Wireless Comeback Combines NLOS, Big Bits, Wi-Fi & WiMAX

What's New In Wireless Broadband And Most Relevant To MTUs And MDUs.

By Andrew Kreig ■ ***Wireless Communications Association***

Broadband delivery systems using wireless for MTU and MDU customers are undergoing radical transformations from of the past. The new systems build on lessons learned in the marketplace to overcome problems of cost, scale, Quality of Service, regulation and basic profitability.

The bottom line for property owners, developers and management executives is that the new models deserve a review—whether as a possible option for your own use or to understand what your competitors are doing in the market.

Aside from the fundamental proposition that wireless services can be an alternative to a wired duopoly of cable and telco fiber and DSL, almost every aspect of wireless strategies has been reexamined in the wake of admitted failures of wireless CLEC models in the late 1990s. Aside from reverses in the private cable sector most familiar to readers of this magazine, those in fixed wireless included multiple bankruptcy proceedings afflicting fixed wireless CLECs. Among the Chapter 11 bankruptcies most notable for the MTU market were those of millimeter wave (or "LMDS" or "HDFS") providers Teligent, XO Communications, Adelphia Business Systems, Winstar and Advanced Radio Telecommunications. This comprised essentially all of the best known CLECs using frequencies between 24 and 40 GHz for a business model of competing against local Bells.

Fixed wireless also experienced cutbacks in lower bands, although the WorldCom bankruptcy obviously was prompted primarily by accounting fraud at top levels rather than the company's investment in MDS in the 2 GHz band. Nonetheless, WorldCom's strategy (like that of other MDS providers such as Sprint and Nucentrix Broadband Networks) was radically curtailed because of problems in creating a profitable model, despite the inherent appeal to the public of having a wireless option for broadband services.

"…almost every aspect of wireless strategies has been reexamined in the wake of admitted failures of wireless CLEC models in the late 1990s."

Here's a summary of what's new in wireless broadband and most relevant to MTUs and MDUs, albeit with the caveat that any such list is inherently subjective, given the wide range of potential customers and solutions:

Increasing reliance in lower bands on Non-Line-of-Sight or Near-Line of Sight (NLOS) solutions, often with "plug-and-play" technology.

These are designed to reduce reliance on expensive truck rolls for professional installations, and the need to purchase of roof rights and obtain inside wiring rights from landlords. Competitors have fought hard but largely unsuccessfully against landlords in a variety of governmental venues to win rights of access, and competitors ultimately had to look to alternatives. Technology that can bring the service closer to the customer – through a window or even an outdoor wall – can be a win-win-win for the landlord, service provider and customer, respectively. This is because the landlord can enable tenants to obtain alternative services, without compromising unduly on control of building access. Although new NLOS technologies might foreclose most of the income once thought to exist through sale of roof rights, that income is largely illusory if the providers cannot sustain operations.

Innovations in providing large-scale, more targeted services emphasizing big bits of information.

Instead of the CLEC business model used by its original management, Teligent emerged from bankruptcy with a cooperative and complementary role to incumbents in helping them extend their networks wirelessly in a cost-effective fashion. In this, Teligent illustrates a more general trend by a number of wireless providers in emphasizing their capacity to deliver very high capacity quickly and flexibly in targeted market situations, including Homeland Security, public safety and backhaul for Wi-Fi and cellular systems. This is the current emphasis of many wireless companies, and also of those in such similar providers as those in Free-Space Optical laser-delivered Internet and forthcoming services in the 70 to 90 GHz band

that are going to become increasingly available thanks to an important FCC decision last fall.

Wi-Fi and related technologies using unlicensed spectrum have further increased deployment options, especially in rural and small-town communities.

This enables, among other things, low-cost extension of in-building networks without extensive internal wiring once connectivity is been established with outside networks (whether through wired or wireless means). Although the precise profitability of various Wi-Fi business models remains much in flux, there is no doubt that its low implementation cost makes it a powerful new force in the marketplace. Much of the media buzz over the last year has focused upon unlicensed uses, in part because the regime of regulation is less burdensome than for licensed services. However, major breakthroughs are expected within a few months on FCC regulatory rules for the MDS band. These will for the first time ever enable portable/mobile—and more profitable—uses.

Helping make wireless broadband technologies a reality is the growth of the WiMAX Forum and other standards-based developments.

These developments enable lower-cost, standards-based wireless solutions to connect in-building networks to the Internet and telco networks (and ultimately to video content) over the last mile. The WiMAX Forum is a consortium primarily of vendors seeking a certification process for standards generally based on the evolving IEEE 802.16 standard for wireless broadband access. WiMAX has achieved enormous strides since it was invigorated by leadership of Intel Corp. The focus on standards has served also to energize proponents of competing visions, including those with proprietary technologies and those supporting a more mobile vision of services (working in a group designated as IEEE 802.20) and those focusing heavily on other variants of technologies, such as TDD-based systems. Whatever the vision, the emphasis on lower costs and encouraging new entrants from the world's largest manufacturers and carriers has re-energized a wireless broadband sector that had been seriously hurt by the combined "Dot-Com Bust" and "Tech Wreck," as well as above-mentioned problems specific to wireless broadband.

"These developments enable lower-cost, standards-based wireless solutions to connect in-building networks to the Internet and telco networks…"

These trends were on display this January at the most recent *Symposium* of the Wireless Communications Association (WCA). The *Symposium* is traditionally the smaller and more technically focused of WCA's two semi-annual events. Yet boosted by newsworthy keynotes and strong carrier participation, registration was up 32%. Opening keynotes by top executives from Intel Corporation (speaking about the complementary roles of WiMAX and WiFi, among other things) and Nextel Communications drew standing room-only crowds. So did a number of the individual sessions during the 120-speaker program.

Since that time, such once-obscure terms as "WiMAX" as well as the general notion of a wireless broadband resurgence are increasingly visible in general interest magazines and newspapers, such as *Business Week* or *USA TODAY*. The FCC this spring established a Wireless Broadband Task Force. President George Bush raised spectrum policy to new levels by advocating a national policy of increased broadband deployment, of which wireless broadband will doubtless play a vital part.

The precise contours of the road ahead are not fully known, although WCA predicts very positive news shortly from new regulatory policies in tandem with announcements of renewed interest by major new entrant companies. One thing is certain: Wherever paths lead, we at WCA will continue to look for productive opportunities to share with our longtime friends at *Broadband Properties Magazine*, and the constituencies that the magazine's leaders have served so faithfully for so many years. ■

"The bottom line for property owners, developers and management executives is that the new models deserve a review…"

About the Author

Andrew Kreig was named President of the Wireless Communications Association (WCA) in 1997, and since then has led its growth to 260 member companies who are in the forefront of advanced technology on six continents. An attorney active in public affairs, he is a longtime articles contributor to National Satellite Publishing. WCA also endorses Broadband Properties Magazine as part of a win-win strategy to encourage industry growth. Broadband Properties is, in turn, a Media Supporter of WCA 2004, which is the world's largest and oldest trade show focused entirely on wireless broadband. The show this year again convenes some 200 expert speakers from June 1-4 in Washington, DC. Details: www.wcai.com.