



July 13, 2011

# Mobilize Your Collaboration Strategy

by Ted Schadler

for Content & Collaboration Professionals

**FORRESTER**

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## Mobilize Your Collaboration Strategy

Mobile Collaboration Requires An App Internet Architecture

by **Ted Schadler**

with Matthew Brown and Heather Martyn

### EXECUTIVE SUMMARY

The days when a Windows application and a server cluster in the data center could handle your collaboration needs are over. An increasingly mobile and remote workforce with experiences forged by *Angry Birds* and Google Maps has killed it. Mobile employees' expectation of a great user experience on any device can only be met with collaboration solutions architected with native apps and cloud delivery, an architecture Forrester calls the mobile app Internet. And that means content and collaboration professionals need a new approach and often a new set of suppliers that can deliver real-time and team-based collaboration apps on any mobile device.

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Forrester interviewed 14 vendor companies including Adobe Systems, AT&T, Box, Cisco Systems, Citrix Systems, Dropbox, Evernote, Google, IBM, salesforce.com, Skype, Socialtext, SugarSync, and Yammer.

#### **Related Research Documents**

["Demystifying The Mobile Workforce"](#)

June 7, 2011

["Executive Q&A: Tablets In The Enterprise In 2011"](#)

March 22, 2011

["Mobile App Internet Recasts The Software And Services Landscape"](#)

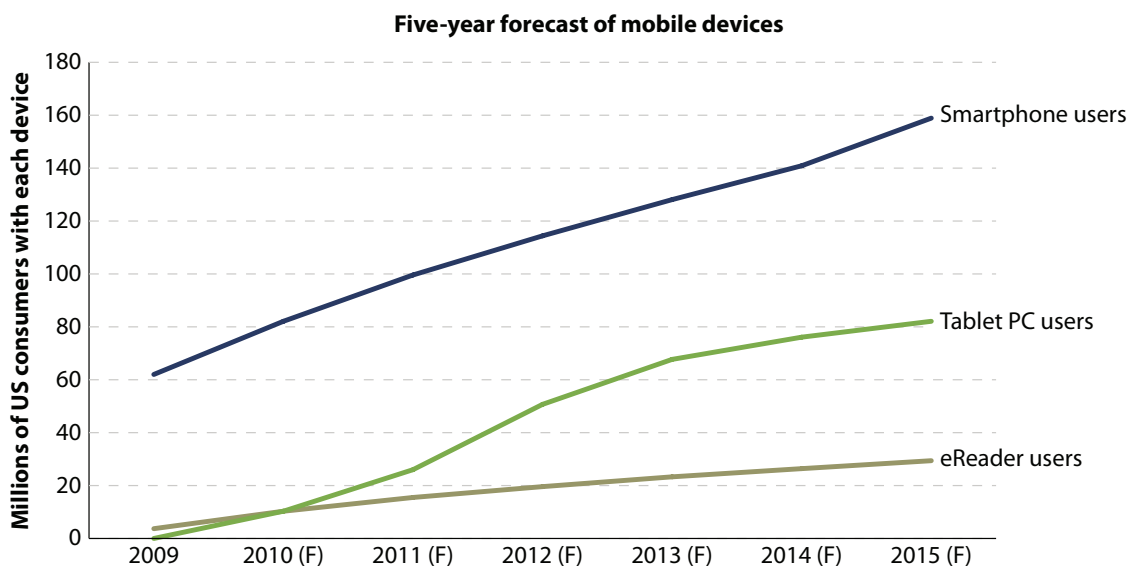
February 28, 2011

## MOBILITY SHAPES THE FUTURE OF COLLABORATION

Forrester expects 82 million US consumers to have tablets and 159 million to have smartphones by 2015 (see Figure 1). Globally, the numbers will be more like 200 million tablets and 500 million smartphones. Based on our consumer, workforce, and IT decision-maker surveys, we expect at least one-third of those smart devices to be used for work. That means something like 60 million tablets and 175 million smartphones will be lining the pockets and satchels of your workforce in 2015. Thus, the time to begin shifting your collaboration strategy to embrace mobile work and mobile devices is now. Three forces are fueling the need for mobile collaboration solutions:

- 1. More and more employees go mobile to get work done at work, at home, and on the go.** Already 41% of the information workforce is highly mobile.<sup>1</sup> This number will grow as more firms embrace smartphones and bring-your-own device programs.
- 2. Employees bring personal devices to work and expect to be able to use them.** Today, half the smartphones and 70% of the iPads used for work are purchased by employees.<sup>2</sup> This percentage of bring-your-own smartphones, in particular, will grow as firms look for ways to mobilize their workforce at the lowest possible cost.
- 3. The high-tech industry is creating new value through mobility.** Investors and entrepreneurs have put mobility on the front burner. Whether through consumer services like foursquare and Flipboard or business services like Dropbox and TripIt, new mobile apps and services are not only delighting people, they are also making them more productive and connected.

**Figure 1** Mobile Devices Blanket The World



Source: Forrester Research eReader Forecast, 2010 To 2015 (US); Forrester Research Mobile Adoption And Sales Forecast, 2010 To 2015 (US)

## Eight Collaboration Apps Matter Most On Smartphones And Tablets

Ultimately, people will live in a work-anywhere world where work is something they do and not a place they go. In that world, every workforce application will have to be available on myriad devices and form factors. But today, eight apps rise to the top of the mobile collaboration must-have list. And each one has a critical characteristic: an expectation of low latency on a wireless network. Consumer mobile apps and games have set this bar: instantaneous or nothing.

1. **Email and calendars.** Push email is the granddaddy of mobile collaboration and still the most important mobile app. Eighty-seven percent of smartphone workers use email on their devices, and collectively, they do 32% of their email on a smartphone.<sup>3</sup> Latency expectation: seconds.
2. **Document-based collaboration.** Sixty-two percent of information workers spend an hour or more per day working with documents, reports, or other information.<sup>4</sup> It's no shock then that these documents need to be available on any device. Latency expectation: seconds.
3. **Web conferencing.** This advanced collaboration tool lets people meet from anywhere. Today, 18% of information workers and 34% of senior staff use web conferencing at least weekly. Mobile conferencing will expand that number.<sup>5</sup> Latency expectation: subsecond.
4. **Activity streams.** Activity streams are emerging as a critical resource for organizations that work collectively: sales teams, project teams, and executive staff, for example. Mobile support means people are alerted wherever they are. Latency expectation: seconds.
5. **Presence and chat.** Knowing that someone is available is a killer feature when out of the office. That makes mobility a must-have extension to presence and chat. While this app lags today, Forrester expects adoption to accelerate. Latency expectation: 1 second.
6. **Social collaboration.** Access to internal blogs, wikis, community sites, and social networks from a tablet or smartphone accomplishes two goals. First, senior staff probably won't access it any other way. Second, every mobile professional will remain connected, in touch, and part of the collaborative process. Latency expectation: 1 second.
7. **Expertise location.** This application is on the rise as firms look for ways to make mobile employees productive by helping them identify experts from anywhere. This app uses presence, notifications, social profiles, and information from HR and formal expertise systems. Latency expectation: 1 second.
8. **Videoconferencing.** According to Skype, it has 170 million active monthly users, and 39% of those people use Skype for work. Web conferencing vendors are also adding video to their products. Mobility is a natural extension of the video meeting. Latency expectation: subsecond.

### THE MOBILE APP INTERNET IS THE NEW COLLABORATION ARCHITECTURE

The hegemony of Windows-only PC clients is over. Instead, employees will run any number of mobile platforms and devices that access both enterprise and professional consumer “prosumer”-grade collaboration services. One vendor, Evernote, reports that its business customers run its app on up to four devices: work computer, home computer, smartphone, and tablet. The app mirrors data between devices through a cloud service.

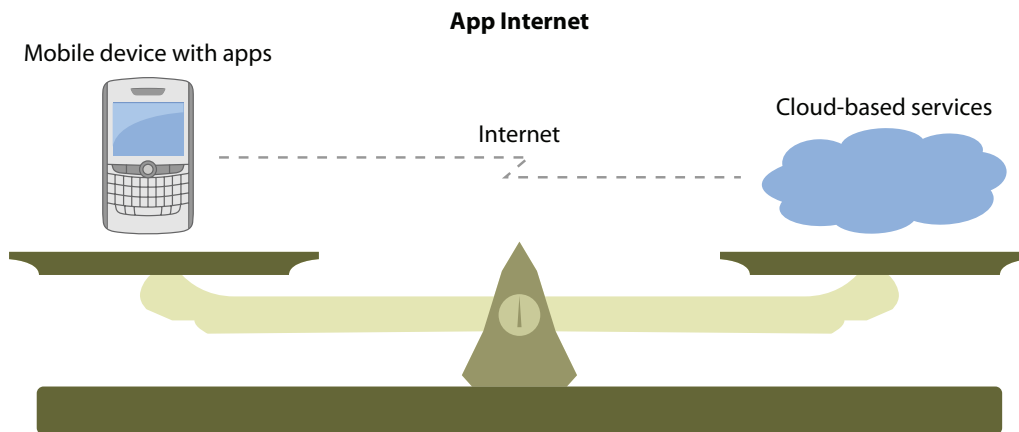
At least three mobile operating systems will win in the workplace: Apple’s iOS, Google’s Android, and RIM’s QNX. And three to five others will knock at the business door: Microsoft’s Windows Phone, Microsoft’s Windows 8 slates, HP’s WebOS, and possibly Nokia’s MeeGo. Add Windows machines, Macintoshes, Chromebooks, and at least four computer browsers, and you have a confusing mix of platforms, form factors, and interaction models.

Forrester believes that the reliable and stable client/server architecture that has served business needs for more than two decades will be supplanted by a new mobile app Internet architecture (see Figure 2):<sup>6</sup>

*The app Internet is an application architecture of native apps on smart mobile devices linked to cloud-based services that provide a context-rich experience anytime, anywhere.*

This new application architecture stores or caches data close to the device that needs it and uses all of the processing power, hardware, and sensors available on the device, whether it be computer, smartphone, tablet, television, vehicle, or appliance.

**Figure 2** Client/Server Is Dead; The Mobile App Internet Is The New Architecture



The mobile app Internet is comprised of mobile apps and cloud-delivered services. The balance indicates that the data and processing must be divided between the mobile app and cloud server based on the requirements of the application and latency.

### Only Cloud Providers Can Deliver On The Latency And Multidevice Requirements

On-premises solutions typically can't handle the low latency, high availability, and any-device requirements of a mobile workforce. Your employees expect an *Angry Birds* meets Google Maps experience for their mobile collaboration apps. You likely have neither a network pipe big enough nor a data center near enough to all your mobile workers to handle those subsecond latency requirements; although, big capital investments in bandwidth, caching technology, and redundant data centers would help.

But it's even worse than that. On-premises solutions also don't advance fast enough or refresh often enough to deliver services natively to the expanding list of mobile devices and platforms that your employees demand (see Figure 3). To meet the needs of mobile collaboration, a new class of suppliers is focused on solutions that are:

- **Designed to run well on any mobile device.** With so many different mobile platforms and form factors to target, vendors must organize differently, code differently, and execute differently. Design skills will grow ever-more important (and scarce); new abstraction layers that separate presentation from interaction from back-end services are required; and teams must design for mobile first.<sup>7</sup> Startups have an easier time with this new approach than established vendors do.
- **Delivered as a cloud service.** Latency is already a challenge for globally distributed organizations. Even waiting for email to upload or download to a remote site can be painful. And access to team sites and even the file system from a hotel room over a virtual private network (VPN) can be excruciatingly slow. The problem is the lack of capacity, bandwidth, and distribution. The solution will be cloud suppliers with data centers around the world and points of presence in every major city. Cloud is simply better for mobile collaboration experiences.

**Figure 3** Why The Cloud Is Better Suited To Mobile Collaboration Experiences

Factor	On-premises solution	Cloud-based solution
Multidevice support	Fewer mobile platforms	More mobile platforms
Time to deploy on a new mobile platform	Years, or your server software refresh cycle	Months, or vendor's SaaS release cycle
Response time to a mobile user action	Seconds	Subsecond
Latency bottleneck	Your data center and network	Wireless network capacity and backhaul
Access	VPN-protected devices, secured through the network	Any supported device, secured through the application
Security	High to moderate	Moderate to low

## REVISIT YOUR COLLABORATION PLATFORM SUPPLIERS

You should evaluate and make bets on vendors that use a mobile app Internet architecture and a multi-device provisioning strategy for each mobile workload (see Figure 4). We are evaluating 13 mobile collaboration vendors with cloud solutions and multidevice support in a forthcoming Forrester Wave™ evaluation. We included vendors that our clients are asking about or that our workforce interviews and surveys are revealing as “consumerization” contenders for an empowered workforce.

The vendor and product list for the Forrester Wave evaluation includes Adobe Connect, AT&T Connect, Box, Citrix GoToMeeting, Cisco WebEx, Dropbox, Evernote, Google Apps, IBM LotusLive, salesforce.com, Skype, SugarSync, and Yammer. Microsoft is notably missing from this list as it hasn’t yet ported enough applications to multiple device platforms.

The demands of mobile collaboration don’t make traditional on-premises solutions obsolete. But they do mean you must have hard conversations with your colleagues and your current suppliers to make sure the vendors you’re betting on have your mobile collaboration requirements embedded in their product strategy. In particular, insist that suppliers like Microsoft support every important mobile platform your employees use.

**Figure 4** Many Vendors Target Mobile Collaboration Applications Today

Mobile collaboration application	Representative vendors targeting the mobile opportunity
Email and calendars	Google, IBM, Microsoft
Document-based collaboration	Box, Dropbox, Evernote, SugarSync
Web conferencing	Adobe Systems, Cisco Systems, Citrix Systems, IBM
Activity streams	IBM, NewsGator, salesforce.com, Yammer
Presence and chat	Cisco Systems, IBM, RIM
Social collaboration	IBM, Jive Software, Socialtext
Expertise location	Cisco Systems, IBM, Jive Software, Microsoft, Socialtext
Videoconferencing	Apple, Cisco Systems, Skype

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Source: Forrester Research, Inc.

### WHAT IT MEANS

#### VENDORS HAVE TOUGH CHOICES TO MAKE TO SUPPORT MOBILE COLLABORATION

Imagine the consternation taking place in the halls of vendors that have made huge businesses building collaboration systems that run in corporate data centers. These vendors must have an entrenched majority of employees carefully crafting the next on-premises release while trying to ignore a vocal minority that pleads to port that software to the cloud to better support mobile

collaboration. There is nothing simple about that conversation. Take heart, vocal minority, the mobile collaboration future is coming into focus, and you now have new impetus to convince your colleagues that mobile collaboration winners will:

- **Bring on-premises security and control to cloud-delivered services.** While mobile employees may not care about security, your customers' legal, IT, and executive teams do. Employees expect zero-click access; security professionals crave zero trust tolerance to failure.<sup>8</sup> To resolve this paradox of secure, cloud-delivered mobile collaboration, you will have to encrypt files, traffic, and communications from end-to-end — without dragging down the user experience. Vendors like Box and RIM with its VPN-embedded browser are working on this.
- **Create hybrid models that combine the best of on-premises with the best of the cloud.** The system of record can remain in the data center, but the data must be cached close to the device — and that means cached and distributed in the cloud. Winning vendors will take a page out of the Cisco WebEx or AT&T Connect playbooks and adopt hybrid models that combine the best of the cloud — distribution — with the best of on-premises — high security and lower cost. The solution may be a combination of products, for example an on-premises SharePoint server farm linked to a cloud content distribution solution like that of Box.
- **Build an interaction API to deliver great experiences on every platform at reasonable cost.** Mobile workers want a great experience; vendors want to deliver those systems on every platform; development budgets are finite. That's a conundrum that every vendor and corporate IT department must solve. In our research, we learned that vendors devote 20% and 50% of their development resources to building mobile clients. To reduce this cost, vendors have to focus on the costly bit: a great user experience on every platform. A solution, which works for native apps and also for browsers, is to create JavaScript libraries comprising a new set of application programming interfaces (APIs) focused on the interactions that keep the user experience consistent. Yammer's "Yamjuice" team is an example of a team focused on this new interaction design.
- **Make HTML5 worthy as a great technology for the multidevice future.** Forrester believes that every platform and software and patent-holding vendor must put aside differences to make HTML5 a success. It is the only way to deliver great experiences on any platform and form factor without spending large sums of money on app development and ongoing support. Get this one right: Every CTO, enterprise architect, and content and collaboration professional is watching.

## SUPPLEMENTAL MATERIAL

### Methodology

As part of the forecast modeling, Forrester develops comprehensive historical and base-year market size estimates based on a variety of sources, including public financial documents, executive interviews, Forrester’s proprietary primary consumer and executive research, and analysis of the Internet traffic database.

For more information on Forrester’s ForecastView offering, including access to additional details and metrics not included in this report, please contact us at [data@forrester.com](mailto:data@forrester.com).

### Companies Interviewed For This Document

Adobe Systems	Google
AT&T	IBM
Box	salesforce.com
Cisco Systems	Socialtext
Citrix Systems	SugarSync
Dropbox	Skype
Evernote	Yammer

## ENDNOTES

- <sup>1</sup> Workforce personas — we named them Michael, Diane, Oliver, and Andie — are a simple technique borrowed from consumer market research to help IT pros characterize and profile the needs of these different employee segments. Harness workforce personas to save money on the next rollout of Microsoft Office, anticipate adoption barriers for workforce technology, and increase satisfaction with advanced collaboration or mobility tools. The end game? Persona-driven provisioning. See the December 9, 2009, “[Harness The Power Of Workforce Personas](#)” report.
- <sup>2</sup> The statistics in this section are drawn from a survey of 5,519 information workers in the US, Canada, UK, France, and Germany in our Forrsights Workforce Employee Survey, Q1 2011.
- <sup>3</sup> Source: Forrsights Workforce Employee Survey, Q1 2011.
- <sup>4</sup> Source: Forrsights Workforce Employee Survey, Q1 2011.
- <sup>5</sup> Source: Forrsights Workforce Employee Survey, Q1 2011.

- <sup>6</sup> The explosion of app innovation that started on the iPhone and then spread to Android devices and tablets will continue to drive tech industry innovation and have far-reaching pricing and go-to-market implications for software and services providers. The development of this mobile “app Internet” with hybrid local and cloud-supported applications will foster huge levels of innovation and open up new services opportunities around the creation and management of these B2C, B2B, and B2E apps. The mobile app Internet will also change the way software is priced and designed. See the February 28, 2011, [“Mobile App Internet Recasts The Software And Services Landscape”](#) report.
- <sup>7</sup> Vendors face a conundrum when it comes to choosing between native mobile apps and mobile browser “m.” sites. Mobile apps will always deliver a superior user experience. Mobile browsers will always run on more mobile platforms. While Flash-based mobile apps are showing new promise, the mobile Holy Grail, which does not yet exist, is to deliver a great mobile app experience over a mobile browser. This is the promise of HTML5 coupled with a small library of code that gives the browser access to all of the resources on the device: camera, local storage, GPS, and the like. Our call is that vendors will build native apps for the most popular platforms and rely on HTML5 for the long tail of less popular mobile platforms.
- <sup>8</sup> Security and risk management teams have built strong network perimeters, but well-organized cybercriminals have recruited insiders and developed new attack methods that easily pierce the current security protections. To confront these new threats, information security professionals must make security ubiquitous throughout the network, not just at the perimeter. To help security professionals do this effectively, Forrester has developed a new model for information security, called Zero Trust. See the September 14, 2011, [“No More Chewy Centers: Introducing The Zero Trust Model Of Information Security”](#) report.

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