IBM

**Lotus**® software

# Extend applications to the edge with SOA and IBM mobile and enterprise access software.

## Contents

**Overview**

In today's competitive environment, companies want to improve responsiveness to customers; increase employee productivity; streamline, integrate and automate business processes; reduce data collection time; and provide information instantly to co-workers and customers. Information technology (IT) needs an infrastructure that is extremely flexible and scalable if an organization wants to achieve all these goals. This flexibility can be delivered through services-oriented architecture (SOA), which should be part of IT strategy and investment.

An SOA is an approach for building distributed systems that deliver application functionality as services either to end users, to end-user applications or to other services. SOA provides a standard way of representing and interacting with software assets. It allows individual software assets to become building blocks that can be reused in developing other applications, shifting the focus to application assembly rather than implementation details. It can be used internally to create new applications out of existing components, and externally to integrate with applications outside of the enterprise. Key to all this flexibility is the use of open standards.

There are five distinct entry points for customers considering an SOA deployment:

- *People*
- *Process*
- *Information*
- *Reuse*
- *Connectivity*

The choice of entry point depends upon a client's unique business and IT needs. The "people" integration entry point is where companies often start when they move toward an SOA. It is a business-centric approach that helps companies target specific needs to help achieve benefits more rapidly. At this entry point, SOA enables people to interact with applications, information services and other people in support of business processes, contributing to efficient, collaborative, real-time decision making and execution.

The IBM Lotus® software portfolio enables the people entry point—taking line-of-business and composite applications beyond the data center, to people. Providing the front end to SOA, IBM WebSphere® Portal software is the foundational starting point for most organizations—where people see and experience the benefits of bringing together vital information, applications and content. Once the portal foundation is in place, businesses can achieve incremental successes with SOA by extending their environments with other offerings from the IBM software portfolio to address specific needs. For example, IBM mobile and enterprise access products extend the Lotus SOA value proposition by taking these applications to the edge of the network, where the "edge" may be a desktop, laptop, kiosk, personal digital assistant (PDA), smartphone or feature phone. It also supports non-browser or occasionally connected applications at the edge on rich clients and on mobile clients.
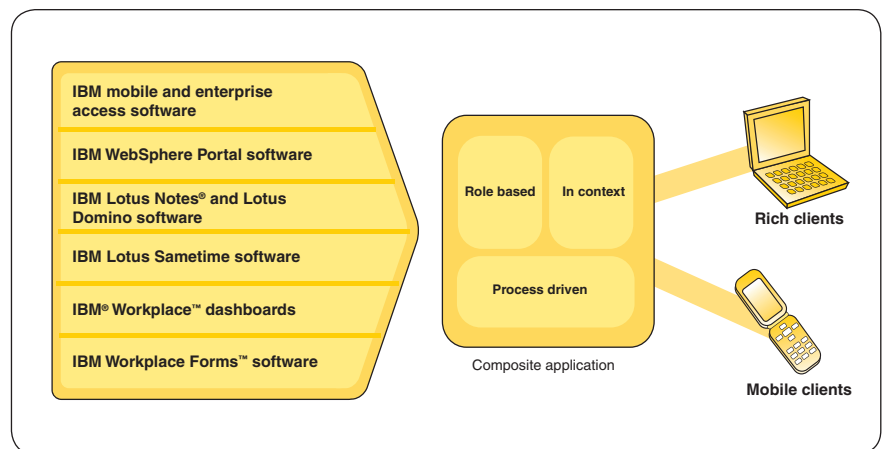
IBM mobile and enterprise access software

IBM WebSphere Portal software

IBM Lotus Notes® and Lotus Domino software

IBM Lotus Sametime software

IBM® Workplace™ dashboards

IBM Workplace Forms™ software

Role based    In context

Process driven

Composite application

Rich clients

Mobile clients

*Figure 1: Dynamically delivered portal and work environment based on choice, openness and flexibility*

Here are six typical mobile and enterprise access solution scenarios:

- ***Office worker operations.*** *An office worker at his or her desktop accesses several enterprise business applications aggregated to help complete a client interaction–for example, bank account creation or access, insurance claims filing or contact center applications.*
- ***Knowledge worker.*** *A knowledge worker accesses line-of-business applications in the office or remotely from a laptop, using portal applications while being occasionally connected to the network.*
- ***Field service.*** *A field service worker in dynamic work locations uses a tablet, rugged device or a high-end PDA to perform tasks in a connected or semiconnected environment, adding instant messages to his or her customer repair report.*
- ***Salesforce.*** *A sales representative accesses product or customer information from a PDA, smartphone or laptop, and then works for a while on an expense form to be completed at a later time.*
- ***Kiosk-based retail.*** *A client uses a retail kiosk to access a product catalog.*
- ***Business to consumer.*** *A client accesses information or completes a transaction from any of a thousand types of devices.*

**Company needs in addressing these scenarios**
Companies doing such deployments have various pains and needs:

- *Forty-eight percent of such companies want a user interface (UI) that is better and less restrictive than a browser UI. Users want a native look and feel, and a native experience.*
- *Applications running on the edge need to be able to operate with or without network connectivity, because there may not be network connectivity or sufficient bandwidth at all times.*
- *IT needs tools and adapters to integrate with existing business processes and to aggregate information from various sources.*
- *Companies are concerned about providing data security—on the device, during transmission and on the server.*
- *IT wants device-management capabilities to reduce deployment and maintenance costs of applications at the edge of the network.*
- *In business-to-consumer scenarios where companies do not know the devices their subscribers or customers are using, IT needs device-independent applications.*

**A leading multichannel application access gateway**

*Multichannel access* is a term used by market analysts for middleware that handles scenarios described above. Multichannel access software must typically offer these capabilities:

- *Device-side application enablement (connected as well as occasionally connected)*
- *Business process enablement and application integration*
- *Security (device-side, server-to-device and server-side)*
- *Authorization, authentication and access*
- *Tools to build and deploy applications*

Some additional capabilities may also be provided in the following areas:

- *Messaging and notification*
- *Location awareness*
- *Context services*
- *Content management*
- *Multimodal access*
- *Voice/speech*

IBM provides mobile and enterprise access middleware that meets multichannel access requirements.

IBM Lotus Expeditor software

IBM Lotus Expeditor software provides SOA-based, server-managed client software that enables developers to extend existing applications to desktops, kiosks and larger mobile devices such as laptop computers, tablets and Microsoft® Windows® Mobile PDAs and smartphones. (Lotus Expeditor software is the follow-on release to IBM WebSphere Everyplace® Deployment software.) It is built upon industry standards like Open Services Gateway initiative (OSGi), Web services, Java™, Java Platform, Enterprise Edition (Java EE), Eclipse and Java Database Connectivity (JDBC) platforms. (Eclipse is an open source community committed to implementation of a universal development platform.)

By using the Eclipse Rich Client Platform (RCP) as a core technology and by integrating security, device management and middleware, Lotus Expeditor software enables applications to be taken offline and used when a connection to the network is unavailable, unreliable or expensive. Clients can use Lotus Expeditor capabilities to extend and integrate IBM Lotus Sametime®, IBM WebSphere Portal, IBM® Workplace™ Forms™ and other applications on various managed clients. For example, WebSphere Portal applications can be extended for remote application management, offline portal capability and inclusion in application aggregation (composite applications) with non-portal components. Lotus Expeditor software will also provide the managed client software for the next generation of IBM Lotus Domino® and Sametime software.

IBM Lotus Mobile Connect software
IBM Lotus Mobile Connect software provides mobile users with secure end-to-end access for Lotus Domino and WebSphere software-based business applications. (Lotus Mobile Connect software, which will be available later in 2006, is the follow-on release to IBM WebSphere Everyplace Connection Manager software.) It provides high security (through a Federal Information Processing Standards [FIPS] 140-2 certified virtual private network), performance optimization and seamless roaming across a worldwide selection of wireless and wired network technologies. The software is supported on laptops, the Palm operating system (OS), the Symbian OS, PocketPC and TabletPC.

Together with the local database encryption capability of Lotus Expeditor software, Lotus Mobile Connect software secures an application—end to end. It also integrates with Lightweight Directory Access Protocols (LDAPs) and identity managers to provide authentication and single-sign-on capability.

IBM WebSphere Everyplace Mobile Portal Enable software
IBM WebSphere Everyplace Mobile Portal Enable software provides browser-based, device-independent access to portal content. It supports connected, business-to-consumer scenarios where the business does not know the type of device its consumers will use. It can also be used to provide employees with access to intranet applications from their devices of choice. In both scenarios, the user is connected to a network and using a browser-based application.

IBM WebSphere Everyplace Access software
IBM WebSphere Everyplace Access software is primarily a personal information management (PIM)/e-mail synchronization solution. It also provides intelligent notification and location awareness for mobile applications.
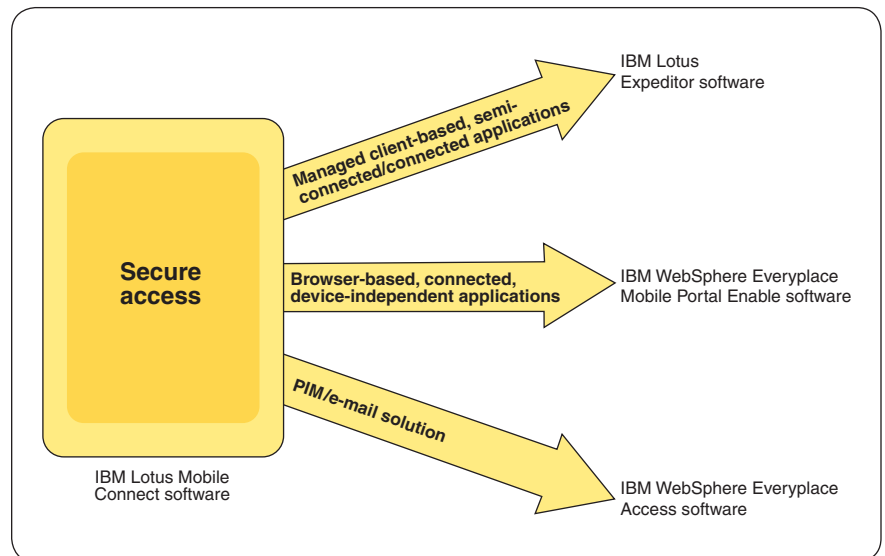


*Figure 2: IBM mobile and enterprise access middleware meets high-security multichannel access requirements.*

**Success stories**

IBM's mobile and enterprise products are a proven platform and have been adopted by a large number of clients.

Nissay Insurance

Nissay, a Japanese insurance company, was experiencing long processing times, high adjustment costs and a large number of transcription errors in insurance processing. Its agents were writing policy information on paper at clients' premises, and then entering the information in the computer systems at the end of the day. Nissay deployed a Lotus mobile and enterprise access software-based solution to 85,000 insurance agents to enable the agents to capture policy information on a tablet at customers' premises, and then synchronize it with back-end systems when network connectivity was available. With this solution, Nissay improved productivity by approximately 30 percent and reduced transcription errors.

Gas Natural

Gas Natural transformed its field-related business processes with Lotus mobile and enterprise access software. Instead of using a clipboard, field service engineers now can use a PDA to receive work orders and send status updates to their dispatchers—all wirelessly and in real time. They can also work smarter onsite by accessing technical documentation and charts through a compact device in real time, eliminating the need to fumble through bulky, outdated manuals. With status information more transparent, dispatchers have the flexibility to shift resources as needed, improving service call completion rates and throughput. Field sales personnel are now better equipped to target their offerings based on real-time customer profiles. And they now have the tools they need to close new deals faster and more effectively. Gas Natural achieved approximately US$635,000 in annual administrative cost savings and a 30 percent increase in service call completion rates.

**IBM mobile and enterprise access products versus those of the competition**
The IBM products, which are delivered by the IBM Lotus team, continue to be a strong middleware platform for mobile and enterprise access and SOA implementations because they provide various advantages over the following vendors:

Microsoft
When compared to Microsoft .NET software, IBM products offer various advantages, especially in a heterogeneous environment.

Based on open standards, IBM mobile and enterprise access software supports interoperability and does not force customers into vendor lock-in.

- *It provides superior platform and device support — accommodating Win32, Linux®, Microsoft Windows Mobile and Symbian platforms, among others.*
- *It provides a flexible and portable deployment, since a Lotus mobile and enterprise access application can run unchanged, to a large extent, on a variety of platforms on smaller Windows Mobile devices.*
- *It supports a strong security model.*
- *It provides a consistent programming model and execution environment across the server and the client.*
- *It provides better backward compatibility and migration.*

For customers who want to migrate from Microsoft Visual Basic or .NET applications to Lotus mobile and enterprise access software-based applications, IBM offers an easy and inexpensive migration path and tools from IBM Business Partners.

SAP

Lotus mobile and enterprise access software offers various advantages over SAP NetWeaver software, especially in a heterogeneous environment. Some of the advantages are as follows:

- *Lotus mobile and enterprise access software can integrate nicely with a variety of enterprise applications such as SAP, Siebel, PeopleSoft and Oracle.*
- *The Lotus mobile and enterprise access software development and programming model is based 100 percent in Java code. NetWeaver software is based on a mix of Java code and SAP's proprietary ABAP code. Therefore, SAP requires multiple tools and multiple code repositories.*
- *Lotus mobile and enterprise access software provides extensive mobile device support. NetWeaver software's mobile support is limited to Microsoft Windows Mobile devices.*
- *Lotus mobile and enterprise access software is tightly integrated with WebSphere software—which is the number one application server and the number one portal server in the marketplace. The WebSphere solution is also the leader in categories like message brokering and business integration. Companies are likely to have many WebSphere software-based applications and business processes and can leverage those skills and assets as they extend their applications to the edge of the network.*

Sybase iAnywhere

Lotus mobile and enterprise access software offers clients a full-function managed client platform and a choice of programming models—based on Eclipse and Web applications. Unlike iAnywhere, Lotus mobile and enterprise access software is tightly integrated with the number one application server and portal in the market—WebSphere software. iAnywhere also has acquired various products in its portfolio. In some cases, these products are not integrated very well. Lotus mobile and enterprise access software is seamlessly integrated.

### Roadmap

In 2007 and beyond, IBM will use Lotus mobile and enterprise access software to extend and further differentiate a variety of its category-leading offerings like Lotus Domino, Lotus Sametime, WebSphere Portal and WebSphere Application Server software. Lotus Expeditor software adds significant new capabilities to help clients and IBM Business Partners rapidly build and deploy line-of-business applications that seamlessly integrate with collaboration applications. It will also provide the managed client software for the next generation of Domino and Sametime clients. IBM will also enhance the device and platform support of Lotus mobile and enterprise access software over time.

### Conclusion

IBM—through its Lotus team—offers a marketplace-leading multichannel application access gateway, supporting many mobile and enterprise access scenarios: those of office worker operations, knowledge worker, field service, salesforce, kiosk-based retail and business to consumer.

IBM mobile and enterprise access products are part of the IBM SOA foundation. Clients use them to extend line-of-business SOA applications beyond the data center to the edge of the network—whether the edge is a desktop, laptop, kiosk, PDA, smartphone or feature phone. IBM mobile and enterprise software is built on a componentized, reusable SOA model and offers many advantages over competitors' solutions, particularly support for open standards; support for a variety of server and device platforms; platform portability; support for connected and semiconnected scenarios; and robust end-to-end security. IBM can help IT respond to the needs of the business to enable people at the edge of the network to interact with enterprise applications, information and business processes. The results of these implementations can be improved productivity, reduced errors, lower administrative costs and an improved flexibility to respond to future business needs.

**For more information**

To learn more about IBM mobile and enterprise access solutions, visit:

**ibm.com**/lotus/mobile