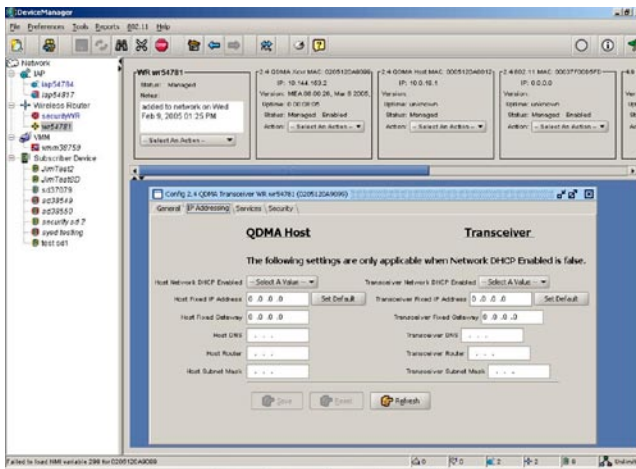


# MeshManager

## Mesh Network Element Management System



MOTOWI<sup>4</sup>

Motorola's MeshManager EMS suite provides a flexible, powerful and scalable platform to efficiently manage your Motorola mesh network.

The MeshManager element management system (EMS) provides a complete solution for configuration, fault, performance and security management for all Motorola mesh networks. Consisting of a Java™ based graphical user interface (GUI) and a series of software servers, the MeshManager suite gives you streamlined, point-and-click access to the tools needed for complete network configuration and control.

Motorola's mesh networking technology enables users to wirelessly access critical broadband applications seamlessly – virtually any time and anywhere. Using the comprehensive tools available in the MeshManager suite, Motorola's mesh networking technology delivers robust and scalable broadband connectivity.

### Complete Device Configuration

Device Manager, a Java-based GUI, lets you add and configure all mesh nodes from any secure LAN connection, and almost any computing platform. You'll have direct access to all configurable variables, including workflow automation tools and Over-the-Air (OTA) management capabilities. For provisioning large numbers of devices, administrators can create configuration templates to simplify and expedite deployment.

### Event Logging and Alarm Management

Fault management begins with comprehensive event logging and alarm management. To provide an accurate view of the current status of the network, automatic device polling checks the health of each mesh node at user defined intervals. The Device Manager tracks any changes in alarm status at each severity level. Alarm indicators can be set to expire over time, or trigger in response to alarms of any severity, or acknowledgment state. User configured e-mail alerts are sent automatically. Intelligent correlation between alarms and other related events is provided by an event processor that allows current, newer events to clear out previous alarms for better network management visibility.

### Low Overhead & Scalability

The MeshManager suite was designed with scalability in mind. By retrieving key element data as a data structure, network management packet overhead is reduced by up to 94%. Distributed intelligence and self-management is built into every mesh device, minimizing the need for management system intervention. To support large networks, MeshManager software modules can be distributed across multiple servers to cost-effectively increase processing and storage capacity as needed.

### Performance Management and Reporting

Traffic congestion, interference, and performance data – including all SNMP traps and device configurations – are logged in detail at the device level, and can be charted graphically for long term planning and analysis. Customized reports can be generated on any combination of variables, and the data can be output to comma-delimited files for further analysis. Events can also be sent to other network management systems via industry-standard "SNMP trap forwarding," for maximum interoperability.

### Multi-Tiered Security Locks it Down

A Hardware Authentication Server (HAS) provides the first of several layers of security by checking the MAC address of each device as it requests network access, and blocking those not authorized to join. Further layers of security are provided through data packet authentication, user authentication, and Virtual Private Network (VPN) services. Industry standard wireless security protocols (WEP, WPA, 802.1X) are also supported.

## MESHMANAGER GENERAL FUNCTIONALITY

Java-based GUI with Multi-client and Remote-client Access  
Real-time Data Collection and Reporting  
Workflow Automation  
Link Quality Reports  
Performance Reports and Charting  
Over-the-Air (OTA) Software Updates, Provisioning and Performance Monitoring  
Full FCAPS Support for Motorola Subscriber Devices

## NETWORK MANAGEMENT AND CONTROL

Constant Software Process Monitoring with Automatic Relaunch Feature  
Full SNMP Support and Traps – Including Northbound Trap Forwarding  
Event Processor Logging and Forwarding  
Remote Access to Device Manager  
Device Monitoring, Uptime Reports and Network Health Advisor  
Management of both Network Nodes and MEA Client Devices  
Intelligent Alarm Indicator Options – Including Browsing, Correlation, and Automatic E-mail Notification  
Network/Device Inventory Management and Reports  
Complete Access-to-Fault, Statistics, Performance and Utilization Information

## POWERFUL CONFIGURATION OPTIONS

Over-the-Air (OTA) Bulk Configuration Management, and Software Updates  
Sophisticated, User-defined Configuration Templates  
Advanced Scheduling for Configuration and Upgrade Management  
Complete Policy Control – Device IP Addressing Scheme, Security, Quality of Service (QoS)

## SECURE BY DESIGN

Identity and Access Management at the User and Device Level  
MAC Address Hardware Authentication and Logging  
Support for AES, WEP, WPA, WPA2, 802.1X, and VPN (varies by product line)

## BUILT-IN SCALABILITY

NMI Client/Server Platform  
Leverages Distributed Intelligence in Every Node  
Management can be Scaled Across Multiple Servers  
Efficient Data Structure "Gets" and Responses  
Cost Effectively Supports Tens to Thousands of Nodes

## SUPPORTS ALL MOTOROLA MESH NETWORKS PRODUCTS

MEA 2.4GHz  
MOTOMESH 2.4GHz and 4.9GHz  
Mesh Camera Wireless Video System

## OPERATING SYSTEMS SUPPORTED

RedHat Linux v3.0  
Windows Server 2003  
Windows XP

# Additional MeshManager Software Features

- Configuration and Software Deployment Scheduling
- Software Version Rollback
- Real-time Performance Statistics
- E-mail Alarm Notification
- Interference Alarms
- Congestion Alarms
- Standard SNMP MIBs, including RFC1213, IEEE 802.11, and Enterprise Specific
- Association Reporting for all MEA and MOTOMESH Networks, Including 802.11a/b/g and Associated Client Stations
- Standard and Custom Report Generation
- Security Policy Configuration
- MEA Subscriber Device Management
- Position Location of MEA Devices (optional)



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