

**Mobile and enterprise access solutions**

White paper  
August 2009



**Lotus** software

**Stay connected: A successful mobile device strategy drives productivity.**

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**Making the transition from a traditional office to a mobile workplace**

Driven to be more flexible and responsive to marketplace forces, enterprises are pushing business processes out to the point of contact with customers and service delivery. Companies are redefining what “in the office” means. The workplace now extends beyond the physical walls of the enterprise to include mobile and remote workers at a customer site, in a car, in a home office, in a hotel, at the airport or anywhere in between. Many mobile employees still use laptops, but executive and senior members of organizations are now often using handheld devices—sometimes exclusively—when they are away from the office.

Productivity tools that support mobile devices have become necessary for business success. The number of enterprise professionals who carry mobile units is increasing every year. With a predicted compound annual growth rate of 21 percent in the number of enterprise mobile users from 2008 to 2012,<sup>1</sup> IT professionals will be facing an onslaught in demand among a broader cross-section of employees who will expect to be able to perform some aspects of their jobs from handheld devices.

With an effective mobile device strategy, companies worldwide can make more-informed business decisions, accelerate transactions, strengthen relationships with customers and business partners, and provide onsite services—at the time and place required. This paper discusses what's needed to support the mobile office, the implications for IT and how IBM Lotus® software and the IBM collaboration infrastructure strategy can help your enterprise support the needs of an on-the-move workforce.

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## Highlights

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***Because a growing number of employees expect to be as productive on the move as they are at the office, IT must be able to provide reliable, responsive support for mobile handheld devices.***

### **Delivering a mobile office that's as productive as the traditional office**

An infrastructure of services is required to properly support the mobile office. There is a need to replicate the suite of infrastructure and applications that have been developed for the desktop experience since the inception of the personal computer in the 1980s. In fact, with an increase in demand for mobility within enterprises, "IT managers and vendors are dramatically underestimating the demand for mobility in the corporate arena. Mobility, as we know it today, is about to be eclipsed by demand from all types of workers who want to use their personal mobile devices to access corporate applications."<sup>22</sup>

Thanks to improvements in mobile solutions, handheld devices and wireless networks, employees increasingly expect that they can be as productive with their mobile handheld devices as they would be in a traditional office. Therefore, the IT infrastructure supporting these devices needs to be reliable, responsive and able to keep up with growing support expectations. The infrastructure must also support a variety of devices and operating systems (OSs), including Nokia and other Symbian-based devices, Research In Motion® (RIM®) BlackBerry® devices, Microsoft® Windows® Mobile devices, and the Apple iPhone. And an enterprise must keep abreast of changing trends as newer platforms, such as Google Android, are adopted by business workers.

To support wireless handheld mobile devices, companies need the following services:

- *Security-rich wireless access*
- *Enhanced collaborative tools and capabilities*
- *Solutions that deliver applications and data to mobile users*
- *Device management*
- *Extensibility support through a service-oriented architecture (SOA)*

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## Highlights

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**Security-rich wireless connection is essential for enabling the mobile worker.**

### Wireless access with enhanced security features

Productivity begins with a wireless connection through which mobile users can access key data and applications, virtually anytime and anywhere their devices can get a signal. Using IBM Lotus Mobile Connect software, your organization gains the following:

- *A Federal Information Processing Standard (FIPS) 140 security-certified mobile virtual private network (MVPN) tunnel, which provides the same level of security experienced by users connecting to corporate intranets over the public Internet using their laptops or desktops. With the IBM solution, mobile users have the option to select a traditional full-featured client-based VPN tunnel, which can roam and transfer data over just about any IP connection—not just HTTP. Or they can choose a clientless VPN that offers greater flexibility because it provides a dedicated VPN tunnel for a specific application instead of a specific device.*
- *Support for a wide spectrum of mobile devices, including Nokia, Apple iPhone, Symbian and Windows Mobile devices.<sup>3</sup>*
- *Features that allow users to maintain nearly seamless connectivity using a Lotus Mobile Connect client—even while changing wireless connections. For example, when moving from a General Packet Radio Service (GPRS) to a WiFi network connection, the change is hidden from both the user—who doesn't have to reconnect—and the network-based applications running on the mobile device.*
- *The ability to customize how a connection is established, allowing users to opt for the most affordable mode of network connection—a practice also known as least-cost routing.*
- *An integrated client experience with IBM Lotus Notes® Traveler and IBM Lotus Sametime® mobile client software, which simplifies the user and administrator experience.*

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### Highlights

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***An effective mobile office requires realtime collaborative tools to support team members working from multiple locations.***

#### **Access to realtime collaborative tools**

Remote interdependency is prevalent among team members working together on common projects. Therefore, providing e-mail or realtime collaboration is essential in effectively equipping the mobile office. IBM Lotus Notes Traveler software provides mobile support for IBM Lotus Notes software users. Lotus Notes Traveler software offers automatic, realtime replication of Lotus Domino® e-mail (including attachments), calendar, address book, journal and to-do list.

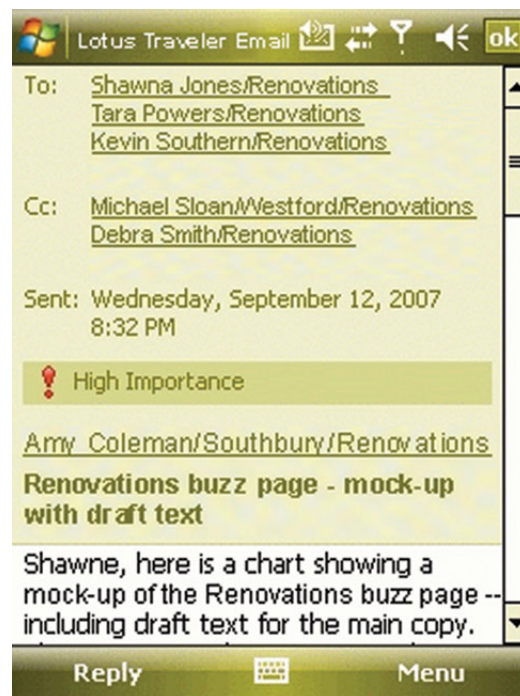


Figure 1. An open Lotus Notes e-mail is shown running in the Lotus Notes Traveler client.

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## Highlights

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***The IBM Lotus Sametime mobile client extends many of the capabilities available from the desktop Lotus Sametime client to many mobile devices.***

The software supports access from Nokia S60 devices, Microsoft Windows Mobile devices and Apple iPhone devices (starting with the 8.5.1 release of Lotus Notes Traveler software) and works over nearly all wired and wireless connections. Optionally, the IBM Business Partner ecosystem—which includes industry leaders such as RIM, Good Technology, CommonTime and Sybase—offers enhanced mobility solutions for Lotus Domino software users.

With the IBM Lotus Sametime mobile client, the IBM unified communications and collaboration platform can now reach people on the move in realtime. A core part of the Lotus Sametime software, the mobile client extends many of the capabilities available from the desktop Lotus Sametime client to many mobile devices—capabilities such as the following:

- *Rich presence awareness (including online status, availability, geographic location, custom status messages)*
- *Business cards with contact information (including photo, job title, phone number)*
- *Quick Find to search user contact lists and the corporate directory*
- *Alerts to notify when contacts are available*
- *Instant messaging (including one on one and groups)*
- *Chat history (showing the status of the previous chat session when a new one is opened)*
- *Emoticons*
- *Intuitive user interface to manage multiple active chat sessions on small screens*
- *Click-to-call and click-to-conference*

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## Highlights

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*The IBM Lotus Sametime mobile client supports a growing list of mobile devices.*

The Lotus Sametime mobile client delivers additional device capabilities, including sound and vibrate alerts and VoIP phone or voice chats. Browser-based support for the iPhone is being developed.



Figure 2. The Lotus Sametime mobile client is shown running on a Nokia E series device.

Plus, you can extend Lotus Sametime instant messaging (IM) support to mobile devices without having to purchase a companion application. Currently, Lotus Sametime mobile client supports Nokia, BlackBerry and Windows Mobile devices, and the list will continue to expand with future releases. In Lotus Sametime 8.5 software, IBM plans to add support for browser-based access from the Apple iPhone.

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## Highlights

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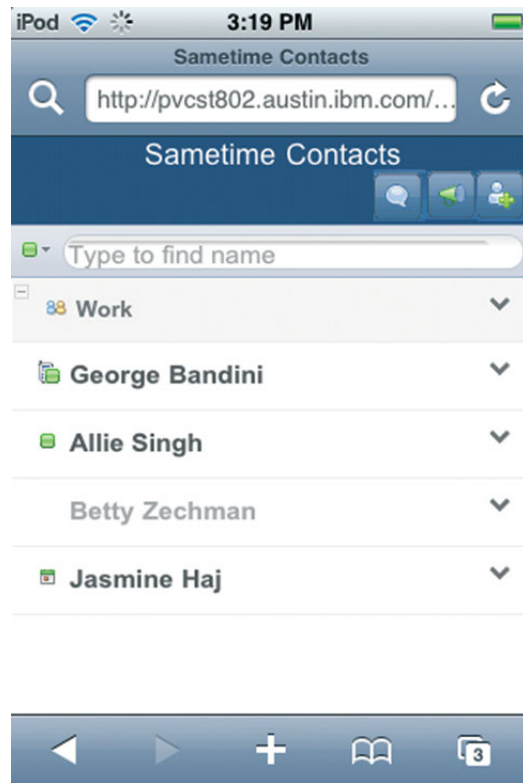


Figure 3. The Lotus Sametime mobile client is shown running on an iPhone.

***The BlackBerry Client for IBM Lotus Connections software makes it easy to access important social networks and data when away from the office.***

In addition, the extensible platform will allow IBM Business Partners and developers to deliver realtime business solutions to mobile users more easily. And for organizations that need to keep a mobile workforce in touch and connected with their Lotus Connections blogs, activities, communities and tag clouds, the BlackBerry Client for IBM Lotus Connections software (developed by Research In Motion) makes it easy to access important social data and networks when away from the office.



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### Highlights

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*The IBM collaborative infrastructure approach provides a number of ways to support access to data and applications from mobile devices, enabling organizations to select an ideal approach for the business based on cost and user experience considerations.*

#### Access to critical data and applications

Whether in or out of the office, employees need access to critical data and applications. The IBM collaborative infrastructure approach enables this access in a number of ways:

- Lotus Sametime IM interfaces using robot (also called bot) technologies
- Portlets and portals
- Custom offline applications, including portal and forms applications

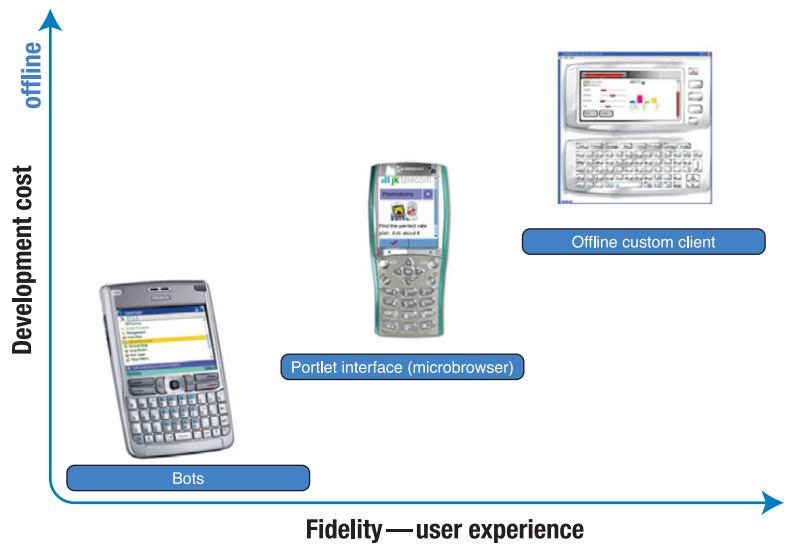


Figure 4. There is a trade-off between development cost and the richness of the user experience.

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### Highlights

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***Bot applications display and exchange data through existing transport and presentation layers.***

#### ***Using instant messaging interfaces***

Bot technologies provide an automated IM interface to applications. These technologies can deliver high-value solutions to users through a familiar paradigm by taking advantage of the fast learning curve for IM capabilities. For mobile workers in particular, bot applications provide the added benefit of displaying and exchanging data through existing transport and presentation layers. For example, sales representatives can query a customer relationship management system in the same way they would initiate an online chat. And the response is then provided in a familiar chat format.

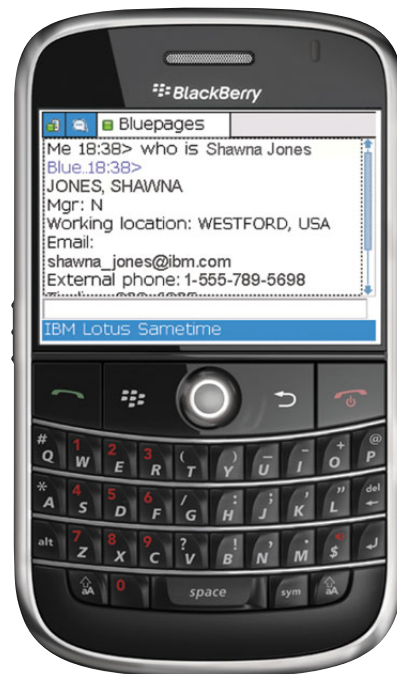


Figure 5: Bot access to a corporate directory from a Lotus Sametime mobile client is shown running on a BlackBerry smartphone.

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**Highlights**

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***IBM Mobile Portal Accelerator software gives employees the flexibility to use their devices of choice by providing browser-based, device-independent access to data and applications via the Internet.***

Prerequisites for a bot solution include the following:

- *Mobile user access to the corporate intranet via a VPN solution, such as Lotus Mobile Connect software*
- *An instant messaging client, such as the Lotus Sametime mobile client, on the device to allow the user to access his or her Lotus Sametime community*
- *A bot interface (which can be created with a toolset, such as the Lotus Sametime developer toolkits) to provide the IM interface between the mobile user and the desired application*

***Using portlets and portal applications***

Many mobile devices have a preloaded browser to enable mobile users to access critical applications or data through a portlet on a portal page. As with bot applications, this method of accessing applications and data uses a familiar paradigm—a browser in this case—to deliver applications and data to practically any mobile user location. IBM Mobile Portal Accelerator software provides browser-based, device-independent access to portal content and helps support business-to-consumer scenarios where the business does not know the type of device its consumers will use. Plus, employees gain the flexibility to access intranet applications using their devices of choice.

To access data using portlets and portal applications, you must have the following prerequisites:

- *A Web browser*
- *Mobile user access to your corporate intranet, which can be facilitated by an MVPN solution such as Lotus Mobile Connect software*
- *A portal page that provides the composite applications that can be accessed*

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## Highlights

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***Lotus Expeditor software allows applications to be taken offline and used when a connection to the network is not possible or practical.***

### ***Using custom offline applications***

To use browser applications, a mobile worker needs a constant network connection. A recent addition to the Lotus Domino Web developer's toolkit of technologies is XPages. XPages allows for functionality and capabilities previously thought impossible to achieve in Lotus Domino application development. With the inclusion of XPages, you now have the ability to easily create Web 2.0 user experiences in your existing applications.

Custom offline applications provide the greatest amount of developer control in terms of the user experience and data exchange between the client and the server. This includes control over what data is stored locally on the client and synchronized with the remote server. IBM Lotus Expeditor software provides an SOA-based, server-managed client platform that enables developers to extend existing applications to a variety of mobile devices such as laptop computers, tablets, smart phones and Windows Mobile personal digital assistants (PDAs). By using the Eclipse Rich Client Platform 4 as a core technology and by integrating security, device management and middleware, Lotus Expeditor software allows applications to be taken offline and used when a connection to the network is unavailable, unreliable or expensive.

The only prerequisite for custom offline applications is user access to the corporate intranet, which can be facilitated through an MVPN solution such as Lotus Mobile Connect software. The software can help provide nearly seamless connectivity to server-based applications and automatic data synchronization.

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## Highlights

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***The optional server provided by Lotus Expeditor software helps IT reduce support costs by centralizing administration of applications deployed to thousands of mobile devices.***

### **Enhanced device management**

By centralizing the administration of applications used by mobile workers, you can significantly reduce deployment and software maintenance costs across thousands of devices. Using the optional server provided by Lotus Expeditor software, IT administrators can deploy, update, maintain and remove software on the client device from one central location. The server also provides a comprehensive inventory of the platform elements, middleware and applications so that users and groups of users can have a consistent set of software on their devices. This level of administration and control not only provides centralized management of applications delivered to mobile workers but also allows end users to focus more on performing the functions of their roles instead of constantly searching for software updates.

### **Extensibility through SOA to help support evolving needs**

An extensible framework begins with an architecture that is flexible and scalable enough to meet existing and future business needs. With an SOA, heterogeneous systems can work together to deliver key capabilities by leveraging reusable components. A cornerstone to such an architecture is an open-standards-based platform that allows the IT infrastructure to be platform agnostic. IBM Lotus Expeditor software delivers a universal managed client that supports SOA by providing software to develop and deploy composite applications to a variety of devices.

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**Highlights**

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***The IBM Lotus software collaboration infrastructure is designed to provide a comprehensive and unified mobile worker experience.***

**The bottom line: Mobile business is real business**

Making the transition from a traditional office to an anytime, anywhere office requires establishing and executing an effective mobile strategy—and supporting a wide variety of handheld mobile devices. The IBM Lotus software collaboration infrastructure is designed to provide a comprehensive and unified mobile worker experience, which includes rich functionality from the desktop, mobile devices, Web browsers and line-of-business (LOB) applications. Although the specific capabilities of IBM Lotus collaboration solutions are embedded in various software products, the goal is to enable customers to realize the benefits of a collaborative environment at every level of investment. IBM Lotus collaboration technology is integrated by design so that each new set of capabilities can be implemented in modular fashion, leveraging all investments in infrastructure, applications, end-user skills and technical support to date. Once deployed, it can be extended and customized at low incremental cost through the IBM Lotus extensive ecosystem of Business Partners.

The IBM approach to building a collaborative computing environment can help transform a rigid IT infrastructure into a reliable, flexible framework that can more adequately meet the changing needs of the mobile enterprise. And because this approach is built on open standards, you gain the freedom to use the server technology and devices that better support the long-term goals of your business. With IBM software, you can deliver a mobile office that is as productive as the traditional office—and you can positively affect your bottom line going forward.

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### Highlights

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***IBM Software Services for Lotus can help you evaluate, design and deploy the mobile workplace that is right for your organization.***

#### **Supported by IBM Software Services for Lotus**

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<sup>1,2</sup> Forrester Research, Enterprise Mobile User Forecast Mobile Wannabes Are The Fastest-Growing Segment, October 2008.

<sup>3</sup> BlackBerry smartphones leverage the security-rich, end-to-end connection made available via the BlackBerry Enterprise Server architecture and, therefore, do not require an additional MVPN solution.



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