

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

**June 8, 2009**

In the Matter of	)	
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A National Broadband Plan for Our Future	)	GN Docket No. 09-51
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**Comments of the Competitive Enterprise Institute**

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## Overview

The Federal Communications Commission faces one of the most significant undertakings in its history with the development of a national broadband plan. In the American Recovery and Reinvestment Act of 2009, Congress tasked the Commission with developing a plan for stimulating and deploying broadband throughout the United States.

The best way the Commission can stimulate broadband is not by imposing new layers of regulation, but by adopting a *deregulatory* stimulus in which government-created entry barriers are eliminated and costly regulations are reduced. Marketplace investment and private enterprise have driven broadband deployment in the United States, and the Commission would be wise to expand proven, market-driven broadband policies.

## Spectrum and Broadband

The Commission asks, “What is the role of spectrum policy...in promoting market-based delivery of the goals of a national broadband plan?”

Spectrum liberalization should be a core element of a national broadband plan. By freeing up more of the airwaves for flexible, market-driven uses, the Commission could spur a great deal of new private investment in wireless broadband deployment in rural areas.

In January 2008, the Commission held a spectrum auction in which private firms bade on spectrum licenses between the frequency bands of 698 and 793mhz. Among auction winners were major wireless providers, including AT&T and Verizon, and several cable and satellite companies, including EchoStar and Cox Communications. Overall, 101 firms won spectrum licenses, and more than \$19 billion in revenue was raised.<sup>1</sup>

Since the conclusion of the 700mhz auction, firms that won spectrum rights have announced a range of ambitious plans for putting their spectrum to use (following the completion of the vacation of the 700mhz band in June 2009). These services include Long Term Evolution-based mobile broadband, which both AT&T and Verizon expect to launch in 2012 and 2011, respectively.<sup>2</sup> Other wireless services under development in the 700mhz band specifically involve broadband “feeding less densely populated areas.”<sup>3</sup> Recent advances in WiMax wireless technology are targeted specifically at bringing broadband service to rural markets.<sup>4</sup>

While recent spectrum auctions have freed up large chunks of the spectrum, the lion’s share of the airwaves remains governed by an inefficient, “Soviet-style” allocation system.<sup>5</sup> The

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<sup>1</sup> RCR Wireless, “700 MHz auction ends”, March 21, 2008

<http://www.rcrwireless.com/article/20080321/SUB/594478393/-1/700-mhz-auction-ends>

<sup>2</sup> IntoMobile, “Verizon: Mobile broadband LTE on 700Mhz spectrum by 2011”, April 5, 2008

<http://www.intomobile.com/2008/04/05/verizon-mobile-broadband-lte-on-700mhz-spectrum-by-2011.html>

<sup>3</sup> Telephony Online, “CenturyTel plans 700 MHz broadband wireless overlay,” April 3, 2008

<http://telephonyonline.com/wireless/news/centurytel-broadband-overlay-0409/>

<sup>4</sup> Market Wire, “Airspan Announces 700 MHz WiMAX Product Suite,” December 21, 2008

<http://www.marketwire.com/press-release/Airspan-Networks-Inc-NASDAQ-AIRN-932564.html>

<sup>5</sup> New York Times, “OPEC 2.0,” July 30, 2008 <http://www.nytimes.com/2008/07/30/opinion/30wu.html>

Commission could promote broadband deployment by holding new spectrum auctions and exploring new bands to be allocated to flexible, licensed use. Specifically, the Commission should initiate proceedings to auction off the 2155-2180mhz AWS3 band, which currently sits vacant. In its spectrum auctions, the FCC should not encumber licenses with public interest requirements that dictate network management practices or device interoperability standards.<sup>6,7</sup>

## **Defining Broadband**

One of the key challenges in forming broadband policy, as the Commission notes, is defining the term “broadband” in a way that captures the essence of what broadband is in a technology-neutral manner.

The Commission should define broadband access in a way that focuses on the underlying function—rather than the particular delivery method—of broadband service. DSL, Cable, Fiber, Wireless, and Satellite-based broadband providers all offer more or less the same service, albeit with some differences at the margin (i.e. satellite broadband generally has higher latency than terrestrial broadband).<sup>9</sup> Still, many of the most popular uses of broadband—telecommuting, online commerce, Web surfing, etc.—can be accomplished via nearly any type of modern broadband connection.

Another challenge in defining broadband is how to address throughput and latency. The Commission should refrain from adopting an overly technical definition of broadband that excludes services such as satellite broadband, which has relatively high latency, or DSL broadband, which has relatively low throughput. Furthermore, the marginal benefit to the typical consumer of broadband service with extremely high speeds and minimal latency as compared to more conventional broadband service is not substantial. Barring a few uses such as high-definition streaming video or transfers of very large files, most commonplace uses of broadband do not derive a perceivable benefit from high throughput and low latency. While emerging online services will assuredly fuel greater demand for ultra-fast broadband, the Commission cannot ascertain today the rate at which advanced services will catch on with broadband users. The Commission should, therefore, adopt a definition of broadband that is limited to broadband uses that are popular among consumers today, rather than a one that encompasses speculative, advanced offerings that may eventually take off among consumers.

While some Internet Service Providers have recently started offering residential broadband service with 100mbps or more of downstream throughput, the vast majority of broadband subscribers have few real-world uses for such high speeds.<sup>10</sup> In areas where very fast broadband is available and priced competitively, relatively few consumers subscribe to the fastest tier available to them.<sup>11</sup> This indicates that most consumers presently place relatively little value on extremely high speeds. Were the Commission to adopt a definition of broadband that is out of

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<sup>6</sup> Cato Institute TechKnowledge, “Three Cheers for the FCC Spectrum Task Force Report ,” November 21, 2002 <http://www.cato.org/tech/tk/021121-tk.html>

<sup>7</sup> Tech Liberation Front, “AWS3 Spectrum Plan Version 2.0: Unfiltered, but still a Train Wreck,” January 3, 2009 <http://techliberation.com/2009/01/03/aws-3-spectrum-plan-version-20-unfiltered-but-still-a-train-wreck/>

<sup>9</sup> <http://www.smallbusinesscomputing.com/webmaster/article.php/3466881>

<sup>10</sup> <http://www.guardian.co.uk/technology/2008/dec/18/broadband-virgin-media>

<sup>11</sup> [http://www.multichannel.com/article/174233-Cover\\_Story\\_Comecast\\_s\\_Hot\\_Wheels.php](http://www.multichannel.com/article/174233-Cover_Story_Comecast_s_Hot_Wheels.php)

sync with typical consumer uses, it would distort the broadband marketplace and potentially cause misallocation of resources.

Another disadvantage of adopting a rigid definition of broadband is that doing so would risk excluding certain wireless broadband services, many of which offer slower speeds than wired alternatives. While wireless broadband suffers from certain drawbacks, it also has the potential to be vastly more cost effective than wired offerings, especially in sparsely populated rural areas. Defining broadband to the exclusion of wireless services would cause investment in new broadband deployment to flow toward wired service, creating substantial inefficiencies and wasting private and public capital.

## **The Economic Effects of Broadband**

Investing public funds in grants, subsidies, or credits for new broadband deployment is in the public interest only when it enhances consumer welfare more so than any other alternative uses. Because Congress has ordered the Commission to take into account “efficiency and effectiveness” in forming a national broadband plan, the Commission must not only identify the most cost-effective approach for catalyzing broadband deployment but also ensure that any public funds spent are used in an economically efficient manner. A national broadband plan, therefore, must consider the possibility that *spending any taxpayer dollars whatsoever* on broadband deployment might be contrary to the public interest. In fact, government spending on broadband stimulus may well crowd out private investment, resulting in economic inefficiency and harming consumer welfare.<sup>12</sup>

As the Commission ponders ways to encourage broadband adoption, it must take into account the body of evidence that suggests that many consumers have decided not to subscribe to broadband service—even when it is affordable and available to them. This is not at all surprising; after all, in a highly diverse nation with hundreds of millions of consumers that hold an array of values and preferences, it is entirely understandable that a segment of the population is relatively disinterested in broadband.

According to an extensive survey conducted by the Pew Internet & American Life Project in 2008, one in three consumers that lack Internet access simply do not want it.<sup>13</sup> Of current dial-up users, 62 % have no interest in subscribing to broadband. According to Nielsen reports, 49 % of homes with personal computers are broadband-enabled, and more than 82 % of consumers say they have access “to the Internet in some fashion, be it at home, at work, at school or another location.”<sup>14</sup> And despite low broadband adoption rates among certain subsets of the population, high-speed cable broadband is available to 92 % of U.S. households according to the National Cable and Telecommunications Association.<sup>15</sup>

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[http://www.heartland.org/publications/infotech%20telecom/article/24873/Broadband\\_Stimulus\\_Spending\\_Unnecessary\\_and\\_Wasteful.html](http://www.heartland.org/publications/infotech%20telecom/article/24873/Broadband_Stimulus_Spending_Unnecessary_and_Wasteful.html)

<sup>13</sup> [http://www.pewinternet.org/~media/Files/Reports/2008/PIP\\_Broadband\\_2008.pdf](http://www.pewinternet.org/~media/Files/Reports/2008/PIP_Broadband_2008.pdf)

<sup>14</sup>

<http://www.nielsenmedia.com/nc/portal/site/Public/menuitem.d7deb7344c5a8ffe818e6c1047a062a0/?vgnextoid=82387ccfd95d9010VgnVCM100000ac0a260aRCRD>

<sup>15</sup> <http://www.ncta.com/StatsGroup/Availability.aspx>

The Commission should refrain from assuming by default that factors such as digital illiteracy or disability are the primary factors contributing to supposedly subpar broadband adoption rates. Indeed, in an abundant marketplace that offers myriad ways to spend one's income, it is only natural that different consumers will make vastly different choices about which goods and services to buy. Even widely adopted technologies that have been around for many decades, such as cable television or personal computers, continue to be shunned by a sizable chunk of U.S. consumers.<sup>16</sup> There is little reason to believe that broadband is a universally valued service, despite the fact that a vocal segment of the population evidently finds broadband to be extraordinarily valuable.

In light of extensive evidence that technological diffusion often experiences diminishing returns and that many consumers have mixed attitudes toward broadband, the Commission must respect the reality that some consumers have chosen not to subscribe to broadband despite having rationally assessed the costs and benefits of broadband.

### **Market Mechanisms, Openness, and Non-Discrimination**

The Commission notes that market mechanisms have been successful in bringing broadband to many areas of the nation and asks, "What is the best way to attract risk capital to broadband infrastructure projects?"

To maximize private investment in broadband, the Commission must give market participants broad freedom to compete by experimenting with various pricing practices, service tiers, and quality of service assurances. Restricting the types of network management techniques that Internet Service Providers may utilize, for instance, would discourage risk-taking by artificially constraining the scope of possible business models from which broadband firms could choose.

The Commission also asks for comment on "the state of broadband infrastructure and service competition, interconnection, nondiscrimination, and openness, and whether these should factor into development of a national broadband plan." While both non-discrimination and application-specific networking policies have their respective virtues, neither should be preordained by regulators.

Non-discrimination, properly understood, is not a positive state of affairs. No provider truly regards every bit as equal. One real difficulty is that because it must "discriminate," (again, properly understood) business cannot defend itself within the parameters of Internet Policy Statement, which regards "discrimination" as negative and "openness" as the cardinal virtue. Given that framing of the issue, the prospects for the full openness and communications services that future generations need are undermined.

Everybody agrees openness is good; nobody wants their favorite websites or activities blocked. But it's not acceptable to condemn the very possibility of adopting proprietary, exclusionary

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[http://www.nytimes.com/glogin?URI=http://www.nytimes.com/2008/02/10/opinion/10cox.html&OQ=rQ3D4Q26o\\_refQ3Dlogin&OP=2f3d6f1dQ2FRvqARQ51k\\_Q2BkkQ3BtRtccQ24RctRO3AcRk71E1kERO3Ac\\_kN\(xQ3BFh](http://www.nytimes.com/glogin?URI=http://www.nytimes.com/2008/02/10/opinion/10cox.html&OQ=rQ3D4Q26o_refQ3Dlogin&OP=2f3d6f1dQ2FRvqARQ51k_Q2BkkQ3BtRtccQ24RctRO3AcRk71E1kERO3Ac_kN(xQ3BFh)

business models—especially at this critical point in business and communications history. It's only 2009.

All wealth—infrastructure and content alike—must be created, often over decades. A world safe for mandatory openness and non-discrimination, one in which investors can't "own" their pipes or spectrum, is a world far less attuned to the infrastructure wealth creation that we actually need. If private ownership rights are suspect or easily over-ruled simply because property is long and thin (or intangible like spectrum), governments, commissions or heavily regulated utilities will dominate infrastructure rollout. This is not a desirable state of affairs, not even for advocates of non-discrimination.

Demands for such centralized management are all the more incomprehensible since enhanced power will render everyone—including those now seeking neutrality—more vulnerable to political predation in the U.S. and abroad.

For the Commission to adopt non-discrimination rules would be to discriminate in favor of one side in a battle of equals. From Adam Smith, we know that government that avoids taking sides in private disputes (here, infrastructure and content companies) enables more prosperity for all.

Ultimately, the Internet is too slow and needs to evolve into, or be superseded, by something better. What matters is Internet-type technology, not necessarily the Internet's specific configuration today. Calling the Internet "dead and boring," Mark Cuban recently noted that we've "reached the point of diminishing returns" given today's broadband capabilities.

The idea of future multimedia-saturated generations getting by on the existing "pipes" inventory is infeasible. Competition in creation of core networks is just as important as competition in the creation of content delivered over the networks later.

We need to discard the idea that networks themselves cannot be regarded as a competitive unit. The religion that only the movement of bits from point A to point B on an existing network counts as competition must be jettisoned.

Instead of focusing on the benefits of "dumb" pipes, we would more properly acknowledge a competitive dimension upholding the possibility of the "genius" of pipes. Price and service differentiation may well become increasingly critical to well functioning network services. "Discrimination" is perfectly consistent with even greater openness than we enjoy now; nothing about fostering smart pipes is incompatible with retaining "dumb" ones as consumers desire.

That's because the "background hum" of today's commodity Internet can also grow in concert with proprietary services that use Internet technology, but may or may not ride the same pipes as the "capital-I" Internet. Policy should not discourage the possible emergence of such a "Splinternet" by catering to an obsolescent model of infrastructure socialism and doctrinaire "openness."

Fostering infrastructure wealth—of both the proprietary and open kinds—is the only valid public policy goal, the only avenue to a constant escalation in the basic capabilities of the Internet as a

whole, much as we've already witnessed without net neutrality interrupting the process. We've put the days of dialup behind us without neutrality mandates.

Forced openness and non-discrimination are both inoperable without a permanent, priestly regulatory commission. To hold in 2009 that pipes should henceforth be dumb exemplifies the risks of political regulation, how the very ones in charge of communications policy can most threaten it.

Nothing important can be known today about proper pricing and routing of content on the networks of tomorrow; and nothing can be gained and a lot can be lost by prescribing it now, or imposing conditions on how producers make their decisions or disclose information. Most of the allegedly problematic behaviors that the Commission has considered recently actually signify healthy economic activity, whether carried out by access providers or content providers.

## **Privacy and Broadband**

The Commission asks, "what are consumer expectations of privacy when using broadband services or technology and what impact do privacy concerns have on broadband adoption and use? Specifically, the Commission identifies "deep packet inspection" as an example of a potentially invasive "broadband function" that has stoked privacy concerns among some consumers, politicians, and interest groups.

The emergence of deep packet inspection brings with it a range of privacy considerations. What types of data transmissions should be subject to inspection? What safeguards should be put in place to ensure that consumer data remains secure? Should deep packet inspection occur on an opt-in or opt-out basis? These are all challenging questions, and the Commission is ill-equipped to answer them at this stage. Decentralized marketplace experimentation, subject to competitive discipline and evolving consumer preferences, is best able to balance privacy with wealth creation stemming from advertising and marketing.<sup>17</sup> If consumers are dissatisfied with the privacy practices of one Internet Service Provider, they will flock to other competing offerings with stronger assurances. There is no reason why deep packet inspection and strong privacy safeguards cannot coexist. Premature rulemaking by the Commission will stifle innovative advertising technologies.

Importantly, behavioral advertising fueled by deep packet inspection has the potential to deliver significant benefits to consumers.<sup>18</sup> Advertising is a primary source of revenue for tens of thousands of online publishers of all sizes, and more robust behavioral targeting techniques may allow original content creators to better monetize their content.<sup>19</sup> This means more free content online and fewer "paywalls."

All that is necessary to protect consumers is to *enforce agreements* between broadband subscribers and Internet Service Providers. Terms of service agreements are considered legally binding contracts, and consumers can easily get information about competing providers' terms

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<sup>17</sup> <http://commerce.senate.gov/public/files/WayneCrewsCEIOnlinePrivacyTestimony.pdf>

<sup>18</sup> <http://www.pff.org/issues-pubs/pops/2009/pop16.2targetonlinead.pdf>

<sup>19</sup> <http://pff.org/issues-pubs/pops/pop14.15lenardrubinCPNIprivacy.pdf>

from a number of information sources, both online and otherwise. Market discipline will drive firms to respond to consumer desire. For instance, if consumers are averse toward deep packet inspection, some Internet Service Providers may offer data security guarantees as competitive selling points for their services.

For a national broadband plan to maximize the long-term potential of broadband deployment, it must fundamentally respect network property rights by allowing owners of network infrastructure to use their property without being subjected to regulatory micromanagement.

Forming broadband policy based on speculative privacy fears runs the risk of stifling potentially promising new technologies that may enhance consumer welfare in the future.<sup>20</sup> Many services that millions of consumers enjoy today sparked privacy fears when initially launched. Gmail, for instance, stoked privacy concerns when it was launched in 2004 because it scanned user emails for keywords in the process of generating targeted advertisements.<sup>21</sup> Five years later, Gmail has grown into an enormously popular service that has driven competition in the business of free email delivery.<sup>22</sup> Meanwhile, not a single consumer has suffered tangible harm as a result of Gmail's data collection practices.

If the Commission decides to adopt rules for the purpose of protecting the privacy of broadband users, its focus should not be on dictating data collection practices but instead on educating consumers about privacy-enhancing technologies that enable broadband users to safeguard personal data on an individualized basis. Such technologies include end-to-end encryption, "privacy-mode" features found in many popular Web browsers, and secure tunneling services such as HotSpotVPN that render deep packet inspection innocuous from a privacy perspective.<sup>23,24</sup> Empowering consumers to protect their information is a far better solution to privacy concerns than banning or restricting data collection practices outright.<sup>25</sup> Premature regulations on deep packet inspection or similar technologies may stifle innovative advertising techniques and preclude the natural evolution of market discipline.

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<sup>20</sup> <http://cei.org/node/20652>

<sup>21</sup> [http://www.sciencedirect.com/science?\\_ob=ArticleURL&\\_udi=B6VJG-4D4TV95-D&\\_user=10&\\_rdoc=1&\\_fmt=&\\_orig=search&\\_sort=d&\\_view=c&\\_acct=C000050221&\\_version=1&\\_urlVersion=0&\\_userid=10&md5=21edf88a0ccecab7dc22757b921171bb](http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6VJG-4D4TV95-D&_user=10&_rdoc=1&_fmt=&_orig=search&_sort=d&_view=c&_acct=C000050221&_version=1&_urlVersion=0&_userid=10&md5=21edf88a0ccecab7dc22757b921171bb)

<sup>22</sup> <http://www.news.com.au/couriermail/story/0,23739,25104059-8362,00.html>

<sup>23</sup> <http://techliberation.com/2008/05/22/tunneling-your-way-around-isp-traffic-manipulation/>

<sup>24</sup> <http://techliberation.com/2009/03/06/privacy-solutions-series-part-3-internet-explorer-privacy-features/>

<sup>25</sup> <http://techliberation.com/2009/03/13/google-cdt-online-advertising-preserving-persistent-user-choice-across-ad-networks-through-plug-ins/>