

Statement of  
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Before the  
Subcommittee on Communications, Technology, and the Internet  
House Energy and Commerce Committee

The National Broadband Plan:  
Competitive Availability Of Navigation Devices

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Chairman Boucher and Ranking Member Stearns, thank you for inviting TiVo to discuss device competition and the National Broadband Plan. TiVo became a leading innovator in digital devices by combining advanced digital storage technology with an interactive electronic program guide. TiVo's customers love our products and consistently rank our user interface and software above that of any and all competitors. Unfortunately, our customers have been unable to reap the full benefit and use of our products, and the benefits of further innovation by us or by competitors. This is why an important element of the FCC's National Broadband Plan focuses on *devices*.

As the FCC has concluded, the dearth of competition in the products that tune and store video programming is bad for device innovation, bad for service innovation, and is harmful to continued growth in broadband services. TiVo's experience is just one example of how our regulatory system has shielded service operators from device competition and is short-changing consumers.

TiVo Digital Video Recorders combine a consumer-friendly user interface with the ability to store, index, and recall video programming. To a far greater extent than the

analog VCRs that preceded it, a TiVo product can put a consumer in charge of his or her own viewing schedule, while respecting the rights and concerns of copyright owners and programming distributors. TiVo's concept and execution have been copied, though never equaled, in the video service providers' leased DVRs. Yet TiVo boxes have never had a fair chance to compete with leased boxes in terms of access to programming, pricing, installation or support. As a result, leased set-top boxes have thrived, while independent competitors have fallen by the wayside. The leased set-box remains the product that consumers love to hate.

Set-top boxes get in the way of consumer enjoyment of video content because multichannel video programming is sold under electronic lock and key – far beyond what is required to protect intellectual property rights. On the Internet, it is simple to buy a program, or to transfer funds securely, through standard communication protocols and encryption techniques. Multichannel video programming services, however, use unique and non-standard systems of encryption and user authentication that reside in their “headend.” These vary from system to system. They also have non-standard protocols for requesting interactive services, such as Video On Demand. So if a consumer were to purchase a TiVo product designed to work specifically and directly on the Arlington, VA, Comcast system, and were then to move across the street to a Fairfax County neighborhood served by Cox, her TiVo product would not display or record most Cox programming. Even if she leased a Cox set-top box just to deliver the signal to her TiVo box, the Cox set-top would not provide a high definition program through an interface that permits and supports recording, or supports the display of our own guide.

The Congress wisely anticipated this problem almost two decades ago and took steps to try to avoid it. In 1994, Congressman Markey chaired a hearing in which he, and you, Mr. Chairman, expressed concern that in the digital era the service operator's set-top box would operate as a "gatekeeper" rather than a "gateway" for the "information superhighway."<sup>1</sup> The next year, the Republican Chairman of this Committee and the Ranking Member of this Subcommittee introduced the Bliley-Markey bill, the Consumer Electronics Availability Act of 1995. This measure directed the FCC to *assure*, in its regulations, the commercial availability of competitive devices, for multichannel video programming networks, from vendors not affiliated with the service provider. With your help, Mr. Chairman, this bill became Section 304 of the Telecommunications Act of 1996. As Section 629 of the Communications Act, this Committee's bipartisan initiative now underpins a key element of the National Broadband Plan.

In implementing Section 629, the FCC focused first on the cable industry, whose 1100 local franchises used diverse means of securing their networks. A joint engineering committee of the Consumer Electronics Association and the cable industry proposed to solve the problem of secure system access by putting *only* the decryption and authentication circuitry on a separate card – ultimately known as a CableCARD. These cards would be made available by the local cable operator, and would plug into competitive devices through a nationally standard interface. (So, if our TiVo customer moved from Arlington to Fairfax, she would simply return her Comcast card and get one from Cox.)

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<sup>1</sup> 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, 103<sup>rd</sup> Cong. at 386 (Feb. 1, 1994).

As the CableCARD specifications were being finalized, however, the motion picture industry pointed out that the interface to devices would be “in the clear,” hence vulnerable to copying. So the industries added an additional layer of encryption and authentication, between the card and the device, using a technology called “DFAST” that was acquired by CableLabs. This meant that every competitive device would have to be licensed by CableLabs, the consortium owned by the operators who lease the set-top boxes with which these products would compete.

In 1998, the FCC, wary from its experience with deregulation of consumer devices in the telephone industry, said that the only purposes for which operators could impose restrictions on licensees would be to avoid “harm to the network” or “theft of service.” Not surprisingly, CableLabs took a much broader view of what restrictions and requirements this allowed them to impose than did the prospective competitors. For five years there was no competitive entry. Finally, under pressure from the Senate Judiciary antitrust subcommittee and members of this Committee, the FCC encouraged the cable and consumer electronics industries to work out a compromise “DFAST” license and a new set of proposed “Plug & Play” regulations. Finally, CableCARD-capable products came to market in 2004.

The essentials of the “Plug & Play regime were as follows:

- Cable operators with systems of a certain capacity became obligated to offer and give specific technical support to CableCARDS
- Products that relied on CableCARDS would be allowed to record and share content in the home with other devices, subject to DFAST license “compliance and robustness” technical requirements that protected content from unauthorized redistribution.
- To avoid abuse of these technical restrictions, home recording and viewing could not be limited unreasonably by the content owner or distributor.

- These Plug & Play products would receive *all linear cable channels* (e.g., HBO) to which a consumer subscribed, but could not order *services* (such as Video On Demand) interactively with the cable headend. This capacity would be addressed in further industry negotiations.<sup>2</sup> The idea of the Plug & Play agreement was to provide *certainty* to manufacturers and consumers that they could purchase retail products that received all of the linear cable channels provided by the cable operator.<sup>3</sup>

### **Cable Industry Failures To Support CableCARD-Reliant Products**

With the exception of TiVo, the Plug & Play products introduced in 2004 are no longer available to consumers. Despite significant investments by many consumer electronics manufacturers, the cable industry has no enthusiasm for these products because they could not be used to buy on-demand services. Installation of a CableCARD took several multi-hour visits by untrained field people, and headends were not set up to support consistent operation of CableCARD products.<sup>4</sup> Rather than a *feature* that could be promoted by manufacturers and retailers, the CableCARD interface became an added expense and a consumer headache. One by one – except for TiVo’s and one or two small DVR competitors – competitive products dependent on CableCARDs disappeared. A

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<sup>2</sup> These negotiations failed to produce any further inter-industry agreement.

<sup>3</sup> 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, Letter from Carl E. Vogel, President and CEO, Charter Communications, et al , to Michael K. Powell, Chairman, FCC (Dec. 19,2002) (“Cable/CE Letter”), Memorandum of Understanding Among Cable MSOs and Consumer Electronics Manufacturers (“MOU”) (signed by Charter Communications, Inc., Comcast Cable Communications, Inc , Cox Communications, Inc., Time Warner Cable, CSC Holdings, Inc., Insight Communications Company, L.P., Cable One, Inc., Advance/Newhouse Communications, Hitachi America, Ltd., JVC Americas Corp , Mitsubishi Digital Electronics America, Inc , Matsushita Electric Corp. of America Panasonic), Philips Consumer Electronics North America, Pioneer North America, Inc., Runco International, Inc , Samsung Electronics Corporation, Sharp Electronics Corporation, Sony Electronics, Inc , Thomson, Toshiba America Consumer Electronics, Inc., Yamaha Electronics Corporation, USA, and Zenith Electronics Corporation), at Section 3.4 (Cable Services Accessed).

<sup>4</sup> CableCARD non-support has been extensively documented in the FCC record and has been cited by both the FCC and the courts. 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, Second Report and Order ¶ 39 & n.162 (Mar. 17, 2005); *Charter Communications v. FCC*, 440 F.3d 31, 40 – 44 & n.10 (D.C. Cir. 2006).

TiVo customer must have a working CableCARD to receive HD programs; if not, the TiVo box will be returned.

In the last few years we have faced a new obstacle. Cable operators have begun to move *programming* away from Plug & Play reception despite the promise that Plug & Play devices would receive all linear cable channels. To save bandwidth, they use a “switched digital video” (“SDV”) technique in which a growing number of channels must be requested from the headend in order to be available on a local node.<sup>5</sup> Not surprisingly, lack of access to the same popular channels as are available on a free leased box can make it extremely difficult, if not impossible, to convince consumers to purchase a retail CableCARD set-top box.

### **What TiVo Has Done**

Despite these roadblocks, TiVo has done it’s best to innovate, but only in the areas that CableLabs and the cable operators have allowed. For example, since TiVo products are denied access to cable Video On Demand services, TiVo has incorporated a broadband connection to enable the delivery of “On Demand” broadband programming services, such as Netflix, Amazon, Blockbuster, YouTube, and many others that are not available on operator-supplied set-top boxes. Last month, TiVo introduced its *Premiere* series of products with enhanced search, interactive and consumer control features. However, TiVo is unable to innovate around the lack of access to linear cable channels (such as A&E in HD or Fox News Network in HD) delivered using SDV that subscribers receive on leased boxes.

### **What The FCC Now Proposes**

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<sup>5</sup> Once the channel is available on the local node, other homes on the same node that are authorized to see it can also view it, providing that their device can detect that it is being transmitted on a particular frequency. So this is strictly a bandwidth conservation measure for existing channels – *not* a new or interactive service.

Last week, the FCC acted to promote video innovation and consumer choice in two areas as recommended in the National Broadband Plan:

**Notice of Inquiry.** The Commission issued a notice of inquiry to explore the potential for allowing any consumer electronics manufacturer to offer smart set top video boxes at retail that can be used with the services of any multichannel video programming distributor (MVPD) by using a special purpose adapter (the “AllVid” solution)

**Notice of Proposed Rulemaking.** The Commission issued a notice of proposed rulemaking with rules designed to improve the operation of the CableCARD regime until the AllVid solution becomes a reality.

The Notice of Proposed Rulemaking, which is directed only to cable systems, would attempt to eliminate some of the more egregious regulatory and license obstacles to consumers taking full advantage of the capabilities of TiVo’s present CableCARD-reliant products. We endorse this initiative as essential to a competitive market and the objectives of Section 629.

The Notice of Inquiry, directed to all MVPD systems, is aimed at establishing a true “level playing field” by extending the Plug & Play model to true interactive *communication* with the network rather than mere *connection* to the network. It would do this by requiring each system operator to make available to subscribing homes an adapter whose *sole function* would be to act as a demarcation point between the operator’s proprietary network elements and the home network. The adapter would communicate with the MVPD service, performing the tuning and security decryption functions that may be specific to a particular MVPD, while the smart video device would perform navigation functions, including presentation of programming guides and search functionality.

**How The “CableCARD” Rulemaking Will Remedy Failures In Cable Industry Support**

CableCARD issues are the number one driver of customer service calls for new TiVo retail boxes. In connection with the launch of TiVo's new CableCARD product last month, the most common issues include cable operators not supporting multi-stream CableCARDS and operators being unable to activate CableCARDS properly. These problems ought not continue to exist six years after the introduction of CableCARDS and several years after common reliance required cable operators to use CableCARDS in their own leased boxes.

According to the Notice of Proposed Rulemaking, the Commission will address these failures:

- (1) **Switched digital video.** What Commission action is needed to ensure consumers of Plug & Play devices have access to linear channels delivered using "switched video" technology that otherwise are becoming unavailable to subscribers owning Plug & Play devices *without use of a cable set-top box*.
- (2) **Transparent pricing.** Operators will have to charge equivalent and transparent prices for provision and support of CableCARDS and reliant devices.<sup>6</sup>
- (3) **Standardized CableCARD installation** policies and procedures. Cable operators would need to allow subscribers to install CableCARDS in retail devices if the cable operator allows its subscribers to self-install leased boxes and technicians would be required to arrive with at least the number of CableCARDS requested by the customer.
- (4) **Multi-stream CableCARDS.** Cable operators would be required to offer multi-stream CableCARDS to their subscribers using retail set-top boxes.
- (5) **Product certification and licensing by CableLabs.** CableLabs, which is owned by the cable operators who lease devices, remains in charge of licensing and certifying competing products. The certification process for retail CableCARD devices would be streamlined and accelerated.

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<sup>6</sup> As is stated in the National Broadband Plan at 52 ("the bundling of leased boxes into package prices by operators"), the core issue is whether device discounts, subsidies, and incentives, as offered to subscribers who lease devices, will continue to be offered when that subscriber obtains a retail device instead. TiVo interprets this NPRM provision as addressing this issue as well as the relative pricing of the CableCARDS themselves.

TiVo strongly supports these rule changes and will submit our detailed comments and suggestions to the Commission.

### **Consumer Choice Cannot Wait**

While TiVo supports the exploration of new concepts to better effectuate the intent of Congress in creating true consumer choice of video devices, arriving at a new solution applicable to all MVPDs may well take longer than anticipated. Meanwhile, CableCARD remains the only mechanism providing consumers a choice in set-top boxes. It is absolutely critical that the Commission not prematurely abandon CableCARDS in favor of undefined potential future solutions which have not yet attracted the necessary support from the service providers that would be responsible for their implementation.

There are hundreds of thousands of consumers using CableCARDS today and many more who we expect will purchase retail video devices once the Commission addresses some of the issues that have plagued CableCARDS to date. The tools and technology exist today to provide those consumers with real choice – provided they can get access to core cable programming services delivered via switched digital and other IP-based technologies without the use of an operator-supplied set-top box.<sup>7</sup> We are pleased that the NCTA recently has expressed support for a retail market in which a customer would not have to rely on equipment from the operator to access the operator's video programming services and seeking to facilitate private sector solutions with limited

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<sup>7</sup> TiVo DVRs access video content such as Netflix, Amazon.com, Blockbuster, and YouTube today delivered over an IP connection using IP upstream signaling to request the programming. There is no technical limitation on TiVo DVRs using broadband for upstream signaling to request programming delivered via switched digital technology.

government mandates to the extent possible.<sup>8</sup> We look forward to working with the cable industry in quickly making this vision a reality for our mutual customers.

In closing, Mr. Chairman, I want to express my appreciation for your efforts and those of your colleagues. You were right in 1995 to endorse Section 629, and you were right last month when you urged Chairman Genachowski to move ahead with his plans to enforce this provision. I look forward to working with this Committee, with the FCC, and with our private sector and public interest colleagues to achieve ultimate success for your initiative and for your tireless efforts.

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<sup>8</sup> See Letter from Kyle McSarrow, NCTA, to Chairman Julius Genachowski, FCC, dated March 12, 2010.