

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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In the Matter of)
)
Usage of the Public Switched) CC Docket No. 96-263
Network by Information Service)
and Internet Access Providers)

COMMENTS OF THE NATIONAL CABLE TELEVISION ASSOCIATION

The National Cable Television Association ("NCTA"), by its attorneys, submits the following Comments in response to the Commission's Notice of Inquiry ("Inquiry") FCC 96-488, rel. Dec. 24, 1996, in the above-captioned proceeding.

INTRODUCTION AND SUMMARY

NCTA applauds the Commission for commencing this separate Inquiry into the multi-faceted regulatory and policy implications resulting from the widespread consumer acceptance of the Internet and other packet-switched services. With increased Internet usage has come increased use of the public switched telephone network ("PSTN") and resulting claims that such increased usage places new burdens on the PSTN for which telephone companies are not properly compensated. While the issue of how Internet access and other enhanced services ought to be regulated has been around for some time, its significance has become much more urgent as a result of the call of some telcos for such compensation.

The Commission correctly observes that these services are delivered primarily over the PSTN. While this delivery mode should not be foreclosed by regulation, complete reliance upon conventional telephone networks for these purposes is almost certainly a temporary phenomenon. Different transmission media are now available and more versatile options will be available

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in the future. Because these different media have significant comparative advantages over the public switched network, consumers can be expected to rely upon alternative media to deliver Internet access and analogous services.

The Commission's investigation of Internet access and analogous services "in a world of digitalization and growing importance of data technologies" will lead, we believe, to the conclusion that no interstate access charge should be imposed upon Internet access or other enhanced services. Rather, the increased demand for these services will challenge the ingenuity of entrepreneurs to develop new means of reaching subscribers. As a consequence, the alleged burdens placed on the PSTN will be reduced, if not eliminated. As we discuss below, it would be ill-advised for the Commission to impose an Internet access charge.

Whatever the comparative disadvantages faced by the local telephone companies to provide Internet access, it does not follow that regulation should be imposed that impedes these efforts. Telephone companies are certainly entitled to modify the telephone network at their own expense to meet market needs. We believe, however, that alternative distribution media, such as cable companies providing broadband access over their networks, may well turn out to be the consumer's medium of choice. The Commission should permit this "fair fight" to begin. In the interim it should not handicap either players or consumers by permitting incumbent LECs to impose a separate Internet access charge on those who use the PSTN for any part of their Internet access service.

I. THE LECS SHOULD NOT BE PRESUMED TO HOLD A "FRANCHISE" FOR THE DELIVERY OF INTERNET ACCESS

This proceeding is motivated by the implications for the PSTN of the general consumer acceptance of computer-based interactive services delivered over the Internet. As the Commission observes, widespread acceptance of Internet and related services raises questions that go

beyond whether an interstate access charge should be imposed upon enhanced services when these services are carried on the public switch network. As the Commission states: “Ultimately, these questions concern no less than the future of the public switched telephone network in a world of digitalization and growing importance of data technologies. Our existing rules have been designed for traditional circuit-switched voice networks, and thus may hinder the development of emerging packet-switched data networks.”¹

Imposition of an access charge on Internet services, motivated by concern that a charge is necessary to protect the PSTN, would be just such a hindrance. An Internet access charge would impose new costs of Internet networks and services during their formative development. Such a charge would draw capital away from entrepreneurial Internet access and service providers, transferring the money to the incumbent monopoly LECs who themselves provide Internet access.

The cable industry has had direct experience with incumbents that try to use the Commission to frustrate competition. In the name of “free television,” the broadcasting industry persuaded the Commission over many years to enforce regulations that impeded the cable industry’s ability to attract capital and compete. Consumers might have received the benefits of multi-channel video services sooner if the regulatory emphasis of those years was more on promoting competition, and less on protecting incumbents.

Securing the delivery of Internet access over the PSTN from competition would be particularly unfortunate because the PSTN may not be the optimal delivery mechanism for all

¹ Access Charge Reform, FCC 96-488, rel. Dec. 24, 1996, at ¶311.

Internet services. It is manifestly clear that particular networks are optimal for the performance of different functions and services.

Television broadcasting is an ideal system for transmitting mass audience video programming. Cable television systems have been shown to be the optimal means of delivering multi-channel video programming. Similarly, the wire-based PSTN has been the optimal means of transmitting "circuit-switched voice telephony" in a developed economy, while wireless telephony has proved optimal in jump-starting telecommunications services in less-developed economies.

In an environment of increasing competition for all types of communications services, and uncertainty as to which pathway will best promote a particular Internet application, the Commission should resist calls for protection from the still overwhelmingly dominant LECs. Asking about the impact of the Internet on the PSTN asks the wrong question. The Commission should focus instead upon promoting an environment in which optimal delivering systems are successful in winning the allegiance of consumers in the marketplace.

II. LECS CLAIMS REGARDING BURDENING OF THEIR NETWORKS ARE ILLUSORY AT LEAST, TEMPORARY AT MOST

LECs argue that the development of the Internet has placed extraordinary burdens upon the PSTN that generate exceptional costs and require a new form of compensation. These concerns focus upon switch congestion resulting from the vast expansion of network usage generated by Internet demand, and specifically the greater length of Internet "calls" when compared to voice calls.

In response, the Commission observes:

Many of the concerns now being raised about switch congestion caused by Internet usage arise because virtually all residential users today connect to the Internet -- a packet-switched data network -- through incumbent LEC switching facilities

designed for circuit-switched voice calls. The end-to-end dedicated channels created by circuit-switches are unnecessary and even inefficient when used to connect an end user to an ISP.²

The Commission goes on to specifically invite parties to identify potential solutions to the congestion problem.³ It suggests that deploying hardware to route traffic “around” incumbent LEC switches, or employing alternative transmission media such as ADSL or wireless service, may offer effective solutions.

The Commission should proceed with caution in assuming the marketplace will not solve the perceived if temporary problem of congestion. The congestion problem, to the extent it is real, will go away because technical solutions are available and consumers will not tolerate Internet access offered at conventional telephone network transmission speeds over the long term. Indeed, manufacturers are already hard at work and are developing solutions.

The tremendous demand for Internet access and services has stimulated manufacturers to develop high speed cable modems as one solution for speeding up access.⁴ This was in evidence at NCTA’s recent national convention in New Orleans, where more than half a dozen manufacturers displayed cable modems that are capable of providing a broadband Internet access service. Cable operators are purchasing modems for installation in their systems.⁵

² Id. at ¶313.

³ Id.

⁴ See, e.g., “MCNS [Multimedia Cable Network System] Modem Interoperability Launched at NCTA Convention,” *Communications Daily*, Mar. 18, 1997, at 2 (“At least 17 cable modem manufacturers and 5 chip makers already have committed to making modems that comply with new CableLabs standard for next-generation interoperable modems that consumers are expected to buy at consumer electronics stores....”).

⁵ See, e.g., “Big 5 MSOs Drive Move to Cable Modem Services,” *Communications Daily*, Mar. 17, 1997, at 2.

Similarly, there is no reason to assume that bypass-like facilities will not develop to connect the end user to an ISPs' "point of presence" ("POP") where the local loop, rather than the cable system, is the end user's point of entry to the Internet. Access charges will only add costs in this circumstance, and are no solution to the problem. ILECs might argue that an access charge will hasten technology development, much as these charges have spurred other forms of bypass, such as provided by CAPs. But the Internet is developing as a service to residential as well as commercial customers, and the CAPs model is ill-suited to this situation. And it will burden a technology still in formation -- the Internet. CAPs were introduced in a very different market structure.

III. CABLE NETWORKS ARE THE OPTIMAL MEANS OF DELIVERING INTERNET ACCESS

Cable networks offer consumers significant benefits for delivering Internet access. The most obvious of these comparative advantages is the substantially greater bandwidth which cable companies are able to devote to the service. The PSTN today offers a four KHz line, which can deliver data communications to residential users at speeds of 14.4 to 28.8 kilobits per second (kbps).

Cable networks in operation offer consumers Internet access service at approximately 347 (compared to 28.8 kbps) to 694 (compared to 14.4 kbps) times the speed of conventional telephone networks. Reported advances in technology will make it possible to increase transmission speeds over telephone lines to 56 kbps.⁶ This will still leave the current comparable cable service with a comparative advantage of nearly 179 to one. And nothing prevents cable companies from expanding their own capacity as market conditions warrant. Cable's signifi-

⁶ See, e.g., "Modem Makers Form 56 Kbps Coalition," *Communications Daily*, Feb. 27, 1997, at 3.

cantly greater bandwidth enables customers of a cable system's Internet access service to download information significantly quicker than users of the PSTN.

The substantial comparative advantage of the cable transmission medium over the PSTN offers consumers significant practical advantages. Pure text services, such as AP Online, appear on the video screen at a much faster rate. Instead of remaining dependent upon the telephone network designed for circuit-switched voice telephony, consumers can move from story to story as quickly as the eye can read and the mind can digest information,

The comparative advantage of cable networks will be enhanced as purveyors of Internet web pages come increasingly to rely upon more sophisticated graphical displays. Multicolored pictorial depictions require many more bits of information than pure text. Generally speaking, the number of bits needed to carry the information increases with the sophistication of a display. Those who rely upon telephone lines to receive this data-rich information will experience substantial delays.

The practical consequences of selecting cable facilities over telephone facilities for Internet access are clear. In the school environment, a teacher in a school using a cable transmission facility for Internet access will be able to download video and graphic material in a meaningful time sequence. Commerce will flow at a substantially greater speed and productivity will be enhanced if users are able to obtain and transmit back information without the interruptions inherent in the telephone facility.

Of course, cable-provided Internet access is only in the initial stages of commercial deployment. The service is already available to residential users in selected locations.⁷ Cable

⁷ See, e.g., "Cable Modems Pass 2M Mark; MSOs Turn to Next Phase," *Multichannel News*, Mar. 17, 1997, at 119 (identifying locations where subscribers are offered cable modem service; 1.5 million subscribers in U.S., 500,000 subscribers in Canada).

companies have announced plans to significantly expand deployment in the coming year. Initial reports indicate that cable Internet access service is finding widespread consumer acceptance.

It is already clear that cable's offering of Internet access will provide one important means of relieving any potential congestion that may arise as a result of the use of the PSTN to transmit Internet access services. It is particularly well-suited to relieve congestion related to customers connecting to ISP POPs for long periods. The two-way cable Internet connection can remain on continuously without limiting any other cable network function. This continuous connectivity permits the cable Internet to be markedly more efficient, for example, for E-mail retrieval.

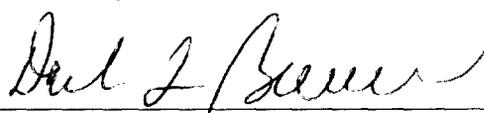
The cable industry does not claim that its offering will be an exclusive remedy for congestion or that all consumers will necessarily find the cable Internet access product preferable to others. We believe, however, that the increasing availability of cable-provided Internet access, when combined with other alternatives for relieving whatever unreasonable levels of telephone network congestion may arise as a result of increased Internet usage, should be sufficient reason to dissuade the Commission from imposing a special Internet access charge upon Internet providers or their customers.

In the interim, cable companies may themselves rely on the PSTN for upstream communications where systems have not been upgrade to two-way capability. In that instance, an access charge would also stifle cable's Internet prospects. This would surely be a mistake, given cable's already-demonstrated ability to relieve PSTN traffic congestion by shifting access to the Internet entirely off of the PSTN.

CONCLUSION

This proceeding presents proponents of an Internet access charge with an opportunity to make the case that one ought to be imposed. But there is serious doubt this case can be made. The record in the Notice of Proposed Rulemaking ("NPRM") shows that LECs have failed to demonstrate, on either legal or policy grounds, that an interstate access charge should be imposed upon ISPs. The record in this proceeding, we believe, will demonstrate that alternative distribution media and bypass technologies will solve the perceived problem of switch congestion temporarily created by the use of the PSTN to deliver Internet access services. No regulatory measures, permanent or temporary, should be imposed in response to what is temporary, and at present appears to be a problem for only a single technology.

Respectfully submitted,



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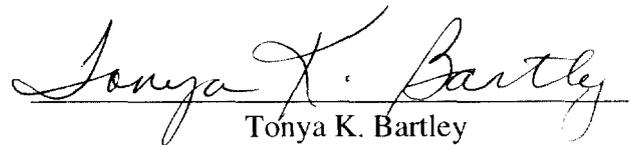
March 24, 1997

CERTIFICATE OF SERVICE

I, Tonya K. Bartley, hereby certify that COMMENTS OF THE NATIONAL CABLE TELEVISION ASSOCIATION were served this 24th day of March, 1997, to the following:

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