



# Technology Brief...

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Research, Analysis, Strategy, Insight

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## Most companies have the wrong approach to enterprise mobile apps

Many organizations are struggling to provide productivity enhancing mobile applications to their internal workforce. I’m not talking about consumer facing apps (like bank or airline apps) that have to be perfect and represent your “brand” to the outside world. Rather I am talking about productivity enhancing apps for sales force, services, delivery operations, manufacturing, etc. These are apps used by your workforce to make their jobs easier and/or provide better customer service. As more and more mobile devices like smartphones and tablets get deployed, there apps are becoming mission critical, and not just nice to have.

Organizations continue to struggle with the best way to get apps to users who are clamoring for more mobile automation. The unfortunate truth is that many companies are pursuing the wrong strategy when it comes to developing and delivering these apps. A typical mobile app can cost from \$250K-\$500K (or more), and take 6-12 months to develop and deploy. But over that time period, the potential for significant payback in enhanced operations is lost. Any delay that keeps employee productivity below what it could otherwise achieve represents a real loss to your bottom line.

What’s needed is a new way to look at evaluating internal mobile apps. The critical factor in making a decision and maximizing the payback of any mobile app is time to deployment. Unlike consumer facing apps that need to be perfect in function and user experience, internal apps don’t necessarily need to meet those criteria. Usable “Good Enough” apps that provide worker productivity improvements are just as valuable, especially if they can be created easily and updated often to take advantage of changes in the business environment. User experience is important, but the evaluation criteria for internal vs. external focused apps should be different.

Rapid application deployment needs to be the mantra for internal business apps. Time really is of the essence when it comes to these apps. Any delay in getting the apps to workers has major cost implications. We have built return on investment (ROI) models for mobile apps that evaluate several factors in assessing the lost opportunity costs of delaying apps. Below is a key finding – what it costs per user per month as modest productivity improvement levels if an app is delayed.

*Figure 1: Cost of delaying an app, per user per month, by productivity improvement level (Assuming fully burdened employee cost of \$120K)*

Productivity improvement	3%	5%	10%
Lost opportunity cost/user/month	\$300	\$500	\$1000

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As you can see from the chart, any delay can have significant opportunity costs to the organization, especially if you consider 100, 500 or 1000 user deployments. The above opportunity cost figures are per user per month per application. If you pursue a strategy of getting apps out in one month versus the typical six months (or more), then the bottom line ROI is significant. If you add additional applications that could further enhance workforce productivity, returns increase dramatically.

Enterprises must change the old style development models which nearly all companies have embedded in their culture. Don't focus on an app development cycle of the past. Rather, focus on getting apps to users that are good enough, and fast enough. And focus on the need to support rapid pace of change and "disposable" apps for specific workflows. Remember, time is of the essence.

There are a number of vendors who focus on getting mobile apps out to users quickly and that allow rapid updates and changes. Some vendors concentrate on modern day "screen scraping", by converting Windows and web-based HTML5 apps for mobile devices (e.g., Capriza, StarMobile, Reddo Mobility). Others have rapid start and relatively low cost implementations services-oriented programs to get apps done and deployed quickly (e.g., Point.io). Some have forms-centric approaches to rapid app deployments (e.g., AlphaSoftware), or workflow aggregation through back end connectors (e.g., Sitrion, Built.io).\*

The right approach depends on your particular situation and strategy, but the important thing is to not sit back and procrastinate. Getting deployable mobile apps to your workforce quickly and with "good enough" features will not only make users happy, it can significantly improve the corporate bottom line. And isn't that what the move to mobility should be all about?

\*Note: As industry analysts we interact with many mobile vendors. This is a sampling, and not meant to be a comprehensive listing of all the vendors in this space. This article was first published in Computerworld.

## Cisco/Ericsson partnership - brought to you by 5G

Although the "hype" around 5G has already started, with early trials being conducted by Verizon and AT&T, the truth is that we are at least 4-5 years away from any mainstream, substantial deployments that will provide users with a critical mass of access points. But that hasn't stopped many of the major equipment (e.g., Ericsson, Huawei, Nokia) infrastructure (e.g., Cisco, AlcatelLucent) and chip/modem vendors (e.g., Intel, Qualcomm) from pursuing a strategy to promote their vision of 5G. And while we are at least 1-2 years away from a true accepted 5G standard, this hasn't stopped the posturing for prime position in what is expected to be a huge potential worldwide market opportunity, not only in infrastructure, but also in access points (e.g., smartphones, tablets, IoT devices).

The lure of 5G has created some interesting partnership opportunities. Nokia is in the process of acquiring Alcatel Lucent to be able to provide a more complete 5G upgrade offering to its existing customers (and to stave off the heavy duty competition offered by the Chinese players, particularly Huawei). Nokia is a major provider of carrier infrastructure, with heavy emphasis on the RAN (radio area network). Alcatel Lucent also competes at the RAN level, but has a strong presence in back end IP based backhaul infrastructure. The "bulking up" by Nokia means it will have more "stuff" to sell, and hence control more of the market dollars spent in upgrades. But its size will also allow it to be more influential in ongoing standards discussions.

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Not to be outdone, Ericsson and Cisco recently announced a strategic partnership. While neither currently wants to acquire the other (or perhaps is even able to do so), a strategic partnership, aimed squarely at the future upgrade to 5G, makes a good deal of sense for both companies. Does this mean that in the future this could be more than just a strategic partnership? Both are good stand alone entities, but a combined company would be a powerhouse not only in corporate systems, but would create a primary implementer of all things networking for public and private entities. This initial partnership could be a trial relationship that could end up as something more longer term.

Cisco/Ericsson is a highly complementary combination. Cisco has a dominant position in the market for corporate and carrier IP infrastructure (although its position has been slipping somewhat of late). It has not been a strong player in the carrier RAN space – an area where Ericsson has great depth and significant market share. However Ericsson is a relatively weaker player in the back haul and IP-based network infrastructure market. Further, Cisco has a major footprint in enterprise and Internet IP systems, which will also need to be leveraged for 5G to be successful. So a true strategic partnership is in both parties' interest. The pairing of the front end (RAN) and the back end (IP based) capabilities with a meeting in the middle around software and servers/services is a big plus. It will take all of the above to build next generation mobile (especially enterprise) networks, and will also create a strong position for building out carrier systems.

The overriding question is will this partnership allow Ericsson/Cisco to drive the market for 5G in a direction they wish it to go? 5G is less a single technology (like 4G/LTE was), and more an aggregation of technologies that will include using multiple technologies (e.g., 3G/4G, various implementations of LTE, WiFi) to get users the reliability, speed and coverage needed to push towards 5G. It means a lot of technologies will be in play, which is why a combination of radio, IP-technology and virtualized software/services are critical to making 5G work successfully. Major players like Intel and Qualcomm are pushing their agenda of what 5G should ultimately be, with an eye to both infrastructure and access devices. But in the end, 5G will move towards a standard that the big players can agree on. Its why “bulking up” is an important step in being successful. It's likely there will be more partnerships announced in the next year, creating more “zones of influence”.

The announced strategic partnership is critical to the success of both Cisco and Ericsson if they want to stay relevant in the coming 5G upgrade cycle. It's too soon to tell if their “weight” will have a major influence on where the 5G standard goes, but without the partnership, it is highly likely each would have had much less influence. Together they can present a much improved position in supplying products for any 5G upgrades. Of course, it also remains to be seen whether this is a “paper partnership”, or whether it will result in significant new and competitive products neither one could have produced on their own. We should be able to tell in the next 1-2 years.

## ARM – Tries to go Big and Little

ARM and its licensees have dominated the market for mobile devices. Over the past 3-5 years, this has propelled the ARM ecosystem to becoming a huge portion of the semiconductor marketplace. The ARM model of selling IP licenses of its internally designed technology, and having fables semiconductor companies take those designs, modify them to their needs, and produce chips for sale to high volume vendors of products, has been incredibly successful.

But things are beginning to change. The recent lackluster growth of the mobile market means that in order for ARM to grow at a reasonable rate, it needs to expand its potential marketplace. Certainly mobile devices will remain a primary focus, but this “little” device market is being supplemented with ARM's push into the “big” market as well – a market in which it hopes to recreate its earlier success. And that market is the highly competitive enterprise server market.

The sever market has changed over the past 2 years. While “big iron” servers are still a

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huge portion of the market (and dominate in terms of revenues), there is an increasing amount of momentum in smaller servers, and servers that consist of many “blades” with independent processors. A large part of this market is being driven by web servers needed primarily for fast I/O processes and high bandwidth transfers. With a vast amount of small servers required to maintain broadband access to services, companies with huge server farms (e.g., Google, Amazon, Microsoft) have all explored more cost effective and less power hungry alternative to the standard Intel-based systems of the past. And server vendors have released ARM-based offerings (e.g., HP Moonshot), although so far with limited success.

There have been a number of ARM-based companies that have produced specialized chips for servers (e.g. Cavium, Applied Micro), but not all have been successful (e.g., Calxeda). Even AMD, which has a major presence in x86 server infrastructure systems, is trying to leverage the uptake in ARM-based servers, albeit with limited success so far. And Qualcomm is hoping to address some of its slowing mobile sales through implementation of a line of server chips. But Intel is hitting back hard with reduced power x86 chips in both its mainstream Core product line and in its reduced power Atom family to counter this threat.

ARM believes it can capture 25% of the server market within 5 years. We believe that number to be highly optimistic, but it depends on what you consider to be a server. We expect a variety of “personal servers” to become important components of the market in the next 2-3 years as the number of gadgets we use increases and we need a local consolidation point before sending everything into the cloud. There will also be an increase in micro server farms that provide cloud-based services, many of which won’t require huge amounts of processing power (e.g., local storage, file servers). Both of these scenarios have the ability to propel the ARM ecosystem into becoming a major supplier of server chips.

ARM is taking a gamble on the server side, given the amount of resources required to make it successful. But with the “little” SoC market now slowing in overall growth and IoT a very mixed bag so far (and with small average selling price generating smaller royalties), the “big” market makes sense. Coupled with its increasing influence in the graphics market with Mali despite the competition from Imagination Tech, AMD, NVidia, Qualcomm, etc., the server market should give ARM a boost. However, this is no “slam dunk”, and increased competition from Intel who is also highly interested in this market and is fielding competitive products, could limit ARM’s success. So while ARM’s “big little” approach is interesting, it’s still too early to tell how successful it will be. We should know in about 18-24 months how much momentum and ultimately market share the ARM ecosystem can build.

## About J. Gold Associates, LLC.

*J. Gold Associates provides advisory services, syndicated research, strategic consulting and in-context analysis to help its clients make important technology choices and to enable improved product deployment decisions and go to market strategies. We work with our clients to produce successful new product strategies and deployments through workshops and reviews, business and strategic plan coaching and reviews, assistance in product selection and vendor evaluations, needs analysis, competitive analysis, and ongoing expertise transfer.*

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