

HIGHER EDUCATION NETWORKING MADE EASY

Simplify IT, improve efficiency and deliver exceptional student experiences with high-performance networking and managed solutions



Technology is vital to today's digitally native students, who spend roughly 78 percent of their waking hours using digital devices.¹ Meeting their needs requires fast, seamless connectivity across an ever-shifting landscape of personal and institutional access points. In addition to student expectations for fast, reliable internet anywhere on campus, college and university IT teams must support the growing bandwidth demands of connected campuses. Research centers, stadiums, security systems and virtual learning all compete for limited IT resources.

The pandemic multiplied these challenges, forcing several years' worth of digital transformation over the course of a few months. Abrupt and unwelcome as they may have been, those changes may help colleges and universities stay competitive in a time of increasing competition and disruption in higher education.² Institutional success will depend on agile, reliable IT infrastructure that can deliver an exceptional learning environment and support the transformation necessary to attract and retain students and faculty.

This guide examines high-performance networking solutions and managed services that can enhance student experiences, improve efficiency and simplify IT.

“Connectivity is the oxygen organizations run on. It’s such a basic requirement that it’s often not even recognized as an issue. But lack of connectivity severely hinders an organization’s ability to perform simple functions, conduct research and compete for grants.”

University research director³

Networking for great user experiences

To meet rising student expectations and institutional needs, campus IT teams must continually balance competing priorities and network demands. When planning for the next academic year, it's important to remember that in addition to virtual learning, a typical university network must be able to connect thousands of fans in a stadium on game day, support internet connections and TV services in student housing and stream on-demand video with minimal latency. It must have ample bandwidth for campus Internet of Things (IoT) devices, administrative systems running in the cloud, esports arenas, student information systems (SIS) and connected security systems.

Higher education business officers believe superior WiFi connectivity is critical to:⁵

98% Upholding the university mission.

95% Attracting and retaining students.

Advanced technology has become so central to higher education that 95 percent of housing and technology officers believe connectivity is critical to attracting and retaining students.⁴ Digital technology is also important for attracting faculty, researchers and even grant funds. As technology makes further inroads into teaching environments over the next few years, the ability to meet growing data needs will provide a major competitive advantage.

Spectrum Enterprise can help you stay ahead of the curve and within your budget. As a facilities-based provider of connectivity and networking services with one of the largest private fiber networks in the U.S., we have extensive experience meeting the unique IT challenges of colleges and universities. Our technology experts consult with you to design the optimal network to address rising demand for rapid data transmission across your campus locations. Our consultative approach also builds in flexibility to adapt as your needs change over time.

With Spectrum Enterprise as your single provider, you can improve operational efficiency, reduce network total cost of ownership and avoid the complications of DIY solutions that require maintenance and repairs from your IT teams.

Discover the right solutions

No matter your enrollment or campus size, our experts will partner with your IT team to assess your current network and find the solutions that work best for your organization. We adapt our diverse suite of services to match your student, faculty and administration needs now, with the ability to scale as they change.

Spectrum Enterprise offers a full suite of solutions tailored for higher education. We have the resources to engineer local and wide area networks, WiFi networks, communication and collaboration services and cybersecurity solutions. We also help plan, design, implement and maintain connectivity to support business continuity strategies for reliable learning and teaching experiences. A dedicated project manager will work with you to ensure a seamless transition from the discovery phase through handoff to your team.



Improve efficiency and simplify IT

Our managed services — which include design, installation, management and support — can boost efficiency and help you deliver outstanding learning experiences no matter how lean your IT staff and budget. We'll replace your aging technology and siloed legacy systems with updated equipment and software. We'll provide intuitive portals for full visibility into your network. And we'll manage maintenance and security so your staff can spend less time troubleshooting and more time on strategic initiatives.

Rely on our full support for all equipment, including automated security updates and routine maintenance. With managed services, you'll never have to worry about unexpected costs or capital expenses for new equipment. Instead, you pay a predictable monthly rate. We also offer 24/7/365 U.S.-based support and a single point of contact for fast issue resolution across solutions. When your needs change, our experts will scale your network to meet growing bandwidth requirements, accommodate new technology and optimize performance.

Case Study:

A WiFi upgrade improves graduate student experiences

A California university needed a new WiFi solution to meet graduate students' technology expectations and digital learning needs with minimal IT support. Spectrum Enterprise deployed a new Managed WiFi and Fiber Internet Access service that allows graduate students to seamlessly stream content, attend online classes and more from their apartments using their own secure personal area networks (PANs).

[Read the case study.](#)



More than a service provider, Spectrum Enterprise works as a collaborative partner, fully invested in your institutional success and student outcomes.

Enhance the student experience with better technology

Even before the pandemic, some universities were seeing network traffic growth of 20 percent per year.⁶ Spectrum Enterprise offers multiple high-performance networking and managed services solutions to provide the digital learning experiences and entertainment students are looking for, from wherever they're connecting.



Ethernet Services: The first step in meeting your university's data needs is providing a reliable and secure experience across your network. Our Ethernet Services offer a high-performance wide area network (WAN) solution with bandwidth up to 100 Gbps. Our reliable, private fiber network can provide secure site-to-site connections between campuses, administration offices, student residence halls and athletic buildings. Network designs incorporating redundant connections can enhance resilience for business continuity and disaster recovery. Ethernet Services also can scale as needed to support increased bandwidth for applications and data storage in the cloud. Our dense fiber footprint enables quick turn-up and cost-effective, high-capacity connectivity options.



Cloud Connect: Universities need a secure, reliable way to connect to the growing number of cloud-based services essential to managing their facilities and operations. A high-performance, private connection to cloud service providers can help protect against intrusions and attacks. Cloud Connect can improve performance, reduce risk and simplify cloud connectivity by linking multiple public cloud environments to university resources.



Managed WiFi: Provide students, faculty and staff with uninterrupted connectivity anywhere on your campus. Students will be able to use their own devices to stream video, join an online class or meeting or connect with family and friends. In addition, your institution can create customizable landing and authentication pages to help reinforce your brand and communicate important information.



Managed Network Edge: Growing organizations with limited IT resources can keep up with the demands placed on their networks with Managed Network Edge, powered by Cisco Meraki. This turnkey solution brings together equipment and connectivity in a ready-to-deploy package that is designed to make network components simple to manage and expand. Services available include security and routing, SD-WAN, switching and cameras. It also includes an intuitive, cloud-based management portal where you can easily monitor and control your entire network.



Managed Router Service: More efficiently manage internet traffic and bandwidth for students, staff and faculty across your WAN. Spectrum Enterprise will configure, update and monitor your router to keep your network running at peak performance at all times.



Managed Security Service: Students bring five to seven connected devices to campus on average, vastly increasing the potential attack surface for bad actors.⁷ Unified threat management (UTM) features like firewalls, anti-malware, URL content filtering and automated

security policy updates help keep campus networks secured and online. Available DDoS Protection can further protect your network from malicious volumetric attacks.



Unified Communications: Empower faculty and staff to collaborate on the devices they choose throughout your institution. This fully managed, cloud-based solution includes calling, messaging, desktop sharing and more for today's mobile, on-the-go workforce. Our Unified Communications solution provides the flexibility to communicate with students efficiently and without in-person contact.



SpectrumU TV: Offer live TV and on-demand content that students can access anytime, anywhere on campus using the device of their choice. Delivered via an IP connection, SpectrumU integrates directly with your existing wired or wireless network. The setup requires no expensive head-end or transcoding equipment. System administrators also don't have to worry about ongoing maintenance, storage or weather-related disruptions.

Why choose Spectrum Enterprise?

More than a service provider, we work as a collaborative partner, fully invested in your institutional success and student outcomes. Here are just a few reasons why colleges and universities work with us to modernize and simplify their networks:

Advanced technology

We create and deploy industry-leading technologies to provide performance, speed and efficiency to our higher education clients. Our private fiber network has a local presence and nationwide reach to offer secure, fast and reliable connectivity.

As your technology needs continue to evolve and grow, your connectivity partner should, too. At Spectrum Enterprise, we're constantly investing in our nationwide fiber network to deliver solutions that can grow and advance in step with your institution.



Single provider of IT solutions

One of the greatest challenges universities face as they execute their technology strategies is dealing with multiple vendors, solutions and platforms. As your single provider, we can deploy, manage and maintain all equipment for one predictable monthly cost.

Industry leadership

Our size, capacity and expertise — including more than 1,200 Metro Ethernet Forum (MEF) certified professionals and multiple MEF Enterprise Application of the Year awards — help us meet the unique needs of higher education. For more than 15 years, we have been designing and engineering technology-rich environments that help students succeed.

Extension of your IT team

With our managed services, we can design, deploy and operate your campus network. We provide strong service-level agreements (SLAs) backed by 24/7/365 U.S.-based support and access to a dedicated account team and local technicians.

Prepare your network for tomorrow's students

Higher education institutions can provide better student experiences, improve efficiency and simplify IT with connectivity solutions and managed services from Spectrum Enterprise. We have helped hundreds of colleges and universities connect their campuses with agile, resilient networks and serve as a trusted solutions provider to institutions across the nation. Let the higher education IT experts at Spectrum Enterprise help you get started today.

Learn more

1. Conrad Safranek, "[Stanford Students Now Spend Four-Fifths of the Waking Day Staring at a Screen; Is This the New College Normal?](#)" The Stanford Daily, July 8, 2020.
2. "[The Future of Higher Education in a Disruptive World](#)," KPMG, October 2020.
3. "[Internet Connectivity is Oxygen for Research and Development Work](#)," ScienceDaily, Oct. 16, 2020.
4. "[State of the Residential Network 2019](#)," Association of College and University Housing Officers - International, June 17, 2019.
5. Ibid.
6. Dennis Pierce, "[How Campus CIOs Can Keep Up with Rising Network Demands](#)," eCampus News, Nov. 17, 2020.
7. "[How Campus CIOs Can Keep Up With Rising WiFi and Connectivity Demands](#)," MarketScale, Nov. 27, 2020.

About Spectrum Enterprise

Spectrum Enterprise, a part of Charter Communications, Inc., is a national provider of scalable, fiber technology solutions serving America's largest businesses and communications service providers. The broad Spectrum Enterprise portfolio includes networking and managed services solutions: Internet access, Ethernet access and networks, Voice and TV solutions. Spectrum Enterprise's industry-leading team of experts works closely with clients to achieve greater business success by providing solutions designed to meet their evolving needs. More information about Spectrum Enterprise can be found at enterprise.spectrum.com.

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