

In-Building Wireless Growth Is Due

In-Building Wireless Should Become a Normal, Expected Service – Thanks to Convergence

By Jason Marcheck ■ *Current Analysis*

The march toward in-building wireless access seems unstoppable despite current hazy economics. From dense wireless LAN (WLAN) and voice over WLAN (VoWLAN) deployments to cell phone coverage in elevators and offices buried deep within the center of a building, in-building wireless is a concept that has been hotly explored, debated, dismissed, and rejuvenated many times over the past decade.

In terms of desires, the rejuvenation now appears to be permanent. Given modern society's proclivity for instant gratification and always-on connectivity, tenant and visitor desire for robust in-building wireless availability is not hard to understand. But the economics are still hard to justify in a rigorous way. Despite the maturation of micro and pico-cellular Base Station (BTS) products, and the associated drop in costs, quantifiable justification for robust cell coverage has remained elusive.

Here's why: When put to the test of cost/benefit analysis, wireless coverage has often been written off as an expensive novelty where tangible benefits cannot be easily defined. First, physical wiring of the building(s) has usually been an issue. Using existing wiring, while less expensive from a capital expense perspective, usually entailed wrangling with the building owners over access to, and control of the information transmitted on the infrastructure.

What's going on?

As a categorical generalization, build-

ing owners have become infamous for demanding fees for the rights to utilize any existing wiring. But even dealing with the most friendly of building owners, operators are reluctant to provide service if profitability cannot be defined.

While I am not here to argue for or against owner demands, they have often resulted in a no-win situation for all parties involved. The idea of tenants overlaying new wire holds its own set of hazards, including the aforementioned access squabbles, and higher capital expenditure requirements. But, with cellular usage plans rapidly approaching "unlimited" status, it has been hard to calculate the direct benefit (hence ROI) of increasing wireless coverage inside buildings.

Thus, despite the early hype around WLAN hotspots, the hotspot business case still remains questionable, based on demand issues. This has left in-building networking largely in the hands of individual tenants.

While this can work on a case-by-case basis, it does not provide for the uniform user experience that is marketable by building owners seeking a competitive advantage against other owners.

Call that a "non-quantifiable" ROI. Thus, despite a rocky past, a spate of recent announcements suggests a renewed and sustainable interest about in-building applications.

This begs several interesting questions: Why now? Do these announcements signal something significant and sustainable, or it is just more hype? What are the vehicles that will take us

from here (interest and hope) to there (long-term, money-making opportunities for operators and building owners alike)?

Convergence Validates Wireless

While it is true that the value proposition behind in-building wireless has not changed much over the years, one thing has changed: validation.

The single most important concept that will validate ubiquitous in-building wireless coverage is the convergence of voice and data streams, and other services as well.

If we are to believe the industry vendors, operators, and pundits that say seamless, integrated voice and data coverage available over both wireline and wireless infrastructure is where the industry is rapidly headed, then complete in-building coverage is an absolute necessity.

It is hard to imagine any operator being able to boast "seamless" service if a salesperson making a customer call cannot use a mobile CRM application after entering a building!

As enterprise users rely more heavily on integrated voice, IM, e-mail, and so forth, ubiquitous coverage becomes more than luxury; it is something necessary to the essential duties of their jobs.

Thus, denial of access to these services at various times throughout a typical workday is an increasing source of dissatisfaction. Where dropped calls and poor indoor reception were once tolerated, they are rapidly becoming unacceptable. This means that failing

to fill in coverage gaps will cause unrest among subscribers, especially as 3G data rates begin to approach wireline speeds.

Operators that fail to provide consumers with the robust experience that 3G cellular deployed in-building will enable will see an increase in churn.

It also means that operators who cannot stay on top of the technology curve and leverage new technologies to effectively address this shift in demand will struggle to entice new customers.

To this end, operators know that ubiquitous, converged service offerings represent a major requirement for success.

Need Proof? Read on.

First, the trends support the claim. Only a few years ago, the in-building wireless vendor space was comprised mostly of start-ups. Companies such as AirWalk, ip.access, and RadioFrame, to name a few, were primarily responsible for championing the cause of micro and pico-cellular technology.

Now, we see that heavyweights, such as Alcatel, Ericsson, Nokia, and Nortel, have introduced smaller base stations designed to address gaps in coverage (typically inside buildings). This is a clear sign that the operators have bought into the value proposition of micro and pico-cellular technology and are demanding it.

Building on this, the advertising campaigns of cell and WiFi operators touting pervasive coverage sends a clear signal about what consumers value as they make purchase decisions. The advertising campaigns of the two largest U.S. operators focus squarely on ubiquity of service.

Verizon Wireless's "Can you hear me now?" campaign, and the Cingular/AT&T Wireless's "How many bars to you have?" campaign both compete on the proposition that a user will always have access to a strong, reliable signal. To complement this ubiquity, both operators are also active in deploying true 3G technology to enable enterprise customers to access data in a way that is accept-

ably similar to the desktop experience. To this end, ABI research predicts the market for in-building wireless equipment will reach \$1.3 billion by 2009. In response to this, established wireless vendors are leveraging the opportunity by announcing in-building products that only a few years ago were mostly

being evangelized by start-ups.

These substantiations of demand are important in two respects. First, numbers like \$1.3 billion command attention. They set the stage for meaningful jockeying among the various offerings that will enable the seamless services that in-building solutions provide.



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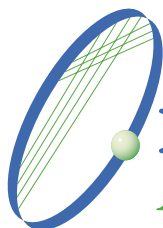


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Clearly, there will be big winners as this market comes to fruition. Currently there are many solutions fighting to prove themselves.

In terms of mobile cellular service, 3G technology remains the key to success. Pervasive coverage, offering the broadband services enabled by UMTS/HSDPA, EV-DO, and EV-DV, must be available once the subscriber, especially the high value enterprise user, steps indoors.

Regardless of the access technology, operator and vendor plans for converged services mean that in-building coverage will only become more crucial to implementation.

Second, the potential of this market should be a wake-up call for building owners.

The requirement for ubiquitous access in multi-tenant and multi-dwelling units was recognized long ago.

Now, the demand for convergence – and the prospect of losing tenants and customers to poor in-building coverage – should make building owners and service providers want to play nice.

The prospect of providing robust communications services in buildings can no longer be viewed as the proverbial chestnut to be hoarded.

Now, both parties must realize that top-notch in-building coverage is too important to quibble over details. Indeed, the march toward converged networks and truly seamless coverage is on.

In-building solutions represent a key component of this reality. How we get there is not yet defined. It could be 2G, 3G, WLAN, WiMAX, or mesh.

What is clear, however, is that operators and vendors both need to treat the trend seriously and keep the end-goal in mind: convergence. ♦

About the Author

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