

**Before the
Federal Communications Commission
Washington, D.C. 20554**

Implementation of Section 304 of the Telecommunications Act of 1996)))	CS Docket No. 97-80
International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act))))	GN Docket No. 09-47
A National Broadband Plan for Our Future))	GN Docket No. 09-51
Development 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))))))))	GN Docket No. 09-137

**Comments of the
Consumer Electronics Association
On NBP Public Notice # 27**

December 21, 2009

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As the principal U.S. trade association of the consumer electronics and information technologies industries, the Consumer Electronics Association (“CEA”) welcomes, and is vitally interested in, NBP Public Notice # 27. CEA’s approximately 2,000 member companies include the world’s leading manufacturers of both Broadband and home audiovisual products. CEA has long been committed to the parallel goals identified by the Commission in Public Notice # 27: (1) Expanding the availability of Broadband services, for which home devices are generally available on a competitive basis, to more of the U.S. population; and (2) bringing navigation device competition to MVPD services, which reach more of the population but have not benefited from device competition to the extent that the Congress and the Commission have intended. CEA agrees with the Commission that now is the time that these objectives need to coalesce.

Introduction and Summary

CEA agrees with and endorses the premises of NBP Public Notice # 27: (1) that the national goals of broadband service availability and competitive MVPD device availability are related, and (2) that availability of broadband services will be enhanced by achieving competition in the market for audiovisual devices that connect to MVPD networks.

A consensus now appears, ranging from public interest groups¹ to and including the NCTA,² that the FCC should take vigorous action to update and enforce its regulations implementing Section 629³ of the Communications Act. In these Comments, CEA urges the Commission to act expeditiously as follows:

- The single FCC action that would most likely *assure*⁴ a competitive market for devices operating on MVPD networks, comparable to the market for devices operating over the Internet, is to require each MVPD to offer to each subscriber a home gateway server whose *sole* function, like that of an Internet modem, is to support the operation of the subscriber's competitive devices, on a home network.⁵
 - To support meaningful device competition, MVPD home network servers must, like Internet modems and routers, be standards-based, bidirectional in nature, and support both upstream messaging and secure storage on the network.

¹ *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Dkt. No. 97-80, GN Dkt. Nos. 09-47, 09-51, 09-137, Petition for Rulemaking of Public Knowledge, Free Press, Media Access Project, Consumers Union, CCTV Center for Media & Democracy, Open Technology Initiative of New America Foundation (Dec. 18, 2009).

² *In the Matter of Video Device Innovation, NBP Public Notice # 27*, GN Docket Nos. 09-47, 09-51, 09-137, CS Dkt. No. 97-80, letter from Kyle McSarrow, NCTA to Carlos Kirjner, Sr. Advisor to the Chairman on Broadband, FCC, and William Lake, Chief, Media Bureau, FCC Re: GN Docket Nos. 09-47, 09-51, 08-137; CS Dkt. No. 97-80 (Comments – NBP Public Notice # 27) (Dec. 4, 2009) (“McSarrow letter”).

³ 47 U.S.C. § 549. Section 629 [new section 629 to the Communications Act of 1934] was adopted as part of the Telecommunications Act of 1996, Pub. L. No. 104-104, § 304, 110 Stat. 56.

⁴ “The Commission shall, in consultation with appropriate industry standard-setting organizations, adopt regulations to *assure* the commercial availability, to consumers of multichannel video programming and other services offered over multichannel video programming systems, of converter boxes, interactive communications equipment, and other equipment used by consumers to access multichannel video programming and other services offered over multichannel video programming systems . . .” (emphasis added), *id.*

⁵ Accordingly, CEA endorses the FCC's suggestion to this effect in its public statement of December 16, 2009. See *National Broadband Plan Policy Framework*, FCC Open Meeting at 20 (Dec. 16, 2009).

- Hence, any home network interface of an MVPD supplied and licensed product must be bidirectional and support storage devices and upstream signaling.
- To facilitate broadband adoption and consumer choice, data shared over the home network interface must include Electronic Program Guide (“Guide”) data, so consumers can choose between Internet content and MVPD offers in the same user interface.
- MVPDs must and should remain free *also* to provide leased set-top boxes to those subscribers who request them. However:
 - MVPD set-top boxes must *also* provide server functionality, as per above, for a subscriber’s home network devices.
 - To the extent the Commission continues to allow MVPDs to subsidize the leasing of devices to consumers with revenues from services or from other devices, an equivalent subsidy must be offered to subscribers who choose competitive devices instead.
- Cable operators must continue to support direct attachment to their networks via products that rely on CableCARDs.
 - MSOs must raise their level of license and field support for subscribers’ CableCARD-reliant devices to that envisioned by Section 629 and the Commission’s regulations.
 - The official and unofficial forbearance shown to other MVPDs in such respects should be ended.
- The Commission, with the open “Year 2000 Review”⁶ and 2007 Further Notice of Proposed Rulemaking⁷ proceedings in CS Docket No. 97-80, should proceed directly and expeditiously to a Notice of Proposed Rulemaking to accomplish these objectives.

⁶ *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Dkt. No. 97-80, Further Notice of Proposed Rulemaking and Declaratory Ruling (rel. Sept. 18, 2000).

⁷ *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices; Compatibility Between Cable Systems and Consumer Electronics Equipment*, CS Dkt. No. 97-80, PP Dkt. No. 00-67, Third Further Notice of Proposed Rulemaking (rel. June 29, 2007) (“Third FNPRM”).

Discussion

CEA, along with consumer electronics retailers and others, has long argued that the Commission should view Congress's mandate, in Section 629 of the Communications Act, as a vital component in the *deregulation* of media. The cable industry, for example, began with more than 1,000 locally granted franchises, with disparate approaches to technology as well as to commerce. Only by borrowing standards from the broadcast industry (*e.g.*, the NTSC standard, and later MPEG encoding) did the cable industry become sufficiently uniform to consolidate into MSO networks of regional and national scope. Yet, despite the uniformity achieved on the service side, the market for navigation devices remained dominated by the service industry, as regulated by the FCC. It was the FCC's longstanding toleration of device monopolies that the Congress addressed twice – first in Section 624A, in the 1992 cable deregulatory legislation,⁸ and again, as television moved into the digital age, in Section 304 of the 1996 Telecommunications Act (Section 629 of the Communications Act).⁹

Section 629 is remarkably explicit. It requires the Commission to consult with standards organizations and then to *assure*, in its regulations, the commercial availability of navigation devices, from manufacturers and vendors *not* affiliated with the service provider. Thirteen years later, no such assurance has been realized. CEA could cite to a long record of delay and inaction. It seems more productive, however, to endorse the present FCC Broadband initiative, and to offer to work constructively and expeditiously with the Commission, other stakeholders, and public interest groups to achieve, finally, the level of assurance that the law requires.

⁸ Cable Television Consumer Protection and Competition Act of 1992, Pub. L. No. 102-385, §17, 106 Stat. 1460 (Oct. 5, 1992), codified at 47 U.S.C. 544.

⁹ 47 U.S.C. § 549.

Questions Posed By The Commission

A. What technological and market-based limitations keep retail video devices from accessing all forms of video content that consumers want to watch?

As the Commission observes, the Internet benefits from “myriad devices” made by hundreds of independent manufacturers (and sold competitively at retail), while there is not yet *any* retail device that can access all of an MVPD’s services over that MVPD’s entire footprint. CEA believes that the first key – as per the opening words of Section 629¹⁰ – remains nationally portable technical standards. The NCTA,¹¹ in agreeing that the FCC must do more to implement Section 629, has pointed out that the cable industry after its birth did *not* move to a nationally interoperable set of standards and protocols, as the telephone industry did in its early decades. Hence, regulations such as existing Sections 76.1200 - 1205 that require only “attachment” to MVPD networks could not, and ultimately did not, accomplish what the courts and the FCC accomplished with *Carterfone*¹² and Part 68.¹³

The initial local franchise nature of some MVPD networks is an explanation but not an answer. MVPDs have had ample time, occasion, and opportunity to achieve nationally standard platforms. In moving to or initiating digital services, MVPDs could and should have complied with Section 629 by adopting technical standards and protocols that would equitably support competitive entrant devices. This is what the

¹⁰ *Id.* “The Commission shall, *in consultation with appropriate industry standard-setting organizations*, adopt regulations to assure the commercial availability, to consumers of multichannel video programming and other services offered over multichannel video programming systems, of converter boxes, interactive communications equipment, and other equipment used by consumers to access multichannel video programming and other services offered over multichannel video programming systems . . .” (emphasis added).

¹¹ McSarrow letter.

¹² *Carterfone*, 13 F.C.C.2d. 420 (1968), *recon. denied*, 14 FCC 2d 571 (1968).

¹³ 47 C.F.R. pt. 68.

congressional sponsors anticipated.¹⁴ But by initially focusing on standards only for *access*, neither the MVPDs nor the FCC aimed high enough.

The second key for allowing retail devices to work on MVPD networks as flexibly as they do on the Internet is to rely more heavily on the same Internet protocols. Again, however, by focusing only on “access,” the FCC left shut the proprietary doors that made this impossible – effectively sealing off competitive devices from forming a home network that is interactive with MVPD services.

1. What limitations prevent consumer electronics manufacturers from developing a true “plug-and-play” device that is network agnostic?

Prior to and since the passage of Section 629, there have been three primary challenges that *must* be overcome for a retail device to work on an MVPD network in the same way that retail devices work over the Internet:

- *Conditional Access* – a standard and secure interface to allow a competitive device to be authenticated to the network, and to receive encrypted content so as to allow the consumer to use it to the full extent of her subscription and usage rights.
- *Feature and Function* – a means by which, after conditional access, the home device will process programming, services, and data, and integrate these with other material or rights owned or obtained by the consumer. In an interactive device this will include running applications downloaded from the network, and upstream signaling.
- *Home Network Service* – providing for a server (analogous to a cable modem) to expose content and data from the network to competitive retail devices in the home, and passing on searches and commands from these devices to the network.

Conditional access. The FCC did focus on standard network access to cable systems, and did achieve what should have been a workable solution. The CableCARD provides a nationally standard and portable conditional access solution for cable MVPDs

¹⁴ See, e.g., 141 Cong. Rec. E635-01 (daily ed. Mar. 21, 1995) (statement of Rep. Bliley).

that by now – eight years after the Commission required CableCARDs to be offered to consumers – *should* work reliably, nationally, and portably. CableCARDs by now also should be inexpensive for manufacturers to accommodate in devices, for cable operators to offer, for retailers to feature, and for consumers to install. Yet, as CEA has extensively documented¹⁵ and the Commission and courts have recounted,¹⁶ there is a sorry record of poor or nonexistent cable industry support for this interface. The result has been that manufacturers and retailers have been unable to recoup their investment in this interface as a *feature*, and instead have anticipated consumer disappointment at the reluctance of cable operators to support consumer CableCARD-reliant devices, and their lack of investment in an infrastructure to do so.

Hence, conditional access – which technologically was “solved” a decade ago – has continued to be an obstacle to this very day.¹⁷ Only products that *must* use a CableCARD in order to work in high definition on a cable system (TiVo and Digeo DVRs) have persisted in relying on CableCARDs under the laboriously negotiated and implemented “Plug and Play” negotiations and regulations of 2002 -2003.

¹⁵ *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Dkt. No. 97-80, Comments of the CEA on NCTA Downloadable Security Report (Jan. 20, 2006); *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Dkt. No. 97-80, letter from Julie M. Kearney, Sr. Dir. and Reg. Counsel, CEA to Marlene H. Dortch, Sec., FCC Re: Notice of Ex Parte Presentation (Mar. 23, 2006); *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Dkt. No. 97-80, letter from Robert S. Schwartz, Constantine Cannon LLP, Counsel to CEA to Marlene H. Dortch, Sec., FCC Re: Notice of Ex Parte Presentation (Mar. 24, 2006); *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Dkt. No. 97-80, letter from Julie M. Kearney, Sr. Dir. and Reg. Counsel, CEA to Marlene H. Dortch, Sec., FCC Re: Ex Parte Presentation (Aug. 7, 2006).

¹⁶ *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Dkt. No. 97-80, Second Report and Order ¶ 39 & n.162 (Mar. 17, 2005) (“2005 Deferral Order”); *Charter Communications v. FCC*, 440 F.3d 31, 40 – 44 & n.10 (D.C. Cir. 2006).

¹⁷ See, e.g. http://news.cnet.com/8301-13506_3-10357724-17.html.

The Commission, having twice postponed¹⁸ the “common reliance” requirement¹⁹ for cable MSOs *also* to rely on CableCARDs, finally let this requirement take effect on July 1, 2007. By this time, however, except for a few newly introduced “tru2way” products that are not yet nationally supported, only the TiVo and Digeo DVR competitive products still relied on CableCARDs. Thus – no matter how other challenges are addressed, it remains vital that the Commission, in its regulations, *assure* that (1) CableCARDs are freely offered, expeditiously installed, and well supported, and (2) any successor conditional access system, such as “downloadable security,” provide an interface that is also nationally standard and portable.²⁰

DBS operators have a national footprint and, initially, supported a retail device market with the aid of security cards provided with the product at retail. Thus, in focusing on its cable challenges, and in not initially seeking any all-MVPD solution, the Commission in 1998 extended forbearance to DBS providers.²¹ Telco and other IPTV

¹⁸ 2005 Deferral Order ¶ 1 & n.1, ¶ 3.

¹⁹ 47 C.F.R. § 76.1204(a)(1).

²⁰ One of the reasons advanced for the common reliance delay was an NCTA promise to come forward with a “downloadable” security system that would be a more efficient nationally portable interface. *See In the Matter of Nat’l Cable & Telecom. Ass’n Request for Waiver of 47 C.F.R. § 76.1204(a)(1), CSR-7056-Z, CS Dkt. No. 97-80, Request for Waiver at 9 (Aug. 16, 2006).* “[I]t is also now clear that the cable industry is strongly committed to the earliest possible development and implementation of its downloadable security solution, the Downloadable Conditional Access System”). This has not eventuated. Moreover, several other purveyors of “downloadable” systems that are NOT nationally standard and portable have come forward to request waivers – some effectively for *all* Section 629 obligations – on the basis of offering a “downloadable” technology. This trend threatens the progress already made in this area. *See In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices, CS Dkt. No. 97-80, CSR-7131-Z, letter from Julie M. Kearney, Sr. Dir. and Regulatory Counsel, CEA to Marlene Dortch, Sec., FCC, Re: Ex Parte Presentation, CS Dkt. No. 97-80, CSR-7131-Z (Apr. 24, 2006); In the Matter of Evolution Broadband, LLC Petition for Waiver of 47 C. F. R. § 76.1204(a)(1), CS Dkt. No. 97-80, CSR-7902-Z, Opposition of the Consumer Electronics Association to Evolution Broadband, LLC Petition for Waiver of 47 C. F. R. § 76.1204(a)(1) (Jun. 16, 2008).*

²¹ *Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices, Report and Order, CS Dkt. No. 97-80 ¶¶ 64-66 (rel. June 24, 1998).* In launching a new digital service, DBS providers did provide for nationally standard and portable conditional access, and did support a vibrant market in retail devices. The decision to move away from support of competitive devices, thereafter, was apparently business rather than technology driven. The result has been non-

systems have sought, and provisionally received, waivers from CableCARD reliance, without the Commission addressing, in its regulations, how compliance will ultimately be achieved. Therefore, the task of achieving a common, standard, and nationally portable security interface for satellite and telco systems is a new challenge as to which CEA and others have urged the Commission to conduct, expeditiously, a pan-MVPD rulemaking.²²

Navigation features and guides. It has been a hard lesson that providing *access* to an MVPD network does not assure that a competitive device will *function* on the network. As the NCTA has recently admitted, more must be done, because cable MVPDs began with technically disparate networks and have not fully committed to standards in the digital age.²³ The next step after standardizing *access* is to assure that the technologies necessary to run *applications* for ordering and supporting MVPD programming and services will be (1) made available in a timely fashion, and (2) licensed on reasonable and non-discriminatory terms, to makers of competitive entrant devices.

Since the passage of Section 629, the cable industry through CableLabs has made licenses available on only two bases: (1) for “one-way” devices that are not licensed to interact with the headend for subscription services, and (2) for “two-way” devices that are licensed under limiting terms. With respect to the goals identified by the Commission in

compliance with Section 629. Accordingly, as part and parcel of the Commission’s re-invigoration and modernization of its Section 629 regulations, this forbearance should end.

²² See *In the Matter of Petition of Lafayette City-Parish Consolidated Government of Lafayette, Louisiana, d/b/a Lafayette Utilities System, for Waiver of Section 76.1204(a) of the Commission’s Rules, Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CSR-8152-Z, CS Dkt. No. 97-80, Comments of the CEA on Lafayette Utilities System Petition for Waiver at 1-2 (Mar. 25, 2009); *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Dkt. No. 97-80, CSR-7078-Z, letters from Adam Goldberg, NagraVision USA, Inc. to Marlene H. Dortch, Sec., FCC Re: Notice of *Ex Parte* Presentation, CSR-7078-Z, CS Dkt. No. 97-80 (Apr. 30, May 5, 2009); *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Dkt. No. 97-80, letters from James W. Hedlund, Vice President, Regulatory Affairs, CEA to Marlene H. Dortch, Sec., FCC Re: Notice of *ex parte* presentation in: MB Dkt. No. 97-80 (Apr. 9, 16, 2009) (four separate letters).

²³ McSlarrow letter.

NBP Public Notice # 27, it is significant that CableLabs has *never* offered any license that would allow entrant devices:

- To communicate with the MVPD headend via standard TCP/IP protocols, as over the Internet, or
- To receive interactive Guide data so that the device maker may integrate offers of the operator's programming into a display that includes offers from other sources.

As a result, "one-way" devices, such as TiVo and Digeo DVRs, that integrate Internet offerings into their own menus, must be sold with *no* interactive Guide, and two-way devices must offer any Internet-related program or service on a user interface separate from the offerings of "cable" programming. The obstacles posed by these limitations, and the alternatives that have been offered and rejected, have been discussed in CEA filings of record.²⁴ CEA has also pointed to obstacles posed by disparities in testing applications for download to two-way devices. CEA has also argued that the CableLabs license terms exceed the control that even the present and insufficient existing FCC regulations allow MVPDs to exert over entrant devices.²⁵

Home networking. There are "myriad" devices operating over the Internet because they all can communicate bi-directionally with a standard server or "gateway" device – *e.g.*, a cable modem. No such gateway device, which like a cable modem (1) has no other function than to act as a server for competitive devices, and (2) may also be provided by competitive entrants according to standard specification, has ever been available from an MVPD. In other words, MVPDs, with the FCC's blessing, have continued to lock consumers and competitors into the "set-top-box" mode that routinely

²⁴ See, *e.g.*, *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices; Compatibility Between Cable Systems and Consumer Electronics Equipment*, CS Dkt. No. 97-80, PP Dkt. No. 00-67, Consumer Electronics Association Comments on Third FNPRM at 11-13 (Aug. 24, 2007) ("CEA Comments").

²⁵ *Id.*

frustrates both consumers and competition. As early as 1994, Rep. Ed Markey chaired a hearing devoted to why set-top boxes acted as “gatekeepers” rather than gateways. At this hearing, Chairman Markey presciently tied MVPD networks and devices to the “information superhighway” that has otherwise become identified solely with the Internet:²⁶

The set-top box will become the critical interface between the highway and the consumer. It is the consumer’s on ramp to this information superhighway. I think we should all agree, and do all agree that it should be open, that consumers should be able to access the information and programming of their choice, and that *diverse providers as well can reach consumers*. It should also optimally be interoperable with other systems, or portable *** I have drafted legislation that asked the FCC to explore the implications posed by the set-top box and to identify the important proconsumer and precompetitive attributes that the *set-top box interface* must embody. *** [W]e have to ensure that the set-top box not become a roadblock in the future of the information superhighway.

If the Internet is to be a model for device support, and if consumers are to have choices in both devices and service providers, there is no reason for MVPDs to continue to offer *only* devices that also “bundle in” support for audiovisual display and DVR recording, and that exclude access to other services. While Section 629 protects the right of MVPDs to offer such set-top hardware bundles, there is no reason that the Commission, if it is to *assure* system access for competitive devices, cannot require MVPDs also to offer gateway devices that, like cable and telco modems, act *only* as a server for competitive devices, through standard Internet protocols. The absence of any such device has been a major reason why there is a paucity of retail devices that can send commands to, and receive programming and data from, MVPD networks.

²⁶ National Communications Infrastructure (Part 2): Hearing on H.R. 3626 and H.R. 3636 Before the Subcomm. on Telecommunications and Finance of the H. Comm. on Energy and Commerce, 103rd Cong. at 386 (Feb. 1, 1994) (statement of Subcomm. Chairman Markey) (emphasis added).

In addition to offering sole-function gateway devices, MVPDs must also support home networking, through interfaces from their set-top boxes, on a standardized, non-proprietary, and meaningful basis. MVPDs thus far have failed to do so:

- MVPDs, despite participation in home network standards-related groups such as DLNA, have failed to augment the one-way, non-recordable HDMI interface, whose sole utility is to support display, with support for any additional bidirectional, recordable interface that supports secure local storage and upstream signaling.
 - Cable MSOs have not honored their obligation to provide such support to the IEEE 1394 interface, as is required by 47 C.F.R. § 76.640(b)(4)(i). Proponents of this interface have complained for years about this non-support, and, more recently, the Commission has been urged to require MSOs instead to support an Ethernet, IP-based interface.
 - Telco-based MSOs have shown more willingness to proceed to a gateway server based regime that would give adequate support to the bidirectional operation of home network devices on their networks.²⁷
2. What technical or market limitations keep certain video devices from accessing video services to which a consumer has subscribed?

One consequence of an “access only” market in competitive devices has been to leave consumers who purchase competitive entrant devices unsure of support for their features and functions, and even for receipt of programs for which they pay monthly subscription fees. The Commission has aggravated this situation by *reversing* enforcement initiatives aimed at keeping promises to these consumers.

A prominent example of both insufficient standardization and insufficient reach of existing FCC regulations is the consequence of cable operators’ moves to “switched digital” programming. To save bandwidth, some cable operators have made certain “subscription” channels available only when a subscriber on a “loop” has attempted to tune one of the programs via interactive means. Once the first subscriber has tuned in,

²⁷ *Principles for the Attachment of Devices to IP-enabled Video Service Provider Networks*, http://www.ce.org/Press/CurrentNews/press_release_detail.asp?id=10967 (“2006 Statement of Principles”).

other local subscribers seeking the same offering are directed to the same channel. This approach shuts out consumers who in good faith have purchased devices sold pursuant to the 2003 “Plug & Play” regulations, and who pay for the right to receive these channels. They cannot get what they have paid for because their devices can neither “request” one of these channels, nor find it if offered.²⁸

The example noted above is more of a “market” limitation than a technical one, in the sense that, going back at least a decade, CEA members have made, and CableLabs and its members have rejected, proposals for standardized protocols to request programming in such circumstances. Cable operators, the NCTA, and CableLabs have insisted on an “all or nothing” approach that has resulted in the “one way” and “two way” demarks that, as is discussed above, severely limit the attraction of consumer-owned set-top cable navigation devices that can also offer Internet-based programming and services.

The failure of MVPDs to offer any server devices to securely expose programs and data from the MVPD network, and to transmit searches and commands from competitive devices back up the network, has also impaired the growth of any market for competitive devices.

²⁸ See *In the Matter of Oceanic Time Warner Cable, et al.*, File Nos. EB-07-SE-351, EB-07-SE-352, NAL Acct. Nos. 20083210074, 200932100001, 200932100002, 200932100003, 200932100008, and 200932100023, Petition for Reconsideration or Clarification of TiVo Inc. (July 27, 2009); CEA Comments in Support (Aug. 26, 2009). Nominally “one way” devices actually have “two-way” capabilities built in, as do the CableCARDS on which they rely. But the CableLabs license for such devices does not allow these capabilities to be linked in the devices as designed.

3. With respect to Internet access, consumers can purchase or lease interface devices (for example, cable modems) that perform all of the network-specific functions and connect via Ethernet ports to a multitude of competitively provided consumer devices including computers, printers, game consoles, digital media devices, wireless routers, refrigerators, network storage devices, and more. What technical or market limitations prevent video content distributors from providing similar devices that allow for innovation in the navigation device market?

In addition to the Cable industry's license-based constraints discussed above, the Commission itself has discouraged competitive entry by effectively reading the anti-bundling provision of Section 629 out of the law, and granting MVPDs plenary power to react to competitive entry by subsidizing leased devices with revenue from services or other classes of devices. Consumer electronics interests have complained about this policy for a decade but have been unsuccessful in achieving equity for consumers who purchase competitive entrant devices. The Commission's failure to achieve equity has had its greatest impact on standalone devices, as to which cable MSOs are free to offer comparable devices for lease rates that are, at bottom, arbitrarily set.

Section 629(a) provides, *inter alia* (emphasis added):

... Such regulations shall not prohibit any multichannel video programming distributor from also offering converter boxes, interactive communications equipment, and other equipment used by consumers to access multichannel video programming and other services offered over multichannel video programming systems, to consumers, if the system operator's charges to consumers for such devices and equipment are separately stated ***and not subsidized by charges for any such service.***

Consumer Electronics companies have repeatedly proposed measures that, without contravening another section added to the Communications Act in the same legislation,²⁹ would give *all* consumers the benefit of allowed subsidies, irrespective of

²⁹ Section 543(a)(7)(A) provides that, "The Commission shall allow cable operators . . . to aggregate, on a franchise, system, regional, or company level, their equipment costs into broad categories, such as converter boxes, regardless of the varying levels of functionality of the equipment within each such broad category."

whether their device is procured competitively or leased.³⁰ The lack of action on these proposals has meant that competitive entrants offering standalone devices must expect to face bundled devices whose users benefit from subsidies not available to owners of competitive products.

The bundling capacity, and ability to shift costs among device categories, could also be used to discriminate against consumers in the event that MVPDs provide gateway-server devices as discussed above. Under existing FCC regulations, an MVPD could slash the price of its own set-top boxes and DVRs, and jack up the price of the gateway servers on which competitive entrant devices would rely.

B. Would a retail market for network agnostic video devices spur broadband use and adoption and achieve Section 629's goal of a competitive navigation device market for all MVPD's?

Network-agnostic devices, available at retail and usable on any type of MVPD system, would encourage broadband use *and* could help achieve a competitive navigation device market. A network-agnostic device standard would maximize consumers' ability to receive video from the subscription services of their choice, or from the Internet, to view all such content through the user interface of their choice, and to change video providers without investing in new equipment.

As CEA has pointed out in previous submissions, the retail market for video devices is national in scope, and devices that cannot be sold nationally to a broad population of consumers are at a severe disadvantage. Thus portability – the ability of consumers both to move and to change MVPDs without forfeiting their investment in

³⁰ See, e.g., *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Dkt. No. 97-80, letter from Leonard H. Roberts, Chairman and CEO of RadioShack and W. Alan McCollough, President and CEO of Circuit City, et al. to Chairman Powell, FCC Re: Commercial Availability of Navigation Devices (Apr. 16, 2001).

devices – is an inescapable prerequisite to a competitive retail market. The ability for retail-purchased devices to have access to data and programming from, perform searches on, and have remote control commands relayed to MVPD systems will afford home entertainment devices the same sort of flexibility as occurs on the Internet. It is also vital for competitive navigation devices to have network-agnostic access so as to be able to download enhancements and “bug fixes” pertaining to their ability to work on MVPD systems, just as MVPDs download such information to their own leased devices.

1. How could the Commission develop a standard that would achieve a retail market for devices that can attach to all MVPD networks and access Internet-based video sources?

In 2006, CEA was joined by prominent IPTV service providers in a Statement of Principles³¹ that envisioned movement to a gateway approach that would allow consumers to choose among MVPD networks and would allow their devices to operate on different networks. This Statement of Principles included these major and essential points:

“Home networking attachment requires all IP-enabled service providers to support a common and mutually agreed upon set of home networking standards in leased equipment. Except to protect against electronic or physical harm to the network or unauthorized receipt of services, no technical specification, license, subscriber agreement, or other requirement should prevent consumers from accessing services across personal home networks.” ***

“The use of open standards is critical so that CE manufacturers can play a role in the development of technologies necessary to build compatible devices. In this context an open standard is a standard developed in a forum that: (1) allows meaningful participation by all interested parties, (2) requires consensus (though not necessarily unanimous) decision making, (3) affords due process rights to all participants, and (4) openly discloses licensing terms which are at least reasonable and non-discriminatory.” ***

³¹ 2006 Statement of Principles.

“To the extent that there are proprietary aspects to IP-enabled video service networks, reasonable and non-discriminatory licensing terms should be available so that both CE manufacturers and video service providers are not unreasonably constrained from including necessary technologies within their respective products in order to ensure that CE devices can be connected to IP-enabled video networks, consistent with the other principles outlined herein.”

“Further, licenses for these technologies should not impose unrelated or unnecessary burdens on licensees, such as the inclusion or exclusion of additional features in products that are separate from the features related to accessing the services provided by the service provider.” ***

“Service terms and conditions should reasonably allow consumers to choose among various CE products to access their video services as long as such products do not cause electronic or physical harm to the network and do not enable unauthorized receipt of service. Subscriber agreements should allow the attachment of devices that meet the technical, licensing, and testing/approval criteria described herein.”

MVPD systems by the traditional telephone companies are making increased use of standards, mostly IP-based.³² DBS providers have also shown some openness to supporting a home network gateway approach. In the Commission’s 2007 Notice of Proposed Rulemaking on bidirectional compatibility, there was a consensus among many of the commenters, including CEA, NCTA, and EchoStar, that Section 629 calls for a competitive retail market for navigation devices for all types of MVPD, *and* that common interfaces, or gateway servers operating on a standardized home network, are ways to accomplish this.³³ EchoStar laid out a possible roadmap for a standard that would encompass DBS systems, albeit with some DBS-specific hardware.

³² The work of the IPTV Interoperability Forum of the Alliance for Telecommunications Industry Solutions is summarized at <http://www.atis.org/IIF/index.asp>.

³³ See *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices; Compatibility Between Cable Systems and Consumer Electronics Equipment*, CS Dkt. No. 97-80, PP Dkt. No. 00-67, Comments of the National Cable and Telecommunications Association at 74-75 (Aug. 24, 2007); Comments of EchoStar Satellite L.L.C. at 3-5 (Aug. 24, 2007); CEA Comments at 13-15.

Building on industry experience with the Commission's rules pertaining to CableCARDs, and based on the principles endorsed in 2006 by CEA and major telco MVPDs, the essential requirements for a network-agnostic device standard are:

- (1) MVPDs must make such a device available to subscribers on request, and fully support its use;
- (2) Competitive entrants must be able to bring devices to the retail market with the same functionality as MVPD-supplied devices; and
- (3) MVPDs may not, by license or otherwise, restrict innovation in competitive devices except to prevent narrowly-defined *physical or electronic harm* or theft of service.

So long as these requirements are upheld, the Commission need not decide what technologies the gateway itself will use, subject to the requirement that the technology can be licensed to competitive entrants pursuant to Section 629.

As in the case of Internet home servers, an MVPD gateway server would expose MVPD content and data to competitive devices on the home network, and relay inquiries and commands back to the MVPD. By requiring that such servers be provided to subscribers, the Commission will have achieved the crucial objective that retail devices supported by the gateway server are functioning “on” the network, just as several PCs, operating through a home's modem and wireless router, would each be considered to be “on” the Internet. This appears to be the “home broadband service” model to be discussed further in Part C.

CEA believes that in the interests of transparency and competition, specifications for MVPD-specific gateway servers (or “network interface” units as referred to in D.3) should *also* be licensed – so that the MVPD *must* supply such units, but competitive entrants *can* supply them.

2. What are the pros and cons of each of these types of solutions, and which one would do the most to promote broadband adoption and utilization? Would any inhibit broadband adoption and utilization?

If the approach is to be via a common interface for all navigation devices, CEA recognizes that the technical, business, and coordination challenges in creating a network-agnostic video device are much greater than a similar effort for QAM-based digital cable systems alone. A network-agnostic standard allowing for true portability across MVPD technologies, providers, and geographic regions will take longer to develop than a similar cable-only standard. Therefore, while such a standard, and implementing regulations, are in development, it is imperative that the Commission not undermine the existing rules requiring common reliance on a separable security device (the CableCARD).

A solution that relies on each MVPD to supply and support gateway servers would require each competitive device to rely on the specification, the server, and the support from the MVPD. As the Commission notes, this has not been a major problem with respect to the broadband Internet. However, in the case of the Internet, cable and telco broadband providers each started from zero market share, so were impelled to field reliable and user-friendly solutions. In the case of MVPD services, each provider begins with captive customers. The consumer electronics experience has been that in such circumstances, it is much more difficult for subscribers who rely on competitive products to receive equitable treatment. Therefore, guarding against discrimination in terms of device specification, connection, function, and cost, will be vital.

Fundamentally, network interface “servers” must enable competitive devices to do anything the MVPD-captive set-top devices can do. If this is not achieved, the MVPD will have a reduced incentive to support the use of competitive products (as occurred with

“one-way” Plug-and-Play products), and the competitive products will fail, or will have only limited attraction in the marketplace.

C. Can the home broadband service model be adapted to allow video networks to connect and interact with home video network devices such as televisions, DVRs, and Home Theater PCs via a multimedia home networking standard?

As is noted above, the home broadband service model can be adapted to interact with home video network devices under regulations that offer adequate protection to consumers. CEA answers more specifically in subpart 3, below.

1. Are DLNA and HANA the only home networking standards that the Commission should consider in reviewing this model? If not, which other standards should the Commission consider?

CEA, as a trade association, is host to ANSI-accredited standards committees. CEA addresses the relative merits of technologies or consortia only in discussions of policy, or in conveying facts as to the marketplace or member practices. In these respects, CEA notes that many CEA members, and many industry groups, are participants in DLNA, and that DLNA specifications reference several CEA, ANSI-accredited standards. HANA specifications also reference CEA standards. CEA notes that the HANA Alliance was dissolved earlier this year. However, HANA materials are maintained by the 1394 Trade Association.³⁴ CEA members agree that DLNA provides a functional example of an approach to home networking based on open standards.

2. What are the strengths and weaknesses of each home networking standard?

CEA believes that this evaluation should occur in the context of a Notice of Proposed Rulemaking, which CEA urges the Commission to undertake expeditiously. CEA believes that the issue of home networking has been sufficiently addressed in the

³⁴ <http://www.hanaalliance.org/about/HANA/MemoFromThePresident.pdf>

open 2007 Third FNPRM on navigation devices and otherwise in CS Docket No. 97-80 that the interim step of an NOI is not necessary.

3. Would any of these standards allow consumers to use existing technology? For example, many devices already in consumers' homes can accept firmware upgrades and are already DLNA or HANA certified. Could the Commission adopt a network interface standard that allows those devices to connect to an MVPD network?

Yes, *if and only if*:

- Consistent with their practice in providing broadband modems, each MVPD must provide to subscribers (and license specifications to manufacturers for a gateway server whose only function is to expose programming and data, including Guide data, from the network to the home video devices, and to transmit searches and commands from the home video devices to the network.
- MVPDs are to be constrained in FCC regulations from discriminating technically or economically against subscribers who rely on using home video network devices through gateway servers rather than through operator-provided devices that directly support viewing and recording, such as operator-provided set-top boxes and DVRs.

CEA urges the Commission to solicit specific public comment on these points, expeditiously, in an NPRM.

D. What obstacles stand in the way of video convergence?

As is discussed above, both CEA and NCTA appear to agree that regulations focused on a mere *right to attach* to MVPD networks would remain insufficient to assure competitive entry, as the Congress has commanded.

First: The Internet operates via standard protocols for two-way, real-time communication between a myriad of home devices (not just one “set-top box”) and the network. Until video home network devices can communicate, directly or through a server, in the same fashion, they will remain second fiddle alternatives.

Second: Because MVPDs started with no captive customers for broadband modems, and because they were not in a position to offer their own leased devices in

competition with PCs, video cameras, games, *etc.*, MVPDs by and large have not discriminated, economically and technically, against retail devices for use on the Internet. The same non-discrimination – technically and with respect to subsidies – is necessary for home network video.

Third: Convergence for video and Internet devices will be accelerated to the extent that home video devices communicate with all networks via Internet protocols, either directly or through a gateway server.

1. Given the flood of video content that is now available from a multitude of sources, what obstacles stand in the way of allowing consumers to navigate those sources? What can the Commission do to eliminate those obstacles?

The Commission, based on response to this Public Notice, will have enough information, and should issue, an NPRM, and then proceed expeditiously to a Report and Order as per discussion above, and the public comments received.

2. Is there a solution that would allow MVPDs to continue innovating without making navigation devices obsolete when MVPDs adopt incompatible delivery methods?

The solution discussed at C.3 promises to be one such solution.

3. Would a network interface solution address the concerns raised regarding cost and complexity of device certification and approval? Why or why not?

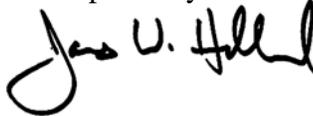
Any technical and licensing solution left in the sole discretion of the MVPD and/or an MVPD consortium is potentially subject to device certification and approval gatekeeper conduct. Any implementation and support regime left in the sole discretion of the MVPD is potentially subject to the non-support and dis-incentive issues that have plagued the technically standard CableCARD. However, a regulation that defines an MVPD gateway server (as in the case of modems and routers) as not containing the viewing, recording, and other features of the devices it is meant to support would limit

the incentive of MVPDs to undercut the use of such devices by consumers. The standardization of gateway server interfaces to the home network will also limit the extent to which an MVPD can impose arbitrary or proprietary limitations on the competitive devices that such a server would support.

Conclusion

Enough time has passed since the passage of Section 629, and enough public comment received in the Commission's concluded and open rulemakings, that the Commission should now proceed directly and expeditiously to a Notice of Proposed Rulemaking to accomplish the objective, as summarized in the FCC's December 16 release on the National Broadband Plan, to "[r]equire MVPDs to provide a small, low-cost device whose only functionality is to bridge the proprietary MVPD network elements (conditional access, tuning & reception functions) to common, open standard widely-used in home communications interfaces." This option was raised and commented upon favorably in the Third FNPRM. If the Commission is to succeed in linking broadband and device availability as it now proposes, the time to act is now.

Respectfully submitted,



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