



Motorola

wi4 Fixed



Definition

Fixed wireless broadband solutions provide connectivity from one fixed location to another fixed location. These solutions can operate in a single point-to-point application in which one module is exclusively paired with one other module to form an Ethernet bridge. Point-to-multipoint applications form an access network in which one access point (AP) broadcasts an Ethernet signal simultaneously to multiple customer premise equipment (CPE).

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.

Globally Proven to Bridge and Expand Broadband Networks Worldwide

When enterprises and service providers are looking for technology to develop, enhance and extend advanced broadband networks and services, Motorola has the field-proven answers. Motorola's fixed broadband solutions bring fast availability and cost-effective, reliable connectivity. These solutions offer flexible options to improve coverage to meet each subscriber's demands.

Motorola's fixed broadband solutions include the point-to-point (PTP) wireless Ethernet bridges and the point-to-multipoint (PMP) Expedience® and Canopy® wireless broadband solutions.

Fixed Point-to-Point

Motorola's fixed PTP wireless Ethernet bridges deliver carrier-grade service with 99.999 percent availability and data rates up to 300 megabytes per second. Delivering superior performance, the PTP solutions possess exceptional interference mitigation techniques, multiple layers of security and can transmit across long distances, over water and around obstacles. Ethernet bridges are quickly installed and can be managed remotely, making it a cost-effective solution in the 5.8 GHz, 5.4 GHz, 4.9 GHz (public safety) and 2.5 GHz (licensed) frequencies.

Fixed PMP

The fixed PMP licensed Expedience solution is an OFDM-based, mature and proven wireless broadband access platform that offers carriers robust, indoor non-line-of-sight (NLOS) coverage and scalability from rural to dense urban environments. This IP-based solution requires significantly less infrastructure to provide indoor NLOS coverage over a given area than competing systems.

The fixed PMP Canopy systems are high-speed wireless broadband solutions for cost-effective connectivity. Used today by more than 3,000 service providers in more than 120 countries, Canopy is a scalable platform that supports high-speed broadband applications and services. And with industry-leading interference tolerance, the Canopy system enables network operators to provide reliable service using the unlicensed spectrum.

Key Benefits

Enterprises

- Rapid access to business information between locations
- Cost-effective; substantially less than cost of leased-line alternatives – no recurring monthly fee
- Wireless infrastructure to connect indoor wireless local area network (WLAN), creating a completely wireless IP network and connecting inside to outside



April 2007 – Motorola Wins Queen's Award for Enterprise in Innovation

This prestigious UK award recognizes outstanding achievement based solely on merit. The Queen and other top UK officials selected Motorola for its innovation in developing OFDM-based PTP technology to address wireless broadband connectivity at 99.999% availability – a key metric for enterprises and service providers.

Making a Difference

As one of the most wired cities in the United States, Tampa is a highly competitive market for Internet Service Providers (ISPs). Rapid Systems, founded in 1994, served thousands of customers, but was finding it difficult to differentiate itself until the company began implementing Motorola's Canopy wireless broadband system. Marketed under the name RS Air, the service has become a top seller for its speed, quality and reliability.

Solving Unique Challenges in Latin America

Service providers in Latin America need scalable technologies to serve rural markets, island nations and huge modern cities. Eu-tel, Inc., a government-owned company that provides telecommunication services to the people of the island of St. Eustatius in the Caribbean, needed a solid foundation for future network expansion across the region. "We are impressed with the portability, mobility and scalability features of the Expedience system, and simply amazed by the advanced fully integrated base station technology," said Gerald Berkel, Eu-Tel Managing Director. "The portability and mobility features allow us to expand our Internet service out into the harbor, delivering easy access to the many tourist yachts that frequent our shores."



Service Providers

- Complement existing broadband network to reach customers in new territories, whether adjacent to an existing network or a completely new region
- Offer wireless broadband services to existing subscribers currently using dial-up; alternative to other equipment like DSL and cable
- Extend network geography into new, under-served areas
- Rapidly mass-deployed, value-based broadband
- Platforms optimized for residential voice and data services
- Platforms suited for developing countries and markets where maximizing coverage is critical
- Robust, easy to install, highly scalable infrastructure
- Proven business models
- Vehicular mobility for public safety and mass market mobile hot spots (*)
- Superior link budget – fewer cells for lower CAPEX and OPEX (*)
- Plug and play subscriber units, no truck-rolls, no drivers to load (*)

(*) Specific to the Expedience family of solutions.

Typical Users

Wireline Operators – extend current networks, compete in new geographies, add to existing subscriber base

Internet Service Providers – become a network operator, enable growth in new geographies, expand services offering to include broadband and provide voice services as an option to customers

Agriculture – enable tracking and collecting of data including tree counts and weather conditions from crop fields in multiple counties at a central office; extends a network out to the field

Education – increase speed of information sharing between a central college location and its satellite campuses; they own their own network

Entertainment – increase ad revenue by building more ad space via wireless, high-speed connectivity to digital signage; goes where there are no wires today

Residential – give user the ability to connect to the Internet for web browsing, data transfer and Voice over IP services (VoIP).

Key PTP Products

- **PTP 100 Series** – This series of radios makes use of Motorola's proprietary technology to deliver high-speed bandwidth across distances of up to 35 miles at consistent data rates.
- **PTP 400 & 600 Series** – This series of radios enables users to achieve greater throughput at distances of up to 124 miles, using wireless Ethernet bridges that can deliver 99.999 percent availability in even the most challenging environments. At short distances, speeds of up to 300 Mbps are possible.

Key PMP Products

- **Canopy** - These radio systems provide high-speed access for business and residential applications in the unlicensed spectrum.
 - **Canopy Advantage™** - These radio systems bring higher throughput and lower latency, enabling broadband providers to offer premium services wirelessly, such as voice over IP and video as an alternative or extension to DSL, cable or T1/E1 services in the unlicensed spectrum.
 - **Canopy Lite** - These subscriber modules are designed for mass deployment, converting dial-up subscribers to broadband
- **Expedience** – This OFDM-based end-to-end solution is a proven nomadic wireless broadband access platform that provides robust non-line-of-sight (NLOS) coverage indoors, as well as scalability from rural to dense urban environments worldwide.

Empowering Personal Broadband Revolution

Fixed broadband solutions are part of Motorola's MOTOwi4™ comprehensive portfolio of wireless broadband solutions and services that deliver and extend connectivity. With this unique portfolio, enterprise and service provider network operators are able to provide connectivity to any person, any place, anytime. Delivering IP coverage to virtually all spaces, MOTOwi4 also includes wi4 Mesh, wi4 WiMAX, and wi4 Indoor solutions for private and public networks. All of the MOTOwi4 solutions enable network operators to create, complement, and complete cost-effective, reliable IP networks.

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



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