

**Before the
NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION
and
RURAL UTILITIES SERVICE**

In the Matter of)	
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American Recovery and Reinvestment Act of 2009 Broadband Initiatives)	Docket No. 090309298-9299-01
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WRITTEN COMMENTS OF THE CENTER FOR DEMOCRACY & TECHNOLOGY

The Center for Democracy & Technology (“CDT”) submits these comments in response to the March 12, 2009 Federal Register notice requesting information on the broadband initiatives in the American Recovery and Reinvestment Act of 2009 (“Recovery Act”). CDT is a nonprofit, public interest organization dedicated to preserving and promoting openness, innovation and freedom on the decentralized Internet.

These comments focus specifically on questions 13.b. and 13.c. of the NTIA section of the Federal Register Notice – namely, how should the Broadband Technology Opportunities Program (“BTOP”) define “broadband service” and how should it define the interconnection and nondiscrimination obligations of grantees.

CDT believes these terms should be defined so as to ensure that the BTOP will spur the deployment of open, general-purpose networks that can provide crucial basic infrastructure and unrestricted Internet access to American communities. Congress certainly intended the Recovery Act to provide an immediate stimulus, but the provisions on broadband should be seen as an effort to lay the foundation for longer term economic and civic benefits as well. Thus, in calling for a national broadband plan, Section 6001(k)(2)(D) of the Recovery Act envisions “use of broadband infrastructure and services in advancing consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy independence and efficiency, education, worker training, private sector investment, entrepreneurial activity, job creation and economic growth, and other national purposes.”

To play this kind of general-purpose role, networks need to be open not just to the full range of current Internet uses, but also to emerging and future uses that have yet to be deployed or even conceived. Broad adaptability and openness to innovation have been hallmarks of the Internet since its inception and have been essential to its dramatically expanding importance in the economy and society. Most of the Internet uses we take for granted today were conceived and pioneered not by network operators, but by individuals or start-up companies taking advantage of the medium’s open nature.

For this reason, BTOP funds should not be used to support networks that are designed or operated in ways that limit their use to pre-defined or operator-selected purposes. Networks funded by BTOP should connect users to the full Internet and be available for evolving and multiple uses, *as selected by users*, including uses enabled by third parties with no connection to or affiliation with the network provider.

Moreover, by including a nondiscrimination requirement, Congress embraced the principle that broadband grantees should refrain not just from *blocking* selected Internet communications or services, but also from favoring or disfavoring communications or services in ways that could have the practical effect of *biasing* the network against certain legitimate uses. The BTOP should not, for example, fund networks that are geared to specific proprietary services or applications and will support other uses only on an inferior basis.

CDT's specific comments on the appropriate definitions of broadband service, interconnection, nondiscrimination and network management are as follows. These principles should apply regardless of the delivery technology a grantee proposes to use.

1. Broadband Service

The Federal Register notice poses a number of questions related to the transmission speed(s) necessary to qualify as "broadband service." CDT believes that the definition of broadband should include some basic non-quantitative, functional characteristics as well. A lightning fast service focused on a limited purpose – for example, a service dedicated to or optimized for transmitting movies at high speeds – should not qualify as "broadband service" in CDT's view. Rather, for purposes of the BTOP, "broadband service" should be defined to include the following requirements.

- The service enables customers to both send and receive data over the Internet (i.e., the service is two-way). Speeds need not be precisely symmetrical, but strong preference should be given to providers offering robust speeds in the upstream as well downstream directions. As the FCC has noted, "as technologies and services evolve, upload speeds are an increasingly significant aspect of broadband services" (FCC 08-89, WC Docket 07-38, para. 19 (Mar. 19, 2008)). CDT believes that upload speeds generally should exceed – we hope significantly – 768 kbps, the level the FCC has set as the dividing line between "first generation data" and broadband.
- The service can be used to send and receive data associated with the full range of content, applications, and services available on the Internet, as selected by the customer – including content, media, applications, and services with no affiliation or contractual relationship with a customer's broadband provider.
- The broadband provider will provide data not just about maximum speeds, but also about (i) the speeds the service could be expected to achieve under a range

of plausible usage scenarios, and (ii) any caps, surcharges, or similar provisions focused on usage rather than speed.

2. Interconnection Obligations

Section 256 of the Communications Act states that a core purpose of telecommunications network interconnection is “to ensure the ability of users and information providers to seamlessly and transparently transmit and receive information between and across telecommunications networks” (47 U.S.C. 256(a)(2)). Similarly, the fundamental goal of the Recovery Act’s interconnection requirement should be to ensure that any broadband service supported by the BTOP will enable users to exchange communications seamlessly and transparently with any willing Internet user anywhere in the world. Achieving this requires that BTOP grantees:

- Arrange for physical interfaces for the exchange of traffic between their networks and the broader Internet, as that term is defined in 31 U.S.C. 5362(5).
- Support the use of and comply with common and public transport and routing standards and protocols, including the Internet Protocol, to deliver communications over the Internet.
- Observe the principles set forth in the FCC’s broadband Policy Statement. Specifically, grantees must not prevent users from accessing the lawful Internet content of their choice; running the applications and using the services of their choice; and connecting their choice of legal devices that do not harm the network.

Another form of interconnection would be interconnection with other communications carriers not just to exchange traffic, but to enable independent retail broadband service. In this model, a grantee operates broadband infrastructure on a wholesale basis, facilitating the offering of retail broadband services by third parties (perhaps in addition to services offered by the grantee itself). Congress embraced such a model in the Recovery Act’s provisions for the RUS broadband program: “priority for awarding such funds shall be given to project applications for broadband systems that will deliver end users a choice of more than one service provider.” BTOP should likewise give priority to such projects. Congress directed that BTOP be subject to the FCC’s broadband Policy Statement, and the Statement’s fourth principle says that “consumers are entitled to competition among network providers, applications and service providers, and content providers.” Particularly in areas where broadband deployment is just starting and the market may not easily support multiple infrastructures, wholesale services may offer the best opportunity for achieving competition in consumer broadband offerings.

3. Nondiscrimination Obligations

As discussed above, the economic and civic opportunities that broadband infrastructure can deliver to communities depend in large measure on the ability to use that infrastructure to access the full range of evolving and independent content, services, applications, and protocols that proliferate on the open Internet.

Interconnection is crucial to that ability. However, while interconnection obligations and the FCC's broadband principles would appear to prevent a broadband provider from actually *blocking* users from sending and receiving Internet communications of their choice, it is unclear whether such requirements would help to safeguard against impairments that fall short of outright blocking. On their face, for example, the FCC principles guarantee "access" to Internet content and services but do not say anything about the quality, speed, or reliability of a user's access to his or her chosen content and services.

Recognizing this gap, Congress did not merely require BTOP grantees to abide by the FCC's broadband principles. Instead, the Recovery Act plainly authorizes NTIA to go beyond the principles to address nondiscrimination. The reference to nondiscrimination shows that Congress was concerned that BTOP grantees could narrow user choices and pick winners and losers on the Internet by means other than simple and blatant blocking of access.

CDT believes that discriminatory treatment with respect to quality, speed, or reliability of Internet transmissions could, as a practical matter, interfere with the ability of broadband to serve as open and flexible basic infrastructure. Therefore, in CDT's view, the BTOP's nondiscrimination obligations should require that grantees:

- Commit to not deny or limit the ability of a potential customer to buy broadband service based on the nature of the customer's intended use.
- Commit to not degrade the transmission quality, speed, or reliability of selected Internet communications based on content, source, destination, ownership, application, or protocol.
- Commit to not prioritize or privilege selected Internet communications based on content, source, destination, ownership, application, or protocol, except for (i) the designation of communications for priority at the discretion of individual customers, or (ii) routine and commonly available caching.
- Comply with interconnection and nondiscrimination obligations for the usable life of the infrastructure. The Recovery Act's interconnection and nondiscrimination obligations serve medium- and long-term purposes, not short-term ones; the immediate stimulus impact of infrastructure construction projects does not depend in the least on contractual requirements governing future operation of the infrastructure. Since these obligations were designed to

ensure that the infrastructure fostered by BTOP has longer-term benefits, allowing the obligations to expire as soon as the grant period is over would defeat Congress's purpose of including the obligations in the first place.

4. Network Management

Like the FCC's broadband principles, the Recovery Act's interconnection and nondiscrimination requirements should be subject to reasonable network management. BTOP should expressly permit two important categories of network management techniques, which have sometimes been conflated but are best addressed separately:

- Security management: Grantees may take steps intended in good faith to protect against or block Internet communications that are illegal, harmful to the network, or harmful and/or unwanted from the perspective of users.
- Congestion management: Grantees may take steps to mitigate the impact of sporadic network congestion. Any such measures, however, should be based on objective criteria, so that they apply evenly to all content, services, applications, or protocols. Arbitrarily singling out specific content, services, applications, or protocols should not be permitted. In addition, congestion management techniques should be consistent with the core set of generally accepted technical internetworking standards upon which the Internet is based. Finally, a grantee's specific congestion management practices should be disclosed in a publicly transparent fashion.

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CDT believes that the above interpretations of the Recovery Act's references to broadband, interconnection, and nondiscrimination would promote the openness and flexibility of the broadband infrastructure the BTOP helps to build. This in turn will maximize the medium- and long-term benefits of the BTOP program, as envisioned by Congress.

CDT appreciates the opportunity to comment on these important questions.

Respectfully submitted,

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