Customer story

KENT STATE UNIVERSITY

Leading public research institution takes strategic approach to modernizing experiences by standardizing on HPE Aruba Networking ESP

Customer: Kent State University
Industry: Higher Education
Country: United States

Enhance the institution's leadership role in academic and research excellence by modernizing wired and wireless networks to adopt an AI-enhanced platform delivering high performance, flexible, extensible, secure and reliable connectivity for exceptional experiences in classrooms, laboratories, innovation centers and residence halls.

Since its founding in 1910, Kent State University has been an economic, cultural and workforce engine. Today, the leading 10,700-employee public research institution based in Kent, Ohio, serves 36,000 students representing 98 countries on its eight-campus system and is perennially a top university on the U.S. News & World Report Best Colleges rankings.

Like many prominent higher education institutions with aging wired and wireless networks, Kent State University needed to modernize and future-proof its infrastructure to meet rapidly evolving needs.

"We heard from our student, faculty, and research constituencies that they required better and more reliable connectivity whether it was in classrooms, at residence halls or for collaborations worldwide," explains John Rathje, Vice President for IT and CIO at the Kent, Ohio-based university. "For IT to deliver on these expectations meant overhauling and redesigning our LAN and WLAN to support modern expectations."

Requirements

— Deploy a high performance, flexible, extensible network for superior user experiences

— Unify, streamline and simplify wired and wireless networking

— Permit continuous modernization to address evolving needs and expectations

Comprehensive network addresses

An engine for economic, cultural and workforce development for over 100 years, Kent State University currently serves 36,000 students representing 98 countries on its eight-campus system. For its commitment to continuous innovation, the 4550-employee public research institution perennially places among the top universities in national rankings.

"Deploying the best infrastructure for helping to maintain our institution's tradition of academic and research excellence is an imperative for us," Rathje says. "We took a strategic approach to connectivity modernization, which focused on providing the best user experiences as our primary goal."

After an extensive evaluation, Kent State decided to standardize on HPE Aruba Networking, a Hewlett Packard Enterprise company, for an end-to-end wired and wireless HPE Aruba Networking ESP solution deployed as a phased initiative with the help of CDW.

"We'd identified flexibility, reliability, extensibility and security as key networking attributes," says Rathje. "HPE Aruba Networking's platform met all of these requirements and also provided operational efficiencies that result in advantages to our campus communities and Ohio taxpayers at large."

Gaining an automated, self-healing network with AIOps

Kent State's new infrastructure is comprised of multiple solutions. For wireless, it includes HPE Aruba Networking's Wi-Fi 6 access points (APs), with the HPE Aruba Networking 510 Series for fixed indoor locations system-wide and the HPE Aruba Networking 500H Series remote access points (RAPs) for ad-hoc needs, along with mobility controllers.

Wired networking is being accomplished with HPE Aruba Networking CX Switching from core to edge, using the CX 8325 Switch Series at the core and CX 6300 Switch Series for edge access.

The institution's new infrastructure also streamlines wired and wireless network administration, starting with the entire network being secured using HPE Aruba Networking ClearPass for network access control (NAC) and policy management.

For wireless, HPE Aruba Networking AirWave handles network management of fixed APs and cloud-native HPE Aruba Networking Central provides AIOps-enabled management of RAPs. In addition, Kent State chose User Experience Insight (UXI), another AIOps-enabled solution, for Wi-Fi incident detection that pinpoints issues requiring immediate attention from a user perspective.

Kent State is also using HPE Aruba Networking Switch Multi-Edit Software, for automating and coordinating switch configuration, monitoring and troubleshooting.

Proven technologies and support yield immediate benefits

According to Dr. James Raber, Executive Director of Support, Infrastructure, and Research Technology at Kent State, HPE Aruba Networking's combination of proven technologies is playing a key role in supplying exceptional experiences while reducing IT overhead.

"For instance, it's critical for us to effectively provide home-like Wi-Fi experiences in our residences, regardless of which devices a student brings, and HPE Aruba Networking's AirGroup helps enable that," he says. "Other vendors were just coming to market with a solution, but HPE Aruba Networking has been refining AirGroup for a decade."

HPE Aruba Networking Switch Multi-Edit Software speeds deployments and saves money

It's a similar story on the wired side, where Kent State is achieving efficiencies, gaining significant automation capabilities, and controlling costs as it meets experience expectations. "Previously, our wired network was vendor-neutral, which frequently meant contacting multiple sources to troubleshoot a single problem," says Michael Geist, Manager of Network and Telecommunications at Kent State.

"By standardizing on HPE Aruba Networking, we have a single pane of glass and a single partner with an incredibly responsive support team," he adds.

HPE Aruba Networking's management tools are also contributing to operational savings while simultaneously providing students with educational opportunities.

"Just one example is switch deployment," says Raber. "With HPE Aruba Networking Switch Multi-Edit Software, a student can securely configure and deploy a switch in a half hour. In the past, it typically required an experienced, full-time engineer three hours."

RAPs + Central effectively addresses space flexibility demands

Kent State is realizing multiple benefits from its HPE Aruba Networking deployment, such as supporting ad hoc and remote location situations, including those arising from COVID-19. "We're using the combination of RAPs and HPE Aruba Networking Central to quickly extend our network wherever there are locations that don't require extensive infrastructure," explains Raber.

"An example is addressing physical distancing requirements during the pandemic," he continues. "To create properly distanced classrooms, our strategy has been temporarily leasing hotel ballroom space and deployed RAPs that we managed with Central."

In addition, Kent State's IT team supplies Wi-Fi to some small offices via a RAP and HPE Aruba Networking Central at considerable savings over installing fixed infrastructure for a small handful of individuals.

"With the ongoing evolution in classrooms and workspaces to hybrid and remote models, we're in a period of change where everyone is uncertain where the next office or classroom will be, how permanent it is and whether it will serve one person, 10 or 100," Rathje says. "Our HPE Aruba Networking solutions give us the flexibility to extend our network and establish ad hoc or remote sites in a matter of hours, or less. Before, it would've taken weeks."

Powering innovations ranging from XR to advanced robotics

Beyond solving space resource challenges, Kent State is realizing numerous current and long-term business benefits. This ranges from empowering faculty to use the ScreenBeam content sharing platform in general instructional spaces to supporting a new HoloAnatomy-enabled augmented reality laboratory at the College of Podiatric Medicine.

"We've also heard from our College of Business, College of Aeronautics and Engineering, Design Innovation Hub, and Digital Leadership Academy that they're interested in AR/VR for immersive extended reality [XR] experiences," says Raber. "In computer science, our robotics researchers are already extensively leveraging our Wi-Fi connectivity."

Further, Kent State's network enables the institution to be a higher education leader in computer gaming through its scholarship-eligible esports program. "In addition to providing recreational and competitive esports, the program contributes to academics, such as learning to use broadcasting technologies or becoming a sports commentator," says Rathje.

University operations are also getting a connectivity boost. "For facilities management, we're enabling IoT solutions like lighting and HVAC sensors to assist with maintaining nearly 140 buildings 24/7," Rathje says.

Location services, expanding AIOps on the horizon

Moving ahead, Kent State plans to evaluate and leverage other HPE Aruba Networking solutions to continue personalizing experiences, improving physical safety and maximizing proactive network administration.

This includes deploying Location Services for a variety of initiatives. "We're soon transitioning to a virtual telecommunications system that relies on Wi-Fi, making location services critical for E911," Geist says.

Additionally, the institution looks forward to incorporating location services into digital signage across its footprint, enabling relevant messages to display as people with different interests are nearby.

"With location services we'll be able to supply our business units with related data and analytics, allowing them to create new types of personalized content or services," he adds.

Extending Central cloud to advance experiences and reduce overhead

The university also intends to expand its HPE Aruba Networking Central cloud deployment to advance AP and switch management across its estate. Using Central's AIOps capabilities, Kent State can automate the identification and resolution of user, IoT and network issues before they impact people and devices. This equates to significant reductions in trouble tickets and IT overhead, as well as associated experience improvements.

We're excited to explore Central's AIOps capabilities for making everything from new deployments to daily network administration faster and more efficient," Raber says.

Continuously modernizing to support evolving needs

Most importantly, Kent State is not only positioned to address today's needs but also power whatever academic, research and residential expectations come next. "Our HPE Aruba Networking partnership enables us to continually modernize, enabling us to say 'yes' to a wide range of initiatives across the university," Rathje says.

"HPE Aruba Networking's vision, engagement and the inter-operability of all its solutions throughout the network layers made it the right partner for us," he adds. "With our strong networking foundation, we're confident we can deliver the best possible user experiences across a full spectrum of activities now and in the future."

Solution

- HPE Aruba Networking Wi-Fi CERTIFIED 6 Access Points
- HPE Aruba Networking 7200 Series Controllers
- HPE Aruba Networking CX 8325 Switch Series
- HPE Aruba Networking CX 6300 Switch Series
- HPE Aruba Networking User Experience Insight
- HPE Aruba Networking AirWave for network management
- HPE Aruba Networking ClearPass for network access control
- HPE Aruba Networking Switch Multi-Edit Software for switch management

"Our strong networking foundation helps ensure we can deliver the best possible user experiences across a full spectrum of activities now and in the future."

– **John Rathje**, Vice President for IT and CIO, Kent State University

Outcomes

— Deliver exceptional user experiences for students, faculty and researchers

— Support academic, recreational and physical safety needs including immersive XR, esports and E911

— Slash access switch configuration from 3 hours by full-time engineers to 30 minutes by student workers

— Enables smart facilities operations by leveraging IoT to help maintain 147 buildings 24/7

— Gained a future-proof network capable of adding location-aware options and expanding self-healing management

— Gained resilient, future-ready infrastructure with the intelligence, scalability and intuitive toolsets to meet emerging needs

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