Primary education

Elevate the classroom experience

IMS
Integrated Media Solutions ®

COMMSCOPE®

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
- 802.11ac (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 802.11ac Wi-Fi
- 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
- 802.11ax
- 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
- 802.11ax + LTE + IoT
- 5/10 Gbps edge
- 100 Gbps backbone

PHASE 5

5 Million
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 Surveyand 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 K-12.

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 IT administrators in K-12 school districts are currently facing:

NETWORK AND BROADBAND SCALING

THE TOP PRIORITY FOR IT IS BROADBAND AND NETWORK CAPACITY.

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.

SECURITY AND STUDENT DATA PRIVACY

FACING THE TASK OF PROTECTING STUDENT DATA FROM MISUSE OR BREACH.

49 of 50 U.S. states have drafted legislation or enacted laws to protect student data.

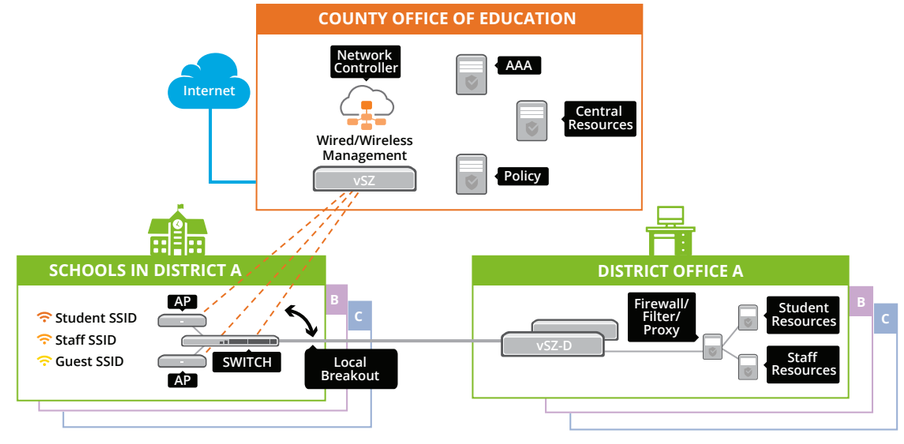
TRANSITION TO DIGITAL LEARNING

THE TRANSITION FROM TEXT-BASED CURRICULA TO BLENDED LEARNING.

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 RUCKUS
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 Wi-Fi is now in the cloud and easier than ever to manage. Plus, our intuitive smartphone app allows you to deploy, monitor and manage APs on the go. And even when your subscription expires, the APs 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 pane of glass. Our flexible switch deployment options include standalone, stacking and Campus Fabric (with the same switches). With Ruckus Cloud Wi-Fi, you can easily add APs,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!

AFFORDABLE MULTI-GIGABIT

Our purpose-built multi-gigabit APs and switches are designed to work together. We offered the first entry-level multi-gigabit switch, with up to 16 multi-gigabit (2.5GbE) ports per 48-port switch, and up to 8 x 10GbE uplinks without over subscription. Our premium multi-gigabit access switch offers 24 x 1/2.5/5/10GbE ports with 40/100 GbE uplink ports. These multi-gigabit switches offer full PoE/PoE+ on all ports (up to 90W per port).

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 fiber solutions provide the scalable bandwidth you need for your network backbone and for high performance applications like eSports, VR and Wi-Fi 6 APs.

BELLEVILLE SCHOOL DISTRICT

Belleville Township High School District 201 serves 4,700 students and 480 faculty and staff. The district covers 120 square miles in Belleville, Illinois. Belleville had been running the Ubiquiti Unifi solution for several years and faced significant challenges with client density.

"We have gone up to 100 clients on a single AP with no connectivity issues, and the cloud user interface makes management and control a snap."

CURTIS MCKAY

Network Administrator, Belleville

CHALLENGE

Belleville Township High School District 201 is located in Belleville, Illinois, with two high school campuses over 120 square miles, and serves 4,700 students and 480 faculty and staff. The district had been using the Ubiquiti Unifi solution for the past several years, and was plagued with density challenges from the beginning. If more than 30 clients connected to an access point (AP), it would stop functioning. Additionally, if there were several classrooms close together that were using smart devices, the signal overlap made the connection slow and unreliable. Both students and teachers were complaining: students because they couldn't utilize the cloud-based learning resources and teachers because their lesson plans were falling apart. It was clear that a future-proof network infrastructure was necessary to meet both student and faculty needs.

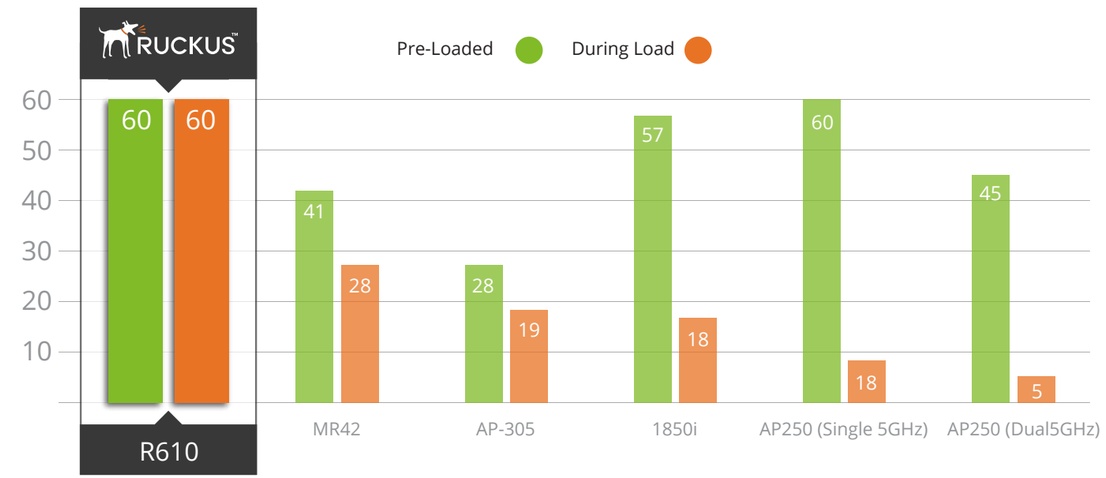
SOLUTION

Curtis McKay, the network administrator for Belleville, was interested in deploying an enterprise-grade solution with APs that were more intelligent and leveraged features such as channel selection and power bandwidth. The goal was to deploy a wireless infrastructure that could support high density in the classroom, easily connecting more than 30 clients at the same time.

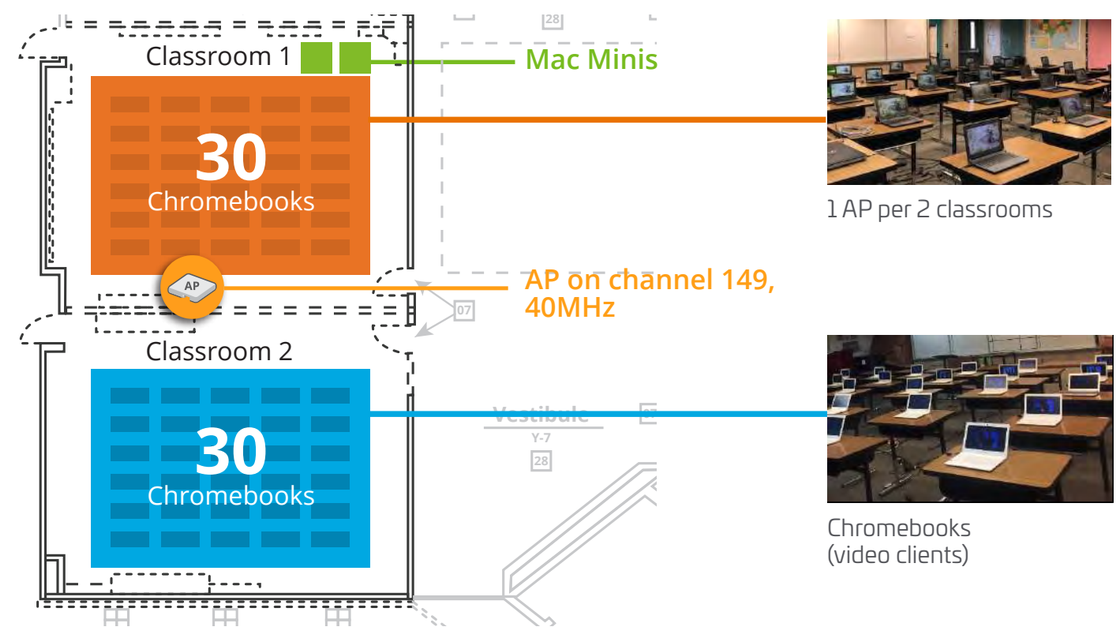
When it came to selecting a platform, Belleville preferred a cloud-managed infrastructure because it would not require any additional hardware at either high school campus. Ruckus partner Bytespeed Systems introduced McKay to the Ruckus Cloud Wi-Fi Early Access Program (EAP), offering him the opportunity to be one of the first to trial Ruckus Cloud Wi-Fi. He also spoke to other school districts who had tested both Ubiquiti Unifi and Ruckus Wireless APs.

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.



Source: Divergent Dynamics independent test report



WHAT DO **COMMSCOPE AND RUCKUS PROVIDE?**

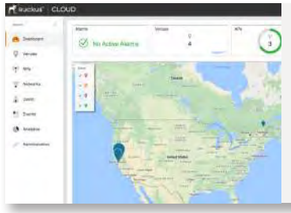
The Ruckus product portfolio of Wi-Fi, switching, IoT, LTE, software and SaaS lets you deliver a great end-user connectivity experience while reducing the amount of time you spend managing the network. And because Ruckus packs more capability into every network element, you can build that network at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

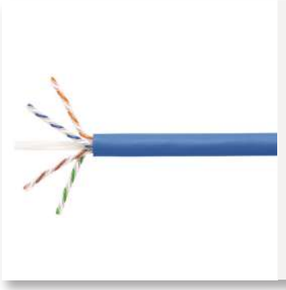
SMARTZONE NETWORK CONTROLLER

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



CLOUD WI-FI

- Easy management saves time
- Scales with 1:1 deployments
- High reliability for digital learning
- Can manage from smartphone
- Ruckus APs, now in the cloud
- Long distance stackable



COMMSCOPE STRUCTURED CABLING

- Comprehensive Category 6A & Category 6 Solutions
- High performance Multimode and Singlemode fiber optic cables in various constructions
- Standard and high density fiber 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

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

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

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