# A Bumper Crop of Rural Broadband Loans... and More

## Independents active in FTTH deployments, coast-to-coast

By Masha Zager ■ *Contributing Editor, Broadband Properties*

**The Rural Development agency of the U.S. Department of Agriculture** (formerly the Rural Utilities Service) announced several low-interest loans for fiber-to-the-home projects this month: In Iowa, a $4.5 million loan to the **Cooperative Telephone Exchange** of Stanhope (515-826-3206) will enable the company to deploy a new FTTH system in Hamilton and Boone counties and bring subscribers the full range of high-speed telecommunications services. **Fiber 520-522 LLC**, a startup company in Salem, Illinois, is receiving a loan of $127.7 million to construct an FTTH system in 12 counties in the southern part of the state. The system will connect 32,732 residential and 1,494 business subscribers, providing high speed data, video and voice services. The **McClure Telephone Company** (www.mccluretelephone.com) of McClure, Ohio, will receive a $6.2 million broadband loan to construct an FTTH system throughout its exchange in Henry County, providing service to 245 data, 808 voice and 256 video subscribers.

Another loan is to the **Monticello-Wayne County Telecommunications Board in Monticello, Kentucky**, which will receive $7.6 million to connect almost 1,800 new data subscribers, provide voice over Internet service to more than 2,000 subscribers and replace analog cable TV systems with an FTTH system.

**Ben Lomand Telephone Co-op** (www.blomand.net), one of Tennessee's largest independent operating companies, has selected Occam Networks to provide triple-play services to its customers. As part of the project, Ben Lomand will soon trial Occam's BLC 6312 blade to offer Active Ethernet fiber to the home.

**Cinergy MetroNet** (www.broadreach.net), a CLEC in Evansville, Indiana, is launching a multicommunity deployment to offer high-bandwidth triple-play services to 11 communities throughout Indiana. Alcatel will supply its FTTH solution based on passive optical networking (PON).

**EATEL** (www.eatel.com), an ILEC serving communities in south Louisiana with fiber to the home, has deployed Integra5's i5 Converged Service Delivery Platform (C-SDP) and rolled out its TV Caller ID application. TV Caller ID displays the name and number of an incoming call on subscribers' TV sets before the phone rings.

**En-Touch Systems** (www.entouch.net), a "quad play" provider in southeast Texas, has selected Wave7 Optics' Trident7 Optical Access Platform for multiple fiber-to-the-premises networks. En-Touch already has the Trident7 operational in the Telfair community in Sugar Land, Texas and will soon connect other communities in Fort Bend and Harris counties. It will continue deploying FTTP in "master-planned" communities for both residential and business services over the next five years. The initial FTTP network is projected to pass more than 28,000 homes and businesses. All networks will offer a "quad play" package of traditional telephone service, RF television (currently 239 channels, including HDTV), 5 to 15 Mbps high-speed Internet and security monitoring services.

**LISCO** (www.lisco.com) in Fairfield, Iowa, announced that the first phase of construction of its fiber-to-the-home project would begin in early November. The company intends to bring triple-play services over fiber to all homes and businesses in Fairfield over the next two years. It was the recipient of an RUS loan announced earlier in the year.

**Ridgeville Telephone Company** (www.ridgevilletelephone.com) in Ridgeville, Ohio, will use the Wave7 Optics Trident7 Optical Access Platform, configured for EPON, in a multiyear FTTH project. The first connections to Ridgeville cus-

### Vendor Spotlight

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| Alcatel: | www.alcatel.com |
| Alphion Corporation | www.alphion.com |
| Calient Networks | www.calient.net |
| Embarq: | www.embarq.com |
| Goodman Networks | www.goodmannetworks.com |
| Integra5: | www.integra5.com |
| Mindspeed | www.mindspeed.com |
| Nortel: | www.nortel.com |
| Occam Networks: | www.occamnetworks.com |
| Sumitomo Electric | www.sei.co.jp |
| TANDBERG: | www.tandberg.net |
| Venture Communications | www.venturecomm.net |
| Wave7 Optics: | www.wave7optics.com |

tomers are targeted for later this year. EMBARQ Logistics, the distribution and supply chain arm of EMBARQ CORPORATION, is teaming with Wave7 to deploy the system. A typical residential package will comprise 150 channels of RF television, one or two traditional or VoIP telephone lines, and a data service up to 5 Mbps. IPTV and music channels will be added later. Enterprise customers will enjoy 10/100 Ethernet Base-T, multiple phone lines, VLAN and similar "business class" services.

**Rochester Telephone** (www.rtc1.com) of Rochester, Indiana, one of the earliest telcos to build a fiber-to-the-home network, is introducing IPTV service using TANDBERG Television as its video head-end provider. The company will now be able to deliver triple-play services and high-definition programming to subscribers.

**Shenandoah Telephone** (Shentel, www.shentel.com), an ILEC headquartered in Edinburg, Virginia with a large presence in the mid-Atlantic states, announced that it has selected Wave7 Optics' Trident7 Optical Access Platform, configured for EPON, for new FTTP networks. Shentel will initially deploy the Wave7 Optics equipment for fiber-fed subdivisions within its ILEC serving area to provide telephone service, television and high-speed Internet. Shentel anticipates bringing its first FTTH customers online later this year, and says it sees "tremendous growth in new FTTH opportunities" in its service area.

**Topsham Telephone** in East Corinth, Vermont (802-439-5325), is reported to be planning a fiber-to-the-home network to deliver triple-play services to several towns in the state.

**Venture Communications Cooperative** (www.venturecomm.net) in Highmore, South Dakota is migrating its wireline networks to packet-based infrastructure, using Nortel's Carrier VoIP solution, as part of its plan to implement fiber to the home.

**Goodman Networks** (www.goodmannetworks.com) has announced solutions for carriers that want to deploy triple-play services with upgradeability to BPON and GPON technologies. Goodman's new broadband loop carriers are designed to allow ILECs to retrofit older digital loop carriers to increase telephone line capacities, offer DSL and provide new BPON or GPON triple-play services in legacy outside-plant cabinets. The solutions are intended to help service providers increase revenue per cabinet while having a clear migration path to FTTP triple-play services.

Static patch panels, manual testing and truck-based fault isolation in the fiber plant are costly and do not scale well, but alternatives have been prohibitively expensive for many operators. **Now Calient Networks** (www.calient.net) has released a fiber optic cross-connection system (FOCS) platform providing remote monitoring and troubleshooting that equals or exceeds manual patch panels in terms of cost, reliability and ease of use. The DiamondWave FiberConnect solution is targeted at carriers that are deploying large amounts of new fiber. FiberConnect streamlines and centralizes network operations by enabling:

- Rapid remote test and installation verification of fiber in 10 percent of the normal time.
- Certification of construction, separating fiber construction from service provisioning.
- Automated fiber records management and real-time inventory.
- Automated tap and test.
- Optical layer protection and/or restoration.
- Automated network testing.
- Lights-out, remote site operation.
- Instant fiber reconfiguration.
- Automated optical power monitoring and alarming.

**Mindspeed Technologies** (www.mindspeed.com) and **Sumitomo Electric Industries** (www.sei.co.jp) have collaborated to reduce the costs of fiber to the home. Sumitomo's SXT4240 laser is among the first optical lasers that can be used with Mindspeed's EyeMinder technology, which monitors and compensates for laser aging and temperature effects. Sumitomo's lasers are incorporated into a number of optical devices used in FTTH deployments, including transceivers, diplexers and triplexers. With the EyeMinder technology, the Sumitomo SXT4240 laser operates with a constant extinction ratio and average optical power over its lifetime. By improving laser operation while lowering laser characterization time and expense, EyeMinder technology cuts overall system costs.

Photonics vendor **Alphion Corporation** (www.alphion.com) introduced two new semiconductor optical amplifiers specifically designed for FTTx networks. The QLight 1310nm amplifier is designed to amplify upstream traffic, while the QLight 1490nm amplifier is designed to amplify downstream traffic. The new products, based on the Alphion proprietary QLight photonic technology platform, are available in an industry-standard 14-pin butterfly package. They are independent of both protocol and data rate, and can be used as transmitter power-amps, receiver pre-amps or as in-line amplifiers. According to Alphion, the amplifiers expand the limits of current GPON, EPON and BPON architectures, allowing passive optical networking systems to support more users per node and faster data rates. Amplification also allows customers to consider new PON architectures that further extend the capabilities of FTTx networks. General sampling of these two amplifiers has already started, and production shipments will begin in late 2006.