

WHITE PAPER

Embracing Next-Generation Mobile Platforms to Solve Business Problems

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IDC OPINION

For enterprises today, mobility is no longer a "nice to have" feature; rather, it is considered a strategic component of their business. Deploying mobile applications provides strong productivity improvements and offers better customer touch for the mobile workers accessing these applications in the field, whether they are salespeople, knowledge workers, or field workers. Such applications also have strong benefits across the rest of the organization, such as:

- ☒ Improved organizational efficiency, allowing workgroups to communicate better
- ☒ Enhanced ability for managers to approve and delegate faster
- ☒ Improved efficiency at company headquarters (Data gatherers, financial personnel, analysts, and others receive information in a much more efficient and timely manner with fewer errors.)
- ☒ Increased speeds for processing proposals and contracts while top-level management receive information in real time to make better decisions

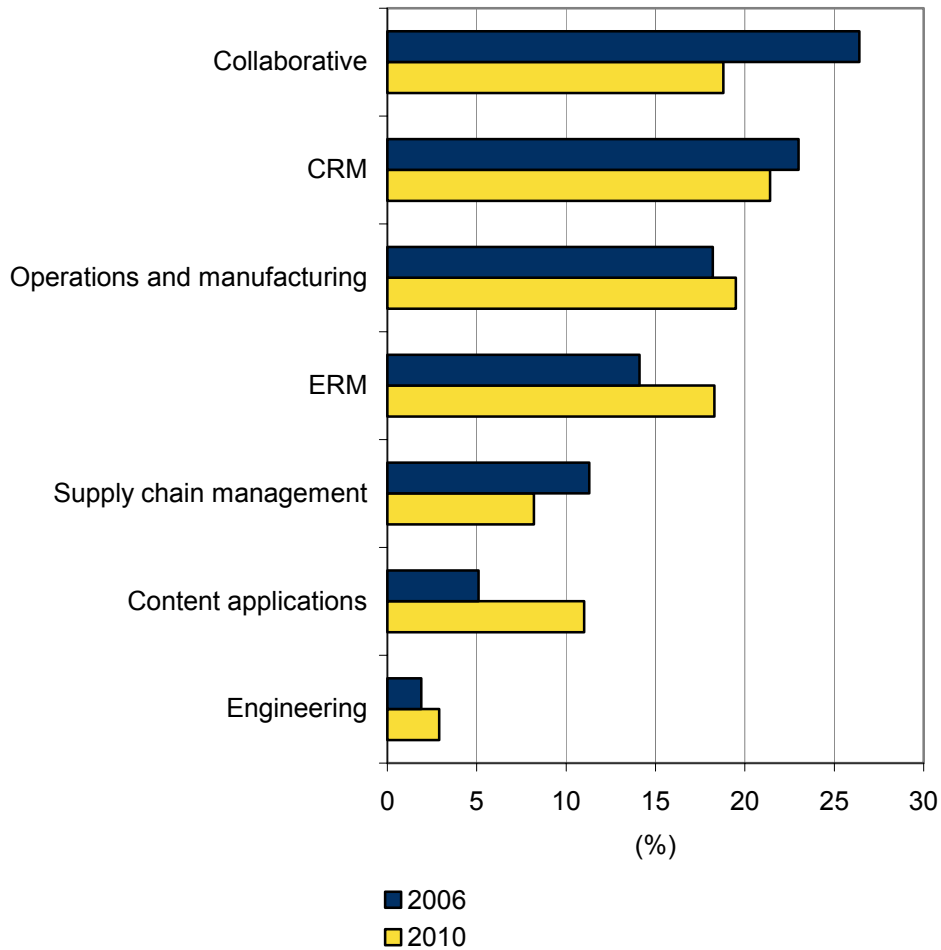
Such applications go well beyond email and include leveraging CRM system information across multiple user types, deploying asset tracking and resource management, and delivering mobilized forms. These are just a few of the key applications being deployed today across a number of industries.

A recent IDC survey suggests that 70% of organizations are currently deploying at least one mobile application, with more than a third of these companies deploying multiple mobile applications. In the next two years, organizations will begin to increase their adoption of mobile applications such as ERM, content-oriented, and manufacturing and operations applications, whereas two years ago, collaborative applications such as email were the largest deployed.

Figure 1 details the types of mobile applications that were deployed in 2006 and that are expected to be deployed in 2010.

FIGURE 1

Beyond Mobile Email — Mobile Enterprise Applications Share, 2006 and 2010



Source: *Worldwide Mobile Enterprise Applications 2006–2010 Forecast and Analysis* (IDC #204115, December 2006)

IN THIS WHITE PAPER

In this White Paper, IDC analyzes the role of next-generation mobile enterprise platforms as organizations seek a more strategic deployment of mobile solutions. The White Paper analyzes why mobility is important to enterprise customers; discusses key past obstacles across technology, supplier deployment, and customer adoption; and identifies vital criteria for choosing a next-generation platform.

SITUATION OVERVIEW

Mobile Technology Adoption Has Become Increasingly Complex

As mobile technology and customer adoption of such technology continue to move forward, it is critical today for businesses to recognize the importance of mobility as a strategic investment and a mobile enterprise platform as the core of their strategy to deploy applications to a growing set of users. Mobility is complex — multiple back-end systems, some legacy, some newly deployed, and a tremendous collection of mobile devices with an increasing number of mobile operating systems (BlackBerry OS, Windows Mobile, Symbian OS, Mac OS X, Palm OS, and various flavors of mobile Linux). Businesses are also grappling with the use of varying wireless technologies in a global workplace — current cellular networks with CDMA and GSM standards, WiFi, WiMax, and future next-generation 4G networks.

Addressing Complexity by Adopting a Mobile Enterprise Platform

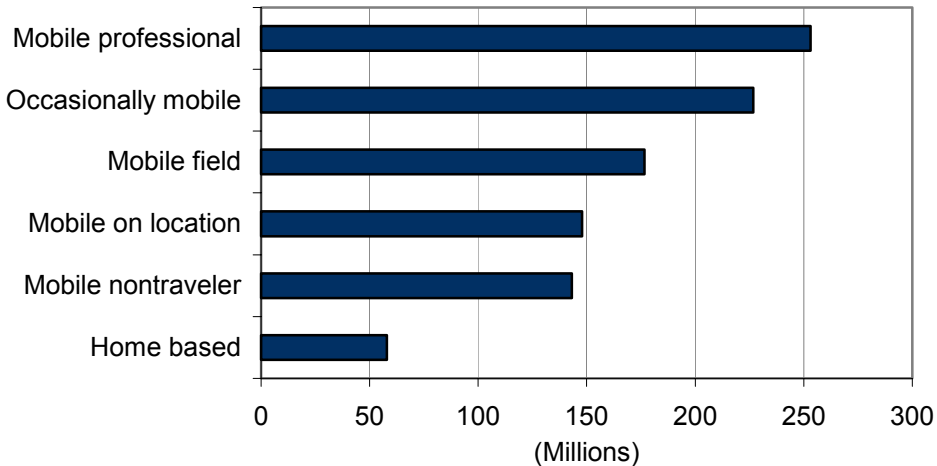
Such complexity warrants the need to consider a mobile enterprise platform that can address the heterogeneity that is omnipresent in mobility. Multiple standards will continue to battle across applications, devices, operating systems, and wireless technologies, but a mobile enterprise architecture that can handle such complexities is important to delivering on a strategic mobile deployment. Point solutions, basic applications, or deployments offering support across just one set of devices or applications do not meet the expectations of enterprise IT or the demand of mobile workers. The development, deployment, and management of applications across a myriad of devices and back-end systems require a mobile enterprise platform.

Today, organizations have a pent-up demand and a need to be able to deploy a mobile architecture that is the right approach to this complexity and heterogeneity. A mobile enterprise platform provides an enterprise-grade solution that begins to leverage newer technologies and business processes that are expected for a major application rollout. A viable mobile enterprise platform delivers key tools to build and deploy mobile applications, a core middleware platform for consistent synchronization between back-end sources and applications on the mobile device via Web services. An extensible platform that can speak to the variety of applications, devices, and wireless technologies and at the same time deliver key management and security components and meet the demand and expectations of both IT and the mobile user is at a state of readiness today.

Figure 2 illustrates the growing number and types of mobile workers across the world expected in 2011.

FIGURE 2

Worldwide Mobile Worker Population by Worker Type, 2011



Source: *Worldwide Mobile Worker Population 2007–2011 Forecast* (IDC #209813, December 2007)

MARKET TRENDS AND EVOLUTION: THE CASE FOR MOBILE PLATFORM DEPLOYMENT

Enterprise customers today are poised to deploy mobile applications in greater numbers than ever before. As these businesses seek much more strategic deployments of mobile applications for improved worker productivity, enhanced customer service, and increased organizational efficiency, mobile enterprise platforms represent the core architecture behind such deployments. Mobile enterprise platforms address key customer needs through the following:

- ☒ **Deliver open and extensible architecture.** Mobile enterprise platforms enable an extensible architecture that can adapt to back-end system support, growing mobile application development and support across a broad set of mobile users, devices, and mobile operating systems. In addition, open platforms provide key technologies that embrace Web services and 4GL tooling for simplified multiple back-end enablement, rapid and efficient development and deployment, and improved delivery of composite applications.

- ☒ **Reduce complexity and add strategic value.** Enterprise mobile deployments are complex. Today, most companies deploying mobile applications are often touching multiple back-end systems and other third-party applications to drive a strategic solution. Organizations seek a mobile platform that is robust enough to address IT security and management concerns and end-user productivity and usability requirements. Mobile platforms should focus on driving valuable improvement to business processes across entire organizations by reducing complexity and solving business problems.

- ☒ **Offer heterogeneous deployments.** As devices supporting BlackBerry OS, Windows Mobile, Symbian OS, Palm OS, Mac OS X, and mobile Linux increasingly infiltrate the enterprise, a mobile platform must be able to deploy multiple applications efficiently across multiple device types.

The mobile enablement market has evolved over the past 5–10 years. Much of the education and technology advancement that took place during that time has paved the way for enterprise customers to begin to adopt mobile enterprise platforms for more strategic rollouts of mobile applications. Although there have been a number of successes in the past, there are many technological and cultural hurdles that have been overcome to reach the level of demand that we are at today.

Past Challenges

In the past, there were many technological obstacles that suppliers and enterprises had to overcome in order to deploy mobile solutions. However, despite some of the technical challenges early on with newer wireless data networks and nascent enterprise-built devices, custom deployments still provided improved business processes, but typically through proprietary deployment with little scalability.

Most organizations, though, were hungry for more open systems and overall education on the market. There were several key industries, including transportation, manufacturing, consumer packaged goods, and others, that demonstrated strong proof cases that whet the appetite for other businesses to recognize the value of mobility for their operations.

Despite some of the technical hurdles and the slower sales cycles, enterprise mobility solutions persevered and delivered viable ROI through improved business processes and worker productivity and paved the way for the perfect storm of mobility as a strategic deployment across much improved and more open technologies.

An Improved Environment

Today, mobile enterprise deployments are much improved across the factors discussed earlier. Faster data-oriented networks have emerged and 3G rollouts are continuing across the world. Mobile devices have been built for the enterprise, and corresponding operating systems have proven viable for business. RIM's BlackBerry devices continue to drive value for the business customer beyond mobile email and in many companies represent the standard for businesses. Microsoft's launch of Windows Mobile 5.0 and the subsequent 6.0 and 6.1 launches combined with many

of the corresponding devices offered for Windows Mobile have focused on providing many enterprise-oriented features. A few years ago, Nokia launched its Eseries devices geared toward business use. In addition, mobility has begun to mirror key technologies used across enterprises enabling Web services, supporting service-oriented architectures, leveraging composite applications, and providing much more open and rapid development of applications. Many mobile enterprise platforms begin to embrace the same technologies in order to improve and better integrate with existing corporate systems. We have already begun to see this shift, and in the coming years, more mobile technologies will migrate to this path.

Organizations today are also much more savvy in their recognition of mobility as a key driver for enhanced customer service, improved organizational efficiency, and increased worker productivity. With the deployment of mobile email in businesses becoming more ubiquitous, the corporate and financial buy-in for mobility is already in place to make faster and wider-sweeping deployments of additional applications. Faster decisions are being made with "mobile-specific" job descriptions that tie in both IT and line-of-business project management. Companies have begun to discuss a growth path where they may focus on a single application to start but consider investing in a platform that addresses the entire organization for planned rollouts over the coming months and years.

Next-Generation Platforms Coming Onboard

Next-generation mobile platforms will leverage much of what we saw in terms of adoption in the enterprise — Web 2.0 technologies, the use of Web services and service-oriented architectures, composite applications, and context-aware applications. Mobile platform providers are beginning to move their solutions to reflect current enterprise customers' architecture requirements.

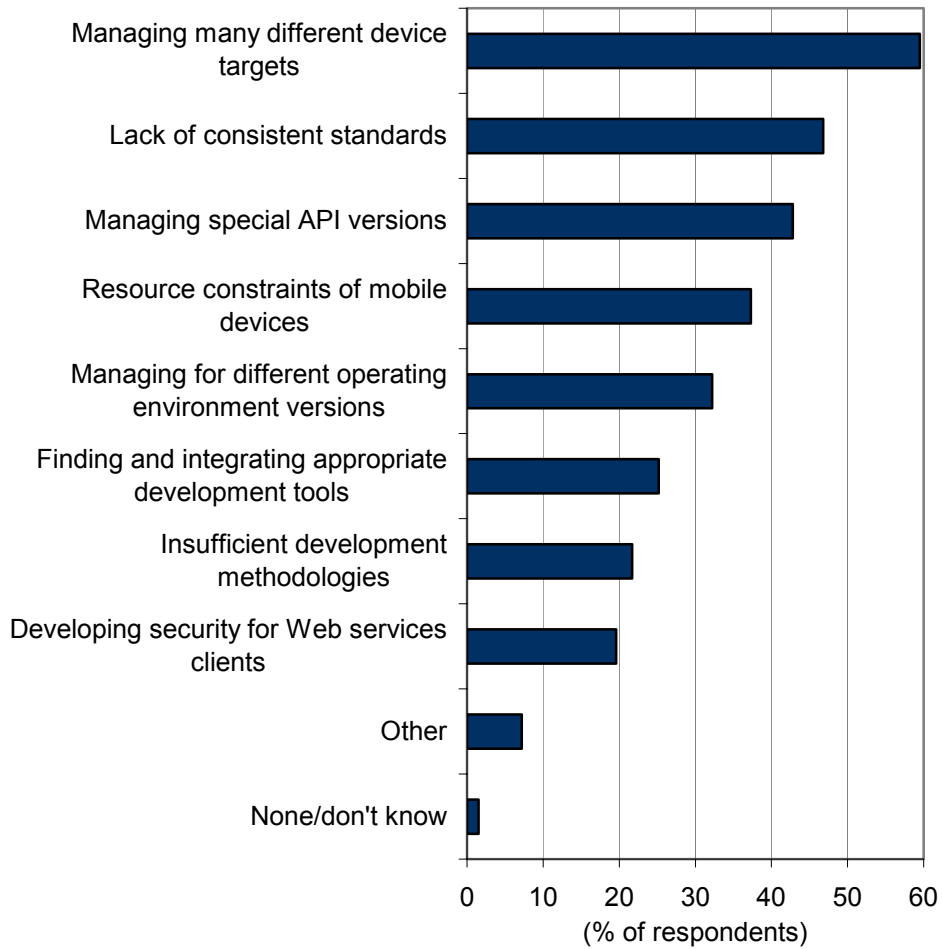
The ability to adopt these technologies and open standards via a mobile platform provides organizations a chance to use Java or .NET for Web services-based deployments where organizations could rapidly deploy applications in a matter of days and weeks rather than months. With such technologies, a mobile enterprise platform also provides a much more manageable path to deploying applications to multiple devices with different operating systems. Such platforms would enable companies to deploy applications specific to employees' business processes and daily task requirements. With such extensible environments, enterprises can deliver mashups incorporating their own back-end systems with third-party content to distribute more dynamic applications to a broader set of mobile workers. These context-aware applications bring added value to current static mobile enterprise applications.

Such platforms are beginning to take shape from innovative mobile enterprise software providers and are being deployed to customers that are often seeking to embrace a single platform for a number of applications to a growing population of mobile workers.

Figure 3 demonstrates how organizations struggle in deploying and developing mobile applications because of the need to manage multiple device types, address standards issues, and manage multiple versions of APIs to back-end systems. The rollout of a next-generation platform as discussed earlier can address many of these critical challenges.

FIGURE 3

Top Challenges of Developing and Deploying Mobile Applications



n = 822

Source: IDC's 1Q06 Software Developers' Collaborative Study

KEY CRITERIA FOR CHOOSING A MOBILE ENTERPRISE PLATFORM

As enterprise customers begin to build out mobile strategies, the deployment of a mobile enterprise platform is critical. The following list outlines key criteria an organization should seek with a mobile enterprise platform:

- ☒ Consider a platform provider with experience and credibility in deploying a mobile platform and check the viability of the company to ensure the longevity of the company. With many new players entering this market, there may be some concern with their staying power.
- ☒ Demand an extensible platform that can adapt with your organization's needs. If you add more back-end systems, merge with another company, or seek to deploy additional device types with multiple operating systems, can your platform support such changes?
- ☒ Require device management and security components as a key adjunct to the platform that should be deployed at the point of your application and device rollouts. Integrated mobile device management and security with multiple mobile OS support is critical at the platform level to properly track, distribute, and protect applications, users, and devices at the time of deployment.
- ☒ Seek a provider that can deliver open technologies that interoperate with your corporate systems. For example, consider next-generation tools, such as 4GL, for less design effort and rapid development and deployment. Look to SOA and Web services architectures to tie in to multiple back ends and write more efficiently to a broader set of devices and operating systems.

The power of next-generation platforms provides organizations with extensible, open development environments with rapid, cross-platform deployment and development solutions. This comes at a time when many organizations have made commitments to mobility and have begun to deploy applications beyond mobile email, leveraging additional mobile infrastructure. Such organizations seek mobile deployments in the enterprise as a strategic initiative and look to a platform that can address a broad set of users across a number of divisions.

Next-generation platforms will be driven by the improved technology within the market, the ability for key mobile ecosystem stakeholders to integrate their offerings and provide synergistic solutions to customers, and the growing push of organizations' strategic initiatives.

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