



Smart **Wi-Fi** for
**PRIMARY
EDUCATION**

Smarter Wi-Fi Fosters The Learning Experience

IT'S A REQUIRED COURSE OF ACTION FOR EDUCATION

Faster, more dependable Wi-Fi connectivity that's affordable is fundamental. It must cover large campuses, yet reach every corner of a classroom. It must support multimedia applications while providing secure connectivity for staff, students, and guests. Limited budgets and IT staff mean that educators need a new approach. Ruckus Smart Wi-Fi 802.11ac access points pass the test with flying colors.



Combining adaptive antenna technology, band steering, and airtime fairness makes Ruckus Smart Wi-Fi ideal for high-density environments, providing students with fast and reliable Wi-Fi connectivity.

Dealing With High Density

Patented adaptive antenna technology gets users on and off the wireless network quickly. In addition, capabilities including: client load balancing, airtime fairness, band steering, and per user rate limiting ensures hundreds of users can access a single access point that delivers reliable and fast Wi-Fi connectivity.

"The need for higher client density and wireless bandwidth is skyrocketing. AC lets us serve two or three times more concurrent client connections at much higher data rates and stay ahead of the client technology curve."

Dan Maclise

Lead Network Engineer, Lodi Unified School District

Campus Coverage: Here, There, Everywhere

K-12 school campuses range from one large, vintage-built location to a more modern multi-building construction. So, getting good Wi-Fi coverage to every nook and cranny of each classroom has been a real challenge. Ruckus ZoneFlex products deliver the best possible Wi-Fi coverage using high-gain directional antenna arrays. Patented BeamFlex™ technology directs signals toward associated clients, picking the best performing path and constantly routing signals around interference. ZoneFlex delivers better coverage using fewer APs and far fewer dollars. Schools can now take Wi-Fi to places where it's never been before — simply, easily and affordably.



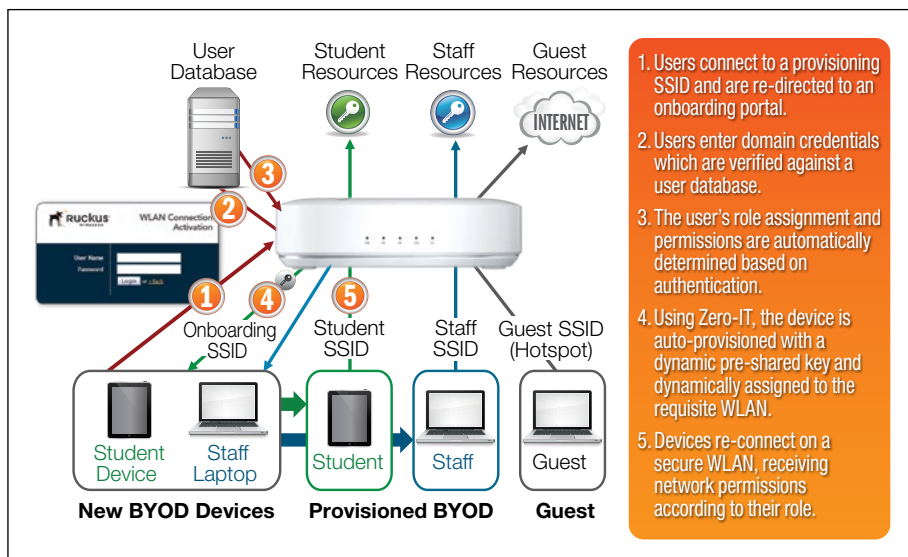
Patented smart antenna arrays in every access point provide longer range and more reliable Wi-Fi connections, requiring fewer APs than competitive alternatives.

Secure and Automated Device Enablement

Ruckus Cloudpath bridges the gap between enterprise-grade security and personal devices to create a secure and simplified Wi-Fi experience that allows BYOD to be adopted in a scalable, secure, and user-friendly manner.

Cloudpath utilizes standards-based security to work with existing infrastructure and provide full functionality with any Wi-Fi solution. Cloudpath solutions delivers secure, reliable connectivity around the globe.

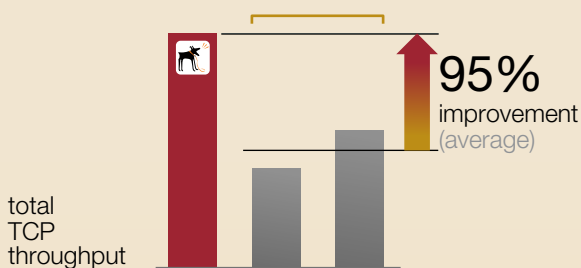
A growing need across education is the ability to easily and securely on-board many different devices. Cloudpath provides industry-first support for Chromebooks, the fastest growing in-class-room platform.



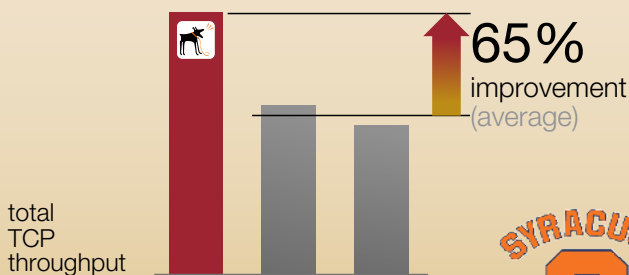
Ruckus Smart Wi-Fi delivers MORE CONSISTENT PERFORMANCE at higher density

High Density: 90 active clients per AP

adaptive antennas + conventional Wi-Fi
learning-based SON implementations



Interference: 6 APs, 120 clients, 1 busy rogue AP



Source:



"Our goal was to push these boxes to their limit to see where they'd break by throwing as many unicast HD video streams at them as they could bear. With Ruckus 710, we simply couldn't break it and were able to push more than 90 clients streaming HD videos to a single AP. We just ran out of clients."

Aaron Heath

Network Specialist, Columbia Public Schools

No Ethernet? No Problem

For many educational institutions, Ethernet is not ubiquitous. What about portables, cafeterias, auditoriums, assembly halls and stadiums? Unlike other WLAN solutions, the Ruckus ZoneFlex system employs SmartMesh Networking, allowing schools to easily add Wi-Fi by simply plugging APs into a power outlet. This eliminates adding additional Ethernet cabling and unnecessary expenses. An advanced smart antenna array ensures unprecedented reliability for the mesh backbone, minimizing packet loss, steering signals over the fastest paths, and increasing range between mesh nodes.

Smart Educators are choosing Ruckus smart Wi-Fi Solutions to solve challenges and raise the curve

PROBLEM	RUCKUS SMART WI-FI SOLUTION
Spotty Coverage	High-gain smart antenna system extends Wi-Fi signals up to twice as far, helping ensure complete coverage and requiring fewer APs per school
Unstable Wi-Fi connectivity	Patented adaptive antenna technology within every Ruckus Smart Wi-Fi access point ensures stable client connectivity and mitigates packet loss to ensure the highest performance possible
Simplified Wi-Fi Onboarding and Security	Certificate-based security to ensure that authorized devices onboard simply and securely, with the appropriate level of access.
Interactive classroom enablement	Smart QoS automatically prioritizes low-latency voice and video traffic to ensure clear sound and smooth video delivery
Controllers in each school	Distributed forwarding architecture enables a single centrally located network operation center to manage the entire Wi-Fi infrastructure without sitting in the data path
Guest management	Intuitive, browser-based facility lets staff generate a unique and timed Wi-Fi guest pass in less than 60 seconds
Complex installation & management	Entire WLAN configures in minutes; APs self-configure by automatically discovering the controller. Ruckus Smart Wi-Fi systems can be remotely configured and managed

Ruckus Makes the Grade at Columbia Public Schools

Columbia Public Schools centered in Columbia, Missouri, services more than 18k students. The district covers over 300 square miles between St. Louis and Kansas City. CPS is accredited with Distinction by the Missouri Department of Elementary and Secondary Education supporting over 30 K-12 schools.

Columbia understood that in order to elevate both the learning and teaching experience, they would need:

- Fast and reliable Wi-Fi access to deliver digital content
- Higher performance, higher capacity, and district-wide indoor/outdoor Wi-Fi infrastructure
- Infrastructure that can support a range of applications and services
- Great wireless connectivity to meet interactive curriculum needs

Columbia deployed more than 1,400 Ruckus ZoneFlex R710 802.11ac Wave 2 APs and Ruckus SmartZone controllers. With this new infrastructure, Columbia was able to increase the number of concurrent clients supported by AP while improving signal strength and wireless reliability. With Ruckus Wireless, Columbia was able to futureproof their network to meet growing student and faculty needs.





Smarter Wi-Fi optimized for IP-based video

Video has become an essential application within K-12 environments. IP-based video cameras and streaming IP-based video content over Wi-Fi is now taking center stage. Our heritage as a company has been focused on supporting IP-based video over Wi-Fi. Through the use of our patented adaptive antenna array and heuristics-based traffic classification and prioritization, the Ruckus ZoneFlex system delivers flicker-free video to laptops, tablets, and even televisions. Our products and technology have been uniquely designed to support latency-sensitive traffic types such as streaming HD video.

"For CPS, the Ruckus products spoke for themselves. But more importantly, we felt the Ruckus philosophy about delivering the best possible Wi-Fi performance and reliability within high dense client environments mirrored our own."

Dr. Christine Diggs
Director of Technology Services
Columbia Public Schools



we're feeling the love
from a marquee list of
WORLD-RENOVED CUSTOMERS

Eliminate recurring broadband costs with point-to-multipoint, long range Wi-Fi

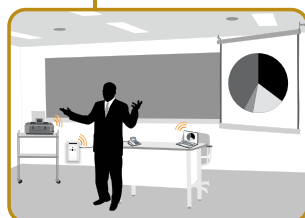
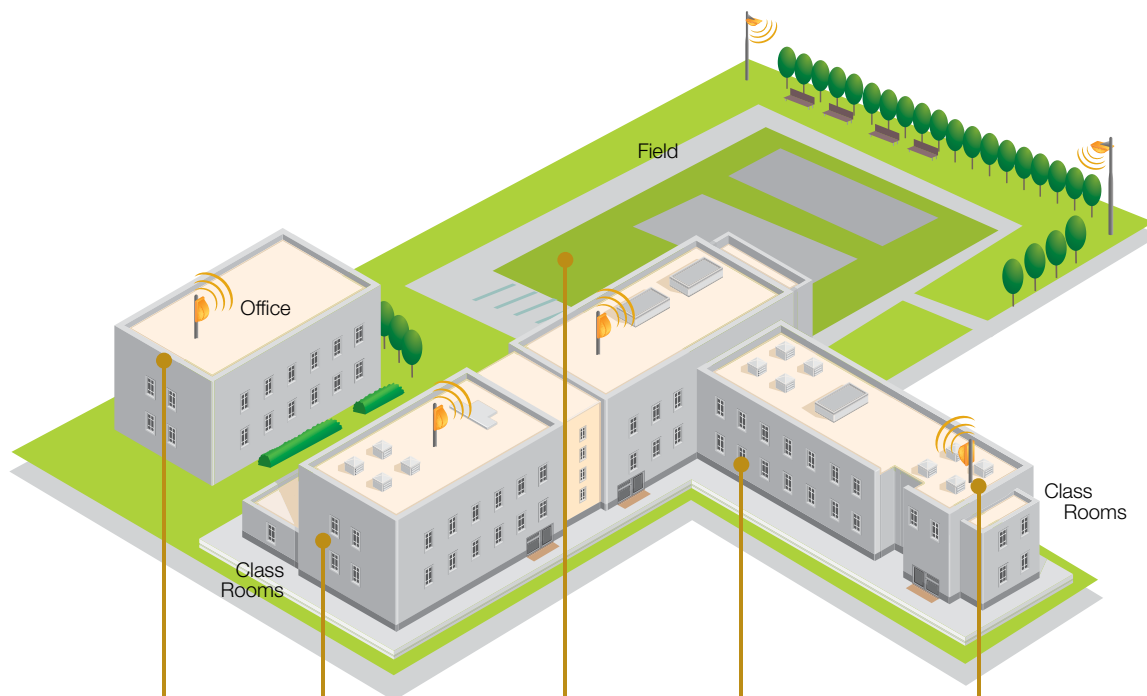
Many schools pay exorbitant costs for running fixed broadband lines to each school or site. New 5 GHz 802.11n high-performance bridges effectively eliminate these recurring costs — saving schools tens of thousands of dollars each year. A pair of Wi-Fi bridges can deliver up to 190 Mbps at 1.5 kilometers and offers performance up to 50 Mbps at 10 km (LoS).

The Ruckus ZoneFlex WLAN system configures in minutes so you're on time and under budget.



Ruckus Smart Wi-Fi Delivers Education's Most Flexible Deployment Options

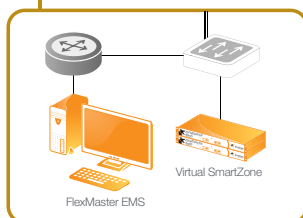
**INTERACTIVE CLASSROOMS, BYOD, VOIP,
IP VOD, IPTV STREAMING, GUEST NETWORKING,
STAFF ADMINISTRATION, OUTDOOR EVENTS**



Many AP options — deployed
with or without controller



Adaptive antenna technology and
airtime fairness for high density areas

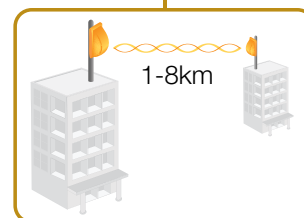


Controllers out of the datapath
— deployed onsite or offsite

Unified end-end management
of entire indoor/outdoor system



Reliable outdoor SmartMesh
Networking minimizes
Ethernet cabling



Long-range point-to-point/
multipoint 802.11n bridging

Complete Portfolio for **EDUCATION**

ZoneFlex R710



Indoor dual band 4x4:4 802.11ac AP with integrated smart antenna array and PoE (802.3af/at) support

ZoneFlex R500



Indoor dual-band, 2x2:2 802.11ac AP with integrated smart antenna array and PoE (802.3af/at) support

ZoneFlex R310



Entry level dual band, 2x2:2 802.11ac AP with integrated smart antenna array and PoE (802.3af) support

ZoneFlex T300



Outdoor dual-band, 3x3:3 802.11ac AP with integrated smart antenna array and PoE (802.3at/af) support

Cloudpath



Cloudpath creates a Set-It-And-Forget-It Wi-Fi experience that allows BYOD to be adopted in a scalable, secure, and user-friendly manner

SPoT



Cloud-based Smart Wi-Fi location-based services (LBS) user positioning technology suite and API

ZoneDirector Controllers



Central wireless LAN controllers supporting from 6 to 1,000 Ruckus APs

SmartZone Controllers



Industry's most scalable and versatile WLAN platform

Virtual SmartZone



Highly scalable virtualized controller platform



Smart Wi-Fi

Designed and Built for **Pervasive Performance...**
Available from **Ruckus Wireless**

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