Triple-Play Services Delivered to Workers' Housing in Mexico

By Masha Zager ■ *Broadband Properties*

Self-provisioning and FTTC make broadband and IPTV affordable in new low-income subdivision

A new model in Mexico for delivering advanced voice, video and data services may help put to rest fears about service providers' "cherry-picking." While municipal officials in the United States worry that only the most affluent neighborhoods will benefit from IPTV and other new services, cable television provider Interfibra, based in Monterrey, Mexico, has found a way to bring these services to neighborhoods that are far from affluent.

In Mexico, the largest driver for new housing is the public INFONAVIT program, which finances and co-finances home loans. Workers who have held steady jobs for several years can usually qualify for INFONAVIT loans, which are funded through payroll taxes. Most of the loans are used to finance very small single-family homes – typically less than 500 square feet of living area on a 1,000-square-foot lot. Often, the homeowners themselves construct additional rooms for their houses after living there a few years.

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The Tierra Urbana Website notes the many features of its housing developments around Monterrey, including parks, ponds, schools…and fiber-optic networking.

Hear CEO Jorge Ortiz speak at the **Summit**

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Affordability

How did Interfibra make these services affordable to a low-income community? The company used four important strategies to contain costs:
- Focusing on greenfield developments;
- Developing an innovative network design;
- Provisioning the services automatically;
- Marketing the services on a prepaid basis.

Interfibra's first project, several years ago, involved overbuilding a high-end residential area in Monterrey with optical fiber. Digging up the streets, even using Emtelle's relatively efficient blown-fiber method, proved to be costly. "Based on what we learned from that deployment," Ortiz says, "it makes more economic sense to do greenfield projects."

The company decided at that point to focus on new developments, where fiber installation costs are much lower because the fiber can be installed at the same time as the other utilities. This is, of course, a decision that many service providers in the U.S. have also reached.

FTTC With a Twist

The other strategies that Interfibra is using are considerably less common. The company devised an unusual twist on the typical fiber-to-the-curb network design. Fiber is brought deep into the neighborhood, with two strands of fiber terminating at each pedestal. Because

Interfibra will offer several tiers of broadband Internet service, along with phone and IPTV. It also will be transporting telephony services supplied by a competitive local exchange carrier (currently, Mexican cable television providers, like Interfibra, are not licensed to terminate calls or provide telephone numbers). At a later stage, the company will provide video on demand.

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Even if few homeowners subscribe to broadband Internet service, its availability is expected to be a major drawing card for these new developments. In one development, Tierra Urbana is placing a personal

Interfibra is minimizing its operating costs by using BECS control and provisioning software from Swedish provider PacketFront. The BECS software, which runs on layer 3 of the network stack, has a subscriber management tool that allows customers to activate services from their own homes, as well as a help desk tool that enables Interfibra to troubleshoot problems remotely.

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the lots are small, each pedestal is within 100 yards of 16 homes -- close enough to use an inexpensive local-area network (LAN) solution for the final hop. A typical FTTC setup in the US, traversing a longer distance with copper, would use a DSLAM or MSAP in the pedestal.

At the pedestal, where a passive optical splitter would be placed in a PON design, is an Ethernet switch and standards-compliant LAN drops for CAT5 unshielded twisted-pair (UTP) cable. Each optical fiber supports eight LAN ports. Currently, a total of 100Mbps bandwidth is allocated to each eight-home LAN, though the setup can support much higher bandwidths.

Each UTP cable at the pedestal leads to a portal inside a home. This device, a set-top-box, connects to all a family's televisions, telephones and computers.

The fiber-to-the-pedestal and LAN solution enables the delivery of high-bandwidth IP services at a much lower price than any competing network design, according to Ortiz.

Another advantage of the BECS software is that it can assign a separate IP address to each device within the home, including telephones, computers and televisions. This means that, even though all the signals are traveling over a single cable, Interfibra can manage each device separately, assigning them different priorities and different bandwidths. "We're actually feeding a LAN, not a router," Ortiz says.

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Managing the Network

The portal, or set-top box, has a special channel with a Web interface, where customers can enter their telephone number and sign up for services or view their account balances and call histories. The information actually resides centrally, on the edge router.

"Typically, you have some form of encryption for conditional access on the set-top box," Ortiz explains. "But with bidirectional IPTV and multicast filters, you can use an access control list on the edge router [PacketFront's Access Switching Router] to provision specific channels for each household. Some of the middleware that would typically reside on the set-top box is now residing on the network, which means you can use a less expensive and more standard set-top box. You can reduce costs and gain flexibility."

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Interfibra's final strategy for making its services affordable was to change the way they are marketed. In Mexico, wireline telephone service is almost always sold on a monthly basis, while cellular phone service is sold on a per-minute basis. The result is that most people, especially those who can't afford the monthly fee, prefer to use mobile phones. Interfibra's pricing model is closer to the cell-phone model: it is making telephone service available on a per-call basis, at the equivalent of about 13 cents per call.

"Now there is no reason not to have a line, because you only pay when you use it," Ortiz says. "If you want to save money, you don't have to use the phone."

Internet and television service are being sold by the month, with basic packages costing about $9 for Internet and $12 for TV. Customers can easily start, stop, upgrade or downgrade services, depending on the state of their household finances. Compare that with conventional switched phone service from Telmex, which typically costs $125 for installation and about $25 a month (with the first 100 calls free, and each additional call 14 cents, on a typical plan). Telmex sells a 512 Kbps ADSL package including phone service for $45 a month (also with 100 free calls a month). So roughly $25 a month residents can expect to pay for triple-play is a bargain.

Interfibra worked with PacketFront to interface the BECS software to its RADIUS server (the device that providers use to authenticate network users). This unique solution allows customers to buy prepaid cards – the same type they are accustomed to using for cell phones – and enter the code on the card into the Interfibra Web page on their computer or television in order to prepay for telephone, Internet or television service. **BBP**

About the Author

Masha can be reached via her email at masha@broadbandproperties.com.