Alcatel·Lucent

Going Strategic
The Case for an Enterprise Mobility Strategy

Most enterprises understand that mobility can bring enormous advantages and cost savings, yet many are uncertain of how to realize these benefits fully. The time has come for enterprises to adopt mobility strategies: to standardize, support, plan for and deploy mobile solutions throughout their organizations in ways that control costs and directly support business objectives. With the ongoing convergence of fixed and mobile technologies, and with the advent of mobile broadband capabilities, the potential for mobility to become an integrated and coherent enterprise tool has never been greater.

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Directions for enterprises on the "mobility journey"

Most enterprises today understand the value proposition of mobility — that it has enormous potential to accelerate business functions and improve organizational agility in ways that are both cost effective and competitively advantageous. Yet corporate uptake of mobility has been almost entirely spontaneous and unsystematic.

If our progress toward full mobility can be described as a journey, then up to now enterprises have spent far too much time traveling without a map. A recent McKinsey report included a telling statistic from a senior marketing strategist: "Today 80% of enterprise device sales are being made one device at a time, with the choice being made by the end user."[1]

As a result, many companies would be hard pressed to say precisely what they spend on their mobile users or where costs are incurred. Nor can they be certain they're reaping many benefits beyond mobility itself. This is not ideal, and it puts enterprises in a poor position to capitalize on the profusion of new capabilities about to burst upon the scene with the ongoing convergence of fixed and wireless technologies.

The time has come for enterprises to break out the map and get on the road, to adopt strategies that will allow them to standardize, support, plan for and deploy mobile solutions throughout their organizations in ways that control costs and directly support business objectives. This paper lays the foundation for this strategy, taking into account the breadth of mobile possibilities opening up through the convergence of fixed and wireless technologies.

How we got here

Why have enterprises not taken up mobility in a coherent, strategic way? Basically, because until very recently using mobile technologies primarily meant using a voice-only mobile phone or a mobile phone with voice and e-mail capabilities. Applications were limited, and the devices themselves functioned in isolation from one another — the mobile phone having one identity and serving one purpose, for example, the personal digital assistant (PDA) another, and the laptop another still.

This isolation has fragmented the user experience and it has created headaches for information technology (IT) and telecom managers who have to oversee the vast array of networks, interfaces and equipment behind each mobile mode. In such a complex environment, many potential "holes" develop and security becomes an additional concern.

According to The Economist Intelligence Unit's 2007 report, *Business in Motion: Managing the Mobile Workforce*:

Companies without adequate controls on mobile device allocation and usage risk escalating direct wireless costs (65% of European executives report that mobile working has had a negative impact on communications spend). Firms also face higher IT support costs due to the greater difficulty of providing technical support outside the office environment — especially if the firm lacks an effective policy regarding unsupported devices.

Higher monthly communications costs are a greater concern for smaller businesses: 26% of SMEs [small to medium enterprises] cite this as a major concern, compared to 14% of large corporations. Nevertheless, the majority of SMEs (55%) believe mobile technology has had a positive overall impact on operational costs. Services are available to help firms control their mobile communications costs. For example, the UK merchant bank Augusta & Co has hired a specialist provider to continuously monitor and control their mobile data spend.

While the security risks of mobile device usage have been addressed by 71% of large corporations, this issue has been less well covered by SMEs; only 58% of executives from these firms say they have upgraded information security guidelines and procedures to cover mobile usage.

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1. Keith Pardy, Senior Vice President of Strategic Marketing for Nokia in The McKinsey Quarterly, May 2007

As mobility becomes a more integral part of their daily business, enterprises are going to start demanding better value for cost, better support and better security. The classically poor integration of fixed and cellular voice is going to become less acceptable. Dial-speed data rates will no longer be acceptable any longer as the pace of work continues to accelerate.

Fortunately, just as enterprise expectations are about to change, the mobile landscape itself is on the brink of a massive shift.

Where we're going

Five major changes are underway — evolutionary leaps — that will redefine the enterprise mobility journey in profound ways:

1. New mobile broadband technologies and carrier services
2. A new generation of convergence-ready, on-campus wireless LANs (WLANs)
3. New dual-mode devices and services that combine carrier cell phone voice services with enterprise WLAN voice services
4. New applications that embed voice with data in unified communications and collaboration applications
5. Enhanced business applications and devices supporting an evolution to communications-enabled business processes

Breaking down the barriers between fixed and mobile technologies, these changes will open up opportunities for improved IT and communications support for mobile workers.

New mobile broadband technologies and services

Today, fast Ethernet permits the full range of high-bandwidth enterprise services: video, voice and data. With the introduction of new mobile broadband technologies, those "everything for the desktop" speeds are becoming available to mobile devices. There will very soon be no distinction between what's possible on a networked PC and what's possible on a handheld mobile device. Figure 1 shows the expected pace and nature of the mobile technology evolution.

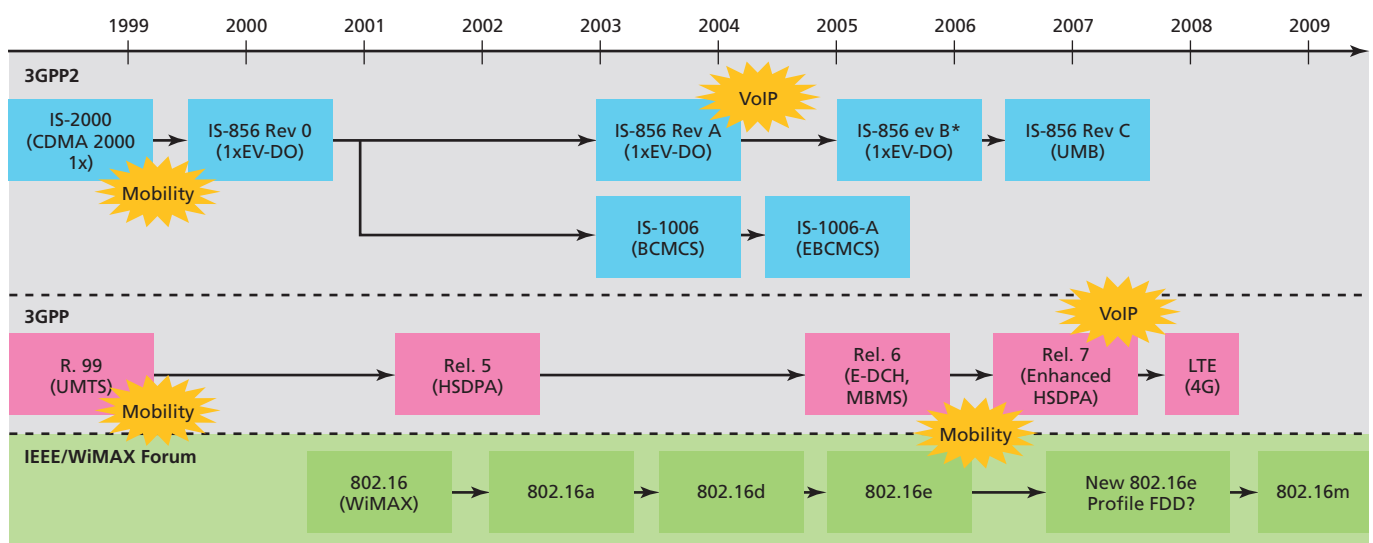**Figure 1. Mobile networks evolution**

Table 1 shows the evolution of the speeds supported by the 3GPP standards.

Table 1. 3GPP technology summary

TECHNOLOGY	DESCRIPTION	SPEED
GPRS	(General Packet Radio Service). The mobile data system for GSM communications.	Up to 128 kb/s
EDGE	(Enhanced Data rates for GSM Evolution) Generally classified as the unofficial standard 2.75G, due to its slower network speed.	Downlinks 236 kb/s
UMTS	(Universal Mobile Telecommunications System). Most of Europe, the Middle East and Africa is UMTS.	Downlinks 2 Mb/s
HSDPA	(High-Speed Downlink Packet Access). Boosts speed and capacity of UMTS networks.	Downlinks 1.8 Mb/s to 14.4 Mb/s
Evolved (Enhanced) HSDPA	Introduces a flat architecture for the network. Also known as HSPA Evolution, HSPA+, I-HSPA (Internet HSPA).	Downlinks 42 Mb/s
LTE	(3GPP Long Term Evolution) Decreases latency, improves quality of service (QoS) and real-time applications.	Downlinks 100 Mb/s

Other standards exist, too, of course, pushing as well for ever-higher data rates. The two main alternatives to GSM/3GPP are WiMAX and Ultra Mobile Broadband (UMB). A comparative article on America's Network[2] says:

To increase data rates, each system must increase the bandwidth used to transmit data to a user. HSPA claims a peak data rate of 42 Mb/s on a 10-MHz channel; LTE claims 100 Mb/s on a 20-MHz channel. Most of LTE's increased performance is based on increased channel bandwidth, not on a change of technology from W-CDMA to OFDMA®.

Thus, a major key as to how successful each technology is in delivering the most data to the most users at any one time is how well each system manages its bandwidth allocation to each user.

The piece concludes that networking realities more or less level the playing field among all three. Broadband is coming to all. Just as the Web took off during the first broadband wave in fixed networks, a similar explosion of services and applications is now expected in the mobile sphere.

New generation of convergence-ready on-campus wireless LANs

The IEEE standard 802.11n, with its speeds of more than 100 Mb/s and extended coverage, delivers truly "wirelike" performance to WLAN users. Improved technologies for QoS for voice ensure business-grade voice quality for the WLAN. Battery life features for voice handsets enable full-day operation on a single set of batteries, extending users' opportunities for connectivity.

In addition, voice over WLAN solutions must integrate with a full ecosystem of location-based services and notification servers. This approach brings mobility to enterprise safety, enabling emergency calls to be routed to the most appropriate resources based on information such as location, type and level of emergency.

The combination of all of these innovations gives the enterprise campus what it needs to support the next generation of communications applications — communications that enable business applications. The fastest speeds possible are coming to the enterprise and its users. Fast Ethernet meets the current and short-term speed requirements for all but the most demanding business applications available today. Gigabit Ethernet is faster still but not as widely deployed.

Mobile voice communication on the corporate campus has historically been a tricky business. Fixed-line phones have always had a richer feature set (caller ID, conferencing, forwarding and the like) but lacked portability; mobile (specifically cellular) phones continue to struggle with indoor reception issues. Yet it is increasingly inconvenient and inefficient for users to have to use multiple voice devices to stay connected just because of location. And this over-complication of things from the user point of view will only be amplified if network data services become available to mobile devices — but with similar discontinuity.

2. Wimax Struggles for its Place in a Post 3G World — Again, John Tanner and Chris Everett

Planned strategically, however, on-campus communication can be made seamless for both voice and data — with employees using dual-mode phones that switch effortlessly between the cellular network outside and a wireless, IP-based network inside. A convergence-ready campus WLAN can support a secure and scalable infrastructure for both fixed and mobile devices combining traditional enterprise telephony with IP telephony and multimedia applications, and supporting cellular extension to the private branch exchange (PBX) as well as onsite Wi-Fi® access. A mobility server is used in this scenario to manage the handover from the cellular network to the LAN.

Overall, the result is true communications-enabled business processes, allowing enterprises to react faster to process disruptions.

New dual-mode devices and services

New dual-mode devices and services enable seamless handoffs between carrier cell phone services and the enterprise campus WLAN, meaning users can take a single device with them wherever they go, on campus or off, and enjoy the best, most economical data rates and modes of connectivity.

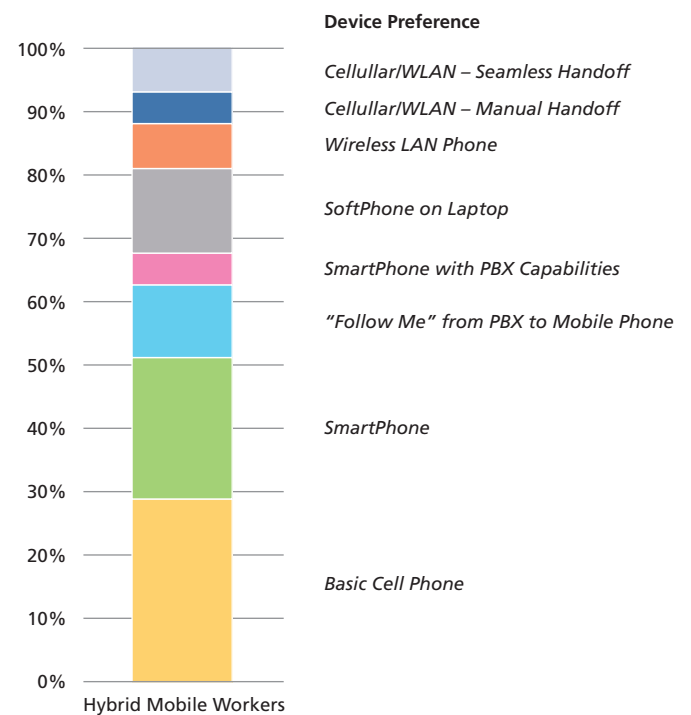Three device types/handoff schemes are envisioned today:
- Cellular/WLAN phones with a seamless handoff from cellular to WLAN networks
- Cellular/WLAN phones with a manual handoff from cellular to WLAN networks
- Laptop-based softphones once broadband data services are uniformly available

Figure 2 shows the types of devices preferred by enterprise users that could potentially be involved in these dual-mode transitions.

General knowledge of the kinds of voice capabilities available remains relatively poor today. At a recent Gartner symposium, for example, attendance was considerably higher for the session on unified communications than for the session on fixed-mobile convergence, despite the fact that the former is a product of the latter.

Services such as Unlicensed Mobile Access (UMA) and Intelligent Mobile Redirect (IMR) will help enterprises capitalize on the benefits of fixed/mobile convergence. UMA facilitates user access to GSM and GPRS services via Bluetooth® and Wi-Fi WLAN connectivity using IP-based broadband connections. IMR ensures that mobile users are automatically routed to the least expensive network for voice communication, which is most often the fixed network. This saves the enterprise money on calls, enhances voice quality by using the fixed line, and provides users with access to a single address book, voice mail and billing process.

Figure 2. Preferred devices for handoff

Device Preference

- *Cellullar/WLAN – Seamless Handoff*
- *Cellullar/WLAN – Manual Handoff*
- *Wireless LAN Phone*
- *SoftPhone on Laptop*
- *SmartPhone with PBX Capabilities*
- *"Follow Me" from PBX to Mobile Phone*
- *SmartPhone*
- *Basic Cell Phone*

Hybrid Mobile Workers

Source: *Fixed-Mobile Convergence in the Enterprise,* Infotech, April 2007

In addition to services, customer premises solutions can deliver the benefits of fixed-mobile convergence. In fact, many large enterprises select customer premises-based mobility solutions. This approach gives the enterprise control and ownership of factors including costs, application integrity and security for strategic assets such as routing. Customer premises-based solutions also offer the richest level of multimedia communication, including one number services, directory access, single mail box, and access to multimedia collaboration tools. And they leverage a variety of transport infrastructures, including WLAN, hotspots, home WLAN and cellular networks.

New, converged network architectures are bringing together wireless data, Voice over IP (VoIP) over WLAN, VoIP over wireless WAN, cellular and wireline voice and data — making it possible for users to travel virtually anywhere and maintain continuous, seamless access to the full array of enterprise communication services.

### New collaboration applications that combine voice and data

Because users are still largely unaware of the converged capabilities devices will offer, their expectations fall far short of the possibilities. If one's smartphone has e-mail and calendaring, isn't that sufficient? Well, in fact, the answer is "no", particularly for users with communications-intensive roles. Conferencing, desktop-sharing, multimedia collaboration — all of these are coming directly to the user's fingertips no matter where he or she happens to be.

Features such as having a single number associated with a user regardless of device rather than a number for each separate device are not widely implemented. Yet they could be. The same is true for having a single, user-specific mailbox accessible from any voice device chosen: black phone, IP resources, such as e-mail, voice, fax and Short Message Service (SMS), anywhere, on any device — is another under-utilized feature. All of these can be deployed right now, to the advantage of the enterprise and its personnel.

It's an advantage that's starting to be recognized. The trend is to have a consistent level of user communication across services (voice, instant messaging (IM) and collaboration, for example) and a consistent user interface across devices (smartphones, PDAs, laptops and advanced desk phones, for example). As illustrated in Figure 3, the Economist Intelligence Unit survey of 375 executives from around the world, found that while e-mail and messaging are favoured today, use of converged applications such as video conferencing and VoIP is expected to increase dramatically over the next five years.

Figure 3. Personal application preferences

Which of the following mobile applications do you/will you personally use most frequency? (Top responses)
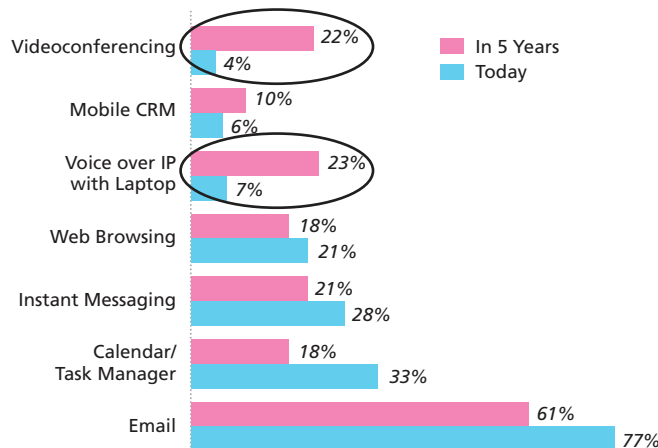

Source: *Business in Motion: Managing the Mobile Workforce,* The Economist, 2007

Enhanced business applications supporting the evolution to communications-enabled business processes

Complementing the new user-focused applications are those on a larger-scale that benefit the entire enterprise, supporting enterprise resource planning, customer relationship management, sales force automation and other initiatives. By enhancing existing business processes with mobile communications capabilities, the velocity of business can accelerate further: what used to have to wait until one got back to the office can now be done in the moment, in the field.

While only a segment of an enterprise's total user population may require any of the specific applications shown in Figure 4, the business impact of that targeted group having access to that application in a timely way is potentially huge. Further on in this paper, we'll look at user profiling and highlight the value of taking a user-centric approach to mobility, a consideration that must be at the heart of any enterprise mobility strategy.

Figure 4. Enterprise application use in 2006
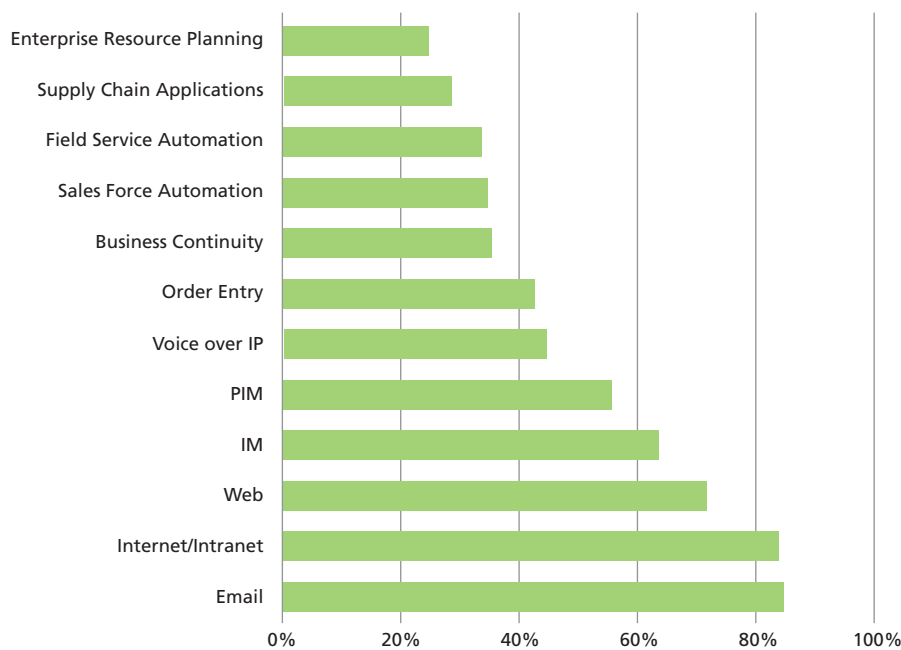
Source: *Wireless Data in the Enterprise: The Hockey Stick Arrives*, In-Stat, 12/2006
Note: Voice over IP includes Unified Communications, Conferencing, Collaboration

Planning the journey

Why an enterprise mobility strategy is essential

To date, enterprise IT departments have had little control over the features employees have access to, and little sense of whether they're in fact the best features to support those employees in their work. Few organizations have codified mobility standards. And every day, callers rack up considerable airtime — with outbound calls pricier than inbound — and no clear sense of what's being spent. As a result, the costs of mobile services are, in fact, increasing.

While the cost of unmanaged enterprise mobility activities is increasing, so too is the business value that mobility brings to the enterprise. The flexibility that workers gain through mobility translates into greater responsiveness and agility on the part of the enterprise as a whole, particularly where customer service is concerned. It also translates into faster, more nimble

decision-making, a competitive necessity in the ever-accelerating world of global business. New working models reflect mobile capabilities and teamwork requirements: mobility drives the technological specifications and teamwork requirements define the application specifications.

Ideally, the strategy will include centralized purchasing of mobile service and support for end users, and it will standardize the mobile devices used. This approach will bring visibility to mobility costs for enterprises, reduce mobile carrier expenses, and simultaneously improve the quality of end-user support while reducing its cost. These IT-focused benefits will be in addition to the obvious business benefits. Perceptually, enterprises that are visibly adopting mobile technologies and employing them in a well-managed way are likely to be regarded as technologically advanced, savvy and forward thinking, all of which pay dividends in terms of attracting and retaining customers and partners.

Given the ad hoc nature of enterprise mobility uptake to date, and given the plethora of capabilities about to roll out through convergence and mobile broadband, enterprises can no longer afford to go without a mobility strategy.

Strategy = opportunity: Know your requirements

A mobility strategy should be guided by the aims and objectives of the enterprise as a whole, not merely reactive to user adoption and user behavior trends. It must be user-centric with the focus on those who actively employ the mobile technologies to increase business success.

There are three prerequisites for developing a mobility strategy:

1. Know your users

Just as no single technology can be expected to meet the entire set of enterprise mobility requirements, neither can any one bundle of services or applications meet the needs of all users. Within an organization, different individuals have different communication needs related to their roles and responsibilities.

Alcatel-Lucent user surveys show that executives, for example, spend a lot of time away from their desks, both inside and outside company walls. Sales personnel are highly mobile — on the move roughly 60 percent of the time — whereas traditional office workers, such as finance, legal staff and helpdesk attendants, are overwhelmingly at their stations (85 percent of the time).

Each of the main roles within your organization must be defined and understood, and a package of mobility solutions offered for each type of user. This is critical to managing the complexity and cost of a mobility strategy, given the diversity of users within an organization and the wide range of mobile services and applications available. Key considerations include:

- *Business needs:* Determining the mobile technologies, applications and devices required for business success
- *End-user needs:* Assigning the appropriate technologies, applications and devices for each defined class of users
- *Support:* Ensuring ongoing support for the diversity of users and applications

2. Build your network

An end-to-end view of mobility is necessary to ensure that all the devices and applications required by the various groups of users can be delivered effectively. By nature, mobility means using external networks — at a minimum, to carry voice and data traffic. Just 34 percent of CIOs surveyed by The Economist in the 2007 study said they are looking forward to delivering mobile services internally, while 43 percent intend to go for a hybrid model.

In developing a strategy, enterprise technology professionals must consider a number of factors related to how their enterprise networks interact with new mobile devices and with the rest of the network. Items to be considered include:

- Cost management: Ensuring existing networks and solutions are effectively leveraged to help keep capital and operating expenditures under control
- Business systems and processes: Assessing the impact on finance and reporting systems and service level agreements
- Integration: Determining how new mobile devices will work with existing infrastructures and tools

3. Secure your assets

Security is among the top concerns of enterprise executives when it comes to mobility. Portable information is susceptible to damage, loss and theft. This is particularly so for stringently regulated industries such as finance and healthcare.

Treated strategically, enterprise mobility can enable new business models and improve the efficiency of existing ones, opening up access to new opportunities. It has great potential to increase workforce productivity, breaking the shackles of place and time.

Conventional perimeter security is insufficient for mobile networks because the perimeter is undefined and changing as users move about. In addition, new users and devices emerge on a daily basis. The strategic challenge is to shift the focus from ad hoc point security solutions and determine how to surround users with security — to immerse them in it, wherever they happen to be. This type of user-centric approach ensures the security strategy is in line with corporate business goals and day-to-day end-user realities. Three key factors to be considered are:

- *Flexibility:* An open, flexible approach to security accommodates the complexity and diversity of existing enterprise environments, protecting investments and taking advantage of existing infrastructures.
- *Standardization:* A security framework based on standards, such as the highly structured ITU-T X.805 recommendation, will help ensure end-to-end interoperability and communications security.
- *Carrier-grade reliability:* A mobility strategy that embraces carrier-grade reliability gives enterprises a higher level of resilience and reliability and allows them to partner with a service provider for equipment and managed services.

Some observers go so far as to assert that inventive enterprises with the right mobile implementation could become another Yahoo!™ or Amazon™ — radically, permanently shifting the business paradigm through their novel use of mobile technologies. This might be an extreme and exceptional outcome, but at a minimum all enterprises stand to improve the efficiency and effectiveness of their businesses by adopting mobile, communications-enabled business applications and processes.

Finding the right partner to accompany you

The Alcatel-Lucent approach

As with any journey, the right partner can help you navigate through new territories and help keep you on track as you encounter the inevitable bumps along the road. Alcatel-Lucent partners with enterprises to deliver a comprehensive solution that approaches mobility from multiple perspectives: that of the carrier, of the enterprise, and of the user. More importantly, it unifies those perspectives by directly addressing mobility needs within a single, enveloping framework that ensures seamless reliability, enabling the execution of a complete mobility strategy for the enterprise.

Putting users at the center of the solution

End users are at the heart of the Alcatel-Lucent approach to enterprise mobility. Instead of requiring end users to change their communications tactic and style based on a myriad of different applications and devices, Alcatel-Lucent provides end users with a consistent user experience and appropriate services on any device, using any network.

The Alcatel-Lucent OmniTouch™ 8610 My Instant Communicator offering is a prime example of this concept. As the world's first multimedia, multisession, unified communications product to provide an integrated user experience across all communications options and across all devices, My Instant Communicator combines voice, video and data services with media blending capabilities through a single, intuitive user interface. It allows users to leverage the power of unified communications through five main communications functions:

- Messaging services, such as voice mail, fax and e-mail accessible through Microsoft® Outlook® messaging software or IBM® Lotus Notes® mailbox
- Telephony services, available through a user's preferred data and voice collaboration software, such as IBM Sametime® software
- One number services, through call routing and call screening interfaces
- Collaboration services, such as IM, audio conferencing and peer-to-peer video, through a VoIP channel and point-to-point video communication
- Presence services, through telephony and IM presence information

Delivering the right tools to the right people

Profiling the different types of users in your organization and analyzing their communication needs is key to taking a truly user-centric approach. Alcatel-Lucent employs a role-based communications approach to create customized sets of communications tools, services and devices that focus on the real needs of specific types of users. By doing so, Alcatel-Lucent allows enterprises to categorize and strategize around their end users' communications needs and deliver communications tools, services and devices more efficiently and more economically than they do today. Instead of ordering a certain number of devices with a menu of applications, for instance, they could simply approach their provider and request the pre-defined set of communication tools for a distinct user group.

This simplifies and economizes the selection of mobile devices and applications: users receive the communication tools that are best suited to their functions within the enterprise. Technology makes it possible to bundle all the necessary elements within a unified communications framework that combines voice, e-mail and presence capabilities on the right type of device.

For example, in the hospitality sector, call center agents and front desk employees are responsible for customer service. To be able to quickly serve business travelers and tourists, they need access to central resources in real time. They probably don't need mobile access, as they are largely desk-bound. As a result, their communications package would prioritize wireline access to hotel systems.

Specific packages can be designed for unique business requirements: office worker, such as front desk, call center and accounting staff; on-site roamer, such as maintenance and back-office staff; and executives, such as hotel managers. This approach can be applied generally across industries and sectors.

Role-based communications also make it easier for IT staff to update and maintain employees' services.
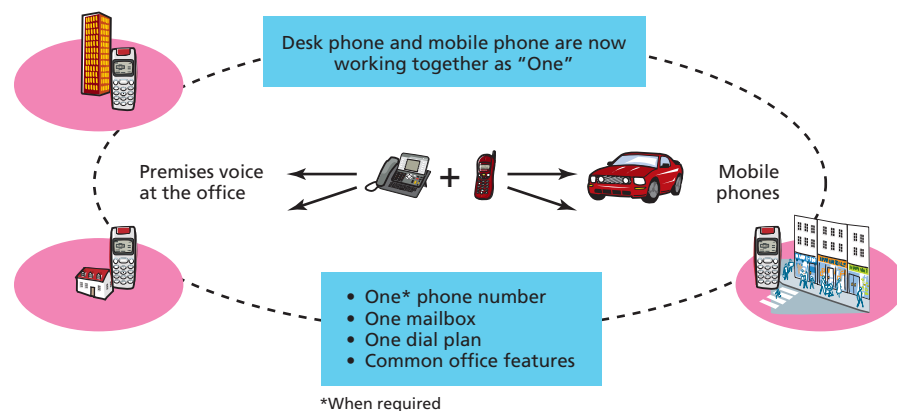
Ensuring all the parts form an effective whole

Enterprises value flexibility and choice when it comes to technology solutions. Any business does well to keep its options open, to have room to evolve in unanticipated ways. Alcatel-Lucent supports that flexibility through its continued commitment to delivering solutions that are truly and broadly interoperable.

Alcatel-Lucent is the only vendor today to natively support cellular, Digital Enhanced Cordless Telecommunications (DECT) and Voice over Wi-Fi with such a broad ecosystem of end-user devices , location-based services and notification servers. This allows enterprises to select the technologies that suit them best: whether dual-mode phones (cellular and Wi-Fi), Wi-Fi handsets, DECT handsets, or wired IP handsets. They can acquire mobile network services and outfit their campuses according to specific usage requirements, confident that whatever they choose will serve them seamlessly. This freedom of choice has both functional and cost advantages.

Making desktop voice features portable

The concept of cellular extension is not unique to Alcatel-Lucent: it is an enterprise expectation to get the most out of their converged devices. But that point alone makes it important to include here, as evidence of the completeness of the Alcatel-Lucent solution. By fully integrating dual-mode SIP-Wi-Fi and cellular phones with enterprise PBX services, features such as dial-by-name, call forward, conference calling and the like are extended to the cellular device. This creates an environment in which essential calling features can follow users wherever they go.

Figure 5. Seamless mobility

Desk phone and mobile phone are now working together as "One"

Premises voice at the office

Mobile phones

- One* phone number
- One mailbox
- One dial plan
- Common office features

*When required

Delivering in-building continuity

In-building continuity has long been an issue for mobile communications technologies. Structural interference weakens or interrupts the cellular signal. Alcatel-Lucent offers a unique interior antenna for cell phones that provides sufficient amplification for in-building signal strength in 2G/3G WLANs. This is especially valuable in settings such as hospitals, where cell phones are routinely shut off because their signal amplification (to compensate for being in-building) interferes with other equipment. With the Alcatel-Lucent interior antenna, signal strength is evened out and mobile personnel such as doctors and nurses are accessible by mobile phone.

Maintaining security

Security is among the top three concerns of enterprise executives when it comes to mobility. Alcatel-Lucent has focused its security efforts on areas where it can add value through innovation at the solution level and execute in the field through its distribution network. Many vendors talk about creating "security ecosystems" for enterprises, but only Alcatel-Lucent allows enterprises to define that ecosystem themselves, choosing the products and solutions that suit their needs, with the assurance that all the pieces will work together.

Alcatel-Lucent offers IP communications and IP Networking solutions that embed security, building it into the network infrastructure rather than treating it as an add-on. Today, the company offers numerous products that simplify security management and increase productivity in each of its three focus areas – network, mobile and application security. A noteworthy example is the Alcatel-Lucent OmniAccess™ 3500 Nonstop Laptop Guardian (NLG).

The OmniAccess 3500 NLG is a secure, always-on 3G wireless platform that gives enterprise IT managers 24/7 visibility of a mobile laptop's location and health for tracking, troubleshooting and management, even when the laptop is powered off or offline. It addresses the enterprise IT challenge referred to as the "mobile blind spot": when a laptop is removed from the enterprise, the IT department loses visibility of it and, as a result, loses its ability to protect the sensitive data it contains — especially if the laptop is lost or stolen. With the Alcatel-Lucent OmniAccess 3500 NLG, enterprise IT staff can proactively safeguard both the laptop and its sensitive data. Mobile laptops are always visible and always accessible — even if they are lost or stolen.

This is of particular interest to stringently regulated industries such as healthcare. Homecare nurses, for example, gain efficiency if they are able to update their charts electronically on a mobile computer. But many organizations do not equip their nurses in this way due to the risk that a patient's privacy might be compromised. The OmniAccess 3500 NLG solves that issue, enabling healthcare providers to increase their productivity and billable time. This product also includes a mechanism for secure software distribution and updates. And through its global positioning system capabilities, both IT departments and their end users can access location-based services depending on their providers' capabilities.

The road ahead

Enterprise mobility going forward

Approaching mobility from a strategic point of view opens up a world of opportunities for enterprises to evolve their existing business processes and adopt new ones, strengthening their competitive stance. Practically, it allows them to get a grip on their mobility costs — largely unknown today — and to better support their users through standardization. Indeed, the core of the enterprise mobility strategy must be the users: what they need, profile-by-profile, to work efficiently and effectively on behalf of the organization as a whole.

Enterprises and the carriers that serve them require end-to-end mobility options that accommodate the variety of devices and technologies that can be chosen to implement an organization's mobility solution. Together, fixed-mobile convergence and the advent of broadband mobility enable:

- Highly capable mobile devices that allow users to interact with business applications
- Standard ways and means for applications to interoperate
- Comprehensive, carrier-grade network data services

The result is a genuine user-centric approach to mobility.

Alcatel-Lucent combines network communications expertise with a breadth of products and services to tackle head-on the issues real-world enterprises routinely encounter within their workflows. The company has extensive experience delivering wireless networks to carriers, along with the benefits of world-leading research and development and innovation capabilities, and an expansive partner ecosystem. Its full scope includes wireless, converged solutions for carriers, world-renowned Bell Labs, and global research and innovation centers.

These capabilities mean that, today, Alcatel-Lucent is the only partner that can offer enterprises everything they need to truly leverage the opportunities of mobile broadband for increased business success:

- Fixed-mobile convergence solutions using carrier technologies
- Fixed-mobile convergence solutions using enterprise technologies
- Cellular technologies in enterprise products and solutions
- Products that enhance enterprise business applications with communications

Alcatel-Lucent also has in-depth experience with large-scale transformation projects, similar to the paradigm shifts that are expected to characterize the mobile space over the short term. The company has supported and indeed led global organizations through processes of business and network transformation, and works closely with service providers to help them transition their service offerings in keeping with technology and market changes.

The first leg of the mobility journey for enterprises is underway. Fixed-mobile convergence technologies are becoming readily available, along with wireline-speed broadband. By developing a strategic approach to mobile services, enterprises will be well on their way toward the discovery of new efficiencies, new opportunities, and new modes of work and interaction. Where the journey leads from there, no one can say for certain. What is clear is that mobility is becoming, and will remain from now on, a core driver.

Acronyms

3GPP	Third-Generation Partnership Project
DECT	Digital Enhanced Cordless Telecommunications
EDGE	Enhanced Data rates for GSM Evolution
GPRS	General Packet Radio Service
HSDPA	High-Speed Downlink Packet Access
HSPA	High-Speed Packet Access
IM	instant messaging
IMR	Intelligent Mobile Redirect
IT	information technology
LTE	Long Term Evolution
NLG	Nonstop Laptop Guardian
OFDMA	Orthogonal Frequency Division Multiple Access
PBX	private branch exchange
PDA	personal digital assistant
QoS	quality of service
SME	small–to-medium enterprise
SMS	Short Message Service
UMA	Unlicensed Mobile Access
UMB	Ultra Mobile Broadband
UMTS	Universal Mobile Telecommunications System
VoIP	Voice over IP
W-CDMA	Wideband Code Division Multiple Access
WLAN	wireless local area network
SME	small to medium enterprise
SMS	short message service
UMA	Unlicensed Mobile Access
UMB	ultra mobile broadband
UMTS	universal mobile telecommunications system
VoIP	Voice over IP
WLAN	wireless local area network

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