Top issues facing educational IT professionals

Navigating the challenges of the primary and higher education networks

RUCKUS®
COMMSCOPE

Elevating the learning landscape with innovative tech

Today's students all have the same thing in common: they're "digital natives." They have always known computers, smartphones and the internet to exist, and most consider internet access to be a basic utility—like running water or electricity.

According to an NPR report, 53 percent of children possess a smartphone by age 11.

For this reason, the move toward digital learning has been a natural progression to this generation. Although the COVID-19 pandemic accelerated the transition, the adoption of technology and hybrid learning models was inevitable.

As students have accepted the use of devices to help them learn, teachers and school administrators have also adopted innovative technology to enhance their teaching and work management. In a 2017 survey by the nonprofit educational organization Speak Up, half of students in grades 6 to 12 reported getting internet-based homework assignments daily or almost daily.

99 percent of all educators see the benefit of using technology in education.

(The State of Technology in Education, 2023 U.S. Edition)

Teachers have increasingly explored new educational technology (EdTech) as a way to keep students engaged and learning. For example, at least half of all U.S. students and teachers have hosted or played Kahoot!, a game-based learning platform. And this is just the beginning.

More and more educators are welcoming high-tech teaching methods—from digital content and interactive displays to virtual conferencing tools. Augmented reality/virtual reality (AR/VR) and artificial intelligence (AI) applications are other technologies that are expected to strain existing school networks, with no end in sight.

In a recent look at schools and technology, EDUCAUSE predicted institutions will soon be utilizing more extended technologies such as smart glasses, AR, digital twins and virtual environments.

2023 Top 10 IT issues. (n.d.). EDUCAUSE

Embracing education's new digital frontier

A high-speed, high-performing network has suddenly gone from being a luxury to a necessity. Students and educators alike need an always-on network to perform flawlessly. They call for strong connectivity, fast speeds, security safeguards and instant device compatibility from anywhere on school grounds. This creates tough challenges for educational IT departments.

More than 60 percent of students have experienced at least one tangible impact on their coursework due to technical issues.

(The State of Technology in Education, 2023 U.S. Edition)

TOP ISSUES WITH EDUCATIONAL NETWORKS

Bandwidth

Concurrent support of many devices accessing high-bandwidth content can cause major issues with the network. While a student might endure a lagging connection, a teacher can't afford to have a classroom wait around.

Device diversity

There's no telling what device a student or teacher may bring to campus. But they still expect smooth onboarding. IT professionals are responsible for this seamless experience.

Security

It's no secret that cybersecurity is paramount. Open Wi-Fi® networks come with possible exposure. To prevent the network from getting hacked, robust safeguards and constant monitoring for potential threats must be implemented.

Roaming

All devices are susceptible to signal interference when they're on the move. Whether it's neighboring networks, physical barriers or other devices, this common phenomenon requires diligent scrutiny to eliminate.

Lean IT

As workload continues to increase for IT staff, doing "more with less" has become the norm. To alleviate this pressure, IT teams need a product that can empower them to manage their networks efficiently and effectively, even with their limited resources.

Qs to consider when upgrading network

Which stage of the technology refresh cycle are you in?

What key applications do you need to support?

What devices are expected? How many will there be?

What infrastructure does your facility require?

Can your existing infrastructure support a digital classroom?

Managing the IT network of an educational institution

There's a lot that goes into the creation and maintenance of an educational network. Fortunately, RUCKUS offers innovative solutions that can also save you time, CapEx and OpEx. Let's see how:

"Good morning, network."

Your first item of the day is reviewing how the network fared since yesterday: outages, incidents or other issues that may have occurred. This could easily become overwhelming if you need to sift through logs, warnings and alerts from a variety of applications or monitors.

Or... log into the RUCKUS AI™ top-level dashboard and check in on the status of the network. It provides you with complete visibility and control over your entire network from an app that can be accessed remotely. Using advanced machine learning technology, it recommends remediation steps on your prioritized incidents.

"Hello, new devices."

Whether it's a teacher, student or visitor, there's probably not a day that goes by without a new device wanting access to your network. This should really be old hat, shouldn't it?

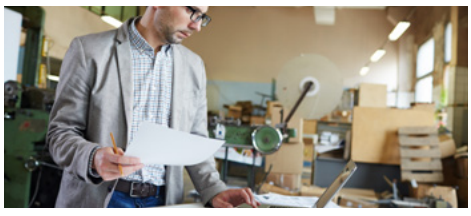
Cloudpath® Enrollment System is our network access onboarding software that allows you to provision both BYOD and school devices ahead of time. It also utilizes a number of powerful safeguards to make sure every connection is encrypted and secure.

"Pep rally in the auditorium"

Preventing co-channel interference from a deluge of devices congregating in a single area can be a nightmare. That's why deploying RUCKUS® access points (APs) and managing them with SmartZone™ network controllers makes sense. Integrated into every RUCKUS AP is ChannelFly® software—an automated RF channel selector that automatically minimizes interference by selecting the best channel based on historical values.

"What's the word?"

We all know that managing and maintaining a healthy network is really just half of the picture. The other involves service-level agreement performance reports, analyzing data and planning future enhancements or changes.



With RUCKUS AI, you can get a jump start with most of your future-looking endeavors from one menu. The historical data allows you to analyze trends and review key statistics in order to better help you plan for future capacity and to anticipate growth.

Empowering the educational Wi-Fi networks of tomorrow

From our APs, which have been independently proven to outperform everything on the market, to RUCKUS AI, which prioritizes incidents and recommends remediation steps before they become a problem, the following technology can provide end-to-end solutions that deliver superior performance:

APs

- Thrive in high-client-density environments
- Penetrate Wi-Fi-unfriendly building materials
- Are easy to deploy and configure
- Endure the harshest outdoor environments

ICX® switches

- Are an outstanding performance value
- Work seamlessly with RUCKUS APs
- Integrate into an easy-to-manage campus fabric

SmartZone™ network controllers

- Offer zero-touch provisioning
- Deploy automatic firmware updates
- Easily set up, manage, and troubleshoot the network
- Offer a campus-level view of the entire infrastructure

Cloudpath® Enrollment System

- Provides hassle-free, self-service onboarding and preboarding
- Establishes personal networks
- Manages policy for all devices

RUCKUS AI™

- Provides comprehensive visibility into network operations
- Accelerates network and client troubleshooting
- Identifies and recommends remediation steps for service issues

RUCKUS One™

- Provides unified converged network management
- Offers AI-driven network assurance and AIOps
- Enables exceptional end user experiences

Our education solutions offer advanced features that truly address the real needs of the primary and higher education industry

Optimal for Chromebook

Our RUCKUS Cloudpath Chrome Extension enables simple network provisioning with a single click—and verifies which Chromebooks are school property.

Scalability

Our ICX access switch uplinks can be upgraded without replacing the switch. We also support stacking up to 12 switches, while Campus Fabric supports up to 1,800 ports to be managed under a single IP address.

Individual client attention

Our APs feature BeamFlex® smart antennas, which utilize more than 4,200 unique antenna patterns to optimize the reception of each given client.

Seamless user experience

Our RUCKUS SmartZone controllers optimize bandwidth allocation, ensuring that mission-critical applications and learning activities take precedence for an unmatched user experience.

Want to learn more?

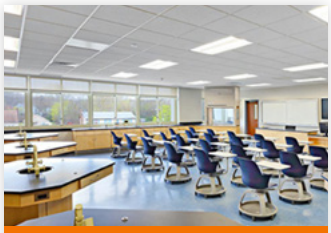
Click on these links to see how RUCKUS helps educational IT do more with less.

K-12 Education brochure

eSports is the New Athletics brochure

Smart Campus Security solutions brief

Smart Campus Living solutions brief



Herricks School District case study

Del Mar College case study

K-12 solutions page

Higher Education solutions page

Don’t just take our word for it. We can prove it.

Request a free demo or visit www.ruckusnetworks.com/ruckus-analytics-demo/.

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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Visit our website or contact your local RUCKUS representative for more information.

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