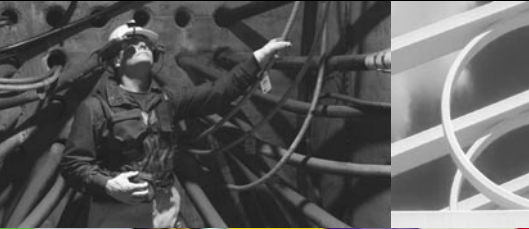


## Mobile e-government:

*From network warfare to streamlined supply chains*



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*Around the world, government agencies are under pressure to improve operational efficiencies and supply-chain management.*



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### Executive overview

In the face of many e-government initiatives, a global economic downturn has led to a substantial drop in tax revenues. At the same time, rising unemployment, aging populations, and increased healthcare expenses are escalating the cost of social services. The net result is that government at every level is now under significant pressure to do more with less.

Leading agencies have already begun to aggregate, synthesize and distribute critical information in an effort to reduce those costs. Recent deployments in both the civilian and military sectors point to demonstrable, often striking, savings in speed, cost and inventory, resulting in three important technology trends:

1. *Low cost, Web-based applications that can be developed, reused and expanded*
2. *Web portals that aggregate information from multiple sources, present that information appropriately, and increase its value to the user*
3. *Wireless devices that expedite delivery of not only e-mail, but a broad range of applications*

Advanced mobile portal technology has now taken that a step further. Mobile software can render the desktop portal onto commercially available handheld devices, targeting exactly the right data to the right user. Limitations of bandwidth, storage, screen size and security have been overcome with a new generation of high speed, low cost networks. Beyond information delivery, this technology is a powerful asset in making agencies more efficient, more responsive and more cost effective.

In designing a secure, responsive, open standards architecture, IBM Pervasive Computing has one of the broadest software portfolios in the market today. These assets form a powerful platform for accessing core field service, inventory, inspections, supply chain and warfare systems. Legacy applications that were once frozen in isolated silos can now be accessed, aggregated and cross-referenced through portals and extended to mobile users. Connecting e-government systems to any device, across any network, is the unifying vision behind IBM Pervasive Computing.

### e-government meets mobile computing

In order to remove network and device complexities for the mobile user, a middleware layer is used to provide a consistent set of services. That layer results in an affordable, maintainable platform for accessing Web-based applications and information portals from remote locations in a secure manner.



Within the wireless technology leaders, Yankee Group found that “IBM ranks first among the enablers of enterprise mobile computing solutions. The company incorporates its Web services and integration vision within its pervasive computing solutions.”<sup>1</sup>

### **Streamlining supply chains**

In fiscal year 2000, the U.S. federal government procured approximately \$219 billion of materials and services.<sup>2</sup> Automation and process improvements can reduce procurement costs as well as increase organizational effectiveness. At the same time, improved logistics can reduce inventories held, improve fill rates, and reduce delivery times.

Wireless technology, with the power to not only access information but also execute secure, guaranteed transactions, is a core element in streamlining these supply chains. In the case of the U.S. Air Force, reducing one day of weapons systems inventory at one logistics center alone is expected to save \$15 million.<sup>3</sup>

One of the most complex issues that government agencies face is synthesizing data from different systems. That’s the job of IBM Pervasive Computing, which features the robust architecture that agencies need to expand mobile capabilities and make a quantum leap in productivity. This IBM platform delivers advanced mobile services for push-based e-mail, notification, location-based services, embedded databases, Web content and instant messaging.

### ***U.S. Air Force Materiel Logistics Command***

The U.S. Air Force Materiel Logistics Command based at Hill Air Force Base is building a new wireless application to support one of the largest weapon and aircraft repair facilities in the world.

Using handheld and Global Positioning System devices in each truck, facility and drop-off point, the wireless application knows where each truck on the base is located, allowing it to immediately alert the nearest driver to make an unscheduled pickup. The two-way weapons pipeline between Hill and its far-flung customers is a critical link in the repair cycle, especially when aircraft are grounded. In 2003 this pipeline will be streamlined with a new IBM wireless platform to reduce costs, shrink parts inventory and improve customer response time.

<sup>1</sup> Yankee Group. “Technology Titans Tackle Mobile Computing” by Adam Zewel. March, 2003.

<sup>2</sup> Center for Public Policy and Private Enterprise, School of Public Affairs, University of Maryland. “Digitally Integrating the government Supply Chain: E-Procurement, E-Finance, and E-Logistics” by Jacques S. Gansler, William Lucyshyn, Kimberly M. Ross. February, 2003. IBM Endowment For The Business Of Government

<sup>3</sup> Computerworld, May 8, 2003



### ***Capital Wireless Integrated Network (CapWIN)***

IBM and a partnership of public safety and transportation agencies in Virginia, Maryland and the District of Columbia are building the first interoperable wireless system spanning more than 40 local, state and federal agencies.

The network will allow firefighters, police, transportation officials and other authorized emergency personnel to communicate and access multiple government data sources during critical incidents. Improved access to information will help these “first responders” and public safety officials make vital public safety-related decisions.

### ***New York City Department of Buildings***

The events of September 11 prompted the New York City Department of Buildings to improve inspections, identify structural faults and determine which buildings could be reopened. In partnership with IBM, a wireless prototype revealed potential savings of 40 minutes per inspection—an overall efficiency increase of 25 to 40 percent. Building inspectors can now submit inspection applications on 30 separate conditions in each building and update a central database within seconds. The system runs over a standard cellular network, with software and services from IBM.

### ***Secure, multi-network roaming***

Both the U.S. Air Force and CapWIN selected the IBM connectivity platform for the ability to roam seamlessly across 35 different WIFI, cellular, satellite, public and private radio networks. The software allows agencies to immediately leverage commercial networks at lower costs and higher bandwidth, without changing their core systems. From a user standpoint, seamless roaming increases productivity by maintaining session persistence while traversing those networks. Most importantly, the platform includes multiple levels of authentication and encryption to assure identity of the user, prevent unauthorized access and protect data privacy. In 2003, IBM was awarded the National Institute of Standard's FIPS 140-2 certification. Widely viewed as the most stringent security standard internationally, FIPS 140-2 defines the requirements for commercial cryptographic products that may be procured by U.S. and Canadian governments.

*“The ability to track and dispatch drivers has allowed Hill Air Force Base to dramatically reduce the time parts remain in the repair pipeline.”*

*Mike Neri, IT Director, Hill Air Force Base*

*“For the first time, the greater Washington, D.C. region will have a secure and powerful system that lets emergency responders communicate with each other rapidly during crises.”*

*Charles Samarra  
Chief  
Alexandria, Virginia  
Police Department*

### **Intelligent notification**

Intelligent notification is a unique IBM technology that proactively notifies users of events triggered from e-mail, supply chain, news feeds or enterprise systems. With conventional pull-based systems, users must actively search out important information on a frequent basis. Intelligent notification, in contrast, monitors information from a variety of sources, recognizes when an event occurs and notifies workers via cellphone, pager or personal digital assistant (PDA).

The IBM notification engine can alert first responders of emergency conditions, logistics personnel of a weapons shortage or field service personnel of an equipment outage. Intelligent notification is included as part of the IBM software platform.

### **Beyond e-mail to mobile instant messaging**

Many agencies have already made the step to mobile e-mail, realizing the benefits of immediate access. Beyond e-mail, however, mobile instant messaging is rapidly becoming one of the most powerful forms of instant communication. The implications for instant messaging are compelling; Government and military field service staff can now chat with other crews, answer questions, expedite decisions and respond quickly. The IBM platform includes instant messaging plus encryption, making that experience as straightforward as chatting from the desktop.

### **Recommendations for government executives**

Early results in mobile e-government point to strong returns in productivity, responsiveness and operational effectiveness by using a combination of desktop portals and handheld devices. In order to take advantage of this, executives should consider a five-point plan to design, justify and manage these projects:

- *Identify the precise government processes that are most time critical as candidates for mobile computing. Build a preliminary business case based on expected process enhancements and time savings*
- *Design a mobile computing infrastructure that is standards based, functionally rich, highly extensible and user friendly*
- *Initiate a pilot project that links devices to core business applications, databases, portals and collaboration applications*
- *Leverage pilot results in order to analyze operational costs and improvements in terms of taxpayer savings and operational effectiveness. Use this information to build a detailed business case*
- *Deploy an enterprise solution with a leading vendor on the basis of product capabilities, partnerships, future roadmap, financial stability and wireless technology expertise*

*IBM is helping government agencies transform to a secure, robust, feature-rich wireless environment.*



**IBM e-government solutions**

The IBM vision for e-government includes centers of dedicated experts who can help government professionals and military officers leverage technology. IBM has created a team of specialists who work closely with governments to deliver a comprehensive set of consulting services, software, hardware and education for mobile computing. A core part of those solutions is IBM Pervasive Computing software for government or military projects.

**For more information**

To learn more about IBM mobile solutions for e-government or military purposes, visit our Web sites at [ibm.com/pvc](http://ibm.com/pvc) or [ibm.com/industries/government](http://ibm.com/industries/government)



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