Tree," says Howard.

Armstrong's campus core consists of EX Series switches in a mixed-mode GbE/10GbE Virtual Chassis configuration spread across three geographically distant locations. Each location has a pair of EX4200 or EX4500 switches.

In the data center, Armstrong uses a pair of EX8200 switches with XRE200 External Routing Engines. Using Virtual Chassis technology, the top-of-rack switches can connect to the network core via different line cards on different chassis. Virtual Chassis also greatly simplifies the configuration and management of Armstrong's top-of-rack switches.

The university uses Juniper Networks WLC Series Wireless LAN Controllers and WLA Series Wireless LAN Access Points, including the WLA532, to meet the increasing need for Wi-Fi in buildings and outdoors. WLC Series controllers enable seamless integration of scalable, secure, and reliable wireless LANs, while the WLA532 access points provide 802.11n Wi-Fi. With Juniper WLAN solutions, Armstrong students, staff, and guests have seamless, identity-based access to the network. As an added bonus and in keeping with the university's green initiatives, the Wi-Fi is primarily powered by solar energy.

"We increased the wireless LAN density in our buildings to make up for the increased number of mobile devices," says Howard. "Most of our campus is lit up." Wi-Fi even covers the athletic fields, so fans and news reporters can share the game highlights. The infield is a different matter, however. "The athletic coach made sure that the infield was not covered so that baseball players couldn't check their phones during games," quips Howard.

Armstrong uses Juniper Networks MAG6610 Junos® Pulse Gateway and SmartPass Connect to provide authorized users, including students, faculty, staff, guests, and contractors, with safe, secure access. SmartPass Connect provides automated, self-service onboarding that makes it easier for IT to support personal mobile devices on an enterprise network. MAG Series gateways integrate with the university's authentication system and interoperate with EX Series switches as well as any 802.1X device for dynamic security policy enforcement.

Results

"At Armstrong, part of our job is to build the best student experience," says Howard. "Part of that student experience is building the best network for their personal lives and their educational curriculum as well. Juniper has enabled us to build the best."

The new network from Juniper enables Armstrong to support the growing use of technology in its academic programs as well as residential life. "It's a fundamental part of a student's education to have ubiquitous access to wireless networking and all of the tools that the Internet provides."

The university has also reaped a 30 percent savings on maintenance contracts. "With Juniper, we have even better service at a lower cost," says Howard.

Armstrong's network is more secure as well. "We've been using Juniper to provide access in a secure way, especially for faculty and staff," says Howard. "We also made it easier for people who need guest access to the network, such as for conference centers and parents. We've been able to easily and securely accommodate them with Juniper technology."

With the new network from Juniper, operations have been simplified. "We've made it easier for our staff to do their jobs," says Howard. "We've increased security and reduced complexity—that's a win for us."

Another benefit of deploying a Juniper network was the ability to incorporate Junosphere™ Classroom, a virtual environment from Juniper that can be used for network planning and modeling, into its curriculum for its computer science and IT program. "With Junosphere Classroom, our faculty and students can do network design and testing in the cloud," he says. "Junosphere has been well-received."

Next Steps and Lessons Learned

Armstrong prides itself on offering a diverse body of students a small school, affordable educational experience that will instill a love of learning that will last a lifetime. It continues to expand, and in fall 2013, the university will break ground on a major expansion for the Armstrong Liberty Center on its Hinesville, GA campus.

For More Information

To find out more about Juniper Networks products and solutions, please visit **www.juniper.net**.

About Juniper Networks

Juniper Networks is in the business of network innovation. From devices to data centers, from consumers to cloud providers, Juniper Networks delivers the software, silicon and systems that transform the experience and economics of networking. The company serves customers and partners worldwide. Additional information can be found at **www.juniper.net.**

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