

EATEL 10 Years Later

EATEL, a family owned and operated telecommunications company in southeastern Louisiana, won a Cornerstone Award at the 2007 Summit for “far-sighted planning plus bold action in delivering FTTH.” Ten years after building one of the first large-scale fiber-to-the-home networks in the United States, an EATEL executive reflects on the changes that have taken place since that time – and what fiber to the home means for his company and customers.

By Harris Miller / EATEL

Ten years ago, the goal for telecommunications companies such as EATEL was to provide triple-play services – telephone, broadband internet and television. Triple play was successful until landline telephones became a thing of the past. Telecoms now provide such services as home security and automation in the residential space and managed and cloud services in the business space as well as connect everyone to the Internet of Things (IoT). But because all the services consumers desire run over the internet, the double play of internet and TV is EATEL’s primary offering these days – along with the assurance and speed of fiber.

Household income is a driver for premium channels and for new services such as home

alarm and automation. Households near the median income tend to order more pay-per-view or video on demand, rather than spending more on higher-priced entertainment such as concerts, frequent dining out and vacations. Needless to say, there’s a much better penetration rate for pay-per-view and video on demand with this market. By contrast, households at the 90th income percentile gravitate toward home security services and higher-speed connectivity to feed home offices and multiple internet-connected devices.

WE STILL CAN’T RUN FIBER EVERYWHERE

In some areas, getting fiber to homes is still cost prohibitive, so upgrading DSL is the best option. For these customers, we’re trying to make the investment in DSL in lieu of laying new fiber. It’s more cost-efficient to upgrade the DSL components on the customer and central office ends rather than run new fiber because new DSL electronics cost a fraction of what running fiber costs. So there is still DSL in the more remote and less dense communities, amounting to between 2 percent and 3 percent of EATEL’s total area.

What we have done there is refresh our technology with new DSL standards, such as

EATEL now delivers fiber-to-the-home services in more than 97 percent of its territory. In the most remote areas, upgrading DSL to the newest standards is a more cost-effective option.

VDSL2+ and G.fast. These standards let us get close to gigabit speeds over copper. We are now able to provide much better experiences for our customers with the same DSL installations by bonding copper pairs together. Line cards and modems must be upgraded, but it's worth the investment. Another reason for upgrading speed is to put IPTV over the DSL, depending upon a customer's distance from the central office.

ANCHOR TENANTS AND NEW DEVELOPMENTS

EATEL currently has 2,000 route miles of fiber in five Louisiana parishes: Ascension, Livingston, East Baton Rouge, Lafourche and Terrebonne. Revenue, cost and competition are still drivers for building fiber. A new method for deciding where to extend fiber is to use the anchor tenant strategy, which focuses on extending the network to businesses and cell towers first.

If we can sell services to an anchor tenant (hospital, hotel, cell tower or large business) near one of our existing fiber routes, we can use that tenant to generate the initial revenue stream needed to underwrite the fiber expansion. Once an anchor tenant is established, we look at the number of businesses that we pass along the way to determine opportunities for further expansion. This helps us estimate the potential success of the network expansion as well as how much to invest in it.

Another change in EATEL's strategy over the last 10 years is the amount of attention we give to developers so we can be involved early in building projects. Building into a new subdivision, where we can work with developers on the front end and understand where the services and the rights-of-way are, reduces deployment costs for us. We have identified some of the local and regional operators that build these developments, and we also have contacts in the real estate industry. We continue to push this grassroots, word-of-mouth campaign.

We have also built relationships with

companies that build multiple-dwelling-unit projects, such as condominiums or apartments. In terms of return on investment, this is a very lucrative opportunity. The cost to serve 100 units in a complex is lower than the cost of serving 100 single-family dwellings.

With some of these MDU properties, EATEL also has the option to be the preferred provider. Even for new developments, EATEL still seeks contractor service agreements with local landscaping companies, plumbers, painters and builders in the event that



An EATEL technician managing fiber

EATEL improved its design and construction process to reduce the costs of laying fiber. For example, it consolidates trunk and distribution fiber into a single hybrid cable.

a buildout or an installation disrupts anything on a residential or business property.

FOLLOWING MOBILE

The last 10 years have brought many more mobile devices. This is a major new factor that influences the pace of fiber rollout. The wireless carriers are anchor tenants for us, so our strategy is to follow them where they deploy cell towers; that way, we can easily build fiber to these towers.

From a demographic perspective, cell towers are located near population centers, and from a residential or commercial perspective, these towers are located near shopping areas – all great targets. Following mobile to the towers is a way to get into these areas. If mobile devices talk to the switching center, it's more attractive for the carrier to use our fiber to backhaul data. What carriers get from us now, as opposed to 10 years ago, is 10 gig service.

Mobile devices have whetted consumers' desire for easy-tap access to all the gadgets and digital services in their lives. But they don't want just access to videos, texts and games. Soon, consumers will need to be connected to the IoT to control their security cameras, car maintenance sensors, refrigerators, vacuum cleaners, lights, lawn sprinklers and thermostats – almost anything that has an on-off switch.

Every appliance, electronic device and machine will be connected via the internet. All those sensors and all that data will need to be computed, channeled and coordinated. The car will talk to the calendar, and the calendar will send a notice to fix the engine so the owner can take that long weekend road trip.

Every home electronic device,

whether for entertainment, security, transportation or cleaning, is going to be connected and communicating – and to fully use this amazing power, consumers will want to control it all with a smartphone and an app. EATEL is positioning to bundle IoT services by offering turnkey managed services that put control into consumers' hands.

On the business side, the cloud-based phone systems and contact centers that integrate with Salesforce.com, for example, also need more bandwidth for voice. The PBX is actually now in the cloud, and that's putting pressure on upload speeds.

People are shifting their computing and storage into the cloud, which works well with a fiber-to-the-home or fiber-to-the-business connection. Utilizing the cloud demands a symmetrical connection. People need to upload their data as fast as they download it. For example, working with Dropbox documents or Microsoft Office 365 is easier with a symmetrical connection.

This is where fiber technology really comes in handy to leapfrog the competitors in the cable space. Right now, cable companies are using asymmetrical connections for high download speeds. They typically offer much lower upload speeds. This is certainly an area where fiber stands out as a better option for homes or businesses.

BURYING FIBER PAYS OFF

As was the case 10 years ago, it's still more expensive to lay fiber underground. However, EATEL decided to put most lines underground anyway. We saved costs associated with power installation and maintenance, and construction was easier than it would have been in most places because

of the area's soft ground. Approximately 70 percent of the buildout was underground, and 30 percent was aerial. Construction crews follow the same routes as cable on poles and then go underground once they come to a neighborhood.

Although digging underground is more expensive, we observed over the last 10 years that the incremental expense paid for itself from a liability perspective. One major direct hit from a hurricane can cause multimillion-dollar damage.

From a reliability perspective, burying the fiber also worked out better over the long run. We put the fiber into a conduit, with the exception of the last drop into the home, so it is better protected than aerial fiber. And because the fiber is glass, burying it does not create the same exposure that burying copper lines does. Groundwater can short out copper, but glass is not a conductor, so water does not harm it.

Labor continues to be among the largest expenses, but we improved our design and construction process to reduce overall cost. We moved to a single duct for distribution of fiber and now utilize "direct bury" for drops. We've also started to consolidate fiber trunk and distribution cables into a single hybrid cable and pushed electronics farther into the field to reduce cable size.

WORKFORCE TRAINING

As we continued the migration from copper to fiber, we consolidated the separate workforces into a single installation and repair team. Early on, when the majority of the network was copper-based, creating a small team of specialized technicians and engineers to handle the initial overbuild was necessary. Now that 98 percent of the network is fiber, the skill sets needed for installation and maintenance of fiber have become standard in the organization.

I think our next specialized workforce will focus on the IoT and home security and automation in the residential space and on managed and cloud services in the business space.

The need to go farther into homes and businesses to connect our customers with technology is driving that change. And beta testing is still conducted with employees and their “friends and families” before bringing new products to market.

Now that the Tier-1 carriers and Google are deploying fiber, consumer awareness of its value and benefits has grown tremendously. EATEL’s fiber-certified technicians are expected to educate customers regarding the full capabilities of the technology. They make sure to optimize all televisions and computers for the new services and to show customers how to use the features. Job descriptions are always being updated to make service personnel, technicians and engineers more tech-savvy and user-friendly.

EATEL’s competitors have not stood still. The majority of our traditional competitors are now adopting some form of FTTH. Whether PON, active Ethernet or RFoG, everyone is moving toward fiber. Some telcos are bringing fiber to the curb, and some MSOs are bringing fiber to the amplifier, to extend the life of the last mile of twisted-pair or coax networks. New technologies such as G.fast, VDSL2+ with vectoring and DOCSIS 3.1 will make these networks very competitive with fiber providers.

More than 20 years ago, EATEL began adding an extra duct for fiber when putting in new phone services. By the time we started building the fiber network, about half our service areas had these extra ducts, and we only had to blow the fiber through them. This prescience paid off for EATEL. With the advent of 4K TV, virtual reality, widespread cloud adoption, and the IoT now here, this fortuitous decision two decades ago put EATEL today into the perfect position to provide all the fun and advantages the digital age can offer. ❖

As EATEL’s executive vice president for technology and innovation, Harris Miller drives the organization’s technology and innovation strategy. Contact him at harris.miller@eatel.com.

EATEL technicians educate customers about the capabilities of FTTH when they install services at the customer premises. They also optimize customer equipment for the new services.

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