656 Systems in 46 States

Fiber Systems Triple in a Year

Verizon and independent telcos lead, adding more than 80 percent of new systems

By Steven S. Ross ■ *Editor-in-Chief*

Pushed by strong construction programs by local independent telcos and by RBOCs (especially Verizon), the number of communities with customers actively being served by Fiber to the Home more than tripled in the past year, to 656 as of this September. At this time last year, there were 217.

The average community size served by fiber also kept pace. Thus, the number of homes passed by fiber almost doubled in the six months from October 2004 to April 2005, from 970,000 to 1.6 million, and then jumped another 1.1 million by September.

While Verizon was by far the biggest single player – responsible for more than 80 of the new deployments since spring, including many of the largest – the activity clearly goes far beyond any one company's approach to FTTH.

The other two RBOCs active in fiber systems are SBC and BellSouth. SBC, which builds FTTH in greenfield situations and Fiber-to-the-Node or neighborhood elsewhere, and BellSouth (mainly Fiber to the Curb) are being overshadowed in FTTH by scores of independent telcos, building either as ILECs (Incumbent Local Exchange Carriers) or going beyond their traditional service areas, typically to add nearby customers as CLECs (Competitive Local Exchange Carriers).

The reward: Take rates (defined as customers taking any one service even where the offering might include video, data, phone and more) averaging 65 percent in "noncompetitive" overbuild areas, and 33% in areas where non-fiber broadband services (typically provided by cable operators) already exist.

The data come from the most recent semi-annual report compiled by Michael Render at RVA (Render, Vanderslice & Associates). It was aired at the FTTH Council annual meeting and exposition in Las Vegas last month.

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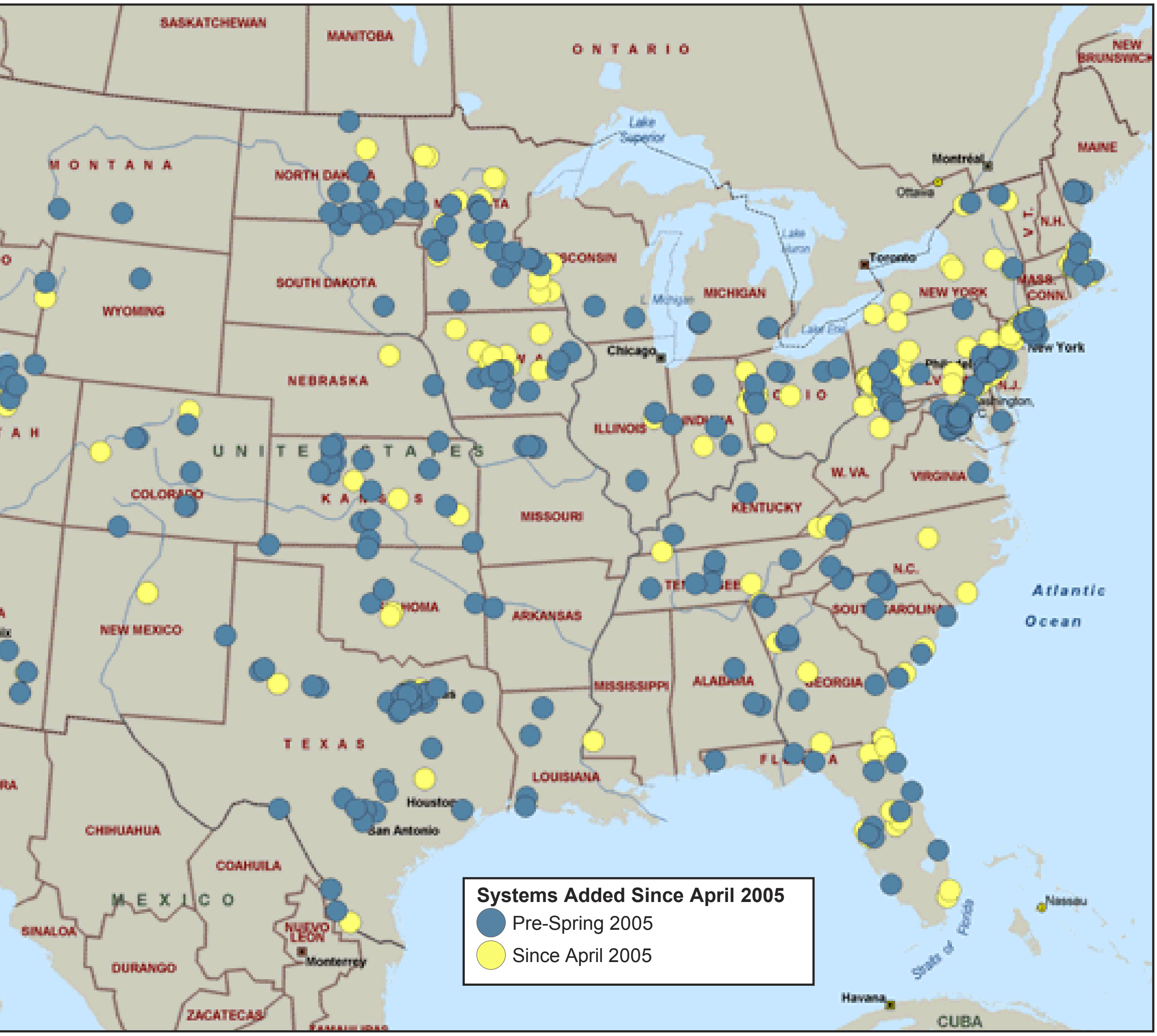
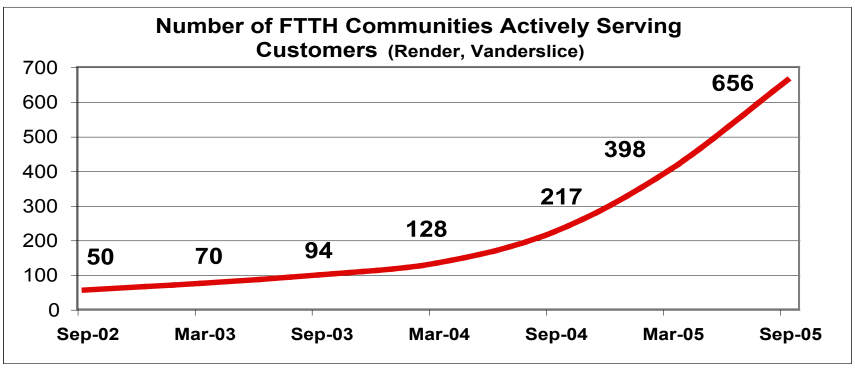


Regions with older fiber systems tended to attract new ones. Note the large number of new systems in the 200-mile-long New York City to Washington DC corridor, and in Pennsylvania.

Community-Wide

The biggest growth over the past 18 months has been in community-wide fiber deployments; whether financed by municipalities or by ILECs and CLECs. These deployments increased more than four-fold in that period, and almost doubled in the last six months alone. At this time last year, developments (mainly greenfield) were ahead. But community-wide projects took a narrow lead



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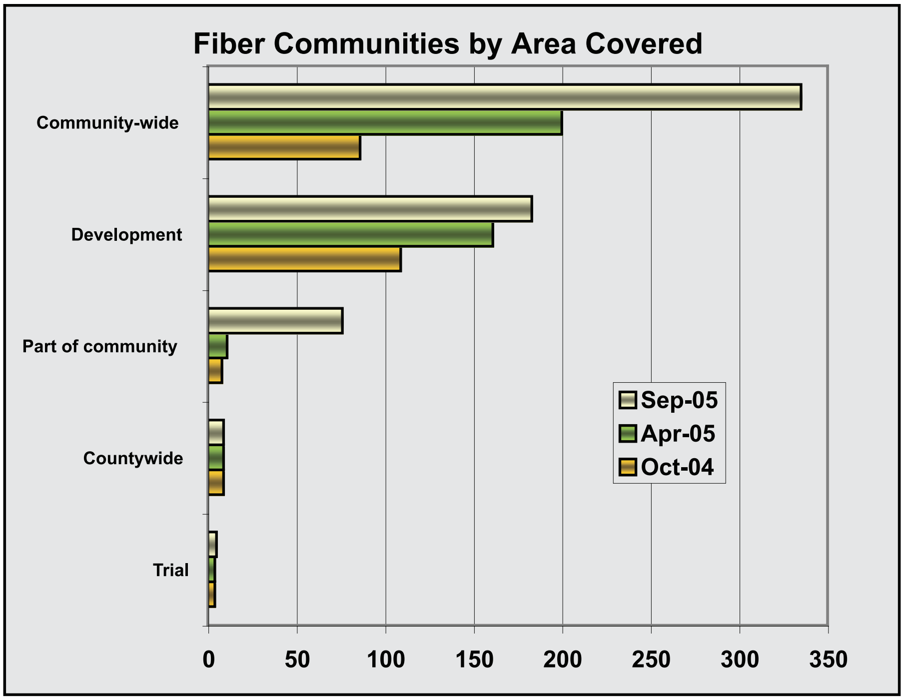
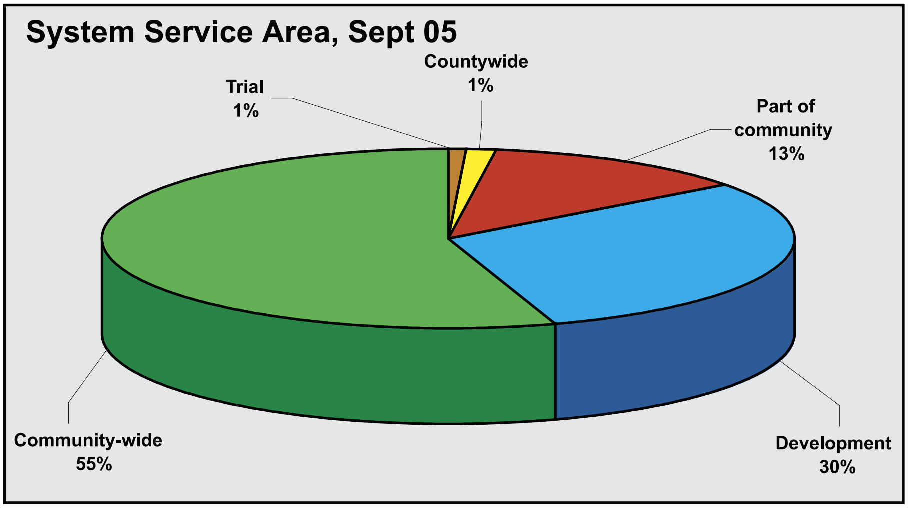


The biggest growth over the past 18 months has been in community-wide fiber deployments; they increased more than four-fold in that period, and almost doubled in the last six months alone. Last year, developments (mainly greenfield) were ahead. But community-wide projects took a narrow lead this past spring and increased it as RBOC overbuilds took hold.



Community-wide deployments now make up more than half of all fiber systems in the United States. But developments, mainly greenfield, are a third of the total even though greenfield building adds only 2% to the nation's housing stock each year.

In the South and Midwest, independent telcos are clearly carrying the ball – mainly as ILECs but also as CLECs. Some of the nation's most sparsely populated states now are among the leaders in FTTH, in fact. Minnesota has 29 systems, Iowa 22, Kansas 21 and North Dakota 17.

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The lead increased by September as RBOC and ILEC overbuild activity took hold. Community-wide deployments now make up more than half of all fiber systems in the United States. But developments, mainly greenfield, are a third of the total even though greenfield building adds only 2% to the nation's housing stock each year.

Regional Patterns Vary

Texas, the nation's second most populous state, has 86 operational FTTH systems. Pennsylvania is second with 75 and California is third with 55. Only four states (Alaska, Hawaii, New Hampshire

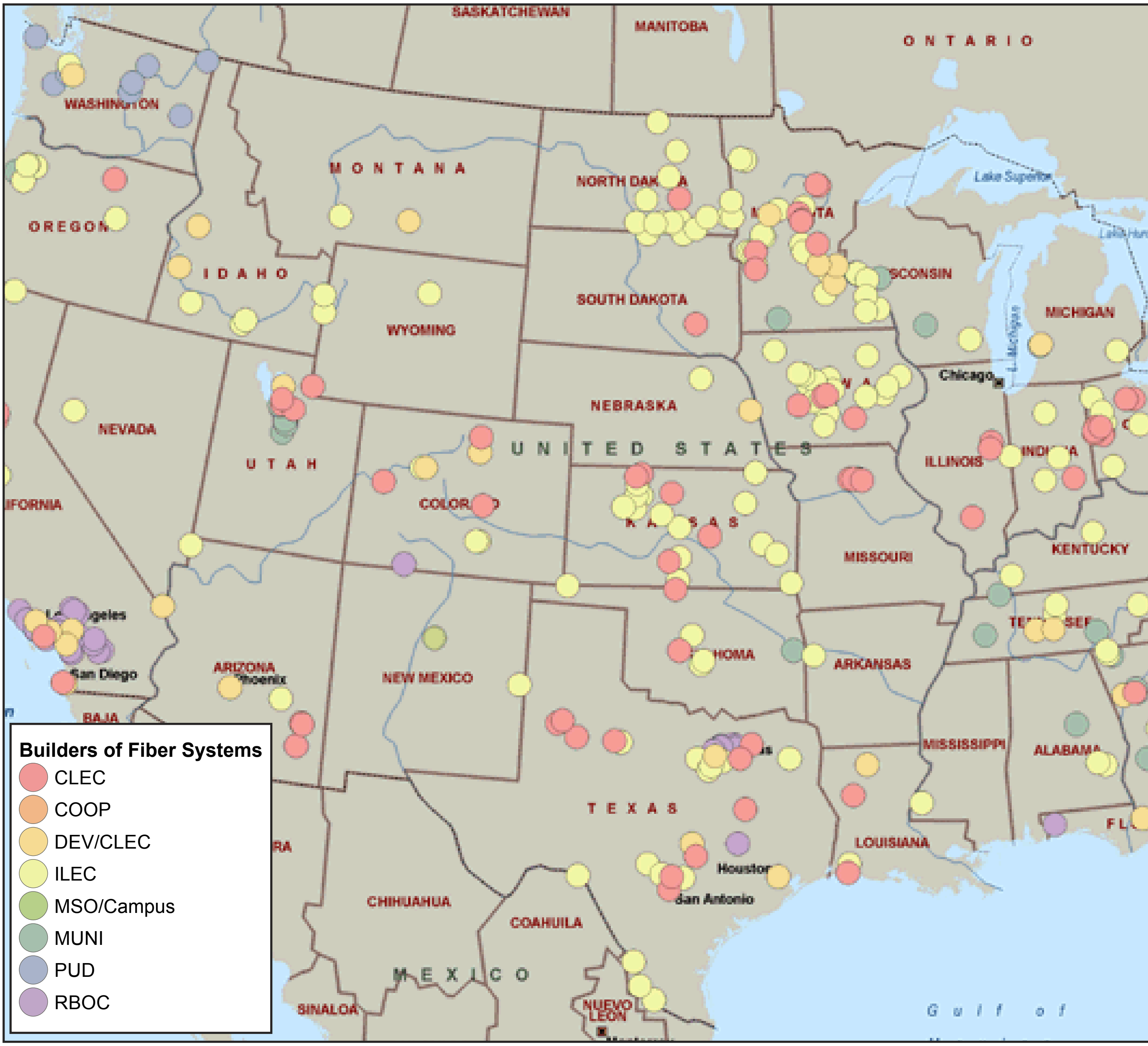
Only four states are without FTTH systems operating – Alaska, Hawaii, New Hampshire and Rhode Island. The three states with the most systems are Texas (86), Pennsylvania (75) and California (55).

and Rhode Island) have no operating FTTH systems.

States adding the most new systems since spring included Massachusetts and New Jersey (mainly due to Verizon FiOS deployments). Large numbers of new systems in Florida and the Midwest were added by independent telcos. States new to the list include Wyoming and Mississippi (each added one system).

New systems added in the past six months tend to be in areas that already have many systems operating – most notably the New York City to Washington DC corridor, the Midwest, Florida and

Smaller ILECs – mainly independent telcos – were a major engine for growth in fiber systems, with 193 operating by this September. That's comparable to the 226 systems built by RBOCs. Together, they are about two-thirds of all deployments, up from a bit more than half this spring.



Verizon's FiOS buildouts have been mainly responsible for new systems from Virginia northward all the way to Boston. Independent telcos have been the prime builders of FTTH in the Midwest and South. Developers of subdivisions are most active in the hot California market.

the Los Angeles region. California has the most systems that cover only part of a community – either because a community-wide system is being phased in, or because the systems are located in greenfield developments.

In the New York to Washington corridor, and in suburban Boston as well, Verizon is building most of the new systems. New York City and Washington DC themselves have yet to benefit, however.

In the South and Midwest, independent telcos are clearly carrying the ball – mainly as ILECs but also as CLECs. Some of the nation's most sparsely populated states now are among the leaders in FTTH, in fact. Minnesota has 29 systems, Iowa 22, Kansas 21 and North Dakota 17.

It is clear that while there is widespread municipal interest in building public systems, most of the action is in the private sector. As of September, there were 43 large public FTTH projects in the United States – 34 municipal (up from 20 in the spring, and 14 last year) along with eight countywide Public Utility District projects and one project by an electrical co-operative. These countywide projects are special cases, all on the Pacific Northwest.

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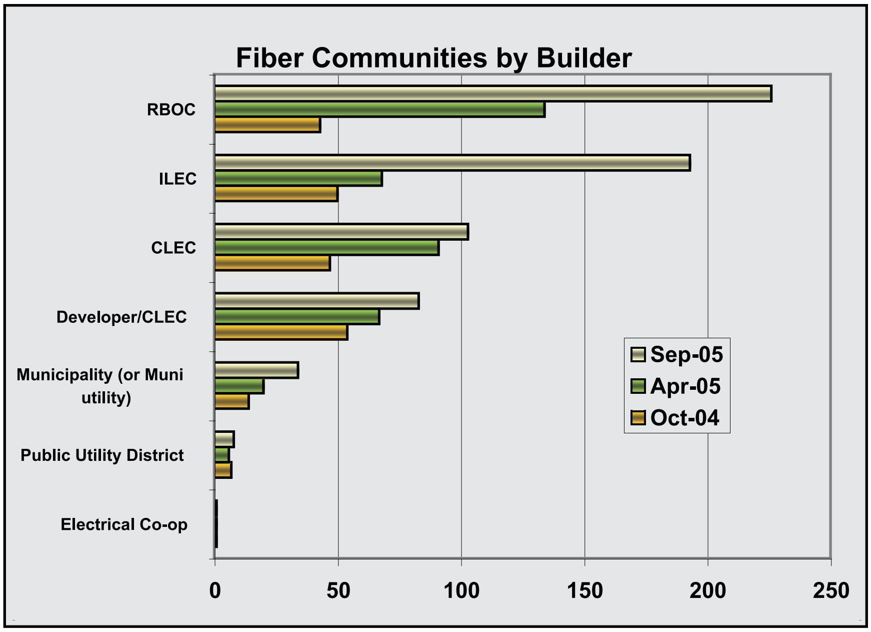
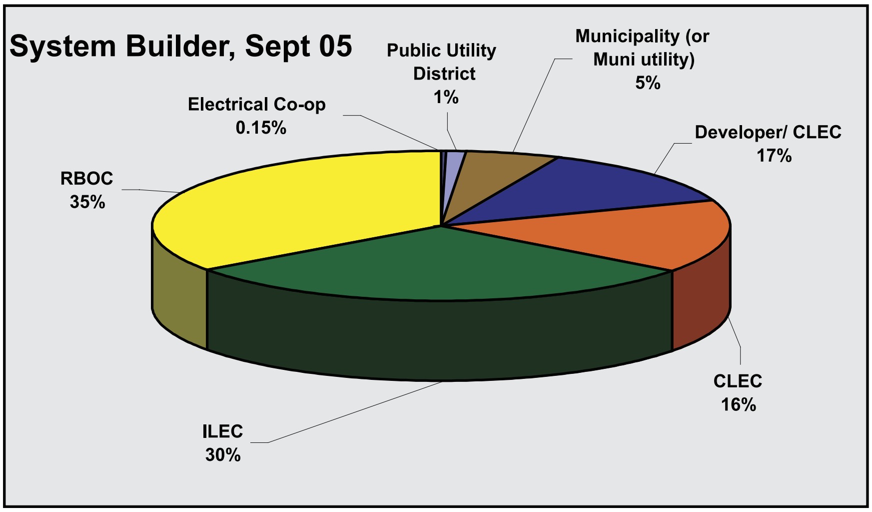


CLEC-initiated systems enjoyed healthy growth, and indeed all CLEC builds, whether stand-alone or with developers, are comparable to ILEC and RBOC volumes. But they were clearly overshadowed by telephone companies. Note that the independents are keeping up with the RBOCs.



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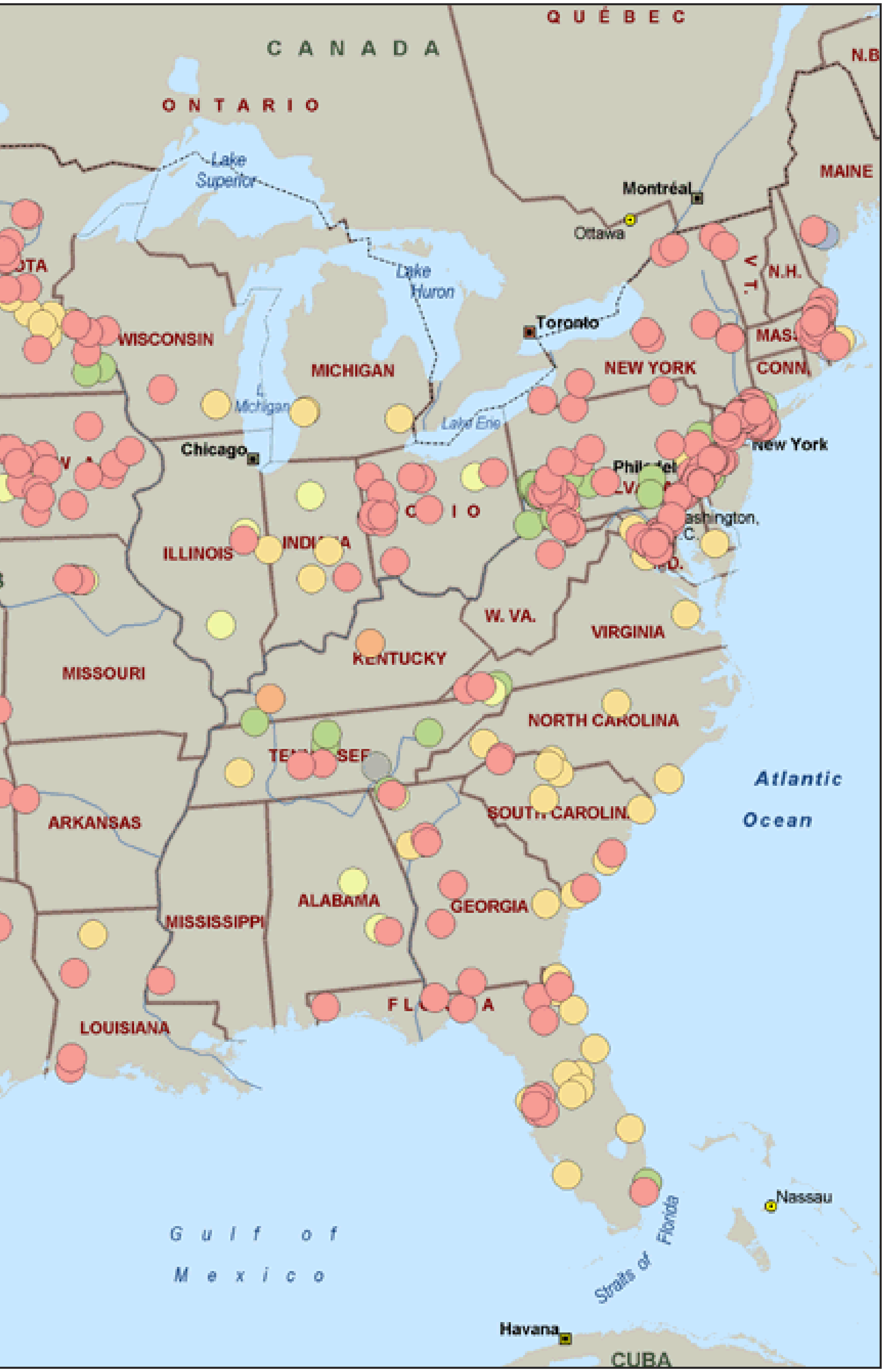
Those numbers actually understate the role of independent telcos, because many also operate as CLECs. CLEC-initiated systems also enjoyed healthy growth in the past six months. Taken together, CLEC builds, whether stand-alone (103 systems) or with developers (another 83), are comparable to ILEC and RBOC volumes. Although they continue to grow fast – 28 systems since April – they cannot match the growth by incumbents building and marketing within areas they already operate.

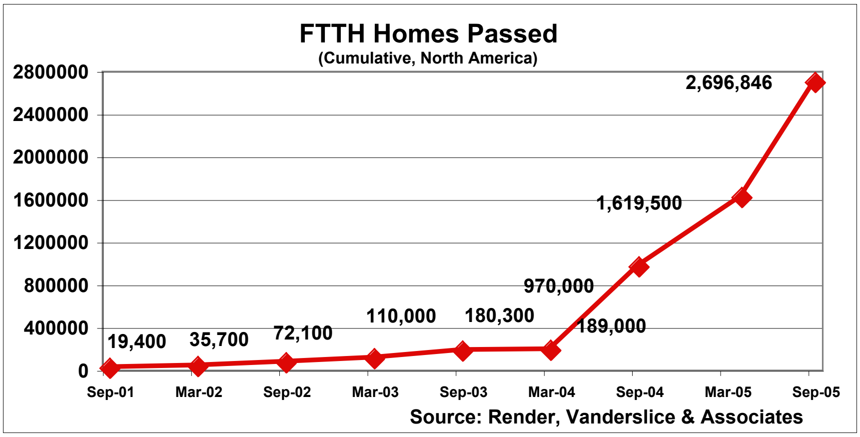
Also, as attractive as greenfields are for fiber, they are a small proportion of the housing supply at any one time – the nation builds about 2 million new units a year, on a base of about 110 million households and (counting second homes) about 120 million dwelling units. Half of the new dwelling units are infill or in small developments not suitable for special "greenfield" treatment.

That may be changing, however. Verizon has been testing new approaches to bringing fiber to Multiple Dwelling Unit (MDU) structures. It has pledged to pass 3 million more homes next year – as much as it has in the past two years combined. It is hard to see how that is possible without accommodating MDUs as well as single-family structures.


Type of System, By Area Served
Community
County
Development
Municipality
Part of community
Part of county
Part of municipality
Trial area, dorm
MANITOBA
M O N T A N A
O R E G O N
I D A H O
WYOMING
SOUTH DAKOTA
NEBRASKA
N E V A D A
U T A H
CALIFORNIA
ARIZONA
NEW MEXICO
T E X A S
San Diego
San Antonio
Pacific
Ocean
BAJA CALIFORNIA
SONORA
CHIHUAHUA
COAHUILA
SINALOA
DURANGO
ZACATECAS
NUEVO LEON
Monterrey
M E X I C O



California has the most systems being built in developments, or covering only parts of communities. All systems are like that in Colorado and New Mexico.



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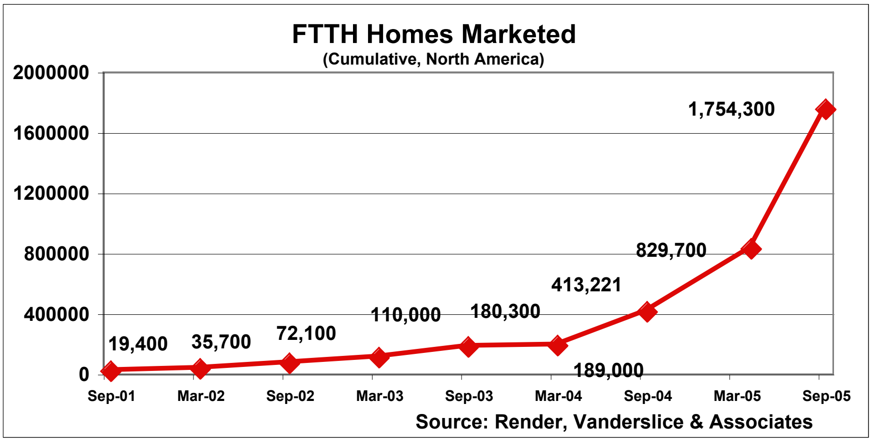
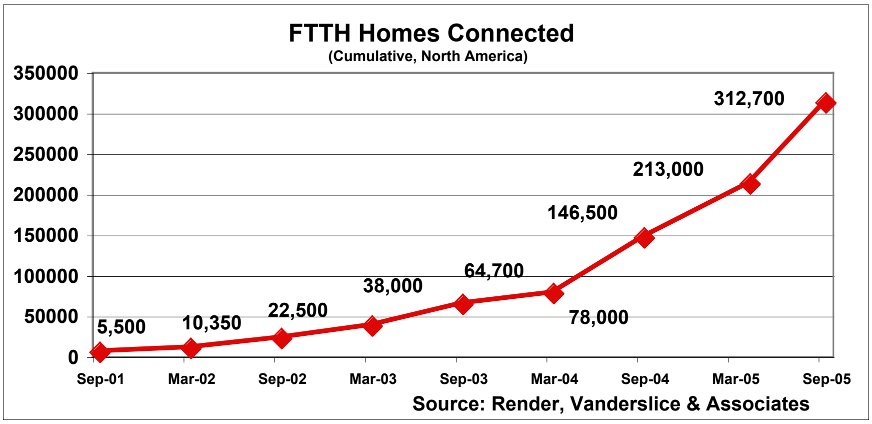


Homes marketed increased at a faster rate than did homes passed, more than doubling.



But homes connected increased at a slower rate than homes passed.

Homes marketed increased at a faster rate than did homes passed, more than doubling from about 830,000 to 1.7 million in just six months. In April, fiber services were being marketed to only half of homes passed. By September, services were being marketed to two-thirds. What's more, services marketed in April were less likely to include video.

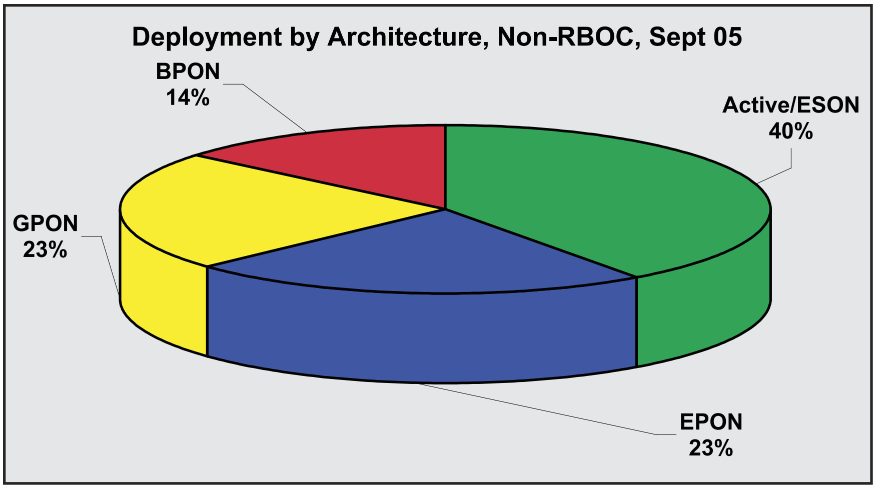
Homes connected increased at a slower rate than homes passed. A quarter of all homes marketed to were actually taking services in April. By September the number had fallen to a sixth. This in large part has been due to Verizon's lagging marketing effort. In fact, non-RBOC take rates continued to rise. Just as the books were being closed on the September totals, Verizon fired up its video services for FiOS and started selling. By then, 88 percent of non-RBOC systems were already offering triple play. Thus, we anticipate the picture to look far different by spring 2006. Verizon insists that its take rates are beating expectations.

Information About the RVA FTTH Report

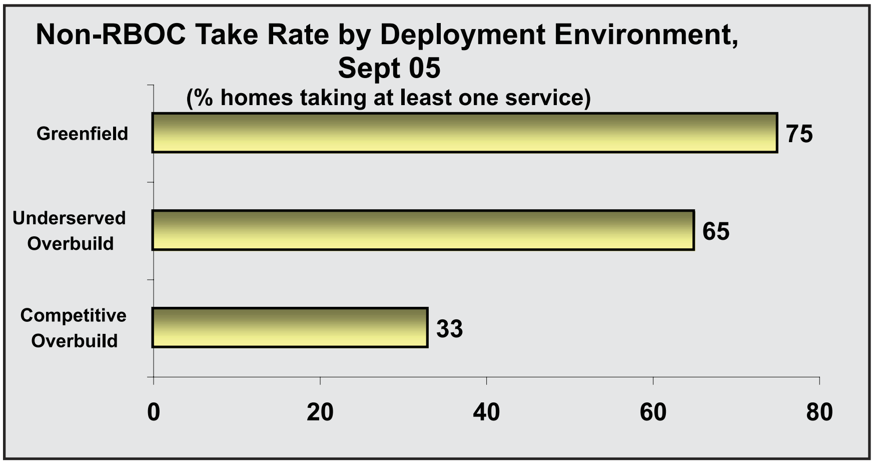
Render, Vanderslice & Associates (RVA) offers a complete report on the FTTH industry. For the past five years, the company has completed an annual census of deployments in North America and has gathered detailed information from all these deployments. The resulting detailed report helps those who are considering FTTH deployments by providing basic information about FTTH and a "consolidated case study" of past deployments including ways to forecast and increase take-rates.

Author Michael Render says the report also provides detailed information about current status and emerging opportunities in market segments such as telephone companies, real estate developers, municipalities, and overbuilders, which is useful for front tier vendors. For second tier suppliers of components and services to the industry, the report offers information about the market position of front line vendors, overall forecasts for FTTH growth, and forecasts by architectures and protocols.

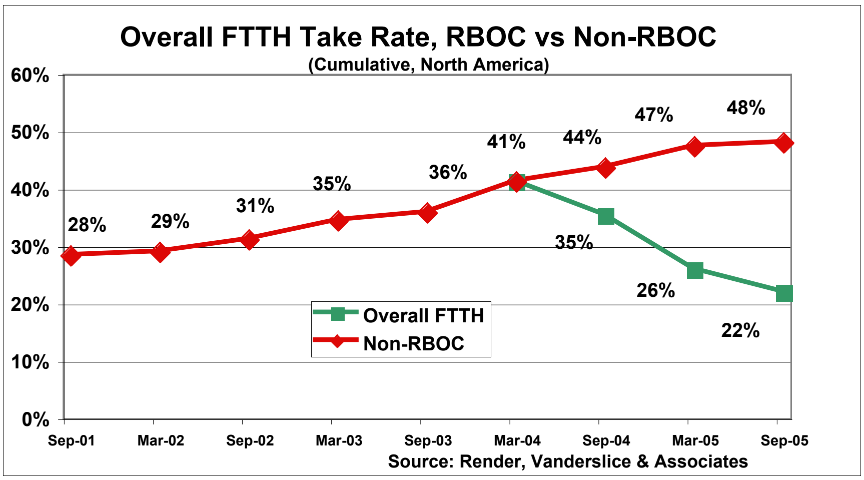
More information is available at www.RVAllc.com. A complete report is available for $1,950.



Verizon's massive deployment is, of course, passive ATM. Once its systems are taken out of the picture, however, active versus passive technologies are more in balance.



Greenfield take rates, as would be expected, are highest, but the Render, Vanderslice data suggest that there's plenty of customers to be found by overbuilding in underserved areas.



Non-RBOC take rates continue to rise. But the RBOCs, mainly Verizon, were just beginning to market video services this fall; thus, their take rate has lagged.

Nevertheless, Michael Render estimates that it will take until late 2006 and maybe early 2007 to connect the first million homes to FTTH systems. By then, there will be well over 7 million FTTH homes passed, assuming Verizon sticks to its ambitious goal of adding 3 million in 2006. In contrast, growth in connections to copper and coax broadband systems is low – almost zero for copper and in the 5-10 percent range for coax.

Japan had 2.8 million FTTH customers connected by September 2005. Europe had about 900,000 by last June. So despite the growth in systems, the United States will likely be behind both Europe and (certainly) Japan a year from now. The picture could change quickly, however, if the telcos (including Verizon) get their way and get federal or state blanket franchise authority to sell video services without enduring community-by-community franchise hearings.

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Technology Choices

Verizon's massive deployment is, of course, passive ATM. Once its FiOS system is taken out of the picture, however, active versus passive technologies are more in balance. GPON and EPON had each captured 23 percent of the non-RBOC systems by September. That battle is likely to continue next year. The major equipment vendors are generally hedging their bets between GePON (listed in the Render, Vanderslice data mainly as EPON) and GPON. At the moment, they are also waiting for product. Chip vendors have been slow delivering the latest generation of gigabit ICs, and the backlog is not expected to clear until late January. **BBP**

About the Author

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