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

MOTOROLA

HotZone Duo is a powerful next-generation dual-radio mesh network solution. Part of Motorola's leading-edge MOTOwi4™ portfolio of products, it's designed to give providers of high-speed public access networks the flexibility needed to meet short-term and long-range performance, affordability, capacity and ROI goals.

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

More and more municipalities and service providers are striving to facilitate economic development, eliminate the digital divide and forge stronger communities with Metro WiFi networks. Motorola's HotZone 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.

The HotZone Duo solution is 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 HotZone Duo system provides the flexibility and scalability network operators need. Quickly. Simply. And affordably.

Configuration Flexibility. The innovative HotZone Duo design lets you upgrade as you grow. The solution has two embedded radios: a 2.4 GHz, 802.11b/g radio and 5.8 GHz, 802.11a radio which can be configured into a single-radio or dual-radio node. Customers can choose the radio configuration that best meets their needs. HotZone Duo networks can utilize any mix of single- and dual-radio clusters. The single-radio option is ideal for network deployments where coverage and service at a low cost is paramount. The dual-radio configuration delivers increased performance and interference mitigation capabilities with lower latency than the single-radio version. In either configuration, HotZone Duo offers robust, scalable and cost-effective wireless broadband services to residential, business and municipal users.

Support for Quality of Service (QoS). The HotZone Duo system supports the 802.11e standard, enabling it to prioritize traffic types and individual VLANs. This capability makes HotZone Duo one of the only mesh networking solutions to offer carrier class voice and video prioritization, providing robust wireless Voice over IP (VoIP) and streaming video applications. The HotZone Duo system also supports IEEE 802.11p standard for QoS integration into existing wired networks.

Compact Size. Weighing less than five pounds, and about the size of a cigar box, the HotZone Duo system nodes deliver mounting location possibilities that other larger units can't match. HotZone Duo nodes can be installed in a wide range of locations, including light and utility poles, traffic signals, buildings and more. Aesthetically pleasing slim designs and low profiles also help gain community acceptance.
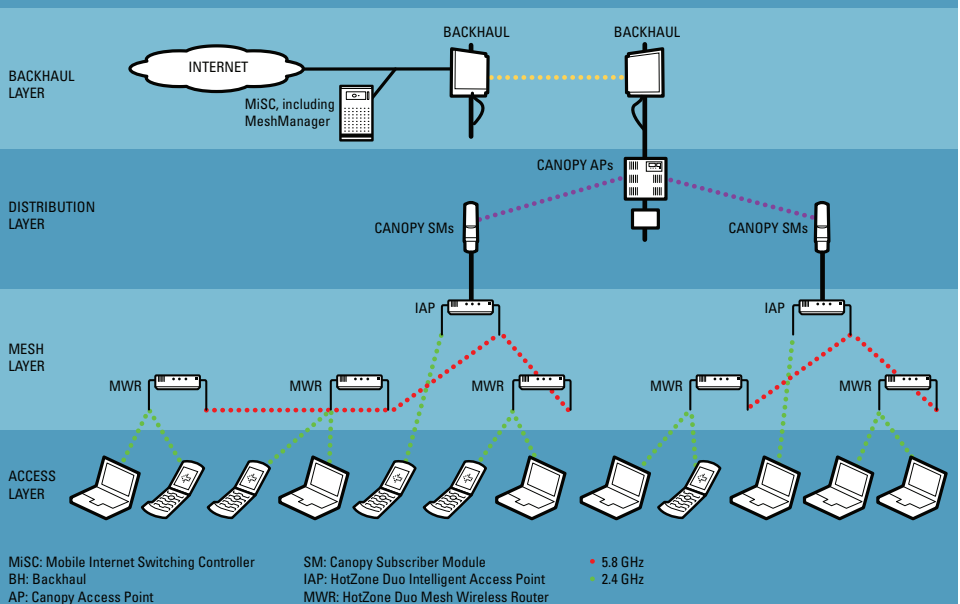
Easy to Deploy. The lightweight and small form factor mean HotZone Duo nodes are easy to handle. One person can install a module in as little as 15 minutes. HotZone Duo networks are self-forming, so nodes automatically power up and self-integrate into the system. This built in meshing intelligence means that installers are not required to have special radio or networking training.

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

Hotzone Duo with Canopy
Reference Model Dual Radio

BACKHAUL LAYER

INTERNET

BACKHAUL   BACKHAUL

MiSC, including MeshManager

DISTRIBUTION LAYER

CANOPY APs

CANOPY SMs   CANOPY SMs

MESH LAYER

IAP   IAP

MWR   MWR   MWR   MWR   MWR

ACCESS LAYER

MiSC: Mobile Internet Switching Controller
BH: Backhaul
AP: Canopy Access Point

SM: Canopy Subscriber Module
IAP: HotZone Duo Intelligent Access Point
MWR: HotZone Duo Mesh Wireless Router

• 5.8 GHz
• 2.4 GHz

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.

HotZone Duo network components include:

Intelligent Access Points (IAP). Small in size but packed with performance, a HotZone Duo IAP acts as the gateway between the wired and wireless worlds. It requires both power and a broadband network connection, similar to standard WiFi access points. When used in conjunction with a Canopy®-based capacity injection layer, the HotZone Duo IAP offers totally wireless, high capacity broadband capability.

Meshed Wireless Routers (MWR). Physically identical to an IAP, the MWR requires only power to operate as a wireless router/repeater that extends the range and coverage of the WiFi network. Co-located IP enabled devices can be directly wired and powered via the MWR's built-in Power over Ethernet (PoE) ports.

Element Management Systems. MeshManager, Motorola's carrier class Element Management System (EMS), allows operators to reduce administrative and operational costs by remotely managing the HotZone Duo network. MeshManager works in tandem with Canopy Prizm EMS, offering powerful management capabilities that include configuration, security, reporting, over-the-air upgrades and much more.

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 HotZone Duo network planning based on a wide range of operational and environmental factors.

Future Ready. HotZone Duo networks are designed to support the final 802.11s IEEE meshing standard via a simple Over-the-Air firmware update. The 802.11s standard is being developed to provide a common standard for meshed WiFi systems. Providing for future multi-vendor interoperability, the HotZone Duo solution provides powerful investment protection today.

Carrier-Class Security. The HotZone Duo system supports the latest IEEE 802.11i encryption standards for client access, while utilizing "SecureMesh," a proprietary AES-based encryption for links between nodes. SecureMesh technology is designed to be compatible with the security methods being developed as part of the 802.11s standard
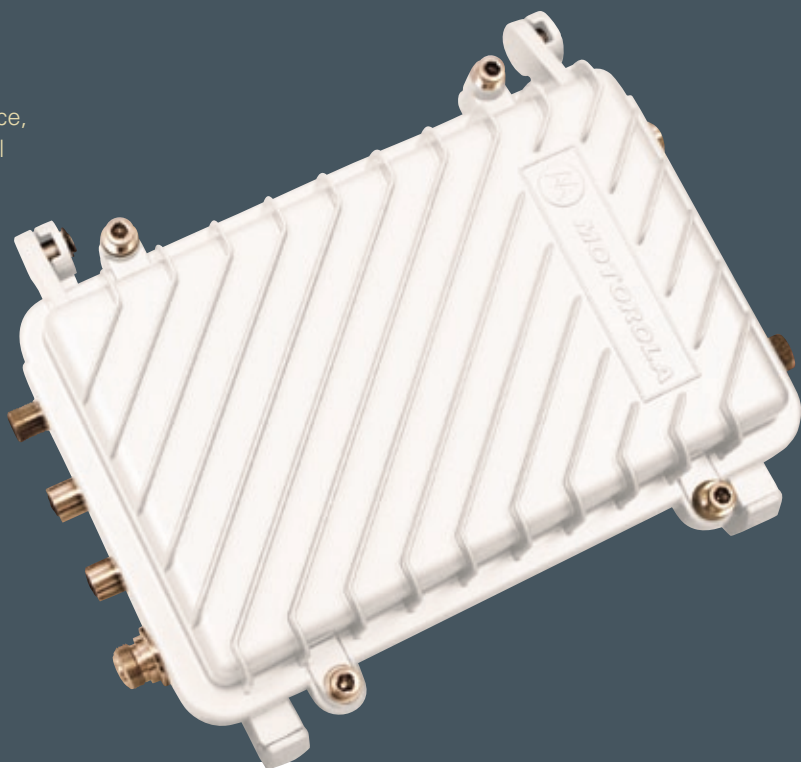
High-Performance Radios. Both the 2.4 GHz and the 5.8 GHz radios provide exceptionally high performance. With 36dBm EIRP, the maximum legal transmit power, and –100dBm client receiver sensitivity, coverage is maximized while nodes per square mile is minimized.

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 HotZone Duo Meets the Industry Standards of Today and Tomorrow

The HotZone Duo solution features exceptional radio performance, flexibility and advanced technology that's compatible with crucial industry standards:

- Dual Radios - 2.4 GHz, 802.11b/g and 5.8 GHz, 802.11a
- 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, Advanced Encryption Standard (AES-based) Security
- Exclusive AES-based Hop-By-Hop security for all user, management and routing packets
- Canopy® Connect – Power-over-Ethernet support for Canopy broadband

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 HotZone Duo broadband public access solution can connect your customers or municipality to high-speed growth and success, call us at 1.800.795.1530 or 1.866.515. 5825 or visit us on the Web at www.motorola.com/canopy.