

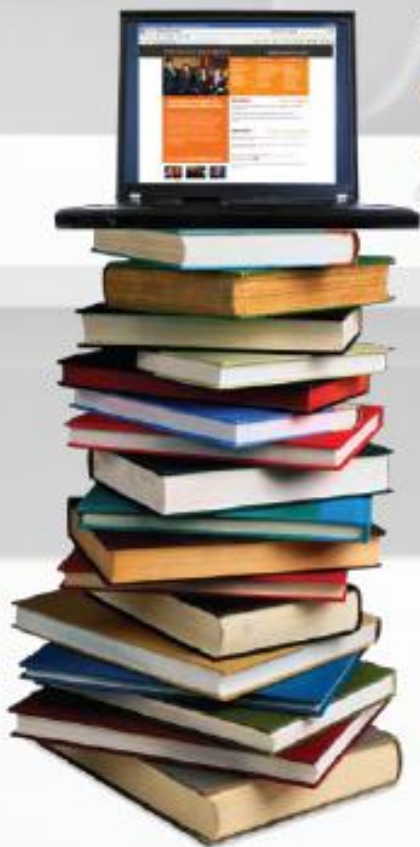
Taking Wi-Fi Where It's
Never Been Before



Reliable Wi-Fi

has become a **required course**
of action

for schools looking to foster the learning
experience, remain technologically relevant,
and increase operational efficiencies.



But
cost,
complexity and
limited IT resources have
hindered progress.

Until now.



Less Equipment, Better Wi-Fi: Campus Wide

With limited budgets and minimal IT staff, educational institutions need a new approach to deploying a ubiquitous Wi-Fi network. Ruckus Wireless Smart Wi-Fi is the first wireless technology to give schools a robust and centrally-managed Wi-Fi infrastructure, complete coverage and consistent performance at the lowest total cost of ownership. A fraction of the cost of alternatives, the Ruckus ZoneFlex Smart WLAN system uses patented signal steering and smart wireless meshing to change the economic model for WLAN deployment. Now school districts can build reliable Wi-Fi networks using fewer access points, fewer Ethernet drops and fewer dollars.

"With this many schools and a limited IT staff, our wireless environment needs to be robust but more importantly, simple to deploy and easy to manage."

— Steve Cardwell
District Superintendent
Delta School District



Dependable Wi-Fi Connectivity

Each Ruckus ZoneFlex Access Point (AP) integrates a high-gain, directional smart antenna array that automatically steers signals around interference to keep packet loss low and performance high. Wi-Fi signals are focused only where needed to provide unprecedented range. Our patented BeamFlex™ technology directs signals toward associated clients, picking the best performing path and constantly routing signals around interference as it is encountered. This ensures the Ruckus unprecedented reliability not offered by any other Wi-Fi system.

More Efficient and Safer Use of Wi-Fi

The Ruckus ZoneFlex system is the only "eco-friendly" Wi-Fi solution that makes efficient use of the unlicensed spectrum by not broadcasting Wi-Fi signals in all directions. Adaptive signal technology directs Wi-Fi signals only toward users requesting Wi-Fi service and away from others. This eliminates needless interference with neighbors and allows a safer environment.

Killer Coverage: Here, There, Everywhere

Universities, colleges, primary, and secondary 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 state-of-the-art, high-gain directional antenna arrays. ZoneFlex delivers two to four times the coverage using fewer APs. Schools can now take Wi-Fi to places where it's never been before — simply and easily.

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 meshing networking, allowing schools to easily add Wi-Fi by simply plugging them in to a power outlet. This eliminates Ethernet cabling and expense.

Strong Wi-Fi Security, Simple to Administer

Educational organizations want strong security that is easy to administer and manage. Now they have it. In addition to supporting standard 802.1x, WPA (PSK) and WPA-2 (AES) security, the patent-pending Ruckus Dynamic Pre-Shared Key technology automates the process of configuring wireless settings and encryption keys on every laptop. Upon successful authentication to the wired network, the ZoneDirector automatically generates a unique 63-byte encryption key and installs this key and the requisite wireless setting on each end device. This unique encryption key can be set to expire at a certain time for that specific laptop.

One System, 32 Networks

Schools have many different constituents — from faculty to administrative staff, and students to visitors — each of which has their own Wi-Fi needs. All ZoneFlex Smart Wi-Fi APs support up to eight discrete SSIDs, while the ZoneDirector controller supports up to 32 WLANs, each of which can be configured with a discrete set of user parameters and security settings (e.g., encryption or user thresholds). From a single management point, IT administrators can easily add SSIDs across the entire system to support specific traffic types (e.g., voice, video, etc.) or user groups. The result is a single, robust WLAN acting as a ubiquitous utility for everyone.

“...Ruckus has not only the financial and technology metrics, but also hit the business needs right over the top of the head at the right price point.”

— **CRN** Emerging Vendors, June 2008

No Cumbersome Configuration or Deployment

Configuring and deploying new Wi-Fi equipment in a school can be highly disruptive. IT staff can't be expected to understand how building materials, landscaping, obstacles and other hostile RF sources will affect the performance of their network, and dictate where APs must be deployed. ZoneFlex addresses these problems with ground-breaking new technologies like smart meshing and adaptive beam steering. Install fewer APs virtually anywhere with less cabling. There's no need to continually perform costly and cumbersome

site surveys: IT staff can easily configure the entire WLAN by clicking through a few screens. Wireless LAN deployment in hours, not days.



Located outside of Vancouver BC, Delta School District operates 33 K-12 schools occupying more than 2 million square feet.

Unhappy with the spotty coverage, inconsistent performance and high-cost offered by their existing system, Delta turned to Ruckus Wireless and the ZoneFlex Smart WLAN system. Delta is deploying Ruckus ZoneFlex 802.11g and 802.11n access points and ZoneDirector controllers or, just standalone APs, in its 33 schools.

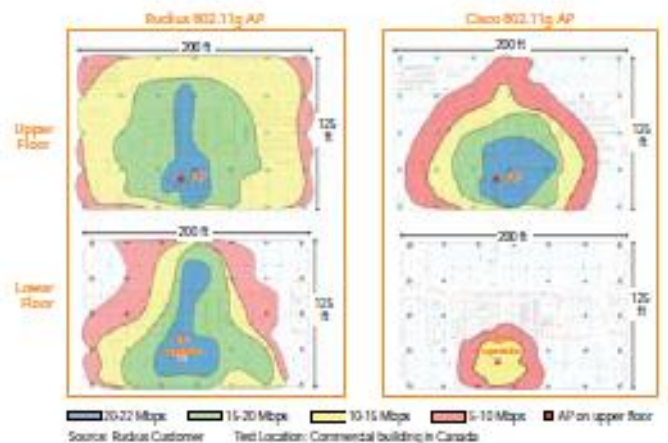
Delta chose the Ruckus ZoneFlex solution because it allowed fewer APs to be deployed and integrated smart meshing — making the extension of Wi-Fi services where no Ethernet exists extremely simple — and was approximately 70 percent the cost of alternative WLAN systems.

For its 33 schools, Delta is deploying only 150 ZoneFlex 802.11g APs, 84 ZoneFlex 802.11n APs and 30 ZoneDirector controllers. Delta is also using FlexMaster to manage both the discrete APs and the ZoneDirector WLANs from its school board office. Support for voice, extended range, ease of use and consistent performance made the ZoneFlex system a simple choice.

ZoneFlex Smart WLAN System At-A-Glance

Products	Description
 <p>FlexMaster System</p>	Remote Wi-Fi device management and managed service platform.
 <p>Smart O/S</p>	<p>Smart Wi-Fi application engine for Ruckus ZoneDirector controllers</p> <ul style="list-style-type: none"> - Guest networking - Smart mesh networking - RF management - Sophisticated security - Advanced authentication
 <p>ZoneDirector Controllers</p>	Central WLAN controllers supporting 6 to 500 Ruckus ZoneFlex APs
 <p>ZoneFlex 7962</p>	Dual-band 802.11n Smart Wi-Fi AP with dynamic beamforming and PoE (802.3af) support
 <p>ZoneFlex 7942</p>	Single-band, two-port 802.11n wall/ceiling mounted Smart Wi-Fi AP with PoE (802.3af) support and integrated dynamic beamforming
 <p>ZoneFlex 7942OT</p>	Single-band, one-port 802.11n outdoor Smart Wi-Fi AP with dynamic beamforming and PoE (802.3af) support
 <p>ZoneFlex 2942</p>	Two-port 802.11g wall/ceiling mounted, Smart Wi-Fi AP with PoE (802.3af) support and dynamic beamforming
 <p>ZoneFlex 2741</p>	Single-band, one-port 802.11b/g outdoor Smart Wi-Fi AP with dynamic beamforming PoE (802.3af) support

Consistent Performance at Range: Wi-Fi Comparison



Problem	Ruckus Smart Wi-Fi Solution
Spotty coverage	High-gain smart antenna system extends Wi-Fi signals two to four times farther
Unstable Wi-Fi connectivity	Patented BeamFlex technology continuously picks the best and highest performing signal path for each Wi-Fi client device
Extending Wi-Fi to areas without Ethernet	Provides long-range meshing that enables Wi-Fi signals to be extended without Ethernet drops
Complex installation	Entire WLAN configures in minutes; APs self-configure by automatically discovering the controller
No multimedia support	Patented BeamFlex and Smart Cast deliver flicker-free video and crystal-clear voice transmissions
Too many APs to manage	Requires one-third to one-half the number of APs over conventional omni-directional Wi-Fi products
No tiered services	Up to 32 discrete WLAN networks supported by the Ruckus WLAN controller
Remote management	From a single network operation center, Ruckus Smart Wi-Fi systems can be remotely configured and managed
Guest management	Easy-to-generate guest passes, and user terms and conditions



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