



NETWORKWORLD

Enterprise IT struggles to close the cellphone gap Unified communications remains stubbornly hard to implement in the enterprise

By John Cox, IDG News Service
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For a concept that's remarkably easy to reduce to a sound bite, bridging the gap between cellular phones and enterprise networks ("fixed-mobile convergence") remains stubbornly hard to implement.

The basic idea is a mobile device that can use either a Wi-Fi or cellular connection, and automatically shift between them, to make or take calls, becoming an extension of the enterprise telephony and data networks. It's part of a trend toward the still ill-defined goal of "unified communications."

Even with a flock of products designed for this purpose, from big established players and hard-charging start-ups, and even when pilot deployments are successful, enterprise IT executives refrain from taking the FMC plunge. And some of them are looking at either alternatives or interim steps to gain some of the benefits promised by FMC.

"Don't think of this as an all-or-nothing proposition," says Jack Gold, principle of J. Gold Associates, a technology analysis consultancy. "You don't have to do everything, or deploy everything to everyone in your organization....Ask yourself, 'how does mobile voice communications help me?'"

It worked but we can't use it

An FMC pilot using Agito Networks' equipment "proved everything we thought it would," says Patrick Tisdale, CIO for Orrick, Herrington & Sutcliffe, a major Washington, D.C. law firm where for lawyers keeping in touch with clients anywhere, anytime is essential.

The pilot deployment showed, Tisdale says, that Agito was an effective alternative to expensive cellular signal amplification in Orrick offices; that it would cut to one the various handhelds some lawyers juggled; and that it kept them connected without requiring end users to do anything. But the law firm is holding off on a production deployment for now. The main reason is Agito doesn't yet support Research in Motion's

BlackBerry line, the dominant handheld for Orrick attorneys. (Watch a slideshow comparing the BlackBerry Storm to the iPhone.)

The benefits Tisdale confirmed, and the kind of stumbling block to implementation he ran into, are both typical of enterprise experience with voice convergence. "You have to compromise on which handsets you can use, on which PBX systems are supported or not supported, you can't mix and match Wi-Fi gear, or the Wi-Fi vendor hasn't implemented the 802.11r fast-roaming standard, or the phone features the vendor supports aren't the ones you specifically need," says Stan Schatt, vice president with ABI Research, reciting what is clearly a familiar litany of problems.

There are two classes of FMC solutions. Behind-the-firewall servers or carrier-based services, both enabling cell phones with Wi-Fi adapters (so-called dual-mode phones) to link with corporate IP PBXs via cellular or Wi-Fi networks. The first is from vendors include start-ups such as Agito, DiVitas Networks and Tango Networks and established vendors like Avaya, NEC and Siemens. In the United States, T-Mobile's @home service, based on the Unlicensed Mobile Access (UMA) standard and Kineto Networks hardware, is the leading offering of the second type.

In both, the FMC server works with a client application to detect when a user is moving into and out of range of cellular or Wi-Fi networks. Basically, the server starts a parallel call over the alternate wireless network, mixes the audio from the two sessions, and drops the first connection.

That sounds simple enough, but it requires a kind of "cellular-grade" Wi-Fi network to provide reliable, wall-to-wall coverage within the enterprise, to enforce QoS, and to handle unpredictable call volumes. Such wireless LANs are still not all that common, though that's changing and may change faster as enterprises deploy high-throughput 802.11n.

Variations on the FMC theme

Enterprises are now weighing variations on the FMC theme, says Paul DeBeasi, senior analyst for the Burton Group, a technology research firm. "There are a fair number of people doing FMC, but they're not doing it with dual-mode phones," he says. "Integrating cell phones into the [corporate] network is going to gain more traction. It's the dominant approach that I hear people talking about now."

That often starts with improving cellular signals and coverage with some kind of indoor, distributed antenna system (DAS) throughout the enterprise. Florida Hospital in Orlando deployed a DAS from **MobileAccess** for improved cellular and page coverage, to ensure that doctors and others could be reliably contacted by cell phone no matter where on the seven-campus hospital system they might be. Separately, a pervasive Cisco WLAN is the wireless backbone for some 900 Wi-Fi mobile phones (Nortel-branded devices based on Polycom's SpectraLink line) for nurses and others, linked with the PBX.

Based on current user requirements, there's not much need to combine these environments, according to Todd Frantz, the hospital's associate CTO. "For the most part, our employees don't move long distances between buildings or between sites," he says. "And my desk phone does a whole lot of things my cell phone still won't do."

Fayetteville State University in North Carolina has gone a step further in that integration, deploying RIM's BlackBerry Voice Mobility System, based on the 2006 Ascendent Systems acquisition. The VMS client/server software links the BlackBerry Enterprise Server with a company's PBX, without any major infrastructure changes. Users get a single corporate number that can ring on all their phones (the BlackBerry, other cell phone, desk phone, office phone at home). About 50 users have it and more want it, says Joseph Vittorelli, FSU's director of systems and infrastructure.

"For us, it's about productivity," he says. "I have a 100-acre campus and I'm rarely at my desk. [With VMS] I take care of a lot of business walking from building to building." In the past, his desk phone voice mail typically would have 20 to 30 messages daily. Today, it's rare to have more than two or three.

Still another variant is a hosted "local-area" private cellular service, such as that offered by Strata8, via its own licensed spectrum in the 1900MHz band. The company sets up a base station on your site and integrates the service with your PBX, while you select from a growing set of CDMA cell phones and pay \$30 per month per subscriber. Interestingly, Strata8 had announced a deal to offer customers an FMC solution based on products from Tango Networks. But Executive Vice President of Sales and Marketing Andrew Wilson says there has been little activity or interest in Wi-Fi/cellular convergence among Strata8 customers.