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

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FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of	)	
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Federal-State Joint Board on Universal Service	)	CC Docket No. 96-45
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SUPPLEMENTAL COMMENTS OF THE
NATIONAL PUBLIC TELECOMPUTING NETWORK

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SUMMARY

NPTN has proposed a new model for meeting the universal service mandates of the 1996 Act, centered on the role of community computer networks in fostering the educational, cultural, and economic opportunity policies of universal service. Community networks allow for the aggregation of demand among schools, libraries, health care providers and other users, and are consistent with the legal requirements of Section 254(h). For a fraction of the huge estimated telecommunications costs of bringing Internet to America's K-12 schools—a mere $47 million—the Commission can connect communities across the United States, as well as educational and medical institutions, to each other and to the world.

Question 6

The NPTN community network proposal does not necessitate service-specific discounts, although nothing would preclude community networks from being implemented, in part, under Section 254(h)(1). The Commission could condition the receipt of telecommunications discounts for Internet connectivity on the creation of a locally-administered community network. Services eligible for discount, whether under the NPTN model or otherwise, should be identified by the Joint Board, but not limited.

Question 7

Section 254(h)(2) must be interpreted to have a broader reach—including funding authority—than Section 254(h)(1). Although inside wiring presents more difficult issues in light of its status as a detariffed, non-Title II offering, the Commission clearly has authority under Section 254(h)(2) to grant funds to

nonprofit organizations for development of community networks that make Internet access available for schools, libraries and health care providers.

Question 9

Community networks will bring the benefits of a competitive "auction" economy to the provision of advanced information services for educational and medical institutions. By aggregating their purchasing power, and joining with other community institutions and organizations, K-12 schools under the NPTN proposal will be in a position to drive the marketplace toward addressing the unique bandwidth, hardware and software challenges confronting American elementary and secondary education.

Question 10

NPTN does not believe that community networks would involve the sale or resale of discounted subsection (h)(1) services prohibited by subsection (h)(3). Community networks need not be restricted to providing cost-based end user fees in order to maintain consistency with Section 254(h)(3), but such a "shared cost" approach is not inconsistent with the organization and operation of community networks.

Question 11

There is no legal or policy reason to impose a requirement that community network-based services, for which Section 254(h)(1) discounts are received, must be limited to the identifiable traffic originating from schools, libraries and health care providers.

Question 24

NPTN estimates that the *total cost* of establishing community networks *in each MSA and RSA in the country* would be approximately $47 million. Even if the

Joint Board were to provide all of these funds—which NPTN is not proposing—the cost to create community networks, virtually nationwide, would be *less than 3-5% of the telecommunications-only costs of alternative approaches.*

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SUPPLEMENTAL COMMENTS OF THE
NATIONAL PUBLIC TELECOMPUTING NETWORK

The National Public Telecomputing Network ("NPTN"), by its attorneys, respectfully submits these supplemental comments in response to the Common Carrier Bureau's Public Notice ("Notice") posing specific universal service questions.[1]

INTRODUCTION

In its May 7 reply comments in this proceeding,[2] NPTN proposed a new model for meeting the universal service mandates of the Act, centered on the role of community computer networks in fostering the educational, cultural, and economic opportunity policies of universal service. Our vision is that—for a small fraction of the anticipated costs of subsidizing telecommunications and advanced information services for schools, libraries and health care providers—the Joint Board can get "more bang for its buck" by using Section 254 of the Act as a

[1] *Federal-State Joint Board on Universal Service*, Public Notice, CC Docket No. 96-45, DA 96-1078 (released July 3, 1996)("Notice").

[2] Reply Comments of the National Public Telecomputing Network, CC Docket No. 96-45 (filed May 7, 1996). NPTN is a nonprofit organization dedicated to the development of public-access community computer systems known as "Free-Nets."® NPTN's May 7 reply comments are available on the World Wide Web at http://www.nptn.org/cyber.serv/solon/univ.service/nptn-file.html.

means to create decentralized, competitive and content-rich Internet access networks in communities across America.

Community networks allow for the aggregation of demand among schools, libraries, health care providers and other users, and the reduction of redundant expenditures and parallel bureaucracies for each of these groups. Community networks provide a proven mechanism for communities to choose both the content and the technological solutions (hardware, software, and networking) most appropriate for their own needs. It is a bottom-up rather than a top-down solution, and therefore compatible with the decentralized nature of the Internet and of today's other advanced telecommunications technologies. *See* Exhibit A. The Canadian government currently has a program very similar to that proposed by NPTN, which helped launch 271 community networks in 1996 and is slated to assist 300 more in each of 1997 and 1998

Questions have been raised, by Joint Board members and others, as to whether NPTN's vision is within the statutory authority of the Commission under the Telecommunications Act of 1996. For that reason, NPTN is pleased that the Bureau has specifically addressed community networks in its questions, and offers these responses to aid the Joint Board and the Commission in reviewing NPTN's proposal for achieving universal service for Internet and other advanced information services.

DISCUSSION

NPTN's discussion of the Common Carrier Bureau's questions follows the order presented in the Notice.

Schools, Libraries, Heath Care Providers

6. Should the services or functionalities eligible for discounts be specifically limited and identified, or should the discount apply to all services?

Under the NPTN proposal, seed money would be provided from the Joint Board's universal service fund to nonprofit community organizations that wish to start their own community network. Candidates would compete for this seed money, which would be given to those systems that best provide for the participation of schools, libraries and health care providers and that show local support in the form of matching funds and long-term sustainability. NPTN proposed that candidates be chosen by a semi-private corporation analogous to the Corporation for Public Broadcasting. *Each funded community network would be required to connect all schools, libraries and health care providers serving the community, and to provide access to the Internet in addition to local networking capabilities.*

NPTN's proposal is made pursuant to Section 254(h)(2) rather than 254(h)(1). *See* response to Question 7. Consequently, the NPTN community network proposal does not necessitate service-specific discounts, although nothing would preclude community networks from being implemented, in part, under Section 254(h)(1). Specifically, community networks, like all computer networks connected to the Internet, require a high-capacity facility (*e.g.*, T1) linking the local network to the Internet "backbone" or Network Access Point ("NAP"). Thus, the Joint Board could award the "seed money" under NPTN's proposal as a means

of funding these telecommunications services and facilities for basic Internet connectivity.[3]

By conditioning the receipt of discounts on the creation of a locally-administered community network,[4] the Joint Board would take a large step toward encouraging the development of local resources necessary for providing advanced information services to schools and health care providers. It is clear that the telecommunications costs of bringing the Internet to K-12 schools are just a small part of the total cost of equipment, networking, software and training necessary to bring schools into the "information age." The achievement of this goal will require a concerted effort by government, business and citizens, because "[t]he leadership required to . . . secure budget funds, grants, donations and subsidies will need to come from both the public and private sectors."[5] By facilitating the development of this sort of pubic/private partnership, the Joint Board can help assure that the substantial non-telecommunications funds necessary to bring the Internet to K-12 schools are available.

Services eligible for discount, whether under the NPTN model or otherwise, should be identified by the Joint Board, but not limited. That is, the services and facilities for which discount payments are made should be used to provide

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[3] Under this approach, universal service funds would be limited to telecommunications services while other community network expenses, such as inside wiring, computer equipment and software, would be paid for with matching funds from the community, local taxes, corporate sponsors or other donors.

[4] The Joint Board could, for instance, determine that a "bona fide request" under Section 254(h)(1) includes a request for service from a community network organization that aggregates demand from all schools, libraries and health care providers, allows for Internet access, and has developed a self-sustaining system for community and private sector support. In this way, the Commission would reduce the cost of ensuring Internet access for all schools, while at the same time creating a framework for meeting the broader funding challenges involved and for supporting decentralized decisions on technology, capacity and content.

[5] *Connecting K-12 Schools to the Information Superhighway*, at ix (McKinsey & Co. 1996)("McKinsey Report")

Internet connectivity, but the Commission should not dictate which sorts of services, facilities or technologies are appropriate (or allowable) for these purposes. In order to enhance competition and localism, these decisions should be made at the local level, whether state government, school board or community network. This "bottom-up" philosophy is a central feature of the NPTN proposal. *See* NPTN Reply Comments at 2-3. As the McKinsey & Co. report agrees:

> The deployment process has to be "bottom-up" by nature, since without the commitment of teachers, principals, school boards, parents and other community members, little change can take place in the classroom. . . . Leadership needs to come at many levels, from both the public and private sectors. There is no "blueprint" for deployment nor single set of national policies that can meet the diverse needs of every school district

McKinsey Report at ix, 51.

7. <u>Does Section 254(h) contemplate that inside wiring or other internal connections to classrooms may be eligible for universal service support of telecommunications services provided to schools and libraries? If so, what is the estimated cost of the inside wiring and other internal connections?</u>

This question raises the issue of the scope of Section 254(h)(2). Like inside wiring, some have questioned whether NPTN's community network proposal is permissible, asserting that the Commission's jurisdiction is limited to providing only service-specific discounts. We strongly believe that Section 254(h)(2) must be interpreted to have a broader reach—including funding authority—than Section 254(h)(1). Thus, community networks can be funded under Section 254(h)(2) as a means of "enhanc[ing] assess to advanced telecommunications and information services for all public and non-profit elementary and secondary school classrooms, health care providers and libraries."

There are several reasons why this conclusion is appropriate. First, because the Internet is an "advanced" information service, and because advanced

services are referenced only in Section 254(h)(2), it is clear that Congress wanted this provision—not Section 254(h)(1)—to serve as the basis for its policy of facilitating the availability of the Internet's information resources for educational and medical institutions. Second, there is nothing in Section 254(h)(2) that precludes funding of services used for information access; if this subsection's "competitively neutral rules" language is read as a preclusion of funding, universal service for schools under Section 254 would be limited to the allocation of service-specific discounts for telecommunications, inexplicably preventing the Commission from using any universal service support revenues for the purpose of providing advanced information service access in schools.

Third, the statutory differences between Sections 254(h)(1) and (h)(2) demonstrate the broader scope of the latter. If, as some have argued, the two provisions were coextensive, the universal service mandate to the Commission could simply have required it to make rules that would assist the identification of telecommunications services eligible for discount under subsection (h)(1). The fact is, however, that subsection (h)(1) applies only to rural health care providers while subsection (h)(2) expressly applies to *all* health care providers. Similarly, subsection (h)(1) applies to elementary and secondary schools, while subsection (h)(2) applies to "all public and nonprofit elementary and secondary school classrooms." Thus, Commission's charter under Section 254(h)(2) to "enhance access" to advanced information services is clearly broader than its discount-setting obligations.

In sum, although inside wiring presents more difficult issues in light of its status as a detariffed, non-Title II offering, the Commission has authority under Section 254(h)(2) to grant funds to nonprofit organizations for development of

community networks that make Internet access available for schools, libraries and health care providers.

9. How can universal service support for schools, libraries and health care providers be structured to promote competition?

Competition is an important feature of the NPTN model. Community networks will bring the benefits of a competitive "auction" economy to the provision of advanced information services for educational and medical institutions. By aggregating their purchasing power, and joining with other community institutions and organizations, K-12 schools under the NPTN proposal will be in a position to drive the marketplace toward addressing the unique bandwidth, hardware and software challenges confronting American elementary and secondary education.

With a pool of local capital available for information access, communities themselves would be empowered to determine the most cost-efficient means of making information services available to their citizens and educational and medical institutions. (For instance, while some communities may prefer dial-up or ISDN access, in others cable modems may be the best solution.) Telecommunications carriers, in turn, would have a clear business incentive to develop cost-effective, broadband services for local community information access requirements. And all of this could be accomplished without the inflexibility arising from uniform national requirements for information access in the rapidly changing telecommunications and Internet market environments.

Many of the comments in this proceeding advocate a similar system for Section 254(h)(1) discounts, under which block grants or discount "vouchers" would permit users to select the most appropriate and least-costly service for

educational and medical Internet access. Indeed, in Questions 12-14, the Bureau is exploring this approach. NPTN believes that its community network model takes the "voucher" approach to universal service to an even greater degree of efficiency, by requiring that federal universal service funds be combined with local government and private business support of Internet-related expenses. The added "bonus" is that all of the citizens in the community—regardless of geographic location, income-level or age—could share with K-12 students the benefits of entering the information age, ultimately enriching the experience (and utility) for all of them.

10. Should the resale prohibition in Section 254(h)(3) be construed to prohibit only the resale of services to the public for profit, and should it be construed so as to permit end user cost based fees for services? Would construction in this manner facilitate community networks and/or aggregation of purchasing power?

NPTN is gratified that the Bureau has asked for comment on community networks, and that the Bureau is addressing ways to fashion a community network program consistent with Section 254(h). We do not believe, however, that community networks would involve the sale or resale of discounted subsection (h)(1) services prohibited by subsection (h)(3).

Initially, if community networks were implemented as proposed by NPTN, there would not be any specific "[t]elecommunications services and network capacity" provided to educational or medical institutions by common carriers, and thus no resale could even arguably be occurring. Rather, the community network would receive federal seed funding, conditioned on offering advanced services to all K-12 schools and health care providers. Thus, under the NPTN model, there is no need to address Section 254(h)(3).

If community networks are linked to service-specific discounts (*see* Question 6), resale becomes an issue. Here, NPTN strongly believes that Section 254(h)(3) permits end user cost-based fees. The Commission has defined resale as the offering of telecommunications services, purchased from an underlying carrier, to customers for a profit—*i.e.*, with a mark-up. Indeed, this is inherent in the terms "resale" and "sale" itself. Yet the NPTN proposal for community networks would be based upon nonprofit organization and operation, thus eliminating resale. We do not believe that community networks need to be restricted to providing cost-based end user fees in order to maintain consistency with Section 254(h)(3), but such a "shared cost" approach is not inconsistent with the organization and operation of community networks.

11. <u>If the answer to the first question in number 10 is "yes," should the discounts be available only for the traffic or network usage attributable to the educational entities that qualify for the Section 254 discounts?</u>

No. Under a community network approach using service-specific discounts, the services purchased from telecommunications carriers, as addressed in response to Question 6, will only be the dedicated facilities interconnecting the community network and the Internet. These shared, common facilities will transport all traffic, from all users, to and from the rest of the world. Even if it were possible technically, or cost-effective, to monitor and segregate the traffic "attributable to" educational institutions, there is no reason to do so. Whether Section 254(h)(3) is satisfied because there is no "resale" involved, or because any "resale" is a cost-sharing fee, in both cases the legal requirements are met.

Nor is there any policy reason to require traffic segregation. The purpose of Section 254(h)(3) is plainly to prevent universal service discounts from being

transformed into a competitive tool for schools, thus siphoning "full freight" customers (and revenues) from telecommunications carriers. Yet, in the community network context, there is virtually no possibility that any network users could or would have subscribed individually to the high-capacity transport services that will be used to provide Internet connectivity. While some individual users may decide to become Free-Net users rather than customers of Internet Service Providers ("ISPs"), community networks would not receive discounted services from ISPs, so there is no conceivable "siphoning" of ISP revenues.

In sum, there is no legal or policy reason to impose a requirement that community network-based services, for which Section 254(h)(1) discounts are received, must be limited to the identifiable traffic originating from schools, libraries and health care providers.

24. <u>Are there other cost estimates available that can serve as the basis for establishing a funding estimate for the discount provisions applicable to schools and libraries and to health care providers?</u>

The McKinsey Report estimates the cost of funding telecommunications expenses for connecting K-12 schools to the Internet to be between $815 million and $1.645 billion in initial expenses, and from $580 million and $920 million in recurring costs. McKinsey Report at 57 & Exh. 16. And as noted above, these telecommunications expenses are only about 15% of the total costs of "wiring" American schools to the Internet.

In contrast, NPTN estimates that the *total cost* of establishing community networks *in each MSA and RSA in the country* would be approximately $47 million. Based on our experience in developing and implementing Free-Nets, we have assumed, extremely conservatively, that the hardware, software and telecommunications expenses for a metropolitan network would be $100,000, while

the equivalent costs for a rural network would be $40,000. (Both these estimates are for initial "year 1" expenses.) Thus, community networks in the 306 MSAs would run $30.6 million, and in the 428 RSAs $17.1 million, for a total cost of $47.8 million.[6]

Even if the Joint Board were to provide all of these funds—which NPTN is not proposing—the cost to create community networks, virtually nationwide, would be *less than 3-5% of the telecommunications-only costs of alternative approaches.* In other words, for a very small fraction of what has been estimated to be the cost of individually connecting K-12 schools to the Internet, the Commission could receive the added bonus of putting "communities online," empowering citizens and reintegrating the community. And, in light of these dramatic cost figures, the Commission could initiate an experiment in community networking without appreciably affecting the funds available for Section 254(h)(1) discounts and without adding materially to the universal service support requirements for telecommunications carriers.

This is a very small price to pay for the tremendous community benefits provided by NPTN's model, a "drop in the bucket" compared to the massive costs required for bringing Internet connectivity and computer networks to America's schools. Because it also is responsive to the clear need to develop funding sources other than the universal service fund—and because it would facilitate the creation of a self-sustaining, competitive economic model for achieving the goal of making

[6] These figures assume use of dial-up connections from individual K-12 schools to the community networks. Costs would be higher if dedicated or higher-bandwidth connections were selected. We believe, however, that the NPTN proposal is superior because it permits these very decisions to be made at a local level.

advanced information services available to all Americans—NPTN urges the Joint Board to recommend that a portion of the universal service fund be set aside for financing development of community computer networks. If the Joint Board or the Commission have concerns about the long-term effectiveness of the community network approach, a pilot program could easily be implemented as en experimental alternative to the more traditional subsidization schemes contemplated in the NPRM in this proceeding.

CONCLUSION

The Commission has a unique opportunity to achieve the universal service requirements of the 1996 Act with a system for funding locally based public information access. Adoption of NPTN's community network proposal is consistent with Section 254 of the Act, and would assure access to advanced information services for schools, libraries and hospitals while encouraging integration of individual citizens with their local—and national—communities.

Respectfully submitted,

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Dated: August 2, 1996

EXHIBIT A

COMMUNITY COMPUTER NETWORKS AND UNIVERSAL SERVICE
CC Docket No. 96-45

Proposal of the National Public Telecomputing Network

- ❑ Bottom-up, not top-down
  Technology and content-neutral

- ❑ Localism and community-based decisions
  Access without local content and training is empty promise
  Ensures diversity of voices and equal informational opportunity

- ❑ Primary vehicle for school, library and hospital access to Internet
  (since mid-1980s)

- ❑ Least-cost vehicle for rural and underserved access to information services

- ❑ Variation and competition in telecommunications choices
  Stimulates competition for "cheaper, faster, better" information access

- ❑ Working in Canada now!

CERTIFICATE OF SERVICE

I, Cynthia Miller, do hereby certify on this 2nd day of August, 1996, that I have served a copy of the foregoing document via first class mail, postage prepaid, to the parties below:

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