



speeds offered to consumers and the number of consumers purchasing these services, a few commenters nevertheless urge the Commission to conclude that the pace of broadband deployment is not reasonable and timely. Free Press, in particular, complains that cable operators have been slow-rolling the introduction of services based on DOCSIS 3.0 technology.

These parties are advocating that the Commission adopt unrealistic interpretations of key statutory terms that would make it impossible for the Commission ever to find that broadband deployment is taking place in a reasonable and timely manner. As explained below, that result cannot be what Congress intended. Under a more sound interpretation of the statute, the Commission should conclude that broadband is being deployed in reasonable and timely manner.

**I. THE COMMISSION SHOULD CONTINUE TO MEASURE BROADBAND DEPLOYMENT AGAINST REALISTIC STANDARDS**

Some parties urge the Commission to define the statutory terms “advanced telecommunications capability” and “reasonable and timely” in a manner that essentially would require a negative finding unless state-of-the-art broadband technology is available to every American. Free Press, for example, argues that the Commission must find that deployment is not reasonable and timely unless all Americans have the ability to *originate* “high quality video” which it defines as “video with a quality equivalent to ‘high definition’ video . . . with CD-quality audio.”<sup>3</sup>

This approach reflects an unrealistic view as to how networks are deployed. Like automobiles and appliances, network equipment is not intended to be replaced every year. Just as significant improvements in technology, like hybrid cars or energy-efficient appliances, take time to become widespread in the retail marketplace, so too do network innovations. The fact that Congress used the term “reasonable and timely,” rather than adopting fixed timelines,

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<sup>3</sup> Free Press Comments at 11.

suggests that it understood that each new generation of capabilities would take time to spread to all Americans. Consequently, even if the standard used in measuring deployment for purposes of Section 706 evolves over time, it should not be based on cutting-edge technology at the time of the report.

As NCTA has explained in the past, the ability to upload high-quality video, however defined, is a relatively new development.<sup>4</sup> YouTube, for example, did not even launch until December of 2005, and its phenomenal growth since then is evidence of the rapid pace of broadband deployment in this country.<sup>5</sup> The suggestion that Congress would consider broadband deployment to be inadequate because today's online video is not of sufficiently high quality seems unlikely given the state of technology at the time Section 706 was adopted. Congress plainly did not envision or require the Commission to use the capability to originate high-definition television as the reference point for measuring whether advanced telecommunications service providers were deploying broadband in a "reasonable and timely" way.<sup>6</sup>

Nor is Free Press correct in arguing that Congress adopted a "clear vision of a two-way symmetrical broadband marketplace" in Section 706.<sup>7</sup> As we have previously explained, cable operators already offer services with upstream speeds that are more than sufficient for uploading high-quality video and the fact that these are asymmetric services, with downstream speeds that

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<sup>4</sup> See Opposition of the National Cable & Telecommunications Association, GN Docket No. 07-45 (filed Sept. 17, 2008) at 3-8.

<sup>5</sup> See YouTube, *Company History*, at <http://www.youtube.com/t/about> (last visited Sept. 24, 2009).

<sup>6</sup> In a pleading last year, Free Press itself advocated setting the bar for "high quality video" at "a standard-definition quality television signal." Petition for Reconsideration of Consumers Union, Consumer Federation of America, and Free Press, GN Docket No. 07-45 (filed July 11, 2008) at 7. And in its comments here, it acknowledges that it takes "a somewhat tangled path" to explain why it believes Congress intended the words "high quality video" to mean high-definition video. See Free Press Comments at 9-13. Free Press does not explain why Congress did not simply use "high-definition video" in the language of the section. As Free Press explains, Congress even defined the term "high definition" in another provision of the same law. See *id.* at 11.

<sup>7</sup> *Id.* at 26.

are higher than the upstream speeds, does not in any way diminish the upload capability.<sup>8</sup>

Moreover, even asymmetric services with lower speeds, whether offered by cable or other technologies, provide the functionality that the average consumer needs to participate in a digital economy and should be considered sufficient for purposes of the Section 706 inquiry.<sup>9</sup>

NCTA encourages the Commission to reject the unrealistic approach to the Section 706 inquiry advocated by these parties and continue with the straightforward approach that it has followed in the past. As NCTA explained in its comments, there should be a connection between the goals established in the National Broadband Plan, the metrics used to measure progress toward those goals, and the data collected and reported by the federal government.<sup>10</sup> To that end, NCTA urged the Commission to retain the existing definition of the term broadband and to incorporate this definition and the speed tiers used for the Form 477 into any goals it develops in connection with the National Broadband Plan. Taking the approach advocated by NCTA would enable the Commission to determine whether the speeds purchased by consumers are increasing at a reasonable pace over time and to identify, and direct its limited resources to, those areas most in need of support. This is a better way to achieve the congressional goal of universal access to broadband capability than to simply declare the entire marketplace a failure.

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<sup>8</sup> See Reply Comments of the National Cable & Telecommunications Association, GN Docket No. 09-51 (filed July 21, 2009) at 6-7 (NCTA Broadband Plan Reply Comments).

<sup>9</sup> In fact, Verizon discontinued offering new customers its symmetrical FiOS Internet service, which offered 20 Mbps upstream and downstream, apparently due to weak consumer demand. See Todd Spangler, *Verizon Eliminates Symmetrical FiOS Internet Tier*, Multichannel News, June 23, 2009, available at [http://www.multichannel.com/article/295518-Verizon\\_Eliminates\\_Symmetrical\\_FiOS\\_Internet\\_Tier.php](http://www.multichannel.com/article/295518-Verizon_Eliminates_Symmetrical_FiOS_Internet_Tier.php).

<sup>10</sup> See NCTA Broadband Plan Reply Comments at 6-12; Comments of the National Cable & Telecommunications Association, GN Docket Nos. 09-137, 09-51, and 09-47 (filed Aug. 31, 2009) at 3-5; NCTA Comments at 3 n.5.

## II. THE FREE PRESS CRITICISMS OF CABLE'S DOCSIS 3.0 TECHNOLOGY ROLL-OUT ARE WITHOUT MERIT

As NCTA has demonstrated in previous comments, cable operators of all sizes are rolling out DOCSIS 3.0 technology throughout the country.<sup>11</sup> In recent days, there have been a number of DOCSIS 3.0-related announcements, including Bresnan's choice of a DOCSIS 3.0 technology to serve consumers in areas of Montana and Wyoming, Comcast's deployment of DOCSIS 3.0 in more than half of its footprint in the Denver metro area, BendBroadband's announcement that DOCSIS 3.0-enabled wideband service will be available to its customers beginning in early October, and Time Warner Cable's launch of DOCSIS 3.0 service in New York City.<sup>12</sup> All of this has occurred without government intervention or incentives.

DOCSIS 3.0 offers consumers significant improvements in their Internet experience. In particular, by "bonding" multiple 6 MHz channels, DOCSIS 3.0 allows cable operators the ability to offer significant improvement in both downstream and upstream speeds.<sup>13</sup> Most operators that have deployed DOCSIS 3.0 are introducing services with downstream speeds up to

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<sup>11</sup> See NCTA Comments at 6; Comments of the National Cable & Telecommunications Association, GN Docket No. 09-51 (filed June 8, 2009) at 11, 16-17.

<sup>12</sup> See Todd Spangler, *Bresnan Picks Arris DOCSIS 3.0 CMTS Platform*, Multichannel News, Sept. 17, 2009 available at [http://www.multichannel.com/article/354404-Bresnan\\_Picks\\_Arris\\_DOCSIS\\_3\\_0\\_CMTS\\_Platform.php](http://www.multichannel.com/article/354404-Bresnan_Picks_Arris_DOCSIS_3_0_CMTS_Platform.php); Todd Spangler, *Comcast Launches DOCSIS 3.0 In Colorado*, Multichannel News, Sept. 21, 2009, available at [http://www.multichannel.com/article/354711-Comcast\\_Launches\\_DOCSIS\\_3\\_0\\_In\\_Colorado.php](http://www.multichannel.com/article/354711-Comcast_Launches_DOCSIS_3_0_In_Colorado.php); Mike Reynolds, *BendBroadband Adopts DOCSIS 3.0 To Drive 60 Mbps*, Multichannel News, Sept. 23, 2009, available at [http://www.multichannel.com/article/355057-BendBroadband\\_Adopts\\_DOCSIS\\_3\\_0\\_To\\_Drive\\_60\\_Mbps.php](http://www.multichannel.com/article/355057-BendBroadband_Adopts_DOCSIS_3_0_To_Drive_60_Mbps.php); Todd Spangler, *Time Warner Cable Powers Up Wideband In Big Apple*, Multichannel News, Sept. 24, 2009, available at [http://www.multichannel.com/article/355257-Time\\_Warner\\_Cable\\_Powers\\_Up\\_Wideband\\_In\\_Big\\_Apple.php](http://www.multichannel.com/article/355257-Time_Warner_Cable_Powers_Up_Wideband_In_Big_Apple.php).

<sup>13</sup> The spectrum within a cable system is sliced into 6 MHz channels. Each one of these channels can be used to deliver one analog television channel. Today, a typical cable system delivers broadband Internet service using the equivalent of one of these 6 MHz channels. DOCSIS 3.0 allows cable operators to bond channels together, to provide greater speed and capacity. DOCSIS 3.0 allows cable operators to bond channels together, to provide greater speed and capacity – like adding lanes to a congested highway. Moreover, the benefits of DOCSIS 3.0 go beyond faster speeds. For example, DOCSIS 3.0 employs an extremely powerful, state-of-the-art security system, called "Triple AES" (Advanced Encryption Standard) that is used by the electronic payment industry.

50 Mbps, but the technology enables downstream speeds in excess of 100 Mbps today, with room for future growth.<sup>14</sup>

The benefits associated with the cable industry's development and deployment of this new technology are significant. Yet Free Press looks at these developments and sees cause for concern. It asserts that DOCSIS 3.0 upgrades are virtually costless to cable operators,<sup>15</sup> result in substantial increases in profitability,<sup>16</sup> and make cable's service so much better than their competitors that "[t]he choice between DSL and cable modem service increasingly isn't become a choice at all."<sup>17</sup> But despite all of these benefits, Free Press claims that cable operators are ignoring their better interests by taking a "casual approach" to deploying this technology. This counterintuitive strategy is proof, Free Press states, of the limited competition cable operators face and their overwhelming desire to preserve the revenue they receive from multichannel video service.<sup>18</sup>

The critique offered by Free Press misses the mark. As explained below, the truth is far different than Free Press would have the Commission believe.

First, Free Press seems to assume that technological developments like DOCSIS 3.0 simply materialize out of the ether. By focusing solely on the alleged failure of cable operators to deploy this new technology with appropriate speed, Free Press ignores the significant efforts of CableLabs, and the substantial support provided by cable operators, in developing DOCSIS

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<sup>14</sup> The DOCSIS 3.0 specification contains a provision that will allow for even higher downstream and upstream data rates. For example, while cable companies are deploying technology that can bond up to 4 downstream channels today, vendors are now developing systems that can bond up to 8 downstream channels. DOCSIS 3.0 is even designed to grow beyond that number of channels, ensuring a viable roadmap for significant future growth.

<sup>15</sup> See Free Press Comments at 37-41.

<sup>16</sup> *Id.* at 38-41.

<sup>17</sup> *Id.* at 50.

<sup>18</sup> See *id.* at 39-40.

3.0 in the first place. If cable operators were only concerned with preserving their existing multichannel video business, and if they faced no competitive pressure, as Free Press asserts, they would not have invested significant time and resources in developing a technology that greatly facilitates the ability of consumers to download files and applications.<sup>19</sup> Nowhere in its lengthy discussion of the cable industry's purported slow-rolling of DOCSIS 3.0 does Free Press address this fundamental inconsistency in its position.

Second, Free Press dramatically understates the challenges of making capacity available for DOCSIS 3.0 upgrades. As noted above, DOCSIS 3.0 enables cable operators to “bond” multiple 6 MHz analog channels and use those channels to expand broadband capacity. If cable systems had significant excess channel capacity, making capacity available for DOCSIS 3.0 channel bonding might be as simple as Free Press suggests. But due to a combination of contractual arrangements with programming networks and regulatory obligations to carry other programming (*e.g.*, must-carry, PEG, and analog-digital simulcast), cable systems generally do not have excess capacity. Consequently, making capacity available for new uses like DOCSIS 3.0 requires modifying existing capacity for services that customers are enjoying today. Usually this means converting analog channels to digital and sometimes adding new methods of delivery such as Switched Digital Video (SDV) in order to balance the need for new high definition video programming or other services.<sup>20</sup>

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<sup>19</sup> Similarly, if Free Press were correct that cable operators face no competition and are focused solely on preserving their video business, no cable operator would take steps to enhance its high-speed Internet service by consistently increasing service speeds and offering free anti-virus software. The fact that cable operators do, in fact, offer these enhancements is further proof that Free Press misinterprets what is occurring in the marketplace.

<sup>20</sup> In addition, there are competing demands on any capacity that is made available. While there may be customers who might agree with Free Press that adding capacity for more robust Internet services should be the highest priority, there are many other customers who are satisfied with their Internet service and prefer to see capacity devoted to video services, including enhanced video services such as high-definition and video-on-demand programming.

Cable operators have been developing a variety of technological solutions to free up analog channels so that they can be used for DOCSIS 3.0 upgrades. The Commission's policies have aided some of these efforts, while hindering others. Comcast, for example, is distributing digital-to-analog (DTA) converters to consumers so that they can continue to view channels that are moved from an analog tier to a digital tier.<sup>21</sup> Other operators, such as Time Warner Cable and Cox Communications, have been deploying SDV technology.<sup>22</sup> Although the use of SDV technology may have been hampered initially by regulatory uncertainty, recent Commission action endorsing the benefits and use of SDV should help consumers reap the many benefits of SDV technology.<sup>23</sup>

Third, Free Press ignores many of the costs associated with DOCSIS 3.0 upgrades. While it is true that upgrading a cable system from DOCSIS 2.0 to DOCSIS 3.0 is substantially less costly than upgrading a telephone network from DSL to fiber-to-the-node or fiber-to-the-premises, Free Press is wrong in suggesting that all it takes is a new modem in the home and a new Cable Modem Termination System (CMTS) at the headend.<sup>24</sup> As referenced above, a significant cost is making additional capacity available for DOCSIS 3.0. Cable operators

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<sup>21</sup> The Commission has facilitated this transition by granting waivers of the ban on integrated set-top boxes for low cost DTA converters. *See, e.g., In re Motorola, Inc., Cisco Systems, Inc., Pace Americas, Inc., Thomson, Inc., Requests for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Memorandum Opinion & Order, DA 09-1854 (Media Bur. Aug. 24, 2009).

<sup>22</sup> *See* Ben Drawbaugh, *Time Warner to Deploy Switched Digital to 50% of Their Markets in 2007*, engadgetHD, June 5, 2007, available at <http://www.engadgethd.com/2007/06/05/time-warner-to-deploy-switched-digital-to-50-of-their-markets-i/>; Mike Robuck, *Cox Picks BigBand for First Switched Digital Video Deployment*, CedMagazine.com, Aug. 22, 2007, available at <http://www.cedmagazine.com/Cox-picks-BigBand-for-SDV.aspx>.

<sup>23</sup> *See In re Oceanic Time Warner Cable, A subsidiary of Time Warner Cable, Inc., Oceanic Time Warner Cable, a division of Time Warner Cable, Inc., Oceanic Kauai Cable System, Oceanic Time Warner Cable, a division of Time Warner Cable, Inc., Oceanic Oahu Central Cable System, Cox Communications, Inc., Fairfax County, Virginia Cable System*, Order on Review, 24 FCC Rcd 8716 (2009) (vacating enforcement actions relating to Time Warner Cable, Inc. and Cox Communications, Inc.'s implementation of SDV technology).

<sup>24</sup> Free Press also errs in suggesting that that cable operators will earn a significant "windfall" from leasing cable modems to consumers. *See* Free Press Comments at 37-38. The fact that consumers easily can purchase this equipment at retail outlets ensures that cable operators cannot charge unreasonable rental fees for the same equipment.

routinely adjust use of the bandwidth of their plants in response to increases in customer demand and to introduce new services, but the introduction of DOCSIS 3.0 technology increases the scope and urgency of efforts to reclaim bandwidth from existing uses. Other expenses include back office costs associated with provisioning new services, testing and monitoring new equipment, and training personnel. In addition, bandwidth demands from consumers continue to grow, and as would be expected, middle mile and backbone transport costs will continue to increase as well.

Fourth, Free Press's assertion that deployment of DOCSIS 3.0 is proceeding at a "casual" pace and only in "limited areas" completely ignores the facts. A few weeks ago, Comcast raised its DOCSIS 3.0 deployment target to nearly 80% of its national footprint before the end of 2009 (it has already installed wideband in nearly 50% of its footprint).<sup>25</sup> Comcast Chief Operating Officer Steve Burke explained that "part of raising the estimate is just [that] we are getting it implemented and we are a little further along the line and continue to be big believers in it. I think everybody in the industry eventually is going to put DOCSIS 3.0 pretty much everywhere and it is just a question of how fast you go."<sup>26</sup> As noted above, NCTA and others have submitted to the record many examples of the steady pace of DOCSIS 3.0 deployment.<sup>27</sup>

In sum, the significant deployment of DOCSIS 3.0 that is taking place and that will continue over the next few years is the result of a concerted effort by the cable industry that began years before the first DOCSIS 3.0 equipment was installed. The motivation for this

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<sup>25</sup> Previously, Comcast sought to have DOCSIS 3.0 pass 65% of homes in its footprint by the end of this year, with full deployment to its service areas by the end of 2010. See Todd Spangler, *Comcast Ups DOCSIS 3.0 Target To 40 Million Premises In 2009*, Multichannel News, August 6, 2009, available at <http://www.multichannel.com/article/326698-Comcast-Ups-DOCSIS-3-0-Target-To-40-Million-Premises-In-2009.php>.

<sup>26</sup> *Id.*

<sup>27</sup> See *supra* notes 11-12 and accompanying text.

process is to provide consumers with high-quality Internet service that is competitive with the products offered by telephone companies and other providers. The Commission should see this as a positive development for American consumers and take steps to encourage even more deployment in the context of the National Broadband Plan.

### **CONCLUSION**

For the reasons explained above, the Commission should conclude that broadband is being deployed to all Americans in a reasonable and timely fashion.

Respectfully submitted,

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