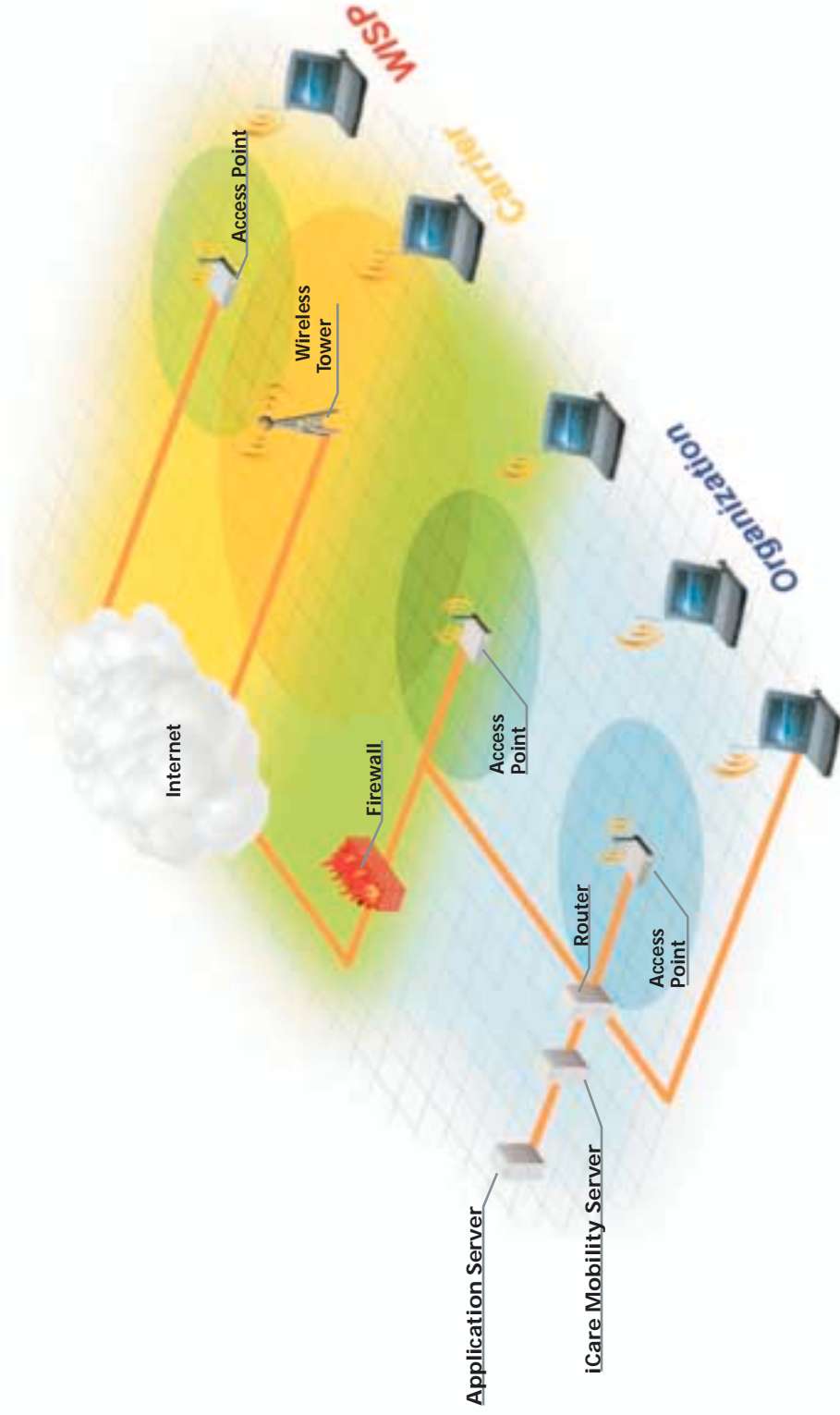


# Enhancing productivity through reliable, secure mobile computing Wireless solutions



## *iCareMobility*<sup>™</sup> Uninterrupted wireless performance

Wireless networking is faster, cheaper and in greater demand by organizations than ever before. The reasons for this demand are clear—by using wireless networking, enterprises can: **Reduce operating expenses** • **Increase worker productivity**

- **Improve customer service** Unfortunately, deploying and managing a wireless computing solution has never been as easy as managing wireline devices. Until now... *iCareMobility*<sup>™</sup> provides an easily deployed, low-impact software solution created specifically to address the many challenges of mobile computing. Through its robust server software and support for a wide range of client platforms, *iCareMobility* provides a continuous, secure connection between mobile clients and enterprise applications—no matter what networks mobile workers use or traverse.

### *iCare Mobility is made up of two parts:*

1. A lightweight client that is installed on every wireless notebook, HP/C or handheld device.
2. Server software that, among other tasks, acts as proxy to enterprise application servers.

### Through this simple architecture, *iCareMobility*:

- Enables any enterprise application to work over wireless networks without modification or customization.
- Ensures data is secure no matter what network or devices mobile workers use.
- Eliminates lost data and application crashes, even when mobile workers move outside of network coverage or suspend and resume their devices.
- Turns a multi-network environment, including enterprise LANs, wireless LANs, dial-up or public wireless wide area networks (wireless WANs), into a single, unified network.
- Is simple and easy to install and use, making it painless to deploy (installations typically require hours—not days), easy to manage and transparent to mobile workers.

The reasons wireless networking is in great demand are clear. The need for *iCareMobility* is even clearer:

*iCareMobility* eliminates the frustration and complexity of deploying and managing a wireless computing solution.

# *icare* Mobility: in action



## A few examples of the performance benefits of *iCare Mobility*:

### Field Services

A field service company uses only 2 megabytes per month per technician for text dispatching over a GPRS network. But they were having trouble controlling airtime costs. Technicians were using other applications and surfing the web via GPRS, forcing the company to consider an expensive unlimited data usage airtime plan.

*iCare Mobility's* Policy Management Module solved the dilemma, enabling the company to centrally manage and limit GPRS airtime to specific areas such as a dispatch application, a group of intranet web sites, and an instant messaging application to improve intra-workforce communications. All other applications were required to have a broadband connection via the corporate LAN or WLAN. This solution resulted in an over 50% reduction in GPRS airtime costs from the unlimited usage rate, and saved them 20% off their old CDPD rate.

### Public Safety

A police department had GoBooks previously configured with CDPD. They could upgrade their GoBooks to CDMA/1xRTT with no difficulty, but what

about their applications? Dynamic IP addressing disrupted their applications as officers entered and left coverage. Around the station they used Wi-Fi to add bandwidth and save on airtime, but had to shut



down all applications as they left the station, then reboot and restart the applications a block away when they were out of Wi-Fi coverage.

*iCare Mobility* eliminated both the dynamic IP addressing issue, and solved the roaming between 1xRTT to Wi-Fi problems transparently, without any modifications or upgrades to the applications. The officers stayed connected regardless of where they were, enabling more time for them to be on patrol.

### Insurance Claims Adjusting

A claims adjuster uses a notebook with integrated CDMA/1xRTT. The adjuster receives claims assignments wirelessly and then transmits claim documentation—including photos—wirelessly in real-time to speed processing of a settlement to the customer. But photos were slow to upload over the WWAN, especially in poor coverage and at peak network usage times when the network was congested.

*iCare Mobility* solved these problems, enabling the adjuster to roam seamlessly to WLANs at body shops or at her office,

allowing broadband access for rapid uploads of photos. The adjuster eliminated the wasted time of shutting down and restarting her applications whenever there was a coverage change. In addition, customer data security was ensured with *iCare Mobility's* innovative wireless security features.

### Telecommunications Services

A DSL/Cable technician with a GPRS enabled notebook installs new broadband data service in a customer's home. Enabled with *iCare Mobility*, when the technician fired-up the wireless router, his notebook automatically roamed from GPRS/1xRTT coverage to the 802.11 LAN. Using *iCare Mobility* he avoided shutting down his dispatch application and rebooting or reconfiguring the computer. He tests and demonstrates the new service to the customer and leaves the home. Back in the vehicle—out of 802.11b range—his notebook automatically roams back to GPRS coverage without any interruption or rebooting. The technician's computer is secure and protected the entire time.



## Inside *iCareMobility*™

### Security

In a wireless environment, data is no longer contained within the secure setting of an enterprise LAN—it's traversing public airwaves and is vulnerable to data corruption, eavesdropping and unauthorized access. Traditional VPN solutions are not designed to work over wireless networks and are difficult to use. As a result, they are slow and crash frequently—when they work at all.

To address these concerns, *iCareMobility*'s Roamable VPN incorporates a standards-based, secure virtual private network designed for wireless networking that integrates single-sign-on authentication. Mobile workers use standard Microsoft® Windows® login credentials—there are no additional steps to learn or passwords to remember. The *iCareMobility* Roamable VPN encrypts all data transmitted between the client and server using 128-bit AES (IT managers also can select 56-bit DES, 112-bit DES [triple-DES] or 128-bit Twofish).

The algorithm used is configurable globally or on a per-user basis, and can be disabled for mobile workers who do not require this level of security. Key exchange occurs via Diffie-Hellman or ECC.

### *iCareMobility* supports native authentication, including:

- RADIUS
- Microsoft® Windows NT® domains
- NTLMv2
- Microsoft® Active Directory®
- Kerberos
- PKI
- Workgroup-level authentication

### A Single, Unified Network

The days of a single, wired, high-speed LAN are behind us. Today's mobile workers use multiple public and private networks that may include multiple subnets within a wireless LAN, wireless WANs or even dial-up—all of which have different security and performance characteristics.

Through *iCareMobility*'s InterNetwork Roaming™, mobile workers can now make these network transitions seamlessly, transparently and securely, turning a multi-network environment into a single, unified network.



The *iCareMobility* server makes InterNetwork Roaming possible by acting as a proxy between clients and enterprise application servers. For every client, the *iCareMobility* server establishes a virtual IP address to be used in all communication with enterprise application servers. This virtual IP address will be used regardless of whether the client is connecting via an enterprise wireless LAN, public Wi-Fi hotspot or wireless WAN. The *iCareMobility* server then forwards data sent to a client's virtual address (which is known to the enterprise application server) on to the client's actual, current wireless point-of-presence (POP) address.

As a result, even as clients move and are assigned new IP addresses by various networks, enterprise application servers never see these changes—only an unchanging virtual IP address. There is no need to resegment networks, implement VLANs or deploy additional hardware to enable mobile workers to roam freely.

In addition, InterNetwork Roaming is tightly integrated with *iCareMobility*'s Roamable VPN, so no matter where client devices move, mobile workers are automatically authenticated and encrypted tunnels are established.

### No Lost Data or Crashed Applications

Mobile workers do more than cross network boundaries; they also move into areas where there is no coverage—parking garages, stairwells and even airplanes—or suspend and resume their devices as a way of conserving battery life. When existing enterprise applications encounter these situations, they typically crash. User data is lost and productivity of mobile workers suffers.

Because the *iCareMobility* server acts as a proxy server, it is able to provide Application Session Persistence, maintaining session states if connections are broken and masking service interruptions from any running applications. And, when a client reconnects, the *iCareMobility* server automatically resumes sending and receiving data from the point of last transmission.

The *iCareMobility* server controls data flow between clients and enterprise application servers through remote procedure calls and adjustments to TCP/IP window sizes—not by caching data. This enables the *iCareMobility* server to maintain sessions for large numbers of mobile workers for extended periods.

## Control

*iCareMobility* brings wireless computers under the control of standard IT management practices. With *iCareMobility*, IT managers can tighten wireless security by enabling automatic virus scanning, operating system and desktop application management updates on computers with limited broadband access. They can reduce airtime costs by enabling centralized control over which applications users can access, i.e., limiting access to specified applications when connected via WWAN, and improve productivity by prohibiting "bandwidth hungry" applications from operating over low bandwidth networks.

*iCareMobility*'s Policy Management Options address these challenges by providing a set of centralized, flexible management tools that enable IT managers to:

- Establish policies centrally and distribute to individual clients where they may be viewed but not altered.
- Enforce IT and corporate security policies by assigning rules globally, to specific workgroups, individuals or devices.
- Manage bandwidth usage and costs by preventing mobile workers from using certain applications or downloading large files based on:
  - The network to which a user is connected.
  - The type or speed of a network interface.
  - Detailed rules that block or allow data traffic based on application name, port or IP address.

As an example, an IT manager may establish a rule allowing a workgroup to browse the web only when on the corporate wireless LAN but not when connected to a wireless WAN.

In addition, by using *iCareMobility*'s Configuration Manager and Status Monitor, IT managers can:

- Configure and manage remote connections.
- Troubleshoot remote connection problems.
- Gather more than 100 metrics and statistics regarding servers and mobile devices, including battery life and operating system.

## Maximize Network Performance

Most applications have been designed to operate over wire at gigabit speeds. Since many wireless networks may be slowed by traffic and have variable latency, existing applications typically don't perform well in a wireless environment. *iCareMobility* mitigates this issue by incorporating data Compression and Link Optimizations.

Rather than using TCP, *iCareMobility* uses IP UDP which is more efficient. The *iCareMobility* server automatically compensates for differences between wireline and wireless networks by adjusting frame size and protocol timing to reduce network chatter. To improve performance and minimize the effects of network latency, *iCareMobility* compresses all traffic between client and server, reducing the number of packets sent, which can reduce costs when using a wireless WAN.

Finally, through *iCareMobility*'s Best-Bandwidth Routing™, if multiple interfaces are available, the *iCareMobility* client automatically uses the interface reporting the fastest connection.

## Specifications

### Supported Operating Systems

Pocket PC  
Pocket PC 2002, 2003  
Windows CE 3.0, HPC-2000  
Windows 2000  
Windows XP Professional  
Windows 98

### Mobility Features

NetMotion Mobility subnet roaming  
NetMotion Mobility InterNetwork Roaming™  
Compatible with Mobile IP  
Application Policy Management

### Supported Server Platforms

Windows Server 2003  
Windows 2000

### Authentication

Kerberos  
Microsoft Active Directory  
Microsoft NTLM  
PKI  
RADIUS  
Compatible with Cisco LEAP

### Public Key Exchange

Diffie-Hellman (1024-bit key)  
ECC Diffie-Hellman (128-bit key, 256-bit curve)

### Supported Encryption Schemes

AES (128-bit)  
Twofish (128-bit)  
3DES (112-bit)  
DES (56-bit)

### VPN Compatibility

PPTP  
L2TP  
IPSec  
Cisco  
Nortel

### Wireless LAN Compatibility

802.11a  
802.11b (Wi-Fi)  
802.11g  
HomeRF

### Wireless WAN Compatibility

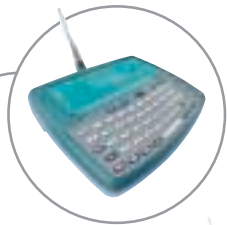
CDPD  
GPRS  
GSM  
EDGE 1 & 2  
UMTS  
W-CDMA  
CDMAone (IS-95A & I

# 4 reasons you need *iCare* Mobility

*iCare* Mobility supports all Itronix computing solutions



GoBook Q-100



fex21



GoBook II



GoBook MAX

## 1 Increase wireless worker mobility & productivity

*iCare*Mobility eliminates wasted time and frustration caused when users have to log-on, relaunch applications, and recover lost data because their wireless connections break due to coverage gaps, interference, or suspending a device.

With *iCare*Mobility, workers can roam freely and seamlessly between subnets in a building, across a campus, or between different network types – from LAN to WAN to wireless WAN – without any disruption of the applications in use.

Best of all, *iCare*Mobility optimizes all your existing applications for use over a wireless network. You just have to install the software. Your workers get complete mobile, wireless access to all the applications and network resources they're accustomed to on their desktops—or you can control what applications they can access wirelessly.

## 2 Increase security benefits

*iCare*Mobility allows you to deploy a secure solution that protects your data, mobile clients and network from the threats of the public Internet, even as workers roam from internal LAN to WLAN and public wireless WANs.

## 3 Enhance the benefit of your legacy systems

*iCare*Mobility enables you to deploy legacy or third-party applications in a wireless world with the reliability and security you are accustomed to in a wired network environment.

No other networking solution offers the level of compatibility, ease of use, and return on investment inherent in Itronix *iCare*Mobility.

## 4 Policy Management benefits

Policy Management finally provides IT organizations with centralized, flexible control over what users and applications are allowed to do in wired and wireless network environments. Policies can be defined based on the name or speed of the network interface, with fine-grained rules that block or allow data traffic based on a variety of factors.

There are four powerful reasons why IT staff responsible for wireless networks want *iCare*Mobility. For even more reasons, contact your Itronix *iCare*Mobility representative.

## To Wrap it Up

Through its robust server software and support for a wide range of client platforms (see these specifications), *iCare*Mobility provides a continuous, secure connection between mobile clients and enterprise applications—no matter what networks mobile workers use or traverse.

### *iCare*Mobility Provides:

- Roamable VPN
- InterNetwork Roaming™
- Application Session Persistence
- Policy Management Module
- Configuration Manager and Status Monitor
- Compression and Link Optimizations
- Best-Bandwidth Routing™

And, unlike complex middleware or hardware-based solutions, implementing *iCare*Mobility requires no changes to existing enterprise applications, hardware or networks.

For IT managers, *iCare*Mobility eliminates the frustration and complexity of deploying and managing a wireless computing solution. *iCare*Mobility is a software solution independent of underlying wireless infrastructure and technology and works with all standards-based wireless hardware. *iCare*Mobility provides centralized control over all wireless clients through a single, unified management console, including the ability to establish detailed rules to control application-level traffic. Whatever the client form factor or network used—public or private—*iCare*Mobility ensures a secure connection with full-encryption and authentication for every user session.

For mobile workers, *iCare*Mobility makes wireless simple. Mobile workers log in and have access to applications and services just as they do when using an enterprise LAN. Connections are faster and more reliable and mobile workers can roam freely without losing data or restarting applications or VPN.

To enterprise applications and servers, *iCare*Mobility is completely transparent. Clients appear to have a single, persistent connection and fixed IP address. Applications don't have to be rewritten to accommodate wireless, because *iCare*Mobility enables any IP-based application to maintain a continuous, secure connection—regardless of the network mobile workers use or move across.



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