



# Unique Visualization and Management Capabilities Deliver Superior Wireless Network Reliability

The Motorola One Point Wireless Suite's management tools leverage innovative real-time visualization to help maximize wireless network uptime





Motorola's One Point Wireless Suite is a powerful set of software-based solutions that simplify and streamline the design, deployment and management of Motorola's proven end-to-end wireless networks. The Suite itself consists of six distinct but interrelated software solutions.

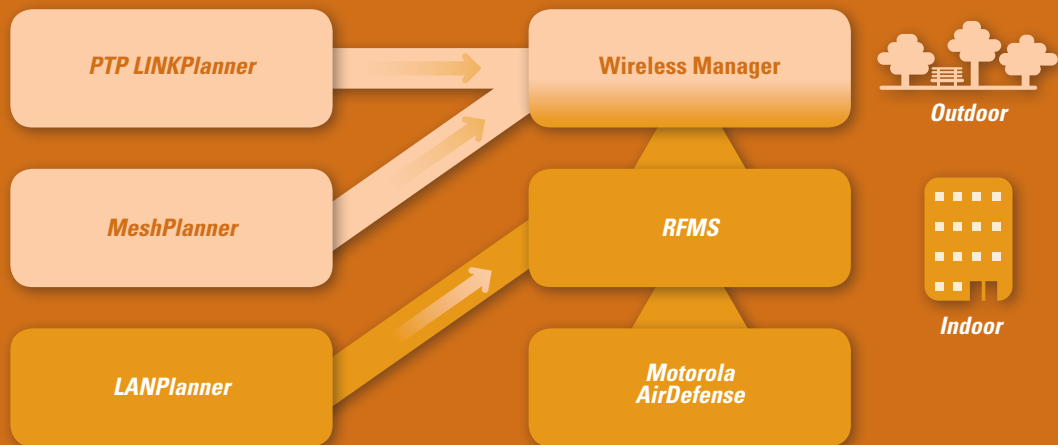
#### DESIGN AND DEPLOYMENT

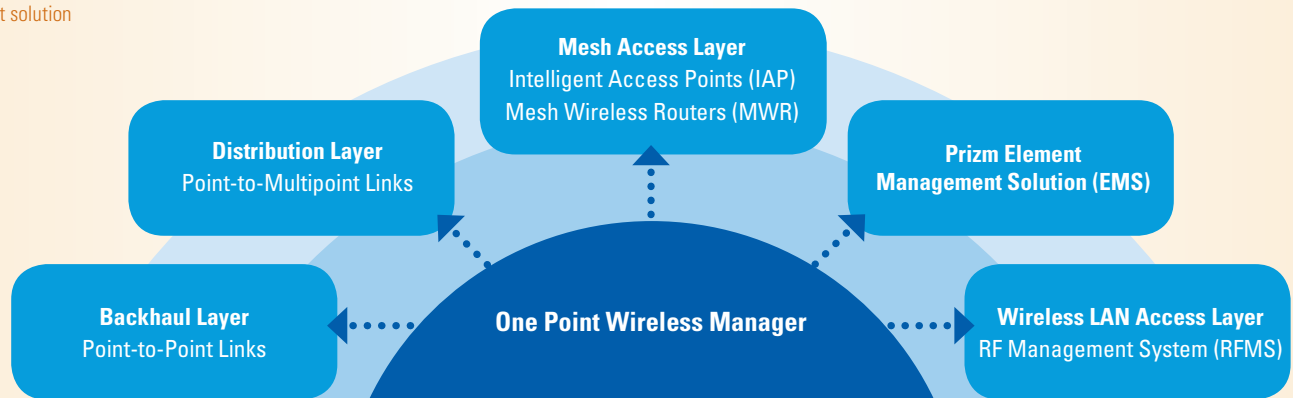
Three of the solutions within the Suite are design and deployment tools. The **PTP LINKPlanner** simplifies the design of point-to-point links, providing accurate throughput and availability predictions. **MeshPlanner** streamlines design and verification of outdoor wireless mesh networks and point-to-multipoint backhaul. **LANPlanner**® enables simplified design of indoor wireless LAN's. These solutions are thoroughly discussed in the paper *"Eliminating Guesswork From Wireless Network Design and Deployment."*

#### NETWORK MANAGEMENT

The remaining three software solutions are network deployment, management and security tools. The **One Point Wireless Manager** provides unique, real-time, map-based visibility of the indoor and outdoor wireless network, enabling you to respond to issues quickly for maximum reliability and uptime. The **RF Management Suite (RFMS)** provides real-time monitoring and management of WLANs. The **Motorola AirDefense Solution** delivers continuous 24/7 gap-free monitoring, WLAN intrusion and attack protection and advanced forensics.

One Point Wireless Suite's powerful map-based visualization and management capabilities help you maintain tight control over your network's ongoing operations, enabling you to maximize network performance, availability, security and ROI.





After your wireless network is designed and deployed, the One Point Wireless Suite helps you optimize its value by maximizing uptime through real-time monitoring and management of ongoing operations. The Suite's innovative management tools are designed to help a wide range of organizations — such as enterprises, government agencies, municipalities, medical centers, educational institutions and more — that are increasingly using wireless networks as a cost effective and easy way to extend connectivity beyond their existing legacy wireline systems or to reduce cost by replacing their T1/E1 leased lines.

#### **SIMPLIFIED MONITORING AND MANAGEMENT**

The One Point Wireless Suite's network management tools are designed to give CIOs and IT Managers control over virtually every aspect of their wireless network operations, from identifying and resolving problems, to provisioning and re-configuring network elements to monitoring, managing and resolving network security issues. Working separately or in concert, the tools empower you to stay on top of network operations in real-time, and offer you a wide range of capabilities that help maximize network availability, performance and value.

#### **SPECIFICALLY DEVELOPED FOR WIRELESS**

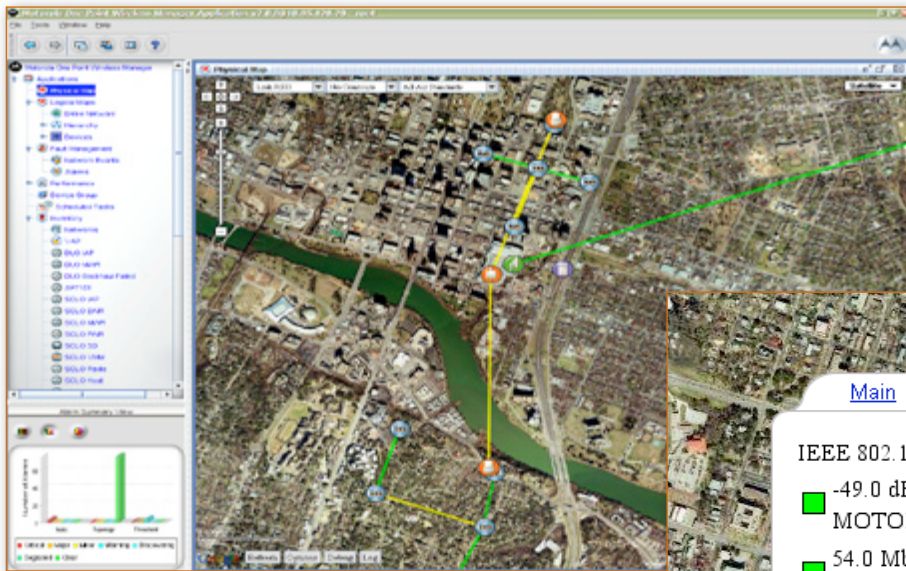
Most network management solutions are outgrowths of management systems designed for wireline networks and environments. The One Point Wireless Suite is a first. It is the first total network management solution designed specifically for indoor and outdoor wireless networks. Leveraging Motorola's industry leading expertise in indoor and outdoor wireless connectivity, the Suite provides the first management tools that break down the barriers between indoor WLANs and outdoor networks, presenting a unified view that helps you control your

entire network from a single pane of glass. The Suite encompasses the Motorola Wireless Broadband Point-to-Point, Point-to-Multipoint and Mesh as well as Motorola Wireless Local Area Networks (WLANs).

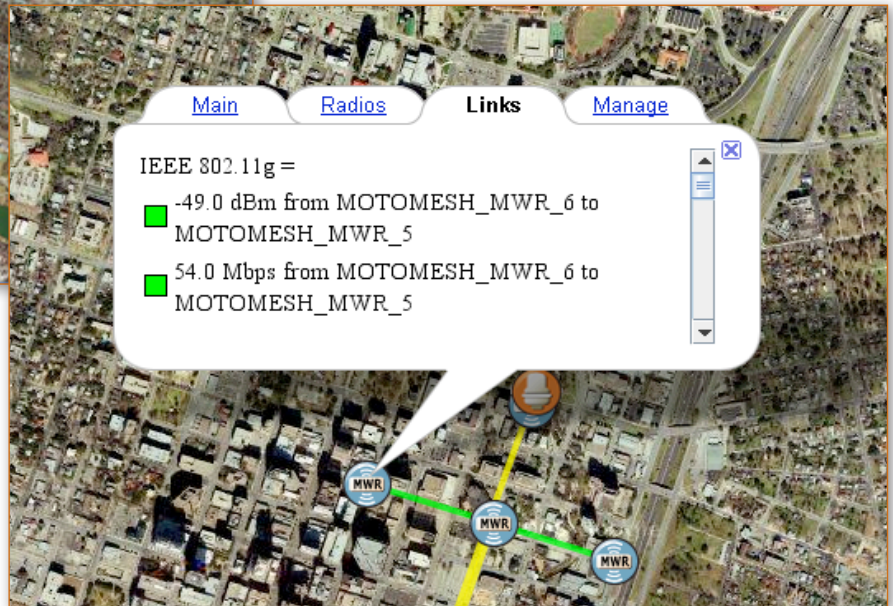
The One Point Wireless Suite provides three deployment and management solutions that allow you to manage each tier of your wireless network from a single console.

#### **➤ ONE POINT WIRELESS MANAGER**

One Point Wireless Manager is a powerful, flexible and scalable deployment and management solution that provides a unified, map-based visualization of each tier of the wireless network. Its breakthrough visualization capabilities help maximize uptime via integrated live Google map network views. The solution allows you to drill down into each segment of the network, providing detailed information of each individual device. Combined with advanced configuration, provisioning, alerting and reporting features, One Point Wireless Manager empowers you to manage the network's mesh backhaul layer, distribution layer and access layer all from a single screen.



Wireless Manager  
Node Detail Popup



Wireless Manager shows a map-based view of all network layers with realtime performance

### Unified Network View

One Point Wireless Manager overlays network elements onto a real-time integrated Google map with the ability to scale network and terrain visuals from macro to micro views. Intuitive graphical representation of performance data from top-down, multi-layer network views — including Motorola Point-to-Point (PTP), Point-to-Multipoint (PMP) and Mesh nodes and Wireless Local Area Network (WLAN) sites — helps you quickly determine network status, locate problem areas, troubleshoot the root cause of the problem and determine the severity of impact on the network and end users. The information can also help you anticipate issues and move to address them before they become problems. Importantly, Wireless Manager also offers one-click access to Motorola's RFMS for WLAN management down to the switch and access point level, providing unified real-time management of your entire network.

### Real-time Visualization

A typical management system user interface contains reams of data-centric information that, while essential, is often difficult to understand and cumbersome to manipulate. One Point Wireless Manager turns pages and pages of detailed data into simple graphical images that are easier to understand and use. It overlays each tier of the network on a physical map that shows expected service from each network element, as well as actual performance that is both quantified and represented as red, yellow or green status alerts. In addition, it graphically represents the logical and geographical relationships of equipment and

provides one-click access to all network nodes down to the specific device level.

### Reporting and Historical Analysis

The One Point Wireless Manager's performance data logging and alerts functionality collect a wealth of information from each piece of equipment and provide visual data analysis through customizable time plots and scheduled reports. The alarms with customizable trigger points can alert you to new or unusual network or segment usage patterns and performance trends, enabling real-time operations analysis and immediate response. In addition, the archiving of historical data facilitates long-term analysis to trace the root cause of outages and improve network performance over time.

### FCAPS Support

Wireless Manager also provides complete FCAPS support, providing the critical functions required for full Fault, Configuration, Accounting, Performance and Security management for your network's point-to-point and mesh tiers. Configuration for PMP and WLAN is accomplished through easy one-click access to Prizm and the RF Management Suite (RFMS) respectively.

## RF MANAGEMENT SUITE

The One Point Wireless Suite's RFMS is a robust and scalable WLAN manager that helps you maximize network uptime. RFMS helps you manage network availability with live RF heat maps of building coverage using AutoCAD floor maps, channel map visualization and the ability to recognize interference in multi-floor environments. It also provides flexible configuration functionality, customized graphs for key statistics, and planned versus discovered device lists by importing network designs directly from the Motorola LANPlanner. WLAN sites managed by RFMS are displayed in Wireless Manager, along with real-time performance metrics and alert status. Easy one-click access is provided from the Wireless Manager map view to the RFMS for troubleshooting, configuration and monitoring of WLANs down to the access point level.

### Configuration Templates with Variables

In most cases, managers of large, multiple-floor WLANs are deploying networks in which 90 to 95 percent of access point configurations are identical. The problem is that it can take an enormous amount of time to configure the other five percent of the network that falls outside the configuration norm. To alleviate this problem, RFMS allows you to add user-defined variables to configuration templates. Once you have defined the variables — such as SSID, security parameters, radio power settings and

more — RFMS does all the work to create the configuration and send it to the specific devices throughout the network.

You can send out full configurations, partial configurations and, unique to RFMS, variable configurations, such as setting up firewalls or defining access control lists. That means you can configure all of your out-of-norm devices automatically, eliminating the need to address each device one-by-one.

### Compliance Monitoring

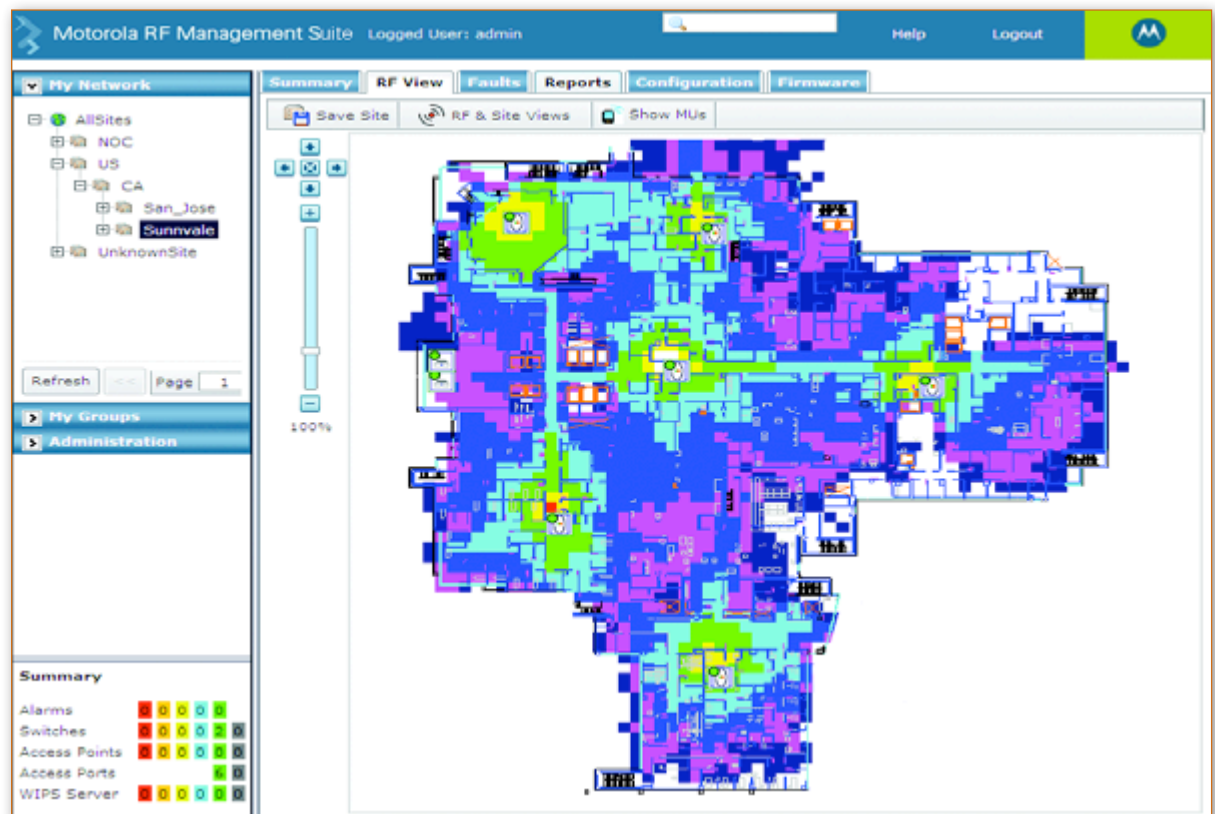
In addition, the RFMS tool performs configuration compliance monitoring, polling the network to see which devices are not currently in compliance because, for example, someone has changed an SSID or other parameters. The system notifies you of the non-compliance and gives you the flexibility to accept the change or to revert back to the last configuration that complies with the parameters.

### Interoperability

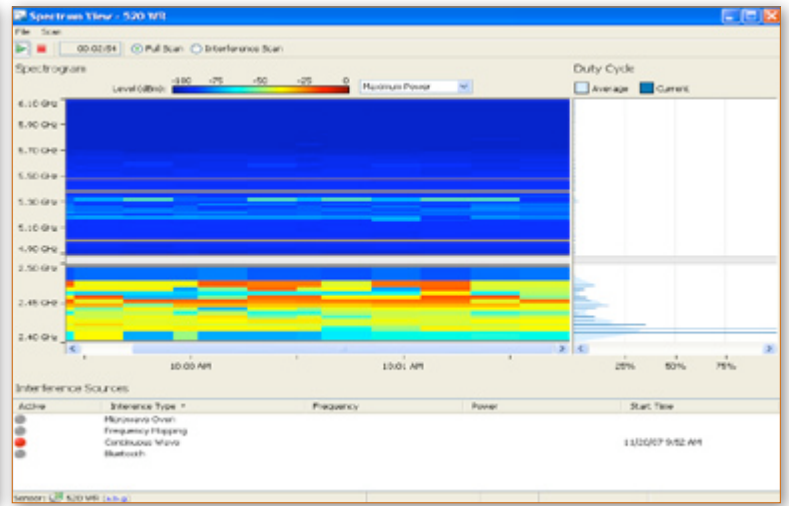
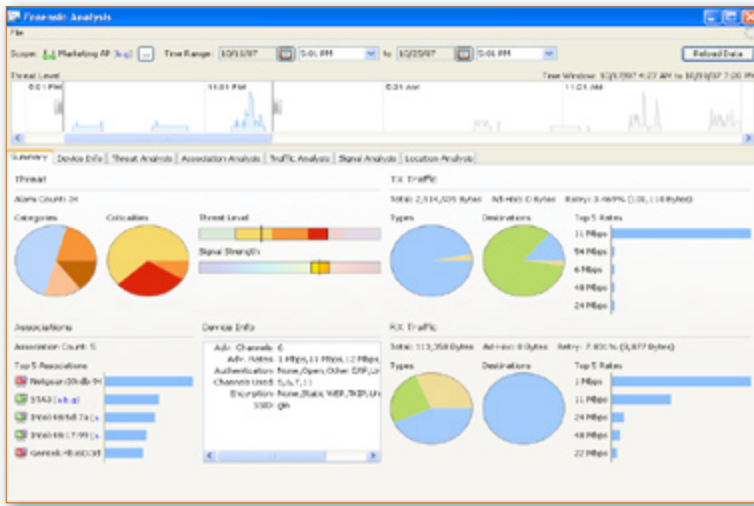
RFMS integrates seamlessly with the other software applications in the One Point Wireless Suite. RFMS takes over WLAN network designs as well as building layout and obstruction parameters from LANPlanner. Easy one-click access is provided from the Wireless Manager Google map view to RFMS for troubleshooting, configuration and monitoring of WLANs. RFMS also provides aggregate alerts/status from, and easy one-click access to, the industry-leading Motorola AirDefense solution.

## A POWERFUL PORTFOLIO

Motorola's Wireless Broadband and 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, WiFi and WiMAX networks that support data, voice and video communications, enabling fixed and mobile applications for public and private systems.



RFMS shows heatmaps of realtime WLAN coverage



Motorola AirDefense solution offers proactive WLAN threat detection and forensics and sophisticated spectrum analysis

## MOTOROLA AIRDEFENSE SOLUTION

The Motorola AirDefense solution provides continuous sensing and intrusion protection for wireless LANs. It safeguards proprietary information and enables compliance with government regulations for protection of personal and financial information such as health and credit card data. The solution allows organizations to identify hackers, attacks and network vulnerabilities and to instantly terminate the connection to any rogue device.

### SUMMARY: UPTIME AT ALL TIMES

With their unique map-based network visualizations, the Motorola One Point Wireless Suite's management tools enable you to manage your entire wireless network — including indoor and outdoor access, distribution and backhaul layers — from a single screen. Bottom line, the One Point Wireless Suite's powerful, flexible management solutions work together to help you maximize availability and reliability, and therefore the value, of your Motorola wireless network.

### Gap-Free Vigilance

The system also provides unique, gap-free 24/7 monitoring. Most security monitoring solutions rely on radio sharing methods that cause monitoring gaps. The AirDefense tool is unique. It enables you to use existing Motorola access points with one radio functioning as a 24/7 sensor, while the other radio continues to function as an access point. In effect, you are able to have a full-time sensor and a full-time AP without dangerous monitoring gaps and suboptimal access point performance, and without incurring the additional hardware or cabling expense necessary for deployment of separate dedicated sensors.

### Forensic Analysis

Because wireless communications are by nature transient, it can be difficult to research and discover the causes of historical or intermittent problems. The Suite's forensic, or historical troubleshooting tools, give users the ability to rewind and review detailed records of wireless activity down to the individual client device traffic level, providing valuable historical insights into complex issues for detailed threat identification and protection.

### Spectrum Analysis

Integral to the AirDefense solution is its spectrum analysis tool for identifying sources of interference. With this module, Motorola offers the industry's first software-only solution, allowing you to perform spectrum analysis without the need for specialized hardware. The solution remotely views the physical layer of an enterprise WLAN using existing Motorola access point radios as sensors. You can troubleshoot in real-time at remote locations and maintain WLAN performance by proactively identifying sources of interference in the 2.4 and 5 GHz WLAN frequency bands, and revealing the impact of WLAN interference without the expense of sending a technician to investigate and without the need to purchase dedicated sensors.

### Level One Troubleshooting

The AirDefense solution's advanced troubleshooting tool allows you to perform simple level one help-desk problem detection and resolution that boosts support process efficiency. An interface with basic icon-based troubleshooting tools and built-in phone response scripts, together with ground-breaking under-the-hood features that allow an access point radio to simulate a client and verify the network path all the way back in to an application, put powerful analytics at the finger-tips of help desk staff. The tools provide non-detailed, top level information, making it easy for level one personnel to identify the issue and determine whether it is in the wired or wireless network, and whether there is a client issue, an availability issue or connectivity issue. Advanced troubleshooting tools make it easier for people who are not wireless experts to troubleshoot problems remotely, helping to reduce engineer involvement and expensive on-site visits.



**MOTOROLA**

Motorola, Inc. 1301 E. Algonquin Road, Schaumburg, Illinois 60196 U.S.A. [www.motorola.com/onepoint](http://www.motorola.com/onepoint)

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