

In the
**UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT**

**No. 00-1680 (L)
(CA-00-33-3)**

MEDIAONE GROUP, INC., MEDIAONE OF VIRGINIA, INC., AT&T CORPORATION,
Plaintiffs-Appellees,

v.

COUNTY OF HENRICO, VIRGINIA,
Defendant-Appellant,

GTE INTELLIGENT NETWORK SERVICES, INC. d/b/a GTE.net, BELL
ATLANTIC CORPORATION, BELL ATLANTIC-VIRGINIA, INCORPORATED,
BELL ATLANTIC INTERNET SOLUTIONS, INCORPORATED.
Intervenors-Defendants

ON APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA

Brief for *Amici Curiae*
VIRGINIA CITIZENS CONSUMER COUNCIL
CONSUMER FEDERATION OF AMERICA
AND
CENTER FOR MEDIA EDUCATION
In Support Of Defendant and Intervenor-Defendants

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July 10, 2000

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PRELIMINARY STATEMENT

This case presents a series of relatively narrow, albeit extremely significant, issues of statutory construction. The *Citizen Amici* identified below submit this brief in the hope that describing the design and operation of the "platform" used to deliver broadband Internet service will assist this Court in assessing those issues.

Citizen Amici support the defendants and Intervenor aligned with the defendants in seeking reversal of the judgment below. *Citizen Amici* endorse much of the Ninth Circuit's analysis in *AT&T Corp. v. City of Portland*, No. 99-35609, 2000 U.S. App. LEXIS 14383 (9th Cir. June 22, 2000), but they believe that the Communications Act of 1934 requires that broadband Internet service delivered on cable television systems must be provided on a non-discriminatory basis, and that this conclusion does not depend on whether it is determined to be a "cable service" or a "telecommunications service." *Citizen Amici* express no view as to the state issues in this case.

INTERESTS OF THE AMICI

Citizen Amici are advocacy groups which assert their members' constitutionally protected right to receive affordable access to diverse sources of information and competitive service offerings in the delivery of interactive electronic mass media, and for voice, data, video, Internet and other communications services. In the District Court, plaintiffs propounded a First Amendment challenge which would be

heard if this court were to reverse. Citizen *Amici* would then argue that Henrico County's decision to require that cable subscribers be afforded choice in Internet service providers promotes the *public's* "paramount" First Amendment rights to free expression and to receive access to diverse sources of information. *See Red Lion Broadcasting Co. v. FCC*, 395 U.S. 367 (1969).

Citizen *Amici* Virginia Citizens Consumer Counsel (VCCC),¹ Consumer Federation of America (CFA)² and the Center for Media Education (CME)³ represent the interests of the general public before all three branches of municipal, state and federal government. As consumers, their members benefit from competitive markets that provide product innovation, higher service quality and lower prices, thereby improving economic efficiency for all. *See* Berkeley Roundtable on the Internet Economy ("BRIE") Working Paper 137, "Defending the Internet

¹The Virginia Citizens Consumer Council (VCCC) is a statewide grassroots organization of individual consumers, community and public interest organizations and others committed to the interest of Virginia consumers. VCCC is a member of Consumer Federation of America.

²Consumer Federation of America (CFA) is the nation's largest consumer advocacy group, composed of over 240 state and local affiliates representing consumer, senior citizen, low-income, labor, farm, public power and cooperative organizations, with more than 50 million individual members.

³The Center for Media Education (CME) is a national nonprofit organization dedicated to creating a quality electronic media culture for children, their families and communities.

Revolution In the Broadband Era: When Doing Nothing is Doing Harm," at 2, available at <http://brie.berkeley.edu/.briewww/pubs/wp/wp137.html> ("*BRIE*").

Internet users, however, are not just "customers." They are also *citizens*. As such, they use the Internet to access noncommercial and governmental information, to enhance lifelong learning, to communicate with far-flung and nearby communities, and to participate in democratic civic discourse as speakers and listeners.

INTRODUCTION

Resolution of the statutory construction questions in this case requires some comprehension of how Internet transmission is provided over cable networks. While this Court need not reach the ultimate question as to whether Internet over cable is a "telecommunications service" or a "cable service," Citizen *Amici* believe that a brief primer on Internet transmission will assist the court in assessing the District Court's opinion.

Citizen *Amici* first provide a short explanation of some of the technology used by the Internet and how cable operators and the telephony providers use it to deliver service. They also address how information is managed on these systems as it relates to the statutes at issue in this case.

Citizen *Amici* then provide additional background analysis of the policy im-

plications of the closed model that Plaintiffs and other cable operators propose to employ. They show how the discriminatory practices AT&T proposes to employ do not maintain the core characteristics which have been associated with the Internet and, as such, do not provide the same opportunities for economic growth and innovation or for civic discourse. This presentation may also assist the Court in assessing the Communications Act's delicate balance between preemption of protectionist state and local measures and respect for localism.

I. TRAFFIC CONTROL ON THE INTERNET.

Citizen *Amici* are in full agreement with the arguments presented to this Court in the briefs of the Defendants and Defendants-Intervenors. The validity of their legal analyses is underscored by an exploration of how broadband information services are distributed *via* the Internet.

The District Court erroneously determined that the Henrico Ordinance forced AT&T to provide a "telecommunications service" and a "telecommunications facility" in violation of 47 USC §§541(b)(3), 541(b)(3)(D), 541(c), 544(e) and 544(f)(1) as a condition of approving the merger of AT&T and MediaOne.⁴ Citizen

⁴See *AT&T Corp. 8-K, Current Report*, filed with the Securities and Exchange Commission on June 15, 2000 (announcing consummation of the merger). Although the merger has been consummated, it is subject to rescission or reformulation depending on the outcome of pending proceedings relating to a proposed consent decree requiring divestiture of RoadRunner, see *Competitive Impact*

Amici show here that, regardless of such enhancements or functionalities Excite@Home or RoadRunner⁵ may offer subscribers, and however this "service" is defined, AT&T had already been offering it. *See Brief of Defendants* at 26.

The District Court also erred in concluding that the Henrico Ordinance required AT&T to offer a new telecommunication service or facility. Rather, all the Ordinance did was require AT&T to offer to others, on a non-discriminatory basis, the same service or facility *currently* available to its RoadRunner affiliate.

Similarly, the District Court erred in concluding that the Ordinance mandated a particular equipment or technology in violation of 47 USC §541(e) and that the Ordinance imposed requirements regarding the nature of the content provided over AT&T's cable system in violation of 47 USC §541(c). An understanding of the protocols used to manage Internet traffic show that Defendants and Intervenors-

Statement, U.S. v. AT&T, (No. 1:009CV01176 (RCL), filed May 25, 2000) and the transfer of certain FCC licenses, *see Memorandum Opinion and Order* (FCC 00-202, released June 6, 2000), *reconsideration pending* (approving the merger of AT&T Corp. and MediaOne Group, Inc.).

⁵In the wake of its agreement to divest RoadRunner, AT&T has announced that it will substitute its own "Excite@Home" offering. "Press Release: AT&T Signs Consent Decree With Department Of Justice Giving Antitrust Clearance To Merger With MediaOne," (May 25, 2000), available at <http://www.att.com/press/item/0,1354,2927,00.html>. Therefore, *Citizen Amici* have framed their discussion around AT&T and the Excite@Home service. Minor details will differ, but for all practical purposes, the statements in this brief about AT&T and Excite@Home apply with equal force to MediaOne and RoadRunner.

Defendants are correct that the Ordinance did not require AT&T to use any particular equipment, or provide any content it had not already promised its subscribers it would already provide.⁶ Rather, the Ordinance simply required AT&T to allow other access providers the same interconnection with its system that AT&T *already* provides to its RoadRunner affiliate, and to do so on the same economic terms.

Finally, the following analysis demonstrates that the Ordinance simply cannot have required AT&T to act as a "common carrier" in violation of 47 USC §544(f)(1). If the transportation of packets in unaltered form makes AT&T a common carrier, then AT&T was *already* a common carrier by virtue of providing this service for RoadRunner. By contrast, if transmission of packets in unaltered form does not make AT&T a common carrier, then requiring interconnection does not make AT&T a common carrier.⁷

⁶Nor, of course, did the Ordinance prohibit AT&T from providing any content it might wish.

⁷The District Court's misplaced reliance on *FCC v. Midwest Video Corp.*, 440 U.S. 689 (1979), demonstrates its confusion. There, the Supreme Court invalidated the FCC's attempt to impose mandatory video program origination requirements because they deprived the cable operator of discretion to choose what content it carried over its system. *Id.*, 440 U.S. at 700. As explained below, this case does not involve any content-based editorial function. *See Turner Broadcasting Co. v. FCC*, 512 U.S. 622, 643 (1994); *see generally* Harold Feld, "Whose Line Is It Anyway: The First Amendment and Cable Open Access," 8 *Comm. Law Con.* 23 (2000).

A. How Data Is Managed On the Internet.

The innovation which lay at the heart of the creation of the Internet is a group of software "protocols" which enable disparate computer networks all over the world to transfer data among themselves. Internet network operators and access providers do not change the form or content of the information transmitted from the content provider to the end-user. Rather, these access and network providers simply implement TCP/IP protocols (discussed below) to provide a common means of moving this information between and among computers.

Through the use of two primary protocols,⁸ the Transfer Control Protocol ("TCP") and the Internet Protocol ("IP") (collectively "TCP/IP"), a computer breaks information into groups of digital information expressed as ones and zeroes called "packets." Data, software, electronic mail, music, and all other forms of data in a single computer file may be divided into hundreds, thousands or millions of packets. When a user wants to send or receive information, the TCP/IP protocol suite arranges the information into a form that can pass as packets from network to network.

Machines known as "routers" direct each incoming packet to the best path

⁸In the context of the Internet, a "protocol" is a formal set of rules and conventions that governs how computers exchange information over a network medium.

available at that moment.⁹ Each packet may travel its own individual path from the transmitter to the receiver, so that packets that are part of the same message may end up traveling through different networks, with some packets traveling thousands of miles longer. Each packet "knows" where it came from and where it has to go. But the packets do not have to travel together, or even arrive in the right order. When the packets arrive at their final destination, the receiving computer uses the TCP/IP protocols to put the packets in the right order and restore the file to its original condition.

B. Data Transmitted On the Internet is Not Modified.

For immediate purposes of this Court's inquiry, it is important to stress that the network does not in any way alter or modify the information between the time it leaves the transmitting computer and the time it arrives at the end-user.

The following analogy shows why:

If someone in Washington decided to send a three page (or "three packet") letter to someone in Richmond, she could send the first page by U.S. mail, the second page by Federal Express, and the third page by UPS. She would place each page in an envelope and write the destination address on the outside of the envelope. The recipient in Richmond could then assemble the whole letter using

⁹This is usually the "open shortest path first" or OSPF method.

the "page number" protocol.

None of the three "networks" (the US Postal Service, Federal Express, or UPS) knows anything about the content carried within the envelopes. They deliver these envelopes in exactly the same way they deliver every other envelope, using the information provided on the outside of the envelope.

In the context of this case, Excite@Home and other networks that carry the packets through the Internet serve the same functions as that of the post office, UPS and Federal Express. Using destination information contained in the digital "header" of each packet, they simply pass the packets in the unaltered state from one place to another.

1. Traffic Controls: Caching and QoS

The Internet functions without central management because Internet protocols permit each network manager on the Internet to manage data flow independently.

Two management tools, "caching" and "quality of service" ("QoS"), are of immediate relevance. It bears emphasis that caching, QoS and other similar techniques are employed on telephone and other non-cable networks. Thus, the technological capability of the network provider to use these traffic controls in a discriminatory manner is irrelevant to the question of whether Internet transmission is

a "cable service" under the Communications Act.¹⁰ Although other operators can use caching and QoS technology to discriminate for and against certain kinds of content and particular content providers, this is ordinarily prohibited by the law. *See, generally, Oxman, The FCC and the Unregulation of the Internet*, FCC OPP Working Paper #31 (1999) at 9, available at <http://www.fcc.gov/opp/working-p.html>.

Caching and QoS do *not* alter the "form or content of the transmission as sent or received" within the meaning of 47 USC §153(43) (defining telecommunications service). Rather, these practices are entirely analogous to "traffic controls" used in the pre-existing telephone network. Sometimes, the number of packets flowing into a network exceeds the capacity of the network to sort them. This can cause all Internet traffic to "slow down," making it very difficult for those trying to use real-time or interactive services. Such reduced functionality impedes the flow of data in commerce, where time sensitivity is a matter of great consequence and delays impede markets and commerce. The public safety and national security implications of "traffic jams" at critical moments are all too obvious.

¹⁰Since this case has been presented as an appeal from a grant of summary judgment, if this Court were to believe that denominating AT&T's Internet product as a "cable service" hinges on the exact nature of caching and QoS, it should remind the matter to the trier of fact.

Caching and QoS are legitimately used to address traffic congestion. Certain sorts of information, such as the contents of a popular webpage, may be accessed by a large number of people. Particularly when content does not change frequently (for example, a web page that is changed only once daily), a network operator may chose to store the information on its local network¹¹ rather than retrieve the information for each user. This is called "caching."

Caching speeds things up by bringing the information closer to the user. Rather than traveling all the way through the network to get the information, the end-user merely visits the local machine. Significantly, however, *the information remains the same*. All that has happened is that the network provider has moved the information closer to the user. Indeed, it would violate the content provider's rights if the network provider unilaterally altered the information. A user who

¹¹A "web site" is a lengthy set of a computer code using a number of protocols, notably Hypertext Markup Language (HTML). When a user "visits" a site or "surfs the web," the user actually downloads the information into the user's own computer, then views it through a "browser." See Harold Feld and Sarah Taylor, "Promoting Functional Foods and Nutraceuticals on the Internet," 54 Food and Drug L.J. 423, 426 n.23 (1999). When the user uses an interactive feature, the user's response is either imbedded in the code or it is transmitted back to the website. Users receive information much more quickly when network providers store the HTML code on their own computer (known as a "server")The network provider usually will "refresh" frequently used code on a regular schedule, so that updates made by the content provider are captured by the network operator caching the content.

entered "disney.com" and was sent by Excite@Home to an altered version of Disney's content would be displeased. Presumably, Disney would have a cause of action against Excite@Home for copyright violation.¹²

While caching moves content closer, Quality of Service technology, among other things, can deliver specific packets at a faster pace. Using the analogy introduced above, some letters go by "overnight" service and others go as "First Class" or "parcel post." Network operators can distinguish among packets by looking at the address information on the packet "header" (*i.e.*, the "envelope"), rather than the contents of the packet). This tells where the packet came from, to whom the packet will go, and the general nature of the contents, *e.g.*, E-mail, music files or streaming media.¹³

The network operator can then use QoS tools to give certain packets priority. Packets given priority will move ahead of other packets and will thus travel faster. Alternatively, packets given a lower priority will move more slowly.

This tool allows network providers to give priority to services where time

¹²By contrast, a traditional cable service transmitting a Disney Channel video program may contract for the right to alter the program in certain ways, *e.g.*, adding its own commercial advertisements in designated places.

¹³A letter carrier obtains similar information on a "real" letter by looking at the postmark, the address, the return address, and even weighing it.

delays matter a great deal. For example, it makes sense to give priority to video streaming, which requires rapid transmission of packets to achieve video-like quality, over E-mail, which is not particularly speed sensitive.

QoS can also be used to discriminate by allowing network providers to favor affiliated services and to disfavor rivals.¹⁴ For example, Excite@Home has deliberately blocked "streaming video" files, a practice which has the effect of raising barriers to new competitors and existing rivals such as Disney.¹⁵ Again, however, *the form and content of the information do not change*. Although the

¹⁴Excite@Home explains its "collocation" technique as follows:

The @Media group offers a series of technologies to assist advertisers and content providers in delivering compelling multimedia advertising and premium services, including replication and co-location. Replication enables our content partners to place copies of their content and applications locally on the @Home broadband network, thereby reducing the possibility of Internet bottlenecks at the interconnect points. Co-location allows content providers to co-locate their content servers directly on the @Home broadband network. Content providers can then serve their content to @Home subscribers without traversing the congested

At Home Corporation, 1998 Annual Report 8 (1999).

¹⁵"[O]ne day streaming video is likely to become an effective way to watch television programs from many source--chosen by the customer, not the cable company--or to purchase pay-per-view movies. The technical excuse for this restriction is that the provider doesn't have enough capacity for all customers to use streaming video at the same time. But cable companies have a conflict of interest--they are restricting a service that will someday directly compete with Cable TV." Jerome H. Saltzer, "Open Access" is Just the Tip of the Iceberg (Oct. 22, 1999), available at <http://web.mit.edu/Saltzer/www/publications/openaccess.html>.

end-user will perceive a difference in the quality of information, *e.g.*, a rival's video streaming will appear jerky and slow, or a rival's webpage may take many more minutes to download than that of a "preferred partner,"¹⁶ the information remains the same. To return to the postal analogy, many post offices have boxes: mail for within the zip code, and mail outside the zip code. Local mail is sorted and delivered first, and thus goes faster than mail to other zip codes. The content of the letter, however, remains the same.

As noted above, conventional telephone service, the archetypal telecommunications service, employs equivalent traffic controls. Internet service providers using the public telephone network also use these techniques. At times, the telephone network becomes so congested that it cannot complete new calls, and must wait until the switches clear.¹⁷ Certain types of calls, such as emergency 911 calls,

¹⁶@Home's closed network caches all of its own content as a matter of course:

[B]ecause @Home caches content locally, its own content will have better apparent bandwidth than that of third party content providers. Because @Home makes money through advertising and commerce partnerships, the company has little incentive to provide higher-speed connectivity to outside content.

Kevin Werbach, "The Architecture of Internet 2.0," *Release 1.0* (Feb. 19, 1999) at 4, available at <http://www.edventure.com/release1/cable.html> ("Werbach").

¹⁷This is familiar to anyone who has attempted to place a call on Mothers Day and received a recorded announcement that "All circuits are busy, please try again."

are given a higher priority. Alternatively, the phone company can override or block specific calls manually, or break into an existing call if the situation warrants. Customers can also purchase private lines that let them call directly from one place to another without going through the public network. These are directly analogous to providing a higher priority under QoS, but these traffic-control tools do not make the phone company any less a telecommunications provider.

In essence, therefore, caching and QoS are forms of traffic control. As such, they have no impact on whether Internet access offered over cable is a "telecommunications service" or a "cable service."

II. CABLE BROADBAND AND THE INTERNET: "THE TROUBLE WITH THIS VISION IS THAT IT'S NOT THE INTERNET...."

To assist this Court in construing the context in which the statutory terms in this case must be applied, Citizen *Amici* present a brief discussion of the characteristics of the Internet and how discriminatory management can impede economic growth and innovation and vibrant civic discourse.

The Internet is an international network of interconnected computers...that, eventually linking with each other, now enable tens of millions of people to communicate with one another and to access vast amounts of information from around the world. The Internet is "a unique and wholly new medium of worldwide human communication."

Reno v. ACLU, 521 U.S. 844, 845 (1997).

A. Characteristics of Today 's Internet

The Internet's signal characteristic has been open entry. One of the Internet's most influential commentators explains that:

[T]oday's Net is open, decentralized and competitive. It fosters innovation because it is a standards-based general-purpose platform. Anyone can use it, and anyone can communicate with anyone else.
* * * * Companies...can develop and distribute innovative applications that spur usage, without owning any network infrastructure. Service providers must continually offer better pricing, services and support to win users' business.

Werbach, at 1.

Openness is a matter of design choice, not technological imperative. "We take it for granted that IP networks are open, but that's not preordained," *Id.* at 2.

Openness lowers entry barriers and facilitates instant market access. Entrepreneurs with a computer and an idea can start a business. Those seeking to disseminate messages can reach potential audiences far larger than any other mass medium can deliver. The network of networks also creates communities of common concern, locally and internationally.

B. The Closed Model.

Plaintiffs' closed model "differ[s] in important ways from dial-up Internet service providers (ISPs)." *Id.* at 4. *BRIE* at 18-20. It uses the same IP technology that telephone companies use to provide essentially identical services. But, unlike

those providers, Plaintiffs would evade the non-discrimination safeguards imposed on competitors.¹⁸ "In effect, @Home is a closed network that runs on the IP protocol and interfaces with the public Internet." *Id.* at 4As *Werbach* concludes, "The trouble with this vision is that it is not the Internet...." *Id.* at 5.

This diagram, from *Werbach* at 2, shows why:

The diagram indicates with the dotted lines "potential interconnection points" where AT&T has refused to allow competing ISP's to interconnect to its systems. Without those connections, users can reach other ISP's only through @Home's proprietary backbone.

@Home delivers data through a specially created *private* system.¹⁹ As the

¹⁸It is generally agreed that the FCC's policy of forcing the telephone networks to allow rival "enhanced service" providers open access to the telephone network allowed the current robust, competitive Internet to develop. *See, e.g.*, FCC OPP Working Paper #31, *The FCC and the Unregulation of the Internet* (1999) at 11-12; *BRIE* at 2. Such action was necessary because patterns that best serve its own interests." *BRIE* at 18. *See also United States v. Western Electric Co., Inc.*, 673 F. Supp. 525, 532 & 586 (D.D.C. 1987) (prophylactic action is warranted where the network operator has incentive to discriminate).

¹⁹Properly deployed in a competitive environment, this would be a legitimate competitive advantage, to which other ISPs would have to respond with advanced technology of their own, or by marketing slower, inferior services at a lower price to customers not seeking the premium quality connectivity. @Home does not offer such a low end option.

Ninth Circuit explained,

@Home operates a proprietary national "backbone," a high-speed network parallel to the networks carrying most Internet traffic, which connects to those other Internet conduits at multiple network access points. This backbone serves regional data hubs which manage the network and deliver Excite's online content and services, including multimedia content that exploits broadband transmission speeds. Each hub connects to local "headend" facilities, cable system transmission plants that receive and deliver programming, where "proxy" servers cache frequently requested Internet data, such as Web sites, for local delivery. Each headend connects to cable nodes in neighborhoods, each of which in turn connects via coaxial cable to the user's cable modem and computer.

AT&T v. City of Portland, supra, 2000 U.S. App. LEXIS 14383 at *6. @Home has itself described its network as "effectively one of the world's largest intranets...",²⁰ using a term which describes an entirely closed system typically used by a large corporation for internal business.²¹ In the inelegant but candid words of Dr. John Malone, the CEO of AT&T's Liberty Media affiliate, "[Customers] have to go through us" to reach the public Internet. Auletta, *How the AT&T Deal Will Help John Malone Get Into Your House*," *The New Yorker*, July 13, 1998, at 13.

²⁰The passage quoted in the text was accessed on or about June 8, 1998 at <http://www.home.net/corp/advantage/network.html> (accessed on or about June 8, 1998), but appears to have been deleted.

²¹A widely recognized lexicon of technical terms describes an "intranet" as "a private network that is contained within an enterprise.***An intranet uses TCP/IP, HTTP, and other Internet protocols and in general looks like a private version of the Internet." See <http://www.whatis.com/>.

In short, AT&T seeks to control every aspect of the subscriber's on-line experience. As demonstrated below, this provides significant opportunities for abuse in every aspect of the technical and business customer-provider relationship.²²

1. Opportunities For Discrimination In the Closed Model.

As earlier described, the TCP/IP protocols provide tools for local management of each network. The legal, political and social impacts of that phenomenon are profound. According to Professor Lessig:

Architecture is a kind of law: it determines what people can and cannot do. *** As the world is now, code writers are increasingly lawmakers. They determine what the defaults of the Internet will be; whether privacy will be protected; the degree to which anonymity will be allowed; the extent to which access will be guaranteed. They are the ones who set its nature. Their decisions, now made in the interstices of how the Net is coded, definewhat the Net is.

Lessig, *Code: And Other Laws of Cyberspace* (1999) at 58-59.²³

²²AT&T would be motivated not to facilitate delivery of content from entrepreneurs offering new and innovative services that potentially compete with services offered by AT&T affiliates or advertisers. For example, Amazon.com might ask AT&T to block or degrade service to a local bookstore's site. The GAP or The Limited might ask AT&T to block access to a local boutique clothier.

²³There is a web site associated with Professor Lessig's book (<http://code-is-law.org/main.html>) which provides additional discussion of his thesis that realization of the Internet's promised freedoms are now a function of its architecture, and that software "code" is becoming a code with legal force as well. Professor Lessig and his colleague, Professor Mark Lemley, submitted a detailed discussion of the open access issue in comments opposing the AT&T/MediaOne merger. See *Ex Parte Comments of Professors Lawrence Lessig and Mark Lemly*, filed in

Henrico County seeks to preserve, through law, what AT&T would take away through architecture. Architecture involves the “built environment,” which constrains behavior to follow preset patterns. The architecture of a network can be configured and operated to harm competitors, restricting the functionality of an independent ISP, while allowing an affiliated ISP to function optimally.

2. Interconnection and Structure — "Click Through" is Not Enough.

The District Court was therefore correct - but incomplete - in its observation that "[a] MediaOne RoadRunner customer can access any content on the Internet." J.A. 1734. For what it is worth, the statement is likely true at the moment, but the District Court's ruling affords AT&T the power to choose to block sites for any reason without notice.

More importantly, this statement begs the question of the *quality* of the access. As Professors Lessig and Lemley explain,

[T]he ability to click through provides just a fraction of the services that a competitor ISP might potentially provide. It would be as if competitor browsers on the Windows platform performed just 30% of the functions that they performed on other platforms.

Lessig/Lemley Comments at ¶75. Using the devices discussed above, site access to

Docket 99-251 (November 10, 1999)("Lessig/Lemley Comments"), available on the Federal Communication Commission's ECFS ("Electronic Comment Filing System") web site located at <http://www.fcc.gov/e-file/ecfs.html>.

preferred content providers and vendors may be easily found and quickly downloaded, while competitors' sites will receive inferior treatment designed to discourage subscribers from visiting them.

The District Court did not fully understand the qualitative difference between access subject to the operator's caching and QoS restraints and the unrestricted "open" access mandated by Henrico County. The record contains a report, prepared by Citizen *Amicus* CFA and two other groups, which identifies nine elements necessary for non-discrimination. See *Consumer Groups Challenge AOL and AT&T's Open Access Promises*, J.A. 884, 891.

As the Internet evolves, many different kinds of ISP services have become available for users of varying degrees of need. Most ISPs, in fact, do not offer competing content. Many compete by promising technically sophisticated connection points and protocols that link subscribers to the Internet efficiently and reliably. Specialized ISP's are better able to identify and service niche markets, such as particular social and ethnic groups,²⁴ and customers seeking additional privacy

²⁴There are numerous ISP's which offer marketing and web pages in scores of languages. There are Christian-oriented ISP's, *e.g.*, <http://www.worldchristian.net>, gay-oriented ISPs, *e.g.*, <http://www.rainbowvoice.net>, as well as ISP's serving K-Mart customers, *see* <http://www.bluelight.com> and StarTrek fans, *see* <http://www.startrekmail.com>. Many operators, provide turn-key ISP businesses for social, regional and ethnic affinity groups, *e.g.*, <http://www.bridgewaterstems.com>.

protection and cryptographic protection, *e.g.*, <http://www.pilot.net>.

These innovators promote the utility of the Internet by introducing new users to the Internet and enabling them to use it in accordance with their particularized needs. Non-profit ISPs serve educational and other needs, and many political, religious and social groups have created ISP's reflecting their social and moral concerns.

Forcing independent ISPs to connect to the proprietary network in inefficient or ineffective ways, or giving affiliated ISPs preferential location and interconnection, produces substantial discrimination, *e.g.*, the degradation of independent ISPs' quality of service. As one commentator explains: "Access providers choose where they attach to a long distance carrier for the Internet, known as a 'backbone provider.' The route to the backbone provider and the choice of the backbone provider are important decisions, bundled with the access service."²⁵

²⁵Jerome H. Saltzer, "*Open Access*" is Just the Tip of the Iceberg (Oct. 22, 1999) <<http://web.mit.edu/Saltzer/www/publications/openaccess.html>>. Saltzer also gives an example of the effects of forcing independent ISPs to connect to the proprietary network:

If you reside in Massachusetts, and you connect to a computer in your office in the next town, unless your office uses the same access provider, your traffic may flow from Massachusetts down to Virginia and back. This detour introduces delays, which can significantly interfere

3. Restricting Consumer Speech Under the Closed System.

Space precludes extensive discussion, but the District Court's previously cited comment that "[a] MediaOne RoadRunner customer can access any content on the Internet..." J.A. 1734, also suggests that the Court regards the Internet merely as a one-way medium. This misperception overlooks the interactive element of the Internet that allows "customers" to be speakers engaged in every kind of artistic, expressive, recreational, political and commercial speech. This is an area in which Excite@Home has been especially aggressive in its restrictions.²⁶

with some kinds of service, such as video conferencing with your boss or interactive file editing. In addition to distance-related delays, you may encounter distant, response-slowing congestion, or even inability to communicate with your office when a hurricane hits Virginia.

Id.

Saltzer further explains the problems with this structure:

Your access provider again has a conflict of interest--attaching to the nearest, most effective backbone provider might divert revenue from a backbone company in which your access provider has a financial interest or other business dealings. More important for the future of innovative services, if a new backbone provider offers a specially-configured low-delay forwarding service which is just what is needed to carry telephone calls over the Internet, your access provider (which may also offer telephone service) may choose not to connect to that new backbone, effectively preventing you from using a better service.

Id.

²⁶@Home has severely limited its customers' ability to move data upstream. Recently, it effectively prohibited customers from uploading information at a speed faster than 128 kbps, much slower than technology permits. As a result of this "en-

The technology as employed by cable operators is sophisticated and unobtrusive. Slower downloads and pages that simply do not appear are likely to go unnoticed. Even so, such manipulation will nonetheless impel users to rely upon sites which arrive reliably and quickly. @Home sells such favored treatment to its commerce and content "partners."

It is essential to remember that there is nothing inherent in the cable broadband platform that provides unique capabilities to use flow control for anti-competitive purposes.²⁷ The difference is that other narrowband and broadband competitors have never challenged the clear legal obligation imposed upon them to offer service on a non-discriminatory basis.

III. CLOSED ACCESS IMPEDES FREENETS AND SERVER-BASED

hancement," Excite@Home's customers will no longer be able to establish commercial "web hosting businesses" which compete with Excite@Home's "partners" or even maintain ("host") web pages for their own expressive use. See Deborah Solomon, *AtHome Speed Cap Angers Subscribers*, San Francisco Chronicle, June 30, 1999, at B1.

²⁷Cisco Systems, the leading network equipment manufacturer, makes equipment which can be used for telephony or cable system use, but markets it differently to cable operators. It has represented to them that it can use QoS controls to restrict the incoming push broadcasts [from competitors] as well as subscriber's outgoing access to the push information site to discourage its use. At the same time, you could promote and offer your own or partner's services with full-speed features to encourage adoption of your service, while increasing network efficiency.

Controlling Your Network - A Must for Cable Operators, Cisco Systems, 1999 at 5.

FILTERING.

Space precludes extensive discussion, but there are many ways in which the AT&T/ @Home architecture is antithetical to the Internet's paradigmatic functions of expanding opportunities for innovation and free expression and protecting personal choice.

A. *FreeNets.*

Hundreds of community "FreeNets" provide "access to information to everyone in the community."²⁸ While FreeNets could obtain high-speed access from common carriers where available, AT&T does not offer this connectivity at any price.

FreeNets provide services that AT&T might well perceive as directly competitive. In particular, FreeNets act as low-cost ISPs by purchasing connectivity from telephone companies and providing connections to individuals and social service groups for free or at cost, and maintain web pages for non-profits. *See* "The Case for Community Networking," Oregon Public Network, Inc., <<http://www.opn.org/cn/index.html>>

FreeNets are not merely competing low-cost ISP's; some of their offerings

²⁸For a list of FreeNets nationally, *see* <http://www.y4i.com/accessusa.html>. Northern Virginia is served by <http://www.alex.org>, located in Alexandria, VA.

are unlikely to be, or cannot be, duplicated by any commercial provider. FreeNets often offer information services - particularly of local interest - without "banner advertising" and merchandising offerings. Just as many citizens, especially parents, may prefer non-commercial radio or television to commercial offerings, they may prefer to access - or have their children access - local information sources that do not come bundled with ads providing "click through" access to merchandise.

AT&T therefore has strong incentive to discriminate against or refuse service to FreeNets. Even if AT&T were willing to offer such services itself, these services would be subject to AT&T's corporate caprice. Furthermore, organizations or businesses hosted by AT&T without the protection of an open access provision would censor themselves or refrain from directly competing with services offered by AT&T, out of fear of losing their access to AT&T's physical plant.

B. Server-Based Filtering.

"Filtering" software is a mechanism which can help assure parents that their children will not be exposed to undesirable content. This technology is not without controversy, especially when it has been employed in public fora. *See, Mainstream Loudon v. Board of Trustees of the Loudon County Library*, 24 F. Supp.2d 552 (E.D. Va. 1998) (rejecting public library's imposition of filtering software).

Whatever the perceived shortcomings of such software, no one can seriously

dispute the right of parents to attempt to monitor or limit their children's access to the Internet according to their own personal moral code. Closed access cable systems, however, deny parents' the option of using "server-based" filtering, a technology which may prove to be the most effective mechanism to control what material is available to their children on the Internet. Development of such devices can, in the view of many, promote free speech by protecting children while permitting the Internet to provide unfiltered access for those who wish to receive constitutionally protected material which is offensive to others.²⁹

While @Home and other ISP's offer their own software filtering option, this does not provide the same degree of security as a server which does not let targeted material through for *any* customer. Dotsave.com, one of the increasing number of server-based filtered ISP's, each of which varies in taste and philosophy, explains that "Filtering is done at our servers, making it difficult, if not impossible, for even the most advanced computer user to 'hack' through...." <http://www.dotsave.com/faq.html>.

Even if @Home offered a choice of many different content filters to reflect

²⁹There are some 30 "server-side" ISP's listed on one prominent directory. *See*, http://dir.yahoo.com/Business_and_Economy/Business_to_Business/Communications_and_Networking/Internet_and_World_Wide_Web/Network_Service_Providers/Internet_Service_Providers__ISPs_/National__U_S_/Filtered_Access/

different tastes, it could not match the range of options available in the market. More importantly, families have a fundamental First Amendment right to choose the protections for their children that best comport with their own moral and religious standards. Excite@Home, as a corporate service providing access to millions, cannot possibly make the same informed judgment as to what best serves particular parents and their local communities. In an open model, parents can choose server-based filtering that best matches their particular beliefs.

For example, Christian parents concerned about access to sites they consider not merely pornographic, but also blasphemous, may use any of a number of Christian ISP services offering server-based filters. *See, e.g.*, <http://www.angels-online.net>, <http://www.11ord.net>. Mormon parents will likely prefer filtering more in line with their own religious beliefs, *see* <http://www.lds.net>. There is at least one service designed to meet the needs of Orthodox Jewish parents. *See*, <http://www.thekosher.net>. By contrast, others may desire filtering with no religious orientation. *See, e.g.*, <http://www.netjava.com/ChoiceNe.htm> (offering non-sectarian filtering).

CONCLUSION

WHEREFORE, VCCC, CFA and CME respectfully ask that this Court reverse the judgment of the District Court.

