HARPER ADAMS UNIVERSITY

Leading University Chooses Ruckus LAN Switches to Take It to the Future

CASE STUDY

CHALLENGE

Refresh the aging LAN network with a new platform that is resilient, flexible, and SDN-ready

SOLUTION

- Ruckus ICX Switches

RESULTS

- Removed bottlenecks to digital learning and student access
- Simplified management with the ability to stack switches and manage as one unit
- Increased reliability for mission-critical university systems
- Gained cost-effective future flexibility for adding SDN-based technologies and solutions

Harper Adams University is the UK's leading provider of higher education and research for the agri-food chain and rural industries. It also currently holds the title of *Modern University of the Year* from the *Times & Sunday Times Good University Guide 2017*. Recognized for the distinctive education it delivers, Harper Adams provides an outstanding student experience, top-class facilities, and the second-highest U.K. university graduate employment rate at 99.4 percent.

INVESTING IN THE FUTURE

Today's students choose universities and return to them expecting the comforts of a home-away-from-home experience, which includes fast reliable connections with their mobile devices and applications. Harper Adams strives to meet that expectation by delivering uncompromisingly high performance. The university took the top spot in *Times Higher Education's Student Experience Survey for 2017*, based on more than 15,000 student survey responses. Harper Adams supports its educational mission with a robust IT infrastructure through high-speed, reliable, and ubiquitous network connectivity in classrooms, labs, and residence halls. The university continuously adds coverage and capabilities to stay at the forefront of technology.

Until recently, campus buildings were connected with 1 GbE LAN and a traditional tiered network model. However, the LAN switches were 11 years old, and networking had changed dramatically since they were originally deployed. It was time for a network refresh.

"Today we need to cluster, or stack, LAN switches where needed to simplify management and create continuously active connections for resilience and capacity," said Martyn Reid, Chief Technical Officer at Harper Adams University. "As we planned our transition to a more modern network, we also needed to retain operational control and accommodate some existing kit that was not ready to be replaced."

Reid was also future-focused, knowing that the university would soon deploy Voice over IP (VoIP) telephony. Most importantly, he wanted the new network to support open standards and Software-Defined Network (SDN) technologies so that the university will be able to add capabilities that aren't on its radar today.

MAKING THE SWITCH

"Ruckus® switches were on our short list because of the company's commitment to innovative network architectures and SDN, and the switches already have critical features that allow us to move in that direction," said Reid. "After we closely examined the Ruckus solution and one other option, our team felt that Ruckus had more technical benefits moving forward. And the pricing was affordable."

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The Ruckus team collaborated with Reid and his IT staff to identify deployment options based on the university's goals. Harper Adams wanted more than just a core switch that passed traffic, so the University deployed Ruckus ICX® 7750 Switches to increase network backbone capacity while providing an open platform for the deployment of advanced functionality and services in the future. The new LAN switches eradicated bottlenecks with a resilient, scalable configuration and the ability to deliver all relevant network data and statistics from any port.

BUILDING A NEW MODEL

The Ruckus ICX 7750 Switches maximize use of the ports and backplane, allowing the university to easily segment traffic to specific departments or to direct wireless traffic to firewalls before it is allowed onto the network. Ruckus ICX 7250 Switches are deployed at the network edge, where they provide Power over Ethernet (PoE) for wireless and other applications.

"We were looking for a solid investment in a flexible, forward-looking platform that we could integrate and manage ourselves. We found that in the Ruckus ICX Switch platform."

MARTYN REID
Chief Technical Officer, Harper Adams University

"We're changing the overall LAN to support a department-based model using the 802.1X standard," said Reid. "Once users authenticate on the network, they will be automatically placed into the appropriate VLAN for their department. From there we can use the LAN switch ports in conjunction with our firewalls and Active Directory to give users access to the appropriate resources and define which users are entitled to specific services."

THE NETWORK CHANGES EVERYTHING

The new network runs everything on campus. It connects every building and every desktop. It delivers the Closed Circuit Television (CCTV) system, the access control system, and supports a host of innovative green energy initiatives. University staff controls all campus boilers and heating systems over the network. The university is implementing an automatic window and ventilation control system in the campus library, which runs directly over the network. It's also adding solar panels, a biomass boiler, and power generation that can use multiple fuel sources. The entire system will be monitored in real time across the network to maximize energy efficiency.

A BETTER FIT

"Improved connectivity means we don't have single points of failure," said Reid. "That translates to higher reliability, especially from the students' perspective as they rely on the network for social uses in addition to classwork."

The Ruckus Switches' multiple 10 Gbps and 40 Gbps links now give Reid much more flexibility to configure services with higher resilience and performance for the entire university. Harper Adams gained the "building blocks" it needed for the future without having to constantly purchase additional line cards, management cards, or other hardware components. With this new infrastructure, the university can add new devices to the network quickly, further increasing the number of uplinks for higher capacity and greater resiliency allowing the university to easily keep pace with escalating expectations.

"We were looking for a solid investment in an innovative, flexible, forward-looking platform that we could integrate and manage ourselves," said Reid. "We found that in the Ruckus ICX Switch platform." Harper Adams has once again elevated the student experience with nonstop connectivity across campus and without bottlenecks to student learning or digital engagement in campus life.

For more information, visit www.ruckusnetworks.com.

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