January 27, 2010

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: *Ex Parte*: NBP Public Notice #27, CS Dkt. No. 97-80, GN Dkt. Nos. 09-47, 09-51, 09-137.

Dear Ms. Dortch:

Motorola, Inc. ("Motorola") files this letter to respond to comments filed in the above-captioned proceedings claiming that there has been a lack of innovation in the set-top box marketplace and that this purported innovation gap is impeding the convergence of the television and the Internet.[1] Motorola strongly disagrees with these claims. As explained more fully below, Motorola believes that: (1) there is *no* "innovation gap" in the set-top box marketplace, and (2) the convergence of the television and the Internet is *already* occurring in the marketplace irrespective of set-top box innovation.

Set-Top Box Innovation

Set-top boxes are a critical component of a growing innovation ecosystem for cable services. As Motorola noted in its December 22, 2009 comments in the above-captioned proceedings,[2] cable networks have evolved rapidly over the last 20 years -- from one-way networks that provided about 30

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[1] *See, e.g.*, Petition for Rulemaking of Public Knowledge *et al.*, CS Dkt. No. 97-80, GN Dkt. Nos. 09-47, 09-51, 09-137, at 2, 11, 23-24 (Dec. 18, 2009); Google Comments, NBP Public Notice #27, CS Dkt. No. 97-80, GN Dkt. Nos. 09-47, 09-51, 09-137, at 5 (Dec. 22, 2009); *see also* FCC National Broadband Plan, *Policy Framework* at 19 (Dec. 16, 2009), *available at* http://reboot.fcc.gov/open-meetings/2009/december; FCC National Broadband Plan, *Broadband Gaps* at 18 (Nov. 18, 2009), *available at* http://reboot.fcc.gov/open-meetings/2009/november.

[2] *See* Motorola Comments, NBP Public Notice #27, CS Dkt. No. 97-80, GN Dkt. Nos. 09-47, 09-51, 09-137, at 9 (Dec. 22, 2009) ("Motorola Comments").

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channels of analog programming, to two-way networks that deliver hundreds of channels of HD and other digital programming and thousands of video-on-demand ("VOD") selections, innovative interactive services like StartOver, digital phone service, and high-speed Internet service. Cable operators (and other MVPDs) are now launching services like TV Everywhere that provide content to consumers where and when they want it on the PC, mobile handsets, and other consumer devices, and are developing new innovative services like 3-D television (which was widely demonstrated at the 2010 Consumer Electronics Show).[3]

Motorola set-top boxes are helping to drive this innovation in the cable ecosystem. The simple descramblers of the 1990s have given way to sophisticated two-way digital devices that provide a secure platform for the distribution of high-definition programming, high-value premium content, VOD, and other content and services, and also enable the greater customization of the user experience. Digital video recorders ("DVRs") allow customers to watch programming on their own schedule; interactive program guides enable powerful parental controls and other TV viewing tools; and customer options are expanding with newer features:

- **EBIF Support.** Motorola's legacy digital boxes can now support the Enhanced TV Binary Interchange Format ("EBIF"), an interactive TV technology that provides a platform for interactive TV applications. Among other things, EBIF supports a "remind/record" application that lets consumers ask to be reminded to watch favored programs,[4] a caller ID function that alerts the customer who is calling when the phone rings,[5] and polling, voting, and other interactive features.[6]

- **Home Networking.** Motorola's newer model set-top boxes allow customers to network content to other set-top devices in the home via MoCA, and to stream music and download photos from their digital cameras, PCs, and other connected devices.[7]

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[3] *See 3-D Television Makes Big CES Splash*, AP, Jan. 6, 2010, *available at* http://www.cbsnews.com/stories/2010/01/06/tech/main6064377.shtml.

[4] *See* Leslie Ellis, *EBIF Landscape, Revisited*, Multichannel News, Nov. 2, 2009, *available at* http://www.multichannel.com/article/367044-EBIF_Landscape_Revisited.php.

[5] *See* Saul Hansen, *Like Apple, TV Explores Must-Have Applications*, N.Y. Times, Sept. 7, 2009, *available at* http://www.nytimes.com/2009/09/07/business/07cable.html.

[6] *See* Todd Spangler, *Verizon Runs Olympics ITV Trial in Oregon*, Multichannel News, Aug. 21, 2008 (noting that, during the 2008 Olympic Games, Verizon FiOS TV customers in Portland, Oregon were able to access real-time Olympics news from Beijing, medal counts by county, and bios of U.S. athletes via the EBIF platform).

[7] *See, e.g.*, Motorola DCX3400 All-Digital, HDTV, Dual-Tuner DVR, M-Card Host Set-Top Box, *at* http://www.motorola.com/Business/US-EN/Business+Product+and+Services/TV+Video+Distribution/Customer+Premises+Equipment+%28Set-tops%29/All-

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Likewise, Motorola's KreaTV Application Platform gives cable subscribers the ability to access online music and video content and transfer music and video seamlessly between the set-top box and their mobile handsets, among other features.[8]

- **Motorola Mover.** At the 2010 Consumer Electronics Show, Motorola received a Design and Engineering Award for its Motorola Mover product, a set-top box accessory that enables consumers to securely put recorded subscription video content on mobile devices.[9]

IP is the next stage in the evolution of the cable network.[10] An IP architecture is more flexible and less costly to manage than traditional cable delivery systems, can easily enable the mobility of video content between and among the TV set, the PC, and the mobile phone, and can facilitate the development and launch of new applications and services.[11] For example, Verizon's FiOS TV service includes IP-based widgets that enable customers to access their Facebook and Twitter accounts and view video clips from Blip.tv, Dailymotion, and Veoh, among other features. Motorola set-top box equipment supports this functionality. We strongly support Commission policies that encourage the

(...footnote continued)

Digital+QAM+Set-tops/DCX3400_US-EN (last visited Jan. 22, 2010); Motorola QIP6416 Hybrid, HD/DVR Set-Top Box, *at* http://www.motorola.com/Consumers/US-EN/Consumer-Product-and-Services/Home-Digital-Video/QIP6416_US_EN (last visited Jan. 22, 2010).

[8] *See* Motorola News Release, *Motorola's IP-Set-Tops Enable New KDDI's 'au Box' to Drive Fixed Mobile Broadband Convergence* (Sept. 25, 2008), *at* http://www.motorola.com/mediacenter/news/detail.jsp?globalObjectId=10198_10127_23&pageLocaleId=1214. This device has been deployed by KDDI, a cable operator in Japan.

[9] *See* Motorola News Release, *Motorola Expands Media Mobility Solutions to Video Service Providers* (Jan. 7, 2010), *at* http://www.prnewswire.com/news-releases/motorola-expands-media-mobility-solutions-to-video-service-providers-80907547.html. The Motorola Mover connects to a DVR set-top with a secure IP connection and applies digital rights management rules during the transfer of the content. Once the content is transferred to the Mover, consumers can download it for on-the-go viewing -- on a PC, personal media player, or mobile phone -- without needing a network connection. *See id.*

[10] *See* Comcast Comments, GN Dkt. No. 09-191, WC Dkt. No. 07-52, at 62 (Jan. 14, 2010) ("[I]t is likely that [legacy voice and cable services] will transition completely to IP over time to take advantage of scale economies, enable greater customization by users, and other benefits.").

[11] *See* Motorola Comments at 10 ("IP enables operators and suppliers to reduce costs through the elimination of unnecessary functionalities (such as redundant set-top box tuners) and accelerate the development and deployment of interactive applications (such as widgets and other interactive features)").

deployment of IP networks[12] and re-evaluate costly regulations, like the CableCARD, that potentially stand in the way of such pro-consumer innovation.[13]

Convergence of Television and the Internet

Regardless of whether there is an "innovation gap" in the set-top box marketplace, there is simply no basis for commenters' claims that the convergence of television and the Internet is being hindered. In fact, marketplace evidence suggests the exact opposite. There are a large and growing number of devices available at retail *today* that enable consumers to access Internet content on the television set. The Best Buy web site, for example, lists approximately 50 such devices, including: DVRs from TiVo; an Internet movie player from Vudu; Blu-ray disc players from Insignia, Panasonic, Samsung, and Sony; HDTVs from LG, Mitsubishi, Panasonic, Sony, Samsung, Sharp, and Vizio; and game consoles from Microsoft, Sony, and Nintendo.[14] Consumers can also buy Internet-connected set-top devices from Roku and Apple or connect their TVs directly to their PCs via HDMI, VGA, or other connectors, among other options in the marketplace.

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[12] Motorola provides IP and hybrid QAM/IP set-top boxes to MVPDs, as well as the network equipment that supports IP video distribution. *See, e.g.*, Motorola, "IP Set-Tops," *at* http://www.motorola.com/Business/US-EN/Business+Product+and+Services/TV+Video+Distribution/Customer+Premises+Equipment+%28Set-tops%29/IP+Set-tops (last visited Jan. 22, 2010); Motorola, "Hybrid QAM-IP Set-Tops," *at* http://www.motorola.com/Business/US-EN/Business+Product+and+Services/TV+Video+Distribution/Customer+Premises+Equipment+%28Set-tops%29/ch.Hybrid+QAM-IP+Set-tops.print (last visited Jan. 22, 2010).

[13] The relative absence of navigation devices at retail as compared to mobile handsets at retail does not provide evidence of a set-top box innovation gap either. As Motorola has noted previously in the above-captioned proceedings, there is now clear marketplace evidence that consumers prefer to lease, rather than buy, their set-top boxes. *See* Motorola Comments at 5 ("Leasing a set-top box at a low, monthly charge offers an attractive way for consumers to enjoy advanced services without significant upfront equipment costs; allows consumers to upgrade easily to newer model devices and thereby avoid the risk of equipment obsolescence; and enables consumers to switch from cable to other MVPDs without being inhibited by the sunk cost of purchased equipment."); *see also* NCTA Comments, NBP Public Notice #27, CS Dkt. No. 97-80, GN Dkt. Nos. 09-47, 09-51, 09-137, at 5-7 (Dec. 22, 2009) ("NCTA Comments"). Consequently, relatively few CE manufacturers still build CableCARD devices for retail, while a growing number compete to supply set-top boxes for the lease marketplace. Set-top vendors serving the cable space include, among others, Motorola, Pace, Cisco, Thomson, Samsung, Panasonic, Evolution Broadband, Huawei, EchoStar, ADB, and TiVo. As DIRECTV has noted, leasing is also commonplace in the DBS marketplace. *See* DIRECTV Comments, NBP Public Notice #27, CS Dkt. No. 97-80, GN Dkt. Nos. 09-47, 09-51, 09-137, at 10-12 (Dec. 22, 2009).

[14] *See* Best Buy, *Connect to the Internet for Great Content on Your HDTV*, at http://www.bestbuy.com/site/Electronics+Promotions/Internet-Connectable-Products-Content-Connect/pcmcat187200050020.c?id=pcmcat187200050020 (last visited Jan. 15, 2010). Microsoft, Sony, and Nintendo have already sold over 45 million game consoles that can be used to access Internet content, and industry analysts predict that by 2012 there will be 112 million active game consoles providing such capability. *See* Robert E. Calem, *IPTV: The Picture is Changing*, Consumer Electronics Association, *Vision*, at 14 (November/December 2009), *available at* http://www.nxtbook.com/nxtbooks/cea/vision1109/#/0.

There is every indication that Internet connectivity is fast becoming a standard feature in most HDTVs and other CE devices. According to CEA, "In a year or so, every TV will be wireless."[15] Industry analysts predict that more than 70 million Internet-connected TVs will ship in 2012, up from 15 million in 2009,[16] and that the number of such TVs in the U.S. will reach 80 million by 2013.[17] As one industry analyst noted, the 2010 Consumer Electronics Show "demonstrated that Internet-connected TVs have finally come of age," adding that "compelling new capabilities such as family video calling not only reinforce the TV's central position in the home, but also represent a bold move to reclaim some of the tasks swallowed by the PC."[18]

Industry announcements since the beginning of this year further underscore that consumer options in this area are expanding rapidly:

- Sony announced at CES that its Bravia Internet Video Link, which enables Sony customers to access Internet content from Netflix, Amazon, YouTube, Sony, Yahoo, and others, will be built into televisions with screen sizes as small as 22 inches.[19]

- Netflix estimates that by the end of 2010, its streaming service will be available through over one hundred different consumer devices. Devices that currently stream Netflix content include Blu-ray disc players from Samsung, Sony, and Insignia; the Roku video player; the Xbox, Wii, and PlayStation 3 game consoles; TiVo DVRs; and Internet-enabled TVs from Sony and Vizio.[20]

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15 *See* Kim Hart, *New TV Apps Will Drive Broadband Adoption, FCC Says*, The Hill, Jan. 11, 2010 (quoting CEA spokesperson Megan Pollock), *available at* http://thehill.com/blogs/hillicon-valley/technology/75157-new-tv-apps-will-drive-broadband-adoption-fcc-says.

16 *See* Steve Crowe, *3D, Connected TVs to Explode in 2010*, CE Pro News, Jan. 20, 2010, *at* http://www.cepro.com/article/3d_connected_tvs_to_explode_in_2010/K5.

17 *See* Erik Gruenwedel, *Report: Blu-ray to Drive Web TV Enabled Homes*, Home Media Magazine, Jan. 18, 2010 (citing IMS Research, Parks Associates, and other industry analysts), *available at* http://www.homemediamagazine.com/blu-ray-disc/report-blu-ray-drive-web-tv-enabled-homes-18129; *see also* Comm. Daily, at 17 (Jan. 20, 2010) ("[In-Stat] predicted that more than 500 million Web-enabled CE devices will be used worldwide by 2013 as shipments of them grow seven-fold from 2009 levels.").

18 *See* Steve Crowe, *supra* note 16 (quoting Paul Gray, DisplaySearch Director of TV Electronics Research).

19 *See* Sony Electronics Comments, GN Dkt. No. 09-191, WC Dkt. No. 07-52, at 3 (Jan. 14, 2010).

20 *See* Netflix Comments, GN Dkt. No. 09-191, WC Dkt. No. 07-52, at 2 (Jan. 14, 2010).

- Samsung announced at CES that it is creating an application store that will serve up content to TVs and other devices, and that its partners include Blockbuster, Netflix, YouTube, Twitter, and Picassa.[21]

- Skype is making its VoIP service available on LG and Panasonic TV sets.[22] Vizio has announced that buyers of its TVs can choose from among 25 to 30 applications, and that number will grow into the hundreds by the end of the year.[23]

- A new device from Boxee provides access to content from Hulu and other web sites and offers a two-side remote control with a full QWERTY keyboard for navigating the user interface. The Syabas Popbox can play most file types in 1080p HD, and supports streaming content from Netflix, Revision3, Blip.tv and others.[24]

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21 *See* Wailin Wong, *Consumer Electronics Show: Phones have TV signals, TVs have Internet feeds, computers have a bit of everything*, Chi. Tribune, Jan. 9, 2010, *available at* http://www.chicagotribune.com/business/chi-sat-ces-future-tv-0109-jan09,0,6461777.story.

22 *See id.*

23 *See* Don Clark, *New TV Apps Borrow a Page from iPhone*, Wall St. J., Jan. 8, 2010, *available at* http://online.wsj.com/article/SB10001424052748704854904574644460347513746.html.

24 *See* Nick Mokey, *New Streaming Media Devices for 2010*, Digital Trends, Jan. 19, 2010, *available at* http://www.digitaltrends.com/home-theater/new-streaming-media-devices-for-2010/ (last visited Jan. 21, 2010).

In light of the foregoing, Motorola respectfully requests that the National Broadband Plan describe the innovation that is occurring in the set-top box marketplace and discuss the rapid evolution of the marketplace for Internet-enabled TVs and TV-connected devices.[25] Please contact me if you have any questions regarding this matter.

Sincerely,

/s/ Jason E. Friedrich
Jason E. Friedrich
Senior Director, Broadband Policy
Motorola Global Government Affairs

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[25] The various devices referenced in this section enable consumers to access Internet content with a broadband connection and without having to subscribe to MVPD service. To the extent the Task Force believes that consumers should have the ability to access MVPD and Internet content in a single device, consumers already can do so by toggling between different video sources connected to their television sets. HDTVs typically have multiple connectors to support a wide range of devices, such as set-top boxes, DVD players, game consoles, and home theater systems. Furthermore, CE manufacturers also have the option of building one-way and tru2way devices that can access both Internet and cable content without the need for a set-top box. *See* NCTA Comments at 17-21; *see also Ex Parte* Letter from Peter M. Fannon, Vice President, Panasonic, to Marlene H. Dortch, Secretary, FCC, CS Dkt. No. 97-80, PP Dkt. No. 00-67 (Dec. 2, 2009) (describing Panasonic's tru2way retail product).