MOTOROLA

MEA Network

2.4GHz Mesh Enabled Architecture Solution

A MEA network can improve productivity by providing high speed data, video and location services to mobile users and field personnel.

Motorola's mesh networking technology enables users to wirelessly access critical broadband applications seamlessly – any time, and anywhere. Whether utilizing predeployed infrastructure, or an instant, ad hoc, broadband network formed with other users, Motorola's mesh networking technology delivers real-time data to detect, prevent, respond.

Internet Architecture - Enhanced and Mobile

Motorola has enhanced the network architecture and capabilities found in the wired Internet, and made them mobile. The Mesh Enabled Architecture (MEA) solution is a flexible and scalable wireless network that can maximize performance and bandwidth efficiency for wireless applications. Self-forming, self-healing and self-balancing routing allows wireless devices to become the network, offering a towerless, seamless, and flexible high-bandwidth wireless solution.

Architecture Components

MEA networks are composed of four hardware and software elements: the Wireless Modem Card for clients (WMC), Mesh Wireless Router (MWR), Intelligent Access Point (IAP), and the Mobile Internet Switching Controller (MiSC).

WMC6300 / Wireless Modem Card

The Wireless Modem Card delivers 6 Mbps burst data rates for live audio and video, fast and accurate position location, and other data services to any device with a PCMCIA card slot.

MWR6300 / Mesh Wireless Router

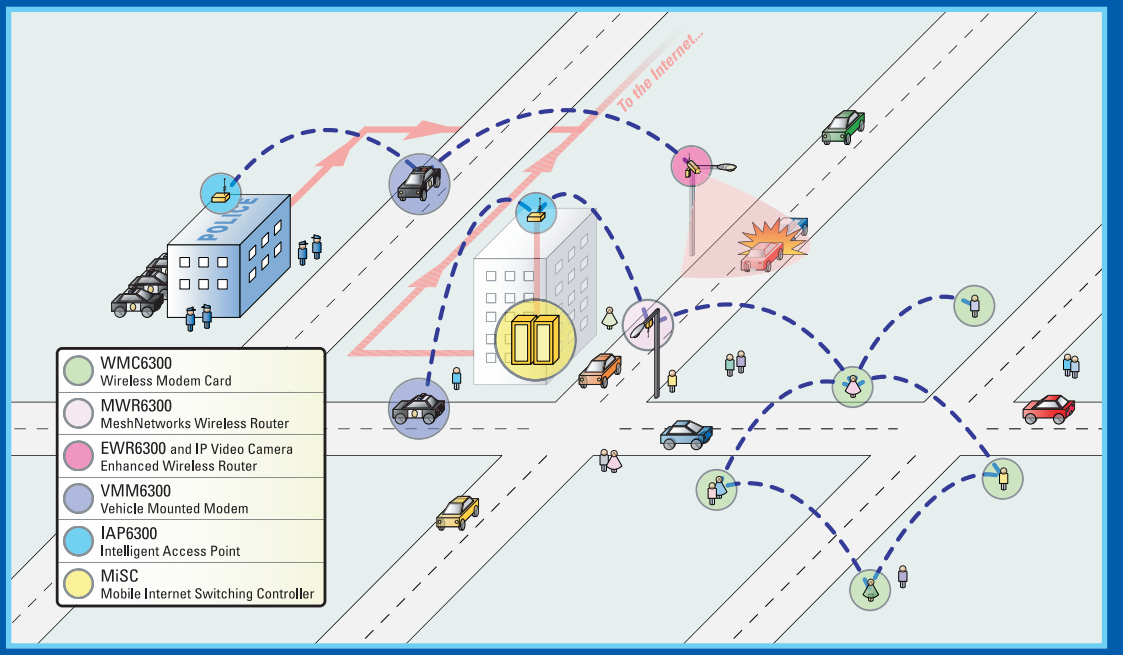
The Mesh Wireless Router is a small, low-cost wireless device that is primarily deployed to guarantee coverage in large geographic areas, campuses, or even in-building applications. MWRs are used to seed new network deployments, and enable non-line-of-sight communications between clients and IAPs.

IAP6300 / Intelligent Access Point

The Intelligent Access Point is a small, low-cost device that acts as the transition point from the wireless MEA network to the wired Internet and Public Switched Telephone Network (PSTN). Each IAP supports burst data rates up to 6 Mbps. Additional IAPs can be deployed to increase capacity at any time.

MiSC / Mobile Internet Switching Controller

The MiSC provides routing, switching and management functions for the MEA network. It provides the connectivity between IAPs and wired world. The MiSC is comprised of off-the-shelf hardware components. Software consists of both off-the-shelf products and Motorola's MeshManager software.



Mesh Enabled Architecture Benefits

Self-Forming
Devices discover, build and maintain their own routing tables in real time

Self-Healing
Dynamic route creation automatically deals with network congestion and node failures

Self-Balancing
The Multi-Hopping routing process moves network capacity to where it is needed

High Mobile Data Rates
MEA offers broadband data speeds to mobile client devices

Non-Line-of-Sight Connectivity
Mesh Enabled Architecture eliminates line-of-sight issues

Spectrally Efficient
MEA networks enable spectrum reuse many times superior than cell-based solutions

Towerless Infrastructure
Multi-Hopping technology eliminates the need for towers and expensive real estate

Supports Industry Standard IP
Use all existing Internet Protocol (IP) based applications and devices – any time, and anywhere

Fast and Accurate Position Location
All MEA devices are capable of providing location and tracking information, indoors and outside, without the need for GPS

Peer-to-Peer Networking
Instantly form networks between users without utilizing any network infrastructure

Motorola Can Give You The Edge

Costs Less to Deploy, Operate and Maintain
By leveraging low-cost, high-capacity, packet based infrastructure, entire networks can typically be deployed for a fraction of the cost of alternative solutions. Engineering, operations and maintenance expenses are also drastically reduced by the self-forming, self-healing, self-balancing architecture.

Pay As You Grow
Capacity and coverage can be increased at any time by deploying additional, low-cost Wireless Routers and Intelligent Access Points. Clients automatically extend network coverage as they join the network.

Leverages Existing Applications & Devices
By supporting an end-to-end IP strategy, MEA technology lets clients leverage existing devices and applications they use today. No new "killer app" is needed to make your deployment a success.

Leverages License-Free Spectrum
The MEA network supports more bits per client, while using less spectrum. This enables broadband networks to be deployed entirely in license-free frequency bands. Multi-Hopping continually reuses frequencies without creating interference - even in high-density areas.

Rapid Deployment
Motorola's solution is fast to deploy because it is towerless. The infrastructure can be mounted on streetlights, billboards, and buildings - placement is not critical. Because client devices actually become part of the infrastructure, end-users self-deploy a majority of the network themselves.

2.4GHz MEA Additional Network Features

- Network Time Protocol (NTP) support
- Differentiated Services using IP Quality of Service (QoS) Support
- Over-the-Air Software Upgrade Support
- MAC Access Control lists
- Web (HTTP) based management interface
- SNMP agent for remote management
- Firmware Upgrades via Trivial File Trafsfer Protocol (TFTP)

MOTOROLA

Motorola, Ltd. Jays Close, Viables Industrial Estate, Basingstoke, Hampshire, RG22 4PD, UK · mesh.emea@motorola.com
www.motorola.com/emea/mesh

MEA2.4GHz.BR-RE (09/05)