Higher Education

Empowering students with pervasive Wi-Fi® throughout campus

RUCKUS®
NETWORKS

STUDENT-CENTRIC
HIGHER LEARNING

Colleges and universities are constantly looking for new, effective ways to remain competitive, increase enrollment and attract new students. A growing number are partnering with their chief information officers to put technology front and center to transform the campus experience while improving efficiency, learning and safety. They're using the campus as a platform to develop experiences and services to help their institutions stand out from the crowd.

Expectations have changed for a fresh generation of students. They expect nonstop connectivity and access to rich applications not only in classrooms and libraries, but throughout the entire campus community. Students are seeking to connect and collaborate with faculty and their peers in new ways, on the devices they choose.

A SMARTER, MORE
CONNECTED CAMPUS

Ensuring connectivity to people, applications, and resources is an essential part of the transformation of higher education. In a recent EDUCAUSE article, "Meeting Students Where They Are" was a top 10 priority for institutional resilience.

"Today's students want digital experiences on par with Amazon, Spotify, and Instagram, and they want choice in where, when, and how they learn and interact with their institution. Student life leaders recognize the many barriers to students' achievement and are advocating for better and more support services. This year, technology leaders are working to develop multimodal channels to individualized services and learning experiences."

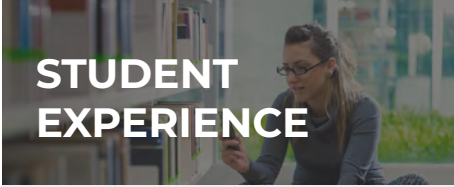**Susan Grajek and the 2023–2024 EDUCAUSE Top 10 Panel,**
"2024 EDUCAUSE Top 10: Institutional Resilience," October 2023

Smart, connected buildings are central to a smart campus and new operational efficiencies

To meet these changing expectations, higher education institutions around the world are extending connectivity everywhere, to better attract and retain students and engage them in campus life. On- and off-campus networks, lecture theaters, digital classrooms and libraries are modernizing to provide automated services and real-time information to make students and faculty smarter with their time and more effective with their resources. The benefits are many, including:

STUDENT EXPERIENCE	SMART LEARNING	SMART CAMPUS
CREATE A SIMPLER AND SMARTER CAMPUS LIFESTYLE	**TRANSFORM THE WAY STUDENTS LEARN**	**REDUCE MANAGEMENT COMPLEXITY FOR AGILITY**
Students need pervasive network connectivity to improve quality of life everywhere, from student residences to campus.	Embrace emerging technologies to provide new teaching and learning models.	In campus environments that are constantly evolving, a convergent network helps IT and operations teams keep pace with change.
"How can I connect to faculty, friends, and staff wherever I wish, on my favorite device?"	"I'm excited to get hands-on experience with the latest AR and VR learning tools."	"How can we quickly provision three science labs with wireless video collaboration to support our new courses?"

A simpler, more intelligent network

Colleges and universities typically have disparate network infrastructures and platforms that are technology silos—isolated from each other and other campus systems. Integrating these technologies within a unified system eliminates complexity and paves the way for a smart campus that's connected, competitive and cost-efficient.

A converged network combines wired, wireless and IoT technologies for universal connectivity across applications, devices and locations. A common network infrastructure unlocks new operational efficiencies and capabilities that colleges and universities can't achieve with multiple vendors, equipment and management tools.

Using advanced AI, institutions can keep these converged environments running at their best, with troubleshooting tools to spot issues and recommend solutions, before they impact students and staff. Powerful analytics give IT teams the insight they need to improve performance metrics and deliver the experience users expect.
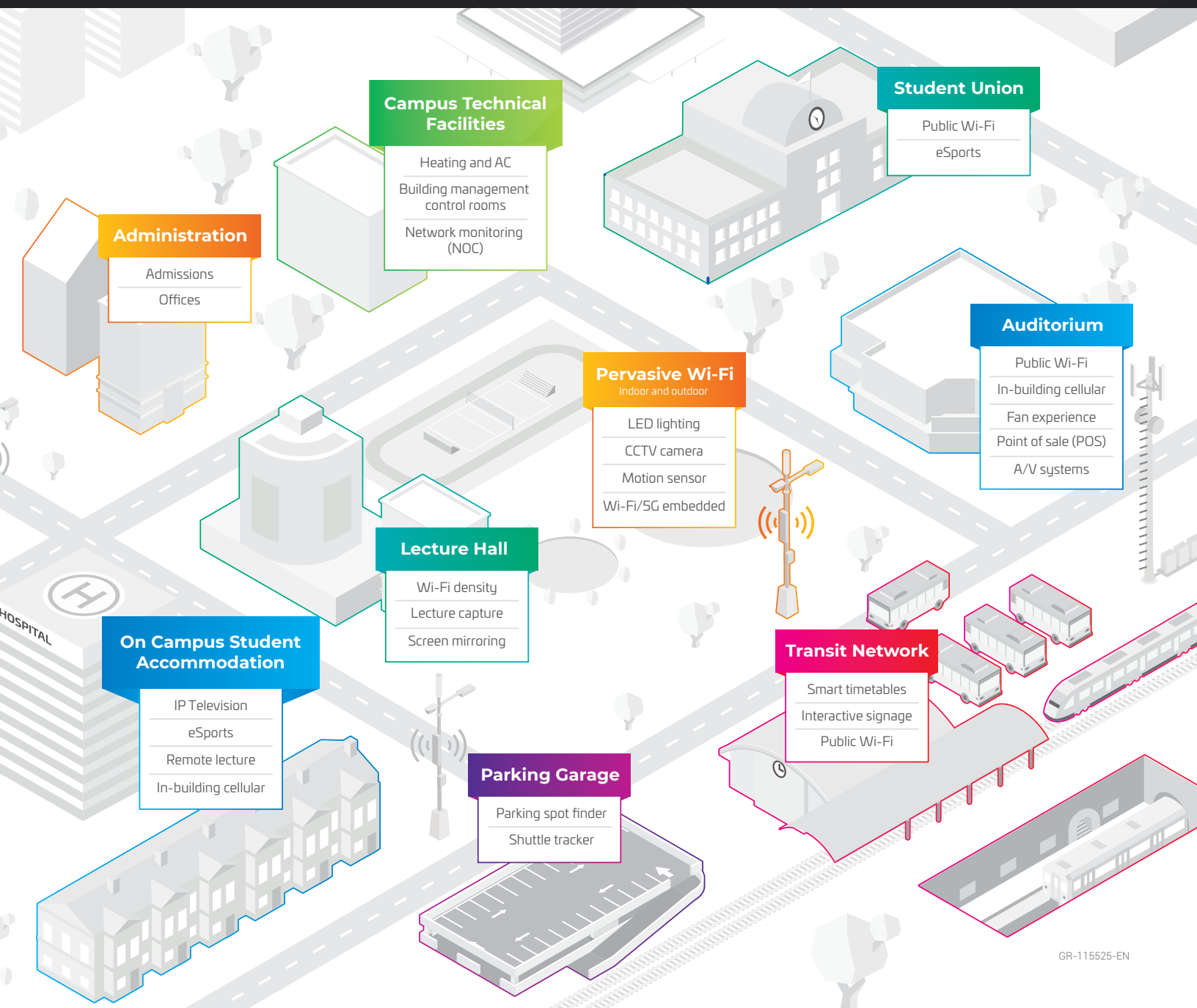
IT and OT on the same team

Information technology (IT) and operations technology (OT) departments play a role in empowering smart campuses—not only in the handling of information, but also in campus management. A robust, future-ready network empowers IT and OT to work together for more efficient operations, lower OpEx and stronger margins and alignment on project and resource priorities.

- Convergent network infrastructure enables shared IT and OT networks to coexist on a common platform
- Smart-building capabilities streamline and economize security, HVAC and other systems
- Powerful network solutions allow campuses to offer more services at little to no extra cost
- High-bandwidth architecture supports high-demand departments and ensures reliable performance
- Stronger networks help colleges and universities recruit and retain students, faculty and research partners

KEEPING STUDENTS CONNECTED
ACROSS THE CAMPUS COMMUNITY

RUCKUS® smart campus technologies are designed to elevate academic excellence, student experiences, research, revenue, and more. They enable rich connectivity for students in student residences, in classrooms, and throughout the campus community. A RUCKUS network also helps administrators and IT manage sprawling campus operations more effectively.

Campus Technical Facilities
- Heating and AC
- Building management control rooms
- Network monitoring (NOC)

Student Union
- Public Wi-Fi
- eSports

Administration
- Admissions
- Offices

Auditorium
- Public Wi-Fi
- In-building cellular
- Fan experience
- Point of sale (POS)
- A/V systems

Pervasive Wi-Fi
Indoor and outdoor
- LED lighting
- CCTV camera
- Motion sensor
- Wi-Fi/5G embedded

Lecture Hall
- Wi-Fi density
- Lecture capture
- Screen mirroring

On Campus Student Accommodation
- IP Television
- eSports
- Remote lecture
- In-building cellular

Transit Network
- Smart timetables
- Interactive signage
- Public Wi-Fi

Parking Garage
- Parking spot finder
- Shuttle tracker

HOSPITAL

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RUCKUS ONE™

- Unified network management
- AI-driven network assurance
- AIOps to automate IT operations intelligently
- Secure network access and policy management

RUCKUS AI™

- AI and machine learning
- Proactive network health helps catch issues before users notice
- "Do I need 2.4 GHz?"

RUCKUS WI-FI ACCESS POINTS

- Wi-Fi 7 Certified portfolio
- RUCKUS BeamFlex+® technology creates longer and stronger connections with fewer APs required per deployment
- Residence wall plate AP for IPTV and gaming
- Outdoor APs for all needs

RUCKUS ICX® SWITCHES

- Outstanding performance value
- Campus fabric is easy to manage
- 100G campus data centers
- Long-distance stackable
- Easy to migrate from other vendors

RUCKUS SMARTZONE™ NETWORK CONTROLLERS

- Visual connection diagnostics means no more wireless captures
- Wired and wireless management in one OS
- Deploy new APs alongside old APs using multi-zone feature

RUCKUS CLOUDPATH® SOFTWARE

- Pre-boarding for "move-in day"
- No password tyranny
- 24/7 self-service portal
- Personal student network
- eduroam made easier

RUCKUS IOT SUITE

- A platform for campus innovation
- Converges networks to save money
- Single gateway, rules engine and dashboard views
- Bluetooth®, Zigbee® and LoRaWAN®
- "Detect something, do something"

DYNAMIC PSK™ (PRE-SHARED KEYS)

- Support increased security for users, devices, and the network, empowering IT with customizable onboarding portal.
- Automate provisioning of unique per-user or per-device encryption keys.

SCALABLE SWITCHING

- RUCKUS campus fabric allows up to 1,800 ports managed under a single IP address, with long-distance stacking between closets, floors or buildings—up to 10 kilometers.
- ICX switches' high PoE budgets and support for PoE++ and will power the new generations of wireless APs, surveillance cameras, video displays and other devices for years to come.

COMPREHENSIVE SECURITY

- RUCKUS offers secure client onboarding with identity, secure IoT end-to-end, WPA3 for Wi-Fi, and private LTE with SIMs for secure communications.
- RUCKUS One supports secure network access and policy management

DATA CENTER NETWORKS AND INFRASTRUCTURE

- Powerful and simple-to-manage stackable switching
- IoT as a platform for data center environmental and security monitoring solutions

IOT CONVERGED NETWORK ARCHITECTURE

- Our open platform allows many solutions with one adaptable network, one gateway, one rules engine, one dashboard—you set the rules then see the results.
- Unlock the cost-saving efficiency and campus security by connecting OT and IT systems, such as connected entry, CCTV, HVAC and lighting controls.

AI FOR BUSINESS INSIGHTS

- RUCKUS AI provides proactive network health checks and insights to resolve issues before students notice.
- Service assurance allows you to test connections before deployments are signed off, while resources are on-site.

PRIVATE LTE AND DYNAMIC SPECTRUM SHARING

- Provide your own indoor or outdoor cellular coverage for secure mobility with QoS, starting with CBRS deployments in North America.

RUCKUS INDUSTRY RECOGNITION

2024   RUCKUS R770 access point awarded Innovation of the Year Wi-Fi Award

Released the first enterprise-grade outdoor Wi-Fi 7 AP

2023   RUCKUS Networks ranked a Leader, Top Innovator, Top Implementer by ABI Research

Released the first enterprise-grade Wi-Fi 7 AP

2020   RUCKUS won the IoT Sensor Company of the Year for its IoT Suite

RUCKUS named as Wi-Fi Alliance® 2020 Industry Impact Award Recipient

RUCKUS receives a 2020 Tech Innovators Award from CRN® for RUCKUS Analytics and its R750 AP

2019   RUCKUS Wi-Fi 6 R730 AP scores WBA Award

GET IN THE GAME **WITH ESPORTS**

Learning methods are continuing their digital evolution, and shifts toward a learn-anywhere model are becoming ever more prevalent. For students, eSports provides a unique chance to hone high-level skills, while fostering a sense of school pride and community. Based on multiplayer video games played competitively for spectators, eSports is an innovative educational instrument that emphasizes diversity and inclusivity. It's a great way to engage students, create a shared learning experience, and encourage teamwork and communication.

Engagement and participation increasingly require stronger omnipresent connectivity, whether you're enabling new recreational activities such as eSports or new learning methods such as virtual rooms, collaborative digital spaces, flexible classroom spaces, lecture capture or remote participation tools. Facilitating these experiences is crucial to improving enrollment and retention and it enables faculty and students to dramatically shift the educational landscape.

Learn more about how RUCKUS can help in your eSports journey

About RUCKUS Networks

RUCKUS Networks builds and delivers purpose-driven networks that perform in the demanding environments of the industries we serve. Together with our network of trusted go-to-market partners, we empower our customers to deliver exceptional experiences to the guests, students, residents, citizens and employees who count on them.

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