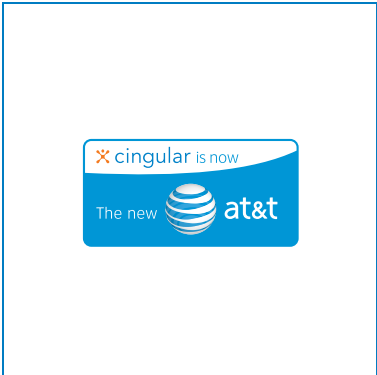
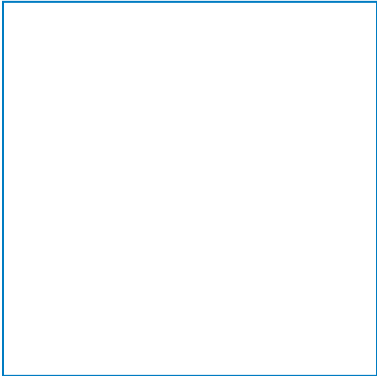
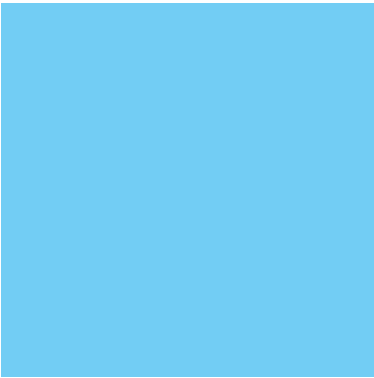


Managing the Mobile Enterprise

A guide for creating effective enterprise Wireless Strategies





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CONTENTS

- 1 Executive Summary**
- 2 The Next Wave: Wireless Convergence**
Why Now?
- 4 Managing the Mobile Wireless Enterprise**
*The Need for an Enterprise Wireless
Information-Access Strategy*
- 6 Defining the Strategy and Supporting Technology**
*Five Key Requirements for Wireless
Enterprise Solutions*
- 10 Taking Action**



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Executive Summary

Wireless access to enterprise information is going mainstream—driven largely by the needs and requests of individual employees within the enterprise. But while the groundswell of enthusiasm for wireless access is coming from the bottom up, the management of wireless access needs to be driven from the top down. Otherwise enterprises may find that wireless information access is a complex, chaotic and expensive endeavor with only ambiguous benefits.

The key to turning wireless information access into a strategic IT initiative that delivers tangible ROI is developing an enterprise wireless information access strategy. Building such a strategy requires the cooperation of IT and business managers who together determine how wireless information access can be used to improve productivity, customer responsiveness and other key metrics within their business.

As IT managers turn the strategy into reality, it is imperative they consider—and choose to work with technology providers who can deliver—five key requirements:

- Enterprise-class security
- Application optimization with real-time push synchronization
- Broad handheld support and device-level integration
- Robust fleet management tools
- Flexible service and support

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The Next Wave: Wireless Convergence

Computing is undergoing a historic shift from stationary computing to mobile computing. Time zones, geography and distance are increasingly irrelevant as wireless technologies change the fabric of business and society, just as the boundaries between laptop computers, wireless phones, PDAs and messaging devices—the very tools of the information economy—are increasingly blurred. Wireless convergence is here.

No longer bound by the walls of corporate headquarters, business professionals equipped with industry-leading wireless handhelds and software are increasingly able to do business anywhere, anytime—with instant mobile access to all corporate information and applications. Those enterprises that embrace and manage wireless convergence will realize improved productivity and increased competitive advantage.

Far from being a futuristic ideal, converged wireless solutions are being adopted by mobile professionals today as more and more business is conducted out of the office. Wireless convergence is going mainstream:

- Forty percent of workers now travel for business, a figure that will rise to two-thirds by 2007. (IDC)
- There are 30.3 million mobile professionals worldwide today, growing to 41.1 million by 2007. Only 8 percent are enabled for mobile e-mail today, but this number will rise to 21 percent by 2007. (Gartner)
- According to IDC, “CRM and SFA applications...are seen as beachheads to be deployed within an enterprise after e-mail.”

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WHY NOW?

For years, pundits have been predicting transformational breakthroughs due to wireless innovation, only to see the technology fall short of expectations. Today, finally, all of the pieces have come together to bring wireless into the mainstream of enterprise computing. These pieces include:

- **Powerful networks**—After billions of dollars in investment, new 2.5G and 3G networks offer unprecedented speed with ubiquitous global coverage. The price of these networks has fallen to allow for widespread adoption by business and consumer customers alike. New innovations in wireless technology promise to further enhance the performance and reach of these networks.
- **Many device choices**—A new generation of wireless-enabled handhelds—wireless phones integrated into powerful handheld computers—has come to market. These handhelds are powerful and highly functional, with a variety of form factors. Handheld choice and availability have dramatically improved as handhelds have become smaller, cheaper, and easier to use.
- **Robust mobile platforms and applications**—Wireless platforms such as the Palm OS,[®] Windows Mobile,[®] and Symbian[®] provide robust mobile operating systems optimized for wireless handhelds. These platforms provide industry standards for mobile application development.
- **Widespread adoption**—Unlike previous wireless solutions, 2.5G and 3G wireless solutions tend to pervade the enterprise. No longer just a luxury for top executives, wireless access to enterprise e-mail and data will extend from the board room to the field force, offering capabilities previously reserved for the privileged few to the deserving many.

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Managing the Mobile Wireless Enterprise

Converged wireless handhelds are being adopted in the enterprise whether the enterprise likes it or not. Unlike previous IT initiatives such as ERP or CRM that were driven from the top down, corporate wireless information access is being driven from the bottom up. IT departments are being inundated with requests from employees for support of their personal wireless handhelds.

Wireless information access is growing across two dimensions: in the number of wireless data users and in the number of applications that need to be enabled for wireless access. However, the extent of this growth within the enterprise and the associated costs are more often than not hidden or, at least, poorly accounted for. Many enterprises have reached or are fast approaching a point where wireless information access is a complex, chaotic and expensive endeavor with ambiguous benefits.

Most IT managers realize they need a cohesive view of their wireless platform to operate efficiently, minimize TCO and leverage the new technology to improve strategic advantage. The need to intelligently understand and manage wireless growth and turn it from chaos into a strategically managed IT initiative that delivers significant ROI is driving enterprises to develop a key strategy: an enterprise wireless information-access strategy.

THE NEED FOR AN ENTERPRISE WIRELESS INFORMATION-ACCESS STRATEGY

For most enterprises, the road to an enterprise wireless information-access strategy often begins with individual users making individual requests of the IT department for wireless access to messaging services such e-mail and PIM functions (e.g., calendaring, activity management and contact management).

Consider this common scenario: an individual mobile employee buys her own handheld or smartphone, selects the voice and data plans of her choosing and then bills the cost of the service and sometimes the cost of the smartphone to the company through a departmental or line-of-business budget. The employee then requests access to enterprise e-mail from her new handheld.

The effort and cost required to meet such requests vary. In the best case, the IT department may simply add the new user to an existing wireless messaging server—if the new user's handheld and carrier happen to be supported by the server. However, without a wireless strategy and the right technology in place, the more likely scenario is that the IT department must set up a new server instance to support the handheld and carrier that the mobile employee has selected. IT must also manually provision and set up the handheld and maintain associated desktop synchronization software.

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In the worse case scenario, the IT department is unable to support the employee's handheld or carrier and declines the employee's request. The more tenacious employees, or their departmental managers or departmental IT support group, may then purchase and set up a non-sanctioned system—to the detriment of enterprise security and TCO.

Once the wireless messaging population grows to a point where IT departments field daily requests for help-desk support, maintenance and upgrades, and support of new handhelds or carriers, the departments generally realize the need for handheld fleet management. Handheld fleet management enables IT departments to deploy, upgrade, monitor and administer devices as well as set and enforce security policies from, ideally, a single management console that serves different handhelds and carriers.

Just as IT departments begin considering fleet management, users often begin asking for even more wireless capabilities. Once they experience the convenience and increased productivity of wireless messaging, they often request access to non-e-mail systems such as CRM, intranets, ERP, other data repositories and legacy systems, and even file management systems for document access.

This is the critical point for an enterprise. If this natural wireless evolution is not acknowledged, and if a wireless information-access strategy is not formulated to support today's needs as well as those that are sure to arise in the future, the enterprise will face significant consequences:

- **Total costs mushroom** as departmental users buy their own data plans, handhelds and handheld applications to support access to specific CRM, sales force automation and other backend systems. This type of maverick buying is expensive because it fails to leverage buying power with carriers, handheld manufacturers or resellers and supporting software providers. Additionally, the costs of managing and supporting a heterogeneous fleet of handhelds running a variety of software and applications on multiple carriers can grow exponentially.
- **Security and manageability** risks and costs also increase if the IT department is not able to adequately screen new handhelds, infrastructure software and handheld applications that users bring into the enterprise.
- **Integration nightmares** can arise as users demand wireless access to increasing numbers of back-end systems and data repositories. Without a robust wireless access platform that supports secure access to e-mail, as well as packaged applications and custom built systems, the costs to implement, integrate and maintain new wireless applications can skyrocket. An added concern with allowing disparate wireless applications and middleware from multiple vendors to creep into the enterprise is the ability of the handheld or smartphone to support the memory and processing requirements of the application portfolio.



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Defining the Strategy and Supporting Technology

Recognizing the need for an enterprise wireless information-access strategy is an important first step. But the actual development of the strategy is a much larger step. One of the first decisions to be made in this endeavor is who should drive the effort.

Past history has shown that efforts to drive an enterprise wireless information-access strategy are most successful when led by IT managers with significant input from business managers. IT managers should help business managers understand the potential of wireless technology and business managers should think through how wireless information access can be used to improve productivity, quality, customer responsiveness or other metrics within their business. Wireless information-access use cases, supporting backend systems, projected user growth and other business needs should be identified. Once a forward-looking picture of wireless needs is in place, IT managers can then map technology requirements to the business needs, as well as incorporate IT requirements around security, scalability, manageability and other considerations.

FIVE KEY REQUIREMENTS FOR WIRELESS ENTERPRISE SOLUTIONS

As IT managers develop the plan for executing the enterprise wireless information-access strategy, it is paramount that they consider five key requirements—and work with technology providers who can satisfy these requirements.

1. Enterprise-Class Security

The greatest worry of CIOs contemplating implementing wireless systems is that of security. A wireless enterprise system must enable the safe use of wireless handhelds and ensure secure transmission of data—all without diminishing enterprise-wide security such as firewall integrity.

Handheld security is the most obvious challenge. The fear that a lost handheld could fall into the wrong hands and give competitors access to sensitive data is the ultimate nightmare of a CIO. Best-in-class wireless solutions satisfy the following requirements:

- Remote wipe of handheld data via centralized IT administration
- Encryption of data on the handheld and SD card
- Advanced password policies for timeout and device lock-down
- OTA (Over-the-Air) distribution and forced upgrading of virus protection and other security applications
- Complete control of handheld features including turning on or off handheld features like Bluetooth,[®] cameras, use of removable storage cards, IR ports, etc.
- Application white listing which allows IT managers to control the applications that users can run on their handhelds



Transmission security is needed to ensure that malicious parties are not able to intercept and view data while it is being transmitted. True transmission security requires:

- Encryption of data while in transmission using industry-leading encryption methods such as AES.
- Positive acknowledgement of data delivery and receipt.
- No storage of unencrypted data by third parties.

Enterprise security also requires that IT managers can deploy a wireless solution without compromising existing security infrastructure. This mandates that a wireless system have:

- No requirement for an inbound hole in the firewall.
- Robust management tools, including remote management tools, to monitor handheld and server performance and address problems when they arise.
- Role-based administration to ensure that the appropriate permissions are given based on need, and that global privileges are reserved for a limited few.

2. Application Optimization with Real-Time Push Synchronization

When selecting a wireless enterprise solution, enterprises should demand that these solutions build on existing enterprise systems, processes and user interfaces. Users should not have to learn totally unfamiliar applications just to have mobile access to stationary tools and applications running behind the corporate firewall. Nor should functionality or interface differ from handheld to handheld. Such differences require custom training and support which lead to higher total cost of ownership.

Business happens in real time and so should wireless data access for mobile professionals. Enterprises should demand that their wireless system enable up-to-the-minute synchronization with mission-critical corporate information systems. Solutions that only allow for occasional “batch-process” synchronization fall short of the true potential of wireless enterprise systems.

3. Broad Handheld Support and Device-Level Integration

The rapid pace of innovation among handheld manufacturers is resulting in a huge range of handheld choice and flexibility. Enterprises should seek out those wireless solutions which provide the optimal support for industry-leading handhelds across multiple mobile operating platforms.

In North America and much of the world, the leading platforms are Palm,[®] Windows Mobile and Symbian. These are two essential platforms that any enterprise should plan to support today. Enterprises should also consider the ability and willingness of wireless vendors to support other platforms as they develop.



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Enterprises should also demand device-level integration by wireless application vendors to ensure that wireless systems work consistently and seamlessly across a range of handhelds. Device-level integration ensures that software is optimized for the particular hardware features of each handheld, while also maintaining consistent functionality and user interface across all handhelds.

Finally, enterprises should look to wireless infrastructure providers to test handhelds and advise them of the best devices for the specific needs of their mobile professionals.

4. Robust Fleet Management Tools

While many wireless implementations begin with relatively small deployments (often only executive officers and management), these deployments tend to grow quickly and IT managers must consider their ability to deploy, maintain, control and manage large fleet deployments of hundreds or thousands of handhelds.

A basic requirement of effective fleet management is that wireless systems be server-based and not require desktop installation of software. Desktop software is costly to deploy and manage, and is often out-of-date due to the challenges in managing large fleets of PCs.

Another key element of fleet management is minimizing the number of times IT departments need to physically touch handhelds. This requires OTA functionality for the following functions:

- Wireless provisioning and upgrade of all mobile applications on the handheld
- Wireless enforcement of IT policies
- Device-level troubleshooting and repair tools
- Group administration so that policies can be applied OTA to groups of users as defined by IT managers

Finally, enterprises require tools to enable a 360-degree view of their wireless system for such metrics as in- and out-of-coverage time, server uptime, speed of information delivery and an inventory of all handhelds active on a given system. These metrics should be gathered into a central console for quick analysis and decision making. IT managers should also have Web-based mobile access to these tools.

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5. Flexible Service and Support

As they should with any mission-critical system, enterprises should seek out wireless solutions that are backed up by vendors capable of providing a wide variety of direct and indirect support and service based on the individual needs of particular enterprises. Multiple channels for service, such as VARs, carriers, and direct service from software vendors, ensure that enterprises are not captive to a single support and service model.

Service and support plans should include 24/7 customer support for IT managers so that questions and problems can be quickly addressed. Such support offerings should be multi-channel and include Web, phone and e-mail-based support. Enterprise-class support also requires that support vendors have the ability to provide timely on-site assistance when appropriate.

Finally, medium and large enterprises should seek wireless vendors that can field sophisticated professional service personnel for complex implementations and advanced customization of wireless systems.

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Taking Action

Some enterprises may be in the midst of the wireless complexity; for others the wave may be just beginning to crest. Wherever they are today, enterprises must be prepared to reckon with a mobile workforce that will grow larger every year, driven by the requirements of global business and the increasing need to stay in close contact with customers and increase productivity.

These mobile employees will continue to seek ways of doing their jobs more effectively and efficiently while away from the office. It is up to the enterprise to determine how they will manage this influx of wireless handhelds and requests for wireless information access: reactively—constantly cobbling together a solution that will get the enterprise through the short-term without risking too much security exposure; or proactively—with a strategy that optimizes the business benefits of mobility while providing a secure, open, scalable framework that minimizes IT disruptions and needless costs.

Smart companies are choosing the proactive approach. They are taking action today to develop an enterprise wireless information access strategy that maps out an enterprise plan for their immediate wireless needs while also accounting for future requirements. Moving forward today, with the right strategy in place, ensures they can reap the promised benefits of mobility: increased productivity, greater competitiveness and a true understanding of wireless total cost of ownership (TCO).

FOR MORE INFORMATION ON BUILDING AN ENTERPRISE WIRELESS INFORMATION ACCESS STRATEGY, CALL 866-7-BE-GOOD.

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