

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

In the Matter of)	
)	
A National Broadband Plan for Our Future)	GN Docket No. 09-51
)	
Comments Sought on International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act)	GN Docket No. 09-47
)	
)	
Inquiry Concerning the Deployment of Advanced Telecommunications 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 of 1996, As Amended by the Broadband Data Improvement Act)	GN Docket No. 09-137
)	
)	
Implementation of Section 304 of the Telecommunications Act of 1996)	CS Docket No. 97-80
)	

COMMENTS OF GOOGLE INC. – NBP PUBLIC NOTICE #27

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TABLE OF CONTENTS

I. INTRODUCTION AND SUMMARY	1
II. THE OPENNESS OF THE INTERNET IS DRIVING CONVERGENCE, HELPING TO EXPAND BROADBAND USAGE AND ADOPTION	2
III. THE FCC SHOULD ENSURE THAT PRINCIPLES OF OPENNESS EXTEND TO THE CONVERGING INTERNET/TELEVISION SPACE	6
IV. CONCLUSION	13

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Google Inc., by its attorneys, files these comments in response to the FCC’s Public Notice seeking comment on video device innovation, as part of the FCC’s development of a National Broadband Plan (NBP).¹

I. INTRODUCTION AND SUMMARY

The exponential expansion and growth of the open Internet is driving the convergence of traditional television and Internet video, increasing innovation, enhancing

¹ “Comment Sought on Video Device Innovation,” NBP Public Notice #27, DA 09-2519 (Dec. 3, 2009) (“Public Notice”). See also, *A National Broadband Plan for Our Future*, Notice of Inquiry, 24 FCC Rcd. 4342 (2009).

consumer experiences and driving broadband adoption and usage. No longer tied to a particular screen, consumers are increasingly able to access the video content of their choice through a variety of devices, including wireless handsets, netbooks, and television set-top boxes. While the ability to access Internet and video content through a television platform could further assist the country in meeting its broadband goals, a vibrant retail video device marketplace has yet to materialize, limiting the ability to fully realize the convergence of Internet and video.

If the U.S. is to attain the open device marketplace envisioned by Congress and allow consumers to enjoy their choice of video regardless of its source, the FCC should follow its course of promoting openness and act to help promote a climate where consumers can enjoy innovative network-agnostic, portable video devices. At minimum, the FCC should commit in the NBP to undertake a comprehensive review and oversight of this converging video landscape and issue a Notice of Proposed Rulemaking (NPRM) to implement targeted reform. The NPRM should examine specific proposals to address current barriers to CableCARD implementation and proposals for a home gateway device. Most importantly, the FCC should adopt a policy of openness, so that innovation in devices and interfaces can occur free from broadband network owner constraints, consumers have access to clear and transparent information on competitive video device options and broadband network owners are precluded from blocking, filtering or limiting consumers and competitors from attaching their device of choice to the Internet.

II. THE OPENNESS OF THE INTERNET IS DRIVING CONVERGENCE, HELPING TO EXPAND BROADBAND USAGE AND ADOPTION

Over the past fifteen years, the open environment of the Internet has brought unprecedented innovation, consumer choice and free expression. The Internet is now

effectuating a sea change in consumer access to high-quality, innovative video programming and other content. As the rate of broadband deployment and adoption increases, so does the amount of video viewed on the Internet² along with the number of people watching it.³ Consumers are no longer limited to the traditional programming and content transmitted by broadcasters and multichannel video programming distributors (MVPDs), and are increasingly turning online to enjoy a wide range of “over-the-top” programming, including user-generated content, web-originated entertainment, educational programs, and news and public affairs shows. Online viewership of premium television content is also increasing and the major broadcast networks now make more than 90% of the latest episodes of their most popular shows available on the Internet within one day of their original broadcast.⁴

In a clear reflection of this trend towards cross-platform video convergence, a growing array of devices enables consumers to access video content through a single interface regardless of source. Capable of crossing boundaries between the Internet and television, these devices not only allow consumers to access Internet video and content

² “Online Video Watching Nearly Doubles Since ’06,” MSNBC, Jul. 29, 2009, http://www.msnbc.msn.com/id/32201850/ns/technology_and_science-tech_and_gadgets/.

³ A recent study reveals that half of all Americans (158 million people) watched video on the Internet in July 2009. “U.S. Video Market Soars in July as Summer Vacation Drives Pickup in Entertainment and Leisure Activities Online,” comScore, Aug. 27, 2009, available at [http://www.comscore.com/Press_Events/Press_Releases/2009/8/U.S._Online_Video_Market_Soars_in_July_as_Summer_Vacation_Drives_Pickup_in_Entertainment_and_Leisure_Activities_Online/\(language\)/eng-US](http://www.comscore.com/Press_Events/Press_Releases/2009/8/U.S._Online_Video_Market_Soars_in_July_as_Summer_Vacation_Drives_Pickup_in_Entertainment_and_Leisure_Activities_Online/(language)/eng-US).

⁴ Paul Farhi, “Click, Change: The Traditional Tube is Getting Squeezed Out of the Picture,” Washington Post, May 17, 2009 at E1, available at <http://www.washingtonpost.com/wp-dyn/content/article/2009/05/14/AR2009051404522.html>.

on their television sets;⁵ they can also serve as an important catalyst for the aggressive expansion of broadband connectivity by encouraging content companies to satisfy the increasing consumer demand for bandwidth-intensive video programming content that is viewable through an Internet browser.

From the consumer's perspective, technological methods of origin and output are largely irrelevant. Regardless of whether the video is piped through Ethernet, WiFi, or coaxial cable, the consumer simply wants access to the broadest universe of content that any given device is capable of providing. Similarly, it matters little to the consumer whether the computer processing their video is housed in something called a set-top box or a PC (or a netbook, media extender, or handset). Nor does it matter whether the device ultimately rendering the content is a high-definition (HD) 55-inch display with a built-in tuner that we call a television, a 24-inch HD display that we call a monitor when it is attached to a desktop computer, or a three-inch LCD screen integrated with a smartphone. To the consumer, it remains true that "content is king." As the FCC has noted in the past, ease and openness of access to that content are the keys that will drive widespread adoption of both newly convergent video platforms and the broadband networks that power them.⁶

⁵ See, e.g., Public Notice at 2.

⁶ See, e.g., FCC Open Meeting Presentation, "National Broadband Plan Policy Framework," at 19-20 (Dec. 16, 2009) ("Broadband Policy Framework") Remarks of former Chairman Powell discussing the importance of the four "Internet Freedoms" to propel the growth of broadband adoption. Michael Powell, Preserving Internet Freedom: Guiding Principles for the Industry, 3 J. TELECOMM. & HIGH TECH L. 5, 7 (2004) ("[B]roadband networks are impressive generators of economic growth, innovation, and empowerment. But generators do not work unless they have *fuel to burn*. Broadband networks are fueled by consumers' hunger for an ever-expanding array of high-value

Google agrees that the simultaneous convergence of both video content and video devices can help to fuel the expansion of broadband usage and adoption. As the Public Notice and the FCC's NBP Policy Framework have soundly explained, innovation in devices that merge traditional television and Internet content on converged platforms is an important component of a healthy broadband marketplace.⁷ Today, while only 76% of American households have computers, 99% of households have televisions.⁸ The ability to access Internet video and content through a platform available in almost every household could help drive broadband utilization and adoption, in part, by eliminating the need for additional equipment.⁹

content, applications, and personal devices that can run over these networks. Easy access to content and technology is bringing more power to people.”).

⁷ “[W]e believe that video devices are an important part of developing a National Broadband Plan. . . . The convergence of the television and content delivered by IP make this a critical time to promote innovation in set-top devices that could support the Commission’s effort to drive broadband adoption and utilization.” Public Notice, at 2. *See also* Broadband Policy Framework at 6-7, 19-20; Statement of Chairman Genachowski (“We know that the television will increasingly become a device for Internet access. So the issue raised today is how can the presence of TVs in everyone’s home help. . . people who don’t have broadband []or those who don’t have computers.”); Washington Post Technology PostTech, “FCC Takes on Cable, Satellite on Television Set-Top Boxes,” available at http://voices.washingtonpost.com/posttech/2009/11/fcc_takes_on_cable_satellite_o.html, *citing* Press Conference of Chairman Genachowski, Nov. 18, 2009.

⁸ Broadband Policy Framework at 19. *See also* FCC Open Meeting Presentation “Broadband Gaps” at 17 (Nov. 18, 2009) (“Broadband Gaps”).

⁹ *Id.* The high cost of consumer equipment has been recognized by many as a barrier to broadband adoption. *See also, e.g.*, Comments of Coalition of Organizations for Accessible Technology at 7, Comments of Communications Workers of America at 3, 18-19, Comments of Time Warner Cable Inc. at 20, Comments of US Internet Industry Association and NetLiteracy at 12, GN Dkt. 09-51 (all filed June 8, 2009); Reply Comments of AT&T Inc. at 6-7, GN Dkt. 09-51 (filed Jul. 21, 2009). Innovation in video devices can also help meet the needs of Americans with disabilities. *See* Broadband Policy Framework at 29.

The FCC should act now to spur another important phase in the history of open network interfaces. The important issues raised in the Public Notice regarding set-top boxes and video navigation devices are just the latest example of consumer-facing network interfaces that require Commission guidance and oversight to ensure that consumer choice, competition and industry innovation are realized. Starting with the wireline telephone system, then with wireless, the FCC's policy and rules have evolved over time to help promote core objectives of openness, innovation and choice that benefit the public. In these cases, the FCC has acted carefully to open and delineate the boundaries between the network and complementary market segments, including the customer equipment that creates and expands network value, to increase consumer choice and industry innovation. The television/Internet convergence we are now experiencing can follow a similar template.

III. THE FCC SHOULD ENSURE THAT PRINCIPLES OF OPENNESS EXTEND TO THE CONVERGING INTERNET/TELEVISION SPACE

More than fifty years ago, the FCC was confronted with a market resistant to innovation when the Hush-a-Phone Corporation sought to offer a small, cup-like retail device that consumers could mount on the telephone to increase the sound quality of conversations. AT&T refused to allow any "foreign attachments" to its network, arguing that to provide quality telephone service to the public and prevent network harm, all equipment should be telephone-company supplied. Ultimately, AT&T was required to allow the Hush-a-Phone device, affirming "the telephone subscriber's right reasonably to use his telephone in ways which are privately beneficial without being publicly

detrimental.”¹⁰ This “right to attach” led to the FCC’s seminal *Carterfone* policy that allowed consumers to attach any device to the wireline network as long as it did not harm the network.¹¹ This was the beginning of the evolution of the standard black telephone into the technologically innovative equipment and devices we enjoy today.

Following this basic principle, the FCC later required facilities-based common carriers to provide consumers with customer premises equipment (CPE) unbundled from the carriers’ services to encourage innovation by third-party equipment providers and maximize consumer choice of equipment and services to meet their needs.¹² Thereafter, the Commission progressively acted to allow users to connect any device to the wireline network, as long as it complied with a basic set of rules outlined in Part 68, paving the way for reduced prices and substantial innovation of CPE.¹³ The vibrant CPE industry that resulted changed consumers’ communications experiences and expanded capabilities, including through non-network based answering machines, fax machines,¹⁴

¹⁰ *Hush-a-Phone Corp. v. U.S.*, 238 F.2d 266, 267, 269 (D.C. Cir. 1956).

¹¹ *Use of the Carterfone Device in Message Toll Telephone Service*, Decision, 13 FCC 2d 420, 424-25 (1968).

¹² *Amendment of Section 64.702 of the Commission’s Rules and Regulations (Second Computer Inquiry)*, Final Decision, 77 FCC 2d 384, at ¶¶ 142, 149 (1980) (“*Computer II*”), *modified on recon.*, 84 FCC 2d 50 (1980) and 88 FCC 2d 512 (1981), *affd sub nom.*, *Computer and Commun. Industry Ass’n v. FCC*, 693 F.2d 198 (D.C. Cir. 1982), *cert. denied*, 461 U.S. 938 (1983).

¹³ 47 C.F.R. pt. 68.

¹⁴ Fax machines serve as an especially interesting example of the significant impact of the FCC’s decisions to allow users to connect devices to the wireline network. Once fax machines were able to interoperate with any wireline network, the product was exponentially more useful as the number of people able to send and receive faxes across various carriers’ networks increased.

and dial-up Internet modems.¹⁵ These targeted FCC actions successfully created the climate where the plain old black desk telephone was replaced by a plethora of innovation.¹⁶

Most recently, the FCC has followed this path to benefit consumers in affirming the importance of open platform requirements for devices and applications on wireless networks. As wireless evolved from being solely voice-centric to the data-centric environment we have today, the FCC helped create the conditions for openness. For this reason, despite objections from would-be spectrum licensees, the FCC determined that it was in the public interest to require 700 MHz C Block spectrum licensees to “allow customers, device manufacturers, third-party application developers, and others to use or develop the devices and applications of their choice.”¹⁷ Similarly, the FCC has extended automatic wireless roaming obligations to promote seamless wireless services for consumers throughout the country, and reduce inconsistent coverage and service quality.¹⁸ These successful FCC “nudges” have helped move market forces in a direction

¹⁵ Notably, until these decisions, messaging and similar functions were largely restricted to cumbersome and costly network-based offerings, which, while profitable for the network owners, were hardly consumer-friendly.

¹⁶ These steps also helped increase utilization of the wireline network, benefiting carriers as well as users. See, e.g., L. Selwyn and J. Lazlo, Interact Access Coalition, *The Effect of Internet Use of the Nation’s Telephone Network* at 25 (Jan. 22, 1997) (describing the growth of modem-based, dial-up Internet and ensuing “record growth” of telecommunications services due to increased demand for residential access lines).

¹⁷ *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, Second Report and Order*, 22 FCC Rcd. 15289, ¶ 195 (2007).

¹⁸ *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers, Report and Order and Further Notice of Proposed Rulemaking*, 22 FCC Rcd. 15817, ¶ 27 (2007).

of more openness, from a marketplace of dumb devices to smart ones that just now are beginning to allow users to access the richness of the Internet.¹⁹

Undoubtedly, the convergence of Internet and multichannel video platforms will raise concerns in the marketplace about MVPD business models, especially where vertically-integrated providers join content and conduit. These concerns include the general lack of openness of MVPD infrastructure and the sufficiency of robust broadband network capacity for the open Internet. The existing financial incentive structures also affect program availability, as well as the intention to offer consumers easy alternatives to leasing set-top boxes.²⁰ These market conditions deserve thorough examination to ensure that consumers can interact with the content they want, using the device of their choosing to display the content on the screen of their choosing. As Chairman Genachowski has noted, the Internet – and the content available through it – must remain open, however accessed: “Even though each form of Internet access has unique technical characteristics, they are all different roads to the same place. It is essential that the Internet itself remain open, however users reach it.”²¹

¹⁹ See, e.g., *Preserving the Open Internet*, Notice of Proposed Rulemaking, GN Dkt. 09-191, ¶ 162 (rel. Oct. 22, 2009) (“*Preserving the Open Internet NPRM*”) (examples of providers opening their networks to third-party to applications, include T-Mobile and Google’s G1 using Android’s free, open-source operating system platform, Verizon Wireless’ Open Development Program and Clearwire’s CLEAR 4G WiMax Innovation Network). See also *Broadband Policy Framework* at 19.

²⁰ Cost and provisioning disparities between leased set-top boxes and retail equipment can be significant, with consumers often frustrated by inaccurate or incomplete information, technical complexity and other hurdles that are the opposite of user-friendly. See, e.g., *Comments of TiVo Inc.* at 5, MB Dkt. 07-269 (filed Jul. 29, 2009).

²¹ Julius Genachowski, “Preserving a Free and Open Internet: A Platform for Innovation, Opportunity, and Prosperity” (Prepared Remarks, Brookings Institution, Sept. 21, 2009), available at www.openinternet.gov/read-speech.html.

In enacting Section 629 of the Telecommunications Act of 1996, which required the FCC to ensure the competitive availability of navigation devices, Congress clearly envisioned the creation and eventual success of an open and competitive video device ecosystem.²² Yet, despite the rapid growth of technology that has occurred simultaneously with the explosion of Internet video and online content as well as the increasing convergence of video, the Internet and IP,²³ there is a growing consensus that competition and innovation for video devices is wholly inadequate.²⁴ Innovative, competitively-available video devices simply have not materialized, creating what the FCC and others have called a “television set-top box innovation gap.”²⁵ Even NCTA

²² 47 U.S.C. § 549. (Section 629 was adopted as part of the Telecommunications Act of 1996. Pub. L. No. 104-104, 110 Stat 56 (1996)). As Congress explained in the legislative history to Section 629, 47 U.S.C. Section 549 (c), consumers should not be “forced to purchase or lease a specific, proprietary converter box, interactive device or other equipment from the cable system or network operator.” S. Conf. Rep. 104-230 at 181 (Feb. 1, 1996). Congress understood that “competition in the manufacturing and distribution of consumer devices has always led to innovation, lower prices and higher quality.” H.R. Rep. No. 104-204, at 112 (Jul. 24, 1995).

²³ Broadband Gaps at 17.

²⁴ See, e.g., Petition for Rulemaking of Public Knowledge, et al. at 4-5, CS Dkt. 97-80, GN Dkts. 09-41, 09-51, 09-137 (filed Dec. 18, 2009) (describing the inadequacies in the current video device regime and asserting that “more than an ‘inquiry’ is appropriate at this time.”); Letter from James W. Hedlund, Vice President, Regulatory Affairs, Consumer Electronics Association, to Marlene H. Dortch, Secretary, FCC, at 2, CS Dkt. 97-80, MB Dkts. 03-15, 08-82 (Sept. 15, 2009) (“CEA Letter”) (noting that Section 629 mandates are not being fulfilled); Comments of TiVo Inc. at 2, MB Dkt. 07-269 (filed Jul. 29, 2009); Broadband Policy Framework at 19. As the FCC correctly notes in the Public Notice, no currently available device can access all types of available video content and certain MVPD-supplied devices segregate traditional video navigation from all other functions, preventing consumers from being able to use a consistent menu to navigate video content regardless of its source. Broadband Gaps at 2, 4.

²⁵ See FCC News Release, “FCC Identifies Critical Gaps in Path to Future Universal Broadband,” Nov. 18, 2009. The FCC’s Broadband Task Force has found that there are *more than 64 times* the number of certified mobiles devices as there are certified retail

agrees, explaining to the FCC earlier this month that Section 629 has not met its stated goals and a fully-competitive retail navigation market has not developed.²⁶ Given our national challenge to expand broadband deployment and adoption, it is critical for the FCC to begin now to implement a vision of a competitive video device landscape. At a minimum, the FCC should commit in the NBP to undertake comprehensive review and oversight of the converging Internet and video landscape, including initiating a rulemaking proceeding to implement targeted reforms to the video device space. The rulemaking should include both specific proposals to remedy directly current barriers to implementation of CableCARD as well as consideration of a home gateway device that could be used to bridge proprietary MVPD elements and the open, standard widely-used in-home communications interfaces.²⁷ The NBP also should commit to a broad-scale investigation – perhaps by adopting a Notice of Inquiry – to review and analyze overarching issues that will affect the future of the consumer’s video experience.²⁸

video devices (900 mobile devices versus 14 models of certified retail video devices). At the same time, there remain *42 times* as many subscribers that lease their boxes from multichannel video providers as those that purchase their own boxes. Broadband Gaps at 18. Likewise, while there are reportedly over 70,000 smart phone applications and billions of HTML pages, only a handful of set-top boxes are available for consumers to purchase.

²⁶ See Letter from Kyle McSlarrow, President and CEO, National Cable and Telecommunications Association, to Carlos Kirjner, Senior Advisor to the Chairman on Broadband and William Lake, Chief, Media Bureau, FCC, CS Dkt. 97-80, GN Dkts. 09-47, 09-51, 09-137 (Dec. 4, 2009).

²⁷ Broadband Policy Framework at 20.

²⁸ As CEA explained, a thorough analysis of video competition issues is in order. See CEA Letter at 2 (noting need for a thorough analysis and assessment of video competition issues which has failed to happen for many years.).

The FCC's actions should reflect the goals of Section 629 – to encourage and promote a climate in which consumers can easily and efficiently exercise their rights to select the device on which they can access the content of their choosing. A policy of openness should be primary, so that open device interfaces can be developed and deployed free from MVPD constraints, which may limit functionality, deter improvements, and constrain enhancements in user devices and interfaces.

Consumers also must have access to clear and transparent information regarding their competitive video device options. As the FCC recently acknowledged, “accurate information plays a vital role in maintaining a well-functioning marketplace that encourages competition, innovation, low prices, and high-quality services.”²⁹ Consumers should be clearly informed about the costs of leasing versus owning their set-top boxes and the availability of competitive retail options. Consumer choice also should encompass expanded control and data-exchange for all devices. Just as the FCC adopted a policy and proposed rules to ensure that users are not precluded by broadband network owners from connecting their choice of legal devices that do not harm the network, so too should the same rationale extend to the video device marketplace.³⁰ These rules should also preclude any blocking or filtering of Internet content and should bar anticompetitive practices by MVPDs that discriminate in favor of affiliated video and content offerings on any distribution platform, including favoring of affiliated distribution channels.

²⁹ See *Consumer Information and Disclosure; Truth-in-Billing and Billing Format; IP-Enabled Services*, Notice of Inquiry, 24 FCC Rcd. 11380, ¶ 5 (2009).

³⁰ *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Policy Statement, 20 FCC Rcd. 14986, ¶ 4 (2005); *Preserving the Open Internet NPRM*, ¶¶ 92, 104, 119.

IV. CONCLUSION

The importance of the convergence of IP-based and Internet video content, services, and applications with traditional television and multichannel video distribution to promote broadband usage, generate innovation and stimulate broad industry investment cannot be overstated. As the richness and diversity of online content and video expands, users need the ability to view the videos and other content that they want, using the device that they want, without undue expense, complexity or barriers. At a minimum, the FCC should commit in the NBP to initiate proceedings to implement the vision of competitive and innovative video devices and undertake a thorough review of the emerging video arena. We look forward to working with the FCC and the industry to craft targeted measures that will ideally spawn a robustly competitive and thriving device marketplace.

Respectfully submitted,



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