Education

Elevate the classroom experience

TRANSITION TO
DIGITAL LEARNING

In many ways, the connectivity and access to the internet has transformed education at all levels. The ability for students to access learning materials on-line as well as for instructors to share lessons and collaborate has revolutionized teaching and learning. Where education used to be concentrated in school buildings, it can now be accessed by millions of people (almost) anywhere.

58% Of schools say that they are in Phase 3

LAB
CURRENT 1%
DESIRED 0%

ACCESS
- Lab-centric classrooms

USAGE
- Small files/PDFs

INFRASTRUCTURE
- Classroom switch
- 10/100Mbps edge
- 1Gbps backbone

PHASE 1

TEACHER
CURRENT 26%
DESIRED 2%

ACCESS
- Teacher-centric classrooms

USAGE
- Interactive E-Books
- Google Docs / Office 365

INFRASTRUCTURE
- Wi-Fi 5 (Cloud-managed)
- 1 Gbps edge with PoE
- 10 Gbps backbone

PHASE 2

STUDENT
CURRENT 58%
DESIRED 32%

ACCESS
- Student-centric classrooms
- Secure campus / remote access

USAGE
- Courseware and denser files
- VR, video and gaming

INFRASTRUCTURE
- 2.5 Gbps Wi-Fi 5
- 2.5 Gbps edge with 60W PoE
- 10/40 Gbps backbone

PHASE 3

COMMUNITY

**CURRENT 11%
DESIRED 40%**

ACCESS
- Community and industry
- Collaboration between schools and nations

USAGE
- Pervasive video conferencing and streaming
- E-Sports

INFRASTRUCTURE
- Wi-Fi 6
- 5 Gbps edge with 90W PoE+
- 40 Gbps backbone

PHASE 4

GLOBAL

**CURRENT 4%
DESIRED 13%**

ACCESS
- Global / Internet of things

USAGE
- Virtual classrooms
- Pervasive computing

INFRASTRUCTURE
- Cloud Analytics
- Wi-Fi 6 + LTE + IoT
- 5/10 Gbps edge
- 100 Gbps backbone

PHASE 5

5 Million

U.S. Households with school-aged children do not have access to the internet.

75% Of school systems surveyed do not have any off-campus strategies for providing connectivity to students at home and after school

80% Of schools cite institution-wide network coverage although it is inadequate for more advanced digital curricula and tools

"Most instructors described their network as "unreliable.""

Sources: Learning Counsel Digital Curriculum Strategy Survey and Assessment Tool 2016; Pew Research Center, 2014

A FAST AND RELIABLE NETWORK IS **NO LONGER OPTIONAL.**

Don't let your campus network become a roadblock. Invest in a wired & wireless network that supports future ready technologies and delivers proven performance, reliability, and scale for schools.

THE DIGITAL CLASSROOM OF TOMORROW PROMISES AN OUTSTANDING EDUCATION. IS YOUR NETWORK READY?

The classroom of tomorrow promises an outstanding education. Blended learning, digital curriculum and other modern learning models can better engage students and help educators be more effective.

With this digital transformation, lesson plans now depend on consistent, reliable connectivity to the school Wi-Fi network. Instead of leaving tools locked in the classroom, students walk in the door with their Chromebooks, tablets or other devices every morning, and take them home with them each night.

As such, there are three major concerns that school IT administrators are currently facing:

NETWORK AND BROADBAND SCALING	SECURITY AND STUDENT DATA PRIVACY	TRANSITION TO DIGITAL LEARNING
THE TOP PRIORITY FOR IT IS BROADBAND AND NETWORK CAPACITY.	**FACING THE TASK OF PROTECTING STUDENT DATA FROM MISUSE OR BREACH.**	**THE TRANSITION FROM TEXT-BASED CURRICULA TO BLENDED LEARNING.**
More devices are coming onto the network, stretching the limits of aging infrastructure. SETDA recommends 3000Mbps per 1000 students by 2018. Plan for growth, not rip-and-replace.	49 of 50 U.S. states have drafted legislation or enacted laws to protect student data.	Avoid network down time. Even a three minute interruption can disrupt a 50 minute class.

HOW DOES THIS FIT IN MY SCHOOL

Whether you manage a single school building, a district, or an office of education, Ruckus has you covered. As the #1 Wi-Fi vendor to Service Providers, our solutions are designed to be centrally managed or offered as a service (including cloud-managed).
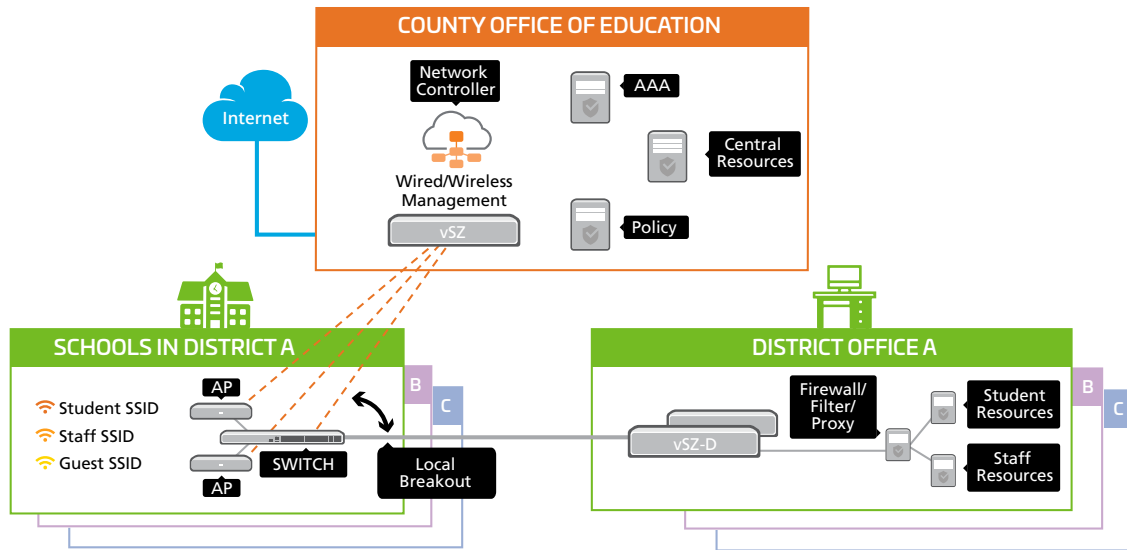
WHY CHOOSE COMMSCOPE
FOR YOUR SCHOOL PROJECT

As your school continues its digital transformation to 1:1 mobile learning, Ruckus helps you address the top three challenges of school IT: network scaling, securing student data privacy, and network reliability for digital instruction. **Our goal is to help you provide a safe and reliable learning environment at an affordable price.**

RELIABLE WI-FI

Our passion is highlighted by 100+ RF patents that provide the strongest wireless connections and enable our access points (APs) to automatically adapt to non-ideal placement or changing conditions. Moreover, it has been independently proven that only Ruckus can sustain 60 HD video streams with just one AP. Supporting more students with fewer APs means significant savings for your school.

SCALABLE SWITCHING

Our switches support long distance stacking between closets, floors and buildings, while Ruckus Campus Fabric allows up to 1,800 ports to be managed under a single IP address. In addition, entry-level switch uplinks can be upgraded from 1GbE to 10GbE with just a software license. Similarly, our high-performance access switch uplinks can be upgraded to 40GbE or 100GbE.

SIMPLE SECURITY

We make securing every connection to your school network easy, with identity-based policies that facilitate rapid guest access on-boarding. This means an end to passwords and trouble tickets for Wi-Fi access. We also support CIPA compliance by allowing the restoration of content filtering for HTTPS traffic.

EASY CLOUD

Ruckus networks are now in the cloud and easier than ever to manage. Plus, our intuitive smartphone app allows you to deploy, monitor and manage APs and switches on the go. And even when your subscription expires, the APs and switches are still able serve your clients.
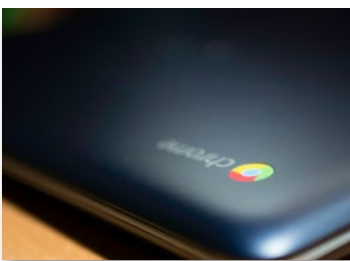
OPTIMAL FOR CHROMEBOOKS

Our Ruckus Cloudpath Chrome Extension enables simple network provisioning with a single click – and verifies which Chromebooks are school property. Moreover, only Ruckus can sustain 60 HD video streams with just one AP. We also support CIPA compliance by allowing the restoration of content filtering for HTTPS traffic.

FUTURE PROOF

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 36 switches with a single point of management. Our flexible switch deployment options include standalone, stacking and Campus Fabric (with the same switches). With Ruckus Cloud, you can easily add APs and switches, as well as in-building LTE or Internet of Things (IoT) infrastructure. For the latter two, simply plug into pre-existing APs – without ripping and replacing!

WIRED AND WIRELESS NETWORK MANAGEMENT

With RUCKUS SmartZone Network Controllers, it is possible to manage both your wired and wireless network using a single network element. SmartZone network controllers simplify network set-up and management, enhance security, minimize troubleshooting and ease upgrades, and ensure provisioning consistency across networks built on RUCKUS access points and switches.

HIGH PERFORMANCE NETWORK CABLING

Foundational to high performance networks is the structured cabling to support your networks bandwidth, capacity and power requirements. CommScope Cat 6A copper cabling ensures your access layer foundation is ready and able with up to 10G speeds and support for High Power PoE. CommScope's fibre solutions provide the scalable bandwidth you need for your network backbone and for high performance applications like eSports, VR and Wi-Fi 6 APs.

ETON COLLEGE

As a boys' boarding school, Eton is home to 1,300 students who join at age 13 and continue until age 18. Teaching staff also lives on campus, so school operations never stop. As Eton has moved from a completely wired network environment to wireless infrastructure and applications over the past five years, the infrastructure continually changes to stay ahead of usage demands.

> "As an independent boarding school, you have some unique demands on networks and equipment, we have an unusually large network for a school."

JOHN SAINTHOUSE

Head of Information Technology, Eton College

CHALLENGE

Four hundred buildings, all major facilities systems, and school-provided desktop computers, laptops, and audio-visual equipment are connected over the core network. The core network also powers Eton's Ruckus® wireless network, which started with 100 access points. In the past three years, boys have increasingly arrived at Eton with multiple devices—at least a laptop, tablet, and smartphone—and they expect a robust wireless network. Students' Wi-Fi requirements, coupled with a cloud-based Virtual Learning Environment, use of video in classrooms, online access to college systems, wireless classroom technology, and the IP phone system require a high-performance wireless infrastructure.

Delivering high-quality Wi-Fi across many different environments on campus is challenging. Students and teaching staff need reliable connections in the boarding houses. Because each boy has his own room, the number of rooms, walls, and doors make it difficult to deliver uniformly good coverage and high capacity.
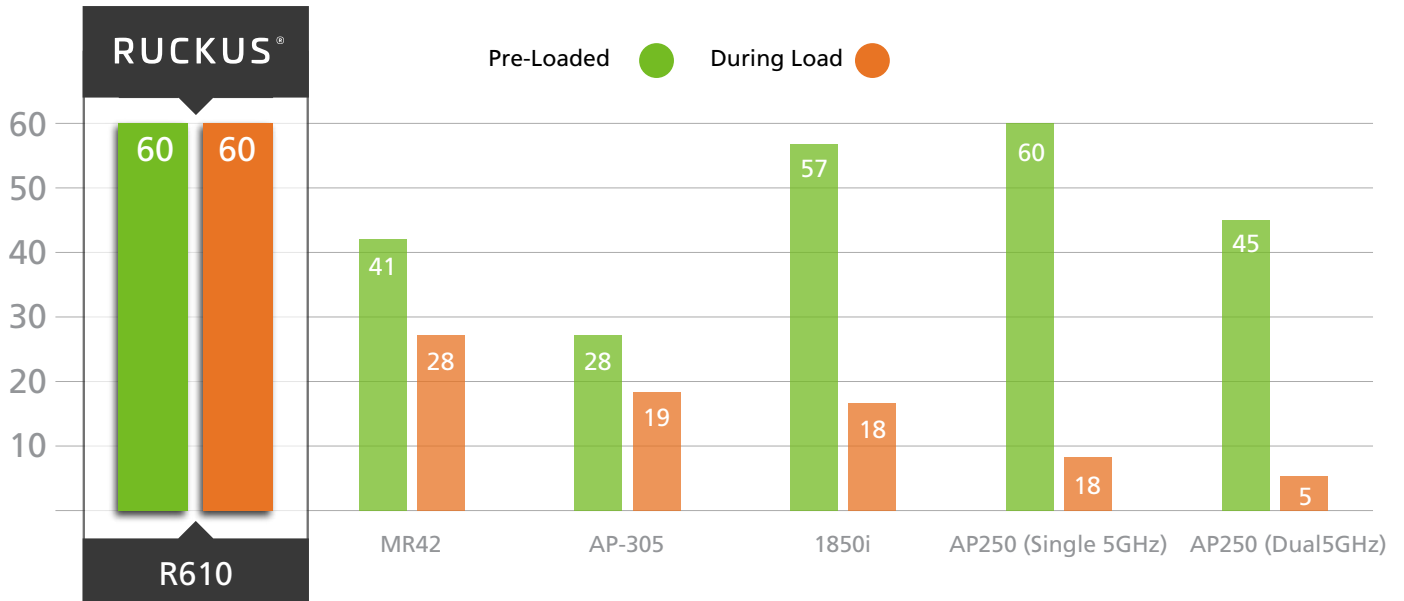
SOLUTION

As the wireless network grew from 100 to 700 access points, growing volumes of high-speed wireless traffic taxed the existing wired infrastructure, creating a bottleneck. Eton also enhanced online security by deploying Ruckus Cloudpath software for online security and policy management and iboss Cybersecurity for ensuring uniform protection across its network and cloud deployments. These new applications made it imperative to gain more capacity in the underlying wired network.
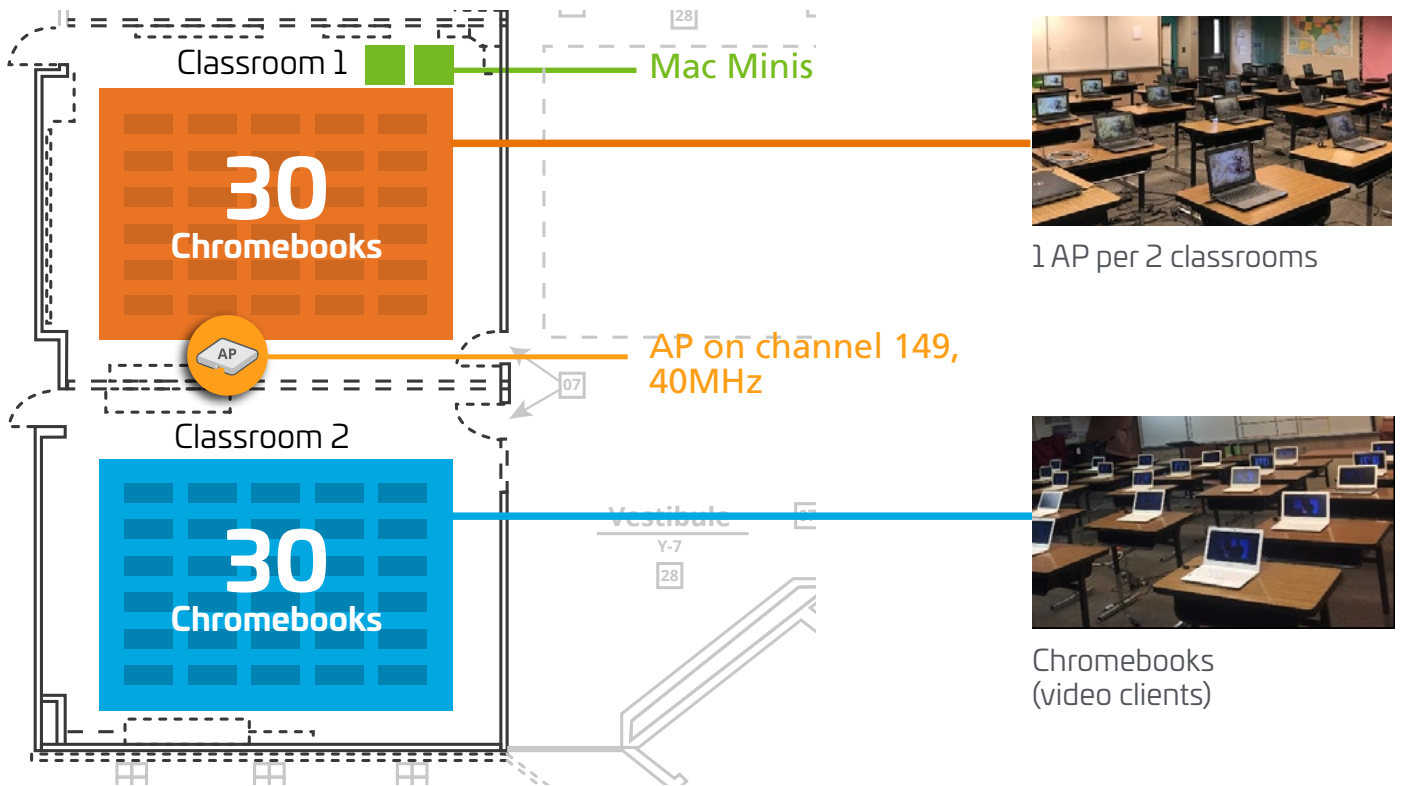
WE BRING OUR "A" GAME

Ruckus was one of only two vendors able to deliver stall-free streaming video to 60 clients in an unloaded network scenario—and the only vendor able to do so in every scenario, both with and without simultaneous network data loading. No other vendor came close. Testing was conducted with the Ruckus R610.

RUCKUS®

Pre-Loaded ●   During Load ●

	R610	MR42	AP-305	1850i	AP250 (Single 5GHz)	AP250 (Dual5GHz)
Pre-Loaded	60	41	28	57	60	45
During Load	60	28	19	18	18	5

Source: Divergent Dynamics independent test report

Classroom 1

Mac Minis

30 Chromebooks

AP

AP on channel 149, 40MHz

Classroom 2

30 Chromebooks

1 AP per 2 classrooms

Chromebooks (video clients)

WHAT DOES
COMMSCOPE PROVIDE?

The Ruckus product portfolio of Wi-Fi, switching, IoT, LTE, software and SaaS lets you deliver a great end-user connectivity experience while reducing the amount of time you spend managing the network. And because Ruckus packs more capability into every network element, you can build that network at a lower cost per connection.
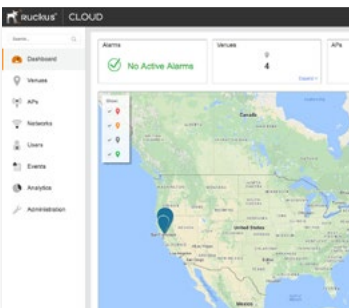
CLOUDPATH SOFTWARE

- Easy Chromebook on-boarding
- HTTPS inspection for CIPA
- Prevents password lockouts
- BYOD and 1:1 policies
- Dynamic PSK
- Granular policy guest access

SMARTZONE NETWORK CONTROLLER

- Wired/Wireless management
- Visual connection diagnostics
- Powerful new mapping tool
- COE as service provider
- Customization with Open APIs

CLOUD-MANAGED NETWORKS

- Easy management saves time
- Scales with 1:1 deployments
- High reliability for digital learning
- Can manage from smartphone
- Ruckus APs and switches, now in the cloud
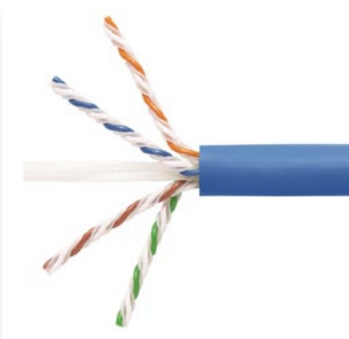
COMMSCOPE STRUCTURED CABLING

- Comprehensive Category 6A & Category 6 Solutions
- High performance Multimode and Singlemode fibre optic cables in various constructions
- Standard and high density fibre optic connecting hardware
- 25 Year Warranty
- Highly Skilled Certified Installer Network

ACCESS POINTS

- All students connect reliably
- Fewer APs needed per school
- Non-stop VR, gaming and video streaming
- Multi-gigabit (2.5GbE) uplink

ICX SWITCHES

- Silent classroom switches
- Leading power density (up to 90W)
- Uplink scaling 1/10/40/100GbE
- Hitless failover & ISSU
- Multi-gigabit (1/2.5/5/10 GbE)
- Long distance stackable

RUCKUS IoT SUITE

- Add IoT during or after install
- Keep your AP investment
- Reduce IoT complexity and cost
- Great for STEM learning
- Go green, save green

FUJITSU EDUCATION TECHNOLOGY SOLUTIONS PREPARE STUDENTS FOR THE NEW DIGITAL AGE.

It delivers competitive institutional differentiation and allows schools, colleges and universities to:

- engage more students
- empower educators and management
- support the development of a 21st century digitally ready workforce

FUJITSU EDUCATION AMBASSADOR PROGRAMME

The Fujitsu Education Ambassador Programme is a shared initiative to promote education-wide collaboration for the benefit of both educators and students. Together with our technology partners Intel, Brocade and Kyocera, we plan to open 30 Innovation Hubs in schools, colleges, and universities around the UK, where students will be inspired to get ready to enter the digital world. "In a school like ours the network has to deliver. We're in a high tech school, and therefore we need the best equipment possible…. Having Ruckus Wireless at the LDEUTC means that we've got a secure, high-performing, reliable wireless network."
– Geoffrey Fowler, Principal and CEO | London Design and Engineering UTC

RUCKUS IS PARTNERING WITH LENOVO TO BRING VR LEARNING TO PRIMARY AND SECONDARY SCHOOLS WITH THE LENOVO VIRTUAL REALITY CLASSROOM KIT.

These self-contained kits are packed with everything educators need to get VR quickly up and running, including Lenovo Mirage Solo VR headsets, Lenovo Tab 4 PLUS 10" touchscreen tablets and thousands of hours of digital curriculum—all linked through Ruckus Wi-Fi access points (APs).

"Teachers are already working hard to develop and deliver digital lesson plans so they don't have time to become an extension of their IT helpdesk. That's why Lenovo designed the Lenovo VR Classroom to be simple, scalable and durable," Nedwich told The Ruckus Room. "Each kit functions as a complete turnkey solution, with VR hardware, software, curriculum and Ruckus Wi-Fi all pre-configured and ready to go. There is no complex setup, or fiddling with settings to get and stay connected. You can just turn on the VR headsets, bring up today's lesson plan on the tablet and start engaging students."

A CLOUD EXPERIENCE?
# IT'S AS EASY AS 1, 2, 3...

LET'S GET YOUR TRIAL STARTED

We told you that Ruckus Cloud simplifies network management. Try it for yourself.
No obligation, no credit card required. See how easy it is to set up, monitor and manage.
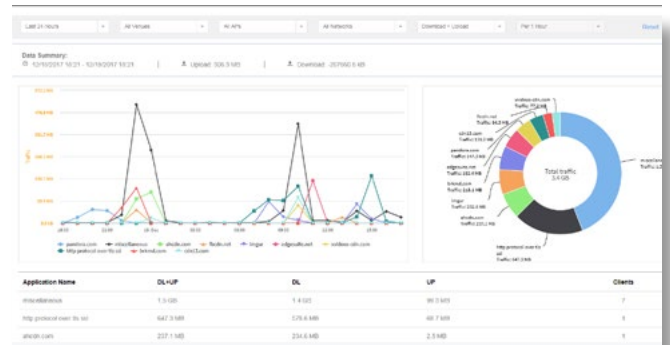
Includes:

- 60-day trial of Ruckus Cloud
- Ruckus 802.11ac access point
- Ruckus Cloud mobile app for anywhere management
- Phone and chat support

* FREE TRIAL AND AP TERMS AND CONDITIONS APPLY. SEE URL PROVIDED BELOW.
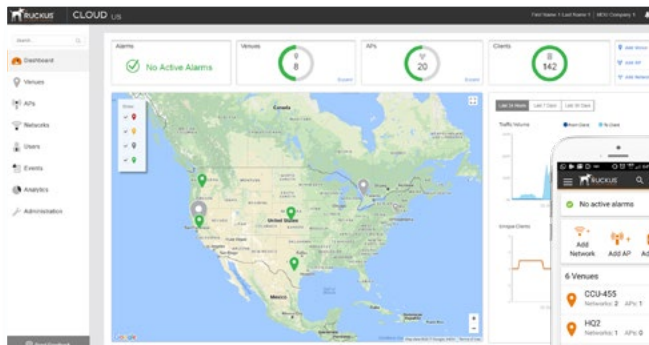
Ruckus Cloud Dashboard

Application by traffic

WANT TO TALK TO SOMEONE?

Email us:

cloud@ruckusnetworks.com
We'll get back to you within one business day.

Or Visit:

https://info.ruckuswireless.com/cloud-trial.html?

COMMSCOPE KEEPS
GOOD COMPANY

CommScope is proud to be a contributing member of many associations serving the Education community. We are also working with leading technology and alliance partners that offer complete, proven solutions that complement the Ruckus wired or wireless portfolio to help our customers meet critical business needs.

DELL EMC

FUJITSU

CoSN

EDUCAUSE

bett

Lenovo

ISTE | Inclusive Learning Network

GOOD STUDENTS TAKE GOOD NOTES:

– Call CommScope

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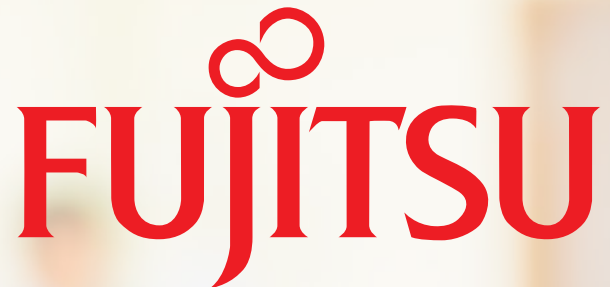
CommScope pushes the boundaries of communications technology with game-changing ideas and ground-breaking discoveries that spark profound human achievement. We collaborate with our customers and partners to design, create and build the world's most advanced networks. It is our passion and commitment to identify the next opportunity and realize a better tomorrow. Discover more at commscope.com

COMMSCOPE®