Pipeline
Knowledge Is Power

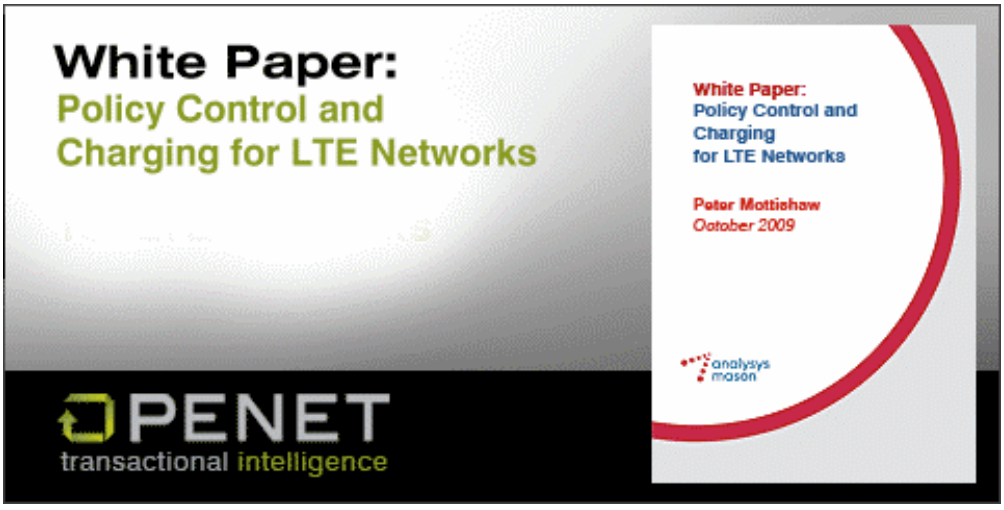
www.pipelinepub.com Volume 6, Issue 7

Maximizing Network Bandwidth and Managing Customer Expectations for 3G, 4G and Beyond

By Michael Manzo

Availability of network bandwidth has become a very hot topic of conversation amongst wireless providers. With valuable data subscription customers experiencing spotty service, operators are having to answer the question about how much bandwidth is available, how much is needed and how to leverage existing bandwidth to provide better service and postpone additional CAPEX to maximize available bandwidth for optimal profit.

New wireless devices are making global headlines. From the splashy iPhone 3GS to the geeky Droid to the more staid BlackBerry, smartphone brands have built an almost cultlike following based on look, feel, functionality and ability to handle operator-provided personalized services. Additionally, devices like netbooks and e-book readers are joining the fray, with service packages bundled into the devices, promising service anytime, anywhere for a flat rate. USB modems and Dongles are also real culprits, with customers using laptops and netbooks to do all the things they do on their DSL but with their mobile networks. Unfortunately, when it comes to actual usage, sometimes the devices write checks that the networks can't cash. The iPhone has been particularly notorious, overloading the network to such an extent that users in urban areas such as New York City and San Francisco have had trouble getting the most basic service.



Simple strategies such as indiscriminate routing of network traffic are not enough. The expense of over-provisioning to meet anticipated increases from bandwidth-hungry, personalized services isn't a

tenable solution cost-wise. Operators need to execute a more sophisticated strategy to manage his environment. The right approach falls under the heading of policy management.

Current data access business models frequently fail to align user behavior with the costs of this behavior. A solid policy management strategy with supporting solutions can help operators set rules for the allocation of bandwidth per service for better Quality of Service (QoS) management. While traditional QoS is crucial to accurately and effectively managing network bandwidth for individual subscribers based on the parameters of their plans, it's not enough on its own. Today's IP-based services require the ability to set specific rules based on subscriber usage and preferences and be flexible enough to extend bandwidth based on current network congestion levels.

Below are a few key questions that service providers are asking about maximizing network bandwidth.

How can service providers reduce the strain on crowded wireless bandwidth?

Service providers can address this challenge in one of two ways. The first approach is to implement fair use policies. With the mass adoption of wireless devices comes a surge of heavy users—users who consume more than their contractually allowed piece of the bandwidth pie. In order to continue to be profitable and keep network traffic moving at the promised speed, service providers need to protect the quality of service for their data users, by ensuring that heavy users of bandwidth do not disproportionately affect shared network resources and where they do, that there is an opportunity to recover some of the associated costs. The implementation of fair usage policies enables service providers to deliver a more equitable service to subscribers and make sustainable returns from their investments in network capacity.

The second is to look at how the plans themselves are structured and tier services accordingly. By offering flexible data access plans, that dynamically allocate network demand among multiple service tiers, operators can intelligently manage network growth, more effectively meet subscriber needs and better match revenues with network utilization. This approach is a combination of plan structure and technology designed to manage the plans for optimal service and performance, allowing operators to succeed in aligning user behavior with the costs of this behavior.

Both of these approaches enable service providers to enable intelligent, sophisticated management and allocation of network resources based on subscriber plans. Additionally, both approaches allow service providers to do more with less, making existing bandwidth more efficient.

How can I map future bandwidth demand?

As devices, apps, content and services become more sophisticated, bandwidth needs to expand exponentially to meet subscribers expected quality of experience. The challenges of next-generation networks include lengthy development cycles, complex rollout and constant innovation that bring associated CAPEX.

Enabling effective and profitable rollouts means first having a clear understanding of the applications being considered, how subscribers are expected to use them and the expected associated bandwidth needs. One way to plan is to review previous application offerings with similar network needs and subscriber usage profiles. The hitch is, these predictions offer only a baseline, so piloting the program in key cities with well chosen demographics will provide a better real-world scenario from which to plan.

Although creating some initial cost, pilot program insights are essential in planning for bandwidth issues. The findings can help determine what type of packaged offerings will work well together (low bandwidth text with high bandwidth videos, for example) and can set the stage for a pricing discussion that ensures the additional bandwidth CAPEX is factored into the overall offering strategy.

One prediction is that the subscriber model will disappear completely, giving way to a model wherein network access is tied to service purchases on an ad hoc basis. The catch? Ad hoc access would have to be open, allowing subscribers to connect to whichever network is available at the time. This would certainly change the face of mapping future bandwidth demand.

Summary

There are many different ways to tweak bandwidth delivery, consumption and performance—and these should be designed to maximize network and subscriber resources. By taking steps to maximize network performance now, operators will set themselves up for future successes as next-gen networks—and business models—continue to evolve, giving rise to more, richer revenue-generating services.

About Openet

Openet is a leading worldwide provider of event-processing and transaction-management solutions. We remain focused on delivering best-in-class network-edge solutions and specialized engagement processes that create business value from network activity.

Through its open architecture and modular design, the award-winning FusionWorks™ FrameWork serves as the scalable foundation for a range of Openet products; Convergent Mediation, Convergent Charging, Network Edge Rating, Balance Manager, and Policy Manger.

A global company, Openet implementations include long-running engagements with the world's leading service providers such as BT, Orange, AT&T, Verizon Wireless, and Telstra.

For more information visit http://www.openet.com