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# ETHERNET'S NEXT PHASE

BY VINCE VITTORE

Time Warner Telecom is something of an old warhorse, at least in the Ethernet services market. Since launching a metro Ethernet product almost five years ago, the carrier has gone from an anomaly to trying to distinguish itself among dozens of service providers offering similar services.

But the economics of Ethernet make the task all the more difficult. Because users have been conditioned to expect ever-declining prices for ever-increasing bandwidth, creating something different while maintaining a margin is particularly challenging. For Time Warner Telecom, the answer comes by focusing not on the breadth of services but on the particular issue facing the customer.

"What we've done is try to focus a data strategy on a native connection to a customer," said Mike Rullo, senior vice president of strategy and business development for the Denver-based competitive carrier, which now has 5700 fiber-connected buildings. "The way we work with a customer is around a solution, what customers are going to get done with that connection, and a better total cost of ownership."

In most cases, that involves giving multiple corporate locations an Ethernet connection of at least 10 Mb/s and the headquarters perhaps something closer to 1 Gb/s. At the same time, the company quickly is

moving beyond just providing a large, cheap pipe over fiber. Instead it is focusing more on the applications that users are running over the pipe, recognizing that very often they want different tool sets for different applications.

"We're in the first phase of Ethernet deployment as an industry, but we as Time Warner Telecom are in the second phase," said Rullo. "The first phase was data connectivity. The second is around convergence."

Of course, the industry has seen its share of convergence solutions with mixed results. The difference, in this case, is that Time Warner Telecom is blending voice and data over the same pipe, and because of that experience, selling plain old connectivity over Ethernet, it can put actual numbers behind the benefits. The specific numbers vary for each customer--taking into account traffic and the existing network--but typically, the carrier is able to show a 20% to 30% drop in total cost of ownership when replacing ATM or frame relay networks.

"That really resonates with customers," Rullo said. "It's not just in the cost of the service, either. It's also specifically in the capital cost. Most customers already have 10/100 ports in place. It just plugs into what they have in place. They like the capability to replace their frame and ATM backbones, but convergence is what we're selling."

## In the Spotlight:

**Mike Rullo,**  
Time Warner Telecom

TIME WARNER  TELECOM

*Telephony's* Vince Vittoire talks with Mike Rullo, senior vice president of strategy and business development for Time Warner Telecom, about selling Ethernet, capturing the customer and customizing bandwidth.

**On selling Ethernet:** It's not just bandwidth capacity. What we are selling is an application. We're selling the customer the ability to do a lot of different things. Because it's plug and play--and because what we're trying to do is extend that local area network across town or across the country--we have to mirror within the public network what customers have built in their network. Our objective is to make the network almost transparent to the customer so the application rides on top. We're not just brute-forcing this with bandwidth.

**On selling voice-over-IP on top of Ethernet:** We work on the front side with some of the VoIP providers like Avaya and Cisco to make that work. There is an opportunity to go to a customer with a fully converged platform and say, 'Instead of delivering a PRI to your PBX, what we can deliver is a SIP trunk.' We use this as an attack strategy and help customers scale up. Some of the incumbents are going to have less desire to cannibalize that PRI revenue.

However, this isn't convergence in the sense that every application is automatically transported over a network cloud. In many cases, customers have a need to work with existing network gear, particularly when it comes to voice.

"If a customer already has terminal equipment, and if you now want to carry that over a packet network, you're now adding more equipment," said Chris Garcia, product manager for Zhone Technologies, which is providing its Gigamux line as part of TWT's Ethernet network. "We say let it ride, and overlay whatever you want. Don't rip things out and force yourself to do things. Let traditional TDM do what traditional TDM does well."

It makes no sense from a pure bandwidth perspective, he added, to deploy Ethernet over the existing Sonet infrastructure if it's going to be used for the same application.

"If they put a Gig-E on an OC-48, they just lost 30% of the available capacity on Day 1," Garcia said. "From the [wave division multiplexing] perspective, we say run an OC-48 if you're going to be using it for the TDM traffic it was designed for."

Despite the savings the carrier may garner by using Ethernet interfaces, the customer generally doesn't even care about the technology behind the solution.

"All they know is they can do all their OC-3 stuff, but now they can maybe put the new office on a VLAN over the Ethernet infrastructure," Garcia said.

The story has played particularly well with health-care providers as well as the financial services industry. Government agencies at the federal and state levels also have picked up, according to Rullo.

Health One in Denver, for example,

recently activated a multi-node Ethernet network infrastructure that was designed in part to support imaging applications and remote data retrieval. In this particular instance, radiologists are able to view X-rays stored in remote databases and have access to all of their information regardless of their location.

In that instance, it simply was more cost-effective to use Ethernet. In others, though, it's using a combination of technologies. In Tucson, Ariz., for example, the carrier is using both Ethernet and traditional TDM links to connect doctor's homes to clinics. The result is that the clinic then becomes more attractive to doctors who don't necessarily need to be in that location full time.

For Time Warner, selling those applications requires a different, but not unfamiliar, approach.

"We started five years ago enabling our infrastructure with equipment to support both traditional private-line Sonet as well as data," Rullo said. "Four to five years ago, we were still educating the customers. Now that others have come to market, we're back to educating customers on convergence. From a strategy perspective, as we're delivering these applications to our customers, we're in a pre-sales mode doing a much more consultative approach."

The technique appears to be working. On an annual basis, the company's data and IP revenue is growing

**On capturing the customer:** We introduced the capability to offer special access circuits as a service for our Ethernet. The majority of our business is on-net, and we'll pick up a couple of locations off-net with a special access circuit. It's a finished service, and then we put equipment on that to hand the customer an Ethernet interface.

**On bandwidth:** We took a slightly different approach. We offer service from 10 Mb/s to 10 Gb/s. Our job is to give customers the full line rate. We have a half Gig, full Gig and 10 Gig. We wanted to try to minimize the number of times you touch the customer's network for upgrades. It depends on the customer and their app--10 Gb/s is still a lot of bandwidth. Having that many buildings lit with fiber, though, we'll get a lot of customers that don't need more than 10 Mb/s. However, over half of the ports we've deployed are 100 Mb/s or higher. We've really gone to the higher end of the spectrum. The ones that take 10 Mb/s are the small and medium enterprises, and they're more focused on Internet access. Most of our customers are building a robust backbone.

at a 30% clip. Garcia credits the company's mindset shift, which hasn't been made by a number of carriers just yet.

"A lot [of traditional telcos] don't really understand the mindset of a business-related service like Ethernet," he said. "Their network infrastructure isn't just for them to carry traffic but also to become a revenue generator. And then you get the guys who look at Ethernet, but to them it's still a core transport. A lot of it has been raising awareness. It's not just some big companies doing this in L.A. It's something you, in the middle of any state, can use."

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