



## ***Converged enterprise mobility solutions***

Improve operational efficiencies and reduce costs with integrated mobile voice and data technology



*With Motorola's voice ready mobility solutions, you can provide your employees with one device for all their mobile communication and computing needs — from voice and data to bar code scanning, signature capture and image capture.*



## Motorola voice and data mobility solutions... delivering the power of convergence

Maximize the power of converged voice and data throughout your enterprise with end-to-end integrated voice and data enterprise mobility solutions from Motorola. Together with our partners, Motorola offers validated voice and data solutions that work, right out of the box, enabling rapid and cost-effective deployment, rapid user adoption — and rapid realization of benefits.

### **Rich with functionality.**

With Motorola's voice ready mobility solutions, you can provide your employees with one device for all their mobile communication and computing needs — including voice and data, bar code scanning, signature and image capture. Our high-performance devices and wireless LAN platforms are designed for voice as well as data, ensuring a consistent and dependable connection for all user communications. And common platforms enable powerful centralized management of your voice and data mobility infrastructure, as well as easier porting of applications across mobile devices.

### **Rich with benefits.**

With the convergence of voice and data on a single device, your enterprise is more agile, operations are more efficient and you have the real-time data you need to create a leaner organization. When you replace cell phones, PDAs and even laptops with a single multi-function device, you have fewer devices to purchase and support, and fewer batteries to manage, translating into a significant reduction in capital and operational expenditures. IT time and effort is significantly reduced through centralized management of one converged voice/data network, freeing IT staff to focus on more strategic business technology initiatives. And the ability to easily leverage applications across devices extends the value of your existing application investment dollars, eliminating the cost of developing new applications for new types of devices.

### **Rich with tested and proven technology.**

As industry leader for decades, Motorola delivers superior proven products you can count on — from high quality mobile computing devices to wireless networking — as well as the experience gained from deploying successful solutions that are helping companies of all sizes realize the business advantage of integrated voice and data.

Our partnerships with major telecom vendors ensure the ability to integrate your existing PBX into your converged voice and data solution. And our Solutions Validation Program helps ensure compatibility and ease of integration, bringing you peace of mind before you embark on a converged voice and data solution.

### **...And a rich return on investment.**

Converged voice and data solutions make smart business sense. Increased productivity, reduced training time, and the extension of your existing telephony and wireless infrastructure delivers a rapid return on investment.

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### **Helping you build a complete solution**

Look to Motorola for the products, partners and experience necessary for integrated voice and data solutions that deliver maximum value in the enterprise. No matter what your unique solution requires, with the worldwide reach of our highly collaborative, award-winning partner ecosystem, we can deliver what you need, when and where you need it, bringing a new level of ease and simplicity to an often complex solution, including:

- Wireless LAN networking equipment for high-performance voice and data communications inside your building or around your campus
- Mobile devices for employees inside your four walls and out in the field
- Voice software from our ecosystem of partners
- Centralized network and device management support implementation of the correct policies to ensure voice quality, as well as simplify and reduce management costs
- A full array of partner-provided professional services, including design and implementation, integration with your existing telephony equipment, and ongoing maintenance and support.

### **Extensive voice services**

Motorola converged voice and data systems, in conjunction with partner voice application software, bring extensive voice services to life:

#### **Voice over WLAN (VoWLAN)**

VoWLAN enables you to provide a variety of flexible and cost-effective voice services to employees inside the enterprise campus: one-to-one and one-to-many communications outside of your PBX, and IP telephony functionality through your PBX.

One-to-one peer-to-peer VoWLAN services enable cost-effective direct communications between workers inside your four walls, without using either your PBX or costly cellular services. Placing a call is as simple as selecting an individual from the company directory (such as Joe Smith or Store Manager). Enabling your workers with on-the-spot peer-to-peer voice connectivity to anyone in the enterprise keeps telecommunications costs in check and workers productive — there is no need to waste time walking to a fixed desktop phone to place a call or to wait for a return call.

One-to-many peer-to-peer VoWLAN services provide your workers with powerful push-to-talk walkie-talkie style communications, also without requiring PBX or costly cellular services. Workers and managers can reach entire departments and workgroups with a single call — and dedicated user buttons enable simple and intuitive operation. With the press of a single button, employees in the lumber department can be located to provide needed customer assistance

or re-stock shelves, or the nearest nurses can be summoned to respond to an urgent patient need.

And with IP telephony VoWLAN, you can extend the functionality associated with your PBX extensions to a mobile device. Cost-effective VoWLAN services eliminate the need for employees to use cellular service while in building. Calls to the company phone number can ring simultaneously on both the desk and mobile devices, keeping your employees in touch even as they move throughout your facility. And users enjoy the convenience of productivity-enhancing features, such as dial by extension, call forwarding and more.

### **Voice over WWAN (VoWWAN)**

VoWWAN services enable the extension of VoWLAN services outside the building through two additional services:

Peer-to-peer cellular services enable one-to-one and one-to-many push-to-talk services over the cellular network. Workers can reach an individual or an entire workgroup with instant walkie-talkie style communications, regardless of whether they are inside your facility or out in the field. For example, managers can instantly notify sales associates about special pricing, or dispatch can quickly identify the nearest service person to respond to an urgent customer call.

Telephony over cellular integrates the functionality of a traditional cell phone into your mobile computing device, enabling employees outside the four walls with mobile voice and data — including access to business applications.

### **Fixed Mobile Convergence (FMC)**

Fixed mobile convergence provides enterprises with the best of both worlds — a single mobile device with a Wi-Fi and cellular radio, capable of dynamically switching back and forth between

VoWLAN and VoWWAN services as employees move in and out of the enterprise environment. With FMC, enterprises have full control over how mobile communications are delivered. For example, delivery of mobile voice and data services can automatically be directed for delivery via the company's WLAN when mobile workers are inside the office — effectively reducing mobile communication costs as well as eliminating in-building coverage issues.

FMC also enables a key new capability — the extension of the desk phone to mobile devices over either the WLAN or WWAN, delivering strategic and financial benefits. Calls to the desk phone now ring through to the worker's mobile device, improving accessibility, customer service levels and general response times — and the single business number is owned and controlled by the enterprise. FMC also improves mobile worker productivity through the simplicity of one voicemail box and the extension of time-saving desk phone functions. All unanswered calls placed to the desk phone number are directed to the company voicemail system, enabling mobile workers to more easily stay on top of critical voicemail messages. And features such as call-forwarding, conference calling and abbreviated dialing are all available on the workers mobile device.

FMC also provides additional financial benefits for the enterprise. PBX cost-saving features can be extended to the mobile devices, such as least-cost routing, helping to further reduce mobile communication costs. And since all calls placed from the mobile phone are automatically logged as if they were placed from the desk phone, enterprises enjoy simplified accounting and, when required, cost-effective regulatory compliance.

## Superior technology for superior performance

When you choose Motorola voice-optimized mobility solutions, you choose products that have been engineered from the ground up to deliver superior functionality and performance for both voice and data — from mobile devices to wireless LAN infrastructure.



## Robust mobile devices designed for voice

Motorola's integrated voice and data devices are designed for dual use at the platform level — rather than data-centric devices where voice is simply an afterthought, or voice devices where Wi-Fi functionality is a late addition. Our multi-functional devices maximize your investment dollar without compromising features and usability, either as a mobile phone, a mobile computer, a scanner or an imager.

Our robust converged device family offers the latest in operating systems, computing power and power management, with enterprise functionality including bar code scanning and image capture. Regardless of whether the devices will be used inside or outside your four walls, there is a Motorola mobile device designed to best suit the needs of

your environment, application — and budget. Designed for use in the harshest environments, our rugged devices pass Motorola's stringent drop and tumble tests to ensure the device's ability to survive a fall, and offer environmental sealing needed to withstand moisture, dust and more. Designed for light industrial use, our durable devices offer lighter levels of environmental sealing — and less cost. And rather than a 'one-size-fits-all' approach to enterprise mobility, our devices are tailored for the specific requirements of your industry, built to meet the needs of users and applications in retail, healthcare, transportation and logistics, manufacturing and warehousing.

## Get 'Voice Ready' functionality for real world voice performance

At Motorola, we understand that real world performance is what counts. Our outstanding Voice Ready devices excel at handling voice as well as data, individually as well as simultaneously. Designed and measured against exacting standards, our devices are interoperable out of the box with validated voice infrastructure and voice partner software, offering:

- Out of box interoperability with validated voice infrastructure and voice partner software:
  - Motorola VoWLAN capabilities on mobile devices are measured against TIA-810A guidelines, ensuring that Motorola devices can integrate seamlessly and easily into your existing telecommunications equipment — no tuning required.

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superior functionality and performance for both voice and data.***

- Outstanding voice quality:
  - Acoustically engineered for near toll voice quality and functionality on the full range of user modes — headset, Bluetooth headset, handset and speakerphone.
  - Dual band 802.11a/b/g provides the flexibility to segregate voice traffic to 802.11a and data to 802.11b/g for improved voice quality and availability.
  - Voice Quality Manager (VQM), a software client unique to Motorola mobile devices, marries the voice software from Motorola's partners with the advanced audio features of Motorola voice ready products, enabling:
    - Acoustic Echo Cancel (AEC), a feature that eliminates the echo often experienced in speakerphone and handset modes.
    - The display of an easy to use "tap-to-toggle" icon to re-route audio between handset and speakerphone modes.
    - Voice packet tagging to support Wi-Fi Multimedia (WMM) quality of service (QoS) for VoWLAN calls. Since voice packets are then easily identified by Motorola's wireless LAN infrastructure, voice prioritization rules can be applied, reducing dropped calls and enabling superior voice performance over the WLAN.
- Smart power management:
  - Full shift talk time, depending on battery capacity, device configuration and data usage. Unique Motorola-only features including Virtual AP, Proxy ARP and Power Save Polling (PSP) work together to protect battery power by reducing the need for the device to process unnecessary broadcast traffic and allowing devices to remain in sleep (low-power) mode without missing messages.
  - No missed calls — even when the device is in a low power state, an incoming voice call will automatically wake up the device in time to allow the user to answer the call.
- Fast Wi-Fi roaming:
  - Unique and patented Motorola wireless LAN capabilities ensure little or no interruption during an active phone call — and fewer dropped calls. The three enabling Motorola-only features are pre-emptive roaming, load balancing and pre-authentication. Pre-emptive roaming and load balancing work hand-in-hand to ensure users roam to the next Access Point before the connection quality erodes. And while PMK caching and pre-authentication are provided as part of the WPA2 specification, Motorola added Opportunistic PMK caching to eliminate the need for devices to completely re-authenticate as users roam to a new access port.

**Converged voice and data solutions make smart business sense — increased productivity, reduced training time, and the extension of your existing telephony and wireless infrastructure deliver a rapid return on investment.**



**Wireless LAN infrastructure designed for voice**

When you choose a Motorola voice-optimized mobility solution, you choose a wireless LAN (WLAN) designed to deliver clear, high quality voice communications with enterprise security. A leading pioneer of WLAN and VoWLAN solutions, Motorola has a long history in understanding and addressing the unique challenges associated with deploying voice over a WLAN, offering true walk-while-you-talk mobile voice communications for your employees throughout your location.

Designed to meet the wireless networking needs of any size company — from the largest enterprises with many locations around the world to small businesses — our family of wireless infrastructure products offer robust secure wireless voice and data networking. Our family of access point and wireless switch products are packed with voice management features designed to deliver superior voice quality and superior integration with Motorola voice-optimized mobile devices. Some of the many features include:

- Support for all of today's wireless security standards, with the ability to upgrade to support new standards as they are developed, ensuring that all your wireless communications — voice and data — are secure during transmission.
- Wi-Fi MultiMedia Extensions (WMM and WMM2) extend the world of possible applications in the enterprise to include voice as well as video by ensuring quality of service through packet prioritization capabilities. And the latest generation, WMM2, offers an additional feature, unscheduled power save delivery (UPSD), which enables sleeping devices to maintain better voice quality.
- SIP Call Admission Control allows enterprises to define the number of voice calls that can connect to an access point to prevent overload and degradation of service.
- Pre-emptive roaming and load balancing, two features unique to Motorola that ensure devices roam before connection quality erodes while maintaining high throughput.
- Dual band 802.11a/b/g radio that enables the segregation of voice traffic to the less congested 5 GHz (802.11a) band. The ability to allocate and dedicate this high-bandwidth channel to voice traffic only enables the network to handle more voice traffic without any degradation of quality of service for voice calls.
- Multi-BSSID enables a completely separate virtual wireless LAN for voice traffic,

improving voice performance by ensuring maximum bandwidth availability and network throughput. In addition, the ability to control all broadcast traffic eliminates the processing of unnecessary messages by mobile devices, improving battery cycle times and overall battery life expectancy.

- For legacy voice solutions that do not support WMM, Quality of Service (QoS) through Voice Prioritization ensures that voice packets receive top priority. Dropped calls are reduced and continuity of service is maintained for legacy solutions, such as SpectraLink and Avaya soft phones running on Motorola mobile devices.
- Integration support for third party PBXs, with interoperability testing completed on Spectralink, Avaya and Vocera voice products to date,
- WPA2 enables fast roaming and rapid handoffs to help prevent dropped calls as users roam throughout the enterprise campus.
- Motorola's Power Save Polling (PSP) feature buffers traffic to enable devices to remain in a low power-saving mode instead of a constant wake state. Multicast masking ensures that multicast traffic associated with walkie-talkie style communications is always pushed through immediately instead of buffered to ensure instant transmission of the voice packets. This feature is available regardless of your network design and enables the full benefits of Motorola's power-saving features without compromising voice functionality.



### **A new level of management simplicity for voice and data mobility solutions**

Motorola offers several management solutions that not only simplify management of your converged voice and data solution, but also assist in maintaining voice quality as well as providing valuable protection against unauthorized access and attacks.

### **Mobility Services Platform (MSP)**

With the addition of Motorola's Mobility Services Platform (MSP), you can deploy, monitor and troubleshoot your entire voice-optimized mobility solution — from wireless switches to mobile devices — from a single centralized remote location. Through an anywhere anytime easy-to-use Web-based interface, IT personnel can easily provision and manage hundreds to thousands of devices anywhere in the world. By eliminating the complexities of managing devices that are often on the move, this powerful tool significantly reduces the time and costs associated with managing your mobility solution. Your total cost of ownership is reduced, and you can better leverage IT resources for more critical projects.

MSP is also key in enabling optimal voice quality. In addition to device management, MSP enables centralized management of wireless network policies and mobile device configurations, ensuring that the right radio technology on mobile devices is utilized for the right application.

This unique platform also provides data on performance and potential issues within the environment before they become critical and threaten business. MSP can collect alerts from the infrastructure and the mobile units simultaneously, consolidating the information into a single email or management SNMP trap as soon as performance falls outside specific parameters, providing additional protection for the quality of service for your voice and data traffic.

***When you want technology leadership and proven performance in your converged voice and data mobility solution, think Motorola.***



### **Wireless Intrusion Protection System (Wireless IPS)**

In any business where wireless communication is a mainstay of the infrastructure, protection against events that can cripple your network and your business, such as unauthorized access and attacks, are a major part of your converged voice and data solution.

Motorola's Wireless Intrusion Prevention System (Wireless IPS) protects your wireless network infrastructure, mobile devices and wireless traffic from external threats. With Wireless IPS, you can proactively monitor your wireless network for weaknesses and make corrections before a problem occurs. Around the clock monitoring ensures that any security breaches are instantly identified — from rogue devices to attacks — enabling an immediate response. The unique architecture takes the best of distributed and centralized architectures, creating a hybrid platform that offers highly accurate analysis, minimal bandwidth requirements, the elimination of blind spots and full locationing capabilities. And the plug-and-play solution is easy to scale, upgrade and manage, bringing a new level of simplicity and cost-efficiency to enterprise level protection against unauthorized access throughout your entire enterprise mobility solution.

### **Think Motorola for converged voice and data**

When it comes to understanding your business and how to deploy converged solutions in your environment, Motorola offers a wealth of experience in the deployment of mobile voice and data in a wide range of industries, including retail, manufacturing, healthcare, transportation and logistics, manufacturing and distribution. By leveraging our broad understanding of the various functional areas of your business and our expertise in mobile voice and data, you can design and deploy a highly successful voice-optimized mobility solution that will deliver maximum benefits in your enterprise.

When you want technology leadership and proven performance in your converged voice and data mobility solution, think Motorola. You'll enjoy cost-savings and improved productivity, as well as leaner and more effective operations that all add up to improved profitability — real value...real business advantage.

Get the power of converged voice and data in your enterprise today — with Motorola voice-optimized mobility solutions.

For more information on how your organization can benefit from a Motorola enterprise mobility solution, please visit us on the web at [www.symbol.com/voice](http://www.symbol.com/voice), or access our global contact directory at [www.symbol.com/contact](http://www.symbol.com/contact)

## ***Award-Winning — Voice optimized technology***

### **2007 MC35**

VARBusiness 2007 Tech Innovator of the Year Award — Handhelds

Awarded for innovative product design that addresses business issues while reducing technology complexity and cost.

### **2006 MC70**

“Best VoIP Product” finalist in the Wireless Broadband Innovation Awards

Awarded for leadership and innovation in Wi-Fi, 3G/ mobile data, WiMAX and wireless broadband.

### **2005 MC50 EDA, MC9000 Series and WS5100 Wireless Switch**

“Frost and Sullivan 2005 Product Differentiation Award”

This award was presented for our’s ability to provide a voice-enabled mobile computer that caters to the needs of the retail, warehousing, logistics and transportation, government, healthcare and manufacturing verticals. This prestigious award is presented to the company that has best demonstrated the ability to develop and/or advance products with more innovative capabilities than competing vendors and products. It is presented in recognition of innovation that is expected to significantly contribute to the industry in terms of product performance and degree/rate of technical change, as well as for the successful adoption of new or existing technology into a well-designed product family.

### **2004 WS2000 Wireless Switch**

“Best in Show”, Gordon & Associates Wi-FiPower

Awarded for technology innovation and product excellence.

### **2003 Wireless Switch Systems**

“eWEEK Excellence” Award

eWEEK’s Annual Excellence Awards Program honors the most innovative and relevant enterprise hardware, software and services. The program is designed to provide enterprise IT decision-makers, from IT managers to CIOs, with a comprehensive benchmark for assessing products and services that demonstrate innovation and integrate cutting-edge technologies, while maintaining strong commitment to helping enterprises address their varied security and budgetary concerns.



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