

# 3 Million Sign Up for FTTH

The latest tally from Mike Render showed 2.9 million households subscribing to FTTH by April 1; almost a third are being served by independents and over half take video. We've since topped 3 million.

By Steven S. Ross ■ *Broadband Properties*

Fiber continued to advance on all fronts in North America, continuing triple-digit year-over-year growth rates despite a weakening economy. At some point soon, the sheer number of fibered homes will be so large that the growth rate will have to slow, even as the number added each month grows in absolute (not percentage) terms – but that hasn't happened yet.

The United States is the world's fastest growing major FTTH market, on a per-

centage basis. But Japan, with four times the number of FTTH subscriber homes, is growing faster on an absolute basis.

Michael Render of RVA Associates, which tracks the numbers for the Fiber to the Home Council and for a massive multiclient market research report, said in April that the number of FTTH subscribers had reached more than 2.9 million by the end of March 2008. That's more than double the 1.4 million of March 2007. Of those, about 2 mil-

lion were served by Verizon and about 100,000 others – almost entirely in greenfield builds – by AT&T or (rarely) by Qwest.

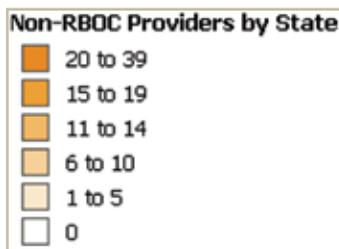
Render gathers data from service providers (all the large ones, and a sampling of the almost 600 smaller ones), equipment vendors, and a poll of 100,000 households. His full reports, invaluable to providers considering FTTH, may be purchased at [www.rvallc.com](http://www.rvallc.com).

In the six months since last September's data reading, the number of North American FTTH subscribers grew at a rate of almost 130,000 a month. At that rate, the total probably exceeded 3 million subscribers in April, and stands at approximately 3.2 million now. Almost all of that growth is in the United States, and much of it is in the Verizon footprint – mainly the Northeastern and Middle Atlantic States, Texas, and California. In North America outside of the U.S., only 0.1 percent of homes are connected with fiber.

## FAR MORE THAN VERIZON

Smaller providers – mainly Tier-2 and especially Tier-3 incumbent local exchange carriers – are keeping pace with regard to subscribers; 833,000 of the FTTH subscribers are served by carriers other than an RBOC.

The smaller providers are not passing homes at Verizon's rapid pace. But



In this map, darker shading corresponds to more non-RBOC fiber providers; Iowa has the most (39) followed by Texas and Minnesota (about 30 each). In the Northeast, Verizon dominates, so there are few non-RBOC FTTH builds. In the Midwest, where often-anemic economic growth is a problem, many munis have been spurred to action. In California (11) and Texas, the non-contiguous nature of Verizon's footprint and the sheer population size has been accommodating to non-RBOC providers that fear Verizon competition.

*Verizon dominates the deployment totals, but 600 other providers have 833,000 FTTH customers.*

Most new broadband and video customers that Verizon wins must be taken from other providers. And those providers are hardly standing still. They fight back by promising more video on demand, more bandwidth and lower prices. They also muddy the waters by comparing their download speed only to Verizon's older DSL service, or by saying they have fiber networks, too. Except in a handful of experimental greenfield builds, however, cable providers' "fiber" runs only to a DOCSIS node that serves as many as 500 customers with coax connections to the home.

The mechanics of take rate (in the sense that the broadband industry calculates it, ratio of subscribers to homes marketed) are also working against Verizon. There's often a delay between the time Verizon passes a home and the time it can start marketing, either due to the need to obtain a local video franchise, or because the network builders work so fast. The delays have been getting smaller, thanks in part to statewide franchising laws in about 80 percent of Verizon's footprint.

Indeed, while the number of FTTH subscribers was doubling in the months since March 2007, the number of homes passed went from 8 million to 11.7 million – a growth rate just under 50 percent.

Non-RBOCs accounted for more than half the growth in homes passed until spring 2006; now Verizon accounts for close to 90 percent of homes passed – more than 10 million. Only one state (Rhode Island) lacks a non-RBOC provider of FTTH, however.

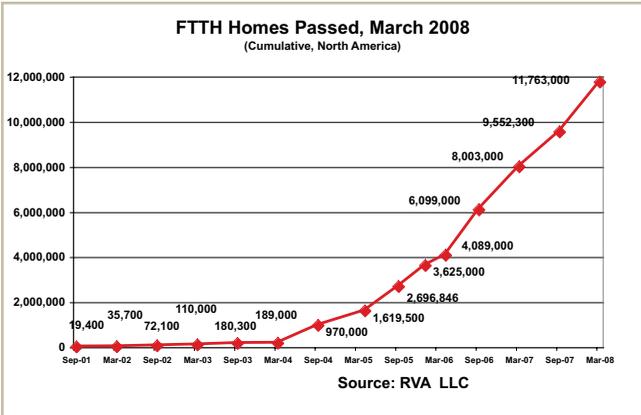
**ISSUES IN THE BROADER ECONOMY**

The reason: Economic forces have not fallen evenly upon different segments of the industry. Smaller ILECs have continued to build out their own incumbency areas. In fact, the number of announced projects has been increasing, and 41 percent of ILECs that are not currently deploying fiber today say they are likely to do so in the next five years.

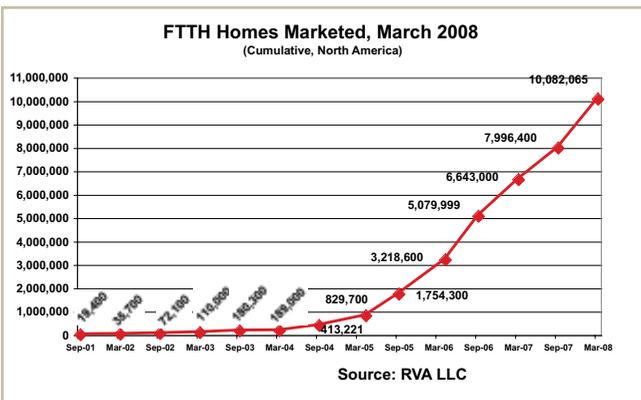
But the drastic reduction in new homebuilding has slashed opportunities for greenfield networks. FTTH is the obvious choice for greenfields, at about the same capital cost as copper for a technology that delivers vastly more bandwidth and that boasts a far lower operating expense.

"Traditional" CLECs (competitive local exchange carriers), often divisions of Tier-2 and Tier-3 ILECs, are responsible for about 4 percent of all FTTH subscribers in the March 2008 survey.

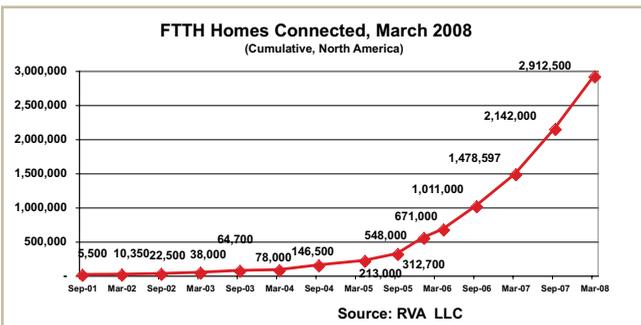
Network providers that specialize in greenfield builds, either as official CLECs or as "amenity providers," have continued to grow their operations, but more slowly than they had projected a year ago. The fact that there is any growth at all may speak to the extra boost that fiber brings to new subdivisions' sales, compared to dwelling units served only by copper. In fact, Render found that fiber to the home was being de-



The number of homes passed by fiber in March 2008 was 50 percent above March 2007. It tripled from April 2005 to September 2006, and then almost doubled again by September 2007. Non-RBOCs accounted for more than half the growth until spring 2006; now Verizon accounts for about 80 percent of homes passed.

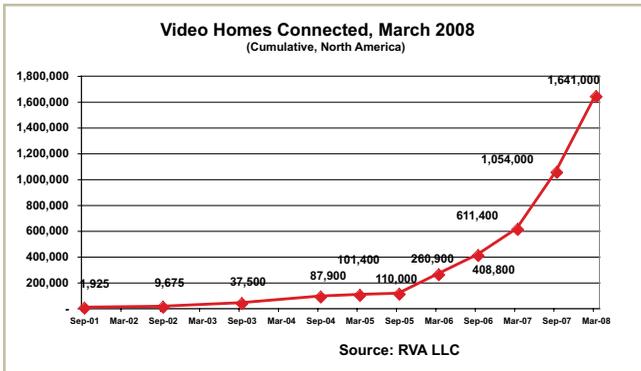


Homes marketed increased 60 percent in the past year, faster than homes passed. This suggests that fiber network builders are catching up to the builds.

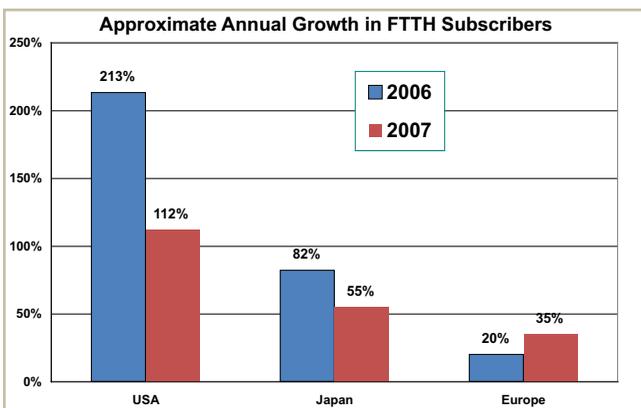


The rate of homes connected is now 25 percent of those passed, up from 22 percent a year ago.

because ILECs are often overbuilding themselves – upgrading existing customers – or cherrypicking enticing markets outside their incumbent areas, their take rates are averaging over 50 percent. That's double Verizon's take rate.



The number of FTTH video homes connected jumped about 60 percent in the six months ending March 2008 and is almost triple the number of a year ago.



The United States is still the world's fastest growing major FTTH market, on a percentage basis. But Japan, with four times the number of FTTH subscriber homes, is growing faster on an absolute basis. Europe is beginning to stir, thanks mainly to growth in just a few countries.

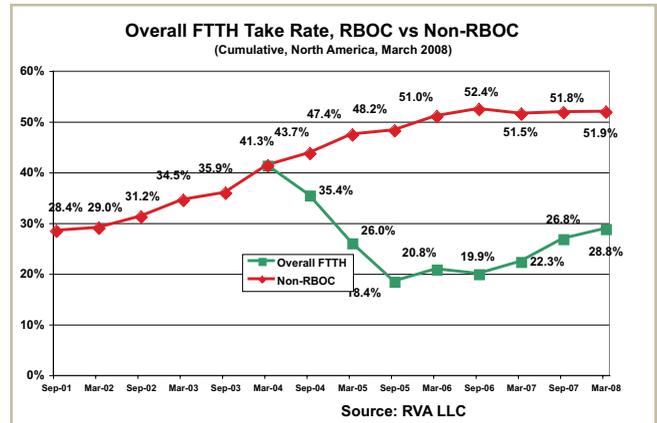
ployed in 80 percent of new master-planned communities and a growing number of smaller developments.

One bright spot: Lower interest rates, combined with the need to compete for new jobs in a stagnant economy, have increased municipalities' interest in building FTTH networks.

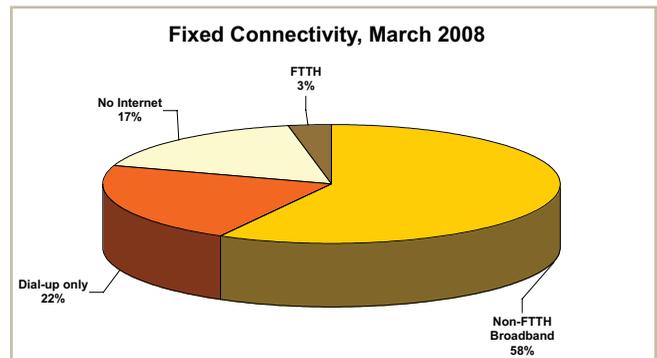
## TECHNOLOGY ADVANCES

Another bright spot: Fiber vendors have come up with new approaches for adding fiber to existing multiple-dwelling units, and for serving greenfields without incurring super-high costs up-front, before a subdivision builds out or all the units in an MDU are sold. The approaches include bend-tolerant fiber, clever distribution schemes and network configurations, and even shifts in network technology.

*Among non-RBOC providers, there has been renewed interest in point-to-point network topologies.*



Non-RBOC take rates (homes buying services versus those marketed) continue to rise. But the RBOCs, mainly Verizon, were just beginning to market video services two years ago; their take rate has been improving ever since. Also, non-RBOC, non-muni deployments are often greenfield, where take rates, as would be expected, are highest (often 75 percent or more). Greenfields raise the overall average.



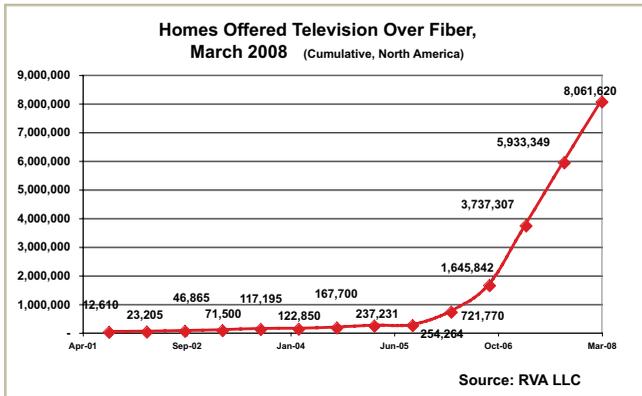
Three-quarters of all Americans have Internet access at home, a figure that hasn't changed in the past year. But the percentage with a broadband connection improved greatly, from 43 to 52. This figure is less than that reported by the FCC, which until recently considered 200 Kbps as "broadband."

Among non-RBOC providers, for instance, there has been renewed interest in point-to-point network topologies. The network geometry – no need to add poorly populated splitter cabinets that would sit underutilized while customers materialized slowly – is more compelling in a stagnant economy. What's more, GPON's huge advantage in big metro areas – lower-cost, more compact central-office layouts that use less power – is not as important in rural builds.

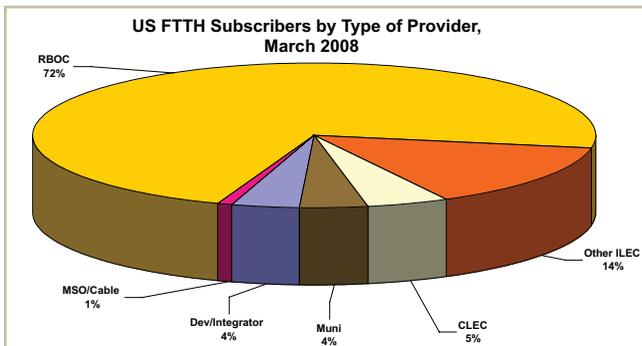
Add it all up, and fiber is doing well indeed. Homes marketed increased from 6.6 million a year ago to 10.1 million, more than 60 percent. That's faster than homes passed. Thus, more than eight out of ten homes passed are being marketed.

Take rates are increasing despite the fast growth of homes marketed. The ratio of subscribers to homes marketed is close-

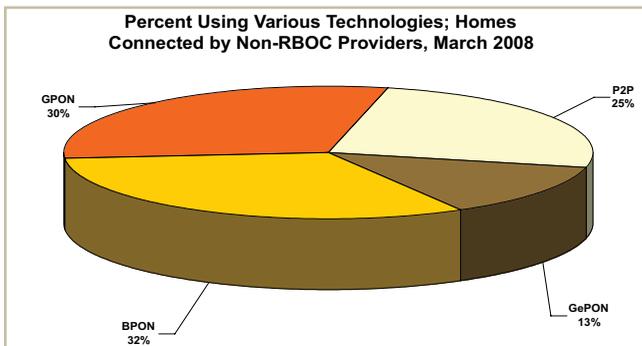
**5.8% of homes in Verizon or Tier 3 ILEC areas have FTTH; in areas covered by AT&T, Qwest, or Tier 2s (two thirds of US households), only 0.6% have it.**



**As of late March, more than 8 million homes were being offered video over FTTH – more than double the number of a year ago.**



**Verizon and other RBOCs are responsible for more than 70 percent of FTTH subscribers, but LECs have almost 20 percent of the market as well. Municipal systems account for less than 5 percent.**



**GPON is the dominant FTTH technology in North America, thanks to Verizon, but non-RBOC providers often use other approaches.**

ing in on 30 percent. A measure more closely watched by Wall Street, the rate of homes connected, is now 25 percent of those passed, up from 22 percent a year ago.

**VIDEO**

Video subscribership is expanding as well. The number of FTTH video homes connected stood at more than 1.6 million at the end of March. That’s an increase of 1 million in the past

year. In fact, video-over-FTTH subscribership jumped about 60 percent just in the six months since last September.

This number seems destined to rise; about 8 million homes were being offered video over FTTH in March – about 80 percent of homes marketed but only a bit more than two thirds of homes passed. Overall, about 10 percent of all American households are passed by fiber – enough to make it abundantly clear that the technology will become dominant in the decade ahead.

**TRENDS**

Three quarters of all Americans have Internet access at home. That proportion didn’t change much in the past year. But the percentage with a broadband connection improved greatly, to 52 from 43. Of the 60 million American households subscribing to broadband Internet, one in 20 now does it with FTTH.

FTTH reliability and bandwidth contribute to very high satisfaction rates. Confirming Render’s data, Verizon is reporting only a 1.5 percent monthly churn in FiOS accounts. That’s roughly the rate at which people change addresses in the United States – once every five years. Tier-2 and Tier-3 LECs have been reporting even lower fiber churn rates in their incumbency areas – anecdotally, around 1 percent. This reflects the longer times rural residents spend at one address, the relative lack of competition, and maybe the relative magnitude of fiber-enabled improvements in bandwidth that occur in rural settings.

But Render’s consumer interviews showed that many subscribers are confused about whether they actually have fiber to the home, and about the potential of fiber to deliver new and better services. “There hasn’t been much of a marketing push to promote the idea that fiber to the home is unique and different,” he points out. “Opinion leaders are aware and enthusiastic, but not most consumers.”

There is still a lot of work to do: In areas covered by Verizon or Tier 3 ILECs (about a third of all US households), 5.8 percent of homes are already directly connected with fiber – almost entirely by telcos, but some cable-company and other competition has begun, says Render.

In areas covered by AT&T, Qwest, or Tier 2 ILECs (about two thirds of US households), only 0.6 percent of homes are directly connected with fiber. Most of the fiber in these areas comes from competitive providers, such as facilities-based CLECs and municipal utilities, though telcos are connecting some new homes. **BBP**

**About the Author**

*Editor-in-Chief Steve Ross can be reached at [steve@broadbandproperties.com](mailto:steve@broadbandproperties.com).*