

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Media Bureau Seeks Comment on)	MB Docket No. 15-64
DSTAC Report)	
)	

**REPLY COMMENTS OF
THE NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION**

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November 9, 2015

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The National Cable & Telecommunications Association (“NCTA”) hereby submits its reply comments on the Public Notice seeking comment on the Report of the Downloadable Security Technology Advisory Committee (“DSTAC Report”) in the above-captioned proceeding. The commenters that support an AllVid rulemaking have failed to demonstrate that the Commission has the authority to adopt their AllVid proposal or a sufficient basis to justify it even if it did.¹ The Commission should instead focus on what Section 629 actually directs it to do: assure the retail availability of devices used to access MVPD services, in a manner that does not freeze or chill innovation and that does not jeopardize the security of MVPD services. The record in this proceeding clearly demonstrates that the apps-based approach is achieving these goals and is best positioned to further these goals into the future.

The Bureau seeks comment on how the DSTAC Report should inform the Commission’s obligations under Section 629 of the Communications Act. Although Section 629 addresses the availability of retail devices that can receive multichannel services and other services “offered”

¹ The parties urging the Commission to mandate specific technical standards have changed their approach (and the names for their proposals) several times. We have used the term AllVid as a short-hand descriptor for all of these varied proposals, which share characteristics of the 2010 AllVid proposal that the Commission declined to pursue, such as compelling MVPDs to devote substantial economic and technical resources to build a new interface that would enable retail device manufacturers to obtain unbundled access to the piece parts of an MVPD’s service from which they could create their own service offering without regard for MVPD-content supplier agreements, copyright, licensing and other restrictions, and Title VI requirements.

and “provided” by MVPDs, AllVid advocates propose that MVPDs re-architect their networks so that MVPD service could be disassembled into individual piece parts that any retail device manufacturer could selectively reassemble into a new third-party service, without regard to the negotiated licensing agreements under which MVPD service is assembled and distributed in the first place. The D.C. Circuit has warned the Commission that its authority under section 629 is neither “unbridled” nor “as capacious as the agency suggests,” and it does not encompass measures with only a “tenuous . . . connection to § 629’s mandate.” The court dismissed as an “obvious implausibility” any claim that section 629 “empower[s] the FCC to take any action it deems useful in its quest to make navigation devices commercially available.” An AllVid regime is beyond the scope of the Commission’s authority under Section 629 and “unduly burdensome” in violation of Congress’s directive in STELAR, and AllVid proponents have advanced no arguments that demonstrate its necessity or feasibility in a marketplace where consumers can access multichannel and online video content on a wide and growing array of apps-based retail devices.

SUMMARY

Apps platforms have created a virtuous cycle: apps are good for developers who build more apps, good for device manufacturers who sell more devices, and good for consumers who get more features and more innovation. Apps have become essential for device success. Netflix and Apple agree that the future of TV is apps. Cable operators, MVPDs and OVDs have joined the apps market and enable consumers to enjoy their video services on the most popular retail platforms, on new video devices like tablets and smartphones, and on set-top replacements like Roku. MVPDs and OVDs keep expanding the reach and competitive features of their apps. MVPD apps are available on more retail devices than there are set-top boxes, and new HTML5 web apps are now being developed for even broader coverage on the latest retail devices.

Contrary to misinformation advanced by AllVid proponents, apps provide a recordable output, add download-to-go for mobile devices, and provide recordability via cloud-based DVRs. Apps even map a path for eliminating the set-top box (and set-top box rentals) altogether.

Importantly, apps platforms enable devices and app publishers to present and differentiate their retail offerings. Smartphones offer their own distinctive top-level user interface, app store, and menu structure, and present Amazon, Netflix, YouTube, MVPD and OVD apps as written by their respective publishers with each publisher's own content, service, look and feel. The smartphone manufacturers are not permitted to take the apps apart and reassemble (Amazon's Alpha House, (Netflix's) House of Cards, and the Sony PlayStation Vue TV lineup into a "unified" offering any more than they may combine Uber and Lyft into a unified rideshare offering. Web browsers, Smart TVs such as Google's Android TV, and tablets follow the same model. Multiple apps are available, like multiple stores in a retail mall competing to get consumers into their "stores." Each app is entered separately (as consumers must enter individual retail stores), and the consumer can chose to browse or buy from any or all. When parties want closer integration, they negotiate rights in individual marketplace-driven business agreements with each service provider and app developer, to assure that arrangements like "search" meet both parties' needs and protect their brands.

Section 629 addresses the availability of retail devices that can receive multichannel services and other services "offered" and "provided" by MVPDs. However, AllVid advocates propose that MVPD service could be disassembled into individual piece parts that any retail device manufacturer could selectively reassemble into a new third-party service, without regard to the negotiated licensing agreements under which MVPD service is assembled and distributed in the first place. The AllVid proposal is not about "choice and competition." It is about a small

set of companies, including a few Internet giants, who want to free ride on other parties' programming rights and copyrights – and even handicap MVPD competition and innovation – and keep their own competitive features to themselves.

- Only MVPD, but not OVD, content would be available for third parties to slice and dice and reassemble as their own service.
- Only MVPDs, but not OVDs, would be unable to negotiate content distribution agreements that assure content providers that they could respect the terms for distribution of their content.
- Only MVPD, but not OVD, content would be stripped of its competitive features.
- An Amazon, Google or Apple could put together a guide that combines their content with MVPDs, but MVPDs couldn't do the reverse.
- Only MVPDs, but not OVDs, would lose agile development capabilities and be subjected to the fixed device protocols that historically slowed cable's innovation.
- Only MVPDs, but not OVDs, would be denied the right to use the robust, competitive and dynamic security protections that support rapidly changing new consumer offerings.

While AllVid proponents speak of broad principles of consumer choice, they would exempt themselves even as device manufacturers and OVDs continue to block competing retail devices and experiences: Google blocks apps, Apple blocks web ads, and Amazon forbids sales of competing Apple and Google streaming boxes on Amazon.com.

AllVid is also backward looking: rather than allowing MVPD customers to access service directly on their display device via an MVPD app, it would require customers to lease a new gateway device from the MVPD just to reach the display device or a retail device connected to the display, such as a TiVo box (with its own monthly service fee of \$14.99-\$19.99). AllVid would not save the consumer set-top box charges; it would just increase the number of devices needed and the energy consumed.

AllVid proponents strain to distinguish MVPDs from OVDs and others in the apps-based marketplace, but they are distinctions without difference. Cable franchises have not diminished

the availability of MVPD service or cable apps. Over 130 million homes have access to at least three MVPDs; over 45 million have access to four MVPDs; and nearly all can access OVDs. Every one of the top 10 MVPDs competes by making its service available on a variety of different hardware devices, including on retail devices that some OVDs like Amazon are blacklisting for their own competitive reasons. AllVid proponents invoke *Carterfone* to support their proposal, but the Commission has already found that *Carterfone* and the telephone network are not analogous to the video device marketplace. Cable operators do not own their set-top box vendors. They are paying for, not profiteering on, set-top boxes. Moreover, cable operators have invested substantially in the “apps” that expand the reach of their service to more retail devices, reduce the capex cost of CPE, and still respect the extensive contractual, copyright and security requirements that come with distributing licensed commercial content.

Despite nine months of intensive DSTAC work, AllVid proponents have struggled and failed to describe a workable AllVid solution. They said in DSTAC that critical elements of their proposal had “to be defined in the future” or “finagle[d] maybe.” Their Comments provide no further clarification on these open issues. Moreover, the AllVid proponents failed to address any of the deficiencies of their proposal laid out in the DSTAC Report, instead repeating prior technical errors that have already been identified as wrong. Among them is the previously-refuted claim that DTCP is sufficient as the universal AllVid security solution for all MVPDs. But DTCP is too limited and inflexible to deliver the services now provided by the competitive and dynamic security market. Anointing DTCP as the universal solution would also create a single point of attack that would contravene DSTAC’s “strong recommendations to avoid rigid and/or single implementations (one-size-fits-all) that significantly limit[] innovation, competition, or increases security risk.” In a late October submission, the AllVid proponents

effectively abandoned what they spent months advocating in DSTAC and put forth an entirely new proposal that compounds the problems with their prior version, and underscores how impractical and undeveloped both proposals are.

Even more voices have joined the thirty content and technology companies that wrote to the Commission in August that the “DSTAC’s Report underscores that there is no need for FCC technology mandates” in today’s marketplace. Indeed, the DSTAC Report details the substantial cost to consumers and harms to innovation associated with prior technology mandates. The comments raise further concerns with such mandates, including threats to smaller, independent and diverse programming networks.

It would not be a “waste,” or unfaithful to STELAR, to have conducted DSTAC and then relied on its report to conclude that new government technology mandates are not the best course to assure retail availability of retail devices for consumers. In fact, while an amendment proposed by Senator Markey in the STELAR deliberations would have compelled Commission rulemaking action, that amendment was withdrawn when it was clear that it did not have the votes.² Congress wanted the Commission to take guidance from a committee of experts, not act unilaterally, and there was no consensus among those experts for further Commission action. It certainly would have been very valuable, rather than a waste, if the Commission similarly had the benefit of an expert report on the integration ban prior to imposing that failed and costly initiative.

DSTAC did not recommend new technology mandates, and continued reliance on the market-based apps approach would be faithful to Congress’ direction. If anything, it would be

² As Senator Rockefeller told Communications Daily, “He never had the votes for it in committee and he knew that, and he won’t have the votes for it in conference, which he won’t be on.” John Hendel, *Markey Killed Last-Ditch Senate Effort to Pass STELA Reauthorization Before Long Recess*, COMMUNICATIONS DAILY (Sep. 23, 2014).

unfaithful to controlling law to adopt AllVid. Section 629 directs the Commission to assure the retail availability of devices used to access *MVPD* service, not third-party services created from the disaggregated components of MVPD service. Section 629 does not authorize the Commission to cast aside other requirements of Title VI of the Communications Act, consumer privacy rules, copyright law, commercial content agreements, or the First and Fifth Amendments.

The years of multi-industry work it took to develop the apps approach in DLNA and W3C is now bearing fruit as a whole-home app delivery solution. By encouraging that work, the Commission has already met its obligations under Section 629. The Commission should allow this rapidly evolving, competitive, and unpredictable marketplace to keep on delivering a new Golden Age of TV.

I. MVPDS AND OVDS ARE PART OF AN APPS-BASED MARKET DRIVEN BY CONSUMER DEMAND, EXPANDING SERVICES, AND RETAIL DEVICES

A. Apps and Apps Platforms Have Become Essential for Device Success

AllVid proponents attack apps as “secondary” and “hardly an improvement” on set-top boxes.³ In fact, apps are propelling retail devices’ success. Google launched its Android apps platform as a “virtuous cycle:” “a strategy that is good for developers (they sell more apps), good for device manufacturers (they sell more devices) and good for consumers (they get more features and innovation).”⁴ Apps have become essential for device success: Blackberry was near death until it moved to the Android app platform, and analysts warn that wearables need apps to succeed.⁵ Apps have also grown to define content and service delivery. In 2014, apps overtook

³ TiVo Comments at 8; Public Knowledge Comments at 11.

⁴ Andy Rubin, *The Benefits & Importance of Compatibility*, ANDROID OFFICIAL BLOG (Sept. 14, 2012), <http://officialandroid.blogspot.com/2012/09/the-benefits-importance-of-compatibility.html>.

⁵ See Matthew Lynley, *BlackBerry 10 Needs These Apps to Keep Up With the Competition*, WALL ST. J.: DIGITS BLOG (Jan. 28, 2013), <http://blogs.wsj.com/digits/2013/01/28/blackberry-10-needs-these-apps-to-keep-up-with-the->

PC-based web access to online content and services, and have become the new development priority for service providers. Public Knowledge’s prediction that MVPD apps are “doomed to failure”⁶ ignores the overwhelming marketplace success of apps and is contradicted by statements from marketplace leaders. Apple has said that “the future of TV is apps,”⁷ and Netflix has reiterated to investors its “main message for several years that what is known as channels is going to become apps, and that all of these providers [like Verizon and Comcast] need to have great apps, on a phone, on a tablet, on a TV.”⁸

AllVid proponents try to paint MVPD apps as impeding retail, entrenching a “status quo” of leased set-top boxes, or trying to foist an old non-competitive “proprietary” model onto consumers.⁹ The Writers Guild suggests that MVPDs “have been slow” to make service available on retail devices.¹⁰ The facts contradict this view: as popular apps-based devices developed in the market, MVPDs rapidly developed apps to serve those platforms. Far from opposing retail, cable operators and the MVPD industry have contributed to the virtuous cycle and developed apps that now port their multichannel service to more retail devices than there are

competition/; Will Connors, *RIM Courts App Developers*, WALL ST. J., Sept. 26, 2012, <http://www.wsj.com/articles/SB10000872396390443507204578020631307533120>; Ian Morris, *Google’s Android Is Going To Save BlackBerry With A Little Help From Amazon*, FORBES.COM (July 8, 2014), <http://www.forbes.com/sites/ianmorris/2014/07/08/googles-android-is-going-to-save-blackberry-with-a-little-help-from-amazon>; Tony Danova, *Wearable Devices Won’t Succeed On The Mass Market Until More Apps Become Available*, BUS. INSIDER (Apr. 17, 2014), <http://www.businessinsider.com/wearables-devices-wont-succeed-on-the-mass-market-until-there-are-more-apps-available-2014-4>.

⁶ Public Knowledge Comments at 13.

⁷ NCTA Comments at 20 (citing Cat Zakrzewski, *Apple’s Tim Cook: “We Believe the Future of TV Is Apps”*, WALL ST. J., Sept. 9, 2015, <http://blogs.wsj.com/personal-technology/2015/09/09/apples-tim-cook-we-believe-the-future-of-tv-is-apps/>).

⁸ NFLX - Q3 2015 Netflix Inc. Earnings Call, Edited Transcript, THOMSON REUTERS STREETEVENTS (Oct. 14, 2015) at 13, http://files.shareholder.com/downloads/NFLX/885271892x0x854762/D30DDE2E-49D9-4C3C-898C-6D8C9402F872/NFLX-Transcript-2015-10-14T21_00.pdf.

⁹ CVCC Comments at 3; Public Knowledge Comments at 11.

¹⁰ Writers Guild of America, West, Inc. Comments at 2.

set-top boxes. That universe of supported retail devices is constantly expanding – as most recently evidenced by Charter and TWC apps on retail Roku set top boxes.¹¹

B. Apps Provide a Path for Eliminating Set-Top Boxes, While AllVid Would Entrench Boxes and Box Charges

Apps also provide a path for *eliminating* the set-top box (and set-top box rentals) altogether. The apps model provides an opportunity to substitute a retail device for an MVPD set-top box: one in five households already own an apps-based Roku set-top box, an Apple TV, Amazon Fire TV, or other streaming device.¹² But apps also enable tablets, smartphones, and other video devices that consumers already own to receive multichannel service with no box at all. This forward-looking approach, particularly sought by millennials, is one that Comcast has already implemented with Stream and Xfinity On Campus, and that Time Warner Cable and Charter have implemented via their apps on Roku devices.

By contrast, AllVid is backward looking: rather than allowing MVPD customers to access service directly on their display device via an MVPD app, it would require customers to lease a new gateway device from the MVPD just to reach the display device or a retail device connected to the display, such as a TiVo box (with its own monthly service fee of \$14.99-\$19.99).¹³ By requiring this new device, AllVid would increase, not lower, the number of devices needed and the energy consumed. Apps, in contrast, could eliminate equipment rentals entirely.

¹¹ Mari Silbey, *Charter Parks Its App on Roku*, LIGHT READING (Oct. 13, 2015), <http://www.lightreading.com/video/multi-screen-video/charter-parks-its-app-on-roku/d/d-id/718706>.

¹² Free State Comments at 11 (citing Parkes Associates, Press Release: “Parks Associates: Amazon, Apple, Google, and Roku Dominate Streaming Media Device Market With 86% of Sales” (Aug. 20, 2015), <http://www.marketwired.com/pressrelease/parks-associates-amazon-apple-google-roku-dominate-streaming-media-device-market-with-2049258.htm>); Writers Guild of America, West, Inc. Comments at 3 (citing Jim O’Neill, *OTT Set-Top Box Sales Accelerate; Roku Was Best Seller in 2014*, OUYALA (Aug. 20, 2015), <http://www.ooyala.com/videomind/blog/ott-set-top-box-sales-accelerate-roku-was-bestseller>).

¹³ NCTA Comments at 26-27.

C. Cable Operators Support Online Video and Have Enabled OVDs to Gain More Subscribers than All MVPDs Combined

AllVid proponents also portray cable as somehow using set-top boxes to block the development of OVDs. Cable created broadband as we know it, serves as the critical backhaul for mobile devices, and does nothing to block OVDs from appearing on TV or retail devices. Netflix now has more subscribers than any MVPD, and there are more OVD subscriptions to Netflix, Amazon, and Hulu alone than to all MVPDs combined. Online apps are even being incorporated into cable: Netflix, HBO Now, Hulu, YouTube, Pandora and Fandango have all been incorporated into various cable offerings.¹⁴ The Writers Guild even suggests that MVPDs are “making it necessary for consumers to purchase and use multiple devices to access video.”¹⁵ This is absurd. Connected devices are immensely popular with consumers, and the availability of MVPD apps only adds to their appeal. Like other app developers, MVPDs developed apps to serve a wide variety of retail platforms, and the CE industry annually celebrates the rising unit sales in streaming boxes, streaming sticks, tablets, smartphones and the many other devices on

¹⁴ See, e.g., Shalini Ramachandran, *Cablevision to Offer Hulu to Its Customers*, WALL. ST. J., Apr. 28, 2015, <http://www.wsj.com/articles/cablevision-to-offer-hulu-to-its-customers-1430243880?alg=y> (Cablevision includes Hulu and HBO Now); *The X1 Platform*, XFINITY.COM, <http://www.xfinity.com/x1> (X1 includes Facebook, Pandora, weather reports, traffic updates, stock prices and sports scores); Derek Walter, *Comcast Adds Fantasy Stats and Eye Candy to Its Xfinity X1 Sports App*, TECHHIVE (Aug. 27, 2015), <http://www.techhive.com/article/2976538/entertainment/comcast-adds-fantasy-stats-and-eye-candy-to-its-xfinity-x1-sports-app.html>; Jeff Baumgartner, *Comcast Spruces Up X1 Sports App for Football*, MULTICHANNEL NEWS (Sept. 3, 2015), <http://www.multichannel.com/news/cable-operators/comcast-spruces-x1-sports-app-football/393475>; *Learn More about Suddenlink HD/DVR Powered by TiVo*, SUDDENLINK.COM, <http://help.suddenlink.com/television/Pages/TiVoPremiere.aspx> (Suddenlink includes Netflix, YouTube, Pandora, and Fandango); *Mediacom Communications to Offer Hulu Streaming Service*, BUS. WIRE (May 5, 2015), <http://www.businesswire.com/news/home/20150505005087/en/Mediacom-Communications-Offer-Hulu-Streaming-Service> (Mediacom includes Hulu); ARRIS Comments at 4 (discussing ARRIS Market, “an open platform for cable operators that combines over-the-top content with traditional pay TV programming”); Brian Fung, *Netflix to Become Real TV and Get Its Own ‘Cable Channel’ Next Week*, WASH. POST: THE SWITCH BLOG (Apr. 24, 2014), <https://www.washingtonpost.com/news/the-switch/wp/2014/04/24/netflix-to-become-real-tv-and-get-its-own-cable-channel-next-week/> (“In order to make the deal possible, Netflix said it had to negotiate with some of its content partners to allow streaming on cable boxes.”); Janko Roettgers, *Netflix Wants to Hook Up with Your Cable Company in 2015*, GIGAOM (Dec. 10, 2014), <https://gigaom.com/2014/12/10/netflix-wants-to-hook-up-with-your-cable-company-in-2015/>.

¹⁵ Writers Guild of America, West, Inc. Comments at 2.

which OVD and MVPD content is available – just as Google predicted for the “virtuous cycle” of apps platforms.

D. Participants in the Apps-Based Market Successfully Negotiate Agreements that Provide for Search While Protecting Their Brands

Apps do not preclude integrated search or intelligent agents, as Public Knowledge contends.¹⁶ Tablets typically present multiple apps, like multiple stores in a retail mall competing to get consumers into their “stores.” Each app is entered separately (as consumers must enter individual retail stores in a mall), and the consumer chooses to browse or buy in any or all as they wish. When parties want closer integration, they can negotiate rights in individual marketplace-driven business agreements with each service provider and app developer. TiVo and Google Fiber negotiated business agreements to enable integrated search of the Netflix app while preserving the Netflix app user interface.¹⁷ TiVo negotiated integrated search of Comcast VOD.¹⁸ The same dynamic occurs online: Google paid for Twitter search.¹⁹ Marketplace-driven negotiation is an established means for assuring that the “search” meets both parties’ needs, protects their brands, and does not artificially raise or suppress rankings in search results.

E. Apps Permit Recordable and Downloadable Content

Apps do not preclude recording, as some claim.²⁰ Cable operators offer download-to-go for mobile devices, a *recordable* VidiPath output, and provide recordability via cloud-based DVRs as documented in the DSTAC Report.²¹ By contrast, Netflix offers a streaming-only service, gaining massive consumer acceptance without Public Knowledge complaining that such

¹⁶ Public Knowledge Comments at 11.

¹⁷ WG4 Report at 142.

¹⁸ Letter of Matthew Zinn, TiVo, to Marlene Dortch, Secretary, FCC, CS Docket 97-80 (May 9, 2011).

¹⁹ WG4 Report at 142.

²⁰ Public Knowledge Comments at 11, 15-17; TiVo Comments at 7.

²¹ NCTA Comments at 14-15; WG2 Report at 18; WG4 Report at 142-43.

option deprives consumers of “fair use” as it asserts of MVPDs here.²² MVPDs and OVDs compete based on the rights they negotiate with content providers.²³

F. New HTML5 Web Apps Enable Even Broader Coverage on the Latest Retail Devices and Technologies

Public Knowledge suggests that the apps approach would require all devices to have HTML EME web browsers and that the EME would support *only* Mac or PCs.²⁴ The DSTAC Report documents the opposite. The apps-based proposal *explicitly* supports multiple apps-based platforms: device-specific platforms like iOS, Android, Samsung Smart TV, LG, Xbox, PlayStation, and Roku; W3C HTML5 web apps; DLNA VidiPath; RVU; the Virtual Joey; and Sling.²⁵ EME itself “can also be used outside of a browser in a traditional native application, in a widget or as a Web view exposed by the device platform.”²⁶ The DSTAC Report demonstrates the breadth and flexibility of the apps-based proposal and its HTML 5 EME security complement. As the following figure shows, the apps-based approach enables continued competition in cloud services, applications, platforms, DRMs, and hardware, without constraining innovation in any of them.

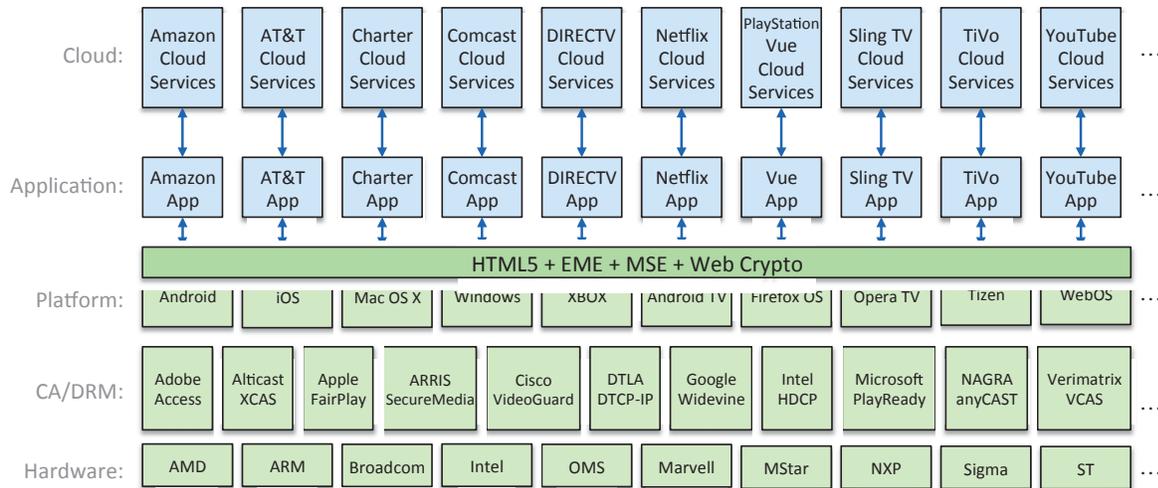
²² Public Knowledge Comments at 15-17.

²³ NCTA Comments at 19-20.

²⁴ Public Knowledge Comments at 19, 21.

²⁵ WG4 Report at 128, 130, 135, 138, 139, 140; Summary at 4-5.

²⁶ WG3 Report at 23. *See also* MPAA Comments at 5 (“Using the security APIs in HTML5 as a non-exclusive security interface provides a great deal of flexibility.”) HTML5 is supported by all major browsers (both on PCs and embedded devices) including Apple Safari, Google Chrome, Microsoft Edge, Mozilla Firefox and Opera, and is used by Netflix, YouTube movies, Google Play, and Apple movies. WG3 Report at 23-24.



WG3 Report at 23, Figure 1

Moreover, the HTML 5 EME security proposal is *explicitly* “non-exclusive for both MVPD/OVDs and CE/CPE” – allowing multiple platforms and security solutions to continue competing.²⁷ “This diversity and flexibility enables the broadest coverage of retail devices, optimizes the consumer experience on the latest devices and technologies.”²⁸

G. Apps Are the Foundation for the Smartphones, Browsers and Video Devices that AllVid Proponents Hold Up as Models

The market has developed an apps-based world in which a myriad of app providers compete, and MVPDs have developed apps exactly as Netflix, Amazon, Hulu, YouTube and other service providers do. Public Knowledge and the CVCC invoke smartphones, web

²⁷ WG3 Report at 27. The HTML 5 EME security approach also permits continued evolution in security. For example, Nagra notes that the major browsers currently each support one DRM. *See* Nagra Comments at 3. However, as the DSTAC Report explains, “Common Encryption (AKA key-sharing or simulcrypt) allows multiple security systems of potentially diverse and divergent design to simultaneously operate on the same content stream or file. This powerful property acts a safety net for choice and for countering attempts of vendor lock-in. The technique is widely deployed in numerous systems today including several major US MVPDs and almost all external to North America. It is also widely used in OTT and Internet delivery systems and called out in the related standards.” WG3 Report at 24-25. Nagra also claims that HTML5 can’t support 4K content. *See* Nagra Comments at 3-4. But as WG3 reported, HTML5 EME does not require, but can support, a hardware root of trust, and “[h]ardware chip manufacturers can continue to compete on the quality of their hardware roots of trust and on their integration with DRM.” WG3 Report at 29-30. The Working Group 4 report illustrates a DRM Client A that integrates with a hardware root of trust. WG4 Report at 134, Figure 39.

²⁸ WG4 Report at 130.

browsers and Android as models for competition.²⁹ But those examples in fact all support the apps proposal, not AllVid. Smartphones offer their own distinctive top-level user interface, app store, and menu structure, but the smartphone presents Amazon, Netflix, YouTube, and Sony PlayStation Vue apps as written by their publisher with each publisher's own content, service, brand, look and feel. The smartphone manufacturers are not permitted to take the apps apart and reassemble (Amazon's) Alpha House, (Netflix's) House of Cards, and the Sony PlayStation Vue TV line up into a "unified" offering any more than they may combine Uber and Lyft into a unified rideshare offering. Netflix, Google and Amazon do not dumb down their services for feature phones that lack an apps platform, and Public Knowledge has not proposed that they be required to do so here. Apps platforms and apps developed by service providers promote and sell the smartphones that the AllVid proponents celebrate as a model.

Web browsers follow the same model: they present each web publisher's pages and web apps as designed by the publisher. Google might like Google Chrome to be able to dissect and incorporate parts of Facebook into its own Google Plus and Google ad platform, but even the open Internet does not work that way.

Google's Android TV follows the same model, promising to "make sure that the content they provide to the user is displayed exactly as they broadcast it," and enabling app developers "to completely control the experience," and assuring that "Android TV allows them to do all of these things."³⁰

²⁹ Public Knowledge Comments at 10.

³⁰ WG4 Report at 141 (quoting Thomas Campbell, *Google: "Google TV has evolved into Android TV,"* IP&TV NEWS, Apr. 21, 2015, <http://www.iptv-news.com/2015/04/google-google-tv-has-evolved-into-android-tv/>).

II. ALLVID PROPONENTS ARE PURSUING THEIR OWN PRIVATE INTERESTS, NOT CONSUMER INTERESTS

The AllVid proposal is not about “choice and competition.” It is about a small set of companies, including a few Internet giants, who want to free ride on other parties’ programming rights – and to handicap MVPD competition and innovation – while keeping their own competitive features to themselves. AllVid proponents speak in grand universal terms. Devices, they say, should not be bound to present the services that content distributors have assembled, and CE manufacturers should be authorized to disregard the terms imposed by content providers. If that were truly the objective of the AllVid proposal, then AllVid proponents would need to include the Netflixes, Amazons and Hulus of the world as well, and all content flowing into the home would be available to be sliced and diced and re-packaged without the constraints of license, intellectual property rights, or even robust security.

But in reality, AllVid is a self-interested request for one set of commercial interests to appropriate a competitive industry’s products and services, while steering clear of any such obligations for themselves. The AllVid proposal boils down to one simple proposition: this particular group of companies would break the virtuous cycle and deny MVPDs – and MVPDs alone – the competitive agility that AllVid proponents want to keep only for themselves. The AllVid approach would not give consumers what AllVid proponents say they want. It would just condemn MVPDs to unique and discriminatory treatment forever, and condemn consumers to suffer the costs of the AllVid approach and the loss of innovation that results when a market is hobbled by regulatory arbitrage and disparities.

➤ ***Only MVPD content would be available for third parties to slice and dice and reassemble as their own service.*** MVPD content – and MVPD content alone – would be available for third party devices to slice and dice and reassemble as their own service as they

want without negotiating or respecting distribution rights. Netflix incurred \$10 billion in content costs in the second quarter of 2015 and has attracted 70 million subscribers³¹ – more than all cable providers combined. Under the AllVid proposal, however, Netflix and Sony PlayStation Vue would not be legally compelled to open up their content or programming data to others.³² An Amazon, Google, or Apple could put together an offering that combines their own content with MVPDs, but MVPDs couldn't do the reverse.

➤ ***Only MVPDs Would Be Precluded from Honoring Distribution Contracts.***

MVPDs – and MVPDs alone – would be unable to negotiate content distribution agreements that assure content providers that they could respect the terms they have negotiated for distribution.³³ AllVid proponents baldly assert that they would be “answerable to the marketplace, not to network operators or programmers,”³⁴ and they would not be required to honor the conditions of “rights holders or intermediaries.”³⁵ But every other market participant can and must honor their agreements which, among other things, control the presentation of content, and craft branding, marketing and advertising in accordance with the carefully negotiated licensing agreements under which MVPD service is assembled and distributed in the first place.

³¹ Spencer Jakab, *Don't Overlook Netflix's Big Picture*, WALL ST. J., Oct. 13, 2015, <http://www.wsj.com/articles/dont-overlook-netflixs-big-picture-1444760625>.

³² Netflix has discontinued support for developers to bring Netflix to their devices; rather, Netflix has opted to port their app to each device platform in order to maintain the look, feel, branding, and contractual rights required by Netflix and its licensors. Janko Roettgers, *Netflix Is Shutting Down Its Public API Today*, GIGAOM (Nov. 14, 2014), <https://gigaom.com/2014/11/14/netflix-is-shutting-down-its-public-api-today/> (“Netflix is shuttering its public API today, effectively ending support for a number of third-party apps that made use of the API to get TV and movie show titles as well as other data from the streaming service. ... Apps or mashups that have made use of the public API will return 404 error messages starting today.”).

³³ MPAA Comments at 6 (“Whatever solutions video distributors and third-parties adopt, they must respect the security provisions that give content owners the confidence to enter into distribution deals.”).

³⁴ Public Knowledge Comments at 15.

³⁵ EFF Comments at 2.

➤ ***Only MVPDs Would Be Stripped of Competitive Features.*** MVPD content – and MVPD content alone – would be stripped of its competitive features. For example, the live highlights, scores, statistics, standings, schedules, and fantasy leagues that MVPDs have added to compete would be stripped away in AllVid.³⁶

➤ ***Only MVPDs Would Be Unable to Negotiate for Guides.*** MVPD content – and MVPD content alone – would be subject to “unified” search and “integration” into AllVid proponents’ guides. But Amazon, Apple, Sony, and Netflix do not invite all devices, services and sites to incorporate selective elements of their services into another retail offering. They use apps and business-to-business licenses to protect and promote their brands. Under AllVid, an Amazon, Google, Netflix, or Apple could put together a guide that combines their content with MVPDs, but MVPDs couldn’t do the reverse.

➤ ***Only MVPDs Would Be Forced to Replace Agile Development with the Fixed Device Protocols That Have Historically Slowed Cable’s Innovation.*** MVPDs – and MVPDs alone – would lose the agile development that characterizes the apps-based market. Inflexible fixed device protocols historically slowed cable’s innovation, and it has taken years to put the technology in place that allows MVPD updates to occur many times a month, rather than every few years. AllVid would take us back in time. Cable would have to fit innovations through inflexible fixed device protocols, and even then the device manufacturer could block them. Such a mandate would be anything but the “light touch” claimed by Public Knowledge.³⁷

TiVo’s claim that this approach would help small MVPDs is preposterous.³⁸ An AllVid mandate is opposed by the small IPTV providers and small cable operators represented by ITTA,

³⁶ WG4 Report at 146.

³⁷ Public Knowledge Comments at 17-18.

³⁸ TiVo Comments at 5.

NTCA and ACA. For example, ACA reports that it would be “essentially impossible” for many smaller providers to comply with the AllVid proposal because they lack the necessary technical resources and “economies of scale to afford the fixed costs associated with the headend equipment required to implement” AllVid.³⁹ It further warns that adoption of an AllVid mandate could “force many MVPDs to discontinue video service altogether.”⁴⁰ Likewise, the AllVid claim that small operators don’t have device choices is belied by marketplace facts: COMPTEL member RCN uses TiVo boxes, its IPTV members use a myriad of device solutions, and smaller operators can also employ the app model.⁴¹

➤ ***Only MVPDs Would Be Denied Robust and Dynamic Security Protections ...***

Under the AllVid approach, MVPDs – and MVPDs alone – would be locked into DTCP as a sole solution, and denied the right to use robust and dynamic security protections.⁴² Every other market participant can choose from competing conditional access systems and DRMs, and can offer new business models that those systems support.⁴³ But under AllVid, MVPDs – and MVPDs alone – would be left with critical security elements missing from an approach that AllVid proponents pretend is ready to go and off the shelf.

➤ ***... While Device Manufacturers and OVDs Continue to Block Competing Retail Devices and Experiences.*** AllVid proponents say that choice is their goal. MVPDs are already making their services available on millions of retail devices. In contrast, Google Fiber TV offers no separable security and no apps for Amazon Fire. Amazon Prime does not port to Apple TV

³⁹ ACA Comments at 7-10.

⁴⁰ *Id.*

⁴¹ ARRIS Comments at 3-4; ACA Comments at 12-13.

⁴² Amazon tries to wave away security concerns as “misplaced,” while the DSTAC Report catalogues the deficiencies of the AllVid proposal. NCTA Comments at 19, 32-33; WG4 Report at 147, 159.

⁴³ WG3 Report at 17-19.

or Chromecast. Amazon fiercely resisted opening up the trusted environment it uses in Kindle to any third party.⁴⁴ Now Amazon blocks sales of competing streaming boxes from Apple and Google.⁴⁵ And Google's YouTube withdrew its public API after third parties did not present its service with all the ads and features intact.⁴⁶

Apple favors apps to sell devices, Google makes its money from ads tailored to web searches, and both are trying to handicap the other: "Last month, Apple enabled ads to be blocked on mobile websites on iPhones and iPads, ... And next month, Google will start penalizing websites that use pop-up screens to promote their apps by placing them lower in search engine results, a move that some have called 'app blocking.'"⁴⁷ One publisher caught in the crossfire explained that the goal of companies like Google and Apple is not "to support the endeavor of creative working people, but to get people addicted to their business models, their devices or interaction with a screen."⁴⁸ If, as Public Knowledge says, some device makers do not allow the download of another browser that would make HTML5 apps more ubiquitous,⁴⁹ then that is just one more artificial restraint of the device makers' creation. Rather than trying to

⁴⁴ See Transcript of Jul. 7, 2015 DSTAC meeting at 37-38 (Mr. Chaboud [from Amazon]: "when we make a device the code that runs in the trusted execution environment on that device is our code or code from the SOC vendor and that's it, right. And the reason we do that is because we put very critical keys for DRM in that context that would be accessible by any code running in that context. So if we were to run code from a third party they would have access to our entire sort of critical DRM and provisioning keys and it would compromise our security. So that won't happen."). See also *id.* at 41 (Mr. Chaboud: "I want to make the point clear that there is no requirement that code be downloaded and executed in our trusted execution environments.").

⁴⁵ NCTA Comments at 36 n.79 (citing David Streitfeld and Katie Benner, *Amazon to Stop Selling Apple TV and Chromecast*, N.Y. TIMES, Oct. 1, 2015, http://www.nytimes.com/2015/10/02/business/amazon-to-stop-selling-apple-tv-and-chromecast.html?_r=0 ("Amazon said on Thursday that it would stop selling devices from Apple and Google that compete with its own streaming media players ... Amazon is forbidding its vast army of third-party merchants from selling the Apple and Google devices after Oct. 29").

⁴⁶ NCTA Comments at 35.

⁴⁷ Katie Benner and Conor Dougherty, *Publishers Straddle the Apple-Google, App-Web Divide*, N.Y. TIMES, Oct. 18, 2015, http://www.nytimes.com/2015/10/19/technology/publishers-straddle-the-apple-google-app-web-divide.html?_r=0.

⁴⁸ *Id.*

⁴⁹ Public Knowledge Comments at 20.

sabotage apps through Commission intervention, Google should be welcoming the expansion of the apps approach to HTML5 web apps.

AllVid proponents' goal is not consumer choice, but choice for some of those proponents to help themselves to the content of MVPD retailers, while fiercely defending their own brands and offerings from competitors. Today, OVDs, MVPDs and other app developers compete in content, features, service, apps, device platforms, security and brands – and consumers benefit. There is nothing nefarious about a retailer offering and promoting a video service that distinguishes itself from other services. What would be nefarious is pulling MVPDs out of the market that has launched a cornucopia of apps-based video choices and granting a small set of self-interested players the right to free ride on the investment of MVPDs.

III. THERE IS NO BASIS FOR REQUIRING MVPDS TO DISMANTLE THEIR APPS IN WAYS OVDs DO NOT

Public Knowledge tries to justify treating facilities-based MVPDs differently than OVDs,⁵⁰ but there is no basis for such a discriminatory regime.

A. Cable Franchises Are Not a Rational Basis for Regulatory Discrimination

Public Knowledge tries to justify singling out MVPDs for discriminatory treatment under an AllVid regulatory scheme because wireline distributors have franchises to use the public rights-of-way and satellite uses regulated frequencies.⁵¹ Any supposed disadvantages suffered by OVDs from missing out on MVPD regulation are irrelevant to whether consumers would benefit from third-party devices having the same type of disaggregated access to OVD services, as the AllVid proponents claim is necessary for MVPD services.

⁵⁰ Public Knowledge Comments at 12-13.

⁵¹ *Id.* at 12.

Cable franchising has also done nothing to restrict the availability of MVPD service on retail devices or the ability of OVDs to ride the same infrastructure in those public rights of way. Although Public Knowledge invokes the old chestnut that “with limited exceptions, MVPDs do not compete with each other,”⁵² MVPDs in fact operate in a market where over 130 million homes have access to at least three MVPDs, over 45 million have access to four MVPDs, and nearly all can access OVDs.⁵³ In today’s market, MVPDs keep expanding their competitive features, innovating in architectures, services, user interfaces, apps, features and convenience. Service from every one of the top 10 MVPDs “can be accessed on a variety of different hardware devices,” the competitive standard by which Public Knowledge measures OVDs.⁵⁴ MVPD apps are even available on retail devices that some OVDs are blacklisting for their own competitive reasons.

B. As the Commission has recognized, *Carterfone* and the Telephone Network Are Not Analogous to the Video Device Marketplace

AllVid proponents try to sweep away these apps-based successes with the repeated incantation of *Carterfone*, but, as the Commission has recognized, the video and video device marketplace is quite unlike the nationally standardized Bell System, the static POTS interface, and the Bell System’s profiteering through its Western Electric division.

➤ ***The FCC has repeatedly found that the telephone network does not provide a proper analogy for video.*** The Commission has already found that *Carterfone* and the telephone network are not analogous to the video device marketplace. From the beginning of its work implementing Section 629 in 1998, it said that “the telephone networks do not provide a proper

⁵² *Id.* at 13.

⁵³ *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, FCC 15-41, Sixteenth Report, MB Docket No. 14-16, 30 FCC Rcd 3253 ¶ 31 (Apr. 2, 2015) (“16th Video Competition Report”).

⁵⁴ Public Knowledge Comments at 13.

analogy to the issues in this [video device] proceeding due to the numerous differences in technology between Part 68 telephone networks and MVPD networks.”⁵⁵ It reiterated that conclusion in 2010.⁵⁶

➤ ***The Bell System was built to a common nationwide standard with a highly stable interface for point-to-point voice.*** Unlike MVPD networks, AT&T’s telephone network was built to a common nationwide standard. It used a highly stable interface: a telephone loop with electrical characteristics that had remained essentially uniform and unchanged for a century. As the Commission said in 2010, “our telephone network was based on a nationwide standard ... the interface requirement as it applies to telephone service is not completely analogous [to video device attachment issues].” By contrast, MVPD technology and facilities are widely varied and rapidly evolving networks for content and interactive digital services.

➤ ***MVPD technology, facilities and services are widely varied and rapidly evolving, and distribute licensed content with contractual, copyright and security controls.*** At the service level, the telephone loop was used for well-defined and relatively simple “plain old telephone service” – a common carrier point-to-point service between two customers with no third-party content requiring content protection. By contrast, MVPD services are very complex, and distribute licensed commercial content with extensive contractual, copyright and security requirements.

➤ ***Cable operators are not protecting set-top box vendors as the Bell System sought to protect its wholly-owned Western Electric equipment division.*** The Bell System

⁵⁵ *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, FCC 98-116, First Report and Order, CS Docket 97-80, 13 FCC Rcd 14775 ¶ 39 (1998).

⁵⁶ *Video Device Competition; Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices; Compatibility Between Cable Systems and Consumer Electronics Equipment*, FCC 10-60, Notice of Inquiry, MB Docket No. 10-91; CS Docket No. 97-80; PP Docket No. 00-67, 25 FCC Rcd 4275 ¶¶ 19, 21 (2010).

sought to prevent competition to its wholly-owned Western Electric equipment division. By contrast, cable operators do not own their set-top box vendors. Cable operators like Atlantic Broadband, Cable ONE, GCI, Midcontinent, and Suddenlink buy their set-top boxes from TiVo.

➤ ***Cable operators are paying for, not profiteering on, set-top boxes.*** Cable operators are not making a \$20 billion “profit” from set-top box rentals as AllVid proponents contend.⁵⁷ As detailed in NCTA’s Comments, cable operators pay billions to buy set-top boxes from multiple consumer electronics manufacturers so that customers may receive their subscription service as advertised.⁵⁸ In today’s competitive market, cable operators provide discounts for packaged or promotional equipment; have invested substantially in the “apps” that enable millions of retail devices to receive service without a set-top box; and have explained to their investors their financial incentives to expand the reach of their service to more devices while reducing the capex cost of CPE.⁵⁹ And they are investing significant resources in expanding the “apps” available for retail devices in today’s market to reach the widest audience for the service they sell.

➤ ***Cable operators are enabling service on the strongest retail platforms most popular with consumers.*** Far from picking and choosing their competitors,⁶⁰ MVPDs have enabled the largest, strongest, most popular platforms demanded by consumers, starting with iOS

⁵⁷ See, e.g., CCIA Comments at 3; CVCC Comments at 3.

⁵⁸ NCTA Comments at 38 and fn. 82 (comparing cable box rentals that are significantly lower than \$10 billion with cable operators’ expenditure of \$7 billion on CPE capital and an estimated \$1 billion in set-top box maintenance in 2013).

⁵⁹ See NCTA Comments at 39 (quoting Charter’s explanation to investors that “with smart televisions and smart tablets, which essentially allow the TV or the tablet to operate as a set-top box and a TV combined, we think that incremental CPE will become less and less a factor in our overall capital structure. So we think capital intensity is coming out of CPE, and we have a strategy designed to ensure that happens.”)

⁶⁰ Sony Comments at 2.

and Android and extending apps to many more platforms. Comcast is now developing an HTML5 app for an even wider array of additional retail devices expected to have a browser.⁶¹

➤ *MVPDs set-top boxes and MVPD apps are not static black rotary phones.* Public Knowledge recalls how prior to *Carterfone*, the black rotary telephones that AT&T rented to consumers “changed little from year to year, decade to decade.”⁶² By contrast, innovations by cable, satellite, IPTV and online distributors have produced continuous innovation in multichannel networks and service and in the equipment used to receive that service. DISH launched its commercial DVR in 1999. Cablevision was the pathbreaker in cloud DVR. Comcast won an Emmy for its X-1 platform. DirecTV added live highlights, scores, statistics, standings, and schedules for all major sports, fantasy leagues, and the ability to share shows on Facebook and Twitter. AT&T developed U-Verse with instant channel change. Time Warner Cable developed apps to deliver its service on nine retail device platforms. And all MVPDs license or create new content and features by which they differentiate themselves. Apps deliver these distinctive offerings to retail devices, and the competition redounds to the benefit of consumers. Each innovation by one provider spurs competitive responses by others in the market. This rapid innovation is a hallmark of a competitive market, and the Commission has previously declined to adopt *Carterfone*-type regulations in other competitive markets, such as wireless telephone services.⁶³

⁶¹ Comcast Comments at 9.

⁶² Public Knowledge Comments at 7-8.

⁶³ See *Petition of Skype Communications S.A.R.L. to Confirm a Consumer’s Right to Use Internet Communications Software and Attach Devices to Wireless Networks*, RM-11361, Order, DA 15-471, Apr. 16, 2015 (dismissing Skype’s 2007 petition to declare that *Carterfone* applies to wireless networks).

IV. THE ALLVID PROPONENTS KEEP CHANGING THEIR DESCRIPTIONS OF ALLVID “TECHNOLOGY” – BUT UNDER ANY DESCRIPTION, IT IS VAPORWARE

A. The DSTAC Report Refutes New Claims that AllVid is “Off the Shelf” and Requires “No Changes”

Throughout the DSTAC process, AllVid proponents have struggled and failed to describe a workable solution. After many changes and even more punting of critical security elements “to be defined in the future” or to “finagle maybe,”⁶⁴ the initial comments filed in early October in this proceeding by AllVid proponents characterize AllVid as miraculously transformed into a fully-formed, easily-implemented solution. Of course, as detailed below, the entirely new proposal unveiled just days later by these same AllVid proponents belies this claim. In any event, neither the original proposal touted in their comments nor the new proposal touted in the recent *ex parte* is a “mostly” “off the shelf” solution, requiring “no changes” in MVPD networks and “nothing new” beyond “existing standards and technology ‘borrowed’ from CableCARD.”⁶⁵

Some proponents even imagine that DSTAC deemed AllVid to be technically feasible,⁶⁶ which was never claimed in the DSTAC Report. The Report documented the many deficiencies with AllVid and the years of work and significant expense to consumers that would be needed to implement it.⁶⁷ The AllVid proponents addressed none of these failings in their initial comments. They even repeat their prior technical errors that have already been refuted in DSTAC.⁶⁸ Nothing “detailed and practical”⁶⁹ has been submitted for AllVid in nine months of

⁶⁴ NCTA Comments at 23 (quoting the Public Knowledge representative in DSTAC).

⁶⁵ Public Knowledge Comments at 18; Hauppauge Comments at 2.

⁶⁶ Amazon Comments at 1, 4; Public Knowledge Comments at 4; Google Comments at 4-6.

⁶⁷ NCTA Comments at 26.

⁶⁸ Contrary to their claims, neither VidiPath nor DOCSIS modems can operate as interim AllVid gateways. WG4 Report at 152 (“This optimistic theory is unsupported by any analysis, ... and runs counter to the decades of experience of MVPDs who continually deploy new generations of in-home hardware after previous generations are found to lack the ability to accept new, more complex and larger software downloads that expand capabilities and

intensive DSTAC work or in comments in this proceeding. Instead, they tout supposed pro-consumer benefits of AllVid without bothering to “look under the hood” and actually consider what it would take to transform AllVid from vaporware and what kinds of costs AllVid would impose on consumers.

B. The Newest AllVid Proposal Abandons the Old Proposal and Reveals Even More Flaws With the AllVid Concept

In a late October *ex parte* presentation to the Media Bureau, the AllVid proponents substantially revised their proposal yet again. In the guise of submitting “technical standards and specifications” for the “virtual head-end and competitive user interface aspects of the DSTAC Final Report Recommendations,” the proponents abandoned what they spent months advocating in DSTAC and put forth an entirely new proposal that compounds the problems with the prior version, and underscores how impractical and undeveloped both proposals are.

This new proposal appears to have the same end goal as their prior ones, but is a completely different proposal than what was reported by DSTAC – with new specs, new protocols, and even more new to-be-invented parts. In DSTAC, they suggested 38 protocols (existing or to be invented). Their new proposal dropped 31 of those, kept 7 (mostly minor), and offered 10 new ones. None of these changes make it any easier to invent, develop or implement their proposals.

provide new features. The Proposal does not consider the burden imposed on the MVPD’s system to deliver features, ad insertion and other components of the MVPD service over the proposed interfaces.”). The hypothesized MMI is not based on CableCARD. MB Docket 15-64, Application-Based Service Advocates, Response to Competitive Navigation System Interoperability Additional Material (Aug. 7, 2015) at 2-3 (“Application-Based Service Advocates August 7 Response”). And rather than MVPDs “withdrawing support” for apps, the evidence demonstrates the continued expansion of MVPD apps in response to consumer and competitive demands. WG4 Report at 162. For example, Comcast’s current development of an HTML5-based app with Encrypted Media Extensions (EME) would enable access to Xfinity service on compatible device platforms without the need for building customized native apps for every device platform.

⁶⁹ CVCC Comments at 11.

➤ **The new approach would require MVPDs to provide new AllVid servers in the home to make a new retail device work, requiring consumers to make associated payments to MVPDs and bear the associated energy costs.** The AllVid proponents used to claim that the network can chose to deliver its service to a retail device from the cloud or from a new in-home device. While that was never even hypothetically true for half the industry,⁷⁰ the new proposal has replaced the interfaces proposed in DSTAC⁷¹ with home networking protocols based on UPnP and DTCP that would make cloud delivery impossible.

UPnP doesn't work from the cloud because an MVPD cannot put every subscriber and every home in an MVPD's system onto the same UPnP network. This is one reason no PCs or mobile browsers support UPnP.

DTCP-IP can only be used by devices on the same home network and does not run from the cloud. It caps the number of connected devices at 34, uses a key domain that extends over a home network and not the entire distribution network, and tries to keep content in the home by using localization metrics (measuring round trip time and 3 hops) that cloud delivery exceeds. DTCP-2 has not been released and does not change these restrictions.

The new proposal would also require MVPDs to provide a government-designed intermediary device used to interface with retail devices in the home, locking consumers into more (not fewer) boxes with their associated lease payments and higher energy consumption when consumers want a boxless, wireless solution that apps can support on the customers' own devices.

⁷⁰ Satellite could not work from the cloud and AT&T would have lost its key network distinctions like instant channel change. NCTA Comments at 28.

⁷¹ Rather than the service discovery protocols of UPnP, the AllVid proponents built their DSTAC service discovery approach on Multicast DNS, as is evident from their references to Internet standard protocols Zeroconf and Avahi. WG4 Report at 116.

➤ **The new approach would weaken security even further.** The new proposal would reduce security even below the inadequate levels AllVid proponents previously offered in DSTAC. First, it eliminates DRM and leaves DTCP as the exclusive content protection system. In DSTAC, the AllVid proponents claimed that an MVPD could implement from the cloud using one anointed DRM (they suggested PlayReady). While half the industry could not adopt cloud delivery, in theory that left some room for a DRM content protection, although it removed competition from the DRM market by choosing only one. Now with the cloud gone from the new AllVid proposal, DRM is gone, leaving the proposal relying *exclusively* on a limited DTCP “link protection” security that MPAA has already explained is not sufficient, that locks out the whole competitive market for DRM and content protection and leaves a single point of attack for pirates and hackers. Under the new proposal, DTCP would be given a government-mandated monopoly, and would likely be even slower to innovate. This is diametrically opposed to DSTAC’s “strong recommendations to avoid rigid and/or single implementations (one-size-fits-all) that significantly limit[] innovation, competition, or increases security risk.”⁷²

Second, the new proposal eliminates DLNA authentication and would require MVPDs to serve unauthenticated devices. Unauthenticated devices are often considered to be pirate devices because they can “share” their credentials widely among other devices – enabling many people to pretend to be the same subscriber using the same device.

In DSTAC, the AllVid proponents suggested recreating some form of security certification and authentication – later. Now, after considering the complexity of the task,⁷³ they

⁷² WG3 Report at 18.

⁷³ In DSTAC, MVPDs and security professionals explained that recreating security certification and authentication would include building certificate management, the required trust infrastructure (issuance, injection, protection, propagating revocation lists and requirements to query certificate revocation lists), and policies necessary to make the certificates useful (profile, fields and information) and that this would take time.

abandon it and claim now that they will rely only on DTCP security.⁷⁴ But DTCP credentials only validate that the device has met the DTCP requirements. This limitation is why VidiPath *extended* DTCP credentials to include a certification flag indicating compliance with DLNA VidiPath, enabling service providers to be assured that the device complied with the requirements for providing MVPD service. MVPDs use device authentication and device limits to meet content agreements and combat piracy.⁷⁵

Under the new proposal, MVPDs – but not OVDs – would lose the security tools they use to protect their business, compete for high value content, and make new consumer offerings using modern security.⁷⁶ Under the new proposal MVPDs – but not OVDs – would become vulnerable through a single point of attack for pirates and hackers.

➤ **The new proposal disables MVPDs from providing the service that consumers have purchased.** The new AllVid proposal removes any means for an MVPD to deliver its service the way a consumer expects and the way an OVD can on a tablet, smartphone, or streaming box. The AllVid proposal presented in DSTAC called for to-be-invented “widgets” to allow the MVPD to recreate all the interactive portions of their service, such as sports highlights and scores, interactive advertising, news tickers, weather, and integrated social media, and subscriber-initiated on-screen upgrades, downgrades, and orders for technical assistance. In

⁷⁴ AllVid proponents also suggest that MVPDs should use a login as they do for security for TV Everywhere, but an MVPD cannot authenticate a login from an unknown device with no defined execution environment (like the iOS or Android platform or a Web browser).

⁷⁵ MVPDs have contracts with limits on the number of devices per user, and limits on simultaneous devices. Without device certification, such limits cannot be enforced.

⁷⁶ The prior AllVid proposal expected MVPDs to invent a new entitlements interface to communicate what a customer has subscribed to and what the MVPD is authorized to deliver to the device. The new proposal would have a server (CDS) relay those rights, and even include plain English explanation such as “view this in HD but only record it in SD” in a “res@useageInfo” field. But there is no way to enforce such communications about entitlements, because there is no authentication, no DRM, and no tool to enforce entitlements or restrictions. Sending a restriction with no means for enforcing it is equivalent to decrypting the content and sending a text to the consumer to please not copy the content.

the new proposal, even that is gone. Consumers would lose all of the interactive enhancements of modern MVPD service that they are paying for. The new proposal also makes “optional” (that is, removes) device diagnostics that can be used to resolve consumer complaints. Like the prior proposal, the new approach also disables basic features like EAS and VOD purchases and reporting, but now in new ways. The new proposal fails to account for the wide variety of methods used to relay EAS messages in MVPD networks, and fails to require devices to render the EAS message if it arrives. The EAS specification that they cite specifically points back to DLNA, which uses the app that AllVid forbids. By removing any predictable execution environment, it also provides no enforceable or auditable way to handle VOD purchases. Like the prior proposal, it also ignores must carry and channel positioning, privacy protections for consumers’ viewing records, the local tools that MVPDs use to measure audiences and serve local ads, and the copyright licensing requirements used across the MVPD and OVD ecosystem that is powering all the programming and choice in distribution platforms today.

➤ **The new proposal demands access to new guide data that MVPDs do not own.** The new AllVid proposal would require that MVPDs provide guide data that is not used with CableCARDS, not owned by MVPDs, and is to be implemented in an entirely new and unproven way. The proponents used to say that guide data would be delivered via SCTE 65 profiles that had never been implemented even in CableCARD. The new proposal offers an entirely new approach to EPG data – extracting and loading guide data into a CDS. The new proposal does not even support current offerings, such as different prices for a single program that can be purchased with a variety of rights or options.⁷⁷ And like the proposal that AllVid proponents made in DSTAC, their new proposal ignores the fact that MVPDs don’t own the

⁷⁷ The proposed “Table A” does not support multiple price points on single asset with different offers. And as noted above there is no execution layer capability or secure purchase protocol to enable a purchase in the first place.

guide data, which is why TiVo purchases its own guide data today. The new proposal simply calls for MVPDs to disregard their contracts, infringe intellectual property and copyright, and even post the data without securing it – undermining the very economics for the TV metadata industry to collect and provide this content in the first place.

➤ **The new proposal would interfere with the IP migration.** The new proposal would require MVPDs to invest in new in-home servers designed to operate with their current services and network architectures. In-home devices create legacies that slow innovation and raise the costs of network changes. Even before an IP transition, these purpose-built devices would not anticipate all network developments, just as the CableCARD failed to anticipate the deployment of switched digital video. Cable’s capital investment in new AllVid server devices that receive legacy digital service would require expensive device replacement in order for the network to recover bandwidth currently used for legacy digital service. The new proposal would create an expensive legacy that slows network innovations and migration to IP.

➤ **The new proposal would deprive MVPD subscribers of the benefits of the global market movement to apps and HTML5.** The new AllVid approach would isolate MVPDs from the apps and HTML5 environment that has been adopted by worldwide TV standards groups, standards groups in the US, Europe, Japan and Korea, and Smart TVs and other CE devices as a platform for TV applications.⁷⁸ This environment has enabled cable operators to emerge from their isolated development environment that had previously handicapped its innovation, and to adopt and deploy agile development platforms using the same development tools, same pool of developers, same content protection techniques and same IP

⁷⁸ TV standards groups in US and worldwide that have adopted HTML5 apps include W3C (Worldwide); ATSC 3.0 and DLNA VidiPath (US); HbbTV (Hybrid Broadcast Broadband TV) 2.0 (Europe); MSIP Smart TV 2.0 (Korea); and IPTV Forum Japan Hybridcast (Japan). Smart TV platforms that support HTML5 as a platform for TV applications include: Android TV (Sony), Tizen (Samsung), Firefox OS (Panasonic), webOS (LG), and Opera TV.

technologies as OVDs. Cable operators' cloud/app/HTML tools and development teams are now orders of magnitude faster, cheaper, and more innovative in upgrading cable service and expanding its reach to more devices. AllVid would create a unique island-America environment that would isolate and slow innovation by US MVPDs – but not OVDs. Even if U.S. MVPDs are not prohibited from continuing to deploy and support apps, AllVid would divert the hours, dollars and other resources away from the development and enhancement of services and applications designed to keep up with fierce video competition that redounds to the benefit of consumers. MVPDs ought to have the same technology options as Netflix, YouTube, Amazon and other video providers without the burdens AllVid would impose on them.

➤ **The new proposal would require years of new development work at consumer cost—when the market is moving much faster.** Contrary to claims by AllVid proponents, the latest proposal, like its predecessor, is *not* “mostly” “off the shelf” technology in “common use” today requiring “no changes” in MVPD networks and “nothing new” beyond “existing standards and technology ‘borrowed’ from CableCARD.”⁷⁹ Rather, it would require years of development work on new government-designed protocols, standards and devices that have not yet been invented or implemented, as well as massive re-architecting of MVPDs’ networks.

The AllVid proponents now say that the new proposal “would most resemble VidiPath.”⁸⁰ That is inaccurate – something these proponents would surely recognize if they had

⁷⁹ Public Knowledge Comments at 18; Hauppauge Comments at 2.

⁸⁰ See, e.g., Letter from John Bergmayer, Senior Staff Attorney, Public Knowledge, to Marlene H. Dortch, Secretary, Federal Communications Commission, MB Docket No. 15-64 (Oct. 20, 2015) (stating that “the callers described an approach, similar to DLNA VidiPath protocol that many MVPDs already support, that would allow for competitive navigation devices to operate on MVPD systems on a uniform basis,” and attaching an exhibit entitled “Implementing the Virtual Headend Proposal,” which states that “[a] Virtual Headend can provide these interfaces

participated in VidiPath development activities. In fact, the proposal would remove VidiPath's key requirements and replace them with a diametrically opposite set of new unproven requirements. The proposal removes the HTML5 RUI, authentication, encrypted media (EME, MSE), diagnostics, cloud to ground, choice and competition in security/DRMs, and an HTML5 app output aligned with W3C standards for streaming media. Most fundamentally, it eliminates the app as the adaptation point – that is, the point of connection to each operator's private, unique protocols for, among other things, channels, VOD, and parental controls, as well as customer history, support and management.

In its place, the proposal substitutes a set of unproven, uncompetitive elements that have little to do with the Internet technologies in widespread use today.

- The new proposal makes the server, not the app, the adaptation point, requiring re-architecting of MVPD networks.⁸¹
- It calls for upnp:ContentDirectoryService:4 to support all linear, linear PPV, and VOD. UPnP is not “in common use by MVPDs today,” was never proved through common adoption across all MVPDs, and certainly not proven out as a proposed Content Directory Service for all linear, PPV, VOD, EAS, parental controls, and entitlements as the new AllVid proposes.
- It calls for upnp:EPG feature and cdsEPG class, which have never been deployed, are unproven and have never been put to common use.
- It relies on EPG Guidelines (and Table A) that were abandoned by DLNA, were never implemented, and are completely unproven. They are certainly not “in common use.”
- It offers DTCP+, which has never been deployed, and DTCP 2, which is currently vaporware, and has never been deployed.
- The proposal *cannot* “be described and referenced in accordance with the tools comprising DLNA CVP-2” nor would it “draw on independent certification tools and bodies already in existence.”⁸² The unproven navigation interfaces in the proposal are not currently tested by DLNA certification tools, and the proposed operational

through reference to standards and specifications in common use by MVPDs today. It would most resemble VidiPath.”) (“AllVid Proponents’ Oct. 20, 2015 Letter”).

⁸¹ By comparison, the VidiPath server would be completely optional, and is used only to translate video from MPEG transport to IP. The VidiPath server would carry nothing but video – no channel metadata, no VOD control, no VOD metadata, no storage, no support, no history/status, and no cloud video or cloud data of any kind.

⁸² AllVid Proponents’ Oct. 20, 2015 Letter, Exhibit at 1.

requirements, such as those contained in “i.3.a” and “i.3.b,” are not testable by DLNA certifications.

- The new proposal would also require major development efforts to create an AllVid hardware device in the home.

Critically, and contrary to one of the key lessons of the DSTAC Report, the AllVid proponents ignore the technical variation across MVPDs. The Report provides extensive briefing on technical differences among MVPD architectures and how those architectures call for different technical approaches. DirecTV uses RVU because it allows the MVPD user experience to be available on a client device even in households that don’t have an available broadband connection, and enables very lightweight client devices. AT&T does not use UPnP for DVR or instant channel change because the current Mediaroom platform used by AT&T is based on a proprietary system designed by Microsoft and now owned and managed by Ericsson. Cable uses both QAM and IP delivery of video and user interface elements.

Each network optimizes service delivery by allowing the applications to be partitioned and service to be delivered according to their own unique network architecture. “The app model helps preserve these network optimizations by allowing the applications to be partitioned according to the network architecture. Today’s most successful retail devices offer APIs that allow innovation on both sides of the platform APIs (device side and application side).”⁸³ Like the old proposal, the new AllVid proposal tries to force fit every network into a preconceived one-size-fits-all design that defeats that optimization and requires the very re-architecting that DSTAC agreed – by consensus – should not be imposed.

In the end, the burden for such development – massive for MVPDs and especially burdensome for smaller operators – would be borne by MVPD customers. MVPD customers would be left footing the bill for years of development work and diverted resources. To put the

⁸³ WG4 Report at 145.

time and effort in perspective, W3C has worked since 2004 to create a platform-neutral Man Machine Interface in HTML5. VidiPath took eight years. After the years that would be required to develop AllVid, video technology and the video market will have changed so much that consumers may be no more interested in purchasing a retail set-top box than a retail landline telephone.

C. The AllVid Proposal's Exclusive Reliance on DTCP Would Significantly Limit Innovation, Competition, and Increase Security Risk

DTLA suggests that DTCP can serve as the universal protection for AllVid, support current business models, and evolve or extend to meet more.⁸⁴ As previously reported to DSTAC, neither content providers nor distributors treat DTCP, which is a link-layer protection system, as sufficient unto itself: MPAA and security experts have explained that a variety of other protections have to be layered on to provide the required protection,⁸⁵ and as noted above, the DSTAC Report offered “strong recommendations to avoid rigid and/or single implementations (one-size-fits-all) that significantly limit[] innovation, competition, or increases security risk.”⁸⁶

DTCP has been slow to evolve since its development nearly twenty years ago. While DTCP added additional business models in DTCP+ in 2011, DTCP+ has not been widely adopted in the subsequent four years.⁸⁷ When DTCP confronts a device that does not support later versions, content reverts to the limited copy freely, copy once, copy never, copy no more

⁸⁴ DTLA Comments at 3-5.

⁸⁵ WG2 Report at 9; MPAA Comments at 5-7; Motion Picture Laboratories, Inc., *MovieLabs Specification for Enhanced Content Protection v1.1*, at 3-6 (February 2015), <http://www.movelabs.com/ngvideo/MovieLabs%20Specification%20for%20Enhanced%20Content%20Protection%20v1.1.pdf>; Transcript of Aug. 4, 2015 DSTAC meeting at 62-63; Application-Based Service Advocates August 7 Response at 6-7, 12-13; WG4 Report at 24, 78. As Verimatrix explains, “Link protection is useful for protecting content in certain situations, e.g., passing content from point A to point B, but it lacks the richness of business model support and persistent protection of a DRM.” Verimatrix Comments at 7-8.

⁸⁶ WG3 Report at 18.

⁸⁷ Application-Based Service Advocates August 7 Response at 7, 12.

states from a decade ago, or does not pass to the device at all.⁸⁸ Simply stated, neither content providers nor content distributors can rely on the assumed extensibility of DTCP to accommodate rapidly-changing business models in a timely manner.⁸⁹ Even with the extensions described by DTLA, DTCP has not kept up with the tools offered by competing apps and DRMs that support today’s modern consumer offerings like electronic sell through of movies and DTCP could not be extended rapidly enough for DirecTV’s Ultra High Definition service. AllVid would eliminate the competing content protection tools that accommodate new business models. Only MVPDs would be so restricted: all other video providers can use DRMs that support such rapidly evolving offerings.

V. GOVERNMENT TECHNOLOGY MANDATES ARE NOT REQUIRED TO MEET THE COMMISSION’S OBLIGATIONS UNDER SECTION 629

AllVid proponents *assume* that government tech mandates – imposed on MVPDs but not on themselves – would help the navigation device market. But even more voices have joined the thirty content and technology companies who wrote the Commission in August that the “DSTAC’s Report underscores that there is no need for FCC technology mandates” in today’s marketplace.⁹⁰ New voices from security and equipment manufacturers and nonpartisan think tanks warn that “premature or unwise standardization, especially when locked-in through government mandate, can stifle innovation and competition in all areas except those ‘allowed’ by the standard;”⁹¹ how security suffered from DSTAC’s AllVid diversion;⁹² how dangerous it is to

⁸⁸ DTLA Comments at 3 (“When communicating with devices compliant with earlier versions of the Specification, the recommended default is to process the rules provided in simpler descriptors. (For example, a receiving device that does not support Copy Count could allow the making of copies if and as permitted by the CCI settings.)”).

⁸⁹ Application-Based Service Advocates August 7 Response at 7, 13.

⁹⁰ MB Docket No. 15-64, Joint Statement on DSTAC Report (Aug. 28, 2015) at 2.

⁹¹ Verimatrix Comments at 6. Verimatrix identified some areas in which standardization might be helpful, such as content format and encryption, but it did not recommend any of the standardizations proposed by AllVid.

⁹² Nagra Comments at 2.

create single points of attack;⁹³ how today’s market participants have “direct institutional knowledge and expertise concerning the technical functions and business interests involved,” “balance security and other rights and interests through a variety of carefully detailed negotiated agreements,” and that “the Commission can scarcely lay claim to possessing this kind of critical institutional knowledge necessary to balance those rights and interests into a working, thriving state of affairs;”⁹⁴ how “a government-directed commercial market for set-top boxes is unlikely to provide substantial gains in terms of lower costs, lower prices or increased innovation;”⁹⁵ and that “AllVid remains a really bad idea.”⁹⁶

New voices from the programming community warn that AllVid would be “disastrous” for “minority communities and the programmers that serve them” because “the Big Tech interlopers would be skimming most of the value of the shows and ignoring programmer agreements on advertising, scheduling, channel placement, and more – further drying up revenue that funds new shows.”⁹⁷ The proposed AllVid mandate would undermine “the economic symbiosis between creators and distributors,” writes the Chairman of a prominent minority-focused network, “drying up the revenue needed to underwrite quality shows. And the revenue impact is only part of the story.”

Television programmers depend on the integrity of licensing and distribution deals to produce their shows. These arrangements — including critical terms such as channel placement, advertising, scheduling and more — are the lifeblood of the video marketplace today. But a government mandate that enables AllVid special interests to pick and choose which of these terms to follow would do

⁹³ Verimatrix Comments at 6.

⁹⁴ Free State Foundation Comments at 6.

⁹⁵ Lawrence J. Spiwak, *Why the FCC’s AllVid Remains a Really Bad Idea*, THE HILL: CONTRIBUTORS BLOG (Oct. 14, 2015), <http://thehill.com/blogs/pundits-blog/technology/256852-why-the-fccs-allvid-remains-a-really-bad-idea>.

⁹⁶ *Id.*

⁹⁷ Charles Cervantes, *FCC Must Say No to Overreaching Big Tech’s Mandate*, ALBANY TIMES UNION, Nov. 3, 2015, <http://www.timesunion.com/tuplus-opinion/article/FCC-must-say-no-to-overreaching-Big-Tech-s-mandate-6608281.php> (Op-Ed by Charles Cervantes of the Minority Business RoundTable).

severe damage to the programming ecosystem, and in particular, niche and minority-focused networks. Allowing AllVid special interests to raid the programming ecosystem could cause the “Golden Age of TV” that everyone celebrates today to collapse. Smaller, independent and diverse networks will likely be the first ones left behind.⁹⁸

The DSTAC Report details the cost of technology mandates. In defending the integration ban in 2005, the Commission said that “We do not take lightly the imposition of additional costs on consumers” but “it seems likely that the potential savings to consumers from greater choice among navigation devices will offset some of the costs.”⁹⁹ That technology mandate failed famously, expensively, and for a decade before it was repealed by Congress. Had the Commission adopted the AllVid proposal in 2010, the explosion in consumer use of tablets, smartphones, game consoles and other retail devices to access MVPD programming could not have happened.

But the Commission did something else in its 2010 proceeding that helped contribute to the success of apps. The Commission declined to pursue the AllVid proposal as presented in 2010, but it did subsequently require cable operators to develop an “open industry standard that provides for audiovisual communications including service discovery, video transport, and remote control command pass-through standards for home networking.”¹⁰⁰ Over the next several years, major consumer electronics manufacturers, chip manufacturers, and MVPDs engaged through the Digital Living Network Alliance (“DLNA”) standards process to shape what has

⁹⁸ Alfred Liggins, *Protecting Consumer Choice, Not Special Interests, in Video Market*, THE TAMPA TRIBUNE (Oct. 24, 2015), <http://www.tbo.com/list/news-opinion-commentary/protecting-consumer-choice-not-special-interests-in-video-market-20151024/> (Op-Ed by Alfred C. Liggins III, Chairman of TV One). See also Krystal High, *AllVid Is Anything but All Good for Diverse Programmers*, POLITICS365 (Nov. 2, 2015), <http://politic365.com/2015/11/02/allvid-is-anything-but-all-good-for-diverse-programmers/>.

⁹⁹ *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, FCC 05-76, Second Report and Order, CS Docket No. 97-80, 20 FCC Rcd 6794 ¶ 29 (2005).

¹⁰⁰ *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, Third Report and Order and Order on Reconsideration, CS Docket No. 97-80, 25 FCC Rcd 14657, 14677-79, ¶¶ 39-44 (2010).

now become the VidiPath standard that many cable operators are using to support retail devices and apps. In 2012, the Commission confirmed that VidiPath was a safe harbor, but not a mandate.¹⁰¹ These Commission decisions added momentum to the years of multi-industry work it took to develop that apps approach in DLNA and W3C. Five years after the Commission's 2010 Order, that work is now bearing fruit as a whole-home app delivery solution that facilitates consumers' use of retail devices to access MVPD services.

The Commission encouraged and facilitated the development of the open industry VidiPath standard that is helping to assure the retail availability of navigation devices for consumers, without freezing or chilling innovation, without straightjacketing MVPDs to a single technology, and without jeopardizing the security of MVPD services. The standards process took time, as should be expected given the complexity of the task, but the Commission fulfilled its obligation under Section 629 in a manner consistent with Congress' directives. It makes no sense now to throw out five years of proven progress and success and direct all industries to embark over the next five or more years to try to develop a new, single national standard based on vaporware that would undoubtedly be overtaken by technological advances.

VI. AN ALLVID MANDATE WOULD VIOLATE STELAR AND SECTION 629

A. STELAR Does Not Direct the Commission to Choose a Technology Mandate

Public Knowledge tries to turn history upside down in claiming that, in STELAR, Congress was "directing the Commission to begin a process aimed at creating new standards" for downloadable security to replace CableCARDS.¹⁰² In fact, Public Knowledge publicly *opposed* STELAR prior to its passage by Congress, because it *only* directed the Commission to conduct

¹⁰¹ *TiVo Inc.'s Request for Clarification and Waiver of the Audiovisual Output Requirement of Section 76.640(b)(4)(iii)*, MB Docket 12-230, Memorandum Opinion and Order, 27 FCC Rcd 14875, ¶¶ 8-10 (2012).

¹⁰² Public Knowledge Comments at 3.

an independent study of downloadable security, without prejudging whether such study should result in new rules.¹⁰³ Senator Markey proposed an amendment that would have done as Public Knowledge now wishes and directed the Commission to adopt AllVid by rule, but that amendment did not garner support and was withdrawn,¹⁰⁴ after which Public Knowledge derided the bill. It is disingenuous at best for AllVid proponents to argue that the very same provisions it once opposed because of the absence of a regulatory directive now compel the Commission to impose new standards on MVPD technology.

Congress' decision not to require the Commission to conduct a rulemaking after DSTAC finished its work was rooted in the wisdom gained from the failure of the Commission's integration ban technology mandate. Instead, STELAR purposefully only directed the Commission to convene DSTAC to prepare a report. Congress directs the Commission to prepare many reports that are not always intended to result in rulemakings or other action.¹⁰⁵ That report has now catalogued today's rich diversity of sources, services, devices, and did not make a consensus recommendation for new rules or any further Commission action. It would not be a "waste" to have conducted DSTAC and then relied on its report to conclude that new technical mandates are not the best course to assure the availability of retail devices for consumers. It certainly would have been very valuable, rather than a waste, if the Commission

¹⁰³ See John Eggerton, *Public Knowledge to Senate: Reject STELAR*, MULTICHANNEL NEWS (Nov. 19, 2014), <http://www.multichannel.com/news/content/public-knowledge-senate-reject-stelar/385710>.

¹⁰⁴ As Senator Rockefeller told Communications Daily, "He never had the votes for it in committee and he knew that, and he won't have the votes for it in conference, which he won't be on." John Hendel, *Markey Killed Last-Ditch Senate Effort to Pass STELA Reauthorization Before Long Recess*, COMMUNICATIONS DAILY (Sep. 23, 2014).

¹⁰⁵ See, e.g., 47 U.S.C. § 548(g) (requiring the Commission to "annually report to Congress on the status of competition in the market for the delivery of video programming"); § 543(k)(annual price survey); § 703 (requiring the Commission to report on satellite competition). See also Child Safe Viewing Act of 2007, Pub. L. No. 110-452, 122 Stat. 5025 (2008) (requiring the Commission to report to Congress on advanced blocking technologies); and Open-Market Reorganization for the Betterment of International Telecommunications Act ("ORBIT Act"), Pub. L. No. 106-180, 114 Stat. 48, § 646 (requiring the Commission to report on the impact of satellite privatization).

similarly had the benefit of an expert report on the integration ban prior to imposing that failed and costly initiative.

Nor is the Commission compelled to act on some theory that STELAR brought an end to CableCARDs and required a replacement technology. While STELAR requires the repeal of the integration ban, that rule was an unnecessary and superfluous part of the CableCARD regime. The repeal of the integration ban has no effect on the viability of CableCARDs for retail devices going forward. From the beginning, many parties, including then-Commissioner Powell, believed that CableCARDs could be implemented for retail devices without the necessity of requiring CableCARDs in all new leased devices.¹⁰⁶ Removing the integration ban does not eliminate the separable security requirement that requires cable operators to make available decryption technology for retail devices to access cable service. TiVo, the leader in retail CableCARD devices, has shared its confidence that cable operators will continue to provide CableCARDs. It stated shortly after the adoption of STELAR:

We expect CableCARDs to be supplied and supported by cable operators for many years after cable operators are no longer required to use them in their own set top boxes for several reasons. *This requirement has been in effect since 2000 and was not impacted by the recent [i.e. STELAR] legislation.* Cable operators provided CableCARDs to retail devices to comply with the separable security requirement before operators were required to use CableCARDs in their own boxes in 2007 and we expect that they will continue to provide CableCARDs to comply with this requirement after they no longer have to use CableCARDs in their own boxes in 2016.¹⁰⁷

Cable operators will continue to support CableCARDs, and consumers will continue to be able to purchase retail set-top boxes from TiVo, Hauppauge, and others.

¹⁰⁶ *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, FCC 98-116, Statement of Commissioner Michael K. Powell, Dissenting in Part, CS Docket No. 97-80, 13 FCC Rcd 14775 (1998).

¹⁰⁷ TiVo Corporate Blog, *Future of CableCARD*, TiVo.COM (Jan. 4, 2015), <http://blog.tivo.com/2015/01/future-of-cablecard> (emphasis added).

TiVo complains of “the often cumbersome CableCARD installation process and problems with MVPD support for CableCARD,”¹⁰⁸ but the reality is that most CableCARD issues occurred in the early years when CableCARDS and the devices that used them were new, as can be expected with the mixing and matching of any new technology. Even by the time of the Commission’s “CableCARD Fix” rulemaking in 2010, the hand-picked examples of problems offered by TiVo had all in fact been resolved successfully, and no new examples are presented in place of the tired, old references to insufficient CableCARD support.¹⁰⁹ The quarterly CableCARD reports filed by NCTA show that, in recent years, half of new CableCARD installations are performed by the customers themselves, and nearly all issues are resolved with a single truck roll.¹¹⁰

If DSTAC had concluded that new regulation was necessary, Congress presumably would have an interest in the Commission considering such action. But it is wrong to suggest that Congress must have wanted a rulemaking after DSTAC regardless of the technical advisory committee’s conclusions. On the contrary, that path was proposed and was effectively rejected in favor of legislation that only called for a committee report. The fact that Congress wanted the Commission to take guidance from a committee of experts that in turn did not recommend Commission action means that a decision to rely on the market-based apps approach would be faithful to Congress’ direction.

¹⁰⁸ TiVo Comments at 3.

¹⁰⁹ Commercial Availability of Navigation Devices, CS Docket No. 97-80, Reply Comments of NCTA, Jun. 28, 2010, at 6-7.

¹¹⁰ *See, e.g.*, Letter from Neal M. Goldberg, Vice President and General Counsel, National Cable & Telecommunications Association, to Marlene H. Dortch, Secretary, Federal Communications Commission, CS Docket No. 97-80 (Oct. 30, 2015).

B. An AllVid Mandate Would Violate MVPDs’ Constitutional and Legal Rights and Exceed the Commission’s Authority

NCTA’s comments explained that imposition of the proposed AllVid mandate would violate MVPDs’ First Amendment rights by forcing the altered presentation of their services, and their Fifth Amendment rights by taking their private property without just (or any) compensation.¹¹¹ NCTA’s comments also showed that even if the AllVid proposal were not unconstitutional, the Commission lacks authority to adopt it. Since STELAR did not convey any new authority to the Commission, the Commission remains subject to all of the pre-existing limits on its authority under Section 629. The D.C. Circuit’s *EchoStar* decision held that the Commission cannot employ “unbridled” interpretations of the scope of that authority¹¹² – a term that surely is apt for the AllVid proponents’ suggestion that the Commission could cast aside other requirements of Title VI of the Communications Act, copyright law, and commercial agreements between MVPDs and programmers all in the name of promoting retail devices.

The comments of AllVid proponents show that their proposal would in fact violate MVPD’s’ constitutional mandate and exceed the Commission’s authority. For example, Public Knowledge (incorrectly) maintains that retail CableCARD devices aren’t required to present cable content in any particular way or adhere to any private agreements about content display, and that AllVid devices should be able to do the same.¹¹³ But, as explained in the DSTAC

¹¹¹ See NCTA Comments at 39-43. See also AT&T Comments at 16-17 (also noting that the AllVid proposal would violate its First Amendment rights).

¹¹² NCTA Comments at 40.

¹¹³ Public Knowledge Comments at 14. Public Knowledge is incorrect that CableCARD device manufacturers have the right to present cable service in a manner that does not comply with the cable operator’s programming agreements. As the DSTAC report explains, under the DFAST license that governs CableCARD devices “Content Providers and Cable Operators are third-party beneficiaries of the DFAST agreement” who may enforce its warranties. WG2 Report at 29. All DFAST licensees warrant that the device will “not (i) cause physical harm to the network or disruption of service to any Host Device or CableCARD, (ii) impede or impair the delivery of any services offered over the cable system to cable subscribers, (iii) jeopardize the security of any services offered over the cable system or (iv) impede the legal rights of the cable operator to prevent theft of service....” This is one

Report, TiVo’s use of its own program guide was designed as a transitional measure for one-way devices, not as a model for advanced devices.¹¹⁴ Amazon’s comments claim that it is a “policy matter” whether MVPDs should be forced to provide unbundled access to the piece-parts of their networks and services so that third parties could create their own new services to present with their retail devices as their own.¹¹⁵ But that is not a “policy matter” that Congress has vested the Commission with the right to make. Section 629 directs the Commission to assure the retail availability of devices used to access *MVPD* services, not third-party services created from the disaggregated components of MVPD service. Section 629(f) provides that nothing in Section 629(a) “shall be construed as expanding . . . any authority” of the Commission beyond pre-1996 limits.¹¹⁶ Title VI expressly bars the Commission from “impos[ing] requirements regarding the provision or content of cable services, except as expressly provided in [Title VI].”¹¹⁷ Under Section 621(c) of the Act, among the “requirements regarding the provision or content of cable services” that is expressly prohibited are rules that would impose any type of common carrier regulation on a cable operator’s provision of cable services.¹¹⁸ But that is what the Commission

reason why TiVo and other DFAST licensees have not rearranged cable operator channel lineups, replaced advertising, or otherwise altered the cable service in violation of programming agreements.

¹¹⁴ “The CableCARD/UDCP model adopted more than a decade ago was designed only for reception of one-way linear cable channels from digital cable systems, and required retail CableCARD devices to use their own guides. This approach reflected basic technical limitations at the time – a one-way device could not support interactive services or the cable program guide, and suitable remote user interface technology did not exist. The resulting devices met with very little consumer acceptance. . . . From the outset, the presence of a third-party program guide on UDCPs was designed to be transitional. By the terms of the MOU and the FCC’s implementing rules, UDCPs were designed as one-way devices. As they transitioned to interactive devices, they were to present the full cable service using an apps-like approach running on common middleware, not on protocols.” WG4 Report at 149-50. *See also Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, FCC 03-3, Further Notice of Proposed Rulemaking, CS Docket No. 97-80, 18 FCC Rcd 518, 548 (Appendix B) (2003) (“for Advanced Interactive (two-way) Digital Cable Products . . . Cable operators’ EPG will be provided for advanced interactive digital cable products via OCAP or its successor technology.”).

¹¹⁵ Amazon Comments at 3-4.

¹¹⁶ 47 U.S.C. § 549(f).

¹¹⁷ 47 U.S.C. § 544(f).

¹¹⁸ 47 U.S.C. § 541(c).

would be doing if it ordered MVPDs to transform their networks into a transmission pipe for delivery of unbundled programming to third-party device manufacturers.

Public Knowledge argues that the Commission must assure that MVPDs and content owners do not have the “ability to prevent consumers from exercising their” “judicially-recognized fair use rights with programming.”¹¹⁹ Fair use is a defense that applies to consumers’ use of content to which they have been granted access, but it does not compel content owners to provide unrestricted access in the first place. MVPDs are not prohibited from engaging in lawful measures to protect their copyrighted content from copying or redistribution, and under the DMCA, consumers are prohibited from circumventing such protections.¹²⁰ The Commission cannot interfere with copyright owners’ rights to employ such measures, among other reasons, because Congress expressly barred the Commission from adopting regulations under Section 629 that would “jeopardize security of multichannel video programming and other services offered over multichannel video programming systems, or impede the legal rights of a provider of such services to prevent theft of service.”¹²¹

COMPTTEL’s argument that AllVid would promote broadband adoption is farfetched. COMPTTEL’s prediction appears to be that (1) if the Commission mandates AllVid, (2) consumer electronics manufacturers will build new types of retail devices, (3) consumer demand for such new devices will be much greater than it was for CableCARD devices, (4) the high demand for such devices will lower production costs through economies of scale, (5) which in turn would provide a path for entry by new MVPDs that would rely on these retail devices rather than purchase their own for lease as MVPDs do today, and (6) that these new MVPDs would then

¹¹⁹ Public Knowledge Comments at 15.

¹²⁰ 17 U.S.C. § 1201(a)(1)(A) (“No person shall circumvent a technological measure that effectively controls access to a work protected under this title.”).

¹²¹ 47 U.S.C. § 549(b).

build new broadband infrastructure to deliver such video services, which (7) would then stimulate broadband adoption by consumers that previously had not already purchased broadband, thus advancing the Commission’s broadband goals.

Governmental restraints on MVPDs’ commercial speech cannot rest on mere speculation or conjecture,¹²² and these conjectures defy logic. COMPTEL complains that set-top boxes are too costly for new video providers to purchase, but DBS, telephone companies, municipalities, and others have entered the video market using set-top boxes, and OVDs can deliver video service without any set-top box at all and/or through consumer owned devices such as Roku. The AllVid proponents claim that adoption will soar if MVPD and OVD content can be combined in one guide, but even TiVos that enable consumers to access cable and some OVD services together without the “hassle” of pressing the input button¹²³ have met with very low adoption by consumers.

If anything, an AllVid mandate would hurt broadband by diverting investment and other resources from MVPDs, who today deliver the vast majority of broadband investment in the United States. Chairman Wheeler has pledged that even though the Commission has extended its oversight to broadband through application of some Title II regulation, “We will not micromanage networks as was done in the pre-broadband days. This means no retail rate regulation, *no network unbundling*, and no tariffs. In short, *no ‘utility style regulation.’*”¹²⁴ But

¹²² See NCTA Comments at 43-44. See also *Edenfield v. Fane*, 507 U.S. 761, 770-71 (1993) (the party seeking to uphold a restriction on commercial speech carries the burden of justifying it. This burden is not satisfied by mere speculation or conjecture; rather, a governmental body seeking to sustain a restriction on commercial speech must demonstrate that the harms it recites are real and that its restriction will in fact alleviate them to a material degree.”).

¹²³ TiVo Comments at 3.

¹²⁴ Prepared Remarks of FCC Chairman Tom Wheeler, The Brookings Institution (June 26, 2015), <https://www.fcc.gov/document/remarks-fcc-chairman-tom-wheeler-brookings-institution>; Remarks of FCC Chairman Tom Wheeler, International Institute of Communications Annual Conference (Oct. 7, 2015), <https://www.fcc.gov/document/remarks-chairman-international-institute-communications-event>.

that is exactly what AllVid would do by requiring MVPDs to provide unbundled access to the piece parts of their services through reconfiguration of their networks.

The commenters that support an AllVid rulemaking have failed to demonstrate that the Commission has the authority to adopt AllVid or a sufficient basis to justify it even if it did. The Commission should instead focus on what Section 629 actually directs it to do: assure the retail availability of devices used to access MVPD services, in a manner that does not freeze or chill innovation and that does not jeopardize the security of MVPD services. The record in this proceeding clearly demonstrates that the existing apps-based approach is achieving these goals.

CONCLUSION

The Commission should refrain from pursuing any further action in this area at this time.

Respectfully submitted,

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November 9, 2015