

Broadband to Make Key Transitions In 2020

Large incumbent telcos, independent telcos, cable operators and electric cooperatives set bold broadband plans for 2020.

By Sean Buckley / *Broadband Communities*

As the new year begins, **BROADBAND COMMUNITIES** is asking industry colleagues what will drive the broadband industry in 2020.

Leichtman Research Group (LRG) found that 82 percent of all U.S. households get internet service, of which 96 percent is broadband.

Fiber continues to become a significant factor in the broadband race. Market research firm RVA revealed in its North American 2019 Advanced Broadband Report that broadband providers had passed 49.2 million homes with fiber, up 17 percent in 2019.

But a key challenge for wireline broadband operators will be how to stay ahead of the impending 5G threat.



Jeff Heynen
Research Director,
Dell'Oro Group

Jeff Heynen, senior research director for market research firm Dell'Oro Group, says 5G should motivate operators to accelerate their 1 Gbps broadband plans.

“Operators are moving to a world where their fixed broadband offerings will need to be 1-plus gigabit, at a minimum,” Heynen says. “That has been a benchmark threshold for some time, but 2020 is the year it gets delivered and, in some cases, exceeded. The reason is that there is industry pressure on how to differentiate from 5G services.”

FTTH PENETRATION TO RISE

AT&T, CenturyLink and Verizon furthered fiber to the home (FTTH) growth in 2019, a trend that will continue as providers ramp up new builds and increase penetration.

It's hard not to notice fiber's influence on broadband. Consider the fact that in 2002, only 50,000 U.S. homes had access to fiber connectivity.

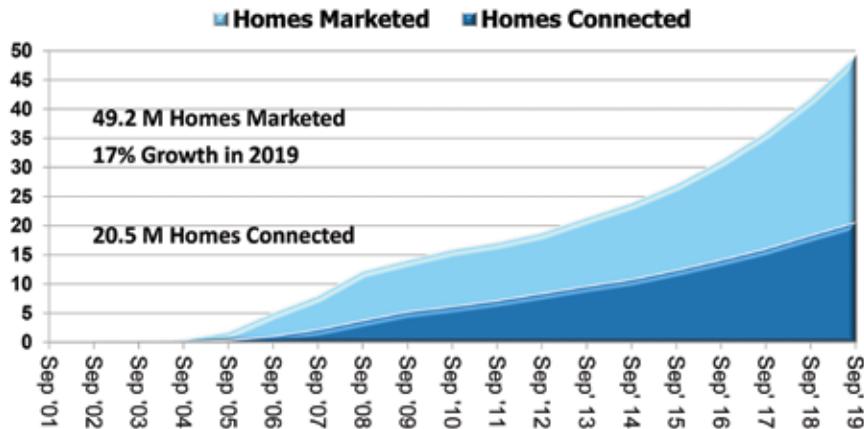
Fiber broadband now passes 46.5 million unique homes in the United States – about 37 percent of total homes – and connects 20.5 million. Unique homes are defined as those with at least one fiber service marketed. RVA said this excludes estimates of redundant services available to the same home.

RVA reports the number of homes passed by fiber has risen 16 percent since 2018. Fiber became available to 6.5 million additional unique homes since the beginning of 2019.

But for all this growth, RVA notes that short-term take rates are declining slightly: There was a 44 percent average take rate based on unique passings and a 66 percent average market share (excluding homes with no home internet).

“The lower take rates are due to new builds, particularly from larger players,” said Michael Render, CEO and founder of RVA, during a webinar presenting the research firm's 2019 FTTH findings. “AT&T is building so quickly that its take rate is below 30 percent and will take time to ramp.”

Fiber Broadband Providers Have Nearly 50 Million Homes Passed In The U.S. RVA Provider Study 2019



From the Fiber Broadband Association's North American 2019 Advanced Broadband Report

Nevertheless, AT&T remains a big player. It gained 318,000 new subscribers, achieving 3.5 percent of third-quarter IP broadband revenue growth.



John Stephens
CFO, AT&T

“Our 300,000-plus AT&T Fiber net adds drove broadband revenue growth,” said John Stephens, CFO of AT&T, during its third-quarter earnings call.

Stephens added that there's plenty of room to expand. “We've got just under 4 million customers on fiber, and we've got about 14 million capable,” he said. “We've got a lot of room to grow.”

Verizon saw FTTH gains, adding 36,000 Fios internet subscribers in the third quarter. As it penetrates existing markets, Verizon is allowing customers to build custom Fios bundles, including purchase an internet-only option.

“Consumer Fios revenue increased by 1.7 percent due primarily to the demand for our broadband offerings,” says Matt Ellis, CFO of Verizon.

SHOULDERING AT&T'S CAPEX EFFECT

AT&T's plans to reduce its overall capital budget to \$20 billion in 2020

and reduce fiber builds could affect the overall U.S. FTTH industry.

AT&T's Stephens told investors during the Wells Fargo TMT Summit that the company still has plans for significant new fiber builds, though at a slower pace.

“When you think about capex going forward, the accelerated fiber-to-the-premises build getting us to 14 million is completed,” he said. “We'll continue to spend money on fiber, but the accelerated build is completed.”

RVA said AT&T's fiber plans means 2020 deployment will be down, but still strong.



Michael Render
CEO and Principal
Analyst, RVA LLC
Market Research and
Consulting

customers from VDSL2 to FTTH will mitigate churn.

“AT&T said they will be more incremental, but they have also had success in securing fiber customers,” he says. “The churn rates where they

have fiber are significantly lower. So, something tells me they will continue to move forward, expanding where they can and overbuilding the VDSL areas.”

AT&T might be capping new builds, but Heynen says CenturyLink and Verizon are expanding their FTTH presence in existing markets.

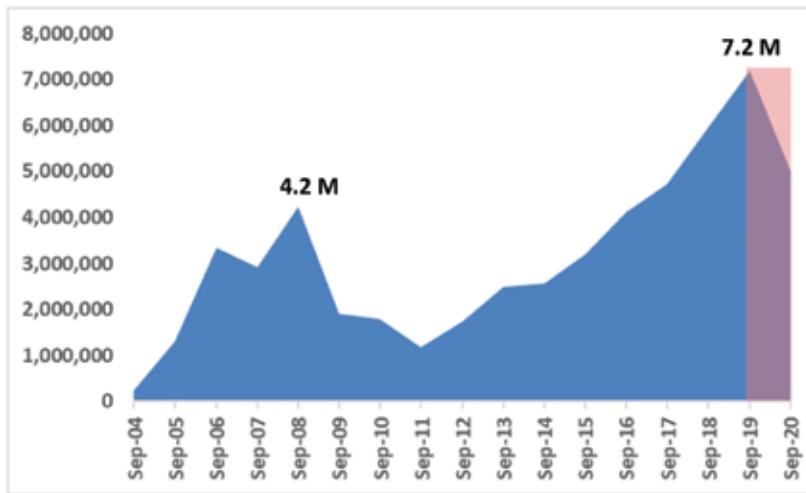
“CenturyLink is another operator that will keep the North American market going as it is building out its GPON and XGS-PON footprint this year,” he says.

CenturyLink has attacked the fiber broadband market on various fronts, expanding availability in existing markets and even outside its own territory. It established a fiber leasing arrangement with Springfield City Utilities to deliver services to Springfield, Missouri, residents (See “Springfield, Missouri, and CenturyLink Expand Fiber Network,” November/December 2019).

The telco also has revamped its MDU broadband focus by adopting a five-technology method: GPON, Wi-Fi, G.hn, G.fast and mmWave wireless. CenturyLink will continue to look for new opportunities to bring GPON-based services to as many buildings as it can reach in its footprint.

Grand Central at the Junction, a 17-acre, mixed-use development in Wentzville, Missouri, selected

2020 Annual U.S. Fiber Broadband Deployment Will Decline Somewhat Annual Homes Marketed (All Years Ending Q3) RVA Provider Study 2019



Due to a dramatic cutback in AT&T fiber deployment, 2020 deployment will almost certainly be down – but still good by historic standards.

From the Fiber Broadband Association's North American 2019 Advanced Broadband Report

CenturyLink's fiber network to deliver symmetrical speeds up to 940 Mbps for residences and businesses (See Property of the Month, page 30).

"Over the next five years, you're going to see CenturyLink maintain our fiber focus," says Dan O'Connell, VP of consumer sales for CenturyLink. "We know that we win when we deliver fiber to the unit and CenturyLink ON."

Verizon also will make ongoing moves to increase FTTH density and expand NG-PON2. Throughout its Northeast footprint, Verizon has been retiring copper facilities and migrating customers to FTTH, according to FCC filings. It said that "fiber's resiliency and reliability, especially in inclement weather, will benefit customers."

In September, Verizon and Calix demonstrated 34 Gbps by using bonded NG-PON2 at Verizon's innovation lab in Waltham, Massachusetts. At that time, Verizon said the bonded transmission technology could satisfy future needs of small and mid-size business customers.

"Verizon continues to expand in its existing serving areas and continues to upgrade OLTs and ONTs," Heynen says. "The NG-PON2 project continues to move forward slowly and will likely increase incrementally in 2020."

SMALLER CARRIERS TO RAMP FIBER

Independent ILECs, CLECs and electric cooperatives, which accounted for 25 percent of new fiber home connections, continue to stretch the investment dollar. In 2019, RVA said smaller providers represented 25 percent of new homes marketed and 41 percent of FTTH capital expenditures.

Cincinnati Bell, Consolidated Communications and Shentel are among many independent ILECs with significant fiber build plans.

Cincinnati Bell, which is being acquired by Brookfield Infrastructure, is expanding its FTTH footprint in Cincinnati and Hawaii. It reaches 60 to 65 percent of homes in Cincinnati with FTTH, as well as 50 percent in Oahu and 35 percent in Hawaii overall.

Leigh Fox, CEO of Cincinnati Bell, told investors during the Wells Fargo TMT Summit that the company is also eyeing markets outside of its ILEC territory.

"We have had business wins that draw in consumer builds," Fox said. "The business win pays for the trunk, and we spur off that into neighborhoods."

Consolidated and Shentel are also hot on the FTTH and broadband trail.

Since it acquired FairPoint, Consolidated upgraded 500,000 residents and small businesses throughout Northern New England, including 1 Gbps services to more than 86,000 New Hampshire locations.

"The real value is in that in close proximity to the FairPoint network, we're able to within 500 feet address the business market and extend into neighborhoods," said Bob Udell, CEO of Consolidated, during its third-quarter earnings call. "We upgraded 110,000 locations and have 50 Mbps or higher speeds available to roughly half of our footprint."

Fellow independent Shentel launched Glo Fiber by extending the existing 6,000 route miles of fiber in its territory. Shentel plans to extend fiber to 60,000 homes. Following 10,000-12,000 in 2019, it plans to build another 30,000-40,000 this year.

"The FTTH initiative is an opportunity to edge out in some adjacent markets where we think we can get a healthy return on our investment," said Dave Heimbach, COO of Shentel, during the UBS Global TMT Conference.

ELECTRIC COOPERATIVES' INFLUENCE WILL RISE

Rural electric cooperatives are driving fiber broadband. About 12 percent have announced fiber builds, and, according to RVA, 111 electric cooperatives in 2019 were building fiber, increasing rural area broadband availability.

"We're seeing very rapid growth in the rural electric co-ops, which is important for rural areas," RVA's Render said.

The timing could not be better. The National Rural Electric Cooperative Association revealed in a fact sheet that 6.3 million households in rural electric cooperative areas lack broadband.

Electric cooperatives will play a key role in the FCC's \$20 billion Rural Digital Opportunity Fund (RDOF) program.

Consider that 35 co-ops won more than \$225 million during the FCC's CAF-II auction. Thirteen individual electric co-ops won bids worth more than \$39 million in 11 states. Separately, the Rural Electric Cooperative Consortium, which is made up of 22 co-ops, won \$186 million in eight states.

CoBank wrote in its 2020 report, *The Year Ahead: Forces That Will Shape the U.S. Rural Economy*, that it expects rural electric cooperatives and wireless ISPs to make a big showing in the RDOF.

"Electric distributors and wireless internet service providers secured a disproportionate amount of funding in the CAF-II reverse auction," CoBank said. "For the RDOF, it's possible we could see a similar outcome."

BUSINESS, PREMIUM SERVICES DRIVE XGS-PON

GPON has been the go-to FTTH platform. By using XGS-PON and other emerging technologies, such as NG-PON2, service providers can deliver 10 Gbps over existing fiber.

Dell'Oro Group revealed XGS-PON optical line terminal (OLT) revenue rose 371 percent year over year. A 371 percent year-over-year increase in XGS-PON OLT revenue and continued growth of XG-PON1 OLT ports and CPE offset continued DSL declines. Further, Dell'Oro said total DSL port shipments plummeted

28 percent year over year, with all technologies showing significant year-over-year declines.

"There are two things that are driving XGS-PON growth: product availability and OLT maturity, plus a pending wave of refreshed ONTs that will be significantly less expensive than current generation devices," Heynen says. "Nearly all the growth came from OLTs, as operators are just rolling out the technology in their networks. That will remain for the next couple of quarters until those new ONTs begin to ship."

Heynen adds that although XGS-PON is accelerating, 2.5 Gbps GPON isn't going anywhere.

"GPON is a mature technology supported by a large vendor ecosystem," he says. "There're plenty of operators still in the early-mid stages of their FTTH deployments, and 2.5 Gbps GPON fits the bill for them and will do so for the next few years."

Initially, next-gen PON – including XGS-PON and 10G EPON – will target business services.

Lumos adopted ADTRAN's 10G fiber-access portfolio to deploy networkwide 10 Gbps fiber service for its business customers, for example. It will offer tiered symmetrical speeds of 2, 4 and 8 Gbps and increase speed profiles on the ADTRAN platform it uses over time.



Julie Kunstler
Principal Analyst,
Ovum

"Symmetrical 10G PON is sufficient to support small enterprises," says Julie Kunstler, principal analyst of wireline/fixed broadband access at Ovum. "Consequently, it is not surprising to see small deployments of 10G PON OLTs, knowing that these deployments are for businesses."

However, EPB and XMission are selling 10G residential services for \$299 per month, and XMission offers a service for \$250 per month.

SMART HOMES, NETWORKING SERVICES CREATE OPPORTUNITIES, EXPECTATIONS

The smart home is an emerging revenue-generating opportunity for broadband providers. Data, research and marketing firm Ovum revealed in its *Smart Home Forecast* that the number of households with installed smart-home devices will grow by 60 percent by 2025, totaling 590 million households and an installed base of 7.7 billion devices. Meanwhile, it forecasts that device and smart-home service revenues will grow by 45 percent, totaling \$153 billion.

However big the opportunity is, the home service environment creates new expectations.

Jeff Heynen, senior research director for market research firm Dell'Oro Group, says that because service providers have an opportunity to use their visibility and control of home networks to reduce troubleshooting calls and avoid truck rolls, the "next step for operators is to figure out how to monetize these capabilities while maintaining their role as a trusted provider."

"Operators will take their cue from consumer electronics companies, including Plume, Amazon and Google, which are all selling subscriptions on top of their routers for parental controls, guest network management, device management, and IoT security," he says. "Operators will have to do the same thing, albeit gradually, so that subscribers don't feel any additional sticker shock. But figuring out the best way to provide a managed Wi-Fi service will be key this year."

Kunstler says several U.S. players offer 10G FTTH as a competitive advantage while others are future proofing their networks.

“A few CSPs are deploying 10G PON CPEs even though they don’t currently offer 10G PON to the home,” she says. “Their strategy is to avoid CPE upgrades when 10G PON to the home becomes a service.”

CABLE’S UPPER HAND THREATENED BY FTTH

Cable continues to outpace telcos in the broadband race, offering up to 1 Gbps downstream speeds in areas where telcos offer only copper-based DSL today. The top cable companies added about 830,000 subscribers in the third quarter of 2019.

Comcast, Charter, Cox and Altice all reported strong third-quarter broadband gains. Comcast and Charter added 379,000 and 380,000 broadband subscribers, respectively. Cox and Altice added 25,000 and 15,000 new broadband subscribers.

Charter now offers minimum speeds

of 200 Mbps in about 60 percent of its footprint.

“We’re gaining share not only in luring legacy DSL subscribers, but also some of AT&T’s U-verse customers,” Tom Rutledge, CEO of Charter, told investors during the company’s third-quarter earnings call. “Some of the previous U-verse speeds look more like DSL as our speeds increase.”

Likewise, Comcast has ramped up its base in the third quarter and expects the trend to continue.

“Broadband will again gain more than 1.3 million net adds for the year, which would be the 14th consecutive year of more than 1 million,” said Mike Cavanagh, CFO of Comcast.

As cable gained, telcos lost about 225,000 subscribers. LRG reported cable has a 67 percent market share and telcos have 33 percent.

Heynen says that although cable has a near-term lead, AT&T’s FTTH effort is a threat.

“AT&T’s fiber expansion will make it harder for cable operators to add subscribers,” he says. “I expect net

cable broadband subscriber additions to be down this year, with AT&T shoring up its VDSL losses with FTTH subscriber gains.”

SMALL CELL SHOWS POTENTIAL

Internet access is driving fiber expansions, and these networks are used for small cell fronthaul and backhaul for upcoming 5G networks.

Take AT&T, which plans to deploy 5G to more than 200 million POPs by the middle of the year. Additionally, the provider is increasing its on-net business fiber footprint.

“The reason fiber works differently for us is I can use it three times,” AT&T’s Stephens said. “I can use it for my consumers, I can use it for my business customers, and I can use it for wireless backhaul.”

Likewise, Verizon sees fiber as part of its 5G wireless strategy. After signing purchase deals with Corning and Prysmian in 2017, Verizon deploys 1,400 to 1,500 route miles per month. In October 2019, it built a record 1,900 route miles. Although Verizon works with third-party wholesale providers, it prefers to build or acquire fiber assets.

“When we pursue our fiber build on a market-by-market basis, we’re looking for the sweet spot that allows us to leverage our owner’s economics,” said Adam Koeppel, senior vice president of network strategy and planning for Verizon, during the Wells Fargo TMT Summit 2019 conference. “When we look at the 4G and 5G node expectations, we can calculate what it would cost to use a third party in a market to launch 5G or increase 4G density.”

RVA noted that overall fiber deployment, driven by new deployments to homes, cable operator upgrades, and small cells, is at record levels with 400,000 route miles in the United States.

“Small cell deployment is picking up,” Render said. “While FTTH will be down, overall fiber growth will be tempered by an increasing number of small cell builds.” ❖

Sean Buckley is the associate editor of BROADBAND COMMUNITIES. He can be reached at sean@bbcmag.com.

INVESTORS WILL SEEK REGIONAL FIBER, CABLE PROVIDER M&A TARGETS

As many large fiber providers have been acquired, investors are targeting regional fiber and cable operators.

CoBank wrote in its November 2019 report that investors are looking at smaller regional/rural operators with strong cash flows, fiber assets, and attractive organic growth prospects.

“The most interested and active buyers include infrastructure funds, private equity sponsors and strategic buyers,” the report said. Recent purchases made by Grain Management and Cable One are examples of this trend.

Grain Management purchased ILEC Ritter Communications in the mid-South, Summit Broadband in Florida and Oregon-based fiber provider Hunter Communications. Meanwhile, Cable One added 114,000 residential and 20,000 business customers by acquiring Fidelity Communications.

But the biggest deal came in December when Brookfield Infrastructure announced its \$2.6 billion acquisition of Cincinnati Bell.

Leigh Fox, president and CEO of Cincinnati Bell, said Brookfield will give it the financial backing to expand its 17,000-mile metro and last-mile fiber networks in Cincinnati, Hawaii, Ohio, Kentucky and Indiana.

“With Brookfield Infrastructure’s support, we will be better positioned to deliver next-generation, integrated communications for our customers through an expanded fiber network in Hawaii, Ohio, Kentucky, and Indiana and across the nation,” he said.