



Motorola

Municipal Wireless Networks

wi4 Mesh and wi4 Fixed

Seamless Connectivity for the Way We Live

People expect to harness the power of the Internet quickly and efficiently not only at home, but everywhere they go via equipment they place on their lap, hold in their hand, loop around their ears, embed in their automobiles, or in ways we can't yet imagine. Cities across the United States have embraced Motorola's technologies to help make broadband Internet access available to their residents, businesses, and municipalities.

Definition

Also known as metro WiFi, municipal wireless broadband solutions provide the speed and coverage to help governments, first responders, residents and businesses share, connect and communicate at any time. These solutions are deployed through an architecture that delivers dedicated, mobile, broadband access to diverse municipal agencies on licensed 4.9GHz and unlicensed 2.4GHz spectrum, while also providing WiFi access to the public.

Guarding the U.S. Coast

The U.S. Coast Guard needed to interconnect sensors used by Project Hawkeye to monitor waters as it sought to protect U.S. interests in the Port of Miami. In other words, it needed a way to connect sensors where there were no wires. So, the Coast Guard deployed the Motorola PTP 400 Series point-to-point wireless Ethernet bridges over 23 miles of South Florida coastline. "We were in need of a solution that could provide us with high-bandwidth without compromising reliability," said Lt. Rhett Rothberg, U.S. Coast Guard.

With its municipal wireless solutions, Motorola is uniquely positioned to deliver ubiquitous connectivity, as well as broadband mobility, across vast areas at speeds that enable powerful applications, including Voice over IP (VoIP), wireless video solutions, online gaming, mobile TV, personalized infotainment, and more. Perhaps most importantly, these technologies can also provide municipalities with a new blanket of public safety and efficiency, as well as meeting the need for public access.

Key Benefits of the Wireless Community

- Helps spur economic development in isolated or under-served areas
- Enhances public safety via police, fire department, first-responder connectivity
- Supports increased efficiency with always-on connectivity between government workers and the Internet
- Scalable and flexible network configurations are cost-effective and deliver a high return on investment (ROI)
- Reliable and rugged to deliver a low total cost of ownership and lower telecom costs to taxpayers

Key Products

Canopy® Wireless Broadband Platform – This radio is the ideal technology for developing, enhancing and extending advanced broadband networks and services, and for making delivery of high-demand technologies like broadband Internet access, VoIP, video services, security surveillance and E1/T1 capabilities much faster and at a lower cost.

Prizm Element Management System – This management system for MOTOwi4™ Canopy© Wireless Broadband platforms, Point-to-Point wireless Ethernet bridges, and Broadband over Powerline MU systems empowers operators of both large and small networks to gain greater control, enhanced functionality and flexibility and significantly improved cost-effectiveness. Prizm combines operations management tools with subscriber authentication and bandwidth management capabilities in a single server platform.

Fixed Point-to-Point (PTP) Series – These radios create wireless Ethernet bridges that enable enterprises, carriers, Internet service providers (ISPs) and municipalities to easily connect expansive IP networks to form a cohesive system. Delivering an outstanding ROI and superior performance, the PTP products possess exceptional interference mitigation techniques, multiple layers of security and can transmit across long distances, over water and around obstacles.

MOTOMESH™ Solo with Mobility Enabled Access (MEA®) – This single radio mesh network provides users with a dedicated, robust mobility solution with both infrastructure and client-meshing capabilities. MEA works where WiFi won't due to the extreme interference tolerance. A MOTOMESH Solo network can improve productivity by providing high-speed data, video and location services to mobile users and field personnel.

Recent deployments include: Providence, Rhode Island; Cocoa Beach, Florida; Buffalo, Minnesota; Cedar Rapids, Iowa; and Kissimmee, Florida.

According to the "State of the Market Report" (2006) by MuniWireless.com, municipalities in the U.S. are expected to spend \$459 million in 2007 on citywide wireless networks, with large cities leading that push. Over the next two years, U.S. spending for municipal wireless networks is expected to increase 192 percent, all while municipal wireless applications evolve into a virtually limitless commodity.

Preserving the Balance

Motorola has deployed its MOTOMESH™ Duo and MOTOMESH Solo networks for municipal WiFi connectivity in the city of Kissimmee, Florida. In addition to providing public access, the network benefits Kissimmee's government agencies, utilities workers and first responders. "As the fourth fastest growing county in the nation, we sought to maintain [Kissimmee's] positive historical character as well as support Kissimmee's escalating economic vitality," said Maria Grulich, leader of the county's economic development department. "Using Motorola's technology, we can do both without upsetting the delicate balance between preserving the city's past while progressing into the future."

MOTOMESH™ Duo – A high-performance, meshed WiFi solution, MOTOMESH Duo is designed to meet strict cost-per-square mile and ROI targets. Available in single or dual radio configurations, it leverages Motorola's field-proven, MeshConnex™ routing engine and MeshManager™ element management system to meet the challenges of demanding multi-use networks. Its small size, minimal visual impact and low-power consumption increases mounting location flexibility while achieving high community acceptance.

Recent deployments include Apopka and Kissimmee, Florida; the 2007 Pan American Games, Brazil; and the China Education and Research Network.

MOTOMESH™ Quattro - This multi-radio broadband solution combines 4.9 GHz licensed mobile broadband radios and unlicensed WiFi radios into a single access point. The MOTOMESH Quattro solution enables truly distinct wireless broadband networks to operate over a common physical infrastructure. MOTOMESH Quattro allows municipalities to serve diverse communities of interest without the risk of public WiFi users overwhelming mission critical mobile broadband users.

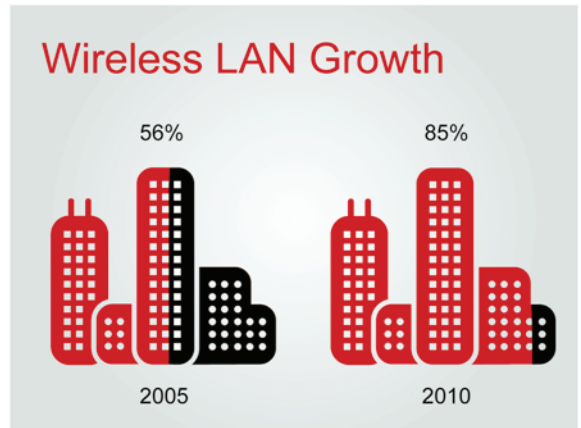
Recent deployments include Plano, Texas; Wake County, North Carolina; Riviera Beach, Florida; Los Angeles, California and Macon, Georgia.

Typical Users

Public Safety – provide dedicated mobile broadband networks with continuous, reliable connectivity that allows on-the-spot decision-making for first responders in the field to combat and prevent crime

PublicWorks – increase monitoring of vital but potentially vulnerable public infrastructure including dams, water treatment plants and other assets

Government – coordinate rapid response to emergencies or disasters; connection and coordination that streamlines the flow of vital services



The percent of North American small, medium, and large organizations deploying wireless local area networks (WLANs) will increase from 56 percent in 2005 to 85 percent in 2010. – Infonetics Research, October 2006

Campuses and Enterprises – improve productivity; promote communication, information sharing and collaboration; tighten security and increase safety; and improve employee and customer relations

City Residents and Visitors – bring ubiquitous community access bridging the digital divide; spurring economic development and creating tomorrow's wireless cities today

Empowering Personal Broadband Revolution

Municipal wireless is part of Motorola's MOTOwi4™ comprehensive portfolio of wireless broadband solutions and services that deliver and extend coverage. With this unique portfolio comes an innovative end-to-end solution. Delivering IP coverage to virtually all spaces, MOTOwi4 includes wi4 Mesh, wi4 Fixed, wi4 WiMAX, and wi4 Indoor solutions for private and public networks. All of the MOTOwi4 solutions complement each other and can be deployed to meet the specific requirements for public and private networks.

For more information on MOTOwi4 solutions, visit www.motorola.com/motowi4

Lowering Crime

In Ripon, California, Motorola's MOTOMESH™ Solo network carries wireless broadband data, including real-time, high-resolution, full-screen video transmitted from surveillance cameras located throughout the city. The data delivered through the network enhances the police, public works and fire department's ability to simplify and improve on-scene deployment and coordination. "We have the lowest crime rate in San Joaquin County and I don't think it is by accident," said Ripon Police Chief Richard Bull.



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