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In With the New: Changing Access Technologies

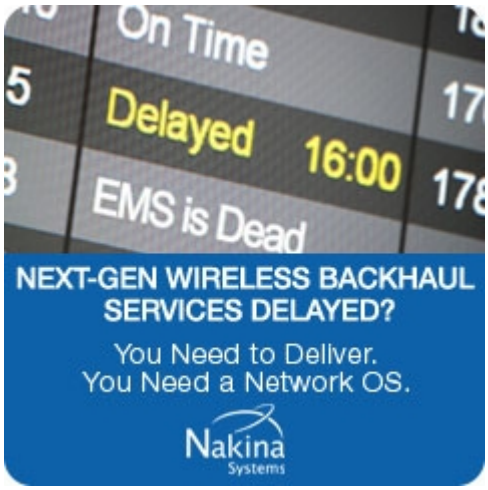
by Tim Young

A couple of decades ago, an oft-repeated slogan for an American hamburger chain crept into the political landscape, and eventually into the cultural lexicon to be batted around for years. That one little question became an encapsulation of the frustration of anyone who had, time and time again, encountered form over substance. It became the rallying cry for those sick of posture and craving action. Where's the beef?

Well, for at least the last decade and a half, industry types (and certainly I, too, am culpable) have been batting around talk of changing access technologies and "the last mile" and other such jargon to the point of rendering the entire conversation passé. And yet, even after years of prattling on, access technologies are still growing and changing and, in many cases, still not fulfilling the promises many people saw in them years ago.

Three access technologies are particularly relevant these days, and we want to take a look at their strengths, a few of their weaknesses, and what OSS professionals should be aware of in approaching them.

No Strings Attached: WiMAX.



WiMAX is an attractive technology for a couple of reasons. As a means for providing last mile services, WiMAX doesn't require the same costly and labor intensive installation process. Cable and fiber don't have to be run to every single office and cubicle. In areas with difficult terrain, buildout can be a relatively painless process.

Then there's the mobility factor. WiMAX holds the promise of true wireless broadband. As Craig Clausen, Co-founder of New Paradigm Resources Group, points out, "the current so-called 'broadband' wireless EVDO services offered by cellular carriers aren't true

broadband." Ask any twenty-something who has tried to impress someone by pulling up YouTube on his iPhone away from a WiFi hotspot. Not exactly fluid streaming.

The technology isn't without its detractors, though. Sprint has taken heat for its choice to focus on WiMAX in a meaningful way. Some investors seem nervous about the choice, but there are those who are optimistic.

A few weeks ago at the Consumer Electronics show in Vegas, Motorola Senior VP Fred Wright talked about the several thousand access points Motorola has shipped, which essentially serve as broadcast towers, and the 20,000 end user points that have also been shipped. Those are worldwide numbers, but in Chicago alone there are 300-400 WiMAX access points in place as a part of Sprint's WiMAX project, expected to go through soft launch in just a few months. Other projects he mentioned include the Wateen WiMAX network in Pakistan, which includes 700 access points and counting.

Still, WiMAX is, to date, a largely unproven technology. In spite of its promise, it still will take time to determine limits and optimize the technology.

It's fairly expensive to implement, as well. The Organization for Economic Cooperation and Development in the UK estimates that a nationwide WiMAX network in the United States would cost some 3 billion dollars to implement.

Likewise, there have been issues over the spectrum range in which WiMAX would operate. Globally, WiMAX operates between 2.5 and 2.7 GHz. In India, for example, that band is reserved for satellite based mobile and broadcast applications, like national emergencies. Therefore, India must conduct its WiMAX operations on different bandwidths, which complicates the situation.

Time will tell the tale of WiMAX, and we will determine if it was all, in fact, it was cracked up to be.

Cable: The Seeming Heir Apparent.

Whereas the jury may still be out on WiMAX, cable has certainly proven its worth. We know it works, and works well. Cablecos are currently delivering triple-play services that are reliable and high-quality. VoIP is old news, and call quality is strong. It seems, as far as residential service, that cable has come into its own. Still, there are considerations to be made.

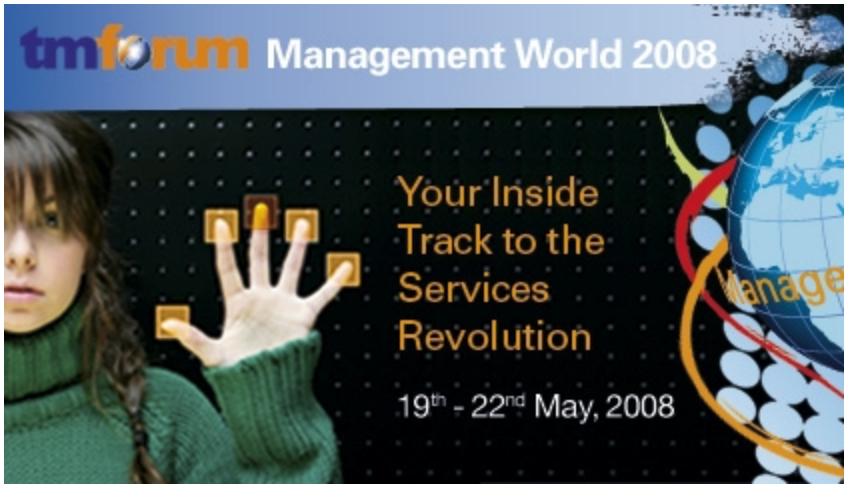
First of all, cable has outgrown its original design paradigm. "Cable, when initially installed, wasn't intended for telecom/data services," says Clausen. "This continues to present problems for cable companies as they have to refit systems to accommodate new demands on them." Indeed, cable is analogous to a Ford Taurus. A four-door, mid-sized sedan. Roomy. Comfortable. Good for a family of four. However, if you were to take a Ford Taurus and attempt to use it as a work truck or a bulldozer or an off-road vehicle or a racecar.... you might run into some trouble.

Then there's the issue of customer care, with which cablecos consistently have problems. Perhaps the companies are overextended, and perhaps they are working to correct the problems. However, anecdotal evidence aside, customer ratings of cablecos simply must improve if the companies are to remain in their very comfortable position near the top of the heap in terms of residential offerings.

FTTx: The Silver Bullet?

Growing every day is an access technology that contains as much promise as any. FTTx (in the form of fiber-to-the-home, fiber-to-the-premise, etc) is fast, capable, and championed by telcos that have experience delivering the level of service that consumers expect. "FTTx is a technology that is proven and is, in some regards the holy grail," says Clausen. "Capacity and potential are huge and haven't yet been tapped."

FTTx provides a big pipe that can support voice, video, and data services in a way that exceeds what is offered by cable, and does so with a greater degree of efficiency, planning, and customability. It provides what many see as the way for telcos to remain in the game in the face of pressure from competing SPs.



The downside? Cost and time. Deploying FTTx is a costly, difficult, and time-consuming process. Billions of dollars and years of time are needed, and what will happen to the technological landscape in the meantime? Will needs increase to the point that even a much larger bandwidth isn't enough? Will some other access technology roll along that renders FTTx irrelevant? This concern could be leveled at any sort of network buildout, but is a concern nonetheless.

The Future of Access

Any or all of the above technologies could experience massive success or failure over the next few years and decades. However, a lot of that has to do with the companies offering the service far more than the pipe being traversed. OSS is, of course, a big part of the battle for success. What good is a fat pipe without the

ability to deliver, monitor, and bill for the services delivered? QoS is a huge part of the game, and customers can be a fickle bunch.

Still, it's time for action. Cable is here and in place. It's time for it to mature. FTTx is here and coming soon to a neighborhood near you... if it can get there in time. WiMAX is sort of here, and sort of coming, and a lot of promise with no definite benefit yet. Perhaps, once it's found its feet, we can finally move past the saga of the last mile. Until, that is, the next big thing rolls into town.

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