

## The-All-You-Can-Eat Trap

By *Tim Young*

For some time now, we at Pipeline have been discussing the trend of the ever-increasing volumes of data consumed by end-users, especially in the wireless domain (See “[Confronting the Capacity Crunch](#)” from our January 2010 issue and this article and our entire [December 2009 issue](#)). It’s a complicated issue. On one hand, user behavior has evolved as the capabilities of devices and applications have evolved. At home, users are streaming video, using over-the-top VoIP lines, and, in some cases, engaging in P2P file sharing that clogs the networks and creates a need for additional bandwidth to be made available. On the other hand, users (especially in the North American market) generally bristle when they’re given usage caps or per-MB/GB pricing. Some do, anyway. Back when Sprint’s 5GB cap on certain plans made news almost two years ago, the crowd who complained the loudest was, of course, the crowd that was most likely to violate that cap. Many of the complaints I heard personally and read in various “talkback” sections were users that were tethering their mobiles to their laptops, or otherwise engaging in extremely bandwidth-intensive use. These customers are expensive to carry, and Sprint was far from the only carrier to cap usage. The lesson, in the end, is that either A) customer expectations have to be managed, or B) carriers open themselves up for bandwidth access to be used to its fullest by a small set of hyper-users. If A is the case, then it’s access, as well as expectations, that must be managed. If B is the case, the whole network needs to be managed. Either way, management is the key. The Sprint example aside, even casual users have



become accustomed to getting more for less. And providers have created that situation and fostered its growth by offering cheaper and cheaper all-you-can-eat plans.

Furthermore, the hardware is keeping up in the realm of massive bandwidth enablement. Routers are capable of carrying more and more data. Just a few weeks ago, Cisco unveiled a router capable of delivering [322 terabits per second](#). This router, designed to be used by

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CSPs on the internet backbone side, is just one indication of the substantial capacity for delivery capability being expanded. That’s on the supply side. Meanwhile, on the demand side, consumers are ever-adept at getting their hands on new ways to chew bandwidth. Those in the communications industry are quick to identify smartphones (and any device that begins with an “I”) as the primary culprits in massive data consumption. Reuters reported last month that RIM had taken aim at Apple, especially, for manufacturing smartphones that used data unscrupulously, which may ignore

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the fact that the increase in bandwidth usage is a cumulative effect of more and more users getting accustomed to using smartphones rather than less bandwidth-hungry traditional handsets. More efficient smartphones are a good idea, but if every user started using one of those tomorrow, we'd still have a bandwidth usage problem.

However, in that same report, RIM mentioned a figure we've reported in Pipeline, as well. While smartphones may consume some 30 times the bandwidth of a traditional web-enabled handset, mobile PCs chew through some 450 times that data (according to Peter Misek at Canaccord Adams). Galen Gruman at Infoworld reported this month that it's these laptops and netbooks that are really fueling the most alarming aspects of the bandwidth explosion, and quotes an ABI Research study that by 2014, all of the smartphone use combined will only make up less than ten percent of the projected 9.7 exabytes (9.7 million terabytes) of mobile data traffic. As carriers are actively marketing and subsidizing netbooks, they're encouraging this

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massive data traffic while still being in a position to be easily overwhelmed by such traffic.

However, new and different traffic may be a path to new and different charging models. In fact, it may be the 4G movement that helps carriers exit the more-for-less trap.

Now, what "4G" means exactly is the subject of some interpretation (see [Ed Finegold's column](#) on the topic in this issue). However, the shift to a new category of access may provide cover for a different charging scheme. Because, frankly, a change is needed.

PCWorld reported in December that the CEO of AT&T's Mobility and Consumer Markets, Ralph de la Vega, had strongly hinted that some sort of usage-based pricing was a possibility for that provider, saying "We have to get to those [high usage]



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customers and get them to recognize they have to change their patterns, or there are things we will do to change those patterns.”

And what better opportunity to change those patterns than to introduce a new paradigm for data charging alongside 4G rollouts? If it's true that the most intense bandwidth hogs (and we could be talking about users or devices, here) are responsible for the vast majority of the unreasonable bandwidth consumption, then it's obvious that tiered pricing is a simple necessity. Furthermore, if it's true that 4G speeds are higher, and that the users who tend to consume the highest rates of bandwidth will be among the earliest adopters of this speedier 4G technology. Install a bandwidth cap or tiered pricing early-on, and it will simply be, as they say, the cost of doing business. It's easier, after all, to introduce new pricing in a somewhat new environment than to change pricing structures midstream.

This is all theoretical, of course. Those who plan to complain will still do so. Ad infinitum.

However, the idea that 4G may bring with it new pricing models is certainly reasonable when you consider that the pricing models never should have spiraled so far out of control in the first place. In any event, OSS and BSS, as always, have a pivotal role to play. Network visibility is key to understanding where the heaviest bandwidth use is taking place. Flexible charging, rating, and billing models ensure that, once policy is decided, CSPs have the tools they need to collect the proper charges. In short, the tools are present. What's lacking is the decision to put heavier bandwidth controls in place in a way that they haven't been for many providers to date.

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