

Helping Hands for Broadband

Wireless Carriers Test Ways to Cope With Heavy Demand on Mobile Networks

BY CHRISTOPHER LAWTON

As smartphones, tablet computers and other mobile devices gobble up ever-bigger portions of available bandwidth, wireless-service providers are turning to outside technology companies to help find ways to either boost capacity or lighten the load on their systems.

TDC A/S, a Denmark mobile operator, turned to **Birdstep Technology ASA**, a Norwegian company, to help ease the data overload. Essentially, the technology reaches out to users and urges them to temporarily switch away from the broadband network to Wi-Fi hot spots whenever possible, promising faster speeds as an incentive.

Other companies offer systems to compress video, reducing the amount of bandwidth it needs. Another product on the market cuts down in the amount of unnecessary requests for data made to networks for updates.

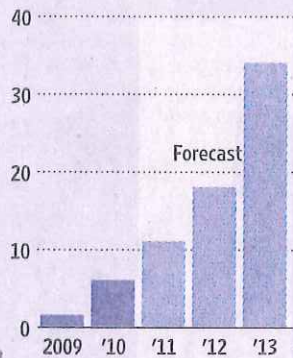
For wireless carriers, the growth in mobile broadband represents an opportunity for revenue growth at a time when traditional phone revenue is dwindling as customers "cut the cord" on land lines. But the rapid-adoption smartphones and tablet computers that browse the Internet, play mobile video and download software applications tax their systems. The congestion leads to longer wait times and lower quality for Web surfers, ticking off customers.

The data crunch will only get worse. The success of **Apple Inc.**'s iPad has spawned a wave of other tablet computers, and smartphones are now ubiquitous. Meanwhile, Internet sticks—thumb-sized gizmos that plug into laptops for wireless Web surfing—are gaining in popularity, and consumers increasingly want high-bandwidth video on their portable devices.

Mobile-broadband use is growing "a lot faster than anybody anticipated some years ago," says Anders Langkilde, product manager at TDC. "The challenge is the capacity, and

Download Deluge

Global data usage per year, in exabytes*



* An exabyte is one billion gigabytes.
Source: The Mobile World



Smartphones and tablets, like the iPad shown, use large amounts of mobile bandwidth to surf the Web.

having to increase the capacity in the right places."

That's why Birdstep's software appealed to TDC. It works like this: The Danish carrier installs software from Birdstep onto USB modems, or Internet sticks, that a customer can pop into his or her laptop. The modems monitor when a Wi-Fi "hot spot" Internet connection is available. When it is, a message pops up on the laptop screen. If the user agrees, the software will switch the modem over to the hot spot—transferring to a connection that emanates from a fixed-line Internet access point, getting the user off of the mobile broadband.

Because it costs more to provide mobile broadband coverage than fixed-line Internet, Birdstep's off-loading technology, in use for two years, helps lower TDC's overall costs. It also helps keep quality levels high by connecting those in the range of a hot spot to faster, more stable Internet, says Mr. Langkilde.

In March, Montreal-based **Vantrix Inc.** partnered with Sweden's **Telefon AB L.M. Ericsson**, which makes telecom equipment, to sell a "video optimization" system that helps reduce the bandwidth mobile video uses. Allan Benchetrit, president and CEO of Vantrix,

says that the system, which is being pitched to wireless service providers, can compress mobile video bandwidth between 30% and 50% and save operators up to 70% in costs related to operating and upgrading the network. Earlier this month, Ericsson said that Mobifone, a Vietnamese carrier, has signed on as a new customer.

The system delivers videos online closer to the time frame spent watching them instead of delivering the entire video, helping to save bandwidth when someone clicks off before the video is finished. It can also adapt the video to the quality of the Internet connection, and adapt it for different screens and devices.

Global mobile data traffic this year is expected to more than double from 2010, reaching 0.6 exabytes per month, up from 0.24 exabytes monthly, according to research from **Cisco Systems Inc.** Mobile video traffic is expected to make up 52.8% of that traffic this year, up from 49.8% in 2010.

Global data revenue for wireless carriers is expected to more than double to \$491 billion in 2014 from \$214 billion in 2009. Those wins will be offset by a 2% decline in revenue from voice services to \$620 billion in 2014

from \$633 billion in 2009, according to market researcher Gartner Inc.

Mark Yarkosky, a director of product at **Sprint Nextel Corp.**, says another vexing challenge is the number of applications that users have running simultaneously on their smartphones. The applications constantly connect to the network and request information back, such as status updates for social networks. For consumers, all that silent activity can make the connection appear slow, and it wears out the battery.

Sprint is testing software from **Seven Networks** of Redwood City, Calif., that monitors requests for data coming from smartphones apps and then connects to the network only when new updates are available. The result can mean a 40% reduction in the time a smartphone or tablet is on the network and an improvement of up to 25% in battery life, says Seven Networks. Sprint's Mr. Yarkosky says that so far the results of the testing have been positive, though he adds that the company is still validating the results.

Sprint is trying to be proactive in addressing the burden from increased data use, he adds, "so that it doesn't show up as a problem for our customers."

BY ANI

We pe wit a se to c son 7 vio in 2 J.T. inv den we a r jud; circ sibl saic

bill (US mo) yea an : billi fell F resu wri ven rop able aud rest ope off T dev and for PCs mar A ye qua bal

