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Power-Line Internet Inches Closer

FCC's Powell Likes Technology, but Technical and Regulatory Issues Remain

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Proponents of a technology that sends Internet signals through electrical lines are trying to overcome years of skepticism to impress the Federal Communications Commission, which is soliciting comments this month on rules governing devices that operate on unlicensed frequencies.

A few companies, including Current Technologies LLC of Germantown, are testing the service, with which computers can be connected to the Internet through electrical outlets. Current Technologies demonstrated the technology to FCC Chairman Michael K. Powell yesterday at a home in Potomac.

The service is being tested in about 70 homes each in Potomac and Cincinnati. Current Technologies, in partnership with Pepco, plans to offer the service in the fall.

The concept of using power lines for communications has been around for several years, but technical difficulties tripped up attempts to make it work.

Current Technologies' demonstration showed transmission speeds four times as fast as cable Internet or digital-subscriber-line service. An estimated 80 percent of the U.S. population is in areas that offer at least one of those services. Nearly all homes are wired for electricity, which means the technology can be used even in rural areas.

"This is within striking distance of becoming the third major pipe in the home," Powell said.

Powell touts the technology as providing an alternative under regulations that require the regional phone companies to lease their lines to competitors. That, according to Powell, is a less-than-perfect competitive system, because the rivals aren't required to own networks.

"I think it's a challenge to the government to reorient its regulatory regime," he said, advancing his oft-cited position that regulation should encourage competitors to build their own networks.

AT&T Corp. leases lines from the regional companies to connect to its local-service customers but welcomes an alternative network in the form of a power-line network, said Hossein Eslambolchi, the company's chief technology officer. But he said functional, mainstream use of the service is still at least five years away, and he fears that in the meantime the FCC will lift the rules that allow AT&T to lease lines from the regional companies at a discount, he said.

Electricity and broadband Internet service can travel on a single line because their frequencies don't interfere with each other. Devices installed on the electrical grid inject the data from the Internet's fiber-optic lines into an electrical power line after it has left a power station. Current Technologies has developed a wire "bridge" that lets the Internet signal coming into a house bypass the transformers that regulate electrical transmission.

Other companies developing similar technologies include Ambient Corp. of Brookline, Mass., and Amperion Inc. of Chelmsford, Mass.

Skeptics say wide-scale use of electrical lines to transmit Internet and other telecommunications data is still several years away, because further and broader testing is necessary, and because state and

local utility regulators are unlikely to allow power companies free rein to share their infrastructure with commercial start-ups.

Power-line communications "is a great concept and will probably come around in another five to 10 years," after regulatory issues are resolved, said Lawrence J. Spiwak, president of the Phoenix Center, a Washington-based legal and economic think tank.

Electricity is a critical service, and regulators keep vigilant watch over how the infrastructure is used, said Spiwak, formerly a lawyer for the FCC and the Federal Energy Regulatory Commission. Regulators could force power companies to share profits from new communications ventures with the consumers who paid for the power lines.

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