



## **Ertach Rolls Out WiMAX Wireless Backhaul Network in Argentina**

*By Stuart Little, Director of Marketing, Stratex Networks*

Ertach (previously Millicom Argentina SA) is one of Argentina's premier communications companies, delivering innovative Internet services to over 70 cities all over the country. Over 9,000 business and government clients rely on Ertach for broadband Internet access, virtual private networks (VPN) and voice-over-IP (VoIP) telephony services.

### **Deploying Premium Services**

Ertach wanted to roll out premier VoIP service and enhanced broadband Internet services for their business customers in Buenos Aires, La Plata, Rosario, Cordoba and Mendoza. As a result of acquiring a number of existing wireless ISPs (WISPs), Ertach had much of the infrastructure for the wireless access network already in place. WiMAX technology was selected to expand these services.

The wireless backhaul network that would eventually interconnect more than 180 WiMAX base stations had to be absolutely reliable, and able to handle future capacity upgrades.

### **Mixed-Bag Legacy Network**

The existing backhaul networks were built over several years from various network deployments and mergers of smaller regional ISPs, and mainly consisted of leased E1 wireline, but also included a mixed bag of other systems such as fiber, unlicensed microwave, and older licensed microwave.

Four separate backhaul networks ran across greater Buenos Aires and nearby La Plata, connecting the existing base stations to three Ertach network centers. These four dissimilar networks were expensive to manage and maintain. By contracting leased lines for much of the backhaul, Ertach was dependent on the competitive carriers and other third parties for service calls, capacity upgrades and overall reliability of the network.

### **Backhaul Vital**

Ertach's backhaul network needed to provide maximum uptime for data-intensive applications such as video streaming, wireless VoIP and VPNs that were planned with the WiMAX deployment, which was beyond the capability of their legacy network.

"It was critical for a successful rollout that we have a reliable backhaul capability to support our WiMAX deployment today, as well as to step up to transport mobile WiMAX traffic in the future," said Santiago Garcia Sinesia, chief technical

officer for Ertach. "Upgrading the backhaul was as important as upgrading the WiMAX base stations."

### **MAXhaul Carrier-Class Backhaul Solution**

After looking at various options, Ertach selected the MAXhaul licensed microwave radio solution from Stratex Networks. MAXhaul provided the right features to ensure high network reliability, such as excellent equipment reliability and support for redundant network configurations, as well as capacities that could be easily scaled upwards, while keeping total operating costs and expenses in check.

### **Licensed Wireless**

Ertach utilized licensed 7, 15 and 23 GHz bands, which helped protect the backhaul network from possible interference and could easily accommodate distances between base station cell sites varying from a few kilometers to more than 50 kilometers.

### **Scalable Capacity**

For the WiMAX base station connection, MAXhaul provides Fast Ethernet interfaces and up to 100 Mbps of guaranteed full duplex throughput. As capacity throughput at the base station increases, Ertach plans to upgrade to Gigabit Ethernet interfaces, along with capacity upgrades to 300 Mbps throughout the network. Plans also call for expanding for connections between network centers to 600 Mbps. The wireless radios can accommodate these changes with field-installable upgrades.

### **Benefits of Ownership**

By owning the wireless backhaul network, Ertach could precisely configure the amount of bandwidth needed at each base station. Some stations with higher density of subscribers were configured for more capacity than others, and the scalable capacity allowed the correct bandwidth to be selected when and where it was needed.

### **Network Resilience**

Ertach upgraded their legacy networks from low-capacity star network design to incorporate a resilient, ring-based backbone network. New WiMAX base stations, upgraded in parallel, were placed online for testing almost immediately to meet an end-of-summer deadline.

### **Successful Deployment**

Ertach rolled out premium VoIP services and broadband Internet access up to 4 Mbps per connection in late September 2006. Over 9,000 business clients in greater Buenos Aires, La Plata, Rosario, Cordoba and Mendoza have access to the newly deployed WiMAX network. Cost savings gained by using MAXhaul in the backhaul network will now enable full broadband Internet access to be extended to several remote rural areas.