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# Hot Spectrum Draws Cash, and Ideals

By [JOHN MARKOFF](#)

SAN FRANCISCO, March 25 — It is referred to as the last beachfront property in the wireless world — a prized swath of spectrum that is about to be sold at federal auction. And it has touched off an intense lobbying effort pitting cellular companies against a variety of new players interested in the potential of a next-generation mobile Internet.

The [Federal Communications Commission](#) will set the rules for the auction, possibly as soon as next month. Depending on that ruling, the spectrum could be used for voice services for cellular carriers, new frequencies for emergency responders, or a commercial high-speed broadband multimedia network.

Among those trying to influence the outcome are three of the nation's four largest cellular providers, rural and regional wireless carriers, cable and satellite television companies and a range of technology companies — including [Google](#) and [Yahoo](#).

Along with other wireless technology proposals, the auction could reshape the debate over who controls access to the networks that deliver digital content to consumers. Opening the door to more network competition nationally could have a tremendous economic impact.

“This offers the potential for a real game changer in broadband spectrum,” said John M. R. Kneuer, assistant secretary for communications and information at the National Telecommunications and Information Administration, an arm of the Commerce Department. “It can both generate new innovation and lower prices.”

The airwaves in question are in the 700-megahertz band, a segment used until now for UHF television but freed up by the move to digital broadcasting. Unless Congress reverses itself, those frequencies are scheduled to be reclaimed by the government and reallocated for public safety and commercial broadband networks on Feb. 19, 2009.

Mr. Kneuer points out that because the new band is at a lower frequency than today's cellular and digital wireless services, it has a far greater range as well as the ability to penetrate the walls of homes and office buildings more effectively.

That could enable a new entrant to build out a broadband service dedicated to mobile devices — a sector considered to have greater growth potential than conventional voice services. This could be done quickly and relatively inexpensively with just a few transmission towers and then filled in with additional capacity as new customers join the network.

“This is the realization of a truly national wireless Internet,” said [Reed E. Hundt](#), a former F.C.C. chairman.

Last month Mr. Hundt launched a Washington-based organization called [Frontline Wireless](#) and filed a proposal with the F.C.C. to create an “open access” network intended to support both public safety services and the creation of a system to offer wholesale broadband network service.

Unlike the current practice of American cellular companies, which lock customers’ handsets to a particular carrier, Mr. Hundt’s network envisions a system that would let a consumer connect a device like an [Apple](#) iPhone or a [Palm](#) hand-held device upon purchasing the device at a store like [Best Buy](#).

Mr. Hundt said Frontline had begun building an investor group to take part in the auction, which could begin as early as this summer. Significantly, the company’s first identified investor is K. Ram Shriram, an early Google investor and current board member, and managing partner of Sherpalo Ventures.

Earlier this month Google also helped create a lobbying group called Alliance for 4-G America, with partners including Yahoo, [EchoStar Communications](#), DirecTV, [Intel](#) and Skype, in an effort to influence the F.C.C.’s rule-making for the auction.

Several industry executives and analysts said it was unlikely that Google or Yahoo would directly take part in bidding for the new wireless spectrum, for fear of antagonizing communications companies by competing directly with them. But both companies are intensely interested in persuading the F.C.C. not to give advantages to the wireless incumbents in the bidding process.

Google, Yahoo and other Internet companies are worried about the ability of large cable and telephone companies to restrict certain types of Internet traffic, or to give priority service to some content providers over others, possibly for a fee. Companies like [AT&T](#) and [Verizon](#) have responded that such measures might be necessary to protect their investments in broadband networks.

Industry executives have said that Verizon Wireless or other cellular companies might be willing to spend billions of dollars for the spectrum simply to block competitors, or possibly for voice applications intended to help the national cellular companies compete more effectively against smaller regional and local cellular firms.

Several analysts cautioned that upstart bidders might be hard pressed to compete against the incumbents, which have vast cash reserves.

“Silicon Valley bidders have deep pockets, but it would be very outside-the-box and high-risk for them,” said Kevin M. Roe, a telecommunications analyst at Roe Equity Research in New York. “Not only do you need the money to buy the spectrum, but you

have to build a network — and that would be a gargantuan task that would take years with no guarantees they could catch up with the big four national operators.”

A Verizon spokesman said the company was interested in the potential offered by the 700-megahertz frequencies but had not yet committed to enter any auction for the spectrum. The company executive also noted that it was still possible that legislation might emerge from Congress that would again delay the digital television and set back an auction date.

But because the auction could generate as much as \$10 billion to \$30 billion for the [United States Treasury](#), some policy analysts said they were concerned that the auction process might trump the broader impact that new wireless services or technologies might have on the economy.

“This spectrum could catalyze tremendous innovation,” said Kevin Werbach, assistant professor of legal studies at the Wharton School, [University of Pennsylvania](#). “However, if the auction process is focused on raising the most amount of money for the government, it might prove counterproductive for the larger economic interests of the country.”

That may be particularly true for a related proposal recently put forward by a separate coalition also including Google, as well as [Microsoft](#), Intel, Dell, [Hewlett-Packard](#), and Royal Philips Electronics. Earlier this month, the group gave a prototype device to the F.C.C. that they said would be used to build a next-generation wireless network that would have greater range and better performance than the current generation of technology known as [Wi-Fi](#).

The new service would fall within existing television bands, but would use smart radio techniques to avoid interfering with local television channels.

“We think this has the economic potential of the Wi-Fi industry or even more,” said Scott Blake Harris, a Washington lawyer who represents the group.

The regulatory situation is clouded by competing proposals for the use of the 700-megahertz band as well as a range of other frequencies. For example, Morgan O’Brien, a founder of Nextel, last year formed Cyren Call Communications, which petitioned the F.C.C. for an alternative use for that band for public safety services. While that proposal was rejected by the commission, Cyren Call is still trying to win Congressional support for the idea.

Separately, last May, Silicon Valley-based M2Z Networks petitioned the F.C.C. for spectrum to build a freely available nationwide broadband network at the higher frequency of 2.155 gigahertz.