Policy Analysis
No. 507 January 12, 2004

"Net Neutrality"
Digital Discrimination or Regulatory Gamesmanship in Cyberspace?

by Adam D. Thierer

Executive Summary

A heated dispute erupted in late 2002 between corporate giants in the high-tech sector over how the networks owned by cable and telecom companies will be governed in the future. Several major software and e-commerce firms have formed the Coalition of Broadband Users and Innovators to petition the Federal Communications Commission to adopt rules ensuring that cable and telephone industry broadband operators will not use their control of high-speed networks to disrupt consumer access to websites or other users. In the name of preserving "network neutrality" and Internet "openness," CBUI members argue that the FCC must adopt preemptive "nondiscrimination safeguards" to ensure Net users open and unfettered access to online content and services in the future. CBUI claims such preemptive, prophylactic regulation is necessary because the current market is characterized by a cable-telco "broadband duopoly" that threatens Internet users.

Such rhetoric and calls for preemptive regulation are unjustified. There is no evidence that broadband operators are unfairly blocking access to websites or online services today, and there is no reason to expect them to do so in the future. No firm or industry has any sort of "bottleneck control" over or market power in the broadband marketplace; it is very much a competitive free-for-all, and no one has any idea what the future market will look like with so many new technologies and operators entering the picture. In the absence of clear harm, government typically doesn't regulate in a preemptive, prophylactic fashion as CBUI members are requesting.

Moreover, far from being something regulators should forbid, vertical integration of new features and services by broadband network operators is an essential part of the innovation strategy companies will need to use to compete and offer customers the services they demand. Network operators also have property rights in their systems that need to be acknowledged and honored. Net neutrality mandates would flout those property rights and reject freedom of contract in this marketplace.

The regulatory regime envisioned by Net neutrality mandates would also open the door to a great deal of potential "gaming" of the regulatory system and allow firms to use the regulatory system to hobble competitors. Worse yet, it would encourage more FCC regulation of the Internet and broadband markets in general.

Adam D. Thierer is director of telecommunications studies at the Cato Institute, www.cato.org, and coauthor, with Clyde Wayne Crews Jr., of What's Yours Is Mine: Open Access and the Rise of Infrastructure Socialism *(Cato Institute, 2003).*

Sometimes the word "discrimination" gets thrown around in a very cavalier manner by parties seeking to enlist the support of government in a dispute in which it doesn't belong.

Introduction

Allegations of discrimination have generated many heated intellectual debates and countless legislative and judicial squabbles in America. Regardless of the veracity of the accusations in any given case, the charges are often quite sensitive and serious. Has someone lost a job because of the color of his skin? Should one's sexual orientation be considered when one tries to join the Army or the Boy Scouts? Was there discrimination at the polls when certain individuals sought to vote? And so on. It's easy to understand why tensions run high when such questions are being debated.

Sometimes the word "discrimination" gets thrown around in a very cavalier manner by parties seeking to enlist the support of government in a dispute in which it doesn't belong. A good recent example of that comes from the field of Internet policy. A heated industry catfight has erupted between major technology companies over how Internet content should be accessed through high-speed broadband networks owned by cable or telephone companies. A new group called the Coalition of Broadband Users and Innovators—which counts among its members Microsoft, Amazon.com, Apple, Disney, E-Bay, and Yahoo!—has petitioned the Federal Communications Commission to adopt rules to ensure that cable and telephone broadband service providers (BSPs) will not use their control of high-speed networks to disrupt consumer access to websites or other users. The CBUI proposal, or variations of it, has typically been labeled "Net neutrality" or "digital nondiscrimination."

Despite the absence of evidence that network operators are currently imposing "discriminatory" restrictions on Internet users, CBUI members claim the FCC must adopt preemptive "safeguards" to ensure "that consumer access to Internet content is full and unfettered" in the future. In filings with the FCC, CBUI members claim that cable and telephone companies are forging a "broadband duopoly" that will "define the Internet for some time, and [allow] network operators to infringe or encumber the relationships among their customers or between their customers and destinations on the Internet."[1]

Stanford University law professor Lawrence Lessig—famed for leading a similar anti-discrimination antitrust crusade against Microsoft—has endorsed the CBUI Net neutrality proposal, arguing, "The network owner is increasingly in the position of picking and choosing how the Internet gets used."[2] Others, such as FCC commissioner Michael Copps, speak of the issue in far more apocalyptic terms: "I think we are teetering on a precipice. . . . We could be on the verge of inflicting terrible damage on the Internet. . . . I am worried that we could be witnessing the beginning of the end of the Internet as we know it."[3]

What proponents of Net neutrality such as Copps, Lessig, and CBUI members fear is that BSPs will leverage their supposed market power to force customers to accept a variety of unsavory limitations on their use of the networks owned by BSPs. For example, access to specific sites might be blocked, the attachment of certain technologies or devices might be forbidden, or additional networks might not be allowed to develop at the periphery, or edge, of the network (i.e., where consumers interface with the network). For example, BSPs might seek to curtail the attachment of Wi-Fi (wireless fidelity) devices or networks by consumers.

It is certainly plausible that BSPs might deny consumers access to Internet content or prohibit attachment of various devices or networks at the edge of the system. Although there are few examples of BSPs engaging in such activities today, there may exist situations in which it is perfectly sensible for a network owner to impose use restrictions or differential pricing schemes on its broadband customers. Network owners may want to discourage the use of certain devices on their networks to avoid system crashes, interference, or "signal theft." They may want to price services differently to avoid network congestion or capture greater revenues on bandwidth-intensive services. They may want to vertically inte-

grate content and conduit on their systems, or partner with other firms that can help them reach new customers and offer superior services. And there might exist scenarios in which blocking access to certain sites makes sense for network operators. They may want to block access to certain controversial websites that contain material some subscribers might find objectionable, or they may want to block sites simply to avoid running the ads of a leading competitor.

Consumers will consider some restrictions, such as a prohibition on the release of viruses on a broadband network, trivial and entirely acceptable. Other restrictions, such as a restriction on access to the website of a competitor or a specific advertiser, will be considered an intolerable restraint by many. But the important question here is whether any of this should be considered illegal discrimination and prohibited by law. Must regulators adopt regulations governing the underlying infrastructure of broadband networks or the overall architecture of the Internet to ensure that "openness," "neutrality," and the "end-to-end" character of the Internet are preserved? And what would the impact of such regulations be in terms of the economic incentives for current and future broadband operators to innovate and invest in expensive new networks? Do the property rights of network owners come into play here? Do high-tech network operators even have property rights in this case?

Those are complicated questions that deserve extensive exploration before policymakers rush to adopt supposedly simple Net neutrality regulatory guidelines. In the end, the real question in this debate can be simply stated: Who decides? That is, who will call the shots—the network owners or someone else—when it comes to questions about the use of digital infrastructure in the Information Age?

For the reasons outlined below, it would be wise for policymakers to allow the entities that own and operate broadband networks the freedom to experiment with various business models to better serve consumers. The alternative of preemptive, prophylactic government regulation has far too many downsides. Discrimination in this context is remarkably difficult to define and open to much subjective wrangling. Disputes over what constitutes discrimination will lead to endless regulatory proceedings and open the door to a great deal of mischief by companies or organizations that feel they should have greater say over how broadband networks are operated, either in a good-faith effort to improve the operation of those networks or in a more self-centered effort to "game" the regulatory system to their own advantage.

Net neutrality regulation also flouts the property rights BSPs possess in the infrastructure they own and operate. Worse yet, by ignoring property rights and opening the door to increased regulatory meddling, Net neutrality regulation threatens to retard innovation and investment in new broadband facilities. Instead of being so preoccupied with maximizing consumer welfare within the confines of existing systems, proponents of Net neutrality—especially the impressive list of well-heeled companies that are part of CBUI—need to put more thought and energy into the question of how the networks of the future are going to be funded and built. The principle that CBUI members seem to ignore is that *competition in the creation of networks is as important as competition in the goods and services that get sold over existing networks*.

Finally, proponents of Net neutrality also tend to ignore the fact that network capacity use and the profit motive will provide very powerful checks on overly restrictive carrier activities. Carriers make money only by carrying more traffic. "Capacity utilization" is one of the most important concepts in the networking business. A broadband network without subscribers is like a plane with empty seats: a recipe for financial disaster. BSPs will *not* want to restrict traffic flows or encumber Net-surfing activities for fear of diminished capacity use as frustrated consumers "consume" less of those networks, or leave the network altogether. That is why cable operators do not configure their set-top boxes to meddle with consumer access to tra-

Who will call the shots—the network owners or someone else—when it comes to questions about the use of digital infrastructure in the Information Age?

ditional television stations. Even though they might have the technical capability to restrict the stations consumers watch or even when they watch them, cable operators understand that their video customer base will grow only if they expand the range of viewing options, not curtail or artificially limit them.

Of course, in attempting to attract as many subscribers as possible, BSPs will also need to take certain steps to ensure the integrity and performance of their networks or to expand the range of service offerings to attract new subscribers. That is why some minor restrictions on certain types of network uses or activities will occasionally be imposed by carriers. For example, cable companies currently provide access to certain video channels (especially adult entertainment offerings) on a pay-per-view basis, largely because most users want it that way so their children will not gain access to those channels. BSPs will have to strike a delicate balance, but the profit motive provides them with a powerful incentive to not overzealously police or restrict activities on their networks. That is especially the case as the broadband market grows increasingly competitive and consumers have more options from which to choose.

For those reasons, it would be a mistake for the FCC to adopt the sort of preemptive, prophylactic regulatory regime counseled by proponents of Net neutrality. A better solution is to rely on a regime of strict property rights, flexible pricing, contractual negotiations, and common law adjudication to sort out competing interests and "rights" claims within this context.

It would be a mistake for the FCC to adopt the sort of preemptive, prophylactic regulatory regime counseled by proponents of Net neutrality.

Net Neutrality: The Theory and the Proposals

Net neutrality proposals tend to share a set of common, albeit somewhat ambiguous, themes.[4] The raison d'être for this movement generally rests on the notion of preserving the "openness" and "end-to-end" design of the Internet or the networks over which the Internet runs. Proponents of a Net neutrality rule fear that increased vertical integration by broadband network operators—that is, the integration of conduit and content within a broadband environment—will greatly diminish the overall neutrality of the Internet as a platform for innovation and communication. The theory is that, as carriers pursue greater service or product integration, they will have the incentive to discriminate against or control other types of applications or activities at the edge of the network.

Consequently, CBUI members and other supporters of Net neutrality regulation are requesting that the FCC (or perhaps even state regulators) adopt proactive, preemptive, prophylactic rules that would forbid online discrimination before it develops. As Paul E. Misener, vice president of Global Public Policy for Amazon.com, argued in a December 2, 2002, filing with the FCC: "If the government fails to take appropriate steps now, it is highly likely that BSPs and broadband ISPs will, based on their easily obtainable knowledge of the source and nature of the Internet content sought by an individual consumer, impair delivery of that content. Accordingly, even if current examples of such impairments did not exist, sound public policy would compel the FCC to act against this highly likely harm to consumers."[5]

Proponents of a Net neutrality open access rule stress that it is qualitatively different from previous open access proposals, which would have required BSPs to share their physical infrastructure with rivals at regulated, "nondiscriminatory" rates. Incumbent local telephone exchange carriers already face an extensive array of infrastructure-sharing requirements for their local lines and systems,[6] but cable carriers have so far successfully evaded regulatory attempts (mostly led by municipal governments) to impose similar sharing requirements on cable networks.[7] Economists and regulators often refer to that type of regulation as "structural regulation."

Proponents of a Net neutrality rule, by contrast, argue that, instead of regulating the

underlying infrastructure owned and operated by BSPs, their approach would merely safeguard the content, applications, and hardware that flow over, or are used in conjunction with, broadband networks. That is typically referred to as "behavioral regulation."

Moreover, in making the distinction between structural and behavioral regulation, some proponents of Net neutrality stress that the behavioral approach they seek would be far less intrusive than structural access mandates. They also stress that, whatever behavior rule is implemented to address digital discrimination, it will not lead to the adoption of a full-blown open access regime of infrastructure regulation. In other words, there will be no slippery slope associated with a Net neutrality mandate on BSPs.

That explains why many proponents of Net neutrality bill their proposal as a "simple rule" to safeguard against online discrimination by BSPs. In a March 28, 2003, presentation before the Federal Communications Commission, the CBUI argued, "The FCC can and should be proactive and act in anticipation of future harm by taking simple, non-intrusive, measured steps."[8] What exactly is the supposedly "simple rule" or "measured steps" that proponents of Net neutrality would have the FCC (or potentially even state regulators) adopt for BSPs? In its January 8, 2003, filing with the FCC, the CBUI requested that the FCC adopt regulations that guarantee Net users the ability to

- lawfully roam over the Internet;
- run the applications they want using the equipment they choose;
- gather, create, and share information; and
- connect to websites absent interference by network operators.

Although the FCC has so far taken no action on the CBUI proposal, there are pending at the agency several proceedings to which a Net neutrality proposal could be attached.[9] In addition, Net neutrality mandates could be imposed as a condition of merger approval in the future by either the FCC or antitrust officials at the Department of Justice.

Meanwhile, state regulators have already outlined what they think a Net neutrality rule should look like. On November 12, 2002, the National Association of Regulatory Utility Commissioners, which represents state regulatory agencies and officials, adopted a Resolution Regarding Citizen Access to Internet Content that claimed, "Providers of broadband services or facilities have the technical capability to create a 'walled garden' or 'fenced prairie,' that is designed to attract customers to preferred content but that also could keep consumers from reaching content other than those of the providers' choosing."[10] Moreover, the NARUC resolution continued, "it is conceivable that some providers of broadband service or facilities may have an incentive to restrict Internet access to favored news sources, and if they chose to do so, it could significantly harm free and open information exchange in the marketplace of ideas." Therefore, NARUC resolved that broadband wireline and cable modem users should

1. have a right to access to the Internet that is unrestricted as to viewpoint and that is provided without unreasonable discrimination as to lawful choice of content (including software applications) and
2. receive meaningful information regarding the technical limitations of their broadband service.

More succinctly, Tim Wu of the University of Virginia Law School has articulated the following general Net neutrality principle or rule: "[A]bsent evidence of harm to the local network or the interests of other users, broadband carriers should not discriminate in how they treat traffic on their broadband network on the basis of internetwork criteria."[11] Although Wu admits that "the newness of [the Net neutrality] concept means much unavoidable vagueness as to its operation," he argues that regulators will be able to

Although the FCC has so far taken no action on the CBUI proposal, there are pending at the agency several proceedings to which a Net neutrality proposal could be attached.

Defining "discrimination" in this context is very difficult and open to endless disputes.

enforce the rule by examining the positive versus negative externalities associated with carrier restrictions. Wu argues that carriers should be left free to impose restrictions on network use if those restrictions generate positive externalities (or benefits) for subscribers. For example, a BSP prohibition on the release of viruses on its network would generate positive externalities for almost all users and, therefore, in Wu's opinion, be allowed. But in Wu's Net neutrality rule, BSP restrictions that impose negative externalities or costs on users should be forbidden. For example, a ban on Wi-Fi attachments by BSPs should be forbidden, according to Wu, since it would impose unnecessary burdens or costs on most network users. Of course, defining positive and negative externalities is open to its own set of disputes, which regulators would have to resolve, probably over the course of numerous rule makings. And which "costs" are under consideration here? It seems like Wu and many supporters of Net neutrality are concerned only with the costs borne by users, not those borne by the network owners.

Would the "simple" rule or rules that proponents of Net neutrality advocate to prevent online discrimination really be so simple in practice? There are good reasons to believe that they would not. In fact, a regime of Net neutrality regulation might result in unintended consequences and substantial costs. Ten such problems with Net neutrality proposals are discussed below.

10 Problems with Net Neutrality Proposals

1. Defining "Discrimination"

Defining "discrimination" in this context is very difficult and open to endless disputes. When the charge of discrimination is leveled by one party against another in this country, public officials take it very seriously. Numerous legislative statutes, reams of regulations, and volumes of jurisprudence address the question of what constitutes discrimination, how serious a problem it is in any given context, and what legal recourses, if any, should be available.

An investigation of discrimination case law and research in other fields reveals several important additional insights. First, sometimes discrimination really isn't discrimination at all. More specifically, what one party considers discrimination may be judged by others to be perfectly sensible or justifiable behavior. In the commercial marketplace, rational economic discrimination occurs everyday all around us. Consumers pay more for roses on Valentine's Day and higher prices for fruit during the off-season. Senior citizens get discounts on some products for which younger generations pay full price. People able to see a movie during the day pay less than those who can go only at night. Buyers' clubs provide members special discounts others don't receive, and so on.

Another important point: discrimination has a cost for those who are doing the discriminating. For example, if an employer seeks to hire only members of a particular ethnic group, that employer may be imposing serious costs on itself or forgoing the opportunity to take advantage of a pool of more qualified potential employees. Or, if a retailer offers certain classes of consumers special deals, he may lose the patronage of other customers.

Finally, even when the discrimination in question is very controversial, legislative or regulatory solutions are not always the best remedy. Sometimes markets and the power of social persuasion are a better solution. Regulation has costs of its own and oftentimes has unintended consequences or perverse effects that cannot be foreseen when the rules are crafted.

When we turn to the question of Internet discrimination, those lessons are equally applicable. Discrimination in an online context will be just as difficult to define as it is in other contexts, perhaps more so. And although proponents of Net neutrality often claim their proposal will require the creation of only a "simple rule" to govern online dis-

crimination, the fundamental ambiguity of discrimination claims in this setting will necessitate constant regulatory oversight and a likely broadening of the rule over time. "[T]he concept of network neutrality is not as simple as some . . . have suggested," notes Wu.[12] Although generally a supporter of some sort of Net neutrality regulatory standard, Wu has thoughtfully analyzed the inherent limitations of the concept. "Neutrality, as a concept, is finicky, and depends entirely on what set of subjects you choose to be neutral among. A policy that appears neutral in a certain time period, like 'all men may vote', may lose its neutrality in a later time period, when the range of subjects is enlarged."[13]

Similarly, Randy May of the Progress of Freedom Foundation has noted that "history shows that never have there been any simple nondiscrimination rules adopted by the FCC. Common sense tells us there never will be. There is no reason to expect anything other than the regulatory muddle that still bedevils telephone regulation."[14] Indeed, it is easy to imagine how the existence of a Net neutrality rule would give rise to endless legislative, regulatory, and judicial wrangling by industry rivals, academics, economists, consultants, and lawyers. It should be apparent that investigations aimed at uncovering and remedying supposedly discriminatory activities by BSPs could be quite time-consuming and costly for all parties involved.

Supporters of a Net neutrality rule posit that those costs would be outweighed by the substantial benefits that consumers, Web users, or rival companies would accrue by being guaranteed certain operational freedoms while they were online. Of course, the cost/benefit calculus is likely far more complicated. Some of the costs of a Net neutrality mandate might not manifest themselves until many years into the future. The unintended consequences of existing telecommunications regulation have been documented in many other circumstances. A supposedly "simple" nondiscrimination rule put on the books today may grow to become a far more complicated regime of regulations in the future. That will certainly be the case if rivals come to use that rule to "game" the regulatory system, as discussed in greater detail below. Moreover, regulation is usually regarded as necessary or justified only once actual harm has been proven. Again, in this case, there is no evidence of any harm to consumers.

2. Discrimination and Rights

Even if broadband operators are discriminating it should be clear that this sort of discrimination is not cause for the same sort of concern or regulatory response as other forms of discrimination. When exploring the veracity of discrimination charges in the context of broadband Internet network connectivity, it is important to recognize that accusations of discrimination in this arena are not nearly as important as they would be in other fields. For example, a charge of discrimination at the voting booth or in access to a public facility raises concerns about the fundamental civil rights of the citizenry and rightly receives heightened scrutiny by public officials.

But is there any such civil or inalienable right to high-speed broadband connectivity? Specifically, if a private broadband network operator chose to enforce extremely restrictive contractual terms of service on its customers, which individual rights would be infringed? Even if a broadband provider did the unthinkable and started blocking access to very popular websites, would some grievous harm be inflicted upon its customers such that legal or regulatory remedies are in order?

How one answers that question depends on one's theory of rights. Without embarking on an in-depth exploration of rights theory, it is evident that individuals who view rights expansively as claims to the property of others would countenance almost any course of legislative or regulatory action. But the inalienable rights of which America's Founding Fathers spoke in the Declaration of Independence and the Constitution were not rights that served as claims against the rights or property of others. Rather, they were rights to peacefully pursue one's own interests, acquire property through contractual

Investigations aimed at uncovering and remedying supposedly discriminatory activities by BSPs could be quite time-consuming and costly for all parties involved.

Under the theory of rights underpinning the Declaration and the Constitution, it would be impossible to construe any sort of "right to high-speed Internet access."

means, and be free of coercion and aggression by others or the government. Under the theory of rights underpinning the Declaration and the Constitution, it would be impossible to construe any sort of "right to high-speed Internet access."[15]

Moreover, to argue that an individual has a "right" to high-speed Internet service in his home means someone must be tasked with delivering it and that someone other than the owner of that network will call the shots regarding how service is structured and priced.

Ten years ago few people had heard of the Internet or cyberspace. But as citizens became more familiar with this amazing new communications and commercial medium, mostly through access to it in the workplace, they quickly began demanding connectivity in their own homes. Cable, telephone, and (to a lesser extent) wireless firms were soon delivering new high-speed services to households. Business plans had to be altered; shareholders had to be convinced of the wisdom of the new vision; capital had to be raised and significant risks had to be taken to advance this vision; and billions had to be invested to make it all happen. Thanks to those efforts, the promise of the Information Age and a more connected world is quickly becoming a reality as millions of Americans sign up for the high-speed services that various carriers are deploying.

But does the fact that so many households are getting online today mean that consumers now have special rights they can claim against their broadband network operators? In light of the significant risks and investments those companies undertook to extend service to millions of Americans who previously had no such luxury, it seems somewhat insulting for certain consumers or regulators to claim that they have the right to dictate the terms and conditions of service.

In a capitalist society, such matters are left to private actors in a free market. Contracts and voluntary negotiation are the key to sorting out such rights and responsibilities. If consumers want fast Net access, they can sign up for it and pay a monthly fee. They will be required to sign a service contract with certain stipulations about what they can and cannot do while surfing on that network. Of course, few people bother reading the fine print of those contracts and acceptable use policies, but if they did they would notice a small number of restrictions on their online activities.

However, contractual rights can cut both ways. Contracts also bind providers to live up to their end of the bargain. If they promise to provide a service for a fee and then somehow fail to deliver, consumers may have a right of action. Consumers can sue providers if they attempt to alter terms of service after the fact or refuse to provide the level of service agreed to in the initial contract. What is not said in the contract also makes a difference. If a broadband operator's terms of service or acceptable use policies fail to include mention of how a new device or application can be used on or with the network, then consumers certainly have a reasonable expectation that they should be free to interconnect and use such a device or application in conjunction with the network.

3. Rational Reasons for Discrimination

Even if broadband operators are discriminating, there may be perfectly rational and legitimate reasons for them to do so. There will be times when broadband operators will restrict openness within, or connectivity to, their networks. Although it seems somewhat counterintuitive, those restrictions may actually help improve the Web-surfing experience of many customers.

Network Security and Integrity. Almost all BSPs currently impose a variety of usage restrictions to ensure network security and guarantee the integrity of their overall systems. Most operators take steps to prevent excessive spamming, the release of viruses on their networks, and the use of their networks for "unlawful" or "immoral" purposes (although most service agreements do not spell out what those terms mean). Computer or network hacking is also singled out in most

service contracts as clearly forbidden. Operators obviously have rational reasons for seeking to curtail those activities since curtailing them improves system reliability and consumer enjoyment.

Traffic Flows. Another routine type of network discrimination involves traffic flows. Most broadband network operators have designed their networks in such a way as to maximize downstream downloads relative to upstream connections. That enables end users to receive content faster than they can send it. Although this type of network configuration is technically a form of discrimination (against those who transmit more than they receive), it is generally accepted practice to configure residential broadband networks in this fashion since most users spend more time downloading than uploading content. It is unclear whether a Net neutrality rule would seek to address asymmetrical bandwidth flows, but a strong case can be made that carriers should be left to determine the proper ratio of downstream to upstream traffic flows.

Bandwidth Conservation. Another example of completely rational discrimination by BSPs is bandwidth management. To prevent "overgrazing" by some bandwidth-intensive users, network operators may employ a variety of rationing mechanisms, including caps on daily bandwidth usage. For example, in February 2003 cable operator Cox Communications started enforcing 2-gigabyte per day download caps on its subscribers. And last summer Comcast began sending letters to certain bandwidth-intensive users informing them that they were placing an "unusually large burden on the network."[16] This effort mimics the efforts of some e-mail providers or ISPs to control spam at the edge of the network by imposing limitations on outbound messages sent by their subscribers. For example, in March 2003 Microsoft announced it would limit MSN Hotmail subscribers to sending only 100 messages per day in an attempt to curtail spamming.[17]

Regardless of whether it happens at the edge or the core of the network, such bandwidth management or conservation efforts should not be forbidden by force of law. The presumption should be that network operators are the best managers of their networks and will seek to artificially curb network use only when necessary to preserve the integrity (speed and reliability) of their networks. "The [bandwidth usage] caps are a small but crucial part in the latest round of skirmishing among broadband companies over price and features," notes *News.com* staff writer John Borland. "Comcast in particular is working to provide ever-increasing download speeds, and as a result it is struggling to contain busy file swappers and others who are putting stress on their networks. . . . Cable networks are particularly susceptible to the dangers of this imbalanced usage, because all the homes in a given neighborhood share access to the same local network. One extremely high-volume user can therefore have a Net-slowing impact on his neighbors."[18] In other words, it would be irrational for BSPs to seek to aggressively limit bandwidth consumption, since they make money only by ensuring greater and greater amounts of network utilization. But if a small minority of users is greatly exceeding average usage patterns and consuming a disproportionate amount of bandwidth, it can have an adverse impact on other network users.

Brand Promotion. Network owners may also attempt to restrict access to promote their own brand names and products, or the services of an affiliated provider of complementary services. For example, SBC Communications recently partnered with Web-portal giant Yahoo! to offer a cobranded service to customers. When the deal was announced in late 2001, an *Internetnews.com* story summarized the benefits of the deal for both parties:

> For Yahoo!, the deal means it can reach into its broad base of customers and sign them up for DSL, a monthly revenue generator that puts money in its coffers. . . . For SBC, it has one of the largest content providers and portals in its corner now, providing top-notch

The presumption should be that network operators are the best managers of their networks and will seek to artificially curb network use only when necessary to preserve the integrity of their networks.

> news and online communities, a desirable quality for any access provider. The Baby Bell also gets a percentage of Yahoo!'s non-subscriber revenues (i.e., advertising dollars). Yahoo! officials said that while it didn't sign any exclusivity contracts with SBC to broker the deal, the portal company has no intention on working with cable Internet providers in the future.[19]

The SBC-Yahoo! deal, and others like it, could be considered discriminatory in one sense since it means that SBC will encourage its customers to use Yahoo! services before switching to other Web portals or search engines. Of course, subscribers can always use other services and change their computer defaults to avoid most Yahoo! content. But some critics might argue that *any* effort by SBC-Yahoo! to direct subscribers to their services instead of others is discriminatory.

What is particularly ironic about the SBC-Yahoo! case is that Yahoo! has been a vocal member of the CBUI. Apparently the firm believes that the Net neutrality regulations it supports should not and would not prohibit the type of exclusive relationship it has struck with SBC. Apparently Yahoo! also believes such rules would not restrict its ability to block access to Web addresses advertised in spam messages[20] or disable customer access to an independent instant messaging service,[21] both of which it has done in recent years.

Regardless, through alliances with other experienced Web vendors, BSPs may be able to create more rewarding online experiences for many users. Cross-brand promotions and partnerships along the lines of the SBC-Yahoo! deal are likely to become even more common in the future. For example, in recent years Microsoft has struck multiple deals with cable firms across the globe to help establish new platforms for its software or services.[22] Although many of those alliances have not panned out for Microsoft, the firm continues to work with many cable companies to market its services, including its X-Box gaming platform. In fact, four cable firms have recently struck joint marketing agreements with Microsoft to help promote its X-Box Live online gaming service.[23] Ironically, like Yahoo!, Microsoft is a member of the CBUI and presumably believes that such alliances or marketing arrangements should not and would not be prohibited by a Net neutrality rule even though critics could claim that they were a form of discrimination against rival online gaming operators.

Why do carriers strike such joint or exclusive marketing arrangements, and why do BSPs bundle services together at all? Why not keep the conduit completely free of any affiliated content or services, as some proponents of Net neutrality would prefer? Randy May explains: "To recoup the huge investment required to build out new broadband networks, cable and telephone companies—along with other platform providers—have a large incentive to entice consumers to subscribe to as many of their services as they can. Bundles promote more efficient utilization of capacity, reduce customer churn, and aid in cross-selling, all of which reduces costs."[24] Bundling and cross-promotional deals also offer consumers clear benefits that should not be prohibited by regulation. Consumers are given access to important new services and applications that otherwise might not be at their disposal. Bundling and cross-promotion can also help reduce prices. Bundled services are often offered at significant discounts to consumers.

Bundling and cross-promotional deals also offer consumers clear benefits that should not be prohibited by regulation.

Even if proponents of Net neutrality claim that their "simple rule" would not today prohibit bundling, brand alliances, or joint marketing activities, it remains an open question whether such actions could be regulated in the future, especially if competing firms find they are losing business to a rival who is part of such a joint marketing arrangement.

Some proponents of Net neutrality have posited that, in a more extreme attempt to promote brand name recognition, some BSPs may attempt to block user access to specific sites run by competitors or substitute their own website for that of a rival when end users attempt to access competing service

providers' websites. It is difficult to believe that BSPs would attempt such direct website blocking, especially considering the ill will it would generate among their customer base. And Web blocking is much easier said than done. In an age of rapid-fire rerouting and instantaneous user reaction, controls can be evaded or defeated with relative ease. Nonetheless, some operators may feel there are good business reasons to attempt occasionally to foreclose access to other sites, applications, or devices. Whether or not their attempts to restrict access to those sites or services will be successful is another story entirely. Increasingly smart and savvy Web surfers will likely find a way around many such restrictions. Moreover, as competitive service options develop, many users will switch to competing BSPs if their current providers engage in overzealous website blocking. And depending on how terms of service contracts are structured, subscribers may have a right of action in the courts against their providers for blocking access.

Theft of Service. One reason a BSP might attempt to block access to a specific application, or forbid the connection of certain devices to the network, is to guard against theft of service. Carriers expend considerable funds and resources deploying networks to consumers, and if an end user splices their existing line and connects everyone in a community at no additional cost, it obviously will have a detrimental impact on the carrier in terms of lost revenue. That is why for many years cable firms have fought efforts by some households to use unaffiliated set-top boxes to intercept video signals without paying the carrier for those programs.

The same problem could arise in the broadband context if some users connect other users or households to their high-speed access lines. That explains why some BSPs are concerned about how subscribers connect Wi-Fi systems to the network and use them. Wi-Fi networks offer Web surfers the ability to surf the Net wire-free by simply inserting into their computers a card that gives them the ability to receive wireless broadband signals from a transmitting device located somewhere nearby. Of course, that transmitting device (or Wi-Fi "node") must be connected to a hard-wired broadband connection. The vast majority of people who attach a Wi-Fi transmitting device to their high-speed connection do so in an effort to create a wireless internal network exclusively for their homes or businesses. For security reasons, most users would not want to allow other users to access their Wi-Fi nodes.

Other users may feel differently, however, and see an opportunity to create a neighborhood Wi-Fi node and share their connection with many others in their community. In one sense, this is an exciting new model of communications connectivity that could offer many users the ability to connect to high-speed networks without having a wireline hookup. Indeed, some Wi-Fi entrepreneurs are working hard to develop a viable business model based on a nationwide wireless architecture that does for broadband what cellular phones did for the voice market.[25] But the question in this case is whether end users can plug a Wi-Fi device into a BSP's high-speed connection and then share it with many other users *outside* their homes or offices without permission from the BSP.

BSPs would regard that as theft of service, and with good reason. If customers shared their high-speed connections with large groups of nonsubscribers, at some point it would begin to have a detrimental impact on broadband carriers and their ability to maintain, grow, and upgrade their networks. Some end users may think that once they have paid for the initial broadband connection to their home or office they should be free to do whatever they want with it, including share it with friends or neighbors. But most terms of service contracts or acceptable use policies clearly forbid such external sharing since carriers could not remain in business in an environment characterized by unlimited network sharing. As bandwidth expands and demands for such external Wi-Fi connections grow, carriers will likely see a potentially lucrative business opportunity

If customers shared their high-speed connections with large groups of nonsubscribers, at some point it would begin to have a detrimental impact on broadband carriers and their ability to maintain, grow, and upgrade their networks.

and find a way to accommodate external Wi-Fi connections by end users. Of course, the simplest way to address this issue from the carrier's perspective would be to price end-user consumption on a metered basis. Under a metered pricing system for broadband use, a customer who is sharing his high-speed hookup with 100 other users in a given neighborhood would be required to pay a higher fee for the increased burden he is placing on the network. Under such a scheme, service might be priced on a per minute or per bit basis. If such pricing schemes and solutions do not develop shortly, it is likely the signal resale issue will be heavily litigated. For example, Time Warner Cable has already sued iNYC Wireless, a wireless Internet service provider that is currently reselling Time Warner's high-speed signals to residential apartment buildings.[26]

Instead of imposing preemptive, prophylactic FCC regulations to guard against every conceivable controversy that might arise, policymakers should let tough cases be handled through common law adjudication.

Although contractual limitations on external Wi-Fi connections are fairly routine and generally accepted by most users, it would be far more controversial and troubling if BSPs were to attempt to prohibit *all* Wi-Fi connections, particularly those used merely inside the home. CBUI members stress this scenario in many filings. They are concerned that BSPs will seek to limit internal Wi-Fi networks (or other home networks such as virtual private networks, or VPNs, which allow households to seamlessly connect with their office networks). A handful of BSP service contracts did originally include such sweeping prohibitions on Wi-Fi and VPN attachments to their networks in their acceptable use policies, but today almost all carriers make the distinction between external and internal Wi-Fi connections and allow most VPN connections.

But just for the sake of argument, what if a BSP did seek to ban the attachment of *any* sort of device or secondary network, including internal networks within the home? First, such sweeping prohibitions would be very difficult to accomplish technically or practically and would entail steep enforcement costs for network operators. Carriers simply don't have the time or money to police device attachment in every household or business. Second, sweeping prohibitions on device attachments would create a great deal of ill will among subscribers and drive consumers away as more competitive options developed. Finally, even if carriers attempted to enforce such restrictions on device attachment at the edge of the network, the matter would probably end up before the courts as subscribers would band together or work through user groups and trade associations to litigate their "rights" in this context. And that's probably the best solution if such cases develop. Instead of imposing preemptive, prophylactic FCC regulations to guard against every conceivable controversy that might arise, policymakers should let tough cases be handled through common law adjudication. Courts can sort out competing rights claims and try to strike a reasonable balance between competing interests.

Cost Recovery. BSPs may also attempt to restrict access to their networks to help recoup their costs of doing business, especially the sizable initial investments made to deploy network assets. It is important to remember that in most other industries or sectors consumers don't pay directly for product distribution; it is integrated into the cost of a final good or service or paid for by someone else in the production process along the way to market. But in network industries, distribution is everything: *it is the product.* Consequently, the owners of the networks must find a way to amortize the costs associated with their networks in order to maintain them, expand them, or even build entirely new systems.

In the aggregate, the amount of broadband network capacity is growing, but it is not unlimited. Although some techno-visionaries have posited that an age of unlimited bandwidth may soon be approaching, the reality is that current-generation systems do not seem to be offering enough capacity for the fast-paced information economy of the present. BSPs will still be forced to make choices about how to allocate scarce space on their increasingly crowded pipes. Bottom

line: there is no free lunch. BSPs need to find a way not only to pay off their investments and investors but also to generate the revenues necessary to invest in next-generation broadband networks and technologies. In pursuit of that goal, they may experiment with a wide range of network access schemes and pricing methodologies that might be forbidden or discouraged if a Net neutrality rule were on the books.

In summary, if anti-discrimination mandates are placed on the books, they could significantly undercut BSP attempts to recover costs, maintain profitability, and invest in network upgrades. As a recent Legg Mason report argues: "[S]uch obligations over time would shift more of the aggregate broadband opportunity from the network providers to content and applications companies. . . . Bell and cable companies will still have opportunities to tap new broadband revenue streams, but anti-discrimination mandates could limit their upside."[27] As discussed in the section below on investment and innovation, this has important ramifications for the future of broadband networks.

4. Network Openness

These proposals assume that more network openness is an unambiguously good thing. At times, open systems do have many advantages over closed systems, and if that is the way things naturally evolve, that's fine. Other times, however, closed systems make all the sense in the world. The point is, government shouldn't dictate this outcome one way or another. In the end, the Internet will probably be a mix of open and closed systems, and that's probably how it should be. As Stanford University economists Bruce M. Owen and Gregory L. Rosston argue:

> While "end-to-end" architecture has benefits, those benefits standing alone do not prove that the architecture was or will continue to be optimal. The benefits must be put onto the scales with the costs, most of which may involve the loss of services that never came into existence, as the relative prices and functionality of processors, storage, and communication links have evolved.[28]

BSPs would be committing economic suicide if they attempted to foreclose all network connections or opportunities that their users desired. It is in the best interests of network operators to ensure a great degree of openness if they hope to retain their customers and expand their networks. Broadband communications networks exhibit what economists refer to as strong "network externalities" or "bandwagon effects."[29] That is, the value of a network tends to grow in proportion to the number of individuals using that network.[30] The more users the better since greater interconnectedness generates substantial benefits for all users of the network. If BSPs were to interfere with the routine activities of Web surfers, it would likely discourage network use and expansion, thus sacrificing future profits. Such meddling would be bad for business and generate negative publicity. Moreover, such meddling would send a powerful signal to rival BSPs that an opportunity existed to enter that market and offer consumers a more open Web-surfing experience. So network restrictions or bundling efforts may not always yield beneficial results for BSPs.

On the other hand, a powerful case can be made that greater vertical integration of broadband conduit and content may be a sensible strategy for some BSPs to pursue. Proponents of Net neutrality such as Lessig often argue that "a dumb pipe is critical," meaning that it would be best for BSPs not to provide any integrated content or applications over the lines they own for fear of discrimination against independent suppliers.[31] But it would be unwise for regulators to adopt a rule mandating that BSPs provide consumers with a purely "dumb pipe" since policymakers have no way of knowing what the optimal mix of content and conduit might be. Again, some BSPs may experiment with varying degrees of vertical integration in an attempt to provide a bundle of services

In the end, the Internet will probably be a mix of open and closed systems, and that's probably how it should be.

Net neutrality proposals suggest that a regulatory solution is needed for a hypothetical market power problem that does not exist.

that is profitable for the company and useful for consumers. After all, many broadband customers will *not* want a purely dumb pipe. The addition of certain integrated services and applications may enrich the Web-surfing experience for entry-level broadband subscribers, or at least make it easier for them to get started.

More sophisticated Web surfers who prefer the dumb-pipe approach will probably be able to largely achieve it on their own, and they can already do so. If they don't like seeing the BSP's default website when they first get online, they'll almost certainly be able to switch to another. And even integrated applications and devices that BSPs designate for use on their networks will probably be fairly easy to evade if consumers do not find them useful or interesting.

If evading those integrated applications or services proves impossible, however, that's still no reason for regulators to adopt a preemptive nondiscrimination rule. BSPs have the right to configure their networks as they wish, and, moreover, excessive meddling or micromanagement of the Web-surfing experience is likely to result in a consumer backlash over time and drive users to other alternatives as they develop. And those alternatives will likely develop even more rapidly if existing carriers attempt to overzealously restrict online activities.

5. Hypothetical Market Power Problem

Net neutrality proposals suggest that a regulatory solution is needed for a hypothetical market power problem that does not exist. Proponents of Net neutrality regulation argue that the free-market framework alluded to above is not applicable here, given the supposedly uneven bargaining power of the negotiating parties in this context. That is, they feel that current broadband carriers have the upper hand in the negotiating process, given their supposed "duopoly power" in the marketplace. Although it is true that many consumers have the choice of only one or two broadband providers in their community today, that does not justify the commandeering of private networks for public purposes.

First, one or two operators are certainly better than none whatsoever. And the better news is that other players *are* present in the broadband market. Electricity companies are experimenting with broadband over power lines and could offer a second or third potential wire into every home in America. Many wireless companies have planned terrestrial (such as Wi-Fi networks) and space-based broadband systems (such as those services already delivered via satellite) that could offer consumers anywhere in the United States an untethered broadband link. And truly cutting-edge technologies, such as "free space optics" that use lasers to zap signals to offices and homes, are currently being tested. Those technologies could revolutionize modern communications.[32] As Stanford University economists Owen and Rosston argue: "[Broadband] operators today by definition do not possess a 'bottleneck' monopoly over anything. No one has identified the products, services or markets from which foreclosure could take place, or identified either a systematic refusal of access or an economic incentive to refuse access."[33]

Second, consumer dissatisfaction with existing providers sends important signals to new entrepreneurs to enter those markets. If broadband operators really did block sites or engage in other types of discriminatory behavior, many consumers would be outraged and start looking for other service providers. And even in those markets where it will be more difficult for new rivals to break into the broadband Internet access market, it is important to remember that there's always narrowband Internet access service as a backup. Although many consumers would be loath to go back to much slower dial-up service, it would at least still be there as an option if they were angered enough by the actions of their existing broadband operator.

Finally, vertical integration of broadband services by a network owner can have significant consumer benefits. Even if one assumes that this industry is characterized by a duop-

oly structure, it does not necessarily follow that cable and DSL (digital subscriber line) providers will restrict the output of digital services. Even if current BSPs have significant market power, they still have a strong incentive to carry *more* content and websites to maximize consumer utility and get consumers to spend more money for access to the service. If a carrier attempted to greatly curtail or limit certain types of Web services, it might discourage subscribership and thus reduce profits.

In his now famous 1969 *Stanford Law Review* article, "Natural Monopoly and Its Regulation," Judge Richard Posner, a senior lecturer at the University of Chicago Law School, provocatively argued, "It is not clear that an unregulated monopolist will normally charge a price that greatly exceeds what a nonmonopolist would charge for the same service; nor is it clear that society should be deeply concerned if a natural monopolist does charge an excessive price."[34] Even if returns did run higher than normal for a given firm considered to be a monopolist, Posner points out, that might act as a procompetitive stimulus for innovation and market entry. "In the long run, a persistently very large spread between price and cost may spur entrepreneurs to devise ingenious methods of challenging or supplanting the monopolist," notes Posner.[35] Therefore, short-run intervention is likely to be counterproductive and delay or prohibit the optimal long-run situation policymakers desire.

The good news is that the current broadband marketplace is fairly competitive and growing more so with each passing month. The picture will only get rosier as wireless alternatives become available and other wireline providers (especially electric utility companies) start jumping into the broadband market.

6. Freedom of Contract

Net neutrality proposals reject freedom of contract. As previously discussed, BSPs already impose certain usage restrictions on their subscribers to improve network security and guarantee the integrity of their overall systems. Most of those restrictions are clearly spelled out in the terms of service or acceptable use policy agreements that operators ask their subscribers to abide by. Excessive spamming, the release of viruses, and computer or network hacking are a few activities routinely prohibited in user agreements. Operators obviously have good reasons for seeking to curtail such activities since curtailing them improves system reliability and consumer ease of use and enjoyment. Most operators also have restrictions on use of their networks for "unlawful" or "immoral" purposes, although most service agreements do not spell out what those terms mean.

Consumers may not like some of the stipulations. In many cases, it is doubtful they read the terms of the service agreement or even know it exists. Regardless, they still must abide by service contracts if they wish to remain subscribers. And they are always free to look for better deals as they become available or go back to narrowband options.

Could a carrier's restrictions on network usage create serious economic harm to end users? That's very unlikely, but if so, it is a matter best left to contracts and the common law. In the rare instances in which particularly overzealous actions by a BSP lead to serious consumer harm, disputes can be adjudicated and damages can be awarded if judges or juries determine end users have been harmed in some way.

Proponents of Net neutrality would prefer that legislators or regulators implement a preemptive standard of regulatory review. For example, many CBUI filings stress the benefits of FCC enforcement of the device attachments standards found in the famous *Hush-a-Phone*[36] and *Carterfone* decisions,[37] which laid out some basic guidelines for how consumers could attach certain devices to the monopolistic phone network of the time. But a preemptive regulatory regime would be counterproductive since it might allow others to "game" the regulatory system or discourage BSPs from building new network infrastructure in the first place. Moreover, regarding the *Hush-a-Phone* and *Carterfone* standards and corresponding

Even if current BSPs have significant market power, they still have a strong incentive to carry *more* content and websites to maximize consumer utility and get consumers to spend more money for access to the service.

FCC regulation, it is important to remember that those decisions and rules were handed down in an era of government-protected monopoly in telecommunications. There are no longer any protected monopolies in this marketplace. Rules structured for an environment of government-sanctioned monopoly are not appropriate for an environment characterized by open markets, competition, property rights, and freedom of contract. For example, there are no such "device attachment" regulations for the automotive industry or even the computer software sector. In those and countless other industries, market negotiations, contracts, and the common law—not preemptive government regulations—are used to sort out difficult controversies when they arise.

Finally, as detailed above, contracts can bind providers to live up to their end of the bargain and create a right of action against a BSP that betrays the terms of the agreement. Net neutrality regulations would likely interfere with contracts by periodically substituting the will of bureaucrats for the consent of contracting parties. Disputes have and will continue to develop over terms of service in this sector. To the extent that contracting parties feel that the terms of the contract have been violated one way or another, it would be undesirable for them to seek regulatory forms of redress over judicial alternatives. Despite the time and cost associated with the litigation route, common law forms of dispute resolution offer a superior model for resolving such disputes if for no other reason than that it is more difficult for parties to "game" the judicial process in their favor.

7. Property Rights

Net neutrality proposals are at odds with property rights. In general, most of the academic literature on open access regulation pays scant attention to the question of property rights. There is some limited discussion of property rights in some law review articles and court cases, but the question of property rights and "takings" is often dismissed from the debate over access-related infrastructure regulation.

Every discussion of forced access regulatory policy—whether it is structural or behavioral in character—should begin with a discussion of property rights.

This is an unfortunate trend that must be reversed. Indeed, every discussion of forced access regulatory policy—whether it is structural or behavioral in character—should begin with a discussion of property rights. After all, don't cable and telephone companies have genuine property rights in the networks they developed and own? Some critics would respond in the negative, arguing that those companies do not and should not possess the same sort of property rights held by other industries or businesses, given their highly regulated past histories. In this sense, critics of a property rights regime for broadband networks claim that open access regulation serves as a sort of reparation policy that can help right the wrongs of the (regulatory) past. That is, it will help provide restitution for the fact that some companies were given an unfair advantage through years of protected franchise monopolies and guaranteed rate-of-return regulation.

That is a weak rationale for rejecting property rights in formerly regulated network industries. As we move further away from the regulated utility model of the past and allow unrestricted entry into telecom markets, corporate shareholders, not ratepayers, will be increasingly responsible for investment risks. Local telephone companies, cable firms, and electricity companies are all shareholder-owned entities. The risks inherent in the massive ongoing investments being made by those companies now fall squarely on the shoulders of the firms and their investors. Although some of the underlying infrastructure of the regulated era of the past remains in place, it is increasingly becoming obsolete and is gradually being replaced. Many of today's network providers make billions of dollars of new investment every year, *without* assuming that the government and captive ratepayers will be there to bail them out in the future. A forced access mentality, however, argues for a return to the methods of the past as costs are spread more widely throughout the industry and networks are shared as a natural monopoly or an essential facility. That represents a step backward and entails

constant regulatory oversight and intervention.

Nonetheless, some proponents of Net neutrality such as Lessig advance a vision of the Internet and broadband networks as an idyllic commons that no one owns or controls. But the Internet has commonly been referred to as a "network of networks," and while no one entity controls it in its entirety, many individual segments of the Internet *are* privately owned and operated. It does not follow that, just because a company builds a network that allows subscribers to tap into the broader Internet, individual networks should be treated as a commons and be open to rule by the collective. And even if one denies that current cable and telco network operators have property rights, a powerful argument can be made that they *should* be accorded clearly defined property rights as soon as possible, in order to create additional incentives to build new facilities and offer new services.

What seems to make the pro-commons crowd so uncomfortable with a property rights framework for high-speed broadband networks is that it would allow BSPs to deal with rivals or customers on their own terms and give BSPs the freedom to refuse to deal with some rivals or customers altogether. But if Lessig and other proponents of Net neutrality want to make "refusal to deal" the cornerstone of their crusade against property rights in broadband networks, then they are really making a more sweeping indictment of property rights as the central organizing principle of all capitalist economies. As Glen O. Robinson of the University of Virginia School of Law notes: "Our concept of competition is based on a regime of exclusive property rights, and it sounds trite to observe that exclusive rights entail the possibility of excluding others. Competitors are supposed to compete with their own property, not with the assets of their competitors."[38]

Supporters of Net neutrality would likely respond that they are not against property rights in general, or the freedom to exclude in particular, but they are opposed to a private property–based legal paradigm for the broadband marketplace service since they are convinced competition is not possible or will be very slow to develop within this sector. Therefore, they prefer a commons approach in which control over decisions is transferred from the owners of the network to its users, or from the core to the edge of the network. But such an approach will have a profound impact on network investment and innovation.

8. Investment and Innovation

Net neutrality proposals would discourage investment and innovation in broadband networks and services. If policymakers grant the broader "commons" of Internet users more say about how networks operate, they will send a powerful signal to infrastructure operators and potential future operators of high-speed networks: *your networks are yours in name only and the larger community of Internet users—through the FCC or other regulatory bodies—will be free to set the parameters of how your infrastructure will be used in the future.*

It is fair to ask why a network operator or potential operator who hears that message would ever want to invest another penny of risk capital in this sector. As Owen and Rosston argue:

> The difficulty is that if we assign property rights in access to users rather than suppliers, resulting in an efficient price of access (zero), there will be no long run supply of Internet services. A zero price yields zero revenues—a lesson many dotcoms learned too late. While the benefits of the Internet can be made available to a *particular* user at zero cost, they cannot be made available to *all* users at zero cost.
>
> If providing Internet service is costly and there are no revenues, or revenues are less than costs, obviously there will be no Internet. Having no Internet is worse than having an inefficiently small or exclusive Internet. . . . The commons approach simply ignores supply-side problems that arise because the demand for transmission is dependent on the

Net neutrality proposals would discourage investment and innovation in broadband networks and services.

> supply of content, and vice versa, and because one kind of content may increase or decrease the demand for other content, or for transmission. These effects can often be taken into account by pricing, but sometimes require internalization by a single supplier. Net neutrality would ban both of these solutions.[39]

The core of the problem here is that Net neutrality regulation—like all other open access proposals before it—falls into what might most appropriately be called the "assume a platform" school of thinking. That is, proponents of forced access regulation seem to ignore market evolution and the potential for sudden technological change by adopting a static mindset preoccupied with micromanaging an existing platform regardless of the implications for the development of future networks. They see an existing platform—a railroad system, an electrical grid, a telephone network, a cable system—and they imagine that is the only network society can ever hope to have at its disposal. But what about other platforms? Is one platform enough? Can't we expect other platforms to be built? Should regulators merely regulate the most popular existing platforms to ensure that consumers get as much out of them as possible?

Where is the concern for innovation at the core of the network, or the innovation and investment needed to bring about entirely new network infrastructures?

That static, zero-sum mentality dominates much of the thinking about Net neutrality regulation and explains why proponents of a commons are preoccupied with demand-side concerns and blithely assume away supply-side concerns. A perfect example of this sort of demand-side, assume-a-platform reasoning is found in a joint filing by Professors Wu and Lessig with the FCC. In the filing, they advance the following argument as justification for preemptive Net neutrality regulation:

> The question an innovator, or venture capitalist, asks when deciding whether to develop some new Internet application is not just whether discrimination is occurring today, but whether restrictions might be imposed when the innovation is deployed. If the innovation is likely to excite an incentive to discrimination, and such discrimination could occur, then the mere potential *imposes a burden on innovation today* whether or not there is discrimination now. The possibility of discrimination in the future dampens the incentives to invest today.[40]

Wu and Lessig obviously feel quite passionate about the question of innovation at the edge of the network. But where is the concern for innovation at the core of the network, or the innovation and investment needed to bring about entirely new network infrastructures? Wu and Lessig are apparently content with the networks of the present and feel comfortable imposing regulations on existing BSPs to ensure that innovation is maximized at the edge of the existing systems.

But is such pessimism about future technological development or entirely new networks warranted? History and common sense suggest that the opposite is the case. Ours is an innovative culture, and new technologies and industry sectors have developed in the past and will be developed in the future, but only if creators (1) believe they can reap the fruits of their labor and (2) are not directly or indirectly prohibited by government from entering new markets or providing new services.

Still, skeptics will claim that the fixed costs associated with network development and deployment are substantial, so much so that it is foolish to assume that rivals will rise up to offer truly competitive alternatives. Apparently, the best we can hope for once a network has been built is for its owners to share their facilities with rivals, or at least allow the government to establish a set of regulatory standards for consumer use of that network. Genuine facilities-based competition is assumed to be an impossibility, given the prohibitively expensive up-front costs of offering service.

That logic explains why the CBUI members and other proponents of Net neutrality

premise their call for preemptive regulation on the notion of a "broadband duopoly" that will "define the Internet for some time." But as discussed previously, this static thinking ignores the amazing strides that have already been made by many companies and technologies in this nascent market, and it pretends that consumers have little more to look forward to in the broadband future. Such a conclusion seems particularly unwarranted, given the fact that most consumers hadn't even heard of the Internet just 10 years ago. No one knows what networks and technologies consumers will be using even five years from now.

Instead of being so preoccupied with merely maximizing consumer welfare within the confines of existing systems, proponents of Net neutrality—especially the impressive list of well-heeled companies that are part of the CBUI—need to put more thought and energy into the question of how the networks of the future are going to be funded and built. To repeat, the principle that CBUI members seem to ignore is that *competition in the creation of networks is as important as competition in the goods and services that get sold over existing networks*. Net neutrality mandates are at cross-purposes with that goal. Ken Ferree, chief of the FCC's Media Bureau, concludes that

> the effect of the regulatory overlay that the proponents of government-mandated openness seek would be to shift subtly the balance of power—hence the economic power—from the owners of distribution to the so-called fringe. That will not be without ramifications. Most importantly from my perspective is that investment will shift along with it away from platform development. It is a regulatory thumb on the scales, and—at this point at least—I think the wrong side of the scales.[41]

9. Opportunities for "Gaming"

Net neutrality regulation creates opportunities for the "gaming" of the regulatory process by other companies. A more cynical way to look at the CBUI dispute is through the prism of public choice doctrine and "regulatory capture" theory. Nobel Prize–winning economists George J. Stigler and James Buchanan have pointed out that regulation is typically a poor substitute for markets because of the problem of regulatory capture. Stigler noted in his seminal 1971 article, "The Theory of Economic Regulation," that "regulation is acquired by the industry and is designed and operated primarily for its benefit."[42] Likewise, Judge Posner has argued:

> Because regulatory commissions are of necessity intimately involved in the affairs of a particular industry, the regulators and their staffs are exposed to strong interest group pressures. Their susceptibility to pressures that may distort economically sound judgments is enhanced by the tradition of regarding regulatory commissions as "arms of the legislature," where interest-group pressures naturally play a vitally important role.[43]

The "capture" theory of regulation that challenged the conventional thinking of its day has been refined by many thinkers[44] and become more commonly accepted by modern economists.[45] Today, it is hardly remarkable to think of regulation in such terms, as news reports are replete with tales of how various special interest groups attempt to "game" the regulatory process in their favor. The debate over Net neutrality regulation is certainly not immune from such pressures or tendencies. Indeed, the motivations of some CBUI members who call for seemingly innocuous rules for online networks may be less than pure.

For example, Microsoft has been one of the most vocal CBUI members, which is quite ironic, given the decade-long antitrust ordeal it has endured to rebut allegations of discrimination in the operating systems and Web-browser market.[46] Fortunately, Microsoft appears to have been largely victorious in its

Net neutrality regulation creates opportunities for the "gaming" of the regulatory process.

The mere threat of regulation acts as a sword of Damocles above the necks of BSPs and might help strong-arm BSPs into making certain concessions or deals that would not be likely absent the possibility of regulation.

effort to beat back unfounded discrimination claims and remain free to innovate within the sectors it services.[47]

But now Microsoft appears to be looking to turn the same playbook against cable and telephone companies by accusing them of discrimination in the broadband market. Microsoft's motivation in pursuing this agenda may be an honest desire to safeguard the lanes of online commerce and communications, but the firm could also be looking to use the regulatory process—or even the threat of impending regulation—to gain an advantage for its X-Box gaming platform or secure future deals in the interactive software or set-top box marketplaces.

As Kevin Fitchard of *Telephony Online* reported when the X-Box system was launched in November 2001, "Microsoft's real plans are ambitious: make the X-box the world's ultimate broadband appliance."[48] And Cynthia Brumfield, president of Broadband Intelligence, noted in the same report: "There are a lot of people with the view that the Xbox will be a Trojan horse into the home. Once you get it into the home, you have a base from which to deliver a whole host of telecom services. [Microsoft] wants to be the ubiquitous provider of data services."[49] Meanwhile, Microsoft is aggressively marketing its new Media Center PC suite of services, which seeks to integrate television, DVD, music player, and photo-viewing capabilities into one device powered by Microsoft's XP Media Center Edition operating system. "Microsoft has long lusted after your living room. Facing a saturated market for PCs, the company sees the convergence of computing and entertainment as an opportunity to reignite its growth. The software maker has achieved some success with the Xbox game console, but the big prize is music, movies, and television," notes Stephen H. Wildstrom of *Business Week*.[50]

If one considers such business plans and concerns, a motivation for Microsoft's pushing Net neutrality regulation seems to emerge. The firm hopes to gain a foothold in the broadband and online services marketplace and ensure its software, standards, and services are adopted over other alternatives. There is nothing wrong with that business strategy, of course, except that in this case it is accompanied by the threat of Microsoft's support of federal regulation of BSPs. The mere threat of regulation acts as a sword of Damocles above the necks of BSPs and might help strong-arm BSPs into making certain concessions or deals that would not be likely absent the possibility of regulation.[51] Combine that with the fact that Microsoft currently has billions invested in some of America's largest cable operators, and it becomes clear that the firm will have a great deal of bargaining power when dealing with many cable BSPs.

Interestingly, news reports in late 2003 suggested that Microsoft might be pulling back from its previous support of the CBUI and Net neutrality agenda.[52] A Microsoft senior official was quoted in *Telecom Policy Report* as saying that the CBUI coalition had "outlived its usefulness" and that Microsoft was distancing itself from the group.[53] As of press time, however, Microsoft had not officially left the CBUI.

What are the motivations of Disney, Amazon, Yahoo!, E-Bay, and some of the other notable digital economy giants who are also CBUI members? Those companies cannot really be concerned that their websites or services are at risk of ever being completely blocked by network operators. After all, if a cable or telco company shut off consumer access to one of those popular providers, Internet denizens would be outraged and likely mount a mini-revolt. Cable and telco firms are not about to make those content providers into the darlings of the digital world.

What may have Disney, E-bay, Amazon, and others so concerned is the potential reworking of Internet access pricing schemes in the near future. One of the most interesting debates that has taken place behind the scenes in recent years involves the question of how broadband access should be priced. Would a per minute or per bit pricing scheme help conserve pipe space, avoid congestion, recover costs, and enable BSPs to plow the

savings into new capacity? Possibly, but nothing much has come of this debate, and no carrier has acted on such a plan for two reasons. First, broadband operators are probably concerned that such a move would bring about unwanted regulatory attention. Second, and more important, cable and telco firms are keenly aware that the Web-surfing public has come to view "all you can eat" buffet-style, flat-rate pricing as a virtually inalienable right. Broadband operators probably don't want to rock the boat too soon with more creative pricing schemes, but someday they may have to as bandwidth-intensive websites start to eat up more and more pipe capacity.

If that day comes sooner than expected, many consumers will cry foul, but a number of bandwidth-intensive Internet vendors and website operators will likely be absolutely apoplectic, and some may even run to regulators seeking redress. This raises the important question of whether broadband operators should have the right to price access in this manner. And would a CBUI-style "nondiscrimination" provision prohibit such innovative pricing schemes from being employed in the first place?

The answer remains uncertain, but clearly, if some form of network nondiscrimination rule is on the books, some websites may push to invoke it against a broadband operator that suddenly announces a new metered pricing scheme for bandwidth-intensive Web offerings. It would be very unfortunate if this scenario came to pass, since such creative pricing schemes may be part of the long-run solution to Internet congestion and allowing carriers to accurately assess user charges for Web activities. Supply and demand could be better calibrated under such pricing schemes, and broadband operators may be better able to recoup sunk costs and make new investments in future infrastructure capacity or network services.

The bottom line is that it should be left to the market, not regulators, to determine what pricing schemes are used in the future to allocate scarce space in broadband pipes. The broadband marketplace is still in an early developmental stage, having existed for only a few years. What business model will prevail or make network activities profitable in the future? Pay per view? Advertising? Metered pricing schemes? Some hybrid of those and other systems? No one knows for sure, but policymakers need to allow network operators the freedom to innovate and employ creative pricing and service schemes so that market experimentation can answer that question.

If Net neutrality mandates were on the books, however, angry competitors might be able to use the threat of regulation to preempt such marketplace developments. As Rep. Diane L. DeGette (D-CO) concludes, we "do not want the government to be wielded as a regulatory weapon to further the interests of one group of private companies against their competitors."[54]

10. Expanded Regulatory Intervention

Net neutrality proposals will likely lead to an overall expansion in the scope of regulatory intervention in broadband markets and lock in a new regulatory regime for the Internet. It should be obvious from the preceding discussion that Net neutrality regulation would invite regulators to play a greater role in the market for broadband services. Defining "discrimination" and "harm" would obviously require ongoing agency hearings and rule makings, but there are actually two more ways that Net neutrality regulation would open the door to a troubling level of government intervention in this market.

First, at some point, Net neutrality mandates would likely necessitate the imposition of price controls on broadband operators. If regulators wanted to aggressively weed out supposed discrimination by BSPs, it would not be enough for them to simply regulate carrier conduct. They would need to go further and impose restrictions on the prices BSPs charge for certain services.

For example, if the FCC merely imposed a Net neutrality rule that prohibited a BSP from limiting end-user interconnection of Wi-Fi

Net neutrality proposals will likely lead to an overall expansion in the scope of regulatory intervention in broadband markets and lock in a new regulatory regime for the Internet.

devices, the BSP would still be free to charge subscribers more if they hooked up Wi-Fi hardware without the BSP's permission. In other words, if the BSP could charge $10,000 per month for consumer Wi-Fi nodes, that would effectively end any chance for consumers to connect Wi-Fi devices to their broadband service. Although no carrier is likely to take such a drastic step, there remains the question of determining the "fair" price for interconnection of devices to broadband networks. If a BSP charged $100 per month for Wi-Fi connections, would that be unreasonable? Some customers might regard it as an outrage that they'd be forced to spend even one dollar to connect such a device. But if regulators make a political issue of interconnection pricing and attempt to determine the "fair" terms of interconnection, a regime of price controls will eventually evolve.

Mountains of legal paperwork have been churned out by the FCC, telecom companies, academics, and others on this very question in recent years in an attempt to define "fair, nondiscriminatory" interconnection to, and use of, the local telephone networks owned by incumbent local telephone exchange carriers. The same will be true if Net neutrality regulations are put in place, since every forced access regime demands the imposition of price controls as well.[55]

Second, Net neutrality regulation threatens to introduce the specter of common carrier regulation into the broadband and Internet sphere. Indeed, much of the ongoing debate about structural open access regulation of the underlying broadband pipes focuses on whether a common carrier–like regime will be imposed on BSPs, and on the cable industry in particular. The issue has gone back and forth between the courts and regulatory agencies with the Ninth Circuit U.S. Court of Appeals recently vacating an earlier FCC ruling that cable modem service should be defined as an "information service" and not bound by traditional common carrier regulations.[56]

This arcane debate over regulatory semantics is important because in the field of communications regulation definitions and labels count for quite a bit. How a service is defined ultimately determines how it is regulated. If broadband services are defined as "information services" and governed by Title I of the Communications Act instead of Title II, which regulated telecom services under a common carrier regime, it will have profound ramifications for the future of broadband providers and technologies. In particular, a declaration that broadband services are "telecom services"—as the Ninth Circuit Court of Appeals suggested is the case for cable—would mean that a wide variety of infrastructure-sharing rules and pricing regulations would likely be imposed on BSPs by the FCC or, more likely, by state and local regulators.[57]

The battle over the regulatory classification of broadband services has mostly involved structural regulatory proposals thus far, but the imposition of Net neutrality rules would make it more likely that a full-blown common carrier regime would eventually be adopted for broadband providers. If federal or state regulators have the power to regulate the behavioral side of the market though supposedly "simple" nondiscrimination rules, that would likely grease the skids for structural forced access regulation of the industry.

Policymakers should be moving away from common carrier legal regimes whenever and wherever possible and toward private carriage arrangements. Common carriage regimes demand significant regulatory meddling in the affairs of industry to determine "fair, nondiscriminatory pricing and terms of service." Private carriage arrangements based on contracts and common law resolution of disputes are a better alternative for the emerging world of competitive communications.

Net neutrality regulation threatens to introduce the specter of common carrier regulation into the broadband and Internet sphere.

Market-Based Solutions: Pricing, Contracts, the Common Law, and Competition

Although it would be unwise for regulators to adopt the sort of regulatory regime propo-

nents of Net neutrality have suggested, that does not mean there is no role whatsoever for government in this process. Government *can* play an important, albeit limited, role in overseeing a well-functioning broadband marketplace.

First, contract law is an important part of the answer to questions about what rights suppliers and users have in the Internet marketplace. It would be a quixotic task for lawmakers and regulators to attempt to determine what "rights" each group has in this debate. Better to allow those rights to be dictated by ongoing negotiations between the various parties.

Second, when some of those actors overstep the boundaries of their contract, courts will be called upon to adjudicate technical disputes over the meaning of certain words or phrases in terms of service agreements or acceptable use policies. The common law of contracts has evolved over centuries to provide solutions to complicated disputes for other commercial activities, and the common law can be tapped by parties in conflict over the terms of their agreement. Even if it takes some time to resolve some contractual disputes over broadband contracts, this approach is vastly superior to having regulators adopt preemptive, one-size-fits-all rules for this fast-paced sector.

Third, policymakers can take steps to encourage greater competition in the broadband marketplace by further deregulating the wireline sector and opening additional wireless opportunities through comprehensive spectrum reform. Luckily, the FCC is currently taking a number of important steps to ensure greater flexibility in the provision of wireless services, but current reform efforts fall short of the full-blown spectrum privatization that is needed to bring about a true wireless revolution. If policymakers would free the wireless marketplace from its many licensing and operational restraints, more wireless broadband options would likely emerge to challenge the hegemony of existing wireline providers.[58]

Finally, it is vitally important that the government exercise regulatory restraint when it comes to how broadband services are priced in the future. Pricing is the key to solving 90 percent of the questions raised in the debate over Net neutrality. In a recent filing with the FCC, the High Tech Broadband Coalition, an alliance of several of the nation's most prominent high-technology trade associations, argued that "pricing flexibility can create a market-based mechanism that would balance the interests of both consumers and providers with minimal regulation or interference with marketplace functions."[59]

For example, as suggested above, bandwidth access might be metered on a per minute or per bit basis to balance network burdens and benefits. It is also likely that flat-rate pricing schemes, such as those used today for most broadband services, will be increasingly modified to include discounts for bundled services or promotional packages. If allowed to experiment with such creative pricing schemes, carriers and consumers should be able to negotiate mutually beneficial deals that avoid or solve most of the headaches CBUI members envision. And higher prices for service or interconnection will send important signals to other network competitors and entrepreneurs, telling them that an opportunity might exist to enter a new market.

Conclusion: What Ever Happened to "Hands Off the Net"?

The Net neutrality catfight points to a much more troubling trend in the emerging field of cyberlaw: the rapid proliferation of requests for federal intervention in high-tech markets for one reason or another. Not so long ago, policymakers of all political stripes expressed what seemed to be a genuine desire to keep the Internet free of the sort of regulatory meddling that plagued the communications, cable, and broadcast sectors in previous decades. Years of experience had shown that regulation of those markets had stifled

The Net neutrality catfight points to a much more troubling trend in the emerging field of cyberlaw: the rapid proliferation of requests for federal intervention in high-tech markets for one reason or another.

innovation, restricted competition, and limited consumer choice. Hence, calls for a "hands-off" approach to cyberspace were made by a wide variety of political officials and policy organizations.

Regrettably, the "hands-off" impulse has waned as governments have found ways to spread their tentacles into cyberspace. "[G]overnmental regulation of [the] Internet is actually becoming increasingly the rule, rather than the exception," notes Michael Geist of the University of Ottawa.[60]

At least part of the reason this has occurred is because many high-tech firms and trade associations have openly invited government to play a greater role in the outcome of various industry squabbles or difficulties. As Christine Y. Chen of *Fortune* reports, "Tech communities in Silicon Valley, Boston, Seattle, and Austin may be libertarian havens, but these days the geeks are cozying up to big government."[61] As a crude measure of just how much more active Silicon Valley firms have become in Beltway politics, Chen notes that there were no nonstop flights between Oakland and Washington's Dulles Airport prior to 2002, but now there are 123 each month. She also quotes Robert Shaw, a former Oracle executive, who notes: "It used to be that you'd stop in and check the heartbeat every once in a while. Now you have to be there all the time to build relationships." Shaw also estimated that the number of people going from Silicon Valley to Washington had increased by at least 200 percent over the past year.

It's hard to see how this could be a benign development. Spending more time making regulators happy than serving consumers doesn't sound like a recipe for sustained economic growth or innovation. Moreover, although many companies will claim they are simply spending more time jetting to Washington "to build relationships," the reality is that many of them are flocking to Washington to sweet-talk legislators and regulators into using the club of Big Government to beat back rival companies or entire industry sectors. This is a prime example of what Milton Friedman has appropriately labeled "the business community's suicidal impulse."

> [B]usinessmen tend to be schizophrenic. When it comes to their own businesses, they look a long time ahead, thinking of what the business is going to be like 5 to 10 years from now. But when they get into the public sphere and start going into the problems of politics, they tend to be very shortsighted. . . . [They] take positions that are not in their own self-interest and that have the effect of undermining support for free private enterprise.[62]

Sadly, the fight of Net neutrality regulation is already starting to look and sound like a textbook case of Friedman's "suicidal impulse" thesis in action. As Rep. John Conyers Jr. (D-MI) has recently said of the CBUI Net neutrality proposal: "At best, the coalition's proposal is a solution in search of a problem. At worst, it is a cynical ploy by some tech titans to employ the federal government on their behalf to disadvantage competitors. . . . [T]he coalition seems to be asking the government to handcuff its competitors, preventing them from practicing business strategies that its members themselves often practice."[63]

Indeed, by calling government in to solve a nonproblem, supporters of Net neutrality and the high-tech giants that make up the CBUI are essentially inviting regulators into the broadband marketplace and asking them to play a more active role in how the Internet is governed in the future. This invitation will have serious ramifications and costs that may manifest themselves only years from now. CBUI members should be careful what they ask for; it might come back to haunt them in ways they can't possibly imagine today.

CBUI members should be careful what they ask for; it might come back to haunt them in ways they can't possibly imagine today.

Notes

1. Coalition of Broadband Users and Innovators, Filing to the Federal Communications Commission in the Matter of Appropriate Framework for Broadband Access to the Internet over Cable Facilities, CS Docket No. 02-52, January 8, 2003, p. 2,

http://204.153.212.66/events/cbui/docs/cbui1-8.pdf.

2. Quoted in Louis Trager, "Dueling 'Conservatives' Offer Opposite Net-Friendly Competition Policies," *Washington Internet Daily*, June 9, 2003, p. 5.

3. Michael J. Copps, "The Beginning of the End of the Internet? Discrimination, Closed Networks, and the Future of Cyberspace" (speech before the New America Foundation, October 9, 2003), pp. 8–9.

4. The term "Net neutrality" is used in the literature on this subject as shorthand for both "Internet neutrality" and "network neutrality."

5. Paul E. Misener, Amazon.com Filing in Matter of Appropriate Regulatory Treatment for Broadband Access to the Internet over Cable Facilities, FCC CS Docket No. 02-52; FCC 02-77, December 2, 2002, p. 8, http://204.153.212.66/events/cbui/docs/amazon12-2.pdf.

6. See Adam Thierer and Clyde Wayne Crews Jr., *What's Yours Is Mine: Open Access and the Rise of Infrastructure Socialism* (Washington: Cato Institute, 2003), pp. 55–64, http://www.catostore.org/index.asp?fa=ProductDetails&pid=1441099; Adam Thierer, "Was the UNE Triennial Review Worth the Wait? Part 2: The Substance," *TechKnowledge* no. 58, September 15, 2003, http://www.cato.org/tech/tk/030915-tk.html; Adam Thierer, "Was the UNE Triennial Review Worth the Wait? Part 1: The Process," *TechKnowledge* no. 57, August 29, 2003, http://www.cato.org/tech/tk/030829-tk.html; and Adam Thierer, "UNE-P and the Future of Telecom 'Competition,'" *TechKnowledge* no. 48, February 1, 2003, http://www.cato.org/tech/tk/030201-tk.html.

7. See Thierer and Crews, pp. 65–89.

8. Coalition of Broadband Users and Innovators, "Discrimination on the Broadband Network: Why the FCC Should Adopt Connectivity Principles to Ensure Unfettered Consumer's Access to the Internet" (presentation to the FCC's LSGAC, March 28, 2003), p. 8, http://204.153.212.66/events/cbui/docs/lsgac_presentation.pdf.

9. These FCC proceedings include Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities, GN Docket No. 00-185; Appropriate Framework for Broadband Access to the Internet over Cable Facilities, CS Docket No. 02-52; Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, CC Docket No. 02-33; Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services, CC Docket No. 01-337; and Computer III Further Remand Proceedings, CC Docket Nos. 95-20, 98-10.

10. National Association of Regulatory Utility Commissioners, Resolution Regarding Citizen Access to Internet Content, November 12, 2002, http://www.naruc.org/Resolutions/2002/annual/telecom/citizen_access.shtml.

11. Tim Wu, "Network Neutrality and Broadband Discrimination," *Journal of Telecommunications & High Technology* (forthcoming 2003): 26, http://faculty.virginia.edu/timwu/bbd.pdf.

12. Ibid., p. 7.

13. Ibid.

14. Randolph J. May, "Handicapping Michael Powell's Legacy Year," *News.com*, June 25, 2003, http://www.pff.org/publications/062503CNET.htm.

15. For a more thorough exploration of rights theory, see Roger Pilon, "The Purpose and Limits of Government," *Cato's Letters* no. 13, 1999; and Roger Pilon, "Discrimination, Affirmative Action, and Freedom: Sorting Out the Issues," *American University Law Review* 45 (1996): 775.

16. John Borland, "Putting a Lid on Broadband Use," *News.com*, September 22, 2003, http://news.com.com/2100-1034-5079624.html.

17. Stephanie Olsen, "Hotmail Sets E-Mail Limits in Spam-Busting Bid," *Silicon.com*, March 24, 2003, http://www.silicon.com/news/500009/1/3432.html.

18. John Borland, "Putting a Lid on Broadband Use," *News.com*, September 22, 2003, http://news.com.com/2100-1034-5079624.html. Comcast's acceptable use policy states: "Comcast does not routinely monitor the activity of Service accounts for violation of this AUP. However, in our efforts to promote good citizenship within the Internet community, we will respond appropriately if we become aware of inappropriate use of our Service. Although Comcast has no obligation to monitor the Service and/or the network, Comcast and its suppliers reserve the right at any time to monitor bandwidth, usage, transmissions, and content from time to time to operate the Service; to identify violations of this Policy; and/or to protect the network, the Service and Comcast users. Comcast prefers to advise customers of inappropriate behavior and any necessary corrective action. However, if the Service is used in a way that Comcast or its suppliers, in their sole discretion, believe violate this AUP, Comcast or its suppliers may take any responsive actions they deem appropriate. These actions include, but are not limited to, temporary or permanent removal of content, cancellation of newsgroup posts, filtering of Internet transmissions, and the immediate suspension or termina-

tion of all or any portion of the Service. Neither Comcast nor its affiliates, suppliers, or agents will have any liability for any of these responsive actions. These actions are not Comcast's exclusive remedies and Comcast may take any other legal or technical action it deems appropriate." Comcast Corporation, Acceptable Use Policy, http://www.comcast.net/terms/use. jsp.

19. Jim Wagner, "SBC, Yahoo! Set Prenuptials?" *Internetnews.com*, November 14, 2001, siliconvalley.internet.com/news/article.php/923321.

20. See Jim Hu and Kurt Oeler, "Yahoo Curbs Message Board Spam," *CNET News.com*, July 27, 1999, http://news.com.com/2100-1023-229106.html?legacy=cnet.

21. See Jim Hu, "Yahoo Walls Out Trillian," *CNET News.com*, September 26, 2003, http://news.com.com/2100-1032_3-5082812.html?tag=prntfr.

22. See generally Steve Lohr, "In AT&T Deal, Microsoft Buys Itself a Stake in 'Post-PC' Era," *New York Times*, May 7, 1999, p. C1, http://www.nytimes.com/library/tech/99/05/biztech/articles/07cable.html; Ben Heskett and Sandeep Junnarkar, "Microsoft Sees Cable in Its Software Future," May 5, 1999, *CNET News.com*, http://news.com.com/2100-1033_3-225437.html; Corey Grice, "Microsoft Collects Broadband Bullion," *CNET News.com*, February 2, 1999, http://news. com.com/2100-1033_3-221009.html; and Jeff Pelline, "Microsoft's Cable Gambit," *CNET News.com*, June 15, 1998, http://news.com.com/21 00-1001_3-212283.html.

23. Ted Hearn, "Sachs: Cable-Modem Subs Go Everywhere," *Multichannel News*, February 25, 2003, http://www.multichannel.com/index.asp?layout=articlePrint&articleID=CA279954.

24. Randolph J. May, "The Storm over Broadband Bundling," *CNET News.com*, April 17, 2003, http://news.com.com/2010-1071-997226.html.

25. See Matthew Boyle, "The Really, Really Messy Wi-Fi Revolution," *Fortune*, May 12, 2003, pp. 86–92; Mark Anderson, "When It Comes to Wi-Fi, You Ain't Surfed Nothing Yet," *Fortune*, June 23, 2003, p. 134; Adam Baer, "Out and About, and Online," *New York Times*, December 12, 2002, p. E1; and Matthew Boyle, "Wi-Fi U.S.A," *Fortune*, November 25, 2002, pp. 205–14.

26. Dinesh Kumar, "Commercial Theft of High-Speed Signal Renews Debate on Adequacy of Laws," *Communications Daily*, October 3, 2003, pp. 5–7.

27. Blair Levin et al., "Beyond UNE-P: The Edge vs. the Network—a/k/a 'Open Access II,'" Legg Mason, December 5, 2002, p 1, http://www.citi.columbia.edu/research/readings/beyondunep.pdf. The Legg Mason analysts go on to note: "We believe this network access question may be the most important and overlooked issue potentially on the FCC agenda. Its implications for the broadband world are dramatic, as the outcome will likely affect the leverage between the network operators and the content/applications providers" (p. 2).

28. Bruce M. Owen and Gregory L. Rosston, "Local Broadband Access: *Primum Non Nocere* or *Primum Processi*? A Property Rights Approach" (paper prepared for Progress and Freedom Foundation conference on Net Neutrality, June 27, 2003), p. 22, http://siepr.stanford.edu/papers/pdf/02-37.pdf.

29. Jeffrey H. Rohlfs, *Bandwagon Effects in High-Technology Industries* (Cambridge, MA: MIT Press, 2001).

30. This is formally referred to as "Metcalfe's law," after Bob Metcalfe, the inventor of Ethernet and the founder of 3Com. Specifically, Metcalfe's law states that the value of a network goes up as a square of the number of its users.

31. Quoted in Teri Rucker, "Coalition Urges FCC to Craft Rule on Broadband Access," *National Journal Technology Daily*, April 24, 2003, PM edition, http://nationaljournal.com/pubs/techdaily/pmedition/tp030424.htm. See also Simson Garfinkel, "The End of End-to-End?" *MIT Technology Review*, July–August 2003, p. 30.

32. For a comprehensive overview of existing and emerging broadband technologies and their impact on public policy, see Thierer and Crews, pp. 65–89.

33. Owen and Rosston, p. 29.

34. Richard A. Posner, *Natural Monopoly and Its Regulation* (1969; Washington: Cato Institute, 1999), 30th anniversary edition, p. 7.

35. Ibid., p. 14.

36. In the *Hush-a-Phone* decision, the D.C. Circuit held that a telephone subscriber had the "right reasonably to use his telephone in ways which are privately beneficial without being publicly detrimental." *Hush-A-Phone v. United States*, 238 F.2d 266, 268 (D.C. Cir. 1956). The FCC then translated this principle into a specific regulatory edict that ordered AT&T to allow telephone customers to attach devices that did not injure AT&T or impair the operation of the telephone system.

37. *Use of the Carterphone Device in Message Toll*

Telephone Service, 13 F.C.C. 2d 420 (1968).

38. Glen O. Robinson, "On Refusing to Deal with Rivals," *Cornell Law Review* 87 (July 2002): 1191. Robinson elaborates: "Economic liberty has always been associated with property rights, and vice versa. In modern functionalist jargon, the freedom to deal or not to deal with parties of one's choosing would be associated with the right to exclude, which was declared by the Supreme Court to be one of the most fundamental property rights" (p. 1190).

39. Owen and Rosston, pp. 24–25.

40. Tim Wu and Lawrence Lessig, Ex Parte Submission in Appropriate Framework for Broadband Access to the Internet over Cable Facilities, CS Docket No. 02-52, August 22, 2003, pp. 8–9, http://faculty.virginia.edu/timwu/wu_lessig_fcc.pdf. Emphasis in original.

41. W. Kenneth Ferree, Remarks at the Progress and Freedom Foundation conference on Net Neutrality, June 27, 2003, p. 2, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-235879A1.pdf.

42. George Stigler, "The Theory of Economic Regulation," *Bell Journal of Economics and Management Science* 2, no. 1 (Spring 1971), reprinted in *The Essence of Stigler*, ed. Kurt R. Leube and Thomas Gale Moore (Stanford, CA: Hoover Institution Press, 1986), p. 243.

43. Posner, p. 92.

44. In particular, see Sam Peltzman, "Toward a More General Theory of Regulation," *Journal of Law and Economics* 19 (August 1976): 211–40.

45. For a broader discussion of Stigler's theory of regulation and a comparison to other modern theories of regulation, see David L. Kaserman and John W. Mayo, *Government and Business: The Economics of Antitrust and Regulation* (Fort Worth, TX: Dryden, 1995), pp. 517–44.

46. See Robert A. Levy, "Microsoft Redux, Anatomy of a Baseless Lawsuit," Cato Institute Policy Analysis no. 352, September 30, 1999, http://www.cato.org/pubs/pas/pa-352es.html.

47. See Robert A. Levy, "Microsoft: The States' Last Hurrah," Cato Institute *TechKnowledge* no. 42, November 5, 2002, http://www.cato.org/tech/tk/021105-tk.html; Robert A. Levy, "The Microsoft Decision—Part 1 of 2: The Appeal Ends, The Trial Resumes," Cato Institute *TechKnowledge* no. 12, July 11, 2001, http://www.cato.org/tech/tk/010711a-tk.html; and Robert A. Levy, "The Microsoft Decision—Part 2 of 2: Prospects for the Company, Implications for Antitrust," Cato Institute *TechKnowledge* no. 13, July 11, 2001, http://www.cato.org/tech/tk/010711b-tk.html.

48. Kevin Fitchard, "Microsoft's X-Box as a Trojan Horse," *Telephony Online*, November 12, 2001, http://telephonyonline.com/ar/telecom_microsofts_xbox_broadband/.

49. Quoted in ibid.

50. Stephen H. Wildstrom, "Microsoft's New Gig for PCs: Entertainer," *Business Week*, September 23, 2002, p. 24.

51. In a recent white paper, "Creating a Vibrant Information Technology Sector," Microsoft argued that government should take several steps to "eliminate practices that impede competition" in the telecom and broadband marketplace. One of the specific steps they recommended was a requirement that incumbent operators "offer flat-rate Internet access pricing plans." Microsoft, "Creating a Vibrant Information Technology Sector: Growth, Opportunity and Partnership," May 2003, p. 28.

52. Ben Silverman, "Gates Halts Big 'Neutrality' Push," *New York Post*, December 15, 2003, http://www.nypost.com/business/13428.htm.

53. "Microsoft Appears to Want Out of Broadband Group," *Telecom Policy Report*, December 17, 2003.

54. Diane L. DeGette, "The Irony of Network Neutrality," *CNet.com*, October 21, 2003, http://www.statesman.com/opinion/content/auto/epaper/editions/today/editorial_f3b80a92b1e0229f005c.html. Likewise, James Gattuso of the Heritage Foundation argues: "So why not a general rule by the FCC against discrimination? The simple answer is because whatever the hypothetical potential for market abuse, the potential for regulatory abuse is greater. One can imagine how market rivals would twist and turn such rules to thwart competitors. The FCC has long allowed itself to be used for such purposes; it shouldn't do so again." James Gattuso, "Discriminating Taste: The Latest Battle to Regulate the Internet," Competitive Enterprise Institute, *CEI C:\Spin*, May 12, 2003, http://www.cei.org/gencon/016,03473.cfm.

55. Owen and Rosston argue: "[I]t is simply impossible to require access without mandating a price to be charged since the access supplier can deny access by setting a high enough price." Owen and Rosston, p. 14.

56. Mark Wigfield, "Appeals Court Hands FCC Setback," *Wall Street Journal*, October 7, 2003, p. B5.

57. "Narrow Thinking on Broadband," *Wall Street Journal*, October 8, 2003, p. A24.

58. See Adam Thierer, "Three Cheers for the FCC Spectrum Task Force Report," Cato Institute *TechKnowledge* no. 44, November 21, 2002, http://www.cato.org/tech/tk/021121-tk.html; Adam D. Thierer "Solving America's Spectrum Crisis," Cato Institute *TechKnowledge* no. 4, April 18, 2001, http://www.cato.org/tech/tk/010418-tk.html; and Adam Thierer, "Telecommunications and Broadband Policy," in *Cato Handbook for Congress, 108th Congress*, January 1, 2003, pp. 422–26, http://www.cato.org/pubs/handbook/hb108/hb108-41. pdf.

59. Comments of the High Tech Broadband Coalition in the Matter of Appropriate Regulatory Treatment for Broadband Access to the Internet over Cable Facilities, Federal Communications Commission, CC Docket No. 96-45, June 17, 2002, p. 10, http://www.itic.org/policy/fcc_020618.pdf.

60. Michael Geist, "Tax Holiday Expiring, Regulators Aspiring on Web," *Toronto Star*, June 30, 2003, http://www.torontostar.com/NASApp/cs/ContentServer?pagename=thestar/Layout/ArticleType1&c=Article&cid=1056924608744&call_pageid=971794782442&col=971886476975.

61. Christine Y. Chen, "Getting a Piece of the D.C. Pie," *Fortune*, May 12, 2003, p. 34.

62. Milton Friedman, "The Business Community's Suicidal Impulse," *Cato Policy Report*, March–April 1999, p. 1, http://www.cato.org/pubs/policy_report/v21n2/friedman.html.

63. John Conyers Jr., "U.S. Shouldn't Meddle in Running Internet Economy," *Detroit News*, June 17, 2003.

Published by the Cato Institute, Policy Analysis is a regular series evaluating government policies and offering proposals for reform. Nothing in Policy Analysis should be construed as necessarily reflecting the views of the Cato Institute or as an attempt to aid or hinder the passage of any bill before congress. Contact the Cato Institute for reprint permission. Additional copies of Policy Analysis are $6.00 each ($3.00 each for five or more). To order, or for a complete listing of available studies, write the Cato Institute, 1000 Massachusetts Ave., N.W., Washington, D.C. 20001, call toll free 1-800-767-1241 (noon - 9 p.m. eastern time), fax (202) 842-3490, or visit our website at www.cato.org.