

Verizon's Take on Fiber

A frank chat with Marilyn O'Connell, Senior VP, Broadband Solutions

By Robert E. Calem



Broadband Properties correspondent Rob Calem sat down with senior Verizon executive Marilyn O'Connell for a question and answer session at the Consumer Electronics Show in Las Vegas this January. Calem asked the questions so many of our readers wanted to be asked. Here's what O'Connell said.

Q. How many homes does Verizon intend to pass with fiber in 2005? Are you sticking to the goal of 2 million announced last year?

A. Yes. In addition to the 1 million that we built out in 2004, we will add another 2 million in 2005.

Q. In terms of millions of feet of optical fiber being installed how much are you putting in weekly and how does that figure compare to the past record and future projections of your fiber rollout? What does that mean in terms of homes and businesses?

A. I don't know what the number is on weekly passes. It probably varies quite a bit based on what geography we are focusing on at that particular point

in time. Did you have an issue with permitting? Did the contractor run into any kind of challenges? Obviously, we put in a lot more last year than the year before and we're going to put in a lot more this year than last year.

Q. When will Verizon know if the fiber rollout is the right course?

A. We're sure of what we are doing, but when you build a network, it is going to play out for a number of years. Putting fiber in a new build always makes perfect sense, so you never go wrong. The challenge in fiber is to get your money back when you over-build, when you replace the copper that may not need to be replaced now, with fiber. A lot of the opportunity we are chasing here is that we do believe the market is going to be

a lot more data-centric over time. It will need more capacity and we do realize that we do have limitations with the copper network.

We do not want to be left out. So to say we can sit here today and say we do know exactly how we are going to make money off the network 10 years from now is silly. We do know there are things very much within our grasp, when you look at broadband adoptions to the access product and when you look at video, and that also has a growing revenue stream. We believe we can very well participate with this kind of a network.

We also believe there will be more and more things we can build on top of that. One of our senior executives uses the analogy of [cell phone] CDMA. When

we were launching the CDMA network 15 years ago, people said many people are not going to subscribe to cellular and we were not going to get that money back, and look where we now stand.

I think we are confident that we have a good sense of what it takes to build out a network and we also understand the patience we need to have. So I don't think that even at the end of this year we will know one way or the other. We can sit here and say we have been very pleased with the market adoption in Keller [Texas]. Having lived there myself many years ago I know the community. I think people in Keller are also seeing fiber as an infrastructure upgrade for their own homes. So it takes on a different tone than "am I gonna get better connections." A good percentage of the customers that we signed up for fiber didn't even have Internet access in their homes.

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Q. Really? What percent?

A. Really. Roughly in the mid 20s, which is a lot higher than I thought it would be. I'm going to imagine that some of these customers had Internet access at work, right? So they were exposed to it but they hadn't made the transition at home. They decided to do that because we offered to come out and make it easy for them. They had to give us some time in their life to do this, but they were going to in essence upgrade their home.

Q. So they went from nothing to fiber?

A. Yes, 15 by 2 or 5 by 2. That is, 15

Mbps downstream 2 Mbps upstream or 5 and 2 Mbps. We basically offered three products in that market and this is the standard offer right now until we decide to do something different. You can buy 5 by 2 service as low as \$34.95, and 15 by 2 for as low as \$44.95. These are options in our FiOS package for our fiber customers. [See the accompanying CES coverage for more detail on FiOS.]

Q. Which is what I pay for my cable modem service.

A. You got it. And for people who just can't get enough bandwidth we have a 30 by 5 service. More pricey, \$200 a month. And we do have customers on that service. It is kind of different; because of technical restrictions on the network we cannot, for example, allow customers to put a web server on the back of this. But it would be great for somebody who is downloading a lot of fat files and just wants to have the bandwidth to do it.

Q. What is your video strategy?

A. The video strategy is that we are going to have a hybrid network that will deliver what will be primarily a digital product. Today, for example, a cable operator will have a good part of the channels delivered in analog format. We will have a small analog lineup but we will also have a much larger digital lineup. We'll use PON technology to deliver that, and because it is mostly digital, it will give us the ability to offer hundreds of channels. On the interactive side we're going to be using a data stream to deliver the digital content. That will be things like GoD (games on demand), VoD (video on demand), things of that nature. We are going to have all that wrapped up in a whole value proposition that will be competitive in the marketplace.

Q. So why did you choose ATM and not Ethernet and how does this limit you in terms of a migration path?

A. The technology people have to defend their position.

Q. What has the company learned about consumer receptivity from its early marketing efforts in Keller and other early deployments?

A. We have been very, very pleased with the market reception and adoption, the number of customers signed up. We did go public in our third quarter earnings release in October. I think at that point we had with DSL and with fiber about 30 percent of the market taking broadband in Keller. It has grown since then.

Q. And what portion of that is the fiber?

A. A good percentage, about two-thirds of the 30 percent.

Q. In 2003, telcos made up only 3 percent of the FTTP market in cable and equipment. Now there are projections that by 2009 telcos will account for 79 percent of that market. At what point will Verizon begin deployments to underserved areas that are now turning increasingly to municipal broadband?

A. We do have a business plan that has a number of scenarios in terms of how quickly we will build. We are taking it a year at a time to see what velocity we can get. We chose markets based on the criteria such as our existing customers, broadband propensity, and video penetration. We want to go to those markets first because that's where the demand is. You will pick up many different kinds of communities when you do that. You may even pick up communities today that do not have any kind of broadband for various reasons. We'll work with whatever partners to get that done.

Q. Will Verizon continue to go to court to prevent municipalities from building their own broadband systems?

A. We don't have any pat answer to that. We are going to take a situation at a time and say what's going on, what

are the issues. I can't say emphatically yes or no that we would do something like that. The whole Philadelphia and Pennsylvania settlement was a good example. We said, "look, you know you have to do certain things and we have to do certain things," and we made a compromise happen. Again, reasonable people will do reasonable things.

Q. The emerging new Holy Grail appears to be 100 Mbps as exemplified by 802.11n and other connectivity solutions. How is Verizon positioned to stay competitive with such offerings? Are there any special issues with regard to MDU strategy?

A. Today we're able to offer a 30 Mbps service. I have no doubt that at some point we'll be able to offer 100 Mbps. We're offering more capacity than the average customer needs at this point but we know that they will grow into it. That's typically what happens. In terms of MDUs, there will probably have to be a number of technology solutions based on a particular MDU situation. So if I have a brand new MDU I'm going to take fiber all the way to the customer's apartment, right?

If it's a low-rise MDU there's a different answer for that. If it's a high-rise MDU it could be a different situation where I've got to put equipment in the basement, I've got to use existing coax, existing 2 pair copper cabling and have more of a media-sell solution. We're really looking to come up with a portfolio of solutions.

Q. How fast is Verizon replacing its copper platform with fiber in the last mile? When will fiber be to 100 percent of your customers and what will your capital needs be?

A. I don't have a crystal ball as to when that day happens, and I don't think anybody does, because there is a lot of copper out there, there are some markets where we'll probably serve copper forever. I don't see that you would go 100 percent. It is hard

to say that you would do 100 percent of anything any more, quite honestly. To some markets copper is just fine. It serves what the market needs are.

Q. Dr. Tony Warren, Group Manager of Regulatory Strategy for Telstra, told the United States Senate a year ago that the telcoms of the world are at 5 minutes to midnight as to the future use of copper, including ADSL. Do you agree?

A. Well, I think that when we spend so much time with technology we think everybody is enamored with technology as we are and they are adopting at the same rate we are adopting. Quite honestly there is a good percentage of our base that doesn't even use data.

There is a good percentage of our base that is very happy with a 768 Kbps service that serves their needs, so ADSL serves their needs just fine. Copper serves their needs just fine. We want to be there as the market evolves, but it never evolves as fast as we think it is going to, so I think that 5 minutes to midnight is a little overstatement. I wouldn't agree that we are at that point.

Q. Installing America's copper base took 90 years; what is the comparable projection for installing fiber?

A. I don't know what that number would be. I really don't. It is going to be much quicker than 90 years,

I can tell you. I would hope that we would have something that would represent the majority of what our fiber project would represent in well under 10 years.

Q. Of where you would like to go or majority coverage of the Verizon system?

A. I think it is a little bit of both. Again, we'll probably never go 100 percent of anywhere these days because we're not that kind of a company anymore. We go where the opportunity is. But you know,

I do see there is a good percentage of our marketplace we want to go.

Q. Who are your major vendors in the FTTP rollout?

A. AFC is our active element vendor. They are the ones who provide the equipment that goes into the customer's home as well as the equipment that goes into the central office. We also have an agreement with Motorola to help us deploy the video product. There are many, many, many vendors but those are our two major vendors.

Q. What do the Consumer Electronics Show and the applications on display tell you about the need for bandwidth and about the wisdom of Verizon's strategy in light of the bandwidth offers made for your FiOS service?

A. Well I go on the floor and I see all those big TV sets! And it just reinforces our view that the emphasis is on high definition. And of course high definition means more capacity requirement. There will come a time when high definition will become the standard fare, not the exception. There will be a point where the prices will come down. You need capacity to do that. Again, that's one of the things we want to be able to participate in.

Q. The FCC has actually put out a schedule for the transition to digital TV and HDTV to be completed. Is that schedule something you are considering? Are you trying to sync the rollout of FiOS to that?

A. I don't think we're trying to sync it so much, but we know it's there. And we want to roll out into the market the capacity for all of the high-def content that is available today. There's now a lot of content.

It's growing everyday. But we would have no limitation on what we could do relative to today's library of content, and really for the foreseeable future.

Q. What I meant was the deployment of FiOS. is that in anyway going lined up with the deployment of HDTV?

A. No. But we had to think about our architecture. In light of the fact that all of these changes are going to enable high-definition to be more available based on government pushing the product. Based on consumer electronics manufacturers coming down in prices. Based on the fact that content programmers are now putting more content in high-def format. So all that's going to come together and at some point customers are going to begin to adopt it *en masse*. When they do that we're going to have to have a network that can provide that product and not just provide it to one TV set in the home, because I think you'll get to a day when there will be multiple TV sets that will be high definition. And that's really why we went to a fiber-to-the-premise technology

Q. What kind of consumer laboratories or experimental projects do you have on the way, where you'll be able to observe the ways ultra-high-speed connections are used, and what are these projects telling you? What do you see as the role of online gaming in terms of consumer adoption of high-speed access?

A. I think online gaming is one of those applications where people will see an improved experience. We do a number of different kinds of things. And we're trying to grow our capacity to do even more. We have a human factors group which looks at customer experiences. We hire many different kinds of firms to help us. We do survey work. I mean there's not any one way. We have a collective program that allows us to go and try to understand what customers are doing with what we've given them. We've gone back to the Keller users quite a few times trying to figure out exactly how their behavior is changing over time.

Q. When was Keller up and running?

A. We really went to general availability

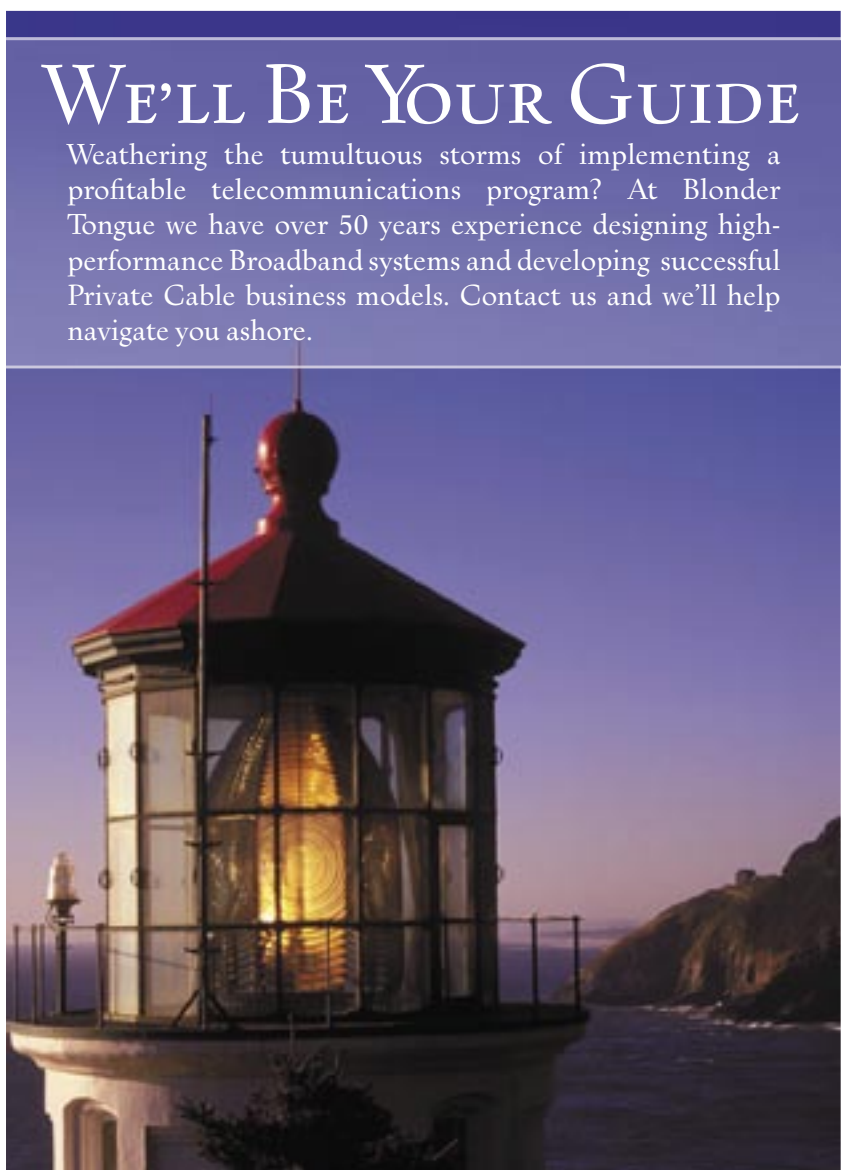
in September 2004.

Q. How many times since then have you gone to check in?

A. I think we've gone three times. I'm talking about in a marketing and a user group kind of way....

Q. What have they told you?

A. Well we asked them what they do basically. It's not about what they think is big. It's about what they do. And like I said, they're probably doing some of the same things they did before – email, some e-commerce. But we have talked to customers; some of this might be more



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anecdotal but it seems they have been experimenting more. They have been downloading video and things they probably wouldn't have been inclined to do based on just the customer experience when they had broadband or when they didn't have broadband, they just had dial-up.

Q. Any thoughts about working with developers and communities to install development-wide or community-wide networks? Is open access and expected low rates too much of a barrier or would Verizon get involved if, for example, there is low-cost capital from the community or the developer?

A. We are working with quite a few developers right now as part of our Greenfield Program. Developers are more and more involved in trying to provide a superior infrastructure. It's really an important selling point to the prospective homeowners. So they're really a marketing partner with us. Sometimes they want to have, for example, their own website and things of that nature, so we do work with them to create a community experience in addition to just providing the product. Some developers are even putting the data and the video products in their homeowner association fees. And so pretty much everybody gets the service, and they're going to get the service at a better rate than if they did it by themselves because they're part of a bulk purchase that is being made on their behalf.

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Q. So would that then be the equivalent of low-cost capital from the community?

A. We're not necessarily saying "well, you fund our buildout." Every place that we have been working so far, there's maybe one exception, but we have been using our own capital to do the build because it's very difficult to share ownership of a network. It's very complicated relative to who cares for it and who supports it. So it's much cleaner if we go in and say "We'll own the network; we'll run the network and we'll provide it to your community" and work out an arrangement where we can make certain that they can get what they need.

Q. And where is that one exception?

A. We haven't publicly talked about it yet. So I can't tell you.

Q. Broadband Properties noted in December that small-scale ILECs seem to do this, maybe taking low-cost capital from the community.

A. And again I think small ILECs can make different decisions and on a one-of-a-kind basis to do different kinds of things. We have looked at that and we have found that consistently it is best to go in and have a clean deal, where we're clearly owning and running the network. The thing is, it's just very difficult to have a partnership and make that work for everybody.

Q. One of the things that BBP asked me to focus on at the show was to scout out all the things that are on display that will use all the broadband available from fiber. What have you seen at CES that does that?

A. I think the big thing is the video. Video is the bandwidth hog, to the extent that there's more high-def product. If you walk into the hall, particularly the central hall, that's all you see, right? You see the big plasma TVs. I've talked to a lot of people who have bought those

big screens and all they have is their regular cable service, where the majority of programming is analog, and what happens is all of a sudden it looks a lot worse and they think their service has been denigrated. It's the same thing they had on their 30-inch TV set but now it just looks worse because it's analog. So I think that people, if they're going to invest in high-definition TV, are going to want the ability to add a lot of content. So I think that's one of the biggest things on the floor that's driving bandwidth.

For more on iobi and FiOS, see the CES coverage, this issue.

Q. The second generation of Verizon's iobi service (for broadband, including feature-laden phone services, to homes, small businesses and large enterprises) was really fascinating.

A. People will finally get the iobi concept of connecting otherwise isolated information sources through otherwise isolated networks. The symbol pops up as an option when you're at work and at home. That's kind of fried people's heads.

Q. What's the tie-in between Verizon's iobi and FiOS services?

A. Clearly you can use iobi and your experience will be better, with faster, higher-speed bandwidth for access. So the whole experience will just be improved. Last night there was a consumer video conferencing application shown. The challenge with video conferencing is that you need almost symmetrical high-speed bandwidth, upstream and downstream, so that you don't have the jitteriness. People are used to seeing a TV set and the kind of imagery you see there and the quality you see there. Anytime you show them video they expect that same thing. I personally don't like to do videoconferences today because it's

distracting. You have this jitteriness, this delay. Last night at the Verizon show was my first time to see the outcome. The quality is excellent. It's embedded into iobi. So as a marketing person I'm going to go into a FiOS community and I'm going to market video telephony to these customers. Give them the cameras and they can do video calls when they want. And they're going to have enough bandwidth between them in that network environment to make it a superior experience, superior to what you'd probably get in a professional business environment.

Q. Are there other things that FiOS enables that the DSL or other "high-bandwidth" infrastructures can't possibly do?

A. When I think about the video product itself, the fact that we have that much data-stream capacity is going to allow us to make available to customers a library of content that is going to be bigger than probably anything they've seen before and we're going to be able to deliver it much quicker than ever before. For example, today if you go to a video on demand channel and you hit the button, you're going to go to a server. It's going to be almost like an Internet experience on a very slow server. You're going to get a delay. With our product it's going to be more like the channel guide experience. So just improving the experience for them will help sell some VoD that actually has been struggling for many years.

Q. You mentioned Motorola as a partner and they've had products on the market that are media servers. Home entertainment networks that transfer video from the living room to the bedroom are a trend now that seems to be accelerating. Does FiOS improve that in any way?

A. Part of what we're thinking, and this is more future-oriented, is then how do you then connect the home? How do you take what's on the PC and allow it to be seen on the TV set? Now there's some

things consumers can do today. They go out and buy media bridges and if they're really courageous, right, they can try to set them up. I think the challenge is to find a simple way to enable that to occur. It's always interesting to market to that very bleeding edge, but as a marketer I have to look at the bigger picture of how I get the majority of people, a good chunk of people interested in this. And the only way you do that is to make it very simple and straightforward. And that's the nut that has to be cracked. And we're not quite there.

I think every year that we come here there's advancement in that, but it's the simplicity that allows customers to begin networking devices in the home. And of course iobi has a role in that as well. So, that's part of the vision of iobi, that we'll network those devices in the home. What I manage on my PC I can manage on the TV. You might not want to take everything and put it there. But you may want to take some stuff, the functionality of iobi, and put it on the TV set.

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Q. Also home automation? Alarms, coffee-making, heat. Would that fit into iobi's or Verizon's vision?

A. We're always looking at that kind of thing but we're looking for the point when the technology comes together and the price points come together. So the customer says "Aha, I really get this now and this really makes sense for me." We looked at a product early this year on home monitoring and it's really good. It

positions cameras in the home and then you can use iobi to alert you. Your nanny cam situations. The challenge is that we're waiting for the technology from the camera perspective to get cheaper so it's more mass-market oriented. You need to be willing to invest several thousand dollars for camera equipment because you've got to put several in for coverage, and they've got to be ones that will move. There are certain requirements to make that application really meaningful.

Q. IDT has been out there with Internet-connected home security systems.

A. We've talked to quite a few different partners like that. Some of these things will come together. It is a matter of timing.

Q. You're not aligned with anyone yet?

A. No

Q. And technologies like telemedicine?

A. We can't necessarily predict everything. That's within the scope of things. We deliver fiber to business all the time. We've been doing that for years. But here you have the ability to provide small businesses and small communities access to fiber that then opens up capabilities for them. So, the sky is the limit in terms of applications when you have that much bandwidth.

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About The Author

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