

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

In the Matters of	)	
	)	
International Comparison and Consumer Survey	)	GN Docket No. 09-47
Requirements in the Broadband Data	)	
Improvement Act	)	
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51
	)	
Development of Advanced Telecommunications	)	GN Docket No. 09-137
Capability to All Americans in a Reasonable	)	
and Timely Fashion and Possible Steps to	)	
Accelerate Such Deployment Pursuant to	)	
Section 706 of the Telecommunications Act	)	
	)	
Implementation of Section 304 of the	)	CS Docket No. 97-80
Telecommunications Act of 1996	)	
	)	
Petition of Public Knowledge, Free Press et al.	)	RM-_____
for Rulemaking Establishing A Competitive	)	
Market for Interoperable Video Devices	)	
	)	

**REPLY COMMENTS OF PUBLIC KNOWLEDGE—NBP PUBLIC NOTICE #30**

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## **SUMMARY**

Public Knowledge (PK) urges the Commission to focus on the broad goal of increasing competition in the market for broadband services, and on instituting policies that ensure that the benefits of broadband reach all Americans. To accomplish this, PK recommends that the Commission adopt policies focused on encouraging new entry into broadband markets, such as open access to wireline infrastructure, unlicensed and opportunistic spectrum use, and spectrum caps. Additionally, the FCC should ensure that retirement of copper lines does not reduce competition, and should promote the resale of fiber. PK also provides details concerning the implementation of its video devices petition.

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## ARGUMENT

### INTRODUCTION

Public Knowledge (PK) submits these reply comments in order to highlight key items that should be included in the National Broadband Plan, and to provide extra detail about how the Commission might promote broadband by implementing a rule promoting competition in video devices. These reply comments highlight major recommendations made to the Commission in other filings.

#### **I. The Commission Should Adopt Targeted Policies to Increase Broadband Competition**

In this Section, PK will review some of its recommendations for increasing both wireline and wireless competition. Adopting policies that encourage new entry into incumbent-dominated markets is a sure way for the Commission to promote broadband deployment and adoption.

##### **A. The Commission should create a 20 MHz window of nationwide unlicensed spectrum**

As PK has noted in previous comments,<sup>1</sup> wireless technologies are the most cost effective and rapid means of bringing broadband to unserved and underserved areas. Many Wireless ISPS, rural ILECs, public utilities, NGOs, and local governments use wireless technologies and unlicensed spectrum to bring broadband to these areas. Expanding this capacity would greatly speed up the process of widespread broadband adoption. Government licenses to spectrum remain scarce and hard to obtain. Compounding that problem, most licensed spectrum is underused, leading to this valuable resource being wasted. For example, a National Science Foundation Study

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<sup>1</sup> See Comments of New America Foundation, Public Knowledge, and Media Access Project, in A National Broadband Plan for Our Future, GN Docket No. 09-51 (filed June 8, 2009).

found that in some urban areas, less than 20% of spectrum below the 3 GHz band was being used at any given time.<sup>2</sup> The amount of usage further reduces in less densely populated areas.

In view of this gross underutilization and the tremendous potential of wireless technologies to bring about nationwide broadband deployment, PK urges the Commission to set aside a fixed amount of spectrum for unlicensed use nationwide. As a starting point, PK the Commission should identify 20 MHz of spectrum for such use.

**B. The Commission should stop copper retirement and open the copper wires for ILEC use**

At a time where the Commission seeks to support the deployment of new infrastructure and providers, it should take steps to preserve existing infrastructure and existing competition. The Commission should therefore regulate the retirement of copper lines and require that ILECs continue to make these facilities available even after they deploy fiber. The Commission should prohibit ILECs from actively interfering with the ability of providers to use legacy copper, e.g., prohibit ILECs from cutting lines to homes after installing fiber loops. In the rare case where a copper facility is destroyed either by natural disaster or as a consequence of a change in network routing, such as occurred when Qwest was required to replace portions of its copper loop in response to highway construction,<sup>3</sup> the Commission should consider whether to require the ILEC to make comparable facilities available on its new fiber network to preserve existing competition and to prevent disruption of service.

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<sup>2</sup> New America Foundation & Shared Spectrum Company, Dupont Circle Spectrum Utilization During Peak Hours (2003), *available at* [http://www.newamerica.net/files/archive/Doc\\_File\\_183\\_1.pdf](http://www.newamerica.net/files/archive/Doc_File_183_1.pdf); Shared Spectrum Company, Spectrum Occupancy Measurements, <http://www.sharespectrum.com/measurements>.

<sup>3</sup> Letter from Russell C. Merbeth, Assistant General Counsel, Integra Telecom to Marlene H. Dortch, Secretary, FCC (Oct. 22, 2009), in Report No. NCD-1791.

Legacy copper loops were built and maintained under guaranteed rates of return, and at a time when ILECs enjoyed protected monopoly status. On a fundamental level, the public paid for the deployment of the legacy copper infrastructure. The Commission should therefore require – as intended by the Act – that an ILEC may only retire a line where such retirement will serve the public interest. Further, the wholesale rates charged by ILECs to CLECs allow ILECs to recoup expenses from maintaining the lines. ILECs cannot therefore claim that maintaining legacy copper imposes an undue expense. Finally, although the Commission has accepted the argument that requiring an ILEC to share fiber facilities would discourage ILEC investment, that does not confer a concomitant right to retire a line to eliminate competition.

Furthermore, elimination of a copper line and the competing services provided over that line can create considerable consumer harm and hinder adoption. In the Integra matter, only the heroic efforts of Integra to reroute its network – at considerable expense – permitted its customers to maintain service. That Qwest could ultimately have provided some level of service to these customers ignores the disruption to consumer enterprise customers relying on the existing copper line. Shifting service providers, especially in the wake of a sudden termination of service that leaves many customers stranded, creates significant disruption for providers who must negotiate with the remaining providers – possibly now a monopoly provider – for comparable contracts, must install new equipment, renumber IP connections, and potentially learn an entirely new system. And this assumes that the remaining provider(s) in the market will even offer a service contract comparable to the one provided by the former copper-line competitor. A business may well find itself required to take a far less desirable contract or forgo telecommunications services entirely.

For these reasons, the Commission should also determine whether, when an ILEC must rebuild its network following a natural catastrophe or other event beyond its control, it should require the ILEC to make comparable transmission facilities available to CLECs with pre-existing service contracts for copper. In these rare events, it appears extraordinarily unlikely that an ILEC would choose to rebuild a network using copper simply because it could not foreclose pre-existing wholesale competitors from leasing comparable facilities. This requirement would apply only to pre-existing wholesale capacity customers, and would permit access only to comparable capacity. In this way, the Commission would protect the public interest by protecting competition and minimizing consumer disruption, without undermining the rationale of the *Triennial Review Order* deregulation of new fiber facilities.

**C. The Commission should adopt open access policies, particularly unbundling and structural separation to promote greater competition in the broadband market**

Competition in the provision of broadband service would promote availability of broadband at higher speeds and lower prices to greater numbers of Americans. However, the current market for broadband services is very concentrated, and shows no signs of changing. In order to bring about greater competition, the Commission should institute open access policies such as unbundling or structural separation. As PK has pointed out in an earlier filing in this docket,<sup>4</sup> the broadband study conducted by the Berkman Center for Internet and Society<sup>5</sup> found that open access regulatory policies led to greater competitive entry in many OECD countries and had a strong correlation to lower prices and greater broadband speeds. The Berkman study also

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<sup>4</sup> See Comments of Public Knowledge et al. in A National Broadband Plan for Our Future, GN Docket No. 09-51 (filed Nov. 16, 2009) (responding to NBP Public Notice #13, on the Broadband Study Conducted by the Berkman Center for Internet and Society).

<sup>5</sup> Berkman Center for Internet and Society, Next Generation Connectivity (2009), *draft available at* [http://cyber.law.harvard.edu/newsroom/broadband\\_review\\_draft](http://cyber.law.harvard.edu/newsroom/broadband_review_draft).

found that open access policies did not harm facilities-based competition, but complemented it. In addition, the study noted that countries such as the U.S. and Canada, which had deregulated based on the assumption that this would encourage intermodal competition, have fallen behind in broadband penetration, speeds, and prices offered to consumers. The Berkman study is not alone in these findings. A study conducted by Free Press<sup>6</sup> found that pro-competitive regulations in the Telecommunications Act of 1996 increased levels of investment in broadband networks.

Open access policies in the United States have typically focused on increasing competition in local telephone access, and in the broadband DSL service that uses the telephone infrastructure. Indeed, many of the most successful unbundling policies have been in Europe, where cable modem broadband service is limited, and have therefore focused on POTS and DSL. It is therefore reasonable, but incorrect, to assume that the market structure in the United States, where cable and DSL sometimes serve the same territory, or the technological differences between cable and DSL, indicate that open access policies cannot be implemented in the United States today. This assumption is incorrect.

Canada, a country with a similar market structure (with cable and DSL broadband access platforms both used) to that of the United States, has implemented open access policies for both cable broadband and DSL.<sup>7</sup> There, these policies are known as “third party ISP access.” Open

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<sup>6</sup> S. DEREK TURNER, FINDING THE BOTTOM LINE: THE TRUTH ABOUT NETWORK NEUTRALITY AND INVESTMENT (2009) *available at* [http://www.freepress.net/files/Finding\\_the\\_Bottom\\_Line\\_The\\_Truth\\_About\\_NN\\_and\\_Investment\\_0.pdf](http://www.freepress.net/files/Finding_the_Bottom_Line_The_Truth_About_NN_and_Investment_0.pdf).

<sup>7</sup> In Order 2000-789, <http://www.crtc.gc.ca/eng/archive/2000/O2000-789.htm>, the Canadian Radio-television and Telecommunications Commission (CRTC) established a policy allowing competitive ISPs to gain access to cable networks. This extended the principles of Decision 97-8, <http://www.crtc.gc.ca/eng/archive/1997/DT97-8.htm>, which mandated unbundling of local telephone networks, to cable networks. A group delegated by CRTC decided “that third party Internet access would be achieved using points of interconnection (POIs) at the network or IP

access on cable networks is implemented using a form of “bitstream access,” where different ISPs access the cable infrastructure via a shared Cable Modem Termination System (CMTS). There are no technological barriers to implementing open access for both cable and DSL, and the largely duopolistic market structure of broadband in the U.S. does not pose any obstacles to open access policies.

In view of this compelling evidence of the benefits of unbundling and the unsatisfactory state of competition in the broadband market today, the Commission should recommend adoption of unbundling requirements for broadband networks that use all delivery platforms, including cable. As PK has pointed out before, and reiterates in a separate filing,<sup>8</sup> the Commission can do this by reclassifying all broadband services as Title II services. In the alternative, the Commission can institute an unbundling regime based on its ancillary authority.

**D. The Commission should reestablish spectrum caps in order to promote greater competition in the market for wireless services**

The current wireless market is not competitive.<sup>9</sup> A few providers own large chunks of spectrum and use their enormous market power to further prevent competitive entry. For instance, they leverage their existing assets to acquire more spectrum at auctions and negotiate roaming agreements that are unduly burdensome for smaller providers. In addition, the largest wireless providers, AT&T and Verizon, are vertically integrated entities that also provide wired broadband

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layer, managed by the MSO.” Imagineering Telecom, Report on Third Party ISP Access To Major Canadian Cable Systems for the CRTC, at “Introduction,” <http://www.crtc.gc.ca/eng/publications/reports/isp/ispaccess.htm>. Thus, CRTC elected to require bitstream access.

<sup>8</sup> Reply Comments of Public Knowledge in A National Broadband Plan for Our Future, GN Docket No. 09-51 (filed Jan. 26, 2010) (responding to NBP Plan #30, seeking reply comments).

<sup>9</sup> See Comments of Public Knowledge et al. in A National Broadband for Our Future, GN Docket No. 09-51 (filed June 8, 2009).

services. Thus, they do not have an incentive to compete with their affiliated offerings for wired services.

In order to break this logjam and increase competition, the National Broadband Plan should encourage the entry of a wide variety of wireless providers. As the Department of Justice,<sup>10</sup> has pointed out allocating underutilized spectrum to new entrants in a highly concentrated market would benefit competition. Because wireless markets are concentrated, one way of ensuring competitive entry is to cap the amount of spectrum any one entity can own.

The Commission should set a cap of 95 MHz for spectrum below 2.3 GHz, while spectrum above this frequency should be subjected to a screen. Spectrum above 2.3 GHz is less efficient and has lower propagation characteristics. Employing only a spectrum screen and not a cap in these bands would give new entrants an opportunity to acquire this spectrum, aggregate it, and compete effectively with larger providers.

**E. The Commission should establish rules to limit wireless spectrum warehousing and provide incentives to build out service on current spectrum**

As PK has said before, incumbent wireless providers own large swaths of underused spectrum.<sup>11</sup> Incumbents acquire this spectrum to prevent competitors from entering the market and not to make productive use of the spectrum. In order to prevent such waste, the Commission should recommend, as part of the National Broadband Plan, unlicensed use of licensed spectrum until the licensee builds out a service. The Commission could also use methods it used in the past to prevent warehousing by: (1) establishing cross ownership rules that prevent the owner of one platform, for instance cable, from acquiring spectrum for providing the same service, (2)

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<sup>10</sup> See Ex Parte Submission of the United States Department of Justice in Economic Issues in A National Broadband Plan for Our Future, GN Docket No. 09-51 (filed Jan. 4, 2010), at 22-24.

<sup>11</sup> Ex Parte Comments of the *Ad Hoc* Public Interest Spectrum Coalition in Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band, PS Docket No. 06-229 (filed April 3, 2007).

imposing spectrum caps, and (3) requiring providers with market power to operate through separate affiliates. While all three points are important, the second and third are indispensable. Spectrum caps are essential to promote competition in the wireless market. For dial-up Internet access, a regime of separation between the provider of transmission and the ISP proved effective in allowing a vibrant and competitive ISP market to develop. Similarly, though not a complete cure for the problem of warehousing, structural separation would be likely to improve wireless competition.

**F. The Commission should preempt state law on resale of fiber**

The government can play an important role in increasing broadband deployment. Government funds can be used to create underlying infrastructure, create markets, create demand, and fix market failures. The Berkman study highlights several successful examples of public investment promoting broadband deployment.<sup>12</sup> In the United States incumbents often fail to provide broadband services in all regions of the country. State laws can stand in the way of municipalities and local communities providing their own services.<sup>13</sup>

In order to facilitate ubiquitous broadband deployment, the Commission should preempt state and local laws that prevent municipal and local entities from providing broadband access. The Commission has the authority and obligation to do this. To the extent that state laws prohibiting publicly-offered broadband Internet services may be based on laws limiting telecommunications services like those in *Nixon v. Missouri Municipal League*, the Supreme Court's limitation of preemption did not extend to municipally owned, independently chartered corporations.<sup>14</sup> Section 253(a) therefore provides the Commission with a ready authority to

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<sup>12</sup> Berkman, *supra* note 5, at 165.

<sup>13</sup> *Nixon v. Missouri Municipal League*, 541 U.S. 125, 138 (2004).

<sup>14</sup> *Id.* at 130 note 4.

preempt laws that so restrict independently chartered corporations owned by municipalities. The Commission is also obligated by section 706 of the 1996 Telecommunications Act to actively encourage the deployment of broadband Internet services, and is authorized to use “measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure development.”<sup>15</sup>

This obligation, coupled with the Commission’s broader mission to encourage competition and connectivity, militates towards the proper exercise of preemption powers to free communities to meet their own demand for broadband.

**G. The Commission should expand the White Spaces database to other opportunistic spectrum use**

Spectrum is a scarce resource and its greater availability would help expand broadband deployment. Promoting unlicensed uses of spectrum would increase its availability. The National Broadband Plan should facilitate this by opening up currently licensed spectrum for opportunistic access on a secondary basis and requiring users of such access to avoid causing harmful interference.<sup>16</sup> The White Spaces database should include these additional spectrum bands.

Adding other bands to the White Spaces database would increase the available spectrum capacity by hundreds of megahertz, particularly in rural areas where spectrum usage below 3 GHz is quite low.<sup>17</sup> It could also address the problem of licensees not building out, particularly in rural areas. The database could, if necessary, evolve to record micropayments for secondary uses (e.g., as an incentive or compensation for a licensee’s investment in more interference-resistant receivers, or for other affirmative measures to facilitate shared access). Both federal and non-

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<sup>15</sup> Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 58, § 706 (codified at 47 U.S.C. § 157 note).

<sup>16</sup> Comments of New America Foundation et al. in A National Broadband Plan for our Future, GN Docket No. 09-51 (filed June 8, 2009), at 24.

<sup>17</sup> *Id.* at 25.

federal bands should be included in the database, and access to each band should be conditioned on avoiding interference with licensed services in that particular band. This would address concerns that licenses in different bands lend themselves to different types of opportunistic sharing. In addition, access to bands in the database could be limited by time or location.

**H. The Commission should recommend that as part of USF reform, the High Cost Program should support broadband offerings**

In the Telecommunications Act of 1996, Congress showed that it understood that “advanced telecommunications capabilities” would be essential for Americans in the 21st Century, and critical to preserving “favoring diversity of media voices, vigorous economic competition, technological advancement, and promotion of the public interest, convenience, and necessity.”<sup>18</sup> Congress also embraced the idea of providing broadband to schools, libraries and rural healthcare institutions. Nevertheless, given the state of technology in 1996, Congress did not disturb legacy programs, such as Lifeline/Link-Up and the High Cost Program, which were designed to bring voice service to the poor, and to high cost rural communities.

But technology has vastly improved. Because broadband and not voice is the “must have” utility of the 21st century, the National Broadband Plan should have as its centerpiece a plan to reform USF to address the continuing funding needs pertaining to both build out/upgrades and demand side outreach/training. It should also provide funding for customer premise equipment (CPE) such as computers to make the dream of meaningful universal access a reality.

Pure broadband connectivity is capable of providing all the services currently supported by USF, in addition to the expanded capabilities of an open broadband connection. The ultimate goal of USF reform should be to ensure that all existing services are supported by the mechanism of USF paying into a single, coherent fund that subsidizes a broadband connection, CPE,

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<sup>18</sup> Telecommunications Act of 1996, § 257, 47 U.S.C. § 257.

outreach, and education on the enhanced capabilities of broadband. This can be accomplished by requiring all recipients of funds for any purpose to provide the subsidized service *via an open broadband connection*, with the broadband capacity also made available to the recipient of the service. In other words, plain old telephone (POTS) providers in high-cost areas will only receive funding if they provide POTS service via VOIP, and make the broadband connection available as part of the subsidized service.

## **II. The Commission Should Promote Video Device Competition by Adopting a Standard for a Video Gateway Device**

On December 18, 2009, Public Knowledge et al. filed a Petition for Rulemaking asking the Commission to promote a competitive market for interoperable video devices as part of the record in the Broadband Plan proceeding.<sup>19</sup> PK reiterates that the Commission should adopt a standard for lightweight gateway devices that handle communication between diverse MVPD networks and consumer electronic devices. While the gateway device would likely differ as between MVPDs (as different MVPDs rely on technologically diverse networks<sup>20</sup>), each gateway would make all MVPD services available in a common way, such that consumer electronics can interconnect with different gateway devices in a standard way. By abstracting away the differences between different MVPD platforms, the Commission will promote competition between MVPDs (by reducing switching costs), promote competition in video devices (fulfilling the statutory command of Section 629 of the Communications Act, 47 U.S.C. § 549), and promote broadband by setting rules that allow for new devices that both interconnect with the

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<sup>19</sup> Petition of Public Knowledge, Free Press et al. for Rulemaking Establishing A Competitive Market for Interoperable Video Devices, RM Docket No. \_\_\_\_ (filed Dec. 18, 2009), *available at* <http://www.publicknowledge.org/pdf/pk-et-al-petition-20091218.pdf>. The Commission sought comment on video device matters in NBP Public Notice #27.

<sup>20</sup> Because of the technological differences between MVPDs, it is likely that each MVPD would have to provide a gateway device that connects with its own network.

Internet (accessing over-the-top video and other content) and access MVPD services. PK offers additional comment to assist the Commission in promoting video device competition.

Standardization of a small number of high-level requirements and network protocols is needed to allow consumer devices to connect to MVPD gateway devices and obtain video services. Limiting these standards to network and device interoperability, and not imposing them on internal components of the devices themselves enables device manufactures and MVPDs to innovate on device and service features. This model of defining protocols between devices instead of elements within devices is consistent with the foundation of the Internet, and has been highly successful at breeding innovation.

The defined elements of this standard network should be limited to meeting the following requirements:

- All specified elements should be based on *open, free* and *unencumbered* standards except where this is impractical, as it may be with, e.g., MPEG video decoding;
- All network protocols should be based on existing IETF standards;
- Interaction between the gateway and the consumer should be as simple as possible, and mimic client-server interactions the consumer is already familiar with from common Web browsing;
- No personal computer or other intermediary device should be required between the gateway and the consumer device;
- Information on available programming should be provided by the gateway in common Web-oriented formats, for example, RSS (Really Simple Syndication);
- Authentication of consumer devices to the gateway should be simple and straightforward, for example, similar to Bluetooth or WiFi device pairing;
- Implementation of the specified elements should be *simple, low cost* and free from arbitrary restrictions, for example, one or more open source implementations should be available for each element;
- Where further standardization is required (for example, information to be included in an RSS entry for a channel), an open, fast standardization process should be implemented.

With these limitations on the network standard, it should be possible to define the standard quickly, and for initial devices based on it to be available within six months of the beginning of the standardization process. The market for home networking equipment provides an example of

how rapidly devices can be developed to meet new standards. Within the cable equipment market, the development of the SDV tuning adapter standard occurred in a similar six-month period.<sup>21</sup>

## **CONCLUSION**

With the National Broadband Plan, the Commission can put forward a vision for improving the deployment and adoption of broadband in America. PK believes the foregoing comments will assist the Commission with that goal.

Respectfully submitted,

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<sup>21</sup> Press Release, NCTA and TiVo, NCTA and TiVo Announce Switched Digital Solution for HD DVRs (Nov. 26, 2007) (“Cable operators will make the new adapters available for TiVo customers in the second quarter of 2008.”), <http://www.ncta.com/ReleaseType/MediaRelease/4439.aspx>.