by Shane Yu

Define your mobility strategy

Companies can equip a mobile workforce for greater productivity, cost savings and enhanced security.

Mobile solutions for enterprises have primarily consisted of personal or business-owned mobile phones deployed on an ad hoc basis that permitted little control by the company. Today's dramatically growing virtual workforce, however, requires new tactics to keep workers responsive and productive, to rein in spiraling telephony costs, and ensure security and compliance with regulatory and company requirements.

Choosing, integrating and successfully deploying a mobility solution that serves a diverse workforce can be challenging. There is no one standard solution that simultaneously meets the needs of road warriors, telecommuters, campus nomads and desk workers in every type of enterprise.

Deploying one-number converged voice systems enables enterprises to have greater control over levels of security and compliance.

As the number of mobile workers increases, the cost to keep them connected to their workplace is one of the fastest-growing components of the IT budget. This has been spurred for the most part by the availability of new applications, such as mobile e-mail and data, that end-users have driven into adoption. These costs are destined to increase unless enterprises proactively define a mobile communications strategy.

To compound problems, enterprises are realizing that ad hoc solutions lack the necessary security and compliance features. These devices can be easily lost or hacked, and potentially provide entry points into corporate systems–threats that will only grow with the power and proliferation of devices if not mitigated by enterprise controls.

Additionally, when a company relies strictly on its cellular carrier as its mobility strategy, retaining call logs, call recordings or voice mails can be difficult, perhaps creating compliance issues. Cellular call information resides on the carriers' systems and is not integrated with enterprise calling or messaging systems. Enterprises will eventually have to take control of these assets in order to enact their own business and security policies.

MAP OUT A MOBILITY STRATEGY

Determining the most critical applications and user populations to target and then integrating all the necessary components into a cohesive solution is not the simplest of tasks. Some vendors are beginning to develop professional service capabilities to fill this gap. Whether an enterprise utilizes them or moves forward on its own, it needs to map out a mobility strategy and start deploying to develop the knowledge and skills necessary to support the rapidly growing mobile enterprise.

Most organizations today take the "one-size fits all" approach to equipping mobile workers, whether they are international travelers, domestic travelers, telecommuters or campus wanderers: They arm them with cell phones. Most have some mechanism to expense some or all of the cost of the device and service fees back to the enterprise, but these will not provide the responsiveness, productivity gains, cost savings or necessary security of true enterprise class solutions.

Some enterprises have started integrating corporate assets such as e-mail and directory servers with cell phones to enable mobile access. The next natural step is consolidated voice access and messaging. Many vendors are now providing single-number functionality so that dialing an office number will reach the caller on her cell phone, as well. This "one-number" capability can be expanded to enable any number of phones to simultaneously ring, such as cell phone, home office or a site. The objective is to increase the ability for customers, co-workers and partners to reach their contacts on the first attempt.

The single-number approach also consolidates voice mail and call logs, saving the end-user from managing multiple channels. Further, a

Shane Yu is the director of Avaya's enterprise mobility consulting practices, Basking Ridge, N.J.

wide range of adjunct applications can be added to enable visual voice mail, speech access, unified voice and e-mails, and preferential routing for VIP contacts. These deployments can lower costs if administered appropriately. Carrier costs can be reduced through plans optimized to usage patterns or technologies deployed.

After monthly charges, the second largest element of cost is international long distance and roaming. For domestic travelers calling internationally, converged mobility solutions allow users to route mobile calls through their local PBX, thus taking advantage of cheaper wire line rates or free voice over IP.

Enterprises can also utilize global-system-for-mobile gateways to route calls, which take advantage of in-network free minutes. For international travelers, the bulk of the costs are international roaming fees, which can be high and unpredictable. Increasingly, third-party consolidators are offering roaming SIM cards that enable phones to work across large geographies without incurring roaming charges. By utilizing these roaming SIM cards along with one-number functionality, users can both place and receive international calls without being subjected to variable roaming costs.

Companies can also uncover significant savings by diverting cell phone usage to hard-wired phones or softphone-enabled laptops. New generation softphones can provide full access to all communications tools, including telephony, directories, conferencing and instant messaging, and are a means to reduce cell phone usage, especially in international situations.

DESIGN PROCESSES AND POLICIES

In addition, preferential routing and mobile switching, which allows users to switch a call from a mobile device to a hard phone in mid-call, can offload cell phone usage when a landline is nearby. The key to these technologies is designing processes, policies and training so user adoption is high.

Additional cost-saving technologies for workers who predominately work in a campus setting can be found with in-

FLEXIBILITY IS FUNDAMENTAL

by Lou Martinage

To address their indoor coverage needs, companies typically deploy in-building wireless coverage systems to bring wireless signals inside and then distribute those signals throughout their facilities. As the communications industry continues to tap into more wireless spectrum, however, these companies will need to select in-building solutions with the built-in flexibility to accommodate emerging frequencies and services.

Today's commercially licensed wireless communication broadcasts over a set of frequency bands, which occupy a relatively small amount of spectrum. Over the next few years, new frequencies will be introduced, licensed and allocated, yielding an increase of nearly 300 percent in the available spectrum. Additional bands for commercial and public safety uses are quickly emerging, and several unlicensed bands are being used more frequently.

From an in-building coverage perspective, organizations will need to deploy solutions capable of delivering multiple bands simultaneously, even if they are just supporting a single wireless operator. Sprint, for example, currently has services operating in the 800/900/1900 MHz bands and is now in the process of rolling out its mobile WiMAX service operating in the 2.5 GHz range - meaning it must operate in four separate frequency bands. Verizon and AT&T will be in a similar situation as they add long-term evolution services in the 700 MHz band to their current offerings.

Lou Martinage is director of marketing and business development for MobileAccess, Vienna, Va.

The in-building coverage challenge is not just about frequency agility, however. While most current wireless offerings focus on voice communications, the emerging breed of wireless services will be optimized for high-speed data connectivity. To realize the full throughput potential of data-oriented services, in-building solutions will need to provide more than just coverage; they will also need to deliver signals at power levels higher than those typically required for wireless voice communications.

In addition, wireless operators are employing advanced antenna technologies, such as multiple input/multiple output, to boost the data throughput of emerging wireless services. The concept of transporting multiple signals operating at the same frequency adds another level of complexity that organizations should address with in-building infrastructure solutions in order to maintain service performance indoors.

An in-building system should offer more than basic coverage. It should also support multiple bands simultaneously, deliver signals at high power and accommodate a new class of antenna technologies that ensure carrier-class performance for end-users. IT managers need in-building solutions with the versatility to accommodate the multiple frequency bands in use today, and the emerging frequency bands and services of the future.

IT managers have the option of addressing their wireless service requirements on a one-off basis by installing separate coverage systems for each new wireless service. In today's multiservice world, however, this sort of parallel networking approach often cannot scale and requires installing and maintaining multiple separate networks. Instead, IT managers should deploy coverage solutions that can readily scale and adapt to rapidly evolving wireless requirements.

To build for the future, organizations should pursue an in-building coverage solution with the following key attributes:

- delivers multiple frequency bands simultaneously, without interference;
- ensures pervasive coverage and capacity throughout the facility;
- provides high-power signal coverage essential for high-speed data services;
- supports the advanced antenna technologies integral to many emerging services; and
- enables new wireless services to be added seamlessly, without disruption.

An in-building infrastructure with these capabilities allows enterprises to integrate new wireless services and applications cost-effectively, without interrupting productivity.

building wireless IP phones or dual-mode phones. These solutions have been widely adopted in the healthcare, manufacturing, retail and hospitality industries.

Deploying one-number converged voice systems enables enterprises to have greater control over levels of security and compliance, as well as customer contact channels, voice mail and call logs. Call-recording equipment can be placed on the enterprise switch and capture all business-related calls, including those extended to mobile or remote devices.

The other critical security element is unauthorized access through hacked or lost cell phones that can be addressed by security features such as password lock, remote lock, remote wipe and control of applications, which are currently built into some corporate mobile e-mail solutions or into separate mobile device-management (MDM) solutions. Many of these allow end-users to wipe phones via a Web interface without requiring a call to IT.

Higher-level encryption and over-the-air protection are also available on some MDM systems. Determining the correct level of security to protect the organization without impeding usability is important, as is developing the right policies and controls that support it.

Some keys to success:

Understand the demographics of your organization. Take the time to understand what the distinct worker groups in the organization are and how they actually do their work. The solutions will likely vary between groups.

Determine which applications are most important now. Focus on the applications and practices that will yield immediate and measurable gains first. They will form the core on which to build.

Do a baseline technology assessment. The optimal solution will likely encompass multiple vendors, and integration may be an issue. Be careful to understand in detail the current state of existing and proposed technology and how all the components will work together.

Assess current security, compliance and usage policies in conjunction with deployment. If they are not right now, security and compliance will become major factors. Do not design a solution without at least an understanding of how mobile solutions will fit into the overall context of corporate security and policy.

Assess all associated costs and systems, including carrier and support plans. The business case for deployment may be highly dependent on the types of carrier and support plans being used. Additionally, carrier optimization may yield cost savings that may be used to fund the deployment.

Design with adoption in mind. Make sure to involve line-of-business leaders and end-users in the design process. Success is dependent on end-users adopting and evangelizing the solution. This differs from many IT rollouts in that users are likely to utilize these tools constantly and change their daily processes because of them.

Start small and build. Reasons to deploy an enterprise-class solution are growing, but there is still time to get the skills and vision necessary, without immediately moving to a huge deployment. Try to find technologies that do not lock into a specific, proprietary standard or infrastructure. Flexibility is key.

Whether this work is done in-house or in partnership with a specialized professional service group, enterprises should take the time and resources to plan accordingly, but not delay initiating deployments. The drivers forcing this move are growing: high numbers of mobile workers, spiraling costs, and growing security and compliance threats.

While planning and deployment are not necessarily easy, the benefits can be immediate and substantial. If deployed and planned appropriately, the impact of a mobility deployment is likely to be significant, fundamentally changing the way an organization reacts internally, as well as with customers. ❑

WIRELESS PRODUCTS

Touchscreen smart phone

Featuring a 2.8-inch TFT LCD touchscreen with LED backlight, the ***XV6900*** provides a virtual, all-touch QWERTY keyboard and accepts finger/stylus input. Built-in components include a 2.0 megapixel camera with video capture, speakerphone and microSD memory card slot (8 GB max). Supporting EV-DO 1xRTT capabilities, as well as high-speed broadband network connectivity, the smart phone offers Web browsing via Internet Explorer Mobile and comes with Windows Mobile v6 Pro. The phone features one-touch access to e-mail, text messages, calendar appointments and contacts, weather conditions and forecasts.—Verizon Wireless

Bluetooth headset

Featuring self-stabilizing, custom-fit eartips, the ***Discovery 925 Bluetooth Earpiece*** is designed to follow the contours of the face and draw the microphone closer to the mouth. Noise reduction technology helps remove background noise while adjusting incoming volume to ensure clear conversations. Available in black, gold and pink, the headset comes with a carrying case that recharges and stores the earpiece. The earpiece supports up to five hours of talk time, while the charging case provides an extra five-hour charge.—Plantronics

Dual-function wireless headset

For both traditional and PC-based telephone environments, the dual-function ***Jabra GN9350*** OC wireless DECT headset is optimized for Microsoft Office Communicator 2007 and features wideband sound quality. The plug-and-play headset maintains a safe, consistent volume level and removes impurities from the incoming signal to enrich sound quality. Weighing less than one ounce, the GN9350 features integrated buttons for answering calls up to 300 feet from a PC or desk phone.—Jabra