Ruckus®

Simply Better Connections.

SMARTER, SIMPLY SUPERIOR WI-FI FOR 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 SMALL NOOK AND CRANNY 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 PASSES THE TEST WITH FLYING COLORS.

DEALING WITH HIGH DENSITY

A major concern within the education market is dealing with high density environments such as classroom and lecture halls. With a flood of Wi-Fi enabled devices simultaneously accessing the wireless network, the Ruckus ZoneFlex™ system is designed to provide a best-in-class solution for supporting a high-capacity of concurrent wireless users. Applying patented adaptive antenna technology that gets users on and off the Wi-Fi network quickly, this technology is combined with capabilities including client load balancing, airtime fairness, band steering, and per user rate limiting to ensure hundreds of users can access a single access point that delivers reliable and fast Wi-Fi connectivity.

Combining adaptive antenna technology, band steering, and airtime fairness makes Ruckus Smart Wi-Fi ideal for high-density classroom environments giving students reliable high-speed wireless network access.

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

CAMPUS COVERAGE: HERE, THERE, EVERYWHERE

Universities, colleges, and K-12 schools often encompass large properties with many buildings. Getting good Wi-Fi coverage to every nook and cranny of each facility without deploying a huge number of access points has been a real challenge. The Ruckus ZoneFlex family of products delivers the best possible Wi-Fi coverage using high gain directional antenna arrays. Our patented BeamFlex™ technology directs signals toward associated clients, picking the best performing path and constantly routing signals around interference as it is encountered. ZoneFlex delivers two to four times the coverage using fewer APs and costing far fewer dollars. Schools can now take Wi-Fi to places where it's never been before — simply and easily.

Ruckus Smart Mesh Networking eliminates the need for Ethernet cabling in buildings where Cat5 drops don't exist.

STRONG WI-FI SECURITY, SIMPLE TO ADMINISTER

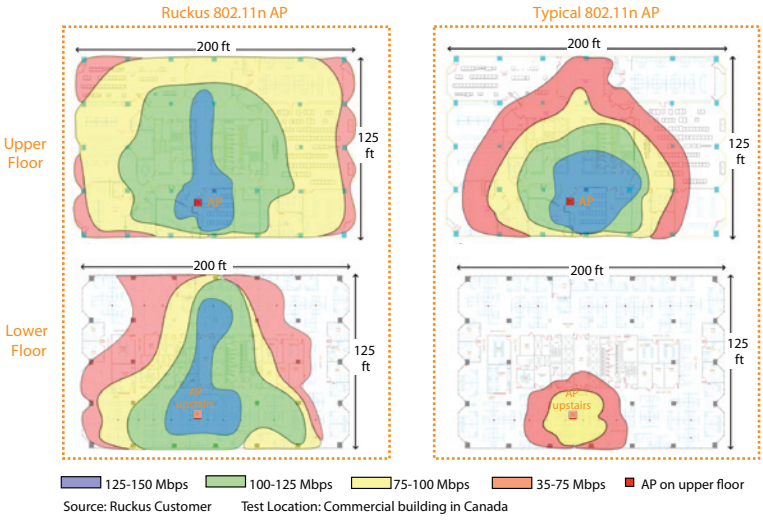
Educational organizations want strong security to separate staff and students. Now they have it. In addition to supporting standard 802.1X security, the patented Dynamic Pre-Shared Key technology automates the process of configuring wireless settings and encryption keys on every Wi-Fi-enabled device. A new user simply connects to the Ethernet LAN and authenticates against any standard authentication (AAA) server via a captive portal hosted on the Ruckus ZoneDirector. Upon successful authentication the user receives a unique 63-byte encryption key and WLAN settings.

"To see if the Ruckus ZoneFlex system lived up to the hype, we performed extensive capacity testing and were astounded. We were able to connect 78 concurrent devices to a single, dual-band 802.11n AP without the AP breaking a sweat. Each laptop, iPhone, and tablet device was simultaneously streaming video. We ended up running out of devices to connect. We've now deployed some 1,000 APs across 43 sites and have never been more satisfied."

JOSEPH McBREEN
Chief Information Officer
St. Vrain Valley School District

RUCKUS SMART WI-FI DELIVERS MORE CONSISTENT PERFORMANCE AT LONGER DISTANCES

Ruckus Smart Wi-Fi versus the alternative



NO ETHERNET? NO PROBLEM

For many educational institutions, Ethernet is not ubiquitous. What about portables, cafeterias, auditoriums and assembly halls? Unlike other WLAN solutions, the Ruckus ZoneFlex system employs Smart Mesh Networking, allowing schools to easily add Wi-Fi by simply plugging them 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.

"If I don't have reliable wireless, you might as well cancel school. The Ruckus ZoneFlex system was less than half the cost per node of competitive, enterprise-class systems, and provided capabilities like smart meshing and adaptive RF routing that was not supported by other 'industry-leading' solutions."

TIM KAMPS, Director of Technology

Holland Christian Schools
Instructional Technology

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 5GHz, 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.

SMARTER WI-FI OPTIMIZED FOR IP-BASED VIDEO

Video has become an essential application within higher education as well as K-12 markets. 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.

TOP 10

RUCKUS DELIVERS TOP 10 WI-FI MUSTS FOR EDUCATION

1. Wi-Fi coverage everywhere
2x to 4x coverage improvement through integrated long-range, high-gain antenna array

2. Reliable client connectivity
Adaptive beamsteering automatically avoids interference and steers signals over the best performing paths

3. Consistent Wi-Fi performance at range
Massive antenna diversity and client feedback ensures highest data rates to end stations

4. Indoor and outdoor managed as one
Unified configuration, administration, and management of all APs through a single interface

5. Multimedia support
Automatic interference mitigation ensures flicker-free streaming of voice and video

6. High density environments
Band steering and airtime fairness enables a large number of concurrent users

7. No new cabling
Highly adaptive and reliable Wi-Fi meshing eliminates the need to cable every AP

8. Flexible deployment options
Deploy APs with or without a controller, install controllers on-site or in remote locations

9. Robust but simplified security options
Automatic generation and installation of unique per user encryption keys (Dynamic PSK)

10. Easy to configure and deploy
Graphical user interface with easy to understand point and click commands

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 two to four times farther, 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
DISPARATE WLAN SYSTEMS	Indoor and outdoor APs mesh together and are managed centrally by the ZoneDirector controller
TOO MANY APs TO MANAGE	Requires one-third to one-half the number of APs over conventional omnidirectional Wi-Fi products
NO MULTIMEDIA SUPPORT	Provides up to 32 discrete WLAN networks that can be used to concurrently support IP-based video, voice, and administrative applications
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 AND 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

WE'RE **FEELING THE LOVE** FROM A MARQUEE LIST OF WORLD RENOWNED CUSTOMERS

RUCKUS MAKES THE GRADE AT ST. VRAIN VALLEY SCHOOL DISTRICT

St. Vrain Valley School District, located thirty miles north of Denver, is one of the largest school districts in Colorado. St. Vrain services 13 communities via 26 elementary, 10 middle, and 9 high schools spanning across 411 square miles. Comprised of 27,000 students and 4,000 faculty members all accessing 10,000 network devices, including 3,500 laptops.

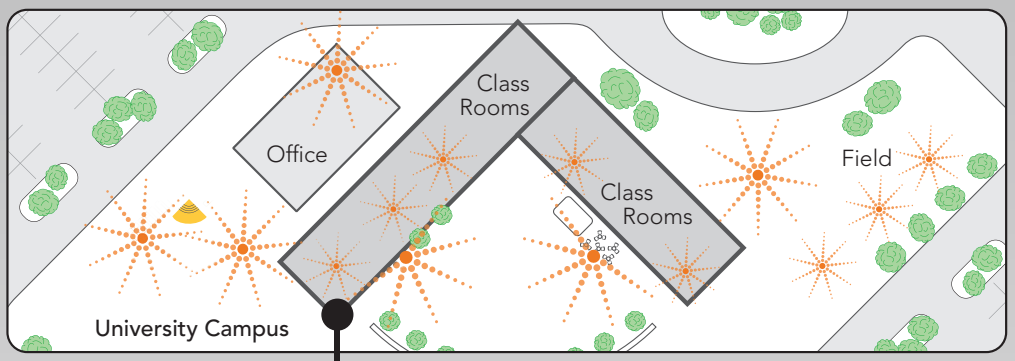
St. Vrain understood that in order to elevate both the learning and teaching experience they would need to create an untethered and ubiquitous wireless experience, vastly improving upon their deficient pre-existing WLAN infrastructure. This would be no 'easy A' given the school district's expansive size, limited budget, and overtaxed IT staff.

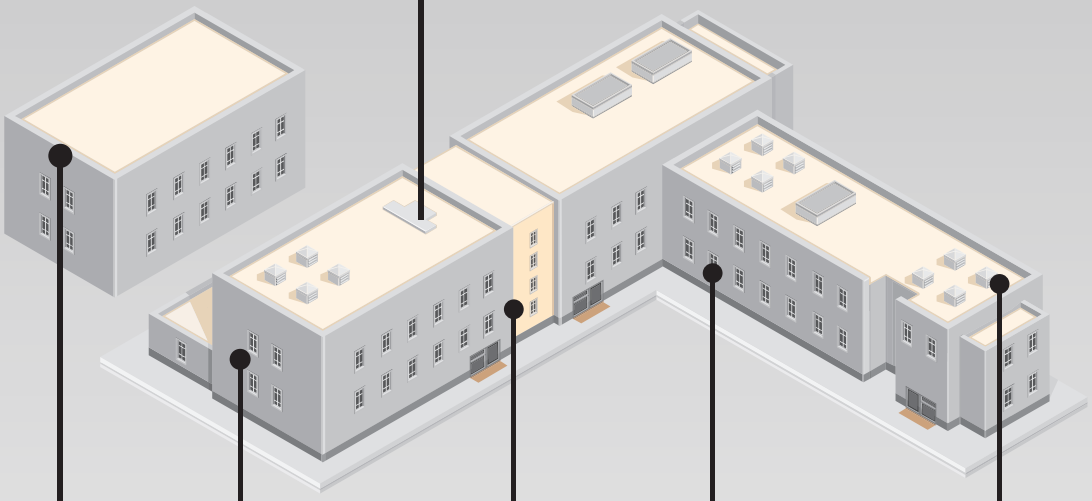
Many of St. Vrain's buildings were RF challenged. One middle school's science lab was — and still is surrounded by metal materials and electrical equipment, making Wi-Fi signal propagation virtually impossible. Their new WLAN would have to pass some big tests...and Ruckus did. During one stress test, 60 concurrent devices where connected to one access point (AP). All were simultaneously streaming video from two classrooms — and never lost signal.

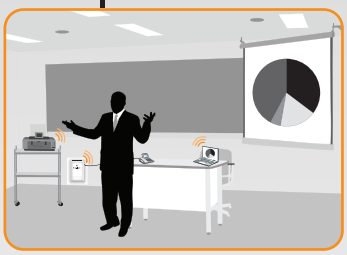
St. Vrain replaced their prior Cisco WLAN infrastructure with a Ruckus 802.11n WLAN consisting of 657+ ZoneFlex dual-band indoor APs (ZF7962/ZF7363), 34 ZoneDirector controllers (1000/3000) with Smart OS, and FlexMaster centralized Wi-Fi management.

RUCKUS SMART WI-FI DELIVERS
EDUCATION'S MOST FLEXIBLE DEPLOYMENT OPTIONS

Internet Access • Multimedia Services • VoIP • IP VOD • IPTV Streaming
Guest Networking • Staff Administration • Outdoor Events

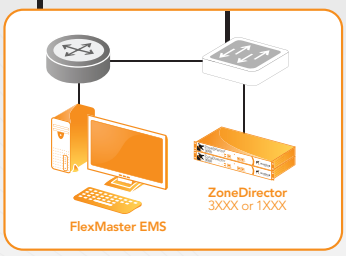






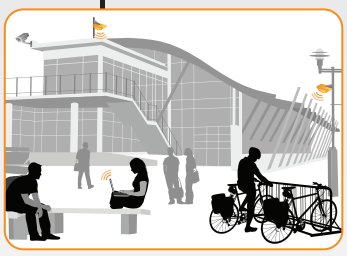
Many AP options — deployed with or without controller

Adaptive antenna technology and airtime fairness for high density areas

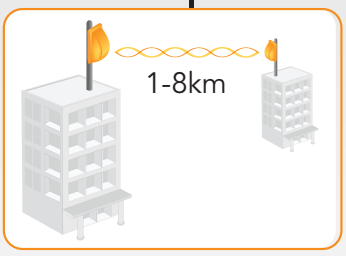


Controllers out of the datapath — deployed onsite or offsite

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

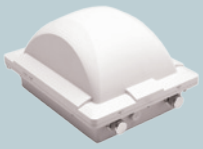
RUCKUS (REALLY) SMART WI-FI PRODUCTS

ZoneFlex 7962
Indoor dual-band, two-port 802.11n AP with integrated smart antenna array and PoE (802.3af) support

ZoneFlex 7300
Indoor single- and dual-band, three-port 802.11n AP with integrated smart antenna array and PoE (802.3af) support

ZoneFlex 2942
Indoor single-band, two-port 802.11b/g AP with integrated smart antenna array and PoE (802.3af) support

ZoneFlex 7025
Indoor 802.11n wall jack with five ports of Ethernet



ZoneFlex 7762
Outdoor dual-band, two-port 802.11n AP with integrated smart antenna array and PoE (802.3at/af) support

ZoneFlex 2741
Outdoor single-band, one-port 802.11b/g AP with integrated smart antenna array on PoE (802.3af) support

ZoneFlex 7731
Outdoor long-range, point-to-point 802.11n 5GHz bridge

FlexMaster
Linux-based remote Wi-Fi system management software

ZoneDirector Controllers
Central wireless LAN controllers supporting from 6 to 500 Ruckus APs

ZoneSwitch 4000
Fully Managed 12/24 port Layer 2 Gigabit Smart Switches with 802.3af/at PoE

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