BROCADE 802.11n WLAN SOLUTIONS

CAMPUS NETWORK

Enabling the Pervasive Wireless Campus for K-12 Schools

HIGHLIGHTS

- Provides the foundation for pervasive wireless campus deployments at K-12 schools
- Enables flexible authentication and access control to protect student and staff information
- Permits robust outdoor WLAN deployments for secure IP video surveillance and staff communications
- Enables real-time rogue detection and identification, management, and countering of wireless intrusion
- Optimizes wireless network performance for dense deployments in indoor areas
- Provides increased wireless capacity for high-bandwidth educational applications, such as streaming video and one-to-one learning

Teachers at K-12 schools are increasingly leveraging the Internet to enrich the learning experience for today's students. Many teachers, for example, now administer tests online and use Webinars and podcasts to disseminate supplemental information on a wide range of subjects. In addition, teachers have begun posting assignments, grades, and study guides online, helping to ensure student success.

Growing up in a wireless world, many students expect "anywhere, anytime" access to information. Today's tech-savvy high school students, for example, can watch a chemistry demonstration in the lab or a Webinar on a laptop—or listen to a podcast on a mobile device. As time goes on, students and teaching staff are seeking ways to access and view information from anywhere on campus, leading to greater expectations for wireless connectivity both inside and outside the classroom.

Brocade® Mobility enterprise Wireless LAN (WLAN) solutions, featuring support for 802.11n-based wireless networking, can help K-12 districts efficiently meet these requirements while containing costs and laying the foundation for future growth. Fully integrated with Brocade wired campus networking solutions, Brocade Mobility solutions enable K-12 schools to unify their wired/wireless communications, providing a seamless edge networking infrastructure to support next-generation applications that enrich the educational experience.

Brocade campus networking solutions include:

Brocade Mobility wireless controllers

Brocade Mobility access points

Motorola AirDefense Enterprise Appliances for Brocade Mobility

Brocade FastIron® CX Series

Brocade FastIron GS Series

Brocade FastIron WS Series

THE PERVASIVE WIRELESS SCHOOL

By leveraging best-in-class wireless networking technologies, primary and secondary (K-12) schools can meet demands for greater performance and mobility by enabling pervasive wireless networking across the entire campus. High-performance 802.11n WLAN networks allow the reliable delivery of high-speed wireless voice, video, and data inside buildings as well as throughout the school facilities, providing support for applications that greatly improve the learning environment, campus security, and the overall productivity of the teaching staff— while providing value-added services that strengthen communications with both students and their parents.

Flexible Learning Styles

Modern teaching styles and learning applications place greater emphasis on multimedia features and interactivity, dramatically increasing network capacity and performance demands. The sharing of resources and the mobile nature of students, teachers, and administrators make the network requirements even more challenging. A high-speed 802.11n wireless network provides a vehicle to enhance and extend the school environment. As a result, K-12 schools can provide students online access to class and individual lessons as well as homework assignments, library services, and more—inside and outside the classroom.

Automated Asset Tracking

Wi-Fi locationing technology enables the automatic tracking of school assets—from laptop computers to expensive laboratory equipment. Now, assets can be easily located when needed, potentially reducing inventory requirements. Stolen assets are instantly visible, providing a theft deterrent that protects against equipment loss—and the resulting negative impact on K-12 school budgets.

Emergency Response and Local Law Enforcement Surveillance

School districts can leverage wireless networks to transmit critical information to local law enforcement patrolling the area. Using secure wireless video transmission with outdoor wireless coverage, schools can deliver live IP-based video surveillance to local law enforcement agency vehicles several hundred feet away from the school, helping to ensure a fast emergency response.

BROCADE MOBILITY: MAKING THE PERVASIVE WIRELESS SCHOOL A REALITY

Brocade 802.11n wireless networks are helping K-12 school districts of all sizes realize the promise of the pervasive wireless

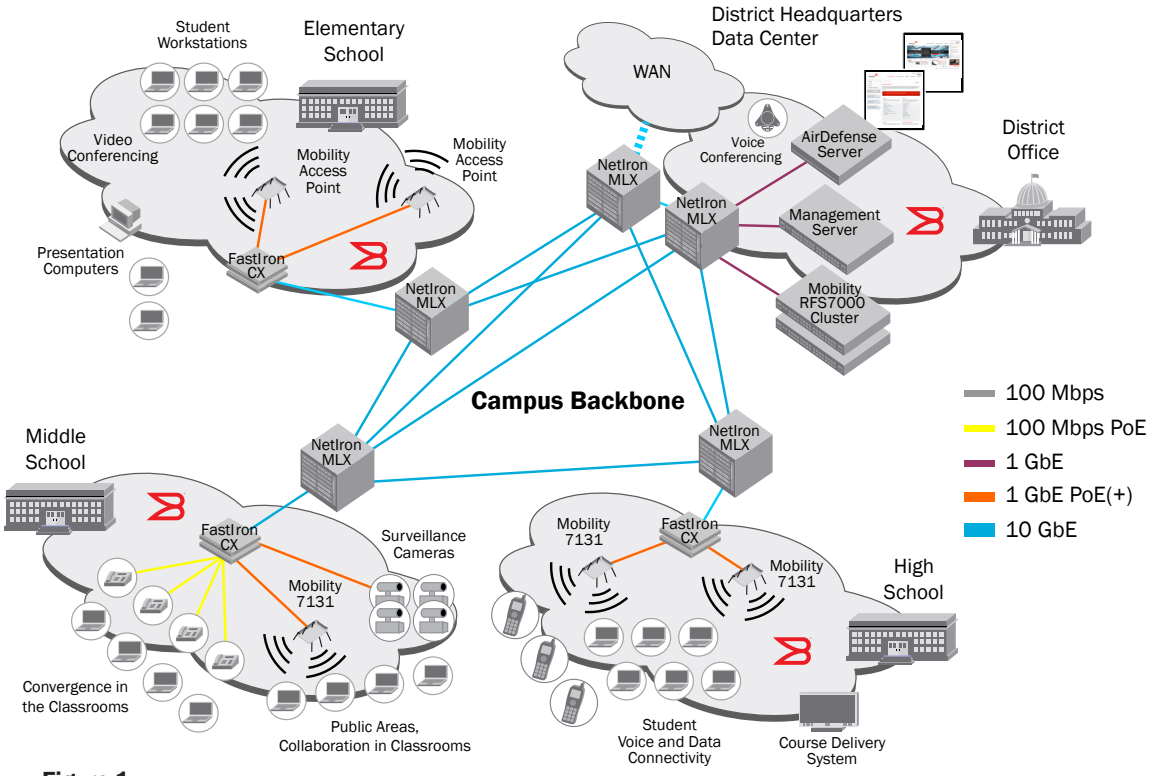

Figure 1.
Brocade campus networking for K-12 schools.

campus. With speeds up to six times the bandwidth of 802.11a/g, Brocade indoor/outdoor 802.11n wireless networks offer the performance, scalability, coverage, resiliency, and security required to enable cost-effective delivery of some of the most demanding applications.

Brocade offers the unmatched reliability and gap-free security required for successful wireless deployments in school environments. As a networking industry leader, Brocade can deliver the breadth of experience and proven, integrated wired and wireless products K-12 schools need to maximize the success of their wireless solutions.

Expansive Reach with Indoor and Outdoor Coverage

Brocade Mobility seamlessly integrates with Brocade industry-leading wired access and aggregation solutions, enabling the extension of secure and ubiquitous wireless access to every corner of the school—including in (and between) remote buildings and in sports arenas. The pervasive campus-wide connection provides students with the anywhere, anytime high-speed access they expect. At the same time, mobile communication allows teachers to move freely throughout the school—and even throughout the entire district—yet be reached immediately, further augmenting the safety and security practices at the school. In addition, schools can maintain constant video connection, helping to improve campus security and situational awareness.

Superior WLAN Performance with 802.11n

The advent of multimedia and interactive educational applications within schools has dramatically increased demands for wireless network capacity and performance. The Brocade 802.11n WLAN product family helps K-12 schools deliver high-quality mobile video and data throughout the campus. Enterprise-class Quality of Service (QoS), load balancing, and seamless Layer 3 mobility combine to provide teachers and students with a high-performance, resilient connection as they roam from classrooms to outdoor common areas, sporting arenas, and more— ensuring continuity of service for data applications.

Gap-free Security

Because schools must safeguard private information about students and staff, they often have extensive network security requirements. Schools using WLANs have the added challenge of ensuring the security of their wireless networks—from protecting network data and managing network access to blocking hackers and other intruders.

Brocade Mobility offers comprehensive best-in-class wireless security that rivals that of the wired network. A tiered approach protects and secures every point in the network—wired and wireless. This complete suite of tools includes a role-based wired/wireless firewall that provides protection against attacks and unauthorized access right at the wireless edge—including Layer 2 and Layer 3—using advanced encryption and authentication technologies.

Optimization for Dense Deployments in Indoor Areas

Many K-12 school districts require support for high-bandwidth applications in enclosed areas, such as conference rooms and auditoriums. Brocade Mobility SMART RF technology increases capacity in these dense areas by automatically self-tuning the network for optimal performance. In addition, Brocade Mobility adaptive architecture allows local traffic such as video streams from teachers' computers to be bridged locally, eliminating potential network bottlenecks.

Interoperability

Faced with limited budgets, K-12 schools must be able to leverage their existing technology investments and ensure that new purchases will meet their requirements for years to come. Brocade standards-based wireless networks easily integrate into the existing technology environment, allowing schools to preserve their current wired and wireless networking infrastructures. Brocade Mobility controllers have the capacity and performance to make wireless convergence possible and can help reduce the time and costs required to deploy emerging WLAN services, such as telephony, CATV transport, HVAC control, and security camera services.

BROCADE MOBILITY WLAN PORTFOLIO

Wireless Controllers

Brocade Mobility wireless controllers deliver on the promise of the pervasive wireless campus for K-12 schools. They provide the performance, security, resiliency, scalability, and manageability required to deliver cost-effective centralized wireless voice, video, and data in any size campus—including a single building, large campuses spanning several acres, and entire school districts covering many miles.

Brocade Mobility RFS7000 Controller

Designed for large buildings and campuses, the Brocade Mobility RFS7000 offers a comprehensive feature set and supports 8000 to 96,000 mobile devices/users and up to 256 802.11a/b/g access ports or Adaptive 802.11a/b/g and 802.11a/b/g/n access points.

Brocade Mobility RFS6000 Controller

Designed for mid-sized facilities, the Brocade Mobility RFS6000 offers a multicore, multithreaded architecture, and supports 2000 to 20,000 mobile devices and up to 48 dual-radio 802.11a/b/g access ports or Adaptive 802.11a/b/g and 802.11a/b/g/n access points.

Wireless Access Points

Brocade Mobility access points offer flexible deployment options, whether schools are deploying a single cell site, a mesh network, or a large installation.

Brocade Mobility 7131 Access Point

The Brocade Mobility 7131 802.11a/b/g/n Access Point offers the throughput, coverage, and resiliency required to enable the truly wireless educational environment. The Brocade Mobility 7131 also enables always-on wireless intrusion protection as well as mesh networking. In addition, Adaptive AP technology enables the Brocade Mobility 7131 to be centrally managed by a switch or to act independently.

Brocade Mobility 5181 Access Point

The Brocade Mobility 5181 provides enterprise-class wireless networking for rugged, outdoor environments, and mesh networking for cost-effective extension of the network in difficult-to-cable areas, such as sports arenas. Moreover, Adaptive AP technology enables the Brocade Mobility 5181 to be centrally managed by a switch or to act independently.

Wireless Intrusion Prevention

Motorola AirDefense® Enterprise Appliances for Brocade Mobility solutions provide the industry's most powerful wireless Intrusion Prevention System (IPS). The IPS proactively protects wireless networks, mobile devices, and traffic from attacks and unauthorized access. This dedicated scanning solution provides gap-free indoor and outdoor protection for WLAN users, with 24x7 monitoring of any 802.11 network in local and distributed environments. In addition, Advanced Troubleshooting proactively identifies WLAN configuration issues that affect mission-critical applications, enabling K-12 school district IT departments to remotely address network configuration issues before they impact WLAN performance and availability.

ABOUT BROCADE

From enterprise data centers to the service provider core, Brocade develops extraordinary networking solutions that connect the world's most important information. Delivered directly and through global partners, these solutions help today's data-intensive organizations operate more efficiently and maximize the business value of their data. Learn more at www.brocade.com.

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