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FCC's Approval of 'White Spaces' Could Spark Next Technology Revolution

Broadband network is described as "WiFi on steroids" and could enable next generation of wireless devices and applications.

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By Peter Alpern

Nearly two years ago, the Federal Communications Commission approved using of the "white space" spectrum to serve as free universal broadband access. Since then, the issue has lied dormant. But on September 23, the FCC will finalize rules for its use, which has the potential to dramatically expand wireless internet service in the U.S.

White spaces, as they're called, is the unused spectrum that was created when TV stations switched from analog to digital signals in June 2009. Advocates have referred to that spectrum as "Wi-Fi on steroids" which regulators would like to open for supercharged mobile broadband applications.

The FCC is hoping that by opening white spaces up for unlicensed use, it will spark a similar wave of innovation that occurred more than 20 years ago when regulators ushered in unlicensed airwaves, giving birth to Wi-Fi, along with the first wireless consumer electronics, such as cordless phones, garage door openers and baby monitors.

That inherent opportunity has tantalized technology companies such as Google, Microsoft and Motorola, who are eager to use white spaces for the next generation of wireless devices and applications.

The FCC has described white space potential as "super Wi-Fi." And for American consumers, it has the potential to provide wireless coverage that can penetrate walls and cover large areas, enabling rural broadband networks and smart homes.

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.

According to a report in Tribune Newspapers, FCC Chairman Julius Genachowski expects products using super Wi-Fi to be available within a year of the board's Sept. 23 vote.

White spaces also have the potential to create their own controversy. Television broadcasters, for instance, along with users of wireless microphones, such as performers, fear that opening the spectrum will cause interference and muddy the signals.

Technology companies vehemently disagree. In a filing sent to the FCC, Microsoft ran an experimental network in April constructed at the company's headquarters in Redmond, Wash. Microsoft was able to cover nearly its entire 500-acre campus with a white-spaces network that utilized only two base stations to transmit signals.

Last year, Microsoft commissioned a study that estimates the unlicensed white spaces spectrum could be worth more than \$100 billion over the next 15 years, largely as a result in the increased use of consumer electronics.

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