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# Updated 2011: The Mobile Operating System Wars Escalate An Empowered Report: IT Focuses Attention On BlackBerry, iOS, And Android

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### **EXECUTIVE SUMMARY**

The commercial mobile device landscape continues to evolve dramatically, and the days are numbered for limiting IT support to a single mobile operating system (OS). Google Android and Apple iOS are joining RIM BlackBerry among the mobile OSes that IT must support, while Microsoft's release of Windows Phone adds yet another player into the fray — all of this signifying a profound shift in corporate IT road maps and new challenges in how infrastructure and operations (I&O) professionals must support them. This report helps I&O professionals prioritize mobile OS support and refine their plans to build a long-term mobile strategy for their organization.

### EMPOWERED WORKERS AND THE PACE OF CONSUMER TECH DRIVE IT TO EXPAND SUPPORT

In the six months since Forrester last published this report, a heavy volume of client inquiries concerning mobile strategy have been fielded that range in topics from supporting an increasing diversity of mobile OSes to crafting an effective mobile policy and supporting employee-owned devices. As outlined in Forrester's book *Empowered*, employees are increasingly turning to these powerful mobile devices to solve both business and customer challenges.¹ Although just 21% of information workers today in North America and 14% in Europe use a smartphone for work purposes at least weekly, this usage is inevitably increasing as firms loosen their sourcing and support policies.² The adoption of consumer devices such as the iPad by C-level executives, sales, and marketing fuels this trend. Those same corporate users push I&O professionals to deliver a mobile strategy that is device- and platformagnostic.³ But there's a catch — this shift also introduces management, security, and cost challenges to I&O teams tasked with supporting them.⁴

### IT Should Focus Its Attention On Three Platforms Over The Next Year But Revisit Annually

Historically, IT has specified the devices it supported, often preferring a single platform (e.g., BlackBerry, Windows Mobile, or Symbian) to both keep costs down as well as simplify management and security practices. However, over time, executives' and contractors' ceaseless requests for policy exceptions became increasingly difficult to deny. I&O managers had to patch solutions together to accommodate the requests or risk the backlash of spurned and rogue users. Today, progressive I&O teams are more agile and embrace tools that don't lock their firms into a single platform. The result? End users have the freedom to choose their preferred devices and IT can deliver business resources to even employee-owned devices. If this doesn't sound like your company, then you're in the minority. Forrester's most recent networks and telecommunications survey found that nearly half of firms are supporting two or more mobile OSes, and 59% support employee-owned devices to some degree (see Figure 1).

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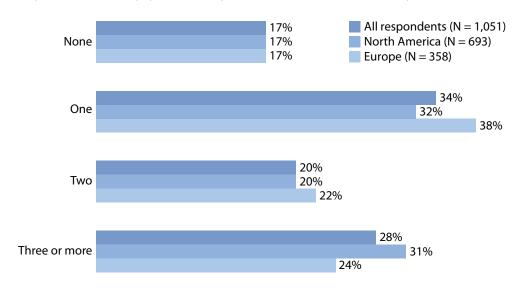
To strike the right balance between manageability, security, support, and employee flexibility and innovation, you should focus your attention over the next year on three mobile OSes:

- 1. **BlackBerry.** At the top of the list for most firms is BlackBerry, the gold standard for management and security when coupled with the BlackBerry Enterprise Server (BES) that supports more than 550 IT policies.<sup>8</sup> BlackBerry smartphones are now available in more than 175 countries through more than 600 carriers and distribution partners. With more than 50 million subscribers worldwide and in deployment within 90% of the Fortune 500 as of August 2010, BlackBerry will retain its position as the No. 1 most widely deployed solution for businesses of all sizes. In fact, 66% of the firms Forrester surveyed support BlackBerry, and 84% plan to within the next 12 months (see Figure 2).
- 2. iOS. Over the more than four years in its existence, iOS has matured from a consumer-centric OS to an enterprise-capable platform. IT can now securely manage and control corporate data on the device and while in transport. But what has most firms excited about the iPhone and iPad opportunity is the proliferation of applications. Nearly 37% of firms Forrester surveyed support iOS already today, making it the second most widely supported platform behind BlackBerry.
- 3. **Android.** Android has quickly followed a similar path that iOS blazed over the past two years: consumer phenomenon that bleeds into the corporate market because of employee demand. Android 2.3 (Gingerbread) brought enhanced power and application management as well as Near Field Communications (NFC) capabilities, and the next release (Ice Cream Sandwich) promises more security features like full disk encryption and a new application framework. However, the lack of a streamlined process of delivering OS updates across multiple carriers and device models still has many I&O managers concerned. Despite this, 24% of firms Forrester surveyed officially support Android today, and 77% expect to within the next 12 months (see Figure 3).

Although BlackBerry, iOS, and Android are the three recommended platforms today, the mobile ecosystem evolves at a blistering pace. For rester encourages I&O teams to revisit their mobile policies at least annually, if not every six months, to ensure that they're investing in the right platforms. For example, Windows Phone wasn't available when For rester published this report last year, and already 61% of firms expect to support the OS within the next 12 months. Couple this with HP's webOS and Intel's continued investment in MeeGo and the mobile OS landscape shows few signs of consolidation.

Figure 1 Nearly Half Of Firms Already Support Two Or More Mobile Operating Systems

### "How many mobile operating systems does your firm's IT department officially support and manage?"



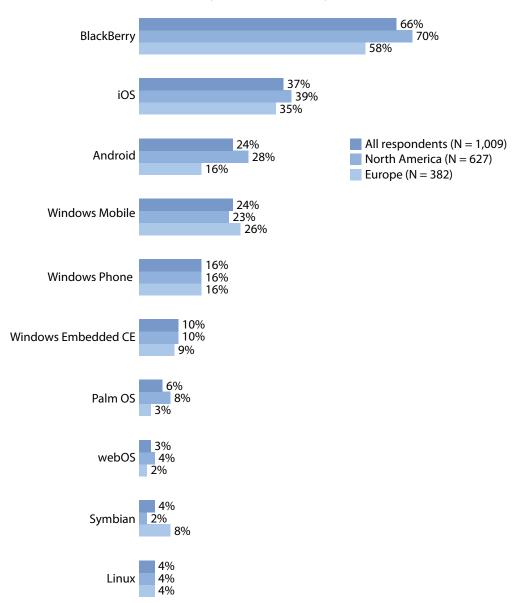
Base: 1,051 North American and European mobile technologies and services decision-makers (percentages may not total 100 because of rounding)

Source: Forrsights Networks And Telecommunications Survey, Q1 2011

60115 Source: Forrester Research, Inc.

Figure 2 BlackBerry Still Tops The Supported List, While iOS And Android Continue To Make Gains

# "Which of the following handheld operating systems does your firm's IT department officially support and manage?"



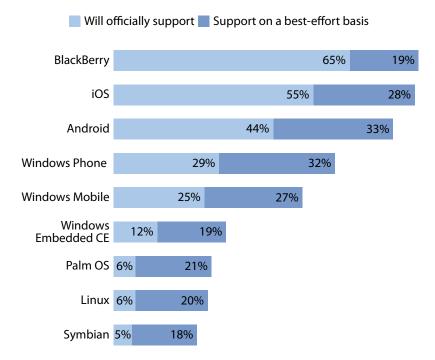
Base: 1,051 North American and European mobile technologies and services decision-makers (multiple responses accepted)

Source: Forrsights Networks And Telecommunications Survey, Q1 2011

60115 Source: Forrester Research, Inc.

Figure 3 Firms Are Prioritizing BlackBerry, iOS, And Android, But Don't Rule Out Windows Phone

# "To what extent do you expect your firm's IT department will officially support the following mobile operating systems 12 months from now?"



Base: 1,051 North American and European mobile technologies and services decision-makers (multiple responses accepted)

Source: Forrsights Networks And Telecommunications Survey, Q1 2011

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Source: Forrester Research, Inc.

# IT Faces Four Major Hurdles To Overcome As It Builds Out Its Next-Gen Mobile Strategy

As I&O professionals turn toward the future, they'll be challenged by:

- Management and security challenges. Although greater platform and application choice brings innovation and flexibility to the business, it also introduces management and security challenges to I&O teams that lack tools that can scale across platforms. In fact, 41% of IT decision-makers recently identified implementing or improving mobile security as a top mobility priority over the next 12 months. Even as third-party management solutions mature and add support for emerging platforms, there are larger concerns that IT, business managers, human resources (HR), and legal departments must address for employee-owned devices. They'll need to craft policies for stipend models, expenses, jailbreaking and rooting, backup and recovery, user training, and rights of confiscation. <sup>12</sup>
- A muddled application development landscape. Today's enterprises are struggling to build their mobile development strategies. They no longer enjoy the simplicity of smartphone users who were mostly limited to wireless email, contacts, calendars, and personal web browsing. Application developers are quickly learning that there are at least seven styles to consider: 1) mobile web technologies; 2) Java Micro Edition; 3) native client development; 4) full web technologies; 5) container-based rich Internet applications; 6) mobile middleware platforms; and 7) desktop and application virtualization clients. As more developers are exposed to enterprise mobility, expect the cost of building and deploying apps to decrease and IT shops to ratchet up internal competencies in enterprise mobility.
- The lack of an enterprise-class application store. As firms develop and procure applications for their mobile workforce, I&O managers are increasingly identifying the need for an enterprise-class application store. IT envisions this store hosting applications (e.g., physical, virtual, and web -based) and data (e.g., user documents) that employees can access across a broad spectrum of mobile devices and platforms. These stores must also support asset and software management, chargeback, service desk, and request fulfillment capabilities. There's an increasingly crowded vendor ecosystem targeting this burgeoning market opportunity, but today's solutions are often limited in capabilities and platform support and don't integrate into existing provisioning, security, and service desk tools.
- An inability to effectively and proactively manage costs. IT pros often cite cost management as a major concern when asked about growing smartphone and tablet adoption levels and the shift from corporate-liable to individually-liable devices. These concerns are especially true if they support users who regularly travel internationally and frequently roam across mobile operator networks. As a result, consider evaluating solutions from vendors such as AirWatch, BoxTone, MobileIron, Tangoe, and Zenprise that have converged mobile management with wireless expense management into a single dashboard for I&O managers to monitor in real time.<sup>14</sup>

#### WHAT IT MEANS

### FIRMS MUST REVISIT THEIR MOBILE POLICIES TO SUPPORT EMPOWERED WORKERS

I&O execs eternally strive to strike the right balance between enabling business productivity and innovation without compromising security, management, and cost. But in the age of empowered workers, firms must revisit their mobile policies. How? By engaging with the business community on their workforce technology needs before defining their next-generation mobile computing strategies and measuring what's working and what's not. Firms should start with a four-step approach. Specifically:

- Conduct a workforce technology needs assessment. Progressive firms are conducting workforce technology needs assessments as the first step among other technology initiatives in defining their next-generation mobile computing strategy. This fact-based segmentation initiative helps firms understand which workforce technologies map to which user segments.
- Define the next-generation mobile computing strategy. Once the workforce technology needs assessment is complete, IT more clearly understands the requirements of its worker profiles and can start designing its next-generation mobile computing strategy. At this stage, firms must: 1) decide on the appropriate device platforms and policies, as outlined above; and 2) recruit the appropriate stakeholders in the business, HR, and legal departments to enforce these policies.
- Embrace the right mobile device management tool or managed service. In order to apply varying levels of policy to different worker segments, I&O teams must evaluate mobile device management (MDM) solutions or managed services to find the right fit. But the vendor landscape is crowded. Focus on platform support, enterprise scalability, and referenceability to derive your vendor shortlist.
- Continue to engage with end user advisory councils and IT's most vocal critics. Building a mobile device strategy is an ongoing process. Once designed and built, I&O staff needs to continue to engage with its end user community and most vocal critics to determine what's working and what needs improvement. Firms are encouraged to identify and invite workers across all user segments and geographies to participate in end user advisory councils for their continued engagement with IT and willingness to provide constructive feedback.

### **ENDNOTES**

- <sup>1</sup> In Forrester's book *Empowered*, you see employees turning to mobile devices to solve both business and customer challenges. Source: Josh Bernoff and Ted Schadler, *Empowered: Unleash your Employees, Energize your Customers, Transform Your Business*, Harvard Business Review Press, 2010 (http://www.forrester.com/empowered).
- <sup>2</sup> Source: Forrsights Workforce Employee Survey, Q3 2010.
- Mobile device management and security will forever remain a balancing act between the productivity drivers of the business and security and cost requirements for IT. Through Forrester's ongoing client discussions on mobile device policies and management and security practices, we've assembled a list of 20 best practices that IT professionals should embrace. See the October 21, 2009, "Twenty Mobile Device Management Best Practices" report.
- <sup>4</sup> Managing and securing mobile devices gets harder as you add support for more OSes. In efficiently administering the high rates of change and supporting a catalog of ever-evolving mobile devices spread across multiple domestic and international carriers, you've just begun to scratch the surface of the mobility challenges facing IT operations professionals every day. See the October 28, 2010, "The Mobile Operating System Wars Escalate" report.
- Groundswell technologies social, mobile, video, and cloud put tremendous power in the hands of customers. Only empowered employees can respond at the speed of empowered customers and they're often information workers outside of IT. We call these innovative information workers HEROes highly empowered and resourceful operatives. The HERO Index is a new tool we developed to measure just how empowered and resourceful your own employees are. See the June 18, 2010, "The HERO Index: Finding Empowered Employees" report.
- Within the next 12 to 18 months, most IT managers worldwide will significantly alter their client computing strategies, and this will have a profound impact on smartphone adoption and management. Necessitating this change is a significant generational shift of information workers who are an increasingly empowered group dictating the technology used to solve business issues. I&O managers must respond to overwhelming requests to support smartphones because of the productivity improvements and TCO efficiencies they introduce. But these IT managers are shifting away from a one-size-fits-all, corporate-liable smartphone model to one that: 1) includes support for at least BlackBerry, iOS, and Android, and 2) is much more open to individually liable devices connecting to corporate resources. This architectural shift will force IT and telecom managers to reevaluate their smartphone management solutions and services. See the August 26, 2010, "Market Overview: Smartphone Management" report.
- <sup>7</sup> Source: Forrsights Networks And Telecommunications Survey, Q1 2011.
- In Forrester's 92-criteria evaluation of mobile device management vendors, we found that RIM and Sybase lead the pack with their superior mobile device configuration, management, and security capabilities and strongest market presence. See the April 27, 2009, "The Forrester Wave<sup>™</sup>: Mobile Device Management Solutions, Q2 2009" report.

- <sup>9</sup> Apple's iPhone and the iPad have become increasingly popular. In 2007, IT dismissed the iPhone as insecure and unsuitable for enterprises. Three years later, the iPhone (and iPad) gives enterprises enough security options to enable them to say "yes" instead of "no." In this report, Forrester defines seven security policies every enterprise should implement to keep its email and corporate information safe on Apple mobile devices, whether or not the enterprise owns them. We also define additional security "high-water marks" policies and processes you can implement based on your risk profile and regulatory exposure. See the August 2, 2010, "Apple's iPhone And iPad: Secure Enough For Business?" report.
- Is iPhone ready for your company? At least three firms we spoke with including Kraft Foods and Oracle think it is. We share their insights here and pull out their early lessons to help you build the case for supporting iPhone in your enterprise. The big iPhone lessons are: It's more than just another device; it drives business culture change; it gives employees freedom to choose their own tools; and it changes the support model to self-service. But the real payoff of iPhone and similar mobile Internet devices is that it is a new platform for delivering content and collaboration applications to an increasingly mobile workforce. See the April 10, 2009, "Making iPhone Work In The Enterprise: Early Lessons Learned" report.
- <sup>11</sup> Source: Forrsights Networks And Telecommunications Survey, Q1 2011.
- <sup>12</sup> Forrester has identified 15 best practices that I&O managers should use when crafting their new mobile policies. These practices keep corporate data secure, employees productive and happy, and costs down, while selectively embracing the consumerization of IT where appropriate. See the January 11, 2011, "<u>Fifteen Mobile Policy Best Practices</u>" report.
- <sup>13</sup> Developing mobile applications used to be an arcane activity pursued by highly specialized developers, but no more. The surge in popularity of Android devices, BlackBerrys, and iPhones has application development professionals gearing up to incorporate mobile development into mainstream development processes. See the August 24, 2010, "Define Your Mobile Development Strategy" report.
- <sup>14</sup> At its onset, telecom expense management (TEM) offered a very tactical value proposition. It was all about auditing the organization's wire-line invoices to ensure correct billing and payments. But as the TEM market matures and vendor capabilities expand, I&O can now use TEM to strategically and proactively manage voice, data, and wireless services. See the April 18, 2011, "Follow Four Steps To Broaden The Scope Of Your Telecom Expense Management Solutions" report.