



# *Mesh Wide Area Network 4300 Series*

Doubles the Flexibility of Municipal WiFi and Enterprise Networks



*The Mesh Wide Area Network (MWAN) 4300 solution is a powerful, next-generation, two radio meshed network. Part of Motorola's leading-edge wireless broadband 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**

Motorola's mesh networking technology enables users to wirelessly access broadband applications seamlessly - virtually any time and anywhere. Whether providing wireless access to a campus, municipality or residential neighborhood, Motorola's MWAN 4300 solution delivers real-time data to employees, customers or constituents. Mesh networking technology significantly reduces the backhaul costs of wide scale networks and leverages millions of WiFi enabled devices already deployed globally. The high performance MWAN 4300 solution is designed to meet strict cost per square mile and ROI (return on investment) targets.

MWAN 4300 networks 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 MWAN 4300 system provides the flexibility and scalability network operators need - quickly, simply, and affordably.

### **Configuration Flexibility.**

The flexibility of the MWAN 4300 solution enables enterprises, service providers and municipalities to choose the best combination of meshed WiFi radios to effectively address the requirements of all of their employees, customers, and constituents.

The MWAN 4300 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.

### **Compact Size.**

Weighing less than five pounds, the compact MWAN 4300 system nodes deliver mounting location possibilities that other larger units can't match. MWAN 4300 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 mesh wide area nodes are easy to handle. One person can install a module in as little as 15 minutes. Mesh Wide Area 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, mesh wide area 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 goals.

### **Quality of Service (QoS).**

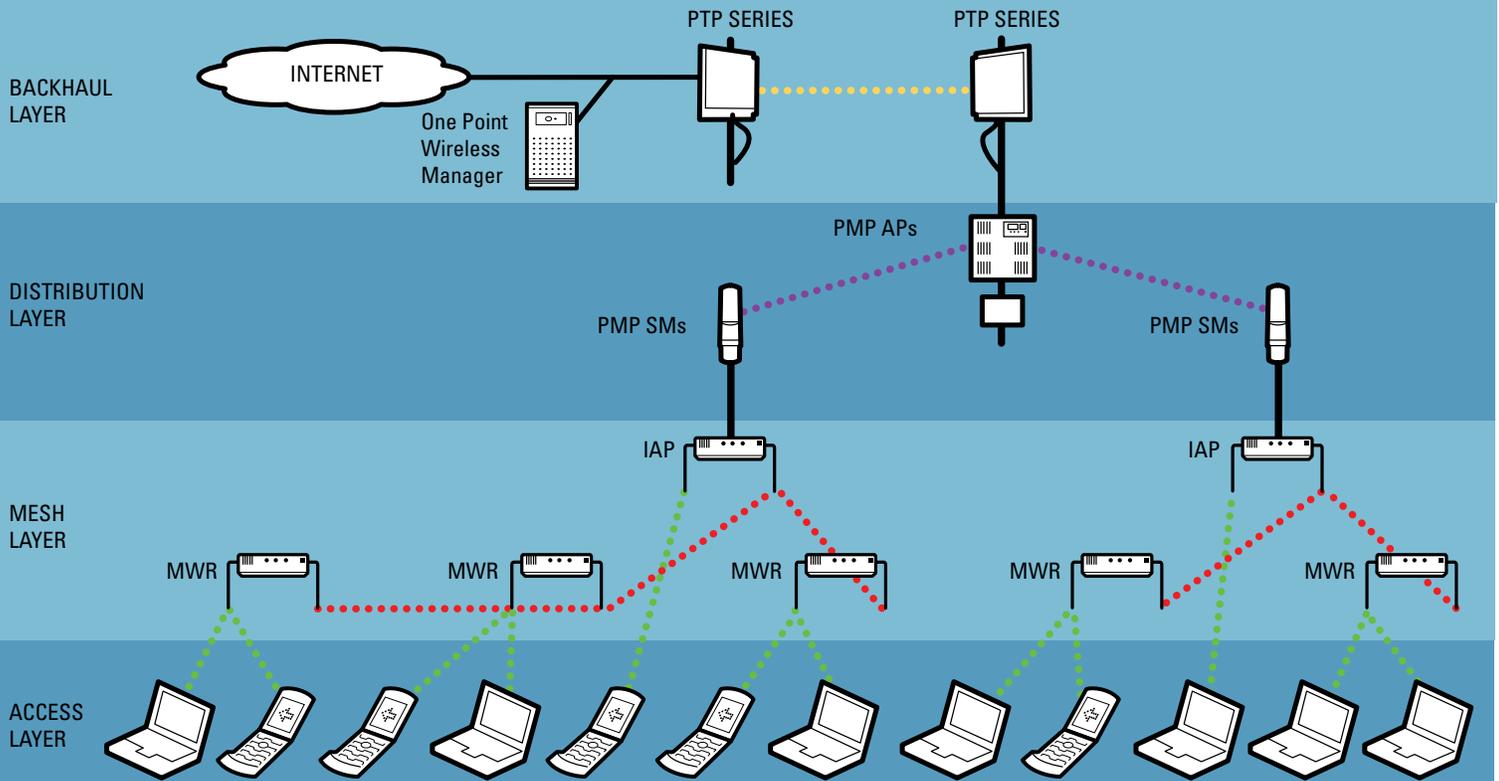
Delay-sensitive applications like video and voice services require different data priorities. The MWAN 4300 series supports IEEE 802.11e based traffic prioritization. It constantly monitors node congestion, and automatically tunes its QoS parameters to optimize route selections to support latency sensitive applications.

### **Support for Standards-Based Voice and Video Applications.**

Mesh Wide Area 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 802.11p QoS standards, allowing providers to offer sophisticated fixed and nomadic video surveillance applications, as well as high quality VoIP services. In addition, the MWAN 4300 solution supports over-the-air software upgrades for adding new capabilities and standards. This helps protect your network investment for years to come.

# Mesh Wide Area Network 4300 Series

Reference Model Two Radio



MiSC: Mobile Internet Switching Controller  
PTP: Point-to-Point  
PMP AP: PMP Access Point

PMP SM: PMP Subscriber Module  
IAP: Mesh Intelligent Access Point 4300  
MWR: Mesh Wireless Router 4300

• 5.8 GHz  
• 2.4 GHz





# *Standards-based Technology that Assures Seamless High-Speed Access*

## **Flexible & Adaptable Gateways.**

Every MWAN 4300 unit is capable of being an intelligent access point (IAP) or mesh wireless router (MWR), reducing the cost of storing excess inventory and simplifying deployment. Additionally, IAPS 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. With the embedded NetPerf Performance Tool performance can be obtained from Client to IAP or IAP to IAP.

## **Advanced Network Management.**

The MWAN 4300 series utilizes Motorola's One Point Wireless Manager to manage and visualize a multitude of capabilities for small to large networks and all of these capabilities are controllable from one central console. By completing one profile, a large number of devices can be configured easily, reducing the time required to provision individual devices and complete on-going adjustments. Once the network is up and running, the Wireless Manager is a flexible and powerful tool that monitors the health of the network's components and provides enhanced visibility with Google Earth™ for quick detection and resolution of problems that can impact network performance and user satisfaction.

## **Carrier-Class Security.**

The MWAN 4300 supports complete, end-to-end security, and provides WEP, WPA and WPA2 encryption on client access. Motorola's own Secure Mesh ensures the highest data security within the meshed WiFi network. An additional security feature enables users to create access lists, which can block particular clients from accessing the network.

## **BroadbandPlanner.**

BroadbandPlanner, Motorola's advanced network design software, helps streamline the planning of reliable outdoor wireless mesh networks that deliver exceptional coverage, capacity and performance. Used in conjunction with a thorough site survey, BroadbandPlanner enables providers to optimize MWAN 4300 network planning based on a wide range of operational and environmental factors.

## **Software Highlights.**

The MWAN 4300 solution offers a multitude of software features for enhancing your network experience. With Peer-to-Peer Communication Blocking ISPs (Internet Service Providers) now have an effective way to manage billing applications and client tracking scenarios. With the combination of the MWAN 4300's VLAN support and standard 802.11e QoS, ISPs can create differentiated services that will allow them to offer tiered packages. Finally, historical, comprehensive statistics are now available for future reference and review.

## **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, Mesh Scalable Routing (MSR), intelligently monitors performance, automatically solving interference problems by finding and establishing throughput-optimized connections.

# How the MWAN 4300 Series Meets the Industry Standards of Today and Tomorrow

Mesh Wide Area Networks feature exceptional radio performance, flexibility and advanced technology that's compatible with crucial industry standards:

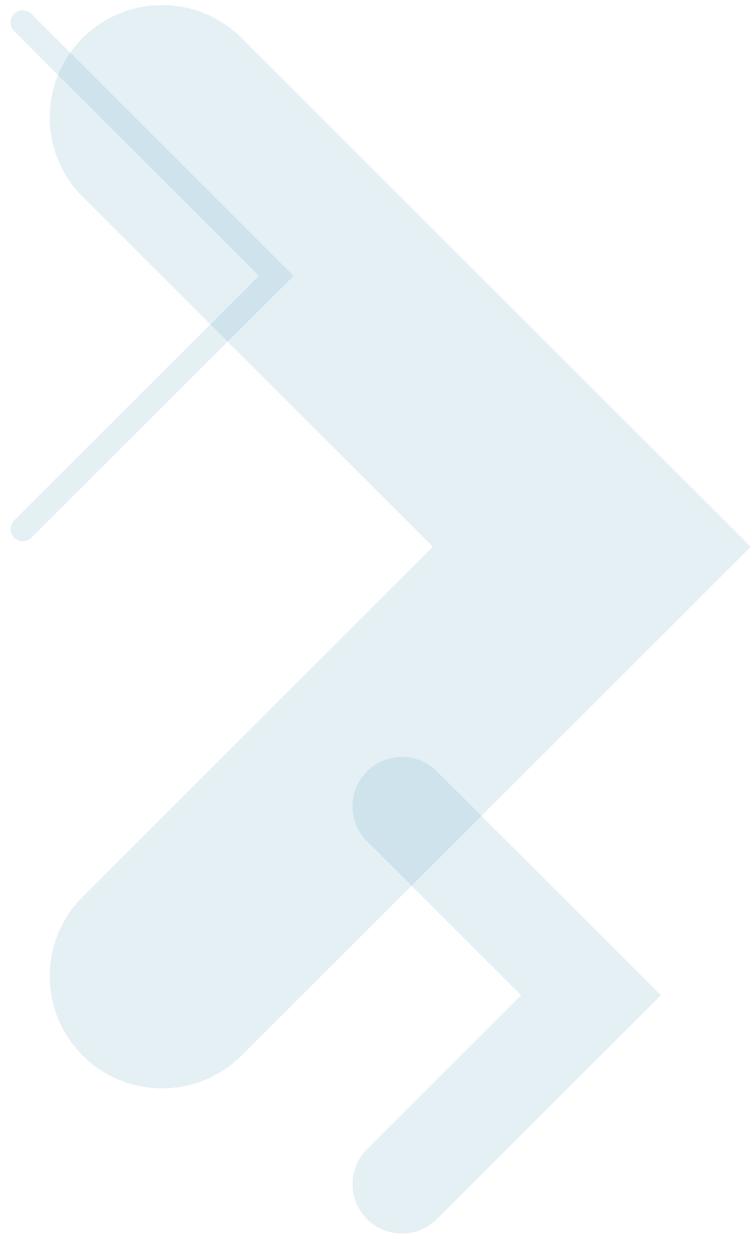
- Two Radios - available in three radio frequency variations – 2.4GHz / 5.8GHz, 2.4GHz / 5.4GHz and 2.4GHz / 4.9GHz
- NEMA 4 environmental rating in a package that weighs less than five pounds
- Over-the-air configuration support for the final IEEE 802.11s meshing standard
- 802.11e Quality of Service (QoS)
- 802.11i (WPA2), Advanced 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 Point-to-Multipoint (PMP) Connect Power-over-Ethernet (PoE) or 802.3af Standard PoE device



## Motorola, Your End-to-End Solution Provider

Motorola's comprehensive portfolio of reliable and cost-effective wireless broadband solutions together with industry leading WLAN solutions provide and extend coverage both indoors and outdoors. The Motorola Wireless Broadband portfolio offers high-speed Point-to-Point, Point-to-Multipoint, Mesh, Wi-Fi and WiMAX networks that support data, voice and video communications, enabling a broad range of fixed and mobile applications for public and private systems. With Motorola's innovative software solutions, customers can design, deploy and manage a broadband network, maximizing uptime and reliability while lowering installation costs.

For more information about how Motorola's MWAN 4300 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](http://www.motorola.com/mesh).



**MOTOROLA**

Motorola, Inc. 1299 E. Algonquin Road, Schaumburg, Illinois 60196 U.S.A.  
[www.Motorola.com/mesh](http://www.Motorola.com/mesh)



The information presented herein is to the best of our knowledge true and accurate. No warranty or guarantee expressed or implied is made regarding the capacity, performance or suitability of any product. Product specifications subject to change without notice. MeshConnex, Mesh Scalable Routing are trademarks or registered trademarks of Motorola, Inc. MOTOROLA and the Stylized M Logo are registered in the U.S. Patent and Trademark Office. All other product or service names are the property of their registered owners. All rights reserved. © Motorola, Inc. 2009