In a world where work is something you do, not some place you go, mobilizing the applications that drive your business is more important than ever.

While there can be great value in releasing a sales force automation or ERP application from its fixed restraints, merely focusing on bringing these tools to the mobile environment limits your possibilities.

The real opportunity today lies in combining these mobilized applications with unified communications (UC) functionality and other status information to create a new breed of compelling applications and capabilities.

This edition of the AT&T Unified Communications Newsletter highlights what those capabilities can be, as well as the steps you can take to move back-end apps and UC tools out to front-line users. It also includes a complimentary copy of a Gartner Report: “Key Issues for Mobile Applications, 2011.”

Together, they can help you identify and overcome the challenges of developing applications for a moving target of mobile devices and platforms, as you empower mobile users in this “work anywhere” world.

UC Comes Together on the Mobile Handset
“We’ve talked about Unified Communications and unified in-boxes for years. But where it is finally happening is on the handset, not in the data center, and this is driving interest in business applications that don’t always require big investments at the back end.”


See the complimentary Gartner Report within this newsletter.

David Mingo, VP, AT&T Consulting

Last time, we covered how communications-enabled business applications can speed business processes. This issue covers the value of extending those applications out to the mobile perimeter.
The Opportunities: Creating the Real-Time Enterprise

There’s no question that the demand for mobile apps is growing strong and fast. According to Gartner, many enterprises will make multi-million dollar investments from 2011 to 2015. While we can only imagine what mobile apps will be capable of doing four years from now, they’re already doing some pretty amazing things right now by harnessing the power of UC.

Mobile mashups. Mashups blend data, visual representations and other capabilities derived from multiple sources – such as back-end internal CRM or ERP enterprise systems – to develop new and exciting services with the potential for extraordinary business value.

By combining a person’s presence (or availability) information with data from UC apps and back-end systems, you can empower mobile workers with more relevant, real-time information to take actions and make decisions on the spot, wherever that might be.

For example, a mobile mashup for a salesperson may aggregate feeds from a customer’s press announcements, key performance indicators (KPIs) for the business, the status of recent orders and presence indicators for the rest of the account team. All these feeds can be combined behind a single user interface, accessible from a smartphone. As a result, the account lead has valuable knowledge about the customer and can consult with the rest of the sales team on any issues before walking into a sales meeting with decision makers.

Intelligent mobile apps. Taking it a step further, organizations are now merging presence and application data with other status information and shooting it across a wireless network to an extended array of devices – from vehicles and vending machines to electric meters and heart monitors. This is giving rise to a new class of intelligent mobile applications that can be created to sense, analyze and respond to a variety of real-time events that can occur in a typical business day.

See figure 1 above for an example of how a mobile implementation can integrate presence and location-aware applications to sync supply and demand in real time.

Challenges: Keeping Up with Change

Increasing application development demands. As mobile devices become the “devices of choice” and smartphones get even “smarter” and easier to use, the demand for mobile UC functionality and enterprise apps will continue to escalate. This is especially true for younger workforces. Always eager to download the next new app in their personal lives, they expect the same innovation, rapid development and ready access from business apps. Internal IT organizations are finding it hard to keep up.

Multiple mobile devices and platforms. You may be experiencing the “bring your own device to work” frenzy that’s happening in most enterprises today, which leaves developers with the challenge of creating mobile apps for an expanding array of changing devices, platforms and screen sizes. The time, staff and budget demands on your development resources can be enormous. Even when you attempt to standardize mobile platforms and devices, the market shifts so often, it’s not always clear which direction to head.

Complex integrations. Creating mobile applications that leverage the advanced capabilities possible today requires seamless integration between UC tools, business applications, networks and other technologies to provide the optimal user experience. This can challenge many organizations trying to keep up with the rapid innovation cycles in the marketplace.

Employees want the ease of viewing a colleague’s presence data directly within the enterprise application they’re using to eliminate switching back and forth between mobilized applications. For the IT department charged with mobilizing the applications, this could mean developing complex interfaces between back-end enterprise apps and each new application pushed out to mobile users.

Mobile management and security. At one time, IT tightly controlled and managed virtually all technology assets. Over the last few years, employees have been pushing to use their personal smartphones to communicate and collaborate freely inside and outside the enterprise with customers, partners and suppliers.

IT needs mobile management and security tools to balance that freedom with tight security policies and controls. They need an easier way to manage mobile devices over the air – from activating, configuring and updating them to securing and supporting them. To protect sensitive data, IT also needs a way to remotely lock and wipe lost or stolen devices and, if the device is company-owned, to deactivate them when employees leave the company.

“Simultaneously, large shifts in market share ... make placing mobile application bets on specific platforms difficult.”

Approaching Mobility

With so many “piece parts” making up the mobile application environment, it’s hard to know where to begin. AT&T solutions and services for UC and mobility can help you get started and guide you through your mobilization initiatives.

Get Ready

Create a mobile UC strategy. Successful enterprise initiatives take careful planning. So, make sure you create a mobile UC strategy with key steps and milestones. AT&T consultants can help you define a UC and mobility vision, roadmap and action plan.

Prioritize applications. Determine which business apps offer the most return for your mobilization efforts and investments. A good place to start is to target the apps and business processes that would best benefit from incorporating presence or other UC tools into the workflow. AT&T consultants can guide your stakeholders through these exercises.

“MEAP platforms matured from incomplete ‘boxes of parts and tools’ into tightly integrated, comprehensive development environments that manage the entire life cycle of mobile development and deployment.”

(Source: Gartner “Key Issues for Mobile Applications, 2011.” William Clark, April 2011.)

Bringing it All Together with MEAP

The AT&T Mobile Enterprise Application Platform (MEAP) is designed for ‘any application to any device’ mobile deployments.

It brings together five elements that are key to enterprise mobility – devices, mobile middleware, management tools, a development environment and an integration framework.

Together, these elements interoperate with each other and existing application environments for seamless mobile connections and communication – helping you bring a broad range of capabilities and benefits to your organization.

Write once, deploy to many. AT&T MEAP provides a ‘write once, deploy to many’ development environment that uses reusable components to free developers from writing code for each device. They can write applications once and run them on a range of mobile devices, platforms and networks to accelerate app development and keep up with change.

Integrate in the middle. The mobile middleware within AT&T MEAP acts as a traffic cop for bi-directional communication between back-end applications and mobile devices. It extracts, transforms and integrates application data and presence information on key stakeholders, then pushes it out to the user in real-time – and in a format that’s easily viewable on the mobile device requesting the information. Developers are freed from worrying about data flows to specific devices because the middleware does the work.

Mobilize existing UC tools and business apps. For connections with existing applications, there are pre-built application adapters in AT&T MEAP. Developers can use these to write one user interface that combines information from multiple business applications and UC tools. To mobile users, it looks like the data is coming from just one system.

AT&T MEAP in Motion

With barcode-reader-equipped Smartphones, airline agents can scan tickets or online purchase printouts to speed the check-in process, verify ticket data with back-end reservation systems, identify a first-class flyer and IM the closest driver for VIP shuttle service to the gate.
Launch location-aware apps and other capabilities. AT&T MEAP includes application programming interfaces (APIs) for requesting location information from GPS-enabled devices across the network to help track field workers or assets.

Based on an open and flexible architecture, AT&T MEAP can ready you for integrating other existing and emerging mobile technologies with your business applications and UC tools. For example, AT&T Machine-to-Machine solutions can wirelessly connect millions of diverse devices to your network for two-way communications between home-based water meters and billing systems.

Manage and protect. AT&T MEAP management tools provide centralized, proactive and over-the-air control of mobile devices and applications. These tools include configuration and asset management, software and security updates and remote diagnostics. Centralized policy creation and enforcement helps to guard against unauthorized access to data.

Lowering Complexity
AT&T Cloud Services. Instead of procuring and managing on-premises equipment to support UC tools and mobile applications, consider AT&T cloud solutions for fast provisioning, deployments and scalability. You can provide mobile users with access from virtually anywhere on a variety of wired and wireless devices for a simple monthly fee.

Managed Services. AT&T can implement, host and manage your UC solutions and mobile applications. We can also manage your mobile device environment.

Leveraging AT&T UC and Mobility Expertise
When you work with AT&T, you benefit from our UC, mobile application, networking and integration expertise – a combination that’s hard to find in one provider.

A single source for UC and mobility. A full range of UC and mobility services, from strategic planning and mobile app development to deployment, management, hosting and cloud services. We also have vertical industry experts who can guide your implementation using best-practice approaches.

A mobile-centric approach. Mobility is at the core of everything we do, not an afterthought. AT&T delivers the best wireless coverage worldwide and has the nation’s fastest mobile broadband network (US), so we can handle the demands of enterprise-wide mobile rollouts.

Integration expertise. Our multi-vendor system integration expertise and ‘any application to any device’ approach can help you establish the critical linkages and seamless communication exchanges you need between business applications, UC tools and mobile devices – and without large time and financial investments in back-end integration.

Next Steps
AT&T can help you harness the power of mobile UC to get more value from your business applications, while bringing new capabilities and services to your mobile workers and your entire enterprise.

Find out more about how our MEAP platform, UC portfolio, mobility services, machine-to-machine solutions and professional services can help empower your mobile users.

To arrange for a mobility consultation or a Wireless Strategy & Technology Workshop contact your AT&T account representative.

See Issue 1 of the AT&T Unified Communications Newsletter: Developing a Road Map for UC, featuring our Eight-Step Approach to UC Transformation.


Source: AT&T
Complimentary Analysis from Gartner

Key Issues for Mobile Applications, 2011

Given the rapid adoption of mobile devices for a growing range of applications, mobile application development and sourcing are becoming even more critical to IT, and Gartner will continue to expand coverage, especially of vendors and architecture, in 2011 and beyond.

**TOPIC DESCRIPTION**

Wireless carriers and mobile handset and software platform vendors are making it more economical and scalable for businesses to reach out with improved content and value propositions to large numbers of consumers, and this is spilling back into the enterprise. The tremendous advances in mobile device capabilities and ease of use (pioneered by the iPhone, and exemplified by the iPad) are driving a great deal of enterprise awareness and interest in mobile applications — purely as a result of employees (often senior) being exposed to very simple, very useful and sometimes very powerful consumer applications from application stores. Simultaneously, large shifts in market share (Android surpassing Symbian in 2010, for example) make placing mobile application bets difficult. Technologies like the combination of HTML5, JavaScript and CSS3 are allowing Web developers to craft new mobile applications faster than ever.

Mobile applications are becoming more influential in enterprises in three ways:

- They improve the efficiency and effectiveness of knowledge workers by providing new or improved accessibility across collaboration applications, such as e-mail, voice and video. Mobile apps extend the work time to areas like travel time and beyond the normal work day and time away from the desk. Handsets are being linked to cloud services that integrate a number of communications modalities, and those communications modalities are being linked to context to make them more efficient.
- They optimize line-of-business processes, such as sales forces, field service, manufacturing, operations and logistics. This includes both internal- and external-facing processes. Many organizations are in their second generation of mobile applications or beyond. The global economic slump slowed growth in mobile enterprise applications; however, the growth continues to be stronger than the overall application market, as most organizations update their employee-facing mobile applications once every four to five years.
- They reach out broadly to consumers, business partners and business customers. Many enterprises will make multimillion-dollar investments from 2011 to 2015. Globally, the impact will be huge. In “Dataquest Insight: Application Stores; The Revenue Opportunity Beyond the Hype,” we estimate that there will be 51 billion applications downloaded during the 2008 to 2013 time frame, which will generate $72 billion in revenue.

We’ve talked about unified communications and unified in-boxes for years, but where it is finally happening is on the handset, not in the data center, and this is driving interest in business applications that don’t always require big investments at the back end. For example, they may just present the results of existing enterprise Web services on the handset in a much more compelling and easy-to-use way than on the desktop or on the laptop browser that they were originally designed for — often driven by simple contextual information (such as location) provided automatically by the handset.

Unified communications is not the only place where the Web is making a difference. Web approaches and technologies for AD will continue to converge with mobile (e.g., the availability of support for HTML5 on mobile devices). Augmented reality capabilities in browsers will create new user experience (UX) paradigms for mobile, and IT organizations will need to transition to a new blend of skills.

Mobile has shown that applications were ill-designed for a variety of screen options that users may find in their work device portfolios. The problem has now appeared in the large screen areas as standards move from HDMI to DisplayPort resolutions, leaving many websites centered on the screen with large black bands on either side, wasting screen real estate. The challenge for application developers is developing a single website that can adapt to these
different needs and support the upcoming age of the movable UX, a process whereby a cloud-based UX can be easily moved from device to device as the user sees fit.

Enterprises need to balance the need to move quickly in the mobile consumer area, considering the risks inherent in an emerging technology-based market, particularly with fragmentation in this case. In the mobile enterprise area, organizations need to take a measured approach that addresses the ongoing challenges of support costs and the consumerization of application and device platforms.

Although mobile applications impact other IT investments in many enterprises, they are usually evaluated, implemented and funded in tactical silos. Gartner sees mobile applications as a convergence point for the integration of many independent technologies and business efforts, especially in unified communications and collaboration (UCC) platforms and context-aware computing, where we are beginning to see investments in location servers, presence engines, social-computing platforms, security platforms and mobile communications, which will evolve to bring context-enriched services to end users. Given the significant growth, and these key relationships between mobile applications and other IT investments and business processes, enterprises will need to pay increasing attention to the four Key Issues outlined in this research.

**WHY THIS IS IMPORTANT**
Mobile AD is at the center of much of new consumer-facing IT AD spending. Mobile applications are a very hot and risky topic for IT organizations. End users’ and consumers’ UX expectations will continue to rise rapidly, but security, battery life, fragmentation of device/OS markets and toolsets/skills must be considered. Even the delivery of content and applications is changing rapidly as app stores and cloud offerings give more options to developers. Enterprises need to know when to insource and outsource, and need to know the right questions to ask when it comes to mobile architectures, business plans and skill sets.

**KEY ISSUE DESCRIPTIONS**
**Key Issue: What policies, processes, skills, financial analysis and management techniques will be necessary to justify, develop, source, deploy, govern and support mobile applications?**
Mobile applications need to be financially justified, and organizations need frameworks to do this. Organizations will be searching for ways to lower the cost of mobile applications, but will also need to keep looking for ways to improve top-line business results, since new mobile applications focused on employees can yield as much as 500% annualized ROI. Mobile consumer applications enable businesses to reach millions of consumers at times and in ways that were impossible before. This requires a multifaceted view, which, from a business perspective, looks at workforce segmentation and business processes, as well as at hard costs (such as the evaluation of maturing commercial off-the-shelf [COTS]; packaged mobile applications; ongoing development and customization costs; project and change management; help desk and provisioning; and software licensing, hardware and networking).

Maintaining the appropriate mix of skills will be based partially on the vertical industry (which dictates the types of mobile applications that are necessary). Economic pressures will mean
that many business-to-employee (B2E) mobile application projects will undergo greater scrutiny, requiring more due diligence than in previous years. Mobile B2C represents a second “Internet gold rush,” where companies must have a consumer presence, yet where the ways to make money with applications is still being defined. These emerging opportunities in business-to-consumer (B2C) mobile applications mean that organizations will have to gauge when to scale successful pilots, and when to commence and cease mobile marketing and application support.

Planned Research:

The total cost of ownership (TCO) and value of investment (VOI) of mobile applications can vary by an order of magnitude, based on approach and ambition level. Our research in this area will include a new Magic Quadrant on mobile device management, case studies, Toolkits and best practices for managing investments, policies and skills from four views: process improvement, mobile workforce segmentation, the consumer and as a portfolio of services, where mobile application enablement is assessed alongside voice.

Key Issue: How will technologies, development platforms and architectures that enable and support mobile applications evolve?

A second wave of innovative vendors, centered on maturing cross-compilation, Web and cloud techniques, is competing to become significant mobile consumer application platform (MCAP) vendors. This trend accelerated in 2010, in particular around HTML5, and enterprises also increased investments (albeit more modestly) in platforms and tools for developing mobile enterprise application platforms (MEAPs), and in packaged mobile application platforms. Covered from 1998 through 2002 as “wireless application gateways,” and from 2002 through 2008 as “multichannel access gateways,” MEAP platforms matured from incomplete “boxes of parts and tools” to tightly integrated, comprehensive development environments that manage the entire life cycle of mobile development and deployment. Cross-platform development will become increasingly important, and will raise the requirements for MEAP and MCAP offerings. Besides development platforms, network technologies, advances in screens and displays, app stores, input methodology, augmented reality and sensors will allow new capabilities or extensions for mobile applications.

How will mobile application technologies, development platforms and architectures evolve, and how will they influence the overall development approach and skill sets needed? Organizations that previously opted to minimize the development of native mobile applications have been prompted to reconsider, due to the popularity of app stores. App stores then present complexity at two levels: for consumer-facing apps, the need to provision for multiple app stores, or to select vendors or platforms that aggregate; and for enterprise apps, the need to create private app stores.

At the same time, the increased leverage of mobile development platforms and middleware will mean that independent software vendors (ISVs) in CRM, ERP and supply chain management (SCM) will be able to better create useful mobile extensions to their product lines — a marked improvement from earlier attempts that just relied on portal or database synchronization technologies. Outside of
risk and experimentation are the norm. In other areas, mobile applications are deeply entrenched in critical business processes, so refinements that hold considerable promise may need to be finessed over time.

Organizations cannot just view mobile applications as a bolt-on capability; they must examine linkages in functional areas (such as CRM, e-commerce and m-commerce initiatives; field service management solution implementations; and mobile sales force automation), in business areas (such as how mobile applications affect the value proposition to consumers) and from a human aspect (for example, how consumers or employees will adopt mobile applications, such as mobile education that includes interactive video). This research will cover the mobile server and client capabilities, and the challenges in mapping where these capabilities add the most value from the perspective of broad enterprise mobility, rather than from narrow silos of specialized vertical processes.

More broadly, UCC applications are beginning to show that they can provide similar benefits by tying themselves to communications-enabled business processes. Formerly, wireless e-mail, wireless phone calls, electronic meetings, telepresence and other similar communications were seen as luxuries. However, as our normal systems are burdened by complexity, the ability to step outside these systems and handle exceptions is becoming an important component of first-class customer service and efficient supply chains. Examples of mobile applications that enable this are cellular telemetry and smart products that help businesses completely redefine processes.

Planned Research:

Analysis in 2011 will cover the implications of the deeper rollouts of third-generation (3G) cellular, Long Term Evolution, fourth-generation (4G) and WLAN networks in areas such as mobile video, mobile architectures (including thin, thick, rich, streaming, messaging and no-client), sensor and location technologies. It will also cover the impact of new networking technologies and hardware, mobile OSs, smartphone virtualization and browser platforms.

Key Issue: How will enterprises apply wireless technologies and mobile devices to best run, grow or transform consumer- or employee-facing business applications and processes?

Organizations can staff IT or select good system integration partners, and understand mobile technologies and vendors, yet still fail to reach their potential where mobile applications are concerned. The crux of this challenge is that there is no blanket rule for applying wireless and location technologies. In some businesses or business units, mobile applications need to be assessed through the eyes of an entrepreneur, where...
applications. We’ll look at examples where mobile applications tie into communications-enabled business processes or mobile unified communications to bridge and enhance the efficiency and effectiveness of how organizations deal with structured tasks and ad hoc or unstructured collaboration.

**Key Issue: What will the vendor landscape be for sourcing, securing or building mobile applications and systems?**

This is a rapidly changing landscape, with considerable partnership competition. Vendors range from the largest ISVs, Web AD vendors and mobile service providers to mobile middleware and platform specialists, COTS offerings, wireless e-mail and messaging, security vendors, location (GPS and GIS) vendors, and WLAN and networking vendors. In particular, app stores, both public and private, will be important influences.

Innovation and growth opportunities for vendors mean that market offerings will become more chaotic and fragmented. The atmosphere in enterprises is that Apple, Nokia/Microsoft and Google will continue to compete to erode Research In Motion’s (RIM’s) natural base in mobile enterprise applications, while RIM, Nokia/Microsoft, HP and others will attempt to match Apple and Google’s momentum in mobile consumer applications.

**Planned Research:**

This area will be covered by Magic Quadrants on MEAPs, MCAPs, and updated packaged mobile application platform MarketScope vendors, and vendor analyses of wireless e-mail vendors. It will also be covered by Critical Capability analyses and advice on related vendors that provide mobile security and mobile device management, as well as their impact on mobile application viability and TCO. Gartner will also expand coverage on mobile device management, security and compliance. Some enterprises may need to compare vendors of MCAPs, MEAPs and HTML approaches against each other as these technologies and approaches converge, as well as the short- and long-term costs and risks. Vendors covered will include Apple, Microsoft, SAP, Google, Yahoo, Oracle, IBM, Nokia, Sybase, RIM, Cisco, Adobe and Citrix Systems, as well as vendors in areas such as ruggedized handheld devices and wireless e-mail.

**RELATED KEY INITIATIVE(S)**

- Mobile enterprise strategy — the planning needed to capitalize on the rapid innovation and end-user demand for wireless technologies.

Source: Gartner RAS Core Research Note G00211572, William Clark, 15 April 2011