

# Pipeline

Knowledge Is Power

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## Managing the Bandwidth Flood

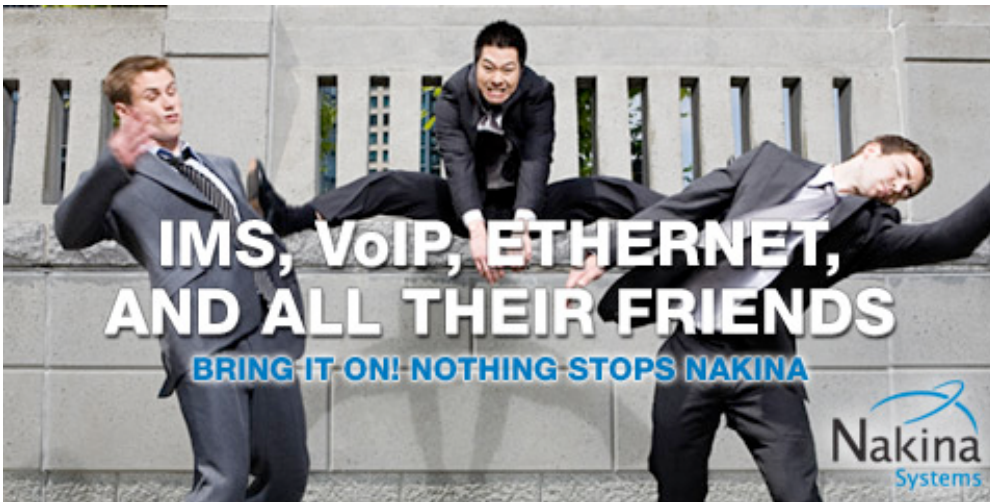
By Tim Young

It's getting mighty crowded out there.

I don't mean crowded with people (though I'm sure any US citizen who was foolish enough to set out on post-Thanksgiving shopping trips would SWEAR that the world population had quintupled since the day before), as that would be another conversation for another time and another publication.

It's the network that's getting crowded. In the past few years, we've seen an explosion of mobile data usage, especially in the wireless sector. Consumers have been offered more and more services over rapidly growing networks, and have consistently come back to ask for more and ever more.

It's gotten to the point that some carriers are shying away from talking about the challenges of bandwidth demands. After widely publicizing the massive growth their mobile data offerings have seen over the last few years, AT&T has gotten uncharacteristically tight-lipped about their data explosion (several AT&T execs mentioned a 5000% growth of mobile data usage between 2006 and 2009).



Therefore, the question remains: How are service providers meeting customer demands for more and more bandwidth-hungry services?

To understand that question, we need to understand the problem.

Customers are using more bandwidth than ever before, especially on the wireless side. I've seen multiple figures that point to the severity of the issue, but one that has stuck with me is that the average smartphone uses some 30 times as much data as a typical web-enabled, but otherwise traditional, handset. However, the average laptop/netbook with wireless broadband access can tear through nearly 450 times the amount of data as a traditional handset. That's one powerful appetite.

Furthermore, with an ever-growing list of bandwidth-hungry smartphones and netbooks shipping every day, new bandwidth addicts are being created all the time. We've seen user behavior change when subscribers get their hands on a device that they can really use in new and interesting ways. That means more bandwidth usage.

In addition, Debra Lewis of Verizon Wireless recently told Pipeline that in Q3 '09, "customers sent and received more than 153 Billion text messages and nearly 3 billion picture/video messages -- both up from the previous quarter and the year-ago quarter." That's an awful lot of messages. In addition, Lewis told us that users crossed "50B SMS in a month for the first time ever -- well more than many of our competitors and showing how our customers are using their phones for data." Lewis also noted nearly 40 million song and video downloads via Verizon's V CAST service during that same quarter.

A graphic advertisement for ConceptWave. The background is a dark blue and brown grid with white lines. The text "Let us keep your orders on track." is at the top in white. Below it, "ASK CONCEPTWAVE ABOUT ..." is followed by a bulleted list: "multi-play orders", "exception order handling", "centralized dynamic catalog", and "processing millions of orders". The ConceptWave logo is on the left, and the website "www.conceptwave.com" is on the right. At the bottom, it says "Empowering Service Orders" and "Proven, high performance order and catalog management solutions." in white text on a dark blue background.

Let us keep your orders on *track*.

ASK CONCEPTWAVE ABOUT ...

- multi-play orders
- exception order handling
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ConceptWave

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Empowering Service Orders

Proven, high performance order and catalog management solutions.

And the increased data use is a financial boon, too. Lewis notes that, also in Q309, "\$4.1 billion, or more than 30.5 percent, of all service revenues came from data services, up from 25.1 percent in 3Q08."

However, that increased use means dealing with more traffic, which means network spend. "We have averaged more than \$5.5 billion annual investment in our network since 2000," Lewis said, "and are constantly looking at how to manage what our customers want to do on the network."

Other providers, also wrestling with an increasing demand for bandwidth, are using other tactics, such as pushing for increased spectrum allocation from the FCC.

In a recent FCC filing, T-Mobile said that the Commission "should not be swayed by one wireless carrier's (Sprint Nextel's) misguided argument that proposals to provide major additional quantities of spectrum for mobile broadband overstate the needs of the industry." In addition, T-Mobile stated

that "the Commission, the U.S. government, and the industry should proceed with the spectrum reallocation process as quickly as possible, while continuing to streamline and improve relocation procedures." Also, the filing stated that "T-Mobile wholeheartedly supports the Commission's stated intentions to consider a wide variety of options for identifying new spectrum suitable for mobile broadband, including spectrum currently used by broadcasters."

So, increased network build-out and enhanced spectrum allocation are part of the push.

However, industry analysts, like Craig Clausen of Chicago's New Paradigm Resources Group (NPRG) assert that there's no one answer to the demand for more bandwidth. "Service providers need to consider employing a multi-level approach to solve the bandwidth issue," said Clausen. "Part of that will involve additional towers and more spectrum, but the approach may also involve better back office and support systems to improve the overall efficiency of managing this increasingly complex networks."

And that's at the heart of where OSS/BSS players come in. Managing a glut of bandwidth demand may require more than just more towers and more spectrum. There's a fantastic amount of squandered and ill-used bandwidth floating around out there. CSPs should know that it's in their best interests to employ the sort of OSS/BSS systems that could help them identify stranded assets and use them to their best ability.

In addition, proper OSS/BSS systems can allow for the identification of bandwidth hogs that use absurd amounts of bandwidth (often busy with P2P uses of questionable legality) and the tiered pricing or bandwidth caps that would require those users to better carry their own weight.

Furthermore, an acknowledgement of the bandwidth crunch should also reflect an understanding that not all bandwidth hogs are P2P junkies.

During the keynotes at SUPERCOMM 2009, I was struck by the remarks by Richard Cotton, of NBC Universal. He railed against piracy, and promoted alternatives like Hulu and NBC's Olympics coverage website as proof that legal alternatives to piracy and unlawful P2P exchanges exist. However, that doesn't address the issue that those streaming sites, while allowing the content owners to profit, don't do a whole lot for the service providers who provide the plumbing that delivers the bit to the consumer. Whether that bit is lawful or unlawful, it can still be a heavy load to haul if there's no pricing structure in place that differentiates between heavy data consumers and light data consumers. That's something that OSS/BSS players and CSPs need to work out.

There are answers available for CSPs who seek them. Towers, fiber, improved backhaul: These things all help and are unquestionably necessary. However, these things take time and cash. There are OSS/BSS answers to some questions that can help in the short-term and help even more in the long run.

Customer demand for more data isn't going anywhere. Demand must be met with supply, and that means that CSPs must do whatever they can to meet the customers where they are. That means getting creative with OSS/BSS solutions.