

'Spectrum crunch' may slow US mobile revolution

June 16 2012, by Rob Lever



Customers look at the a new Apple iPad at Apple's store in New York in March 2012. The US is bracing for a data crunch from the surging use of smartphones, tablets and other mobile devices. The explosion of use of these devices for the Internet is rapidly eating up the radio spectrum allocated for mobile broadband. US regulators say the crunch could come as early as 2013 and get worse in 2014.

The United States is bracing for a data crunch from the surging use of smartphones, tablets and other mobile devices as the explosion of Internet-ready devices eats up the radio spectrum allocated for mobile broadband.

US regulators say the crunch could come as early as next year and get worse in 2014. If no action is taken, smartphone users could see slowdowns, dropped connections, and higher prices.

Some carriers are already preparing by imposing data caps or "throttling" speeds for smartphone users.

Each mobile device -- whether it is an iPhone, Android device, Internet-connected car, medical wireless device or gadget such as [Google](#) glasses -- connects to a carrier over the radio spectrum.

Much of the spectrum has been allocated to broadcast television and radio, and other portions are dedicated for [air traffic control](#), [military communications](#), police and emergency use.

Wireless [data traffic](#) is expected roughly double in each year through 2015. This will mean a "deficit" of 90 megahertz next year and 275 megahertz in 2014, according to the [Federal Communications Commission](#).

--- APPLE, IPHONES TO BLAME ---

"We are running out of wireless data spectrum. What does that mean? Slowdowns and outages when trying to use one of the many apps like [watching television](#), movies, using GPS and navigation," says telecom analyst Jeff Kagan.

Kagan said Apple ignited much of the growth with the iPhone and [iPad](#), and now Android devices are gobbling up data use as well.

After the [iPhone](#) was introduced, he said, "the entire industry shifted. Now wireless data usage through hundreds of thousands of Apps is squeezing the networks dry."

Julie Kearney of the [Consumer Electronics Association](#) said a data crunch could have adverse [economic consequences](#), hurting consumers as well as wireless [gadget makers](#) and sellers.

"Ultimately the consumer will suffer," she said. "They realize we can build these products but if they don't have the spectrum, they will stop using or buying them, and then who will make them?"

A White House report this year notes that growth in wireless will have "substantial impact on jobs, growth, and investment" for the US economy.

The crisis was underscored when Lightsquared, a company with an ambitious plan to offer a nationwide mobile broadband service, failed to get a portion of spectrum when the government said it may interfere with GPS.

The impending crunch is setting up a mad scramble among wireless carriers, the broadcast industry, government agencies and others to reallocate some of the spectrum, which has a limited capacity of around 2,500 megahertz.

The Obama administration unveiled a plan in 2011 to free up some 500 megahertz of spectrum over the next decade, through voluntary auctions and streamlined government communications. But only a fraction of that is likely to be available within the next year or two.

Some of the focus has been on the broadcast television industry, which has nearly 300 megahertz, but is losing viewers to cable and satellite.

-- DOUBTS FROM BROADCASTERS ---

The National Association of Broadcasters last year sought to deflect criticism and commissioned a study suggesting the case for a spectrum crunch is overstated and that the crisis can be solved with better technology including more efficient antennas and cells.

"The factual basis for the 'spectrum crisis' claim is underwhelming," said consultant Uzoma Onyeije, who led the broadcasters' study.

Chris Guttman-McCabe, vice president of regulatory affairs for the CTIA, the wireless industry trade group, said broadcasters are ignoring the massive shift in the marketplace.

"All I see is every mode of communication moving to wireless, the majority of broadband access moving over wireless," he said, adding that every industrialized country is reallocating spectrum for wireless data,

AT&T chairman Randall Stephenson said the industry is in "a race against time" and that if there is a data overload, "the speed of the mobile revolution will slow down (and) prices, download times and consumer frustration will all increase."

He wrote in the Wall Street Journal that the FCC auction is an important step but that "it will take six to eight years to put that spectrum to use. Our country and our consumers can't wait that long."

-- CHOKING OFF INNOVATION --

Thomas Hazlett, head of George Mason University's Information Economy, said it would be a mistake to see new technology as a silver bullet.

"If you have to use more technology to make up for less bandwidth, it's going to be more expensive," Hazlett told AFP.

Hazlett said spectrum has been allocated since the 1920s in a bureaucratic process which fails to take into account the economic value from wireless services.

"The Defense Department says they need all this spectrum, but how do we know that?" he said.

Many government agencies which use big chunks of spectrum "have absolutely no economic incentive to conserve [radio spectrum](#)."

Hazlett said the US plan to expand [mobile broadband](#) spectrum "is a step in the right direction but not bold enough" to meet market demands.

"They should go much further in reallocating [spectrum](#) to where the consumers and the market really want to use it. There's a tremendous amount of innovation out there in wireless and we don't want to choke this off."

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