

Clock ticking for spectrum

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"Today in America there is a spot market for wireline bandwidth," Federal Communications Commission Chairman William E. Kennard noted one year ago. "Why can't we do this for wireless?"

Last month--lightning response time in the world of spectrum regulation--37 leading economists submitted a formal answer telling the FCC how to do just that.

The economists told the FCC that they have stumbled onto a superb idea--a Nobel Prize-winning idea. In seminal papers written in 1959 and 1960, Ronald Coase began by pondering how society managed to waste hugely valuable radio spectrum. His discovery--that a lack of private ownership was the culprit--was an epiphany for Coase, who in 1991 became a Nobel Laureate in Economics for his theorizing on the matter.

Yet, federal policy continues to deny the market permission to trade spectrum. This made Kennard's query a trick question. Indeed, just days after his challenge was issued, Commission staff commented to reporters that they wanted to move towards a "radical overhaul" of FCC policies to make wireless bandwidth markets possible. The story made the lead headline in *The New York Times* because trading radio spectrum like a commodity is largely illegal today.

Where it isn't--in bandwidth confined inside fiber optic cables--capacity exchanges are popping up everywhere. RateXchange, Arbinet, Enron, Pulver.com and Bandwidth Market operate domestically, with international trading active at Band-X (London), Cape Saffron (London), and Interxion (Amsterdam). These markets materialize precisely because the airwaves are housed in wires--"spectrum in a tube." While technically identical to wireless, wireline bandwidth is privately owned. Capacity can be sliced and diced, bought or sold, rented or leased as the tube owner sees fit. New users can easily get access to the communications grid, instead of being shut out while idle capacity is wasted.

Spectrum allocation and politics

Airwaves, on the other hand, cannot legally be owned. The FCC, in its mandate to regulate airwaves according to "public interest, convenience or necessity," maintains the exclusive right to determine what services go over what bands.

Upstart wireless competitors must queue up at the FCC to gain a spectrum allocation via a formal Rule Making, as there is no private band owner who can sell, lease or rent airwaves to deliver these new services to customers.

While unused or under-utilization spectrum is to be found in all sorts of prime locations on the electromagnetic dial, frequencies are walled off from making any economic contribution.

Wireless innovators must traverse the political world of spectrum allocation--a hostile, slow-moving environment where old technologies are frozen in time, protected by a praetorian guard of bureaucrats and vested interests. At the urging of NBC and other AM broadcasters in 1934, the FCC gave FM radio the cold shoulder for twenty years after its inventor sought access to radio spectrum. This set the stage for decades of anti-competitive policies to follow.

Today, entrepreneurs fantasize about moving airwaves around to unleash the next 'killer app,' but instead shell out for lawyers, lobbyists and tuxedos--the latter for attending their quota of \$1,000 a plate dinners.

Cracking the Berlin Wall in spectrum will still prove formidable. The FCC's 1952 TV Allocation Table set aside a vast block of frequencies still largely unused today. A dollop of the TV band was peeled off for cellular telephones--that took over 21 years, and left oodles of under-utilized airspace untouched.

According to a 1992 FCC estimate, some UHF television stations in Los Angeles were only 1/20th as valuable as cellular telephone systems using the same frequency space. The public got too many "Magnum P.I." reruns and too few cell phone

calls. But the UHF spectrum is still locked into low-rated TV stations, even as Americans watch the Europeans and Japanese build new "3G" networks and innovate with new applications on the wireless Web.

A call for reform

A 1997 FCC staff paper conceded, "No government agency...can reliably predict public demand for specific services or the future direction of new technologies." The study urged the Commission to attempt "substantial replication in the spectrum context of the freedoms inherent in property rights (to) allow competition to function more effectively, much as it does in those sectors of the economy where basic inputs are privately owned."

This call for reform was hugely controversial inside the Commission. Wireless operators tried to kill the report altogether. If truly liberal spectrum rules were adopted, the resulting competitive onslaught of new services would be a boon for the consuming public, but a bust for many established licensees.

The latter sport the more impressive lobby, as Ronald Coase found out in proposing bandwidth markets long ago. Called to testify at the FCC in 1959, a Commissioner opened the questioning with, "Is this all a big joke?" Shortly thereafter, Coase was retained by the Rand Corporation to write a major spectrum report. The think tank declined to publish it when its outside reviewer stated: "I know of no country on the face of the globe--except for a few corrupt Latin American dictatorships--where the 'sale' of the spectrum could even be seriously proposed." An internal memo warned of the trouble publication would prompt in "Rand's 'public relations' in Government quarters and in Congress," anticipating the "fire and counterfire of CBS, FCC, Justice and--most of all--Congress."

The gentlest hint of a warmer breeze can now be felt. Television and radio stations pushed spectrum regulation into place, and they still form its sharpest defenders. Yet, they are clearly declining in economic significance, as cable, satellite, and the Internet eclipse the local broadcast outlet. Even more important is the fact that the sectors hungry for more efficient Communications--computers, networks and software--are ascending to dominance in the New Economy. As this continental shift proceeds, industry lobbyists will tend to push for wireless competition. Indeed, the ancient spectrum regime is already beginning to wobble.

Perhaps the consensus among economic policy experts will help. The formal comment filed this month at the FCC calls for liberating the airwaves, limiting federal regulation to interference rules and standard competition policy. It urges lawmakers to refrain from spectrum zoning, standard setting, or attempting to create bandwidth markets.

Such markets will spontaneously emerge if the FCC supplies the missing ingredient: flexible, exhaustive rights allowing competitors to determine spectrum use.

The policy statement was signed by former top economists at the FCC, Federal Trade Commission, the Justice Department's Antitrust Division, and the Council of Economic Advisers under administrations of either party. It was also signed by Ronald Coase.

Perhaps by now even the FCC understands: He's not joking.

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