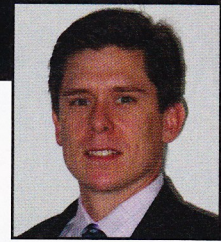


By Hunter Newby



Broadband Networks – The Relationship Between Availability, Usage and Frustration

Fact: If there is no physical network there is no wireless network, and without the physical network there can be no broadband, no Internet and no cloud.

Fiction: The United States has a nationwide broadband wireless network with full LTE coverage everywhere for everyone.

Wireless networks that support LTE, both mobile and microwave, require physical assets to operate. This reality escapes the minds of many for some reason though. They expect everything to work all of the time, get frustrated when it does not, but have no idea how it all actually works, or got there in the first place.

Perhaps it is because many people believe the commercials they watch on television. Most probably live and work in an area that already has physical network assets, and they simply have no care, or concern, to know how those assets came to be. To them, the assets just are and are supposed to be. It is as if they just expect it all to be there naturally.

Sadly, wireless towers and the fiber necessary to support LTE do not grow up out of the ground and in the ground, respectively, like a tree and its roots. Those physical assets need to be built, and the builders need the rights to place them where they are needed and that all takes time, planning and capital. This is an inconvenient reality of all communications networks.

International Data Corp. published a report in March 2012 on fixed and mobile broadband traffic volume growth in which the firm provides the following conclusions:

- * Internet-generated broadband traffic will increase approximately 50 percent year over year on fixed networks and double on mobile networks; and

- * end user demand for worldwide wireline and mobile broadband traffic will increase from 9,665 petabytes per month in 2010 to a jaw-dropping 116,539 petabytes per month in 2015.

"The enormous growth in end user demand for both fixed and mobile broadband services is staggering," says Matt Davis, director of consumer and SMB telecom services at IDC. "Despite enormous growth projected in IDC's forecast, it is difficult to overestimate this phenomenon. Fixed and mobile operators will have to deal with a new reality that will tax network resources to the limit – and perhaps past the limit."

IDC also points out that "Bandwidth usage strongly correlates with the availability of faster broadband speeds. This trend can be seen when comparing networks within countries and more widely from region to region. This tells us that capacity

and usage are interwoven, and that increasing capacity will ultimately lead to the adoption of new services and greater use. The relationship between availability and usage is important when considering the question of how much bandwidth is enough."

The takeaway from the IDC findings that capacity and usage are interwoven is key because if it exists it will be used, to its limit and probably beyond. That seems to indicate that it is a worthwhile investment to make – even and most importantly if it does not currently exist.

As IDC says, bandwidth usage strongly correlates with the availability of faster broadband speeds, which also means by default that there is no usage if there is no network at all, whether completely lacking existence (no bars), or being completely flooded with users actually using it. Based on these facts, it is difficult to overestimate the enormous growth in end user dissatisfaction and the way the network's customer service departments will be taxed to their limits and beyond while the rate of consumption outpaces the rate of investment in the physical networks. **IT**

Hunter Newby is CEO of Allied Fiber (www.alliedfiber.com).

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