

# Silicon Valley Seeks to Revamp Wireless Industry

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A start-up backed by Silicon Valley's power elite hopes to convince regulators to back a business plan that could scrap many restrictions on wireless networks and help Internet service providers like Google Inc. and Yahoo Inc. into the market.

At stake is a chunk of wireless spectrum so valuable that it is being touted as the last opportunity for a new player - such as the start-up Frontline Wireless of Greensboro, North Carolina - to enter the \$100 billion U.S. wireless market.

Just over 100 megahertz of analog airwaves are being returned by television broadcasters as they move to digital signals. Of that, about a quarter is being set aside for public safety and another portion is slated to be auctioned off by the U.S. Federal Communications Commission later this year.

Frontline Wireless wants to buy some of the spectrum and use Internet technology and a new type of software-based radio system for a network that public safety workers could share with commercial groups as diverse as traditional cellular phone providers, Internet companies and even energy utilities.

The idea is to have commercial organizations that use the network to foot the bill to build a system also designed to overcome significant problems emergency workers had talking to each other in emergencies such as 9/11 and Hurricane Katrina.

"Our basic business plan is to guarantee roaming or national mobility to competitors. We are very much a story about jump-starting competition in an industry that is rapidly consolidating," said Reed Hundt, Frontline's vice chairman and a former FCC chairman.

The U.S. cellular market is dominated by four large companies - AT&T, Verizon, Sprint Nextel and T-Mobile - whose networks often do not cover sparsely populated areas and only support communication using devices that they have decided can run on their networks.

Frontline is proposing a system that can support multiple network technologies and can quickly reallocate how airwaves are shared among users. It wants to give customers more choice over devices while ensuring public safety workers get priority in emergencies.

Backers of the plan include some of Silicon Valley's biggest power brokers, such as top venture capitalists, two Google board members and Vanu Bose, a developer of software radio technology.

Frontline's Chief Technologist Stagg Newman, also a former FCC technology official, said the company envisions three types of potential commercial customers for the service.

The first type are newcomers like Web heavyweights Google, Yahoo, Microsoft Corp. "and the companies we haven't even thought of, he said. "That's why I think Silicon Valley is enthused."

Frontline said it has had preliminary discussions with these companies, and was open to more proposals.

"Steve Jobs could come out with an iPhone and come to us and say I'd like to buy capacity," he said, referring to the Apple Inc. CEO. The iPhone launches in June.

The second type of potential clients is cellular providers looking to expand into unserved regions, such as AT&T, Verizon Wireless, which is owned by Verizon Communications and Vodafone, Sprint Nextel and T-Mobile USA, owned by Deutsche Telekom.

Thirdly, Newman said he has seen interest from utility companies that want to use wireless to remotely manage facilities such as electric substations or gas pipelines.

The challenge for Frontline, whose proposal was put forward relatively late in the bureaucratic jockeying ahead of the auction, is to convince the FCC to craft auction rules that can work in its favor, analysts said.

The agency is expected to let bidders know on April 25 what kind of services can be offered using the airwaves and how the spectrum will be divided up in the auction.

Frontline wants a block of spectrum next to the airwaves being allocated for public safety, to be designated for use by emergency workers as well as commercial customers.

It also wants the winner of that piece to commit to let any communications service lease capacity on the network.

"It would be a fairly significant change," said Stifel Nicolaus analyst Rebecca Arbogast. "I think Frontline has a fighting chance if it gets support from the public safety."

A tentative set of rules on how the auction will proceed is currently being circulated among the five FCC commissioners who vote on agency decisions, sources say.

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