

Over 2 Million Connections! FTTH Customer Total Doubles Again

Another year, another massive increase for FTTH in North America, says Mike Render. Perhaps more amazing: Almost 10 million homes passed.

By Steven S. Ross ■ *Editor-in-Chief*

Despite the real estate slowdown, the 12 months ending this past September were strong for fiber to the home. Data released at the Orlando FTTH Council conference by Michael Render of RVA Market Research showed strength across the board:

- FTTH customers in North America: 2.14 million, with some dissension (see box)
- FTTH homes passed: at least 9.55 million
- Steady take rates

Render's study, funded by the Fiber-to-the-Home Council and by the Telecommunications Industry Association, is based on a detailed survey of vendors, industry experts and network builders, and a poll of consumers.

The figures include some instances of "fiber to the basement" in multifamily buildings. But they do not include fiber-to-the-node or fiber-to-the-curb builds, mainly by AT&T.

Assuming the 2.14 million connections, the North American (mainly US) FTTH customer base – homes connected – grew 112 percent since September 2006, when there were 1.01 million customers connected to the Internet through a direct fiber link. Thus the US remains the world's fastest-growing major FTTH market, on a percentage basis. But Japan, with over 10 million

FTTH subscriber homes, is growing faster on an absolute basis.

Look at Japan

Japan's experience could presage North America's. In Japan, DSL connections have been declining for the past 18 months as fiber reaches DSL customers. Cable has never been popular in Japan as a broadband substitute; fewer than 4 million of Japan's 30 million broadband customers are connected through their cable systems. The number of cable broadband subscribers has remained about the same in Japan for the past two years.

Remarkably, growth in FTTH builds has been sustained on an ever-expanding base, with homes passed increasing from 6 million since September 2006. Before that, the number of homes passed by fiber more than tripled from April 2005 to September 2006.

As this issue went to press, homes passed by fiber in North America almost certainly pushed above 10 million (almost 2 million of which are in greenfields). That's almost 10 percent of all households, a figure that will rise next year by at least the same 4 million as this year, Render said. Verizon alone

says it plans to pass another 8 million homes in the next three years, as it finishes the buildout of its customer footprint. (Indeed, Verizon is already accounting for two-thirds of all

FTTH connections in North America and more than 80 percent of homes being passed by fiber. Its proportion of homes being passed has grown only recently – non-RBOC builders accounted for more than half of the growth in homes passed as recently as spring 2006.

MDUs attract young households, often young professionals – and the young are massive users of the bandwidth that only fiber can provide reliably.

Europe is beginning to stir, thanks mainly to growth in just a few countries – or even just a few cities. Major builds in Vienna, Amsterdam, Paris and Berlin are accounting for much of the European FTTH growth outside of Scandinavia and the Netherlands.

**Comprehensive Coverage
Orlando FTTH Council Conference
Coming in our December issue**

“While annual growth in the number of connections has doubled for the past two years, we expect to see a further increase in the growth rate as more as more high-bandwidth applications come to market and as more major service providers begin offering fiber to the home,” Render said.

Marketing by fiber network builders is keeping pace with the builds. Despite the acceleration in homes passed, more than eight out of ten homes passed are now being marketed. The number of homes marketed increased about 60 percent in the past year (from a base of 5 million), about as fast as homes passed. Until recently, homes marketed had been increasing at a faster rate than homes passed as network builders caught up with the backlog. Homes marketed had more than tripled in the 12 months ending September 2006.

The rate of homes connected is now 22 percent of those passed, up substantially from a year ago and almost double the rate of 2005. For most of 2005, the rate was about 12 percent of homes passed. Render noted that “Verizon began its FiOS build before it had completed its marketing plans, and still cannot usually market video until it has finished a build in an entire municipality [franchise area].”

The “take rate” for fiber-to-the-home services – that is, number of subscribers as a percentage of households that are offered the service – is also rising. The industry’s overall take rate rose from 22.3 percent to 26.8 percent in the most recent six-month period. The take rate among non-Verizon FTTH providers (Render found 369 of them; up from 341 in April) is nearly 52 percent and some individual projects have take rates well above this. Aside from Verizon, builders average 1900 FTTH subscribers each.

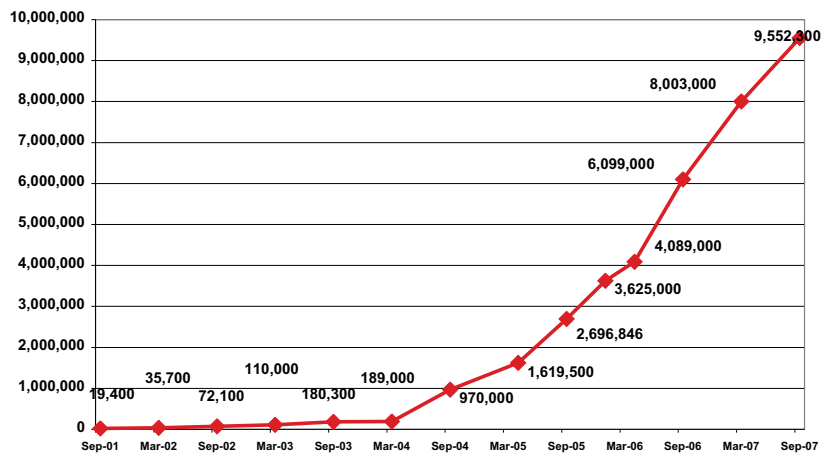
“We’re continuing to see small and medium-sized telephone companies, cable television companies, municipalities and public electric utilities get into the FTTH game and be highly successful at it,” said Joe Savage, president of the FTTH Council. Render said the cable companies dabbling in fiber are doing so in fewer than 20 builds, all greenfields.

Network Builder Mix Is Changing

The take rate number has always included some system overbuilds – typically by small, rural telcos – that are recorded as 100 percent or close to it.

This happens because the customer base stays about the same. Only the way the customers are served changes. It has also included “amenity providers” such as Zoomy Communications and Connexion Technologies that do “bulk agree-

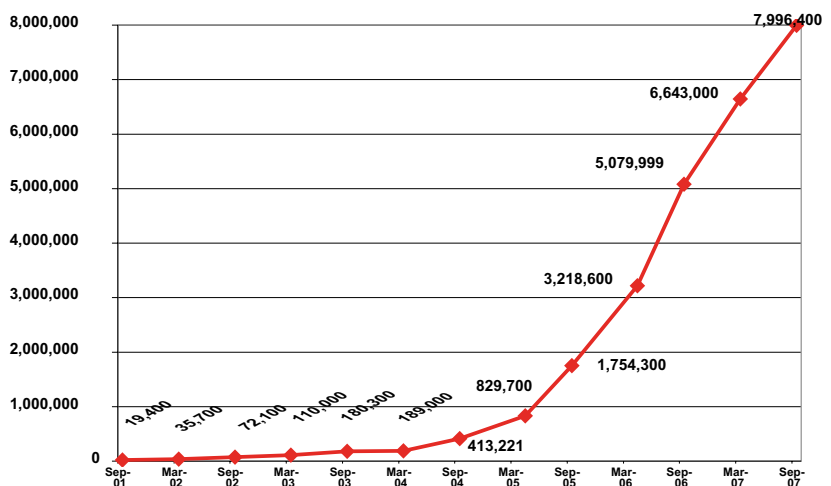
FTTH Homes Passed, September 2007
(Cumulative, North America)



Source: RVA LLC

Growth in FTTH builds has been sustained. The number of homes passed by fiber more than 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 more than 80 percent of homes passed.

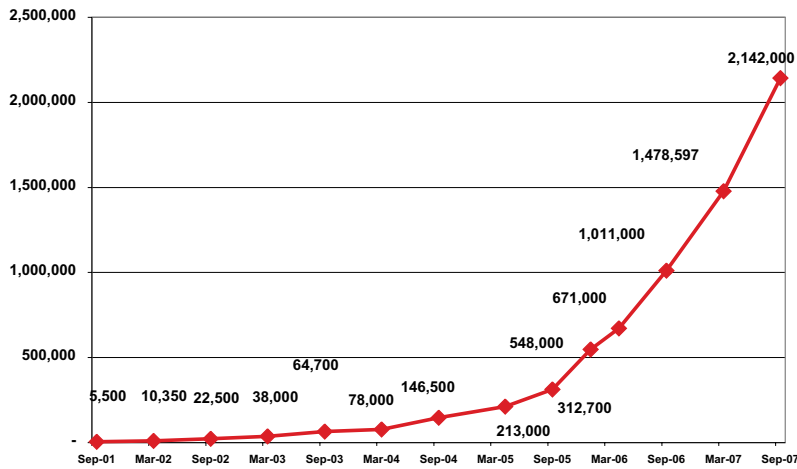
FTTH Homes Marketed, September 2007
(Cumulative, North America)



Source: RVA LLC

Homes marketed increased about 60 percent in the past year, about as fast as homes passed. This suggests that marketing by fiber network builders is keeping pace with builds; until now, homes marketed had been increasing at a faster rate than did homes passed, more than tripling in the 12 months ending September 2006. Now, despite the acceleration in homes passed, more than eight out of ten are being marketed.

FTTH Homes Connected, September 2007
(Cumulative, North America)



Source: RVA LLC

The rate of homes connected is now 22 percent of those passed, up substantially from a year ago. For most of 2005, however, the rate was even lower, about 12 percent of homes passed.

ments” with developers or homeowner associations, typically in greenfields. By definition, their take rate is 100 percent.

This particular sector of the FTTH market has been growing, and that growth has helped drive the take rate growth, but the effect is still small and the proportion of municipalities, which also tend to have high take rates, has been dropping. That is, they are not building networks as fast as the private sector these days. That also was expected;

municipal governments tend to build only when the private sector does not move fast enough to meet their actual or perceived needs. As private-sector builds have increased, fewer municipalities feel the need to build. Higher interest rates have also dented some municipal plans.

The provider mix in greenfields has been changing as well. Last year, RBOCs and other telcos handled almost half of the builds (the RBOCs alone handled about a third), and developers or CLECs

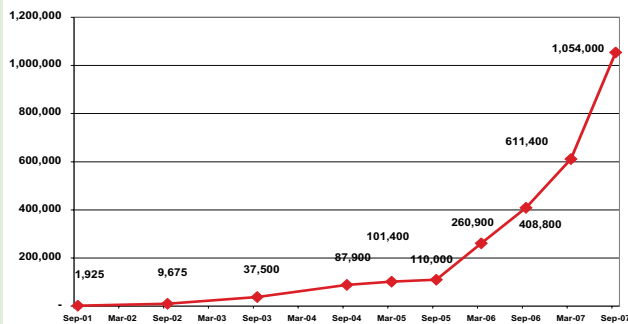
(alone or in partnership with each other) handled over 40 percent. The “other” category, which includes many of the so-called amenity providers (some of whom are CLECs), was at about 9 percent. Now, the proportion handled by amenity providers has evidently grown. RVA follows the numbers for its detailed industry reports, but did not release them at the FTTH Conference.

Render estimates that 43 percent of single-family homes in brand-new developments (those started in 2007) will have FTTH, compared with 22 percent of new homes overall. This will rise to 75 percent for tract homes in 2011 and 58 percent for all new single-family homes, Render said. But in master-planned communities, FTTH is far more common – already 67 percent this year, with 96 percent expected by 2011.

MDUs have lagged in this regard; only about 15 percent of new MDUs completed in 2007 are likely to have FTTH or FTTB installed; this will rise to 70 percent by 2011, Render said. Again, details are in his complete report. But he did note that MDUs attract young households, often young professionals – and that the young are massive users of the bandwidth that only fiber can provide reliably.

Render said, however, that the predictions through 2011 are easy to make “because new planned communities and the majority of new, large MDUs

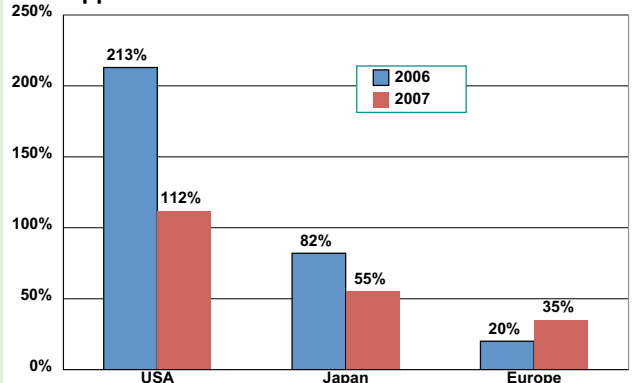
Video Homes Connected, September 2007
(Cumulative, North America)



Source: RVA LLC

FTTH video customers increased about 150 percent in the past year. Much of the growth came since spring. Almost three out of every four video customers are using FiOS, which added about as many FTTH customers this summer as existed a year ago.

Approximate Annual Growth in FTTH Subscribers



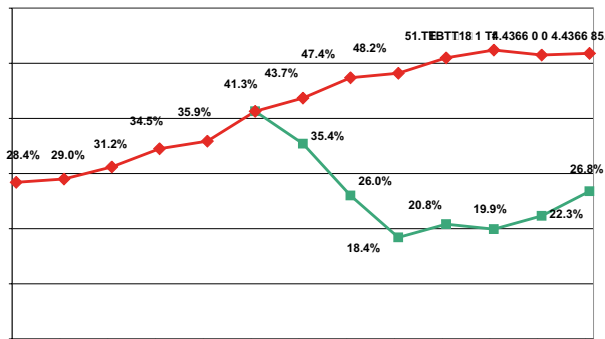
The United States is still the world’s fastest-growing major FTTH market, on a percentage basis. But Japan, with five times the number of FTTH subscriber homes, is growing faster on an absolute basis. Europe is beginning to stir, thanks mainly to growth in just a few countries.

announced this year are planning for fiber. If they are breaking ground today on a new master-planned community, two-thirds will be FTTH." Developments started years ago, but still building out in a slow real estate market, are less likely to have fiber, and less likely to install it in midstream. So they bring the overall average down. "Older developments that started with copper stay with copper," he said.

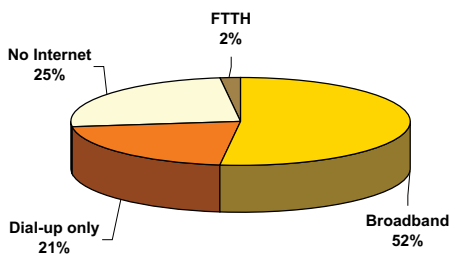
Another drag on the numbers is that smaller developments, "below 40 units, or infill developments in urban areas," said Render, tend not to have developer-provided fiber, although they may be overbuilt by incumbents or CLECs. This is why a higher proportion of tract homes sold now have fiber, compared to infill housing.

Render said he does not think the

Overall FTTH Take Rate, RBOC vs Non-RBOC
(Cumulative, North America, September 2007)



Fixed Connectivity, Sept. 2007



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 RVA total is less than reported by the FCC, which considers 200 Kbps as "broadband."

It doesn't do much good to sign up subscribers if they don't stay, but FTTH subscribers seem satisfied. BBP has been reporting Verizon churn numbers – about 1.5 percent a month, which is about the rate at which American families change addresses. We have also noted that rural telcos often tell us they see churn as low as 1 percent – rural residents move less often than the national average. Render confirms that he hears these figures, too, but that he has not studied the issue in detail.

What he has studied is consumer satisfaction. Render says 89 percent of actual FTTH users describe themselves as at least satisfied, 60 percent as very satisfied. The 89 percent for fiber compares well to 66 percent for cable modem, 60 percent for DSL, and 30 percent for dialup.

Why are only 89 percent satisfied? "They want to pay less," Render said. But, he added, "FTTH is driving

Developments that were started years ago, but are still building out in a slow real estate market, are less likely to have fiber, and less likely to install it in midstream. So they bring the overall average down.

[broadband and video] prices down for consumers,” and “increasing electronics purchases – additional computers, HDTV, and networking – because they have fiber....Use of personal video conferencing is up to over 6 percent of the sample, and 40 percent had two or more HD devices, 15 percent said three or more.... FTTH users report one extra

day per month working at home after getting fiber; 27 percent of FTTH users work from home, and 10 percent have a home-based business.”

Render says the FTTH bandwidth advantage is real. “People tested their real download speed; it was 5 Mbps six months ago for FTTH, versus 1.9 Mbps for other kinds of broadband.”

Also, Render noted, “16 percent were at over 10 Mbps six months ago. Twenty percent of fiber users were downloading movies, 17 percent were gaming.

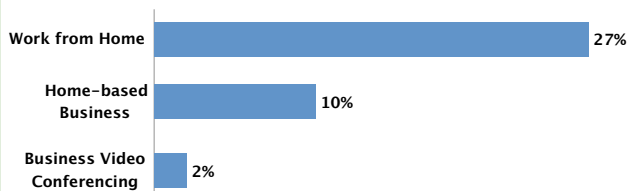
“We can make money from FTTH, it is not a boom-and-bust market. The dynamics are that there are not a lot of people competing for any one segment. It is also something we can believe in – that the bandwidth is great for society,” said Render. He noted energy savings, job creation, and positive social changes as well.

Something we can believe in – and the market doubles every year! **BBP**

About the Author

Steve can be reached at steve@broadbandproperties.com. See www.rvallc.com/ftth_subpage2.aspx for information on the Render report.

FTTH Business Use from Home (Source: RVA LLC, 2007)



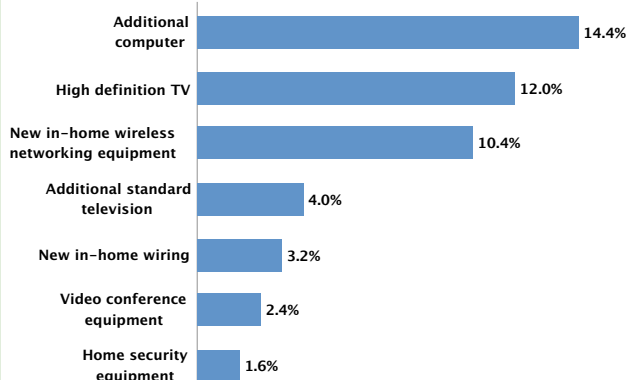
Working from home for an employer, using fiber broadband, is still almost three times as common as running a home-based business.

Competitive Reaction to Availability of FTTH (Source: RVA LLC, 2007)



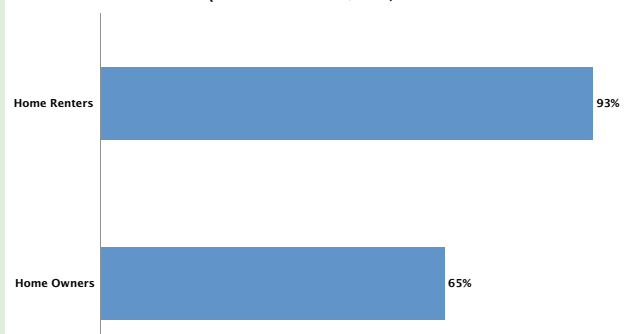
FTTH stimulates competition and often results in price cuts for broadband services.

FTTH Influenced Customer Electronics Purchases (Source: RVA LLC, 2007)



FTTH stimulates purchases of electronic appliances, most notably computers, networking gear and HD televisions.

Perceived Importance of FTTH Availability to Home Rent or Buy Decision (Source: RVA LLC, 2007)



Fiber may not be the most important amenity builders and rental operators can offer, but it is clearly moving up, especially for renters. The renter sample is small, but the results are striking enough to be significant, although perhaps not as high as indicated.