



Policy Brief

Stanford Institute for Economic Policy Research

Broadband Telecommunications Policy: Ending the Chaos

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When cable television became a mass medium thirty years ago, visionaries enthusiastically anticipated an "information revolution" that would transform business, education, politics and consumer behavior. On October 21, 2001, Michael Powell, the chairman of the Federal Communications Commission, capsulized the optimistic view when he declared that "ubiquitous broadband deployment will bring valuable new services to consumers, stimulate economic activity, improve national productivity, and advance many other worthy objectives." But a transformative information revolution requires infrastructure that can deliver large data streams at high speed to reduce the time a user must spend downloading complicated files (such as catalogs or motion videos).

The core current issue in high-speed access policy is whether companies that supply the physical hardware for high-speed access services can bundle physical access with their own Internet Service Provider (ISP). The policy choices are: (1) strict separation – access providers can not be ISPs and vice versa, much as the Bell Operating Companies (BOCs) were not permitted to enter long-distance service until recently; (2) equal access – access providers can integrate with an ISP, but they must allow customers access to other ISPs at essentially the same price and quality (the policy that now applies when BOCs obtain long-distance authority); and (3) exclusivity – access providers can offer high-speed access only through a single ISP, just as, before divestiture, BOCs did not allow customers to use any company other than AT&T for direct-dial long-distance service.

Public policy for high-speed Internet access is in chaos in that all three of these policies are in force for some access providers. The FCC, the primary regulator of telecommunications, has pursued "asymmetric regulation" (that is, different rules) for the technologies that can provide some form of high-speed Internet access (telephony, cable television, wireless data networks, and satellite distribution systems). In states where BOCs are not yet authorized to

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offer long-distance service, they are barred from bundling access and Internet services. In states where BOCs can offer long-distance service, they must provide equal access to all ISPs. Meanwhile, the FCC has not imposed restrictions on cable, wireless and satellite access (although it is considering doing so for cable), and in most cases these access providers offer only an exclusive bundle.

Meanwhile, three federal courts (two courts of appeals and one district court) have issued mutually contradictory decisions regarding cable modem access: One has ruled that state and local governments have the authority to establish access rules; one has ruled that only the FCC has such authority; and one has ruled that federal law bars regulation by anyone. The Federal Trade Commission, in reviewing a merger, required that AOL Time Warner (with 18% of the nation's cable subscribers) grant equal access to at least three ISPs, thereby overriding the FCC's policy. AT&T Broadband (with 21% of cable subscribers) continues to offer high-speed access only as an exclusive bundle. Numerous local franchising authorities have reached vastly different conclusions about whether they can and should impose equal access requirements on cable access, and different courts have reached different decisions about whether local governments can use their franchising power to dictate how high-speed access is provided.

At the heart of this chaos is a harsh reality – proponents of all three policies make plausible (though incomplete) arguments.

Exclusivity and Equal Access

Cable, satellite and wireless access show that deregulation leads to exclusivity. Advocates of this policy make two good points. First, hardware upgrades that are necessary to provide high-speed access are expensive, so access companies are less likely to make these investments if they cannot profit from services as well as access. Exclusivity provides an extra incentive to roll out access hardware. Second, alternative access technologies provide competition across technologies that limit monopoly abuses by access providers.

The arguments against this position also have merit. Advocates of equal access or strict separation make two arguments.

First, little competition has emerged among technologies. About two-thirds of high-speed access customers use cable modems, and nearly all of the rest use digital subscriber lines (DSL) from telephone companies. Most customers have no choice: The service territories for all technologies are still extremely limited and largely non-overlapping. Wireless and satellite services are not yet serious threats because of higher costs and performance problems, although advocates of these technologies contend that these obstacles soon will be overcome.

If most consumers can expect to face one to three high-speed access providers for the foreseeable future, then exclusivity risks causing Internet services to be as uncompetitive as access service. Advocates of regulation worry that a few favored ISPs that are affiliated with telephone or cable companies will monopolize Internet services in each geographic area, and thereby destroy the robust competition in Internet services that has emerged for consumers who now use low-speed access over ordinary telephone lines.

Second, "network effects" may create a first-in advantage for an ISP that is the sole, or even an advantaged, affiliate of the access provider. Switching among e-mail services, chat rooms, and netware is costly, and so may confer significant market power on an ISP that enjoys even a temporary exclusive operation, so that if exclusive or unequal arrangements are allowed, they may prove difficult to reverse.

Economic Evidence

Because all of the relevant technologies are rapidly evolving and because not all of the facts have been assembled and analyzed, economic analysis can not provide a definitive conclusion about which side of the policy debate is most compelling. Nevertheless, some interesting results are in.

Research by Gerald Faulhaber and Christiaan Hogendorn at the University of Pennsylvania on the costs of high-speed Internet access over hybrid fiber-optic and coaxial cable

systems (which as a by-product can provide telephone and one-way video services) shows that if more than half of the households want high-speed access, the market probably can support three competing companies at costs that would make other technologies unviable except in areas with low population density. The significance of this research is that it provides reason to believe that some competition is feasible if telephone companies, cable television companies, and perhaps one competitive local access provider evolve their systems to incorporate high-speed access.

These findings have two problematic features. First, three firms is not exactly the robust, fragmented competition that one observes on the Internet. Hence, the fears that the market structure of access, through exclusivity arrangements, might spill over into some Internet markets that otherwise could be more competitive can not be resolved by asserting that access will be robustly competitive. For the latter to occur, third generation and beyond wireless services must advance further than they have so far, and faster than cable systems.

Second, one benefit of the chaos in regulation is that we actually are running some experiments about alternative access rules. For example, AT&T offers high-speed access exclusively (through its partially owned affiliate, Excite@Home, until two weeks ago, and now through its own system), while Time Warner must provide equal access to competitors of its affiliate, America Online. The bizarre result is that the exclusive arrangement has fallen apart, with Excite@Home filing for Chapter 11 and announcing that unless something changes it will fold early in 2002.

The advocates of deregulation appear partially right about the disincentive effect of regulation. Both cable and telephone companies are providing notoriously bad service. Telephone companies are being slow to offer DSL, and are not pushing technologies that expand the distance from the central office switch at which customers can make use of DSL. Cable companies are allocating only one 6MHz television channel for cable modem access, which is already insufficient to maintain high-speed transmissions during peak periods. Cable companies apparently believe that the second access channel is less profitable than the least popular of their 50 or more entertainment channels.

Given that the largest cable company, AT&T, and most others are allowed to offer exclusive service, the performance of cable high-speed access indicates that the investment-enhancing incentive of exclusivity is not working. Restrictive regulation can not be blamed for the failure of AT&T's high-speed access service. One must face the possibility that the ultimate reason for the slow roll-out of high-speed access is that companies do not think it is profitable under any circumstance, most likely because they do not believe that most consumers are willing to pay much for high-speed access.

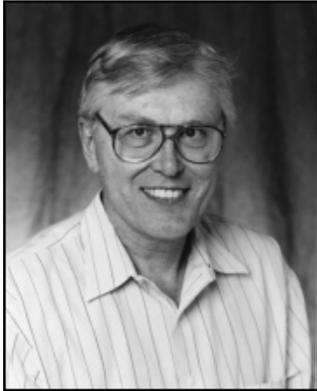
To date the concern about network "lock-in" effects from first-in advantage does not appear to be important. ISPs report large "churn" rates (that is, customer switching). And, part of the bust in the dot-com sector appears to be due to the realization that most Internet services are not able to lock-in customers. Hence, the downside risk to deregulation and its resulting exclusivity does not seem to be very great.

Conclusions

Thus, the facts do not support any strong conclusion about how to resolve the policy chaos. Neither the costs nor the benefits of deregulation and exclusivity appear to be very high, and even if it should become costly in the future, the problems do not appear to be irreversible in an economic sense (I leave political irreversibility for another Brief!). When one cannot find any significant consequence of regulation, the best policy probably is to get rid of it, since the regulatory process is inherently anticompetitive and anti-innovative. Moreover, the presence of chaos implies that service providers face uncertainty about future regulation, which could be contributing to the lackluster performance of the industry.

At this point I am inclined to support Chairman Powell's desire to create what he calls a "minimally regulated space" in high-speed access – as long as he does not insist that I buy his optimistic vision of the future of this technology!

About the author



Roger G. Noll is a Senior Fellow of the Stanford Institute for Economic Policy Research and the co-director of its Program on Regulatory Policy. He is also the Morris M. Doyle Centennial Professor in Public Policy in the Department of Economics. Noll recently served on the King County (Washington) Ex-

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