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

In the Matter of	)	
	)	
Video Device Competition	)	MB Docket No. 10-91
	)	
Implementation of Section 304 of the Telecommunications Act of 1996	)	
	)	
Commercial Availability of Navigation Devices	)	CS Docket No. 97-80
	)	
	)	PP Docket No. 00-67
Compatibility Between Cable Systems and Consumer Electronics Equipment	)	

TiVo Inc. Comments On Notice Of Inquiry

July 13, 2010

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TiVo Inc. Comments On
Notice Of Inquiry

TiVo Inc. is pleased to respond to this Notice of Inquiry in furtherance of the objectives of the National Broadband Plan and the Commission's obligations under Section 629 of the Communications Act.[1] TiVo, as the main independent provider of products that have access to both MVPD and broadband content, believes that the rulemaking envisioned in this NOI is a timely and important step toward greater opportunities to compete, for itself and for others. TiVo believes that this NOI can clarify issues, directions, and boundaries for the rulemaking that will follow to establish MVPD support for new competitive products through a "gateway" or "adapter." TiVo agrees with Rep. Rick Boucher that this NOI is a first step in assuring that "all cable and satellite TV providers include with their services a simple gateway device that converts

[1] TiVo requests that its December 22, 2009 comments on NBP No. 27 and its June 14, 2010 comments and June 28, 2010 reply comments, including all appendices, in the Fourth Further Notice Of Proposed Rulemaking in Dockets 97-80 and 00-67 be included in the record of Docket 10-91.

the cable or satellite company's TV signals into a common output that could be processed by whatever set-top box the viewer may own."[2]

I. Introduction And Summary

As TiVo and others documented in the companion Fourth NPRM, the market for competitive, retail MVPD devices has not been fairly tested, and its potential has not even been sketched, much less approached. Inadequate MVPD support for the installation and use of competitive products has kept this market from fulfilling its potential thus far.[3] However, the introduction of broadband capabilities into TV-oriented products opens new opportunities for competitive devices, if they are finally installed and supported with appropriate resources and care, and if consumers are offered fair choices based on comparable value of device and service. The broader coupling of broadband and television technologies, as contemplated by this NOI, offers new ranges of opportunity, not only in the market for devices, but also in a programming market in which consumers can compare MVPD offerings with those available from other sources.

To achieve these broader markets and opportunities, it is not necessary to devise a "one size fits all" AllVid device for use by every MVPD. It is not even necessary to devise different categories ("adapter," "gateway") of AllVid devices. It is necessary only to (1) require each MVPD to field its own gateway device to support one or more retail client products (and all new products leased by the MVPD); and (2) draw a demarcation line between (a) functions and features that must or can be included in such gateways, and (b) functions and features that are subject to competition in open-market client

[2] *The National Broadband Plan: Competitive Availability of Navigation Devices: Hearing Before Subcommittee on Communications, Technology, and the Internet of the House Committee on Energy and Commerce*, 111th Cong., prepared statement of Chairman Boucher (April 29, 2010).

[3] This was noted by the FCC in its National Broadband Plan at 51 and notes 114 and 115.

devices and thus cannot be included in a gateway. In short, whether called a "gateway," an "AllVid" or an "adapter,"[4] the device serves as the demarcation point between the MVPD's network, which may use proprietary elements, and a consumer's home network, which is based on ubiquitous standards. Differences in physical network technology, conditional access vendors, billing systems and network protocols among the different MVPDs are converted to a common interface at the gateway. The gateway solution allows the MVPD to preserve the particular technology investments it has made in its distribution network, while providing a common interconnection scheme for consumer devices relying on robust retail availability of home network technology. Operators remain free to innovate and compete on the differences in their particular distribution network technologies, service offerings, and the features of their own leased client devices. They can change the technology of their distribution network, for example, introducing switched digital services, without impacting the consumer by making existing retail devices less functional. This is the vision of the National Broadband Plan. TiVo supports this vision.

The gateway scheme should benefit MVPDs by alleviating some of the professed burdens resulting from having to lease client devices to subscribers, and allowing MVPDs to deploy capital more efficiently and profitably.[5] Consumers will benefit by

[4] Herein, we refer to the device as a "gateway," as in the National Broadband Plan.
[5] *In the Matter of A National Broadband Plan for Our Future, et al.,* GN Docket Nos. 09-47, 09-51, 09-137, and CS Docket No. 97-80, Comments of Time Warner Cable Inc. – NBP Public Notice #27 at 5 (Dec. 21, 2009) (explaining that leasing devices forces TWC to tie up considerable capital in maintaining a sufficient inventory of set-top boxes, bear the risks that a device will malfunction or become obsolete, and charge cost-based regulated rates (in areas not subject to effective competition) that generate more modest returns than TWC expects to earn through the provision of its services).

having true choice, competition, and elimination of the need to abandon a retail device when switching MVPD providers.

TiVo is confident that private sector standards, developed and under development, will be sufficient to enable these outcomes efficiently and securely. Given the levels of concern and reluctance expressed thus far by some MVPDs and their associations,[6] however, it is not as clear that these outcomes can be accomplished within the timeframe suggested by the Commission. Moreover, technical progress and regulatory reform will also enhance the capabilities of CableCARD-enabled devices. These products deserve a full and fair chance to succeed in the marketplace. An objective of this NOI and the Commission's rulemaking should be to enhance rather than to constrain these competitive prospects. As such, the Commission should not in any way abandon the CableCARD regime before a successor regime is well-established and providing consumers with actual choice in the marketplace.

II. A True Retail Model Has Not Yet Been Tested In The Marketplace.

At paragraph 15 of this NOI the Commission asks for explanations of "the failure of a retail market for navigation devices to emerge." TiVo addressed this question in full

[6] *See, e.g.*, Letter from Kyle McSlarrow, President and CEO, National Cable & Telecommunications Association to Carlos Kirjner, Senior Advisor to the Chairman on Broadband and William Lake, Chief, Media Bureau, FCC, GN Dkt. Nos. 09-47, 09-51, 09-137, CS Dkt. No. 97-80 (Dec. 4, 2009).

in its comments and reply comments[7] on the Fourth FNPRM, as have CEA, CERC, and others.[8] TiVo said, in reply comments at 20:

> Remarkably, several operators claim that a market for retail navigation devices has not materialized because consumers have an overwhelmingly strong preference for leasing operator-supplied set-top boxes. The fact is that consumers have never really had an opportunity to make a choice between retail and leased boxes because retail navigation devices have never been placed on an equal footing with operator-supplied boxes in terms of installation, pricing, and services. Even subscribers who only want to receive a modest package of cable channels must "give up" something in price, convenience, and frustration, including installation and service odysseys. (footnote omitted)

CEA and CERC said in their reply comments (at 14-15):

> Even those operator filings that, admirably, point to their current installation and pricing practices cannot demonstrate (1) that they followed these better practices at the introduction of CableCARDs, when there were dozens of entrant products to rely on them, or (2) that the majority of cable systems follow adequate practices *now*. *** The Commission should not base assumptions about *future* CableCARD costs on past cable industry practices, any more than it should base notions of the consumer appeal of competitive retail products on the years in which the cable industry applied every technical, pricing, marketing, and public information resource it had to driving these products out of the market. (footnotes omitted)

The Commission must ensure that the gateway solution puts retail client devices on an equal footing with leased client devices. Just as consumers are not disadvantaged when using a retail broadband modem vis-à-vis a leased broadband modem, consumers should not be disadvantaged in any way by using a retail client device vis-à-vis a leased client device.

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[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, Comments of TiVo Inc. on Fourth Further Notice of Proposed Rulemaking at 2-6 (June 14, 2010) ("TiVo FNPRM Comments"); TiVo FNPRM Reply Comments at 20-23.

[8] CEA-CERC FNPRM Comments at 3-8, 13-14; Public Knowledge, *et al.* FNPRM Comments at 3-6; Free Press FNPRM Comments at 2-4.

A. Gateways Should Be System-Specific.

In search of reasons to express qualms about the National Broadband Plan, some MVPDs raised and attacked the straw man of an all-MVPD gateway, a single device that would be used with every MVPD. TiVo does not read this NOI as proposing any such thing, nor should it. The opposite approach is sensible: each MVPD should control the design of the gateways to be used on its system, to the extent of the gateway's interactions with the MVPD's system. In other words, the "MVPD-facing side" of a gateway should be built to each MVPD's specifications. To the extent the gateway interacts with client devices and home networks (the "client-facing side" of the gateway), it should employ a two-way interface that conforms to private sector standards identified in the AllVid regulations.

B. The Purpose Of A Gateway Should Be To Provide A Clear Demarcation Point And Interface Between An MVPD Network And A Client Navigation Device.

What a gateway device does is more important than what it is called, or – *provided* that new MVPD client devices are all enabled by gateways – what its form factor will be. The principle embraced by the Commission in its National Broadband Plan, and rightly suggested, in this NOI, as guiding the rulemaking, is that each MVPD control its own network side, and each consumer, with the aid of a standards-based interface, control her own network side through the use of one or more client devices. Problems that were encountered with the "retail model," as discussed above, have occurred when MVPDs have blurred such distinctions, and have used their necessary control over security and features to govern and limit, arbitrarily and in anticompetitive fashion, the functions and features of retail devices, effectively reserving some functions

and features to their own devices. Drawing, and adhering, to a clear demarcation between the gateway's external network and home network sides is the clearest and surest way to avoid such issues (and ensuing finger-pointing) in a gateway era.

C. Security Should Be Integrated In The Gateway As A Network Function Provided That All Navigation Devices Rely On Gateways.

A clear demarcation between external and internal network functions allocates control over conditional access on the external network entirely to the MVPD. TiVo would have no problem with this outcome *provided* that all client devices, including new MVPD leased devices, rely equally on gateways for all services. This equal reliance should avoid the leveraging of the security function to the disadvantage of retail client products. Accordingly, TiVo would have no reason to oppose the integration of "security" into gateways, or the reliance of gateways on renewable ("downloadable") security technologies. Indeed, integration of security into the gateway would reduce costs for many consumers as conditional access security would be needed in only a single device in a networked home – the MVPD's gateway – and not in any client device.

D. The Form Factor And Physical Location Of A Gateway Are Less Important Than Clear Definitions And Delineations Of Its Functions.

In its Fourth FNPRM comments and reply comments, TiVo noted issues with the physical format of the switched digital video "tuning adapter." Such an issue would not have arisen if *all* navigation devices were served by the same device. A more consumer-friendly format would have been chosen in the first instance.

Similarly, if the Commission adheres to basic and clear principles, it need not become bogged down in what to call a gateway device, or whether there should be separate "adapter" and "gateway" forms of the device. Rather, in drawing a clear

demarcation of functions, the Commission need only establish the core, or minimum functions of a gateway, the functions that are optional for MVPDs, and the functions that should be recognized and reserved as consumer-choice, client-side functions, and therefore cannot be included in gateways.

1. Minimum Gateway Functions

As sensibly laid out in the National Broadband Plan, the core and minimum functions of a gateway are to securely enable and transparently support the delivery of the MVPD's services to one or more client devices on the home network, much as service-specific modems (such as DSL or DOCSIS) do with respect to Wi-Fi home and business networks. The core gateway functions necessary to provide such support are:

- Two or more tuners for the MVPD service (or, for IPTV services, the capability for selecting and passing through two or more simultaneous programming streams);
- Decryption, authentication, communication protocol, service discovery;
- Home network support and interactive, secure data flow and communication using Internet Protocol (IP);
- Remote rendering of the MVPD's Guide and the output of sufficient data to populate a client's Guide with choices of the MVPD's programs and services;
- A physical interface as necessary to deliver data and communications to client devices and the home network.

The availability of two tuners has been considered essential since Senator Leahy famously complained that a cable set-top box interfered with and was redundant to the use of dual-tuner, picture-in-picture TVs, and with the ability to watch one channel while

recording another.[9] This is now a baseline capability offered by TiVo and all competitive products.

Consistent with the basic principles laid out above, the tuner specifications and those for decryption, authentication, external network communication, and service discovery are within the realm of the MVPD and need not be set in regulations. However, the interface between the gateway and home clients and networks – including secure data flow, copy protection, interactivity, IP support, and the physical interface – requires nationwide private sector standards to which all gateways must adhere.

Another necessary feature is client access to some of the MVPD's electronic programming data, to allow incorporation of the MVPD's video-on-demand titles and other service offerings into the client's search functionality. The purpose of such access is to allow consumers to compare and choose programming from different sources. The MVPD's Electronic Programming Guide would not be required to be displayed on a retail client device.

2. Optional Gateway Functions Within The Discretion of The MVPD

As the NOI recognizes, not all subscribers will (at least initially) have home networks, and client support of those that do will vary. Rather than attempt to pre-cook differing "adapter" and "gateway" recipes, the Commission should allow MVPDs to make additional client-support features optional, so that subscribers can choose from a range of gateway models. While a list of such client-support features will benefit from

[9] 138 Cong. Rec. S583 (January 29, 1992) (Statement of Sen. Leahy) ("My amendment is designed to create more user-friendly connections between cable systems on the one hand and televisions and VCRs on the other so that consumers will actually get to use the TV and VCR features they paid for.").

discussion in NOI reply comments and the follow-on rulemaking, a place to start would be:

- **Additional MVPD tuners.** As the Commission anticipates, the proliferation of home network devices suggests that the basic two tuners will not be sufficient for some subscribers. (Indeed, M-CARDs can descramble *six* streams simultaneously.)

- **Transcoding.** TiVo, in answer to the question posed at paragraph 31, believes that the Commission should establish a minimum set of required codecs for client audiovisual display devices. Even so, some consumers may have additional needs that an MVPD may wish to serve through transcoding. However, MVPDs should be constrained from establishing proprietary home networks in the guise of serving such consumer needs.

- **Cache storage.** It has been suggested that in order to provide on-demand services comparable to those of other MVPDs, DBS providers must be able to include cache storage of external network programming elements, in gateways. To the extent necessary to accomplish this network function, such caching should be permitted at the rulemaking stage.

3. Functions And Features Reserved For The Supported Clients and Networks

The core concept of a modem-like device whose sole function is to support other devices requires that redundancy with such devices, and any leveraging of the external network connection to disadvantage such devices, be avoided. Hence, just as gateways must have certain minimum capacities, they must also conform to their "sole function" origin. Accordingly, in the rulemaking it will be necessary to specify the features and functions that are reserved for client devices and home networks. Among these are:

- **Audiovisual performance output.** The gateway should provide client devices with data sufficient to produce the display and sound for audiovisual programs, through standard codecs. The provision of a display-only output (such as HDMI) on a gateway would be both redundant to and potentially pre-emptive of the gateway's client / home network support function.

- **Display of and interaction with Guides, external and internal network games and service.** With the availability of a secure home network, there

is nothing about the display of electronic programming guides ("EPGs"), or consumer interaction with them, that is related to the core concern of an MVPD in maintaining network security, offering services to consumers (through an EPG), and guarding against theft of service. The actual display of the EPG, and a consumer's interaction with it, are client-side functions. Similarly, secure interaction with a game or a service, whether hosted externally, internally, or over the Internet, is a client or home network function.

- **Client / home network storage.** There is no reason, other than for purposes of leveraging against competitive devices, for the inclusion of gateway-side storage, except for the caching requirements as discussed above. MVPDs, of course, remain free to offer their own client or home network storage products, so long as these also rely on the standard home IP network interface.

- **ATSC tuner.** With the completion of the transition to digital television, the ability to receive over-the-air digital TV has become a standard client-side feature. FCC rules already contain sufficient device mandates.

E. All New Client Navigation Devices Should Rely On Gateways.

The approach described above, and the model outlined in the National Broadband Plan, depend on preventing MVPDs from leveraging their control over security and external network communication functions to the disadvantage of competitive devices. Such leveraging, abetted by discrimination in license terms and economic offers, has been the Achilles heel of all previous FCC attempts to implement Section 629. Avoiding opportunities for such leveraging should be a core objective of the gateway rulemaking, as with the National Broadband Plan. MVPDs should be free to offer ranges of gateways, with optional features as discussed above, to suit their mix of subscribers. They would even be free to offer client and home network devices to *each others' subscribers*, and – relying on the industry standard client-facing interfaces – would face no technical impediment in so doing.

III. Compliance With Necessary Standards Should Be Independently Determined And Certified.

One element of MVPD leveraging that can and must be avoided in the gateway rules is the ability of an MVPD to set and judge the standards, certification criteria, and cost for entrants seeking to compete with the MVPD's own device business. When network communications and client-side service were linked in the same device to security and feature offers, this sort of leverage was at least arguably justifiable. In the gateway era, it cannot be justified due to these fundamental reforms:

- Whereas the external network side is MVPD-specific, a gateway's client / home network-facing interface is standard for all MVPDs – hence should not be controlled by the technical consortium of only one of the MVPD industries.

- As is discussed further below, the private sector standards that are available for use on the client / home network side are multi-industry and have their own certification requirements and processes. Imposing MVPD control would be redundant as well as destructive of competition.

TiVo is confident that progress by multi-industry organizations and consortia, already in existence, can produce the necessary standards for reference in FCC regulations implementing Section 629, as well as the neutral and efficient means of certification. At the NOI stage it seems sufficient to assure the Commission, in answer to its questions in paragraph 32, that the necessary standards exist, and that there is a sufficient track record of neutral, non-discriminatory licensing and certification.

As an example of robust existing multi-industry standards that could define the client-facing side of the gateway, the service discovery facilities referred to by TiVo and noted in the NOI at paragraph 30 already support substantial web-based commerce. These suites of private-sector standards are regularly cited by officially recognized

organizations worldwide. For example, the Digital Video Broadcasting ("DVB") website notes:

> More than 500 million devices around the world are receiving services that use DVB standards, including at least 100 million satellite receivers and at least 150 million DVB-T receivers. DVB-S/S2 forms the basis of digital satellite TV just about everywhere. DVB-C is the most commonly used system for digital cable TV. DVB-T has seen phenomenal growth in the last few years with services on air across Europe and in parts of Asia, Africa and Latin America and many more countries that are planning deployment. The economies of scale engendered by such success mean that the prices consumers have to pay for receivers are falling all the time.[10]

Successful standards and certification activity by DVB and other organizations is being extended into home networks.[11]

A standard format for guide data can also be supplied by a multi-industry standards organization. As TiVo discusses below, a core feature of its own products, and presumably those of entrant competitors, is the ability to offer consumers a choice between an MVPD's own Guide and a client Guide that integrates additional offerings, and lets the consumer choose among them.[12] There will be ample private sector standards, available for license on nondiscriminatory terms, to implement such a facility for the gateway. For purposes of providing sufficient data for reference to MVPD content in a client's own guide, there is no question that industry-standard techniques are available. The availability of such data has been a business issue, not a technical problem.

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[10] *See, e.g.*, Digital Video Broadcasting ("DVB"), DVB Fact Sheet (May 2010), http://www.dvb.org/technology/fact_sheets/DVB-Project_Factsheet.pdf.

[11] *Id. See also, e.g.*, Press Release, Digital Living Network Alliance ("DLNA"), Mobile Handset Manufacturers Attain DLNA Certified® Status (May 4, 2010), http://www.dlna.org/news/pr/view?item_key=53bf9cece92c6d454d0572c5375b0d87d5f2a958.

[12] At present, TiVo's ability to offer the fullest range of choice is limited by the available licenses. *See* CEA-CERC FNPRM Comments at 12-14.

IV. Clients Will Require Limited Access To EPG Data To Allow Consumers To Make Informed Choices.

A core objective of the gateway approach to implementing the National Broadband Plan is to broaden consumer choice while integrating broadband and television techniques. If the FCC is to accomplish this, it would make little sense to, instead, *segregate* the menu offerings of MVPDs from those available via other broadband sources. As broadband access has made its way into television-oriented products, TiVo and TV manufacturers have acquired significant experience in offering consumer choices on an integrated basis.

A. TiVo Has Experience In Offering Choices From A Variety Of Sources In A Single Menu.

TiVo has demonstrated in its products that it is possible and desirable to integrate a variety of consumer programming and service choices into a user-friendly menu. Accomplishing this does not depend on any new technology or innovation. To offer consumers the full range of MVPD choices in this way depends on access only to the portion of the MVPD's guide data that is necessary for this purpose (i.e., a channel listing, and data indicating what is available on the operator's video-on-demand service). Consumers already pay for this data. It would be discriminatory for this data not to be available to all client products. Similarly, the leased client-side products of MVPDs should also be able to integrate such data into a universal Guide.

B. Ordering MVPD Interactive Services May Be By Technical Referral From Client Guide To MVPD Guide.

TiVo does not believe that it is necessary for client and home network devices to replicate the MVPD ordering facility (e.g., for video on demand) in their own Guide. The secure ordering of MVPD services can be accomplished technically by means

analogous to "framing" a web page on another site. Thus, the MVPD could retain control of the look, feel, and integrity of the ordering step. This is how existing TiVo devices work successfully with some third-party Internet video providers. The facility by which this can be accomplished can be elaborated upon in the gateway rulemaking.

V. There Should Be Minimum Standard Codecs In Client Devices So That Inclusion Of Transcoding In Gateways Should Be Optional.

Historically, the consumer electronics industry has advocated standards but has argued that there is no necessity to mandate them for CE products. So long as, for example, transmission standards are officially recognized (as in the case of FM radio and analog and digital TV broadcasting), the implementation in devices can be left to the marketplace. This is largely still the case, and can be the case, generally, with respect to client-side devices. However, regulations establishing certain core references have been necessary in times of transition. For example, the transition to digital television produced, first, a Commission mandate that any product with an analog TV tuner had to have a digital TV tuner using the ATSC standard, and later, mandated standards for a specific converter product with a particular tuning capacity.

Similarly, in response to the question in NOI paragraph 31, it would avoid the inclusion of unnecessary, redundant transcoding capacity in gateways if the Commission were to specify MPEG2 and MPEG4 as required codecs for audiovisual clients that are marketed as gateway-compatible. As in the case of the existing regulation pertaining to use of the "Digital Cable Ready" logo,[13] use of terminology indicating that a client device is gateway-compatible could, *inter alia*, be conditioned on inclusion of these codecs, or

[13] *See* 47 CFR § 15.123(b).

such use could be a part of a private sector certification that is referenced by the Commission. This should be explored further in the rulemaking to follow this NOI.

VI. Menu And Channel Defaults And Resource Conflicts Are Client-Side Issues.

The Commission, in paragraph 33, requests input as to the handling of resource conflicts. This question embraces, as well, the issue of defaults – what does the consumer see first when she turns on the client device? TiVo has several years of experience in integrating "television" content with programming from other sources, and in channeling and prioritizing calls on storage resources. Based on this experience, TiVo believes that the consumer should choose the default screen, and should do so according to the choices as presented in the client product that the consumer has chosen for this purpose, irrespective of whether the client is furnished by an independent manufacturer and is bought from a retailer, or is purchased or leased from an MVPD.

A main purpose of the National Broadband Plan and this NOI has been to offer consumers product choices, in the "television" sphere, that will introduce them to broadband programming, commerce, and information. It would be counterproductive for the regulations enabling this goal to erect or countenance unnecessary walls or screens separating the "television" content from the "broadband" content. Similarly, it would be counterproductive to build in priority for one or for the other. This should be a choice made by the consumer when selecting a device that is enabled in both program markets. As there will be a range of competitive client devices (including those offered by MVPDs) to choose from, the default and prioritization should be a feature of each client device. There is no need for the FCC to mandate the outcome or to reserve the outcome in any respect to a choice made by an external network.

VII. CableCARD-Reliant Products Will Remain Viable Options For Consumers And The Relevant Regulations Will Remain Necessary.

TiVo set out in its Fourth FNPRM comments and reply comments the reasons that CableCARD-enabled products, as enhanced by broadband connectivity and, finally, fair treatment by cable operators, should become increasingly attractive options for consumers.[14] TiVo, and CEA and CERC, also reviewed the ways in which the Commission's regulations, as revised in the pending Fourth FNPRM, retain their relevance for preventing discrimination against and undermining of competitive products in a gateway context.[15] CEA and CERC pointed out that NCTA has not expressed enthusiasm for the gateway concept at all.[16]

TiVo trusts that the Commission will move forward with a "gateway" rulemaking and that the Commission will remain faithful to its NBP definition of the gateway-adapter-AllVid device as a *sole purpose* device for home network support of a range of competitive devices. Even so, and even when MVPDs also are building their *new* leased devices as gateway clients, there will be many fully integrated STB leased products in the field requiring support, and, with effective FNPRM rules, there should be new categories of CableCARD-reliant products in the field. With well-established means of installation and support, and new variations in the offing, it would make little sense to "sunset" support for classes of competitive practices that have begun to attract consumer attention

[14] TiVo FNPRM Comments at 2-3, TiVo FNPRM Reply Comments at 20-24. *See also* CEA-CERC FNPRM Comments at 3-5; *Cf.* Panasonic FNPRM Comments at 3-5; IPCO FNPRM Comments, Attachment.
[15] *Id.*
[16] CEA-CERC FNPRM Reply Comments at 10-12.

to retail devices that mate broadband and television. This should be evaluated after a successor regime has an established track record of providing real consumer choice.[17]

VIII. The FCC Has Authority To Accomplish Its Objectives.

In its "Plug & Play" rulemaking of 2003, the Commission asked, as it does in this NOI, for comment on whether it has the authority to enforce Section 629 through regulations that refer to technical standards, licensing, copy protection, and limits thereon. Comments received then established, and the Commission concluded, that it does. The Consumer Electronics Industry (CEA and CERC) comments began their extensive review of this subject with this recitation:

> Actions taken to implement this "Plug & Play" solution will be a direct and necessary consequence of congressional mandates in 1992 and 1996, as the Commission has interpreted and implemented them for more than a decade. Each element of the agreement derives directly from these congressional mandates. Commission jurisdiction (as issuance of this FNPRM in two dockets reflects) is supported by separate but overlapping congressional mandates directed toward assuring consumer electronics and cable *compatibility* for television programming (Section 624A), and toward assuring *commercial availability* of navigation devices for *any* service from *any* Multichannel Video Programming Distributor, or "MVPD" (Section 629).[18]

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[17] For example, for many years the Commission has been told that tru2way is the solution for 2-way retail navigation devices. *See, e.g.*, Letter from Neal M. Goldberg, National Cable & Telecommunications Association to Marlene H. Dortch, Secretary, FCC, CS Dkt. No. 97-80 (Dec. 11, 2006) (OCAP approach "is bringing two-way plug and play products to market now"). Yet, it is now abundantly clear that, despite the touting of MOU's and other announcements, neither consumers nor manufacturers have embraced tru2way as a retail solution. *See, e.g.*, Comcast FNPRM Comments at 9 (there has been "little consumer interest in tru2way devices"). Panasonic, the only manufacturer that has sold tru2way televisions at retail, apparently discontinued its only tru2way television models this year. "The Death of Tru2Way: Tru2Way Televisions Are No Longer Available," http://thunor.spaces.live.com/blog/cns!71C238B5E0E3724D!3409.entry.

[18] *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, Joint Comments of the Consumer Electronics Association and the Consumer Electronics Retailers Coalition in Response to Further Notice of Proposed Rulemaking at 4-12

In its rulemaking following this NOI, the Commission will be following a well-charted and well-accepted course. No obstacle has arisen to deflect the Commission from the course as laid out, indeed required, in Sections 624A and 629.

Conclusion

TiVo appreciates the Commission's commitment to competition in devices and in services, and its vision in the National Broadband Plan. TiVo looks forward to working with other interested parties to achieve solutions that are beneficial to stakeholders as well as to consumers.

Respectfully submitted,

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