

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
	)	
Compatibility Between Cable Systems and Consumer Premises Equipment	)	PP Docket No. 00-67
	)	

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**TABLE OF CONTENTS**

**TABLE OF CONTENTS** ..... ii

**INTRODUCTION** ..... 1

**SUMMARY** ..... 2

**I. The Commission Must Enact Rules That Ensure the Success of the AllVid Approach** ..... 7

**A. MVPD-Supplied Video Devices That Access Content Provided over the Home IP Network Must Not Be Cross-Subsidized With Service Fees, and Must Rely on the Same Technologies Used by Third-Party Devices**.....7

**B. To Reduce Barriers to Entry, the Commission Should Require Self-Certification of Video Devices, and Pick Technologies Without Licensing Obstacles**.....10

**C. Access Control Technologies Are Distinct from DRM, Which Should Not Stand in the Way of Interoperability Between Video Devices** .....11

**D. The Commission Must Meaningfully Enforce Its AllVid Regulations, and Not Grant Waivers That Render Them Toothless** .....12

**II. The Functionality of the AllVid Adapter Should Be Kept to a Minimum** ..... 13

**A. The AllVid Adapter Should Not Include Extraneous Functionality That Could Undermine the Entire Approach**.....15

**B. To Give Third Parties the Opportunity to Innovate, the AllVid Adapter Should Not Provide a User Interface**.....17

**III. AllVid Will Promote Innovation in the MVPD Marketplace, and Will Cause Significant Positive Externalities** ..... 19

**IV. Programming Guide Data Is Not Copyrightable, and the Commission Should Require That MVPDs Share It As Part of AllVid** ..... 21

**A. Programming Data is Not Copyrightable**.....22

**B. Even if Programming Guide Data Were Copyrightable, the Commission Has the Authority to Require That MVPDs Share It** .....23

**Conclusion** ..... 24

## INTRODUCTION

In a few short months, the forward momentum toward promoting video device competition has been considerable. In December of 2009, the Commission issued a Notice of Inquiry seeking initial comments on how to promote video device innovation.<sup>1</sup> In response, Public Knowledge and others filed a petition<sup>2</sup> with the FCC asking it to begin a rulemaking proceeding to promote video device innovation and enforce its statutory duties<sup>3</sup> by requiring that all multichannel video programming distributors (MVPDs)<sup>4</sup> support a lightweight “video gateway.” This idea is now known as “AllVid,”

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<sup>1</sup> Comment Sought on Video Device Innovation—NBP PN #27, *Public Notice*, 24 FCC Rcd. 14,280 (2009).

<sup>2</sup> Petition for Rulemaking of Public Knowledge, Free Press, Media Access Project, Consumers Union, CCTV Center for Media & Democracy, and the Open Technology Initiative of New America Foundation, in Implementation of Section 304 of the Telecommunications Act of 1996, CS Dkt. No. 97-80 (Dec. 18, 2009) (hereinafter Petition of Public Knowledge et al.).

<sup>3</sup> The Cable Television Consumer Protection and Competition Act of 1992 directs the Commission to, among other things, “promote the commercial availability, from cable operators and retail vendors that are not affiliated with cable systems, of converter boxes and of remote control devices compatible with converter boxes” and “ensure compatibility between televisions, video cassette recorders, and cable systems.” 47 U.S.C. § 544a (2006). The 1996 Telecommunications Act directs the Commission to, among other things, “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, from manufacturers, retailers, and other vendors not affiliated with any multichannel video programming distributor.” 47 U.S.C. § 549.

<sup>3</sup> See Comments of Public Knowledge, Media Access Project, and New America Foundation, in Implementation of Section 304 of the Telecommunications Act of 1996, CS Dkt. No. 97-80 (June 14, 2010) (hereinafter June 14 Comments).

<sup>4</sup> That is, cable television, direct broadcast satellite providers, subscription TV provided over copper telephone lines or fiber optic cables, and any other entity that meets the definition laid out in 47 U.S.C. § 522(13).

and many commenters filed to support it.<sup>5</sup> In February, the FCC articulated its vision for AllVid in the National Broadband Plan.<sup>6</sup> Shortly thereafter, a unanimous Commission approved the Notice of Inquiry that is the occasion for these comments.<sup>7</sup> This NOI is a step toward implementing the Plan’s AllVid recommendation, but the Commission needs to follow it up quickly with a Notice of Proposed Rulemaking and implementing regulations. The case for AllVid has been made, and the Commission has accepted it. A voluminous record demonstrates the Commission needs to take decisive action to carry out its statutory directive to promote compatibility and competition in the video device market. Commenters welcome the opportunity to help the Commission achieve this goal.<sup>8</sup>

## **SUMMARY**

The Commission must implement AllVid because it is the best way for it to implement its statutory duty to promote a competitive marketplace for compatible video devices—that is, devices that can display and interact with content from *all* MVPDs. The CableCARD approach<sup>9</sup> was flawed in that it cannot cope with the technological diversity of MVPD networks. Furthermore, stakeholders agreed to CableCARD before the full

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<sup>5</sup> See, e.g., Comments of Consumer Electronics Association on NBP Public Notice #27, in A National Broadband Plan for Our Future, GN Dkt. No. 09-51 (Dec. 21, 2009); Comments of TiVo Inc. on NBP Public Notice #27, in A National Broadband Plan for Our Future, GN Dkt. No. 09-51 (Dec. 22, 2009).

<sup>6</sup> See Federal Communications Commission, *Connecting America: The National Broadband Plan* 35-36, 49-52 (2010) (hereinafter Plan). In the Plan, the Commission referred to the AllVid adapter—the small piece of hardware that makes MVPD content available on a home IP network (AllVid’s key functionality) as a “gateway device.” These comments treat the term terms as synonymous, and refers to the overall regulatory concept as “AllVid.”

<sup>7</sup> Video Device Competition, *Notice of Inquiry*, 24 FCC Rcd. 4275 (2010) (hereinafter NOI).

<sup>8</sup> The Plan gave December 31, 2012 as the latest time by which MVPDs should begin supporting AllVid devices. Plan at 51.

<sup>9</sup> See June 14 Comments.

possibilities of home networking became apparent—it is obvious now in a way it was not thirteen years ago that the easiest way for home devices to interact with each other is through common, standards-based networking technologies. The demarcation point between the MVPD and the home can therefore be the home network: there is no longer any need to install MVPD equipment directly inside consumer electronics—the essence of the CableCARD model. AllVid will enable this superior, networking-based approach. Despite the less-than-stellar record of CableCARD implementation, the Commission observed in its Notice of Inquiry (NOI) that device choice and competition works in home broadband technology and in telephony.<sup>10</sup> The Commission therefore has no reason to ignore the law and give up on Congress’ goal of promoting device competition on MVPD networks: consumers have shown in every other market that they prefer to purchase devices (because this saves them money and gives them greater control), and that they prefer the benefits of choice and competition to the blandness and predictability of leased devices.

The technology for AllVid already exists, as demonstrated by the many devices that offer similar functionality.<sup>11</sup> Nor does implementation raise significant cost issues,

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<sup>10</sup> NOI ¶¶ 18-20.

<sup>11</sup> Many devices and pieces of software are on the market today to share media content over a home IP network. The HDHomeRun by Silicon Dust is notable because it already works like an AllVid adapter, but with broadcast content. *See* SiliconDust, <http://www.silicondust.com/products/hdhomerun/atsc>. Beyond this, hardware devices that make media content available over IP networks today include:

- Apple TV  
<http://www.apple.com/appletv>
- Asus O!Play  
[http://www.asus.com/product.aspx?P\\_ID=sPkRGUeRrpiVY15K](http://www.asus.com/product.aspx?P_ID=sPkRGUeRrpiVY15K)
- Boxee Box  
<http://www.boxee.tv/box>
- brite-View

because MVPDs will not have to significantly upgrade their networks to support it.

AllVid leaves an MVPD's back-end infrastructure untouched, requiring only that the

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- <http://www.brite-view.com>
  - D-Link DSM-330 Divx Connected HD Media Player,  
<http://www.dlink.com/products/?pid=653>
  - Iomega ScreenPlay Director HD  
<http://go.iomega.com/en-us/products/multimedia-drive/screenplay153-multimedia-drives/screenplay-director>
  - Linksys Media Center Extender  
<http://www.logitech.com/speakers-audio/wireless-music-systems/devices/5745>
  - Logitech Squeezebox Touch  
<http://www.logitech.com/speakers-audio/wireless-music-systems/devices/5745>
  - Microsoft Xbox 360  
<http://www.xbox.com/en-US>
  - Netgear Digital Entertainer Elite  
<http://www.netgear.com/Products/Entertainment/DigitalMediaPlayers/EVA9150.aspx>
  - Nintendo Wii  
<http://www.nintendo.com/wii>
  - Roku Player  
<http://www.roku.com/roku-products>
  - Roku Soundbridge  
<http://www.rokulabs.com/soundbridge/index.php>
  - Slingbox  
<http://www.slingbox.com>
  - Samsung Media Live Digital Media Extender  
[http://www.samsung.com/us/consumer/tv-video/televisions/television-accessories/MR00EA1X/XAA/index.idx?pagetype=acc\\_detail&subsubtyp e=digital-media-extender](http://www.samsung.com/us/consumer/tv-video/televisions/television-accessories/MR00EA1X/XAA/index.idx?pagetype=acc_detail&subsubtyp e=digital-media-extender)
  - Sonos  
<http://www.sonos.com>
  - Sony Playstation 3  
<http://us.playstation.com>
  - Syabas Popbox  
<http://www.popbox.com>
  - TiVo Premiere  
<http://www.tivo.com/products/tivo-premiere/index.html>
  - Western Digital WD TV  
[http://store.westerndigital.com/store/wdus/en\\_US/DisplayCategoryProductListPage/ThemeID.1300400/parentCategoryID.13092400/categoryID.13742300](http://store.westerndigital.com/store/wdus/en_US/DisplayCategoryProductListPage/ThemeID.1300400/parentCategoryID.13092400/categoryID.13742300)

AllVid adapter make MVPD content available on the home network. This is precisely the way the back-end diversity among broadband networks is handled. Nor will MVPDs have to make significant changes to their business plans under AllVid: Under AllVid, as today, they will be able to sell or lease video devices to their customers with rich, complete user interfaces, and market their devices to their customers as offering a superior experience. All that will be different under AllVid is that competitors will be able to do the same.

AllVid is a simple idea, but it can be viewed from technological, business, and consumer perspectives. From a technology perspective, AllVid is the requirement that all MVPDs make their content available over home internet protocol (IP) networks in a way that is standardized nationwide.<sup>12</sup> This allows any device that “speaks IP” to access the content without having to ask the MVPD for permission. From an innovator’s perspective, AllVid is a simple set of rules that creates a predictable, nationwide marketplace for video devices, thus creating economies of scale and the necessary climate for investment. It brings down the barriers that have prevented them from interoperating with pay TV. From a consumer perspective, AllVid is the long-overdue action necessary to bring down prices and increase the attractiveness and functionality of the gateways to MVPD content. It will allow competitive consumer electronics

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<sup>12</sup> While the Commission is aware of this, for the benefit of other readers it bears repeating that IP networking refers to the protocol the Internet uses, but does not imply that an IP network is connected to the Internet. One can have a home IP network without an active connection to the Internet, and AllVid does not require that consumers be connected to the Internet to access MVPD content. The AllVid concept does allow third parties, if they choose, to create devices that seamlessly mix and match content from various sources—broadcast TV, terrestrial and satellite radio, broadband Internet, downloaded content, MVPD content, and physical media. But this convergence is a possibility that AllVid allows, not a part of AllVid *per se*.

companies to compete for their dollar, and will ensure that MVPD networks and services keep pace with the Internet and mobile telephony.

The barriers to AllVid are not technological or economic, but behavioral. With CableCARD, the Commission learned that technical barriers do not stand in the way of video device competition—artificial barriers to entry built by incumbents who benefit from the status quo do. Those who are comfortable with the current uncompetitive regime do what they can to keep it in place. Despite the presence in the market of appropriate technology and willing buyers, MVPDs have consistently attempted to keep “foreign devices” from their networks.<sup>13</sup> But Congress has repeatedly sought to promote competition, and has directed the FCC to enact regulations that lower the barriers that limit entry to the video device market by innovators and entrepreneurs. To carry out the directives of Congress and knock down these barriers, the Commission has proposed AllVid, which could be the *Carterfone* of MVPDs. To make sure that AllVid becomes a reality, the Commission must focus as much on the rules that are necessary to enable this competition as it does on the technical specifications of the AllVid adapter itself. This means that the Commission must make common reliance a reality by ensuring that AllVid adapters do not have any interfaces or communications paths that bypass AllVid. The Commission must ensure that MVPDs do not give their own devices an unfair advantage by subsidizing them with general revenue or subscription fees. This also means that the AllVid adapter should not foreclose the full possibilities of competition

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<sup>13</sup> See JONATHAN E. NUECHTERLEIN & PHILIP J. WEISER, *DIGITAL CROSSROADS* 58-59 (MIT Press Paperback Ed. 2007), for an overview of AT&T’s historic attempts to prevent “foreign devices”—i.e. equipment from competitors—from being used on the telephone network.

and innovation in the consumer electronics marketplace by providing a user interface—the window through which users interact with MVPD content.

**I. THE COMMISSION MUST ENACT RULES THAT ENSURE THE SUCCESS OF THE ALLVID APPROACH**

The Commission can ensure the success of the AllVid approach with targeted requirements to promote third-party competition. It must ensure “common reliance”—the principle that all MVPD-supplied equipment uses the same communications paths and interfaces as third-party equipment. It must prevent cross-subsidization between devices and services. It should promote technologies without burdensome licenses, and it should avoid “content protection” technologies that in reality merely prevent interoperability between devices and frustrate consumers. Finally, it should meaningfully enforce the rules it enacts, and not grant waivers that render them ineffective.

*A. MVPD-Supplied Video Devices That Access Content Provided over the Home IP Network Must Not Be Cross-Subsidized With Service Fees, and Must Rely on the Same Technologies Used by Third-Party Devices*

A helper device is necessary to display content from the home IP network on a legacy TV, and this helper device may be provided by the MVPD. In fact, subject to rules preventing cross-subsidization of devices and service and mandating technological common reliance on the AllVid adapter, under the AllVid system MVPDs remain free to rent helper devices, set-top boxes, or other equipment to consumers. If their products are compelling, consumers will choose to use them—but MVPDs should not use their privileged position (caused by the relative lack of competition in the MVPD market as contrasted with the consumer electronics market) to promote their devices over those of

their competitors.<sup>14</sup> Like those of their competitors, MVPDs’ products should sink or swim on their own merits, and like their competitors, MVPDs will be free to market their video device products to the customers of any MVPD, not just their own customers. Of course, strictly speaking, leased devices—even helper devices that allow legacy TVs to access content on an IP network—are not part of “AllVid.” They are video devices, just like third-party TVs or DVRs, that access content put onto the home IP network by the AllVid adapter. But because one of the primary purposes of AllVid is to promote a competitive market in just those kinds of devices,<sup>15</sup> the Commission must strictly enforce rules preventing the cross-subsidization of device costs with MVPD subscription fees, as well as adopting technical rules that require “common reliance” on the AllVid adapter.

The AllVid approach does not forbid an MVPD from creating devices with rich user interfaces (UIs)—it just requires that MVPD-provided navigation experiences cannot be the only option for consumers. Some MVPDs have stressed the tech support and

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<sup>14</sup> In any event, Section 629 requires that the FCC continue to allow MVPDs to offer[] 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.

47 U.S.C. § 549(a). Thus, Congress has already found that it is good policy to allow MVPDs to provide video devices—provided they do so under rules that allow for fair competition.

<sup>15</sup> The Commission is charged with promoting the competitive availability of and compatibility between video devices. The AllVid adapter is a means to this end, but the purpose of AllVid is not to promote competition in the adapter market, any more than the Commission is charged with promoting competition among makers of cable head-end equipment.

ease-of-use advantages of a “turnkey solution,”<sup>16</sup> and indeed, a unified customer service experience may be a legitimate way for MVPDs to differentiate their video device offerings from those of their competitors. There are many legitimate and pro-competitive reasons why an MVPD may wish to continue providing some of its consumers with a complete experience, and they should be free to do so subject to rules that promote fair competition and do not allow MVPDs to unfairly privilege their products over those of their competitors. Uncompromising insistence on “common reliance” is one of the ways to keep MVPD entry into the video device market pro-competitive. MVPD-supplied video devices must only access MVPD content through the same network as third-party devices, and third-party devices must have full and equal access to all MVPD content and services. Similarly, MVPD-supplied video devices must not have any backdoors into the AllVid device, and must not communicate with the MVPD backend except through the AllVid adapter. Therefore, in addition to adopting rules that assure technological common reliance,<sup>17</sup> the Commission must expressly require that first- and third-party devices compete on an equal footing.

Experience with CableCARD has shown that incumbent behavior, rather than technical complexity, creates the greatest barriers to competition. Competitors can find themselves shut out if MVPDs are able to offer leased devices at rates that are expressly or implicitly subsidized by subscription fees. To prevent this, for those customers who

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<sup>16</sup> See Letter from Linda Kinney, Vice President, Law & Regulation, EchoStar Satellite, to Marlene H. Dortch, Secretary, Federal Communications Commission, GN Docket No. 09-51 (Feb. 22, 2010).

<sup>17</sup> AllVid adapters cannot include any features (*e.g.*, direct video outputs) that allow MVPDs to bypass the basic AllVid functionality of making video content available on a home IP network. This will allow the Commission to ensure common reliance technologically, as well as by rule. See discussion *infra* Part II.A.

choose to use MVPD-supplied video devices to access AllVid content, the Commission must require that MVPDs (1) disclose the retail price of leased equipment alongside the monthly rental fee, (2) disclose to customers on each bill how much they have paid in rental fees for that equipment to date, and (3) expressly inform customers that they have the option of purchasing a competitive device at retail. Additionally, the FCC must ensure that no portion of an MVPD's service fees goes to cover equipment costs—for example, by requiring that device rental fees cover all first-party equipment and support costs incurred by the MVPD.

*B. To Reduce Barriers to Entry, the Commission Should Require Self-Certification of Video Devices, and Pick Technologies Without Licensing Obstacles*

The requirement that CableLabs, a cable industry-controlled body with a structural bias against promoting video device competition, certify CableCARD devices before they can reach consumers is one of the barriers to entry that has long held back the CableCARD market. To head off similar issues in the future, the Commission must ensure that device certification processes are not controlled by MVPDs, and that MVPDs must go through the same procedures to have their video devices certified as any other provider. In general, any device which does not harm the network should be certified, whatever its merits in other respects. The best way for the Commission to achieve this is to adopt a self-certification process, similar to the processes that have been successful elsewhere.<sup>18</sup> This will ensure that video devices can reach the market without delay.

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<sup>18</sup> *E.g.*, the ATSC Mobile DTV Certification Program “relies primarily on self-certification by industry members.” Press Release, ATSC Launches Certification Program For Mobile Digital TV Equipment, Dec. 16, 2009, *available at* <http://www.atsc.org/cms/index.php/communications/press-releases/170-atsc-launches-certification-program-for-mobile-digital-tv-equipment>.

Commenters have already suggested that AllVid rely on, to the greatest extent possible, technologies that are available royalty-free.<sup>19</sup> Since that time, Google has made available a fully-featured video codec, VP8, on a royalty-free basis.<sup>20</sup> The Commission should require that AllVid adapters support VP8, at least on a fallback basis. While there are strong arguments in favor of advanced and widely-used, but proprietary codecs like H.264, requiring support of at least one royalty-free codec will ensure that third parties can innovate without permission and have guaranteed access to all necessary interoperability technologies. For similar reasons, the Commission should ensure that anyone, large or small, can implement the technologies it endorses with free and open source software. These measures will ensure the most vibrant ecosystem of competitive devices.

*C. Access Control Technologies Are Distinct from DRM, Which Should Not Stand in the Way of Interoperability Between Video Devices*

The Commission must be careful to distinguish between access control technology and technology that attempts to impose post-use restrictions on content. Access control technology makes sure that MVPD customers only get the content they have paid for. Such technologies are commonplace in the networked environment: website paywalls and e-banking security are access control technologies. Access control technologies are an essential and effective part of the digital landscape, rightly embraced by consumers and business alike.

Copy protection technologies (often called digital rights management (DRM) or technical protection measures (TPMs)), by contrast, are a widespread but ineffective

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<sup>19</sup> Petition of Public Knowledge et al. at 33.

<sup>20</sup> VP8 is part of the WebM project. See WebM, <http://www.webmproject.org/about>.

technologies that seek to protect rightsholder interests. But far from preventing the unauthorized copying of copyrighted material—which they typically fail to do—these technologies stand in the way of lawful fair uses such as time- and device-shifting, and frequently require that consumers pay for the same content over and over again. They also limit device interoperability and stand in the way of fully competitive markets in many kinds of devices, from music players to video devices. The agency must engage in reasoned decision-making, and it is unlikely that a decision to implement technologies that stand in the way of the congressional policy and the Commission’s goals could withstand review.<sup>21</sup> Additionally, as explained by the broadcast flag case,<sup>22</sup> post-transmission restrictions on content are not forms of “communication by wire or radio” and thus fall outside of the Commission’s subject matter jurisdiction. It is unlikely that anything in the Communications Act—even the broad mandates of Sections 624A and 629—could be read to give the Commission authority to implement copyright policy.

*D. The Commission Must Meaningfully Enforce Its AllVid Regulations, and Not Grant Waivers That Render Them Toothless*

After a brief transitional period, the Commission should enforce its AllVid rules strictly, and proportionately to the size of the MVPD. It should engage in meaningful enforcement (i.e., backed by forfeiture). To avoid noncompliance with the CableCARD rules, the Commission extended the deadline for compliance with “the integration ban” for years.<sup>23</sup> It then granted waivers that undercut the opportunity of entrepreneurs to

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<sup>21</sup> The Administrative Procedures Act constrains the FCC’s decision-making and would preclude the agency from reaching unwarranted conclusions. *See* 5 U.S.C. § 706

<sup>22</sup> *American Library Ass’n v. FCC*, 406 F.3d 689 (D.C. Cir. 2005).

<sup>23</sup> Implementation of Section 304 of the Telecommunications Act of 1996, *Fourth Further Notice of Proposed Rulemaking*, FCC 10-61, CS Dkt. No. 97-80, at ¶ 7 (Apr. 21, 2010).

market compliant, non-integrated devices. While the Commission should always take into account an MVPD's particular facts and circumstances, including whether its failure to comply with AllVid rules is willful or inadvertent, the FCC's willingness to accommodate MVPDs under CableCARD was flexibility taken too far. The FCC's willingness to waive its rules and extend its deadlines made it difficult for CableCARD to succeed. Under AllVid, the Commission should establish its rules and stick to them, and instead of granting waivers, should give technical assistance to MVPDs that appear to have difficulty complying.

## **II. THE FUNCTIONALITY OF THE ALLVID ADAPTER SHOULD BE KEPT TO A MINIMUM**

An AllVid adapter should take an MVPD's content and programming guide data and make it available over a home IP network.<sup>24</sup> AllVid devices should use IP networking because it is the standard for home local area networks (LANs) and the protocol most networked home devices already support.<sup>25</sup> Picking an existing and widely-deployed technology is the best approach the Commission could take to ensure rapid adoption of AllVid, and it could allow existing devices (*e.g.*, PCs running the right software, game consoles or other devices attached to TVs) to function as AllVid video devices, bootstrapping the competitive ecosystem.

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<sup>24</sup> This is the "whole home gateway" approach described by the Commission. NOI ¶ 25. A home IP network might consist only of an AllVid adapter and a single video device, communicating with each other over IP, or a complete multi-device network. This demonstrates that the AllVid adapter should, like most home IP devices, be able to receive an IP address from a Dynamic Host Configuration Protocol (DHCP) server as well as operate in a more ad hoc environment. (The set-back box approach, *see* NOI ¶ 25, by contrast, merely replicates the obsolete set-top box approach and fails to take into account the flexibility of home networking.)

<sup>25</sup> *See* NOI ¶ 27.

From the perspective of competitive devices, AllVid’s simple approach makes the physical and technological differences between MVPDs irrelevant at a stroke, and allows third parties to develop devices that use MVPD content without having to know the specifics of the MVPD’s physical plant. In the same way that the same PC can be used first with a cable modem, then with a DSL modem without any changes, under the AllVid approach, the same third party device can be used with any pay TV service without changes to its configuration. In the same way that a cable modem has cable-specific hardware, and a DSL modem has DSL-specific hardware, yet both provide the same kind of connectivity to home IP devices, any specific hardware that a particular MVPD needs to communicate with its physical plant or to function effectively—whether that is local storage for on-demand movies, an alternate return path for two-way communication, or any other proprietary hardware—it can easily include in the adapter. From the perspective of the user and of competitive devices, the AllVid adapter is a “black box”: MVPDs are even free to move some functions into “the cloud” as long as the adapter makes those functions available to third-party devices over the home network.<sup>26</sup> This is a significant benefit of the AllVid approach—it takes into account the technological diversity of different MVPD platforms, and does not require extensive infrastructure or head-end upgrades. In addition to competing for customers on the basis of the quality and price of the content they offer, MVPDs will still be able to compete with each other on the basis of the efficiency of their delivery technologies.

While each MVPD will require its own flavor of adapter to communicate and interconnect with the MVPD’s particular physical infrastructure, every AllVid adapter

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<sup>26</sup> Thus, moving functionality “into the cloud or network” is not a “viable alternative” to the AllVid model, *see* NOI ¶ 42, but complementary to it.

will make its content available to other devices on the home IP network in the same way. Such an adapter can be assembled from already-existing technologies, and devices with similar functionality already exist on the market today. For example, SiliconDust's HDHomeRun products function like AllVid adapters for broadcast content,<sup>27</sup> which they make available over a home IP network to any compatible device, and the Digital Living Network Alliance (DLNA)<sup>28</sup> is an organization that promotes standards-based technologies to enable media sharing between consumer devices. Additionally, Zeroconf is a widely-used technology that allows different devices on a home IP network to readily discover each other, avoiding any need for cumbersome set-up procedures.<sup>29</sup> The existence of several products on the market today that make the sharing of video content over home networks simple and easy to use shows that the AllVid concept is readily achievable.

A. *The AllVid Adapter Should Not Include Extraneous Functionality That Could Undermine the Entire Approach*

As the National Broadband Plan found, the AllVid device should be kept simple. According to the Plan, a “key principle” of the AllVid concept is that it

should be simple and inexpensive, both for MVPDs and consumers. It should be equipped with only those components and functionality required to perform network-specific functions and translate them into open, standard protocols. The device should not support any other functionality or components.<sup>30</sup>

There are two main reasons for this. First, like a broadband modem, an AllVid adapter should be kept simple to keep its cost down. The FCC noted in the Plan that a simple

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<sup>27</sup> See Silicon Dust, Products, <http://www.silicondust.com/products/hdhome/atsc>.

<sup>28</sup> See Digital Living Network Alliance, About DLNA, [http://www.dlna.org/retail/about\\_us](http://www.dlna.org/retail/about_us).

<sup>29</sup> See Zero Configuration Networking, <http://www.zeroconf.org>.

<sup>30</sup> Plan at 51 (Recommendation 4.12).

device would “limit costs to consumers.”<sup>31</sup> The Commission should therefore not require the inclusion of extraneous hardware features like Advanced Television Systems Committee (ATSC) tuners.<sup>32</sup> There is no reason to include hardware that is unrelated to the AllVid functionality of the adapter. Indeed, as for ATSC tuners, such a requirement is especially unnecessary, as most televisions already include digital tuners, and devices like the HDHomeRun are available to make broadcast content available over home networks. While the Commission need not be so prescriptive as to ban the inclusion of any technologies solely because it sees them as irrelevant or extraneous, it would certainly be bad policy to mandate their inclusion. The second reason the Commission should strive to keep the design of the AllVid adapter simple is to ensure common reliance. As the FCC noted in the National Broadband Plan, the “*sole* function [of the AllVid adapter] should be to bridge the proprietary or unique elements of the MVPD network (*e.g.*, conditional access, tuning and reception functions) to widely used and accessible, open networking and communications standards.”<sup>33</sup> This will make sure that any devices MVPDs themselves provide use the exact same technological methods to obtain and display programming and other content. Therefore, the Commission should prevent the inclusion of any technology in the AllVid adapter that allows an MVPD to “work around” AllVid networking, and create its own communications path for its own devices. For example, an AllVid adapter should only connect to home IP networks, and should not have any other video interfaces, such as HDMI. An AllVid adapter should not

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<sup>31</sup> *Id.*

<sup>32</sup> *See* NOI ¶ 35.

<sup>33</sup> Plan at 51 (Recommendation 4.12). Any optional features included in an AllVid adapter by an MVPD—those not required for it to function, nor forbidden as undermining common reliance—are not part of AllVid.

have any tuning ability, and should not be able to function as a traditional set-top box. These requirements are the only way the Commission can ensure that there is a single demarcation point between the home and the MVPD network that everyone uses, both MVPDs (with any devices they may lease or sell) and third-party competitors. Apart from the AllVid adapter itself, MVPD-supplied devices and software must have no privileged access to the MVPD's "back end." This requirement will both keep adapter costs low for MVPDs and consumers, and ensure common reliance. The Commission must enact, strictly enforce, and not waive this requirement, because it is essential to the promotion of a competitive market for video devices.

*B. To Give Third Parties the Opportunity to Innovate, the AllVid Adapter Should Not Provide a User Interface*

Commenters understand that MVPDs would like for their customers to remain captive to their default user interface, and would prefer that competitive devices act as mere clients that display content in a way chosen by the MVPDs.<sup>34</sup> This is the wrong approach: MVPDs should make their content available over the home network, but they should not "present" it. The video device and not the AllVid adapter should provide the user interface. There are two primary reasons for this. First, one of the key ways that electronics manufacturers differentiate themselves from one another is through offering varied user experiences—in the mobile space, for instance, Blackberry, Apple, and Palm all offer very different models of smart phone interaction, and Google even allows its Android partners to develop custom UIs (*e.g.*, HTC's Sense) that replace the default Android interface. The Commission will greatly reduce the competitiveness and viability of the market for third-party devices if it enacts rules that prevent them from being fully

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<sup>34</sup> NOI ¶ 43.

competitive through creating differentiated user interfaces, and if it allows MVPDs to short-circuit the marketplace by predetermining the way devices display video content. Second, one of the reasons the Commission has already cited<sup>35</sup> for exploring the AllVid concept is that this approach will allow over-the-top video and other content to be seamlessly presented alongside MVPD content. But if MVPDs retain control over the user interface, third-parties will not be able to seamlessly display content in this way. For example, a competitor may want to develop a television that displays on-demand and pay-per-view content from a variety of sources. Such a television might show that the same movie is available both from the MVPD and an over-the-top on-demand provider—but is cheaper from the over-the-top provider. Without being able to control its own UI, and seamlessly show MVPD content right alongside over-the-top content, the user will not be able to easily make a price comparison, limiting market efficiency.

Even if a device manufacturer retains some flexibility over the design of its device’s UI, if the MVPD retains control over the user experience for interacting with content delivered over its network, a user may have to switch the television into a different “mode” or launch a different application to compare different sources of content. In addition to preventing a user from easily comparing and mixing different sources of content, third-party manufacturers would have to support and license the software that was necessary to display the MVPD’s “app.” Such a system would fail to bring consumers the full fruits of a competitive marketplace for video devices, as licensing the software necessary to support it would be a substantial barrier to entry. Indeed, such a system is similar to “tru2way,” a cable-promoted middleware layer the

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<sup>35</sup> NOI ¶ 17.

Commission has already found is unlikely to “assure the development of a commercial retail market as directed by Congress.”<sup>36</sup>

To ensure competitiveness, outside innovators must be free to innovate, and should not be relegated to merely re-displaying content in a form of the MVPD’s choosing. Just as an Internet user is free to use any brand of PC, to run any operating system and to use any browser with his broadband connection, an MVPD customer should have complete control over the hardware and software he chooses to use with his MVPD connection.

### **III. ALLVID WILL PROMOTE INNOVATION IN THE MVPD MARKETPLACE, AND WILL CAUSE SIGNIFICANT POSITIVE EXTERNALITIES**

While the case has already been made for AllVid as the best way for the Commission to implement its statutory duty to promote video device competition, in considering the record the Commission should also bear in mind that AllVid is likely to create positive externalities—beneficial effects of its actions that go beyond its direct goals.

For instance, though they may resist it, AllVid is necessary to allow MVPDs to match the frenetic progress that has marked other areas of communications technology for the past several years. MVPDs are in control of the user experience in a way that is anomalous compared with other kinds of networks, and while that control might be comfortable, it holds back progress. Just compare MVPDs to other platforms. Consumers do not have to use a telco-supplied telephone to make a phone call. They do not have to use an ISP-supplied computer, operating system, and browser to use the Internet. Even in

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<sup>36</sup> NOI ¶ 12.

mobile telephony, which is dominated by a handful of carrier and handset giants and rife with handset exclusivity, consumers can use unlocked phones on any compatible network. But apart from a few CableCARD devices that succeed against the odds, consumers have to use MVPD-supplied equipment and software to access their pay TV content. Today, users benefit from the convergence of mobile data with telephony, and breakneck hardware and software innovation provides consumers with smartphones that would have seemed like science fiction just five years ago. However, only a small number of tech-savvy users benefit from broadband convergence on the TV screen. Most content is not available over-the-top, and broadband video users must purchase an entirely new set of devices—even attaching full-fledged PCs to their TVs—to view over-the-top content on TV screens. AllVid will allow consumers to use the same devices and the same software to access over-the-top and MVPD content. This will make broadband video more accessible to millions of consumers. While the scale of MVPDs, and their facilities-based, one-to-many architecture will ensure they remain a significant conduit for video content, over-the-top video can deliver some kinds of nonprofit, educational, on-demand, special interest, minority interest, and user-generated programming more effectively. AllVid will thus help to bring the “long tail” into the living room.

By piggybacking on existing home IP networking technology, AllVid will do more than allow competition and choice in video devices. It will do more than bring consumers lower prices and more functional and easy-to-use devices. By promoting the use of home networking, it will boost the adoption of other IP-enabled technologies. Right now, a typical consumer may have one home network for MVPD services—perhaps running over coaxial cable throughout the house. She may have another for

landline telephones, and a third for Internet connectivity. Home IP networks (which can run over any number of physical media, including wireless, CAT5 cable, and others<sup>37</sup>), by contrast, are a general purpose networking technology. They allow homes to settle on one method of extending communications technologies throughout the household. Consumers with robust home networking will find it easier to use new IP-enabled devices, such as VoIP telephones and security systems. They will find it easier to hook into the smart grid and monitor their energy usage. Even hobbyist technologies like home automation may become more accessible to ordinary consumers.

#### **IV. PROGRAMMING GUIDE DATA IS NOT COPYRIGHTABLE, AND THE COMMISSION SHOULD REQUIRE THAT MVPDS SHARE IT AS PART OF ALLVID**

The Commission has recognized that smart video devices would be the primary way consumers interact with MVPD programming. Consequently, the AllVid adapter will have to share programming information over the home IP network with third-party devices. In the NOI, the Commission has cited a line of argument that suggests that requiring the sharing of programming guide data would conflict with copyright law. Commenters briefly address this argument, because electronic programming guide (EPG) data are not subject to copyright protection.<sup>38</sup> EPG data cannot be copyrighted and may be freely shared—the only limitations regarding its use would be contractual. Even if it were copyrightable, the Commission has clear authority to require that MVPDs share it, just as it has the authority to require MVPDs to share (undoubtedly copyrighted) programming channels with each other in its program access rules, or even to require that

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<sup>37</sup> The International Telecommunications Union-promoted G.hn standard allows home networking over coaxial cable, phone lines, and power lines. *See* HomeGrid Forum FAQ, <http://www.homegridforum.org/about/faq>.

<sup>38</sup> *See* NOI ¶ 44.

they follow the retransmission consent/must carry rules.<sup>39</sup> Where the Commission has clear authority to act, the fact that something in its jurisdiction is copyrighted can be no block to its authority.

A. *Programming Data is Not Copyrightable*

As explained by the Supreme Court in *Feist Publications, Inc. v. Rural Telephone Service Company*,<sup>40</sup> it is a “well-established proposition [that] facts are not copyrightable.”<sup>41</sup> The EPG data at issue are simply factual information describing programming, and thus not subject to copyright protection.<sup>42</sup> In *Feist*, the Court determined that the names, towns, and telephone numbers provided in a telephone directory were facts not subject to copyright protection. Likewise, the programming information that comprises EPG data would not be subject to copyright protection and may be freely utilized by competitors.

In *Feist*, the Court did note that while raw facts are not subject to copyright, particular compilations of facts *may* enjoy copyright protection.<sup>43</sup> However, “collections of facts are not copyrightable *per se*” and, in order to be copyrighted, must meet some requisite level of originality.<sup>44</sup> The simple, logical arrangement and display of contact information in *Feist* was not found to have met this minimum level of originality to be deemed a work of authorship subject to copyright protection.<sup>45</sup> However, even if a compilation of facts does meet this requisite level of originality, the facts contained

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<sup>39</sup> See 47 C.F.R. §§ 76.64, 76.101 (2009).

<sup>40</sup> 499 U.S. 340 (1991).

<sup>41</sup> *Id.* at 344.

<sup>42</sup> *Id.* at 361-64.

<sup>43</sup> *Id.* at 348.

<sup>44</sup> *Id.* at 357.

<sup>45</sup> *Id.* at 362-63.

therein are still not copyrightable.<sup>46</sup> As such, even if a particular compilation of EPG data is original enough to be copyrighted, the facts conveyed in this compilation may still be utilized by other device makers. All that is prohibited is the display of this data in the exact same manner as the original compilation. The underlying EPG data remains unencumbered by copyright protection.

*B. Even if Programming Guide Data Were Copyrightable, the Commission Has the Authority to Require That MVPDs Share It*

Furthermore, the FCC has the power to compel the sharing of EPG data even if it were copyrightable. Under Section 4(i) of the Communications Act, the Commission is authorized to “perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with this [Act], as may be necessary in the execution of its functions.”<sup>47</sup> This is the Commission’s “necessary and proper” clause,<sup>48</sup> and it makes sure that the Commission has the statutory authority it needs to do what it must to carry out its primary statutory directives, such as Sections 629<sup>49</sup> and 624A.<sup>50</sup> As such, the FCC may take appropriate action to facilitate the sharing of EPG data, as doing so is necessary for it to carry out its primary statutory directives. Sharing EPG data would facilitate greater ease of access and navigation to programming for consumers, and enhance the viability of competitive video devices. As TiVo has previously explained (referencing the NCTA’s own arguments), the FCC has demonstrated jurisdiction in similar instances when

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<sup>46</sup> *Id.* at 359.

<sup>47</sup> 47 U.S.C. § 154(i).

<sup>48</sup> *Mobile Commc’ns Corp. of Amer. v. FCC*, 77 F.3d 1399, 1404 (D.C. Cir. 1996).

<sup>49</sup> 47 U.S.C. § 549.

<sup>50</sup> *Id.* § 544.

seeking to facilitate ease of access to programming.<sup>51</sup> For example, the FCC has jurisdiction to facilitate access for the deaf to programming via closed captioning requirements<sup>52</sup> and access for the disabled to programming providing emergency information.<sup>53</sup> The sharing of EPG data would facilitate greater access to programming, and the FCC has the statutory authority to require such data sharing.<sup>54</sup> To suggest otherwise would allow a thin veneer of copyright to subvert major portions of the Commission's authority.

## CONCLUSION

If the Commission requires that MVPDs deploy simple AllVid adapters that make all MVPD content available over home IP networks, and backs this up with the targeted rules that are needed to ensure AllVid's success, the Commission can finally bring the benefits of choice and competition to video device consumers and, after a long delay, fulfill its statutory mandates.

Respectfully submitted,

Public Knowledge  
New America Foundation

July 13, 2010

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<sup>51</sup> Letter from Matthew Zinn, Senior Vice President, General Counsel, Secretary, and Chief Privacy Officer, TiVo, to Marlene H. Dortch, Secretary, Federal Communications Commission, GN Dkt. No. 09-47, at 10-11 (Feb. 17, 2010).

<sup>52</sup> 47 C.F.R. § 79.1.

<sup>53</sup> *Id.* § 79.2.

<sup>54</sup> Required sharing would not constitute a "taking" under the Fifth Amendment. This action is not a physical taking. Furthermore, this action is not a regulatory taking, as it does not satisfy the factors that the Supreme Court set out in *Penn Central Transportation Co. v. City of New York*, 438 U.S. 104, 124 (1978). Requiring sharing would not destroy the value of providing EPG data, would not harm distinct investment-backed expectations, and is general in character and application.