Motorola's Wireless
K-12 Education Solutions
Indoor and Outdoor Connectivity

Only Motorola knows wireless inside and out. Motorola is a leader in helping school districts and individual schools use broadband technology to enhance the learning experience, improve communications, comply with government mandates and tighten security.

Beyond Elementary: Enhanced MOTOwi4™ Wireless Broadband Solutions For The K-12 Segment

High-speed wireless computing is becoming an elementary element of K-12 educational environments all around the world. The Motorola MOTOwi4 portfolio is proving to be the ideal wireless infrastructure for delivering high-speed voice, video and data traffic in both individual schools and entire districts. A wi4 broadband network enables more technology enriched learning experiences that support No Child Left Behind requirements for improved instruction and higher student achievement.

MOTOwi4 SOLUTIONS

The MOTOwi4 portfolio of complementary high-speed wireless solutions provides a robust, scalable, interference-tolerant broadband infrastructure that enhances connectivity, communication, interactivity and collaboration for students, faculty and administrative leadership and staff.

MOTOwi4 solutions help school facility and district administrators successfully manage their most important challenges and make it easier to take advantage of their most important opportunities.
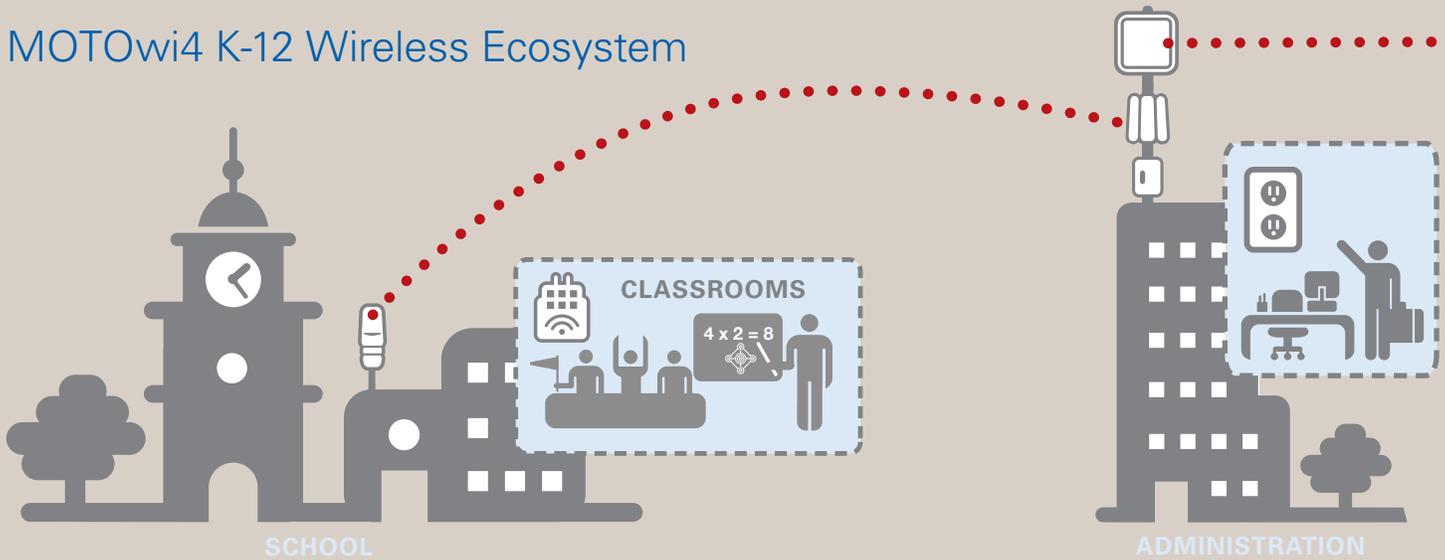
- **District-wide Connectivity.** Motorola's MOTOwi4 solutions make it easier and more affordable to provide faculty, students, parents and administrators with broadband Internet connectivity from school, from district offices and from home. wi4 wireless networks support increasingly popular VoIP (Voice Over Internet Protocol) solutions that deliver district-wide telephone service for much less than standard service.

- **Distance Learning.** In today's more open and interactive learning environment, faculty and students are using the Internet more often and more creatively. A MOTOwi4 network enables learning portals offering shared content, dedicated course Web pages, e-mail connectivity, homework management and much more.

- **Safety and Security.** In today's world, nothing is more important than protecting our children. wi4 technology enables the most advanced security applications available. These include indoor and outdoor video surveillance systems and multi-level online security applications such as firewall services, spam filtering and remote access security that help K-12 schools stay in strict compliance with the Child Protection Act and The Children's Internet Protection Act (CIPA).

- **Administrative Productivity.** MOTOwi4 wireless broadband solutions improve administrative productivity and lower costs by providing advanced applications such as online attendance programs, grading, data collection, ID verification, library services and today's powerful Course Management Systems software.

- **Contingency Planning.** To help schools and districts prepare for natural or man-made disaster situations, wi4 broadband networks enable administrations to build redundant systems and develop contingency plans. In times of crisis, these systems allow for maintaining continuous communications with faculty, staff, students, government agencies and first responders.

HOW ONE SCHOOL DISTRICT USES MOTOWI4 SOLUTIONS TO ENHANCE LEARNING

The sixth-largest Public School System in one western U.S. mountain state serves more than 33,000 students. The district is committed to providing its faculty and students with access to the latest developments in advanced learning technology, including distance learning, VoIP, streaming video and many more. With 26 elementary and one K-8 school to connect, the district looked for a reliable, secure and cost effective network with enough bandwidth to meet both present and future needs. Deeming their legacy T1 lines too slow and expensive, the district chose a wi4 Fixed point-to-point wireless network that offers carrier-grade performance, the flexibility of wireless connectivity, ten times the network capacity and savings of $350 per month per T1 line. The school system estimates that its new wi4 wireless broadband network will pay for itself in less than four years.

MOTOwi4 K-12 Wireless Ecosystem

MOTOwi4 Solutions Simplify Bringing Next-Generation Capabilities to K-12 Schools and School Districts

MOTOwi4™ solutions are the foundation of a high-speed wireless ecosystem that connects every aspect of your learning environment—inside and outside. Known for their exceptional reliability even under the most challenging conditions, wi4 solutions deliver maximum flexibility with fixed, portable, nomadic and mobile solutions. They also offer multiple layers of network security and provide a highly scalable architecture to support future growth.

• wi4 Indoor solutions:
Enterprise WLAN solutions are optimized for mobility and provide elementary and secondary school environments with secure connectivity and access at the point of activity. They enable crucial applications including asset management, high-speed connectivity, real-time video surveillance, access in classrooms, hallways, administrative offices, and other locations such as libraries, cafeterias, teachers' lounges, playgrounds and parking lots.

Broadband Over Powerline, or BPL, solutions deliver high-speed connectivity over a building's electrical system, with access as close as the nearest electrical outlet. wi4 BPL solutions support applications such as broadband access in multi-unit school buildings and administrative environments; indoor video surveillance; virtual LANS; alarming systems; energy management; and voice over IP service.

• wi4 Fixed solutions:
Point-to-Point solutions provide scalable, cost-effective licensed and unlicensed connectivity to remote locations, transmitting data with maximum reliability even in Non-Line-Of-Sight environments and under challenging conditions such as high interference and difficult terrain. Specifically, wi4 Fixed point-to-

point solutions help school districts interconnect point-to-point and monitor all facilities, and allow new infrastructure construction where fiber is unavailable.

Point-to-Multipoint solutions can operate in licensed or unlicensed frequencies, and create reliable, cost-effective connectivity between multiple facilities and locations. These systems deliver virtually ubiquitous information access, data, equipment and facilities monitoring and the implementation of highly efficient work flow systems. They also provide exceptional interference resistance in dense, noisy environments. They give you the ability to monitor remote locations, facilities and equipment, and they streamline data transmission between multiple points.

• wi4 Mesh solutions:
wi4 Mesh solutions provide scalable high-speed solutions for facility and district environments, enabling fixed, nomadic and mobile IP coverage. wi4 Mesh solutions are highly available, self-forming, self-healing networks that can provide high-speed connectivity and access capabilities in virtually any K-12 academic setting. Applications include location-based services for security staff and management teams, traffic management for busy bus stop areas, and video surveillance for increased protection of students, personnel and capital assets.

• wi4 WiMAX solutions:
wi4 WiMAX solutions use licensed frequencies point-to-point to extend broadband coverage and capabilities with a standards-based, high performance product portfolio. Products in the wi4 WiMAX portfolio provide the crucial benefits of extended IP access, and allow you to take point-to-point advantage of productive new services.

CONNECTING ONE RURAL COUNTY'S STUDENTS TO THE HIGH-SPEED FUTURE

Greene County, North Carolina, is the second-most tobacco dependent county in the nation. As revenues from tobacco production continue to plummet, the county's economy is suffering and in need of long-term economic change. To facilitate this change, officials decided to invest in countywide technology and high-speed connectivity solutions. To provide ubiquitous, affordable broadband connectivity throughout all of Greene County—officials chose a highly reliable Motorola wi4 Fixed point-to-multipoint high-speed wireless network. In the three years the network has been in operation, education results have been spectacular. Composite SAT scores have increased by more than 40 points, high school proficiency scores have grown from 53 to over 78 percent, and in 2006 more than 80 percent of the Senior Class applied to college. That's high-speed progress.

Benefits: MOTOwi4 Helps K-12 Schools And Districts Optimize Learning And Operational Productivity

- **Freedom from Wires.** MOTOwi4 wireless broadband solutions let you deploy equipment to complement and complete your existing networks wherever it is most convenient, even in areas where wiring is difficult or dangerous.

- **Monitoring.** Our wi4 indoor and remote field monitoring solutions deliver real-time problem alerts and empower technicians to monitor technology performance and perform remote diagnostics.

- **Leased Line Replacement.** Many K-12 school and district environments replace expensive T1 leased lines and leased PBX systems with more cost-efficient wi4 wireless IP connectivity that eliminates recurring expenses.

- **Digital Video Surveillance.** Our advanced video surveillance capabilities help K-12 environments enhance student, faculty and staff safety, as well as minimize loss and guard against intrusion.

- **Distance Learning and Collaboration.** MOTOwi4 wireless broadband solutions enable extended distance learning programs and provide interactive environments for collaborations between students, parents and faculty.

- **Streamlined Administration.** wi4 solutions deliver interactive efficiency that helps improve productivity and reduce costs by enabling advanced administrative applications including electronic grading, parental notification and district-wide communication.

World Leadership in Design and Deployment

As a leader in integrating disparate wireless and RF technologies, Motorola offers unsurpassed expertise in designing and deploying wireless broadband networks in virtually every type of K-12 school and district environment. We offer our customers comprehensive network management tools and support services that help them meet and master the formidable challenges of today's elementary and secondary education dynamics.

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