

Radio IP MTG™ Mobile VPN for Wireless Networks

- Mobile VPN Security
- Application & Session Persistence
- Network Management Tools
- Multi-Network Interoperability & Roaming
- Network Performance Improvement



Make the Connection

Seamlessly integrate your mobile workforce

In today's cost-sensitive environment, successful utility companies provide optimal customer service by integrating company-wide mobile data technologies.

Seamless mobile integration is often restricted by the multitude of incompatible technologies and protocols: private and public networks, diverse devices and a host of field-based and corporate applications. Radio IP MTG™ solves this state of disharmony by introducing true interoperability amongst all these disparate mobile assets, all the while maintaining essential communications reliability, security and speed.

Sampling of Supported Networks

- Cellular CDMA (EV-DO Rev. A, 1xRTT)
- Cellular GSM (HSPA, EDGE, GPRS)
- Broadband (WiFi, Mesh, WiMAX, Ethernet)
- Motorola (HPD, ASTRO 25 IV&D, DataTAC)
- Tyco M/A-COM (P25-IP, OpenSky, EDACS)
- IP MobileNet (IP Series, XpressNet)
- GE MDS (iNET, entraNET, Mercury)
- TETRA
- Dataradio (GeminiG2, GeminiG3, CiPHR)
- L-3 Communications (NovaRoam)
- ESTeem Wireless Modems
- EMS-MSV Satellite
- Alvarion



Optimize Customer Service

Radio IP MTG is client-server based and provides wireless network communications solutions for public and private wireless data networks, alone or in combination.

Radio IP MTG is a software solution that requires no change in your existing network architecture. It provides seamless remote connectivity to all your network applications as if you were at a desk.

No matter which networks you operate on, whether it is satellite, a private system, a public network or an 802.11 hotspot, we integrate them all into one single interoperable TCP/IP standard.

With sole responsibility for the safe, timely and efficient delivery of products and services, utility companies cover a vast geographical area and support a large customer base. And when service interruptions occur, your mobile workforce is the critical element in making sure your customer connection is intact and functional. Ensure reliability, speed and security in your wireless data transmissions. Improve customer service, all while reducing costs and increasing productivity. We help you optimize your current communications investment while providing a clear migration path to the next generation of technology.

With Radio IP MTG, remote personnel, using existing applications over private or public wireless networks, can:

- Retrieve mission critical information
 - Power outages
 - Unsafe water situations
 - Gas service interruptions
- Access real-time customer data from the field
- Send and receive email
- Send and receive reports from the field
 - Outage management
 - Work orders
 - Inventory & billing
- Access the Internet or company Intranet

Mobile VPN Security

Protecting corporate and customer data is crucial. To achieve this, Radio IP MTG offers multiple levels of security that compensate for the inherent vulnerability of wireless networks. The Radio IP® Mobile VPN provides the security of a virtual private network for a utility's entire mobile fleet through user authentication, data encryption and encapsulation. It is a unique security solution for a utility's wireless communication network so that you can be confident

your wireless data and infrastructures are safe and secure.

Confirm user identity with multiple levels of advanced authentication

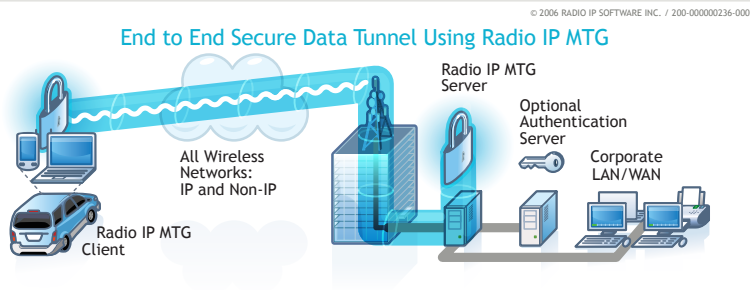
Our Mobile VPN's multiple levels of advanced authentication ensure positive identification of field workers accessing the network. Digital certificate authentication first validates your devices and protects your system from intrusions. Then,

the Mobile VPN is established, which ensures that username, domain and password information is never sent over the network in cleartext. In addition to standard username-password authentication, Radio IP MTG provides secure, two-factor authentication for additional layers of security.

Ensure your data is transmitted securely with our high level encryption

Since a utility's wireless network signals are broadcast and can be intercepted, Radio IP MTG offers the highest encryption standards to assure all data is transferred securely between the field and the head office. Your data can be encrypted with AES, (up to 256-bit) or Triple DES (168-bit) methodologies, using FIPS 140-2 validated technology.

Mobile VPN



“Seamless, smooth implementation of the software. The customer is very happy. Technical support is easily available and imminently qualified to deal with any problems.”

Hugh Stockton
Engineer - Motorola



Application & Session Persistence

Staying connected on a wireless network can be challenging. Radio IP MTG provides you with continuous wireless connectivity - giving you the ability to add multiple users to your network without bottlenecks, without time-outs, without retries and without network collapse.

Say goodbye to connection frustration with Automatic Network Reconnect

Mobile workers often encounter frequent signal interruption caused by geography, physical obstacles like tunnels and buildings and the distance of a mobile computing device from a transmission tower. These signal interruptions and dropped connections can result in lost

productivity and frustration as mobile workers must reconnect to the network manually. Radio IP MTG ensures continuous connectivity by automatically and seamlessly reconnecting your mobile devices to your network when signal interruptions occur.

“Always on” reliability

Some corporate or field applications will shut down if they lose their network connectivity. But Radio IP MTG maintains an open socket connection to the network, giving you session persistence. By keeping your applications running smoothly and continuously, you can rest assured that your field workers have received the necessary information

to complete orders in a safe environment.

We guarantee data delivery

If a utility vehicle wanders into an area of poor network coverage, application data will be accumulated, or buffered, until the vehicle returns to a viable network connection where data transmission can seamlessly resume.

Expanded network coverage

With responsibility for large, sometimes remote geographic areas, utilities can leverage the buffering capability to ensure continued network coverage even in the most fringe locations.

Network Management Tools

Radio IP Software has a thorough understanding of the challenges and opportunities in creating a seamless, interoperable environment. To assist utility network administrators, we have developed tools to help them more effectively manage and control how their networks perform.

Control using Forward & Filtering

Packet Forward & Filtering is designed to help control the type of data that will be allowed to pass on specific wireless networks resulting in better use of network resources. A set of rules can be defined to determine how the data is transferred, over which networks and under which conditions. Radio IP MTG provides a set of predefined rules and conditions to be used. The administrator

can also modify and add new rules and conditions, permitting even more control over your data and network performance. To optimize the user-experience, ensure that applications are well-matched with your network bandwidth otherwise it may have a negative impact on your operations.

Simplified control and central management of your fleet of IP addresses

CAD applications typically require static IP addressing. As a utility's network administrator, you may not have time to manually configure all IP addresses in the field equipment (e.g. laptops or PDAs). Mobile DHCP simplifies your life by automatically issuing static IP addresses. In addition, Radio IP Mobile DHCP

has optimized the standard by removing the "chattiness" associated with the DHCP protocol on wireless networks, therefore gaining all the benefits of DHCP network management without impacting a network's throughput.

Keep your wireless network alive

Radio IP MTG also uses the Microsoft® Cluster Service to provide a hot standby redundancy solution for mission-critical utility applications. Should Radio IP MTG stop working on a utility's particular server, or if the server is intentionally brought off-line, the communications workload is shifted automatically to another server for continuous service to and from the field.

“Radio IP Software delivered what was promised reliably, smoothly and on time. The project on our Motorola ASTRO IV&D network was low-risk and was deployed without interference with daily operations.”

Leo Sonck
Engineering Technician II, Semco Energy Gas Company



Multi-Network Interoperability & Roaming

Utilities often take advantage of existing high-speed public communications networks or 802.11 hotspots, either to leverage the faster speeds of these systems or to serve as a back-up to their primary network. Because mobile utility workers may at times venture

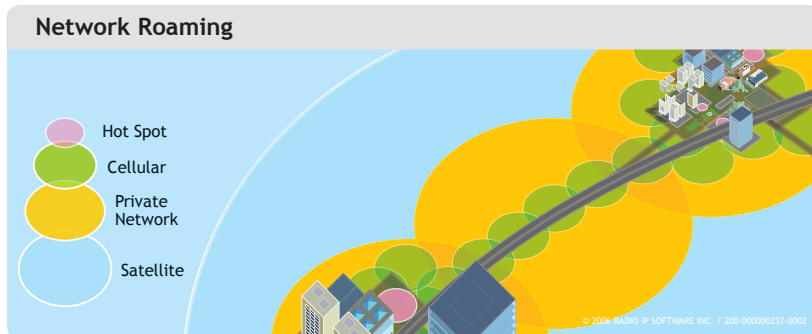
out of their primary network's coverage area, RadioRoam® lets them automatically roam, seamlessly and efficiently, between an unlimited number of disparate wireless networks without losing their connection to the head office.

RadioRoam supported network types:

- Public Cellular Networks
- WiFi & WiMAX
- Private Networks (IP & Non-IP)
- Satellite
- and more...

Control your application data for tailored wireless routing

Using the Forward & Filtering feature of Radio IP MTG, network administrators can tailor their wireless routing within a utility's network. For example, software updates for specific applications could be restricted from transmitting over a utility's non-broadband network to prevent overloading and reduce cost.



Network Performance Improvement

Radio IP MTG increases the throughput and performance of your wireless network by applying multiple optimization methods. The approach can typically double or triple the throughput and performance of many wireless networks. This means faster response times in critical situations and capacity enhancements by giving you the ability to add more mobile users on the system. Radio IP Software's patented technology is more efficient for wireless applications compared to the standard TCP/IP or UDP/IP protocols.

Supercharge your wireless networks with our patented Optimized TCP/IP protocol

Radio IP MTG transforms the performance of your wireless networks by

introducing data compression and reducing data overhead. Our Optimized TCP/IP compression drastically reduces the amount of data transmitted, thereby significantly improving file transfer time to ensure an efficient use of the

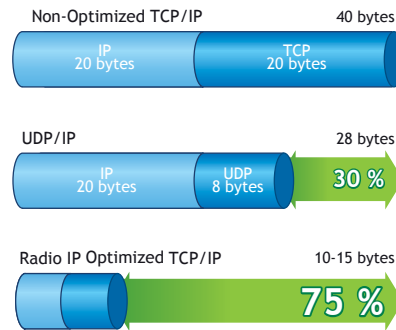
wireless pipe. Optimized TCP/IP removes the "chattiness" associated with standard TCP/IP and reduces TCP/IP packet size by 75%.

A Clear Technology Roadmap

Technology will continue to evolve whether for dispatch applications, in-vehicle devices, networks or GPS-based handhelds. With change being inevitable, the interoperability introduced by Radio IP MTG protects your investments and ensures your migration to new technologies will be seamless and painless. The result eliminates downtime and reduces the risk of new technology integration.

Communication Protocol Payload

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“ We chose Radio IP MTG to extend the functionality of our network. Radio IP MTG is fully compatible with the ASTRO IV&D system, opening the door to faster throughput, access to TCP/IP applications and full industry-standard data encryption. ”

Michael Emerson
IS Director, Coachella Valley Water District



Windows Mobile on Patrol

Whether meter readers, line crews or repair personnel, mobile utility workers are not always in their vehicles. In fact, for a great portion of their time they may be on a remote site with access only to a handheld device.



With Radio IP MTG, these users can have the same benefits of their laptop counterparts, with full access to corporate applications

by connecting securely to the wireless LAN or WAN. Radio IP MTG offers a reduced size client interface designed specifically for Windows Mobile devices, giving workers access to all wireless networks, alone or in combination.

Ultra portability for your field workers

Tap into remote databases from virtually any location, without having to go back to the vehicle. Send real-time, mission-critical messages out to the field or to the command center.

Seamless, transparent and background mobile functionality gives your field workers the flexibility to

be where they need to be, when they need to be, with their tools right at their fingertips.

Cost savings for the team

Windows Mobile handheld devices are an inexpensive alternative to equip your mobile work force with the necessary tools to perform their job.

At five to seven times the cost savings over ruggedized laptops, handheld devices are powerful, yet lightweight, and compact enough to carry on a belt. You can increase productivity and reduce errors in the field while maintaining full connectivity with Radio IP MTG.

Radio IP Software Suite of Solutions

Radio IP MTG™ Offers:

Application & Session Persistence

- Continuous Wireless Connectivity
- Automatic Network Reconnect
- Data Buffering

Mobile VPN Security

- FIPS 140-2 Validated Encryption
- Digital Certificate Authentication
- Two-Factor Authentication
- Protection against LAN Attacks

Multi-Network Interoperability & Roaming

- Public Cellular Networks
- WiFi & WiMAX
- Private Networks (IP & Non-IP)
- Satellite

Powerful Network Management Tools

- Forward & Filtering
- Mobile DHCP
- Static IP Addressing
- Hot Standby Redundancy Solution

Windows Mobile Compatibility

- Handheld Device Integration
- Reduced Size Client Interface

Network Performance Improvement

- Optimized TCP/IP
- Compression & Throughput Gains

Proven Technology Investment

- Lowest Infrastructure Total Cost of Ownership
- Clear Migration Path to Future Technologies
- “Best-in-Class” Technical Support

The Radio IP® Suite of Products

Radio IP Software is aware of the wireless communications challenges facing utility organizations. As connectionware, we are also familiar with the diverse technologies deployed in wireless communications. Let our experienced team of professionals help you to get the most out of wireless data.

Access Defender™

Access Defender works in conjunction with Radio IP MTG as an additional security layer designed to protect public IP networks from attacks. Access Defender prevents intruders from attacking your sensitive back-office data and employing methods such as “denial of access” or “buffer overrun”.

GPS Management Suite

Our GPS Management suite provides you the most complete, interoperable, simple and easy to integrate GPS solutions. Achieve data accuracy, format compatibility, central management and more. Our GPS Management products are available both on the client- and server-side.

Need more information about Radio IP MTG or our product portfolio? Email us at info@radio-ip.com.

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