

# Beyond Elementary: Motorola's Enhanced Wireless Broadband Solutions For The K-12 Segment



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. The backbone of Motorola's MOTOwi4™ portfolio of next-generation wireless broadband solutions is the Canopy® wireless technology platform. Deployment of a Canopy network is one of the fastest, most reliable, most affordable ways of bringing high-speed Internet access and other learning and communications solutions to elementary and secondary schools of all sizes.



# Give Administrators, Teachers and Students the High-speed Internet Access They Need... Quickly, Simply and Affordably

The backbone of Motorola's MOTOwi4™ solutions portfolio is the Canopy® Wireless broadband network. Canopy technology provides the ideal wireless infrastructure for delivering high-speed voice, video and data traffic in K-12 schools and school districts. A Canopy WiFi network enables more technology enriched learning experiences that support No Child Left Behind requirements for improved instruction and higher student achievement.

MOTOwi4 solutions help facility and district administrators successfully manage their most important challenges and facilitate 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. Canopy 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 Canopy WiFi 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. Canopy technology enables advanced security applications, including video surveillance and online security systems—including firewall services, spam filtering and remote access security—that help schools stay in strict compliance with the Child Protection Act and The Children's Internet Protection Act (CIPA).
- **Administrative Productivity.** A Canopy WiFi network helps 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.** In the event of a Katrina-like disaster situation, a Canopy broadband network enables school districts to build redundant systems and develop contingency plans for maintaining continuous communications with faculty, staff, students, government agencies and first responders.

## THE CANOPY PLATFORM ENABLES NETWORK DEPLOYMENT IN DAYS, NOT WEEKS OR MONTHS

Canopy technology allows elementary and secondary schools and school districts to take the fast track to designing and deploying a system-wide broadband network. Unlike DSL or cable networks, a Canopy system requires no costly and time-intensive wiring, cabling, drilling or digging. A Canopy high-speed network or extension can be installed easier and faster than virtually any other option, and with a minimum of disruption to the school day.

# MOTOwi4™ Solutions Simplify Bringing Next-Generation Capabilities to K-12 WiFi Networks



The MOTOwi4 portfolio offers many of the broadband industry's most advanced, most reliable and most affordable solutions, leveraging a number of leading edge Motorola products, including:

- **Canopy® Wireless Broadband Platform.** Canopy Wireless broadband networks provide a powerful, cost-effective infrastructure that integrates seamlessly into your individual school or district-wide high-speed networks, offering exceptional benefits, including:
  - **Proven Reliability.** The Canopy system is a robust, high-speed wireless solution now successfully deployed in more than 100 countries. Canopy equipment provides the power and reliability demanded by today's sophisticated K-12 applications.
  - **Configuration Flexibility.** A Motorola wireless broadband network offers a variety of configuration options that include: the point-to-point series of wireless Ethernet bridges, Canopy point-to-multipoint Access Points and Subscriber Modules and mesh wireless broadband networks. These networks allow learning to take place not just in the classroom, but also after school, at home and in neighborhoods and communities. Canopy systems are easily compatible with legacy wired or wireless networks.
  - **Affordability and Accessibility.** A Canopy network is one of the industry's most affordable, most cost-effective WiFi solutions, with exceptionally attractive entry and network expansion costs. Canopy networks make it easier to demonstrate measurable return on investment in the assessment and evaluation process. In addition, a Canopy network helps to equalize academic opportunities for schools located in rural or underdeveloped area.
  - **Interference Resistance.** The Canopy system provides an industry leading low Carrier-to-Interference (C/I) ratio. Its unique signal synchronization offers a high-level of tolerance to self-interference in dense educational environments.
  - **Bandwidth Capabilities.** Canopy technology supports the bandwidth intensive requirements of learning applications from streaming video to VoIP to Course Management Systems software. Prizm, the MOTOwi4 Element Management System (EMS), provides bandwidth management that enables crucial traffic prioritization.
- **HotZone™ Duo.** HotZone Duo is a powerful dual-radio wireless broadband network solution designed to offer all types of K-12 environments the flexibility needed to meet both short-term and long-range goals. Some districts need a dual-radio system today. Others need only a single-radio system at present, but want the flexibility to upgrade to a dual-radio network as broadband demand increases and expands. HotZone Duo provides that flexibility and scalability quickly, simply and cost-effectively.
- **Broadband Over Powerline (BPL) Solutions.** Motorola's Powerline MU BPL solution helps school districts quickly and easily bring plug-and-play high-speed broadband access to administrative offices and other multi-unit locations. Powerline MU transforms a building's existing electrical system into a powerful broadband communications network, eliminating costly and time-consuming drilling, wiring and cabling.
- **Internet Security Solutions.** Computer technology that allows children to reach out to new sources of knowledge and cultural experience also leave them vulnerable to exploitation and harm. Through DES and AES over-the-air encryption standards, Motorola's Canopy system helps school administrators enforce acceptable use policies and provide safer environments for student Internet surfing. Canopy technology offers multiple layers of security that protect classroom and lab computers from viruses, spy ware and other malicious software.
- **Video Surveillance Security Solutions.** In today's ever-changing world, personal safety, premises and property protection, systems security and public safety are among the highest priorities for schools of all sizes. A high-speed Canopy network enables state-of-the-art IP-based video surveillance solutions that are rapidly becoming the security system of choice worldwide. Applications include remote monitoring of perimeters, parking lots, entry points, district offices and other hard to reach and heavily used locations.

# How One School District is Using a Canopy® Network to Enhance the Learning Experience

## **Western State Public School System: "Commitment to advanced learning technology."**

This mountain-state Public School System is the sixth largest school district in the state with 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 too expensive, the district chose a Canopy point-to-point wireless network that offers carrier-grade performance, the flexibility of wireless connectivity and savings of \$350 per month per T1 line. The new Canopy wireless broadband network is estimated to pay for itself in less than four years.

## Connecting the Unconnected: The MOTOwi4™ Platform

Motorola has been a global leader and innovator in wireless technology for over 75 years. Our expertise at "connecting the unconnected" has literally been proven all around the world. MOTOwi4 is a portfolio of innovative wireless broadband solutions that create, complement and complete IP networks. Delivering IP coverage to virtually all spaces, the MOTOwi4 portfolio includes Fixed Broadband, WiMAX, Mesh and Broadband Over Powerline solutions for private and public networks.

For more information about Motorola's Canopy and MOTOwi4 high-speed connectivity solutions for the K-12 environment, contact your Motorola distributor, call us at 1.800.795.1530 or 1.866.515.5825 or visit us on the Web at [www.motorola.com/canopy](http://www.motorola.com/canopy).



Sharp Communication, Inc.  
3403 Governors Drive  
Huntsville, AL 35805  
256.533.2484  
[www.SharpCom.com](http://www.SharpCom.com)



Motorola, Inc. 1299 E. Algonquin Road, Schaumburg, Illinois 60196 U.S.A.

MOTOROLA and the stylized M Logo are registered in the U.S. Patent and Trademark Office. All other products or service names are the property of their registered owners.

© Motorola, Inc. 2006

The MOTOwi4 logo, with "MOTOwi" in red and "4" in a larger red font, all in a stylized font.

The Canopy logo, featuring the word "CANOPY" in blue capital letters with a blue arc above it, and "Motorola Wireless Broadband Platform" in smaller text below.