The Next Generation Mesh Solution that Doubles the Flexibility of Municipal WiFi Networks

MOTOROLA

MOTOMESH Duo is a powerful, next-generation, two radio meshed network. Part of Motorola's leading-edge MOTOwi4 portfolio of products, it's designed to give providers of high-speed public access and public safety networks the flexibility needed to meet performance, capacity and ROI goals.

Meet Your Business Case by Increasing Your Capacity, Throughput and Profitability

Municipalities and service providers are increasingly striving to facilitate economic development, increase public safety, and forge stronger communities with Metro WiFi networks. Motorola's MOTOMESH Duo meshed WiFi solution was designed to deliver high quality data, voice and video applications to meet the business cases for communities of all sizes.

MOTOMESH Duo network are designed for the demanding performance and economic realities of today's Metro WiFi marketplace. With multiple radio configuration options, support for the latest security and QoS standards, and networking technology that incorporates Motorola's field-proven MeshConnex routing engine, the MOTOMESH Duo system provides the flexibility and scalability network operators need – quickly, simply, and affordably.

Configuration Flexibility. The ability to choose the best combination of meshed WiFi radios allows service providers and municipalities to cost-effectively address all of their customer's needs.

MOTOMESH Duo is available either in a single radio configuration with a 2.4GHz WiFi radio (802.11 b/g) or in a two radio configuration with an additional 5.8, 5.4 or 4.9GHz (802.11a) radio. In a single radio configuration, the 2.4GHz radio is used for both client access and node-to-node mesh links. This option is ideal for network deployments where coverage and service at a low cost is paramount. In the two radio configuration, the 5.8 or 5.4GHz radio is dedicated for node-to-node mesh traffic, while the 2.4GHz radio is used for client access. This configuration delivers increased performance and interference mitigation capabilities with lower latency than the single radio configuration.

Quality of Service (QoS). Delay-sensitive applications like video and voice services require different data priorities. MOTOMESH Duo supports IEEE 802.11e based traffic prioritization It constantly monitors node congestion, and automatically tunes its QoS parameters to optimize route selections to support latency sensitive applications.

Compact Size. Weighing less than five pounds, and about the size of a cigar box, the MOTOMESH Duo system nodes deliver mounting location possibilities that other larger units can't match. MOTOMESH Duo nodes can be installed in a wide range of locations, including light and utility poles, traffic signals, buildings and more. Slim, aesthetically pleasing designs and low profiles also help gain community acceptance.

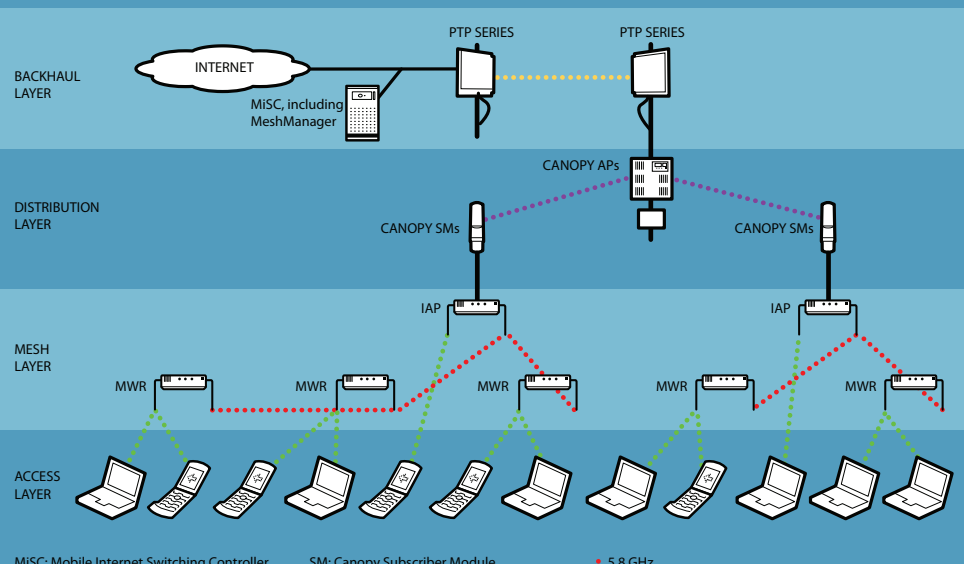
Easy to Deploy. The lightweight and small form factor means MOTOMESH Duo nodes are easy to handle. One person can install a module in as little as 15 minutes. MOTOMESH Duo networks are self-forming, so nodes automatically power up and self-integrate into the system. Built-in meshing intelligence means installers are not required to have special radio or networking training.

Affordability. In addition to outstanding performance and flexibility, MOTOMESH Duo networks also offer outstanding cost-effectiveness and remarkable affordability. Every aspect of the system is engineered to help meet stringent cost-per-mile targets and ROI (return on investment) goals.

Support for Standards-Based Voice and Video Applications. MOTOMESH Duo networks enable municipalities and service providers to establish profitable new revenue streams from in-demand voice and video services. The two radio system supports both 802.11e and 802.1p QoS standards, allowing providers to offer sophisticated fixed and nomadic video surveillance applications, as well as high quality VoIP services. In addition, the MOTOMESH Duo solution supports over-the-air software upgrades for adding new capabilities and standards. This helps protect your network investment for years to come.

MOTOMESH Duo Network

Reference Model Two Radio



Standards-based Technology that Assures Seamless High-Speed Access

Motorola's MeshConnex Networking Engine. MeshConnex is Motorola's proven high-performance routing and networking engine, successfully deployed in mesh networks around the world. MeshConnex technology delivers scalable, throughput-optimized WiFi access to users across a campus, neighborhood or entire city. MeshConnex enables self-forming, self-healing wireless broadband networks that enhance performance and reduce the cost of backhaul, deployment and system engineering. Its patented Layer 2 routing technology intelligently monitors performance, automatically solving interference problems by finding and establishing throughput-optimized connections. In addition, MeshConnex features a small code footprint that minimizes network resources, while its adaptive routing algorithm supports both large- and small-scale mobile applications.

Flexible & Adaptable Gateways. Every MOTOMESH Duo unit is capable of being a gateway node (IAP) or wireless router (MWR), reducing the cost of storing excess inventory and simplifying deployment. Additionally, gateway nodes immediately adapt to backhaul loss by becoming wireless routers, routing traffic to an alternate gateway in the network. This automatic, self-healing ability minimizes service interruptions and ensures continuous connectivity.

Advanced Network Management. MOTOMESH Duo utilizes Motorola's MeshManager Element Management System (EMS), which provides management tools to monitor and analyze network health, log events, report alarms, and set security policies. It also has a simple to use web-based device configuration interface. This can be used to change default settings for staging units prior to installation, and independently manage devices in a small network.

Carrier-Class Security. MOTOMESH Duo supports complete, end-to-end security, and provides WEP, WPA and WPA2 encryption on client access. Motorola's own SecureMesh ensures thehighest data security within the meshed WiFi network.

MeshPlanner. MeshPlanner, Motorola's advanced network design software, helps streamline the planning of reliable outdoor wireless mesh networks that deliver superior coverage, capacity and performance. Used in conjunction with a thorough site survey, MeshPlanner enables providers to optimize MOTOMESH Duo network planning based on a wide range of operational and environmental factors.

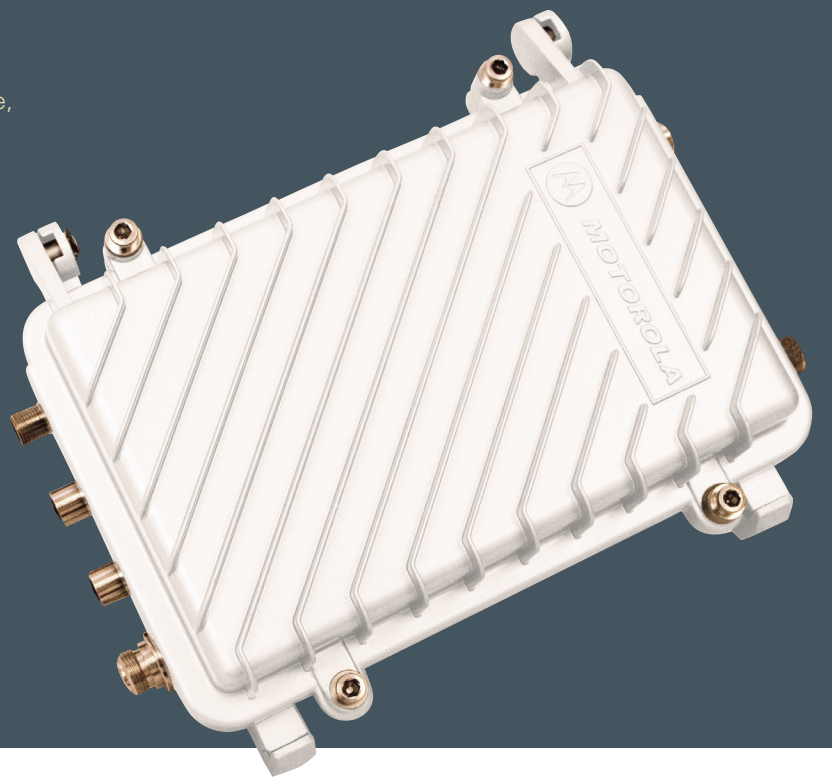
Future Ready. Standards ensure vendor choice and interoperability in the future. MOTOMESH Duo networks are designed to support the final 802.11s standard via a simple over-the-air (OTA) firmware update. Providing for future multi-vendor interoperability, MOTOMESH Duo provides powerful investment protection today.

Proven & Scalable Routing. Motorola's patented Mesh Scalable Routing (MSR) Protocol used in the MeshConnex routing engine is a patented hybrid routing approach that leverages proactive and reactive routing techniques via radio environment-aware networking. The MSR protocol is self-optimizing and delivers ultra-fast route convergence while minimizing overhead on a per node and system-wide basis.

How MOTOMESH Duo Meets the Industry Standards of Today and Tomorrow

MOTOMESH Duo networks feature exceptional radio performance, flexibility and advanced technology that's compatible with crucial industry standards:

- Two Radios - available in three radio frequency variations – 2.4GHz / 5.8GHz, 2.4GHz / 5.4GHz and 2.4GHz / 4.9GHz
- NEMA 4 environmental rating in a package that weighs less than five pounds
- Over-the-air configuration support for the final IEEE 802.11s meshing standard
- 802.11e Quality of Service (QoS)
- 802.11i (WPA2), vAdvanced Encryption Standard (AES-based), WEP and WPA (TKIP) Security
- Exclusive, MeshConnex routing with Layer 1 situational-awareness and Layer 2, hybrid proactive/reactive routing
- Support for Canopy Connect Power-over-Ethernet (PoE) or 802.3af Standard PoE device



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 how Motorola's MOTOMESH Duo broadband public access solution can connect your customers or municipality to high-speed growth and success, visit us on the Web at www.motorola.com/mesh.

MOTOwi4

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