



How Google Android Stimulates the Mass Market for Mobile Email and how Funambol Mobile Open Source Monetizes It

This paper discusses how Android stimulates the adoption of mobile email by the mass market and how Android and Funambol can transform this market. It also poses and answers major questions for the mobile industry such as:

- How will mass market mobile email be enabled by Android and Funambol?
- What do the new market dynamics mean to prices and control within telecom?
- How do service providers and mobile operators make money in this environment?
- Who are the **new** winners and losers?

Introduction

If you could view how mobile email will be used in the future, what would you see? Will everyone use mobile email or will it remain the province of a few? What mobile industry companies will be stronger or weaker than they are today? And what impact will Google Android and Funambol mobile open source make on mobile email? To answer these questions, let's take a look at the future users of mobile email, what they want in a solution and the mobile email value chain.

The Future of Mobile Email

The primary users of mobile email today are executives, professionals, business owners, affluent individuals and geeky early adopters. Although there are some people in other demographics that use mobile email, such as teenagers, soccer moms and senior citizens, these people tend to be exceptions rather than rule. The stereotypic image of a mobile email user today is a BlackBerry or high-end smartphone user.

In terms of raw numbers, mobile email today is still in its infancy. Its penetration has barely scratched the surface of the general populace. There are now 3.3 billion people with cell phones, yet less than 2% (66 million) use mobile email.

Why? The mass market has been slow to adopt mobile email due to:

- high cost -- of a suitable device, mobile email service and wireless data plan
- complexity – of setting up a device for mobile email
- substitutes, such as text messaging and online email, and resistance to change
- closed mobile networks that stifle innovative third party mobile email solutions

As time goes by, there is ample reason to believe that mobile email adoption by the mass market will increase substantially. Email on mobile phones may become just as common as voice calling and texting. There are two billion email accounts in the world. Research¹ indicates that many people would use mobile email if a few conditions occur:

- mobile email becomes perceived as virtually free, like PC webmail
- it is easy to setup and use
- it works on phones that people already own
- people can access their existing email accounts

Surveys show that people want mobile email for several reasons, such as keeping in touch with work, family and friends, and for fun, entertainment and online shopping.

Some people believe that text messaging's popularity may prevent mobile email from broadly catching on. While texting is a viable alternative to mobile email in some situations, consider their differences. Texting is for immediate short bursts of text whereas email is for longer communication when it doesn't matter if the other person is "there". Email has other important attributes, such as using email addresses rather than phone numbers, distribution lists, attachments, history and more. Email is the main form of electronic communication to and within companies. Using email on a mobile phone can be just as important if not more so than text messaging for many people.

What is likely to drive adoption of mobile email by billions of people?

There are several trends favoring adoption of mobile email by the mass market:

- Mobile devices are becoming more email-friendly, with qwerty keyboards, larger screens, longer battery lives and faster internet access. The iPhone is exhibit A though there are many other email-friendly handsets.
- Data plan costs are dropping into the mass market range. Major U.S. wireless carriers offer unlimited data for \$5-\$20 per month, and affordable unlimited data plans are appearing in Europe and the rest of the world. Research¹ shows that many people are willing to pay a few dollars per month to access mobile email. As the price of unlimited data for email drops, there will be much more take-up.
- Many people already perform text messaging on mobiles, and they are familiar with email on PCs, so the idea of using email on a phone is not that foreign. Mobile email is generally becoming more accepted by the general population. Viral mobile email adoption is spreading from technically adept people to mainstream cell phone users. The market is moving from an early adoption phase to mass market adoption².

Mass Market Mobile Email -- User Requirements

What are mass market requirements for mobile email? In addition to the aforementioned conditions for mobile email adoption, people want mobile email that:

- Is easy-to-setup and use on their existing phone; a separate device is not needed
- Provides access to email systems already used, including contacts and for some, calendars; most people do not want another email account just for mobile access
- Supports all commonly used email functionality
- Is available for a few dollars a month or less

Mobile Email Value Chain

The stage appears set for people to adopt mobile email en masse. As the market makes the transition from a minority to majority of mobile phone users, who will the winners and losers be in the mobile industry, and what role do Google and Funambol play? To address these questions, let's review the components in the mobile email value chain:

- Mobile device e.g. a smart or feature phone
- Mobile email client software, built-in or downloaded
- Wireless network e.g. cellular or WiFi
- Mobile email service e.g. Funambol or BlackBerry
- Email server e.g. Yahoo!, AOL, Gmail, work email, etc.

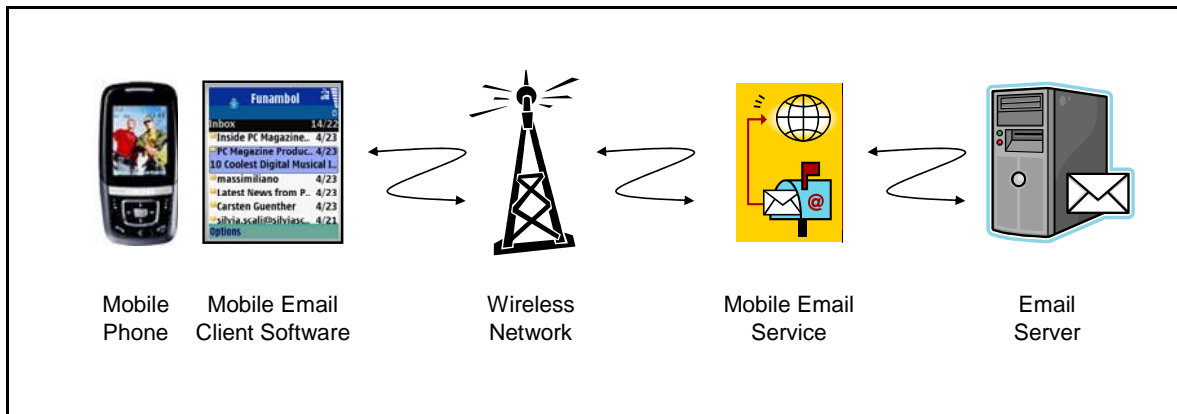


Figure 1: Mobile Email Value Chain

As people more readily adopt mobile email, there will be more usage of all of the components in the mobile email value chain. For example, there will be more demand for email-friendly handsets and good mobile email client software. However, this does not mean that a rising tide will lift everyone equally in the mobile industry. To see who the winners and losers are likely to be, let's examine the industry's dynamics and trends.

- RIM and Microsoft currently lead the enterprise market for mobile email. In the mass market, there are no dominant providers yet.
- Most consumers use one of the popular online webmail services, such as Yahoo! Mail, AOL, MS LiveMail or Gmail. Consumers generally perceive that using webmail is free, though in reality, it is subsidized by Internet access fees and advertising.
- Looking forward, one question is the degree to which the large online portals, with hundreds of millions of collective email users, will be able to get users to adopt their version of mobile email. So far this adoption has been slow, for the reasons mentioned earlier.
- Another question is the extent to which non-cellular networks will thrive. As more mobile phones can access the Internet via Wifi and alternative wide area networks, this reduces the reliance on cellular networks. Depending who wins the 700 MHz spectrum auction, this could accelerate cellular-free ways to access mobile email. This could reduce the value of wireless carriers unless they take preventative measures.

As more people adopt mobile email, the winners are likely to be the providers of low cost email friendly handsets, mobile email client software and mobile email services that provide a good experience. Losers could include current mobile service providers unless they act to increase their relevancy. In the middle are online portals, who might benefit from increased mobile email usage but at the same time, they could lose if users are attracted to alternatives that offers a better experience.

The End Game for Mobile Email

What does the future portend for mobile email for the masses?

- As people get used to integrated messaging on PCs (e.g. email, IM, texting, VoIP), it will only be natural to expect this on phones as well. Many people will not want separate applications with different address books to access different email accounts. The ultimate may consist of an universal client that lets you see who's online so that you can interact with them in your preferred manner e.g. voice call, text message (if they're online), email (if they're not), IM, video call, etc.
- Wireless carriers and service providers may become brand-less commodity utilities and lose subscriber loyalty. If a user's phone can jump on a free ad-sponsored Wifi or WiMax signal, there is less need for paid cellular data service. Mobile operators and service providers need to provide sticky value-added services to remain relevant, otherwise their main distinguishing trait could be cost.
- More device manufacturers will emulate the strategy of Apple to develop iTunes-like Internet-based content and mobile services that differentiate their handsets and provide recurring revenue.
- Portals will extend their properties to mobile email, including a big push to mobile email. Mobile represents a major new advertising channel. The economics of advertising can enable mobile email to be made virtually free for many people, thus attracting a large user base and becoming a major source of revenue. The portals will need to share this revenue with others in the value chain. This suggests that there will be billions of people who access email on their mobile phone.

How Google Android Stimulates the Mass Market for Mobile Email and how Funambol Mobile Open Source Monetizes It

A major obstacle to mass market mobile email has been the near impossibility of getting low cost mobile email on feature phones. A large part of the problem has been closed mobile networks that do not allow third party mobile devices and applications. With Google Android and Funambol's pioneering efforts for mobile open source, this situation is rapidly changing. Let's examine their impact on mass market mobile email adoption.

What is Google Android?

Google Android is a software stack for mobile devices that includes a mobile operating system (OS), client-based middleware and a software development kit (SDK). The OS is Linux-based and the entire stack is made freely available under an open source license.

Android's significance is that it is an open platform for mobile apps for the mass market. Unlike proprietary mobile OSs, device manufacturers can create Android-powered phones that are customized and differentiated with unique features, without paying licensing fees. This allows them to lower their costs and to pass cost savings to users.

When Android phones ship in 2008, they will include Google apps such as Google Maps as well as apps from mobile developers and third party software vendors. With respect to mobile email, although Android does not yet have a mobile email client, Google intends to provide an email client that is likely to be based on GMail. This will enable users to get GMail on an Android phone but not necessarily email from other systems.

What is Google Android NOT?

Android is a **client** OS. It does not include a server, though it has components that interoperate with servers, such as a web browser that interacts with a web server.

The successful business model du jour for mobile device makers, initiated by Apple and being copied by others, is to create a mobile handset that people love, that accesses paid server content (e.g. iTunes music and videos). As Apple has deftly demonstrated, if mobile content is priced properly and is easy to buy, revenue from server-based content can greatly complement device and voice plan revenue.

While Android provides the client part of this success formula, it lacks the server piece. And this is where Funambol comes in.

Funambol has been pioneering mobile open source for years. Funambol's core is an open source Data Synchronization (DS) server that works with 1.5 billion mobile handsets, including Android shortly. The Funambol server also works with a wide variety of backend email systems and content sources. The server reflects hundreds of people years of effort and includes more than one million lines of code, from Funambol's development team as well as a community of 10,000 contributors around the world. Funambol's server is the de facto open source implementation of the Open Mobile Alliance (OMA) DS industry standard (aka SyncML) which is built into one billion phones, including Android.

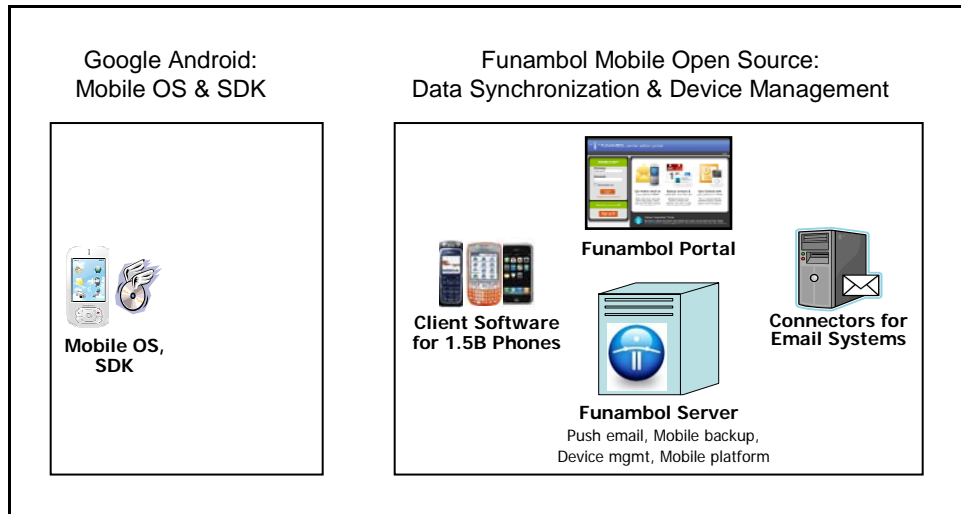


Figure 2: Google Android and Funambol Mobile Open Source

Some people may think that Android may diminish Funambol's significance. In fact, the opposite is true. Saying that Android competes with Funambol is like saying that mobile Linux competes with Oracle. The former is a mobile device OS, the latter is a server-based platform. There are mobile Linux apps that access Oracle, just as there will be Android apps that access Funambol. Android increases Funambol's relevance because Android has caused the mobile industry to realize that open networks and devices are required. For companies that view Google as a possible competitor, Android makes them realize they will need server-based capabilities to compete.

What are Google's Android aspirations and how does this affect mobile email?

Google views mobile as a critical part of its future. It wants to extend its highly lucrative online search business to mobile phones. While there are hundreds of millions of people who use Google on PCs, generating billions of ad dollars, this pales in comparison to the potential of 3.3 billion people who use mobile phones. If Google can get a sizable portion to use an Android-powered phone that displays Google Ads, that can translate into a major new revenue stream.

For example, imagine a traveling user requesting a list of nearby pizzerias and getting a Google Map with pizza ads on a widescreen Android phone. They could use a coupon from a Google ad for a discount, generating more revenue for Google.

To generate significant profits, Google needs a large critical mass of people using their mobile ads. Hence their promotion of Android as a free open mobile OS. They are planning that device manufacturers will flood the market with low cost handsets. Google can help make mobile data plans extremely low cost or even free as they are subsidized by advertising. This can also greatly stimulate the use of mobile email for the mass market, as users could get email on their Android phones for virtually free.

Mobile operators and ISPs are closely watching Google's moves, as they are wary of a deep pocketed competitor invading their turf. Google threatens to undercut their existing revenue from voice and data plans, or worse, fundamentally change their business model, from subscriber fees to ad revenue. If Google succeeds at spawning a new generation of captivating Android-powered handsets, Google will be in the driver's seat to capture the lion's share of this emerging revenue model.

With Android, Google has upped the ante in the mobile world and at the same time, primed the mass market for mobile email. Google is posturing to becoming the leading wireless service provider, threatening the cash cow businesses of mobile service providers everywhere. These companies need a strategy to compete on a level playing field, otherwise, they risk losing customers in droves. Imagine if Android spawns dozens of iPhone-like handsets with dramatically lower costs and free mobile services. This would appeal to a large cross-section of people that want cheap mobile calling, internet access, maps, email, etc. How can mobile service providers compete with that?

Lest the executives at these companies panic, Google is not going to overtake the mobile world overnight. Mobile operators are here to stay. Not everyone on the planet will have a Gmail account. But it's not safe for these companies to continue business as usual while Google makes its moves. These companies need to proactively take charge of their destiny. And this is where Funambol can help. With its mobile open source server and support for 1.5 billion mobile handsets, Funambol provides mobile service providers with low cost mobile email, contacts and calendar sync, as well as a platform for delivering new revenue generating mobile apps, services, content and advertising.

Funambol is working with its community to build an open source client for Android to enable it to work with the Funambol server. Once Android-enabled phones come to market, Funambol will enable people to use their phone for push email, contacts and calendars, as well as for syncing all types of content. This provides other companies in the mobile industry with a way to embrace rather than compete with Android.

How Mobile Operators and Service Providers Can Benefit from S.O.S. – Standards, Open Source & Synchronization

As people adopt mobile email in large numbers, standards, open source and synchronization -- **S.O.S.** – will greatly increase in importance. S.O.S. is the only way that mobile email can support a diverse landscape of billions of phones running on hundreds of networks accessing disparate email systems and content.

In particular, the OMA standards for data synchronization (DS) and device management (DM), also known as SyncML, are continually being optimized to support mobile email and content on billions of handsets across heterogeneous networks. Other important standards include POP and IMAP, for accessing email servers, and calendar interoperability, which is gaining market momentum.

Open source is also critical to the mass market adoption of mobile email. Just as wireless operators and service providers already rely heavily on open source for critical parts of their infrastructure, open source plays a major role with mass market mobile email. Open source has proven to be the only model that supports the vast variety of phones on the market. Open source also offers companies much greater control and easier integration with current systems, as well as lower cost.

Synchronization has become a hot mobile technology. Even though wireless networks are becoming faster, more pervasive and reliable, there is still the need to synchronize data and content between servers and handsets. Synchronization enables users to purchase mobile content and experience it in the optimal manner wherever they are. In sum, S.O.S. is becoming de rigueur for mobile operators and service providers to thrive in the world of mass market mobile email and content.

Android is the Warning Shot Across the Bow -- The Mobile Email Arms Race is On

Google is gearing up to take on the mobile world by storm. It has the potential to rapidly accelerate mass market mobile email adoption, as it is causing mobile networks to open and allowing innovative mobile email solutions to thrive. Mobile operators and service providers need to act quickly by getting S.O.S to succeed in the new world of mobile.

About Funambol

Funambol is the leading provider of mobile open source solutions for push email, mobile backup, device management and content sync for the mass market. Funambol software has been downloaded more than 1.5 million times by a global network of 10,000 developers in 200 countries. The commercial version of Funambol's software has been deployed at service providers, mobile operators, portals, device manufacturers and ISVs including customers such as 1&1, Earthlink and Computer Associates. Funambol is headquartered in Redwood City, CA, with an R&D center in Italy. For more information, see www.funambol.com.

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