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With the deregulation of copper access pipes, ISPs and CLECs looking for alternative customer access could consider deploying WiMAX or Wi-Fi in licensed bands. First Avenue Networks hopes to be a first mover in such a carrier-grade virtual broadband wireless access operator market, offering capacity on a resale basis.

No stranger to the wholesale business, McLean, Va.-based First Avenue is a wireless carriers' carrier with a primary offering of licensed fixed-wireless solutions for backhauling traffic for CLECs, ISPs, cellcos and other service providers. The company has a collection of millimeter wave spectrum assets in the United States that comprise about 1.5 billion channel PoPs between its 24GHz and 39GHz spectrum licenses. That means nationwide coverage and added depth in major U.S. metropolitan areas, with nearly 600MHz of spectrum in the 77 U.S. markets.

Louis Olsen, senior vice president of engineering at First Avenue, says a new class of LEC, deployed on WiMAX or Wi-Fi mesh, represents a significant opportunity. While service providers could roll out broadband wireless access in unlicensed bands, interference tends to impact the consistency of capacity by reducing available bandwidth. It's also difficult to guarantee QoS for applications. Licensed bands present an attractive

# First Avenue, First Mover

Wholesaler Takes Virtual Broadband Wireless Model to the Streets, Rooftops

By Tara Seals

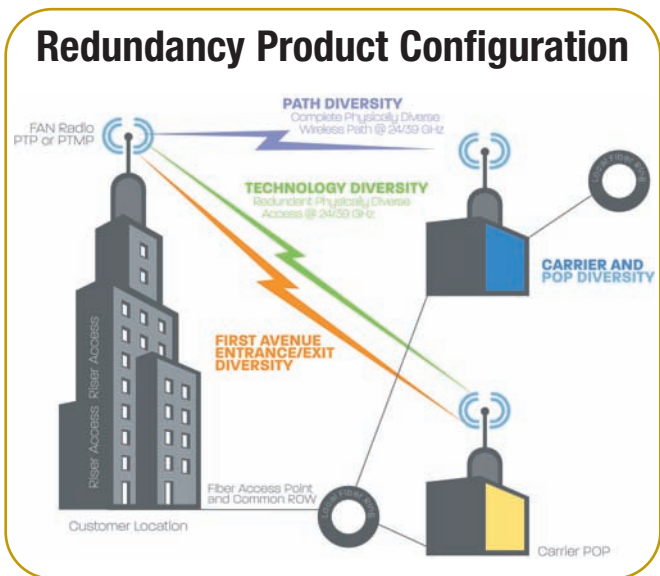
"This is a wonderful opportunity for them and for us," says Olsen. "They can be more competitive and have a higher quality service offering than one based on RBOC pipes, with less than four days of provisioning time."

With WiMAX-certified equipment expected soon, First Avenue has been courting service providers interested in the standard. "For WiMAX, many plans show a base station needing a 50mbps feed, and that means fiber. Fiber isn't available everywhere, so that's where we come in, because we have near-ubiquitous national coverage."

By the same token, mesh solutions need bandwidth to fuel them. "Mesh can require a lot of bandwidth that provides numerous alternate paths for traffic," says Olsen. "The architecture requires drains that carry traffic out at intervals, to reduce degradation from packet hopping and ensure quality of service. With us, service providers no longer need to be beholden to the distance from the central office or fiber PoP."

Beyond the network, First Avenue has sweetened the pot for broadband wireless access LECs by launching a disaster recovery/redundant Ethernet offering for enterprises, available for private labeling by its wholesale customers. It gives businesses committed bandwidth rate for voice and data of, say, 2mbps, 5mbps or 20mbps, capable of bursting to 5mbps, 10mbps, 40mbps or more. A small antenna mounts on a rooftop, about nine inches square and capable of providing up to 40mbps. Customers also can opt for a split arrangement, with a 12- to 13-inch antenna that can provide 100mbps to 200mbps of throughput. A laptop-sized unit also goes inside the building and connects to the Ethernet LAN connection. The antennas are multiports, capable of handling many different companies within a building; the system provides each with independent access to the Internet. The Ethernet connections to the LAN provide bandwidth for 200 people on a T1 line, with 2mbps to 20mbps of committed bandwidth. Service providers can lease or resell the equipment to craft a managed service-play.

Olsen says this is an instant revenue opportunity for its virtual operator clients interested in tapping the corporate market. "Many companies have some version of DSL, or a 1.5mbps T1 line, but nowadays even smaller businesses need more bandwidth than that," he explains. "They could add T1s, but that's complicated from a LAN administrator perspective. They could go to Metro Ethernet, but that's not always available. This is a sliding-scale, flexible alternative — and all you need to get it running is access to the roof."



First Avenue's backup and redundancy product offers service providers a new revenue stream.

alternative, by allowing guaranteed bandwidth, SLAs and carrier-grade reliability. However, spectrum licenses have been in short supply and astronomically expensive. Offering capacities of up to 622mbps per link (OC12), and supporting SONET, Ethernet and IP interfaces, First Avenue's fiber extension and bypass solutions allow WiMAX and Wi-Fi mesh-based service providers the ability to bring customers voice and data connectivity on a guaranteed basis, and at a fraction of the cost of a license, Olsen says. First Avenue provides the bandwidth and network maintenance, along with a priority service queue for support, and the LEC brings the gear, branding and billing.

So far, First Avenue is deployed in Baltimore, Boston, Dallas, New York City, Philadelphia and Washington, D.C. with service providers.