FCC Expected To Approve White Spaces

Microsoft and Google have both been testing white spaces networks though estimates of when devices capable of using the spectrum might reach the market vary widely.

By W. David Gardner, InformationWeek
Sept. 13, 2010
URL: http://www.informationweek.com/story/showArticle.jhtml?articleID=227400274

After lying dormant for more than two years, the idea of using so-called "white spaces" spectrum for a sort of free universal broadband access is likely to be approved by the FCC at its September 23 meeting, but actual implementation of the Wi-Fi complementary technology will likely remain in limbo.

Providers must develop components, custom devices and infrastructure to take advantage of the technology and there is likely to be continued resistance from broadcasters and others. Another important question concerns carriers like AT&T and Verizon, which spent several billion dollars for the 700 MHz spectrum, which the free white spaces bands surround. Will the carriers support free white spaces technology, which could compete with its paid services?

One effort already underway to use white spaces is at Rice University where researchers are working to develop and test custom-built networking gear, smartphones, laptops and other devices that can seamlessly switch frequencies between traditional Wi-Fi reception and white spaces.

"Ideally, users shouldn't have to be concerned with which part of the spectrum they're using at a given time," said the university's principal researcher on the project, Edward Knightly, in a statement. "However, the use of white space should eliminate many of the problems related to Wi-Fi 'dead zones,' so the overall user experience should improve."

Estimates of when white spaces-capable devices will actually appear on the market range widely. More details and specs on the white spaces technology are expected to be released at the FCC meeting.

David Callisch, Ruckus Wireless vice president, said he believes Ruckus can shorten the time span because of its antenna technology, although he can't predict when white spaces technology will be widely available in the U.S. "The thing that's really nice about antenna-based dynamic beamforming is that it sits above the baseband chips," said Callisch in an email Monday. "(This means) that we are agnostic about the underlying wireless transport. We can adapt smart antenna arrays to any wireless technology."

Microsoft, an ardent supporter of white spaces, has been testing a white spaces network at its corporate headquarters in Redmond, Washington. Google has been another supporter of white spaces. A trial white spaces network in Wilmington, North Carolina, has also been trialing the network for several months.

Because white spaces technology can deliver broadband access free of charge, the phenomenon opens up the possibility of using it to provide service to underserved individuals, many of whom can't afford to pay for existing broadband access. The Rice University researchers have worked with a Houston nonprofit organization called Technology for All that provides Wi-Fi access in a working class neighborhood in Houston. The researchers have been testing various wireless platforms and custom-built mobile phones in the neighborhood.

Rice researcher Lin Zhong said the Rice researchers are studying whether a combination of Wi-Fi and white spaces technology can extend battery life and improve reception access. "White apace and Wi-Fi have quite complementary characteristics," said Zhong, who is a Rice assistant professor in electrical and computer engineering. "While a Wi-Fi node can provide a higher data rate, a white space node can cover a much larger area. The project will study how a dynamic network architecture can combine these strengths."

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[FCC Proposes Wireless Microphone Ban To Boost 'White Spaces'](#)

[FCC Delays Tuesday Vote, Prepares For 'White Spaces' Ballot](#)

[Google Wants FCC To Consider 'White Space' Spectrum For Handset Broadband](#)