

Is TV-Based Communications The Killer App for Fiber?

Service providers have long sought an application that would make subscribing to fiber to the home irresistible. One analyst says video communications could be the killer app they are looking for.

By Masha Zager ■ *Broadband Properties*

If fiber to the home is so much better than any other broadband technology, why is Verizon's penetration rate for FiOS in the 30 percent range? What's wrong with the other 70 percent of the population – or, alternatively, what's wrong with fiber?

The answer, of course, is that nothing is wrong either with FTTH or with consumers who choose other broadband options. In the long run, only fiber will support growing bandwidth demands, but in the short run, fiber's unique advantages are still not relevant to the majority of consumers. (Municipal fiber deployers and rural telcos have take rates much higher than Verizon's, but those take rates reflect the paucity of alternatives in their service areas.)

Most FTTH deployers offer consumers the familiar triple play – voice, video and high-speed Internet access. Fiber allows higher service quality, faster speeds and more bells and whistles than other broadband options, but not everyone needs the extra bandwidth and quality. As good as it is, video over FTTH “hasn't changed the way you look at TV, and I don't think it can,” says Benoît Felten, principal analyst with Yankee Group, a technology research firm,

To achieve the higher take rates that make deploying fiber more profitable, FTTH deployers need a killer app – an irresistible application that only fiber enables. To date, the most plausible candidate proposed for a killer app has been telepresence, which is still far too expen-



New applications for fiber networks will be presented at the Broadband Properties Summit in Dallas, April 26 – 28.

sive for consumers who don't happen to be CEOs of large corporations.

Felten believes the killer app for fiber is something less eye-popping than telepresence: high-definition, TV-based video communications. Unlike telepresence, this service can be economically provided to the mass market today, he says.

For an application to attract a mass audience, according to Felten, it must be affordable – preferably free – and usable on a device that is found in every home. It must be simple to use and relevant to nearly everyone. Service providers must be able to profit from it, even if they can't sell it directly to consumers. Finally, a killer app for fiber must be usable only on FTTx networks.

TV-centric video communications meets or exceeds these requirements, Felten says.

WHY TV?

Video telephony has been a nonstarter for more than four decades – the Picture-

phone, an AT&T flop of the 1960s and early 1970s, is still held up as a model of a marketing failure. Subsequent video-phones haven't fared much better in the mass market, though they have niche uses. “Two things were wrong,” Felten says. “First is the dedicated device – nobody wants that anymore. ... It costs \$200 to even try it, so that's not going to happen.”

He continues, “The other thing wrong was the ‘pay as you go’ model. Nothing works as ‘pay as you go’ anymore. There's been a psychological shift over the last 10 years; the uncertainty of not knowing what it will cost kills usage.”

Free and low-cost PC-based services have been far more successful in the consumer market, demonstrating that people will use video communications when the price is right. Scattered families, corporate road warriors and soldiers on deployment have all come to appreciate the added closeness of video calls. Skype,

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The 'Wow!' factor could draw subscribers quickly to a TV-based video communications service and to fiber-to-the-home networks that support such services. Only fiber currently has the upstream bandwidth that's needed.

a simple and (mostly) free PC-based communications service that includes video chat, has even entered the language as a verb meaning "video chat."

But Skype video and similar offerings cannot serve people who don't own, don't use or aren't comfortable with computers. "If using a PC is the determining factor," Felten says, "service providers miss out on a whole lot." By contrast, a TV-based video communications service – or, preferably, a service available on both television and computer – could be used by nearly every household in an FTTH footprint. Felten says not only advanced computer users but also "elderly people and stay-at-home moms" could video chat on devices they already own and know how to use.

WHY FIBER?

Another reason Skype and its cousins fail to meet Felten's criteria for killer apps is that they are designed to operate over low-bandwidth connections. This has two implications: First, the quality of the visual experience is generally poor, making the services less than compelling to people who aren't strongly motivated to use them. Second, these services do not require fiber connections.

By contrast, a high-definition video stream on a low-latency connection can support smooth, lifelike video experiences that might appeal to all consumers, not just to absent parents and grandparents. Felten believes demand for a high-quality video service would spread quickly via what he calls the "Wow!" factor. Consumers who saw high-def video calls at friends' homes, or read about them in newspapers and magazines, would be impressed (and envious) enough to want the service for themselves. Once they subscribed, they would press other family members and friends to sign up so they could share the experience with them.

Felten estimates that a Wow!-inducing video experience would require between 15 Mbps and 20 Mbps symmetrical bandwidth – a capability that only FTTB or FTTH can deliver today. "Cable has a hard time matching that from a technical standpoint," he says.

SOME ASSEMBLY REQUIRED

The hardware and software platform for such a communications service is so inexpensive that telcos could easily provide the service gratis or at a nominal charge. (Felten believes the service cannot succeed in the mass market with fees higher than \$10 per month.)

Here's what is needed in the way of hardware:

- Set-top boxes or other TV-connected devices with enough processing power to encode high-definition video in real time. Today's IPTV set-top boxes are designed for one-way video communications – that is, they decode video but do not encode it. But demand for more high-definition channels and for faster channel switching is pushing manufacturers to add processing power to set-top boxes anyway. Felten says beefing up set-top boxes to enable two-way communications requires "a marginal cost, but it's not huge."
- Webcams that can transmit high-quality pictures while the user is sitting across the room or even walking around. Adequate cameras currently retail for about \$50, and service providers can buy them in quantity for less than \$15 and subsidize them if necessary. "I'm anticipating that we'll see some interesting things happening on the vendor side," Felten says. "I don't think it's an accident

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that Cisco bought Flip [a company specializing in easy-to-use, Internet-enabled videocameras].”

- Microphones integrated into remote-control devices. Like the microphones embedded in PCs today, these are very inexpensive.

Service providers’ biggest investments won’t be for equipment but for designing the platform. To attract a mass market to a video communications service, providers must ensure that the service “not only has the Wow! factor and is sexy but that it’s extremely easy to use,” Felten says. “Grandma will use it only if it’s virtually one click.”

PROFITING FROM VIDEO COMMUNICATIONS

Most service providers reap little or no profit from selling video content – either linear TV or video on demand – because content providers claim much of the revenue. By contrast, nearly all the revenue from communications services remains with the service provider, making these services potentially profitable.

The problem, of course, is identifying the revenues.

As mentioned earlier, Felten believes consumers will be unwilling to spend more than a nominal flat fee for video communications services – especially as long as free services like Skype exist. But he points out that direct consumer revenues aren’t the only source of income.

“The business model needs to be Web 2.0,” he explains. “First you get the customers hooked, and then you find ways to monetize it. It’s not hard – you get eyeballs in front of a screen; that’s the most basic way of monetizing something.”

One potential source of indirect revenue, after a critical mass of users exists, is business-to-consumer companies with call centers. “Imagine you’ve purchased a bed at IKEA,” Felten says, “and halfway through building it, you can’t figure it out. You call them and try to describe what you have in front of you. It’s a nightmare, and you end up frustrated. If you could show it to [the customer service rep], he could say, ‘You put this piece the wrong way around.’ It’s much faster, and everyone is happy. That would be worth something to IKEA.

Even if third parties introduce and market high-definition video communications services, FTTH deployers might still reap most of the rewards. Alternatively, they could develop and market these services themselves.

They would pay the service provider ... for access to these customers.”

Video communications’ greatest value to providers, however, is in driving consumers to fiber. “The big reason for it is not just more revenue [per user],” Felten says. “It’s a huge acquisition driver for FTTH. I absolutely think it makes sense for Verizon to launch this kind of product. They have the scale to make it work, and it might be the thing that pushes them from 25 percent [penetration] to 40 or 50 percent.” Raising the take rate – and moving existing customers to higher bandwidth tiers – can help recoup the capital expenses of laying fiber and installing central-office equipment.

THE WINDOW OF OPPORTUNITY

There is a cultural and historical lack of fit between telcos and the Web 2.0 business model. Web 2.0 is a high-risk model; telecommunications is traditionally a low-risk business. Offering free basic services with the hope of profiting from premium services and upstream users is not a familiar practice for telcos.

Felten recommends that telcos with FTTH networks move forward with video communications services, despite the unfamiliar business model. He says, “This is essentially a communications service. As such, it’s really their core business, so I would expect them to be good at launching something like that better than I would expect them to be good at launching a media offering. They understand the dynamics of how these services work in terms of adoption, and how it spreads around the network. They have a shot that’s credible.”

If service providers don’t take Felten’s advice about using video communications to reap the “windfall” of higher take rates, will someone else do it? Felten believes there are opportunities for third-party competitors to jump into the market. Even if the service provider

controls the set-top box, third parties could launch TV-centric video communications services using the processing power in game consoles or even in Internet-connected televisions. “I can see this coming a mile away,” Felten says. “In a year, Google will launch the service and [the service providers] will say these guys are hogging the network.”

Allowing third-party competitors to seize the window of opportunity might not be bad for service providers, Felten admits. They could conceivably reap most of the rewards from a third-party video communications service (in the form of higher take rates) without going to the trouble of developing and marketing the service in the same way that Apple derived most of the benefit from VisiCalc, the killer app for the Apple II that Software Arts introduced in 1979.

ARE YOU TALKING TO ME?

A final hurdle for video communications is interoperability. One reason phone calls and e-mail are popular is that no one ever has to think about the other party’s hardware, software or network. This has never been true for video communications services.

For video communications to succeed in the mass market, two kinds of interoperability are needed – between callers on different FTTH networks, and between callers on different types of networks. Until video calling drives everyone to adopt fiber, some kind of modified communications service between, say, fiber and DSL networks will still be needed.

Felten advises service providers to address these interoperability issues while their video communications services are in the design stage, rather than trying to retrofit them after they have already introduced them.

“Work this out from day one so you don’t hit snags four days on,” he warns. ■