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Outsourcing Wireless

JMU overhauled the campus residence hall network to achieve greater student satisfaction

by Dale B. Hulvey & Dick Johnson

"The student comes first" is our mantra at James Madison University (JMU), a public comprehensive university located in Harrisonburg, Virginia. With this singular focus on the mission – "preparing students to be educated and enlightened citizens who lead productive and meaningful lives" we've garnered a 92 percent retention rate and a six-year graduation rate above 80 percent.

When our 20,000 mostly undergraduate students started demanding comprehensive wireless access, we listened. In today's competitive higher-ed landscape, students will go elsewhere if we don't have the amenities that meet their growing standards.

With time a critical factor, we embarked on a complete reimplementation of the campus residence hall network. As a team, we concluded that outsourcing, instead of handling this in-house, would ensure a speedy rollout and greater student satisfaction, and would be the most cost effective option. Ultimately, we saved significantly in equipment costs, were able to reduce staffing costs, attained excellent connectivity (despite significant density challenges), and installed the network quickly and efficiently. And best of all, student complaints about connectivity in the residence halls are now almost non-existent.

The Road to Reimplementing Our Residence Hall Network

JMU was an early adopter of wired internet access years ago. But in recent years, we faced increasing pressure from students and parents to upgrade our wireless technology in the residence halls to provide seamless and robust access. This situation worsened with campus smartphone penetration doubling in three years—from 46 percent to 90 percent. In addition, parents complained that their students were using up their cellular data plans rapidly and incurring extra charges.

Outsourcing was the Best Deal

IT started building a business case for the overhaul and modeled the cost of infrastructure and support. Internally, we worked with JMU's senior vice president of administration and finance, Charles W. King, Jr., as this decision had to make sense from a financial perspective. We also talked to other state schools, asking for feedback on how they did it, success rates, and downfalls.

When determining whether to outsource or bring the project in-house, we asked ourselves:

- What can we save?
- How much of it is cash out-of-pocket?
- What other options exist?
- Will there be an adjusted fee for internet connectivity?
- How can we maximize cost avoidance in the long run?
- How long will it take to install and deploy?

Since we were able to utilize an existing state purchasing contract, we didn't need an RFP. This allowed us to select a partner quickly and speed up implementation dramatically. And so, after some due diligence, in early 2015 JMU signed an agreement with Apogee, the largest residential network provider in the U.S.

There were several reasons for the decision: We adopted a strategic approach to ResNet and developed three budgeting models over a five-year period. We learned which performance and usability issues were costing money, and prioritized fixes and enhancements that would deliver the most value to the school.

All of our requirements were met when it came to cost avoidance, budget stability, risk management, and time to deployment. With rapid changes in wireless technologies, no one can predict what's going to happen, but our partner took on all the risk with built-in replacement costs, thus ensuring budget predictability.

By outsourcing our ResNet, we were able to:

- Save substantially on equipment costs. We reused some network equipment. We removed our JMU-owned access points from the residence halls and reallocated them to other campus buildings.
- Enjoy substantial manpower savings. We eliminated a full-time support position from the ResNet program and reassigned that person to other important work. We were also able to eliminate ResNet student support staff.
- Provide 24/7 support. We knew our students would need support beyond 9-5 hours. With our new service, students can reach someone around the clock via phone, chat, email, and text anytime.
- Overcome challenges to build a broad support structure and provide excellent connectivity in the residence halls: Our 28 residence hall buildings had a density issue; so we worked to make a number of adjustments to capacity and bandwidth, leading to additional savings. With guaranteed bandwidth, we never have to worry about installing additional equipment to keep up a level of service.
- Create a separate residential network. We created a brand new network for the residence halls that is separate from the faculty/staff network. This removed thousands of devices from the faculty/staff network and reduces the risk of security threats.
- Complete the install quickly and effectively. Installation was completed over the summer. If we undertook this in-house, this project could not have been completed by our fall deadline and may have required many more university resources.
- Provide proactive monitoring and troubleshooting. If something breaks or service is interrupted, Apogee is entrusted to proactively monitor and fix issues as they arise. This frees up internal resources so that they can be reallocated to other priorities.

It's Showtime: Ensuring a Speedy, Safe Installation

Several weeks before the 2015 fall semester was to start, our new ResNet was ready. We leveraged best practices from other schools that smoothed the process, sped up installation, and helped avoid delay-causing pitfalls. For example, we learned early on to plan for access to the buildings during installation. And indeed we found this the most challenging issue—trying to coordinate the installation of a whole new infrastructure with maintenance schedules, construction projects, and summer conferences and camps, some of which also expected a certain level of connectivity.

To protect all those involved, we worked closely with the installation team so that they understood JMU's security and access policies, and we knew when and where they were going to be so that we could acquire the proper access. The deployment teams held weekly conference calls with 15 stakeholders from various parts of the campus to ensure all were "in the loop" and the project could proceed efficiently with minimal disruption to other departments.

Fewer Complaints, Greater Student Satisfaction

The performance of our new network has exceeded our expectations, and is better than what we could have done ourselves. The proof is in greater student satisfaction. Today, calls to the IT Help Desk about ResNet issues are down 95 percent, and the number of open support tickets is extremely low. With outsourcing, we found a cost effective method to provide sustainable, robust and secure ResNet services for current and future students.

Dale Hulvey is assistant vice president for information technology at James Madison University. Reach him at hulveydb@jmu.edu.

Dick Johnson is JMU's director of technical services. Reach him at johnsorv@jmu.edu.