

**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	)	
	)	

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

Rick Chessen  
Neal M. Goldberg  
National Cable & Telecommunications Association  
25 Massachusetts Avenue, N.W. – Suite 100  
Washington, D.C. 20001-1431

Paul Glist  
Paul Hudson  
Davis Wright Tremaine LLP  
1919 Pennsylvania Avenue N.W. – Suite 800  
Washington, D.C. 20006-3401

Counsel for the National Cable &  
Telecommunications Association

October 8, 2015

**TABLE OF CONTENTS**

Page

SUMMARY .....2

I. DSTAC’S CONSENSUS AGREEMENTS RECOGNIZE THE BENEFITS OF DIVERSE NETWORKS, TECHNOLOGIES, AND APPROACHES TO RETAIL .....8

    A. Video Choices for Consumers Have Expanded Dramatically: No One Advocates Leased Set-Top Boxes as the Only Way to Receive Video.....8

    B. Retail Devices Need Not Meet One Single Profile and Diverse Networks Need Not Be Redesigned to Converge on a Common Solution .....9

    C. Network Diversity will Preserve Competition and Extraordinary Consumer Benefits.....10

    D. DSTAC Agreed that There is No Need for “Common Reliance” .....10

    E. There is No Consensus Recommendation for any Technology Mandate.....11

II. APPS ARE AN EFFECTIVE, WIDELY-ADOPTED, EXPANDING MEANS FOR PROVIDING MVPD SERVICE TO RETAIL DEVICES .....14

    A. MVPD and OVD Apps Have Grown Rapidly in Response to Consumer Demand.....14

    B. Apps-Based Approaches Are Expanding to More Devices By Using Multi-Industry and Web-Based Techniques.....15

    C. Key Benefits of Apps.....16

III. THE ALLVID PROPOSAL IS TOO FLAWED AND INCOMPLETE TO PROVIDE EVEN A STARTING POINT FOR A RULEMAKING PROCEEDING .....21

    A. The AllVid Proposal Has Not Been Developed into a Technically Feasible Approach .....21

    B. Critical Problems with the AllVid Proposal .....26

    C. No Evidence Supports AllVid Proponents’ Call For a Third-Party Guide.....37

IV. THE DSTAC REPORT COUNSELS REGULATORY FOR HUMILITY AND RESTRAINT .....38

CONCLUSION.....46

**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	)	
	)	

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

The National Cable & Telecommunications Association (“NCTA”) hereby submits its comments on the Public Notice seeking comment on the Report of the Downloadable Security Technology Advisory Committee (“DSTAC Report”) in the above-captioned proceeding.<sup>1</sup>

The DSTAC Report reviews how consumers are benefitting from tremendous growth in the market for video services and are widely adopting multichannel and online video “apps” that make pay TV available on millions of retail devices. These Comments contrast an ill-defined proposal (sometimes called “AllVid”) that would jeopardize the entire ecosystem that is producing the world’s best TV. Rather than pursuing another technology mandate after a record of expensive failures that delayed innovation, the Commission should recognize that, as the DSTAC Report demonstrates, there is no need for FCC technology mandates in a marketplace where consumers can access multichannel and online video content on a wide and growing array of retail devices.

---

<sup>1</sup> NCTA is the principal trade association for the U.S. cable industry, representing cable operators serving more than 80 percent of the nation’s cable television households, more than 200 cable program networks, and others associated with the cable industry. The cable industry is the nation’s largest provider of broadband service after investing over \$230 billion since 1996 to build two-way interactive networks with fiber optic technology. Cable companies also provide state-of-the-art competitive voice service to approximately 30 million customers.

## SUMMARY

Consumers have never had more choices for different providers, different packages, and different devices for video services. When Section 629 of the Communications Act was enacted two decades ago, consumers had to lease a specific, proprietary set-top box from the cable company to receive multichannel digital programming. Today, consumers are benefitting from tremendous growth in the market for TV content, devices, and video services and the wide adoption of apps that make pay TV available on millions of retail devices.

The apps revolution has arrived in the marketplaces for both consumer electronics (“CE”) devices and video services – and it continues to grow. CE manufacturers have adopted applications platforms as a competitive strategy, video and other apps-based services keep expanding, and consumers’ wide adoption of apps-based devices and services keeps growing. MVPDs have joined the new market. There have already been over 56 million MVPD app downloads to iOS and Android devices. Apps from MVPDs are now available on more than 460 million devices in the United States – more than twice the number of set-top boxes currently in use – including smartphones, tablets, smart TVs, streaming set-top boxes like Roku, game consoles, and other connected devices. Streaming services such as Netflix and Amazon are producing their own original content and delivering their services through the same kind of apps. Consumers can build their own package of video services from consumer electronics device manufacturers like Apple and Sony, from over-the-top offerings by Sling TV, Netflix, Amazon, and many others, and from standalone offerings such as HBO Now. And of course they can choose competing pay TV offerings from AT&T/DirecTV, DISH, Verizon or other MVPDs.

The DSTAC Report documents the great diversity of networks and devices, and by consensus explicitly rejects the notions that MVPD networks should be redesigned, that one retail box should be defined to connect directly to every MVPD’s network, and that MVPDs

need “common reliance” on the techniques used to deliver service to retail devices. Nor does DSTAC offer any consensus recommendation that the Commission adopt a technology mandate. Thirty content and technology companies have jointly written the Commission observing that the “DSTAC’s Report underscores that there is no need for FCC technology mandates in a marketplace where consumers can access MVPD and OVD content on a wide and growing array of retail devices.”

Despite this hypercompetitive and innovative market, some technology companies, including some members of DSTAC, are pushing the Commission to enact a controversial technology mandate that would jeopardize continued innovation and burden consumers with new equipment and new costs. This mandate (sometimes called “AllVid”) would put the government – and not TV innovators – in charge of determining how programming is delivered to consumers. Although two proposals are described in the DSTAC Report, the AllVid proposal is a skeletal wish list of suggestions never demonstrated to be feasible. It would require uninvented equipment and technologies, the development or extension of dozens of standards, interfaces, and applications, and a complete re-architecture of many MVPD services. By contrast, the DSTAC Report demonstrates that the apps approach is a proven method in widespread use today for delivering MVPD services to millions of retail devices.

With apps, consumers receive modern multichannel service as intended by the service provider and expected by the customer – a characteristic that the head of Google’s Android TV said is “crucial” for video services. Cable apps include Title VI consumer protections by design – strong protection of privacy and children, compliance with “retransmission consent” and program distribution agreements, and accountable advertising. They can compete and innovate rapidly with service and feature upgrades received instantly with an app update. Video apps

appear as distinctive selectable apps that present service as offered and branded by the video provider.

Retail devices that host the application may continue to differentiate themselves with features, functions, networks, drives, speed, look, feel and price, and may have their own top-level user interface, app store, and menu structure. Roku alone has sold over 10 million retail set-top boxes with this model, outselling TiVo ten-to-one. In unveiling the next-generation Apple TV, Apple CEO Tim Cook declared that “the future of TV is apps.” A respected analyst predicts a “new paradigm of video consumption based on app stores, device home screens (that show multiple apps), app home screens (that show featured content) ...” If this market is permitted to keep flourishing, it can keep expanding the delivery of MVPD services to even more retail devices.

By contrast, an AllVid mandate would jeopardize the entire ecosystem that is producing the world’s best TV. It would ignore the intricate licensing agreements that establish the terms for the packaging, presentation, and protection of content. Although similar licensing agreements underpin the services of Netflix, Amazon, Apple and many other OVDs that present their video services on retail devices, AllVid proponents contend that the regulatory and contractual obligations of MVPDs should not flow through in an enforceable way to AllVid devices. Thus, under the AllVid approach, third parties would not have to honor the terms negotiated between programmers and distributors. If third party devices are permitted to block or overlay advertisements, violate geographic restrictions, or ignore the licensing terms for distributing content, TV content creators would lose the certainty they need to negotiate with advertisers and fund production of new content. AllVid would undermine the economic model

that sustains programmers and short-circuits the very market in which programming is now licensed directly, on negotiated terms, to new platforms.

AllVid also “strips out the very features with which MVPDs compete, improve service and market to consumers.” Interactive enhancements, instant channel change, Start Over, Look Back and many more features would be lost. AllVid would forbid MVPDs – and MVPDs alone – the right to compete in the same way that Netflix, Google’s YouTube, Amazon and other online video providers do. It would impose unique competitive disparities on MVPDs’ ability to negotiate for content, deliver service and to innovate, and would introduce into IP the same competitive disparities that doomed the CableCARD regime.

The DSTAC Report also catalogues how AllVid would undermine Title VI privacy requirements and other protections that cable operators build into their service.

Rather than simplifying home networks and embracing a nimble apps-based approach, AllVid would require consumers to install new servers and tuning adaptors from their pay TV provider just to “support” retail devices – adding costs and wasting energy.

AllVid would undermine anti-piracy and security protections. Today, device manufacturers and video services can choose from a competitive marketplace of content protection technologies to stay ahead of security threats. The AllVid proposal would require all gateway devices to use the same limited security standard, presenting a single point of attack for hackers to exploit.

The DSTAC Report – which itself makes no consensus recommendation to the Commission – falls far short of offering a basis for the Commission to further consider the AllVid approach. Indeed, the DSTAC Report did not, and could not, even make a finding that AllVid is technically feasible. The AllVid proposal is pure vaporware. It would require video

providers to re-architect their networks, overhaul their delivery infrastructure, and install new on-premises equipment that hasn't even been invented yet. It imagines the creation of interfaces and devices that are barely sketched, and calls for the creation of dozens of new standards that would take years to develop and implement. It relies on fragments of proposed security solutions that do not sustain the current models for distributing programming, let alone future models. Not only is AllVid incapable of supporting the realities of the video market, but also, more significantly, there is nothing concrete enough in it to warrant further Commission action.

The costs of attempting to do all of this would inevitably fall to all video subscribers – all to fund a regulatory mandate that is likely infeasible to implement and unnecessary when pay TV apps are already delivering MVPD service to millions of consumer-owned devices in alignment with the vision of Section 629.

And, even if years of work were invested in such a mandate, video technology and the video market will have changed so much by then that consumers may be no more interested in purchasing a retail set-top box than a retail rotary-dial landline telephone.

*The choice between AllVid and apps is not over whether consumers should be able to access MVPD programming on retail devices; both proposals are intended to do that. The difference in purpose is that the AllVid proponents seek to mash up parts of MVPD services with their own guide, free of contract, license, intellectual property, and legal restrictions, and rebrand it as their own service. Forcibly disaggregating MVPD services to effect that goal would contravene the Communications Act, Copyright Act and other legal constraints. And it would trample the law for no good reason: the DSTAC Report noted that “no evidence whatsoever has been presented to the DSTAC to indicate that such a guide is the recipe for success of competitive navigation devices, or that customers want the device maker to block*

available MVPD services.” The Commission should focus on the eager adoption of apps by consumers and by the CE industry, and not on an AllVid wish list.

DSTAC also reports on how the Commission’s track record on video technology mandates is littered with expensive failures. The integration ban flopped and was repealed on a bipartisan basis by Congress after costing consumers more than a billion dollars without delivering any widespread benefits. The mandated inclusion of costly IEEE 1394 outputs on cable boxes continued for years even after HDMI won out in the marketplace. Such technology mandates in fast-changing markets chill innovation. Long delays on waiver requests slowed cable operators’ deployment of low cost “DTA” devices to repurpose analog spectrum for broadband and digital uses, deployments of downloadable security, and home viewing of movies still in theaters. Had the Commission adopted AllVid in 2010, consumers wouldn’t now be benefiting from the explosion of cloud- and apps-based services. There is even less basis today than there was in 2010 for an AllVid mandate now that consumers can access MVPD and OVD content on a wide and growing array of retail devices.

The Commission need not “create” an IP successor to CableCARD. The retail marketplace today offers unprecedented and growing choices that have surpassed what the drafters of Section 629 could have imagined. Permitting this market to continue to develop and innovate will deliver MVPD services to retail devices as Section 629 intended, while securing content, protecting consumers, fostering innovation, and promoting competition.

**I. DSTAC’S CONSENSUS AGREEMENTS RECOGNIZE THE BENEFITS OF DIVERSE NETWORKS, TECHNOLOGIES, AND APPROACHES TO RETAIL**

**A. Video Choices for Consumers Have Expanded Dramatically: No One Advocates Leased Set-Top Boxes as the Only Way to Receive Video**

DSTAC reached a remarkable but unspoken consensus agreement: all members recognized that the video market has changed fundamentally and the video choices for consumers have expanded dramatically.

Consumers today are not limited to buying video service from cable companies or leasing a specific, proprietary set-top box from the cable company to receive multichannel programming, as was the case two decades ago when Section 629 of the Communications Act was enacted.<sup>2</sup> Cable operators have been in the forefront of joining the new apps-based market and making their service available without a set-top box on millions of retail devices, including smartphones, tablets, smart TVs, set-top boxes like Roku and other IP-enabled devices, enabling subscribers to receive cable service on the same devices they use to receive online video and thousands of other apps.

Consumers can choose their video service from a growing array of providers other than traditional cable companies. They can choose competitive technology platforms from AT&T/DirecTV, DISH, or Verizon, now the first, third, and fourth largest MVPDs.<sup>3</sup> They can choose CE device manufacturers such as Apple and Sony that have licensed their own programming, including many of the same program networks that are available from MVPDs.<sup>4</sup>

---

<sup>2</sup> DSTAC Summary Report, Attached to Public Notice, *Media Bureau Seeks Comment on DSTAC Report*, DA 15-982 (Aug. 31, 2015) (“DSTAC Summary”); Working Group 4 Report, (Aug. 4, 2015), Attached to Public Notice, *Media Bureau Seeks Comment on DSTAC Report*, DA 15-982 (Aug. 31, 2015) at 164 (“WG4 Report”).

<sup>3</sup> *See id.*; DSTAC Summary; Working Group 2 Report (Apr. 21, 2015), Attached to Public Notice, *Media Bureau Seeks Comment on DSTAC Report*, DA 15-982 (Aug. 31, 2015) (“WG2 Report”).

<sup>4</sup> WG4 Report at 164; WG2 at 7, 16-17.

Consumers that crave particular programming can look to standalone online offerings that allow them to buy content just from that programmer, such as HBO Now, CBS All Access, and Showtime Anytime, or they can buy content from new video distributors (Netflix, Hulu, Amazon, Sling TV).<sup>5</sup> They can even obtain subscription video without the subscription, with Verizon's entirely ad-supported online video package (go90).<sup>6</sup>

As a result, while casual allusions to *Carterfone* still linger in this debate, *no one, including cable operators and other MVPDs, is advocating that leased set-top boxes are or should be the only way to receive video. The fundamental debate laced through DSTAC is how best to advance these market developments. And many of the explicit consensus points reached in DSTAC tell us what not to do.*

**B. Retail Devices Need Not Meet One Single Profile and Diverse Networks Need Not Be Redesigned to Converge on a Common Solution**

DSTAC explicitly rejected the notions that one profile of a retail box could connect directly to every MVPD's network and that MVPD networks should be redesigned to meet a new network profile. All members agreed that there is wide diversity in networks, security, and communication technology choices across cable, DBS and IPTV systems. By consensus the DSTAC Report concluded that "It should not be necessary to disturb the potentially multiple present and future security and other network technology choices made by cable, DBS and IPTV systems."<sup>7</sup> "It is not reasonable to expect that all operators will re-architect their networks in order to converge on a common solution."<sup>8</sup> "It would not be a step forward or economically viable to require an environment in which a retail manufacturer would have to equip a device

---

<sup>5</sup> WG2 Report at 7, 21-22.

<sup>6</sup> WG4 Report at 164.

<sup>7</sup> DSTAC Summary at 2.

<sup>8</sup> *Id.* at 3.

with RF tuners for cable and satellite, [and] varied semiconductor platforms, to support the dozen-plus proprietary CAS technologies that are currently in use.”<sup>9</sup>

**C. Network Diversity will Preserve Competition and Extraordinary Consumer Benefits**

These crucial points of agreement should help to preserve the extraordinary benefits that consumers continue to reap as video distributors compete with each other by using different technologies. As DSTAC reported, Verizon devoted an entire fiber wavelength to its linear video offering and transitioned to all-digital. AT&T launched its U-verse service designed to maximize its bandwidth for HD and other services. Cable operators responded with switched digital video (SDV) and DTAs to repurpose analog spectrum and add more channels, more High Definition, faster broadband, and more innovative services. Features such as instant channel change and multi-room DVR enabled AT&T to better compete against incumbent cable operators, despite limitations of its VDSL networks. Remote Storage DVR enabled Cablevision to compete against multi-room DVR features.<sup>10</sup> Competition among these retail distributors has fueled and funded innovation, network upgrades, broadband deployment, and consumer choice. Each innovation by one provider spurs competitive responses by others in the market.<sup>11</sup> As detailed below, the apps-based model facilitates this competition, while AllVid would undermine it.

**D. DSTAC Agreed that There is No Need for “Common Reliance”**

DSTAC also explicitly agreed that retail devices should receive service via IP (Internet Protocol) from the MVPD’s cloud or through a home connection, and concluded that there is no need to mandate “common reliance” by the MVPD on the specified APIs or interfaces used with

---

<sup>9</sup> *Id.*

<sup>10</sup> WG4 Report at 164.

<sup>11</sup> *Id.*

retail.<sup>12</sup> “Common reliance” is the idea that operator-supplied equipment must use the same security solution as retail devices to receive MVPD service, and was the concept behind the integration ban (requiring CableCARDS in operator-provided boxes) that cost consumers more than a billion dollars, wasted energy, and delayed innovation before it was finally repealed by Congress as an unnecessary failure.<sup>13</sup> DSTAC’s rejection of common reliance is a major step forward, and is fully consistent with Congress’s decision in STELAR to repeal the integration ban.

**E. There is No Consensus Recommendation for any Technology Mandate**

The DSTAC Report offers no consensus recommendation that the Commission adopt a technology mandate in a market that today offers unprecedented and growing choices among diverse and rapidly-changing multichannel and online video networks and multiple apps-based approaches for bringing MVPD service to retail devices. The Report includes a review of the track record of video technology mandates that rapidly became obsolete. “In 2003, the FCC tried to create a uniform national digital video technology with CableCARD, but instead the market expanded well beyond cable, then embraced apps and other diverse solutions. One percent (1%) of today’s 52 million CableCARDS are used in the retail devices for which they were originally intended.”<sup>14</sup> It took years for Commission rules to recognize that the market had also rejected its IEEE 1394 digital connector requirement and had moved to Ethernet and HDMI. Lengthy waiver processes further delayed cable operators’ deployment of low cost “DTA” devices to repurpose analog spectrum for broadband and digital uses, deployments of downloadable security, and home viewing of movies still in theaters.

---

<sup>12</sup> DSTAC Summary at 2.

<sup>13</sup> WG4 Report at 164.

<sup>14</sup> *Id.* at 163.

In 2010, some consumer electronics interests proposed that the Commission adopt rules for a uniform “AllVid” successor to CableCARD. AllVid would have mandated that MVPDs deliver their video services to consumer homes through a standardized AllVid device. Such a mandate would have precluded many of the alternative delivery methods now used to reach retail devices, such as wirelessly, from the cloud, and over home networks using HTML5, VidiPath and RVU-based remote user interfaces. *“Had the FCC adopted the ‘AllVid’ rules, the distributor and programming industries could not have developed today’s amazing market that provides MVPD programming to smartphones, tablets and other devices embraced by consumers.”*<sup>15</sup> Technology mandates simply cannot keep pace with marketplace innovations, and just slow down innovation.

The Commission will no doubt continue to hear requests to again pursue technology mandates, advanced by commercial parties happy to try to steer the market away from today’s explosion of market-based solutions and towards their own advantage through the brute force of government regulation and at someone else’s cost. But it is noteworthy that so many market participants have already opposed such intervention. On August 28, 2015, thirty content and technology companies wrote the Commission observing that the “DSTAC’s Report underscores that there is no need for FCC technology mandates in a marketplace where consumers can access MVPD and OVD content on a wide and growing array of retail devices.”<sup>16</sup> Signatories included content providers represented by the Motion Picture Association of America (MPAA);

---

<sup>15</sup> *Id.* Apps tailored to iOS, Android, and other retail platforms, apps delivered wirelessly from the cloud, and apps delivered through the variety of home networking techniques used today do not route themselves through a standardized AllVid adapter or deliver service using a uniform set of protocols, as would have been required by AllVid.

<sup>16</sup> MB Docket No. 15-64, Joint Statement on DSTAC Report (Aug. 28, 2015), attached hereto as Attachment A (“Joint Statement on DSTAC Report”).

equipment manufacturers and security experts;<sup>17</sup> satellite providers;<sup>18</sup> telco and IPTV providers;<sup>19</sup> cable operators, large<sup>20</sup> and small;<sup>21</sup> the American Cable Association (ACA), Cable Television Laboratories, Inc. (CableLabs), the National Cable & Telecommunications Association (NCTA); and the Independent Telephone & Telecommunications Alliance (ITTA).<sup>22</sup>

\* \* \*

The DSTAC Report describes two proposals for retail devices to access MVPD service. Both rely on an IP connection, rather than expecting devices to connect directly to the multiple technologies that underlie MVPDs' different access networks. But there are critical differences between the apps and AllVid approaches. As discussed below, CE manufacturers, consumers, MVPDs and OVDs have widely adopted apps-based devices and services. If the market that has produced so many successful apps-based approaches is permitted to keep flourishing, it can expand the delivery of MVPD services to even more retail devices, while securing content, protecting consumers, fostering innovation, and promoting competition as Section 629 intended.

By contrast, an AllVid tech mandate, even if it could be developed beyond the vaporware sketched in the Report, would undermine the retail market that Section 629 is intended to advance: it would cripple the ability of MVPDs to secure content, protect consumers, and meet Title VI, contractual, and constitutional obligations; it would impose competitive disparities between MVPDs and Online Video Distributors (OVDs) at a key moment of convergence; and it

---

<sup>17</sup> ARRIS Group Inc., Cisco Systems, Inc., Evolution Digital, and Verimatrix.

<sup>18</sup> AT&T/DIRECTV and DISH Network.

<sup>19</sup> AT&T/DIRECTV, CenturyLink, and Verizon Communications.

<sup>20</sup> Bright House Networks, Cablevision, Charter Communications, Comcast, Cox Communications, and Time Warner Cable.

<sup>21</sup> Atlantic Broadband, Buckeye Cablevision, Cable ONE, Eagle Communications, General Communications (GCI), Mediacom, Midcontinent Communications, Sjoberg's Inc., Suddenlink Communications, TDS Baja Broadband, and Vyve Broadband.

<sup>22</sup> Joint Statement on DSTAC Report.

would reproduce the very mistakes that doomed CableCARD – while not even delivering consumers the MVPD service for which they have paid.

**II. APPS ARE AN EFFECTIVE, WIDELY-ADOPTED, EXPANDING MEANS FOR PROVIDING MVPD SERVICE TO RETAIL DEVICES**

**A. MVPD and OVD Apps Have Grown Rapidly in Response to Consumer Demand**

The DSTAC Report includes a comprehensive review of the apps-based approach as an effective, widely-adopted and expanding means for providing MVPD service to retail devices. CE manufacturers have adopted applications platforms as a competitive strategy, video and other services are increasingly based on apps, and consumers have widely adopted apps-based devices and services. The downloadable apps approach enables consumers to watch content from MVPDs and OVDs on an array of their own customer-owned and TV-attached devices, including iOS and Android tablets and smartphones, game stations, PCs and Macs, Smart TVs, Kindle Fire, and Roku. “MVPD apps follow the same approach as the apps that Netflix, Amazon, Hulu, Google, YouTube and other OTT providers use for delivering service on retail devices and platforms. The apps approach abstracts the differences between varied and rapidly changing consumer electronics platforms and varied and rapidly changing multichannel services that has evolved far beyond the simple broadcast video service on which CableCARD was based.”<sup>23</sup>

In response to clear market demand, cable operator and other MVPDs’ apps build on the widespread popularity of iOS, Android, and web-based technologies serving retail devices. The success of the apps-based approach is extraordinary. There have been more than 56 million downloads of MVPD apps to iOS and Android devices alone, with millions more occurring

---

<sup>23</sup> WG4 Report at 127.

every month. More than 460 million IP-enabled retail devices in the U.S. market today support one or more MVPD apps, and 66 percent of them support apps from all of the top 10 MVPDs.<sup>24</sup> At last count MVPD apps supported twice as many retail devices as there are leased set-top boxes. The top MVPDs also deliver their service to PCs and Macs either as a Web app or as an app written to the PC or Mac operating system.<sup>25</sup> U.S. viewers used these and other apps and devices to access 7.1 billion movies and 66 billion television episodes in 2014 alone.<sup>26</sup>

The services delivered by apps have rapidly increased over the past few years as rights have become available from content providers. Today, for example, Comcast is offering full cable service on smartphones, tablets, and PCs and Macs in most of the homes in its footprint; and Roku's retail set-top boxes rely entirely on apps – including a Time Warner Cable (TWC) app with access to 300 linear channels, video-on-demand, and a TWC-supplied guide.

#### **B. Apps-Based Approaches Are Expanding to More Devices By Using Multi-Industry and Web-Based Techniques**

The apps-based approach described by the DSTAC Report does not propose to rest on these laurels. The Report describes how MVPDs are now pursuing additional methods to further extend this apps-based approach to even more retail devices. Cable operators worked with consumer electronics companies, chipset manufacturers, content suppliers, and other MVPDs to develop the VidiPath solution through the Digital Living Network Alliance (DLNA). VidiPath is

---

<sup>24</sup> *Id.* at 72-73.

<sup>25</sup> *Id.* at Tables 8, 9.

<sup>26</sup> Joint Statement on DSTAC Report. Cable operators also support retail CableCARD devices like TiVo (satellite and AT&T do not). The extensive industry support for CableCARD is catalogued at the FCC in Comments of NCTA, CS Docket No. 97-80 (Jun. 28, 2010), *available at* <http://apps.fcc.gov/ecfs/document/view?id=7020514104> (Timeline of Cable Industry Support for CableCARDs). Cable operators continue their support for CableCARD devices notwithstanding the D.C. Circuit's *EchoStar* decision vacating certain CableCARD rules. *EchoStar Satellite L.L.C. v. FCC*, 704 F.3d 992 (D.C. Cir. 2013). But compared with the fewer than one million retail CableCARD devices today, consumers have shown far greater interest in accessing MVPD service using apps. The DSTAC Report provides a detailed demonstration of why CableCARD is not the starting point for a retail solution. *See* WG4 Report at 149.

a new technology that enables VidiPath-compatible consumer electronics devices to access MVPD service over the home network from an operator-supplied gateway device.<sup>27</sup> The technology is being implemented in cable systems today.

The cable industry has also worked in the World Wide Web Consortium (W3C) on HTML5 standards for steaming media, a common and open application-based framework that can be used to deliver IP video to CE devices and expand device options even further for consumers. Netflix and Apple already take advantage of these W3C HTML5 (EME) standards to distribute protected content, and other OVDs and MVPDs are following their lead.<sup>28</sup>

### **C. Key Benefits of Apps**

The Report describes the key benefits of this market-based apps approach:<sup>29</sup>

- *Apps deliver modern MVPD service.* Applications enable the delivery of modern multichannel service that has evolved far beyond a simple broadcast video service, including features such as interactivity, recommendations for what's trending, on-screen caller ID, voicemail notifications, and pause/resume from last point viewed on different devices in the home.
- *Apps deliver a consistent experience across a consumer's many devices.* With applications, consumers receive the service as advertised and through a familiar interface on multiple platforms that they already own – TV, tablet, phone, and other video devices. Consumers can enjoy a common experience on the many devices they use to access the service across devices, including the ability to navigate and see recent tuning history

---

<sup>27</sup> See WG2 Report at 14-15, 18; WG4 Report at 78-95.

<sup>28</sup> WG4 Report at 95.

<sup>29</sup> See *id.* at 166-174.

regardless of which device was used – the way it works with Netflix, Amazon, Hulu, and other video distributors.

- *Apps provide instant upgrades in service.* The apps approach also provides consumers with automatic service and feature upgrades as service evolves with app updates, as consumers have grown accustomed to on tablets and smartphones. App updates can occur multiple times per month, permitting rapid innovation by the service provider.
- *Apps present service as promised.* Consumers are guaranteed to receive service as advertised and as intended by the service provider. Thomas Riedl, head of Google’s Android TV, considers this characteristic to be crucial for content owners and video service providers, explaining: “Content owners and distributors are one of the key stakeholders for us. For them, what’s crucial is they want to deliver the best user experience and make sure that the content they provide to the user is displayed exactly as they broadcast it. Also in their role as app developer, they need to be able to completely control the experience. Android TV allows them to do all of these things....”<sup>30</sup> If consumers experience problems, they know where to seek help and who is responsible for responding to customer complaints. This approach also enables MVPDs to troubleshoot, diagnose, and support the customer’s service.
- *Apps include Title VI consumer protections by design.* Enabling service providers to offer their own presentation and remote user interface through an app permits MVPDs to fulfill the many consumer protections built into Title VI. Cable customers currently benefit from some of the strongest consumer privacy laws on the books – far stronger than the laws covering Internet companies like Google and Amazon. Cable operators are

---

<sup>30</sup> 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/>).

required to limit the number of commercials they air in programming directed to children and restrict the display of commercial or e-commerce website addresses. Cable operators carry local broadcast signals under “must carry” regulations and “retransmission consent” agreements, often on specific channels and in specific “neighborhoods” in the channel guide. Apps enable cable operators to fulfill these requirements on retail devices.

- *Apps protect programming and advertising agreements.* Apps give MVPDs the tools to serve retail devices and assure compliance with their program distribution agreements that carefully define and segment rights. Many of those terms protect viewers from unexpected surprises, such as requirements that a search for a particular title will not place a family-friendly programmer’s title next to an X-rated offering. Other terms protect the consumers’ viewing experience, such as prohibiting inappropriate ads from being overlaid on the programming. Other terms define the packaging, presentation, and protection of content. These agreements are essential to MVPDs’ ability to obtain content from content providers who rely upon a trusted distribution system to protect their brands and their business. Apps also give MVPDs the tools to support the advertising that helps fund the MVPD business, and to provide an interactive and accountable ad platform that can continue to compete for those ad revenues. Apps assure that channels and services are presented as intended and that the presentation carries the content, features, brand, look and feel of the MVPD and its content providers.<sup>31</sup> Netflix, ESPN, Hulu, Amazon, and Sling TV are distributed via similar apps to protect their unique brands.

---

<sup>31</sup> See *id.* at 168; WG2 Report at 13.

- *Apps preserve retail device differentiation.* Retail devices that host the application may continue to differentiate themselves with features, functions, networks, drives, speed, look, feel and price, and may have their own top level user interface, app store, and menu structure. Android and iOS compete vigorously with their user interfaces; Nintendo, PlayStation, and Xbox have competitive user interfaces; LG, Panasonic, Samsung, Sony, and Vizio also compete with their user interfaces. All allow MVPD apps to present MVPD service as offered and branded by the MVPD. The different video apps appear as selectable apps that, once clicked, present the retail experience of that video provider in the manner selected by that provider. Tablets, smartphones, gaming consoles, PCs, smart TVs and other retail devices are clearly succeeding under this apps model. Roku alone has sold over 10 million retail set-top boxes, relying entirely on apps, outselling TiVo ten-to-one.<sup>32</sup>
- *Apps protect robust security.* Apps allow cable operators and device manufacturers to choose from a competitive marketplace of sophisticated content protection technologies to stay ahead of security threats so that programmers can continue to trust cable to deliver their highest quality programming.<sup>33</sup> Apps also promote competition among DRM and conditional access suppliers of security technology. The DLNA VidiPath platform, for example, supports multiple DRMs from Microsoft PlayReady, Adobe Access, and Apple FairPlay.
- *Apps promote competition.* The apps approach promotes competition in the manner intended by Section 629. Video distributors operate as differentiated retailers who

---

<sup>32</sup> Roku, *Roku Sets New TV Streaming Milestones*, Sept. 16, 2014, available at <https://blog.roku.com/blog/2014/09/16/10-million-roku-players-sold> (indicating sale of 10 million Roku devices in the United States).

<sup>33</sup> DSTAC Summary at 3; WG3 Report at 29.

compile bundles of programming, guides, navigation features, applications and other inputs into distinctive, branded offerings. Video providers compete by continuing to add more value for consumers and associating that value with their distinct brands of service. Apps enable video providers to further compete by expanding their reach to ever more retail devices. Each innovation by one provider spurs competitive responses by others in the market. Content providers today license programming directly to Netflix, Amazon, Sony Vue and other online video providers,<sup>34</sup> many of which have also invested in their own well-received original programming. These online video providers use the same apps approach to present their services to consumers. Apps present those competitive features and allow the competition among these retail distributors to continue fueling and funding competition and innovation.

- *Apps promote innovation.* Apps support rapid innovation in business models, platforms and products. With the refresh of an app, consumers can enjoy the latest features offered by the MVPD or online video provider service provider, without awaiting industry consensus, a change in protocol, a change in the platform, or a rule change. In unveiling the next-generation Apple TV, Apple CEO Tim Cook declared that “the future of TV is apps.”<sup>35</sup> A respected analyst just forecast that apps-based “tablets rather than DVRs or videogame consoles” will be the “foundation of living room streaming.... Consumers are

---

<sup>34</sup> For example, viewers may see the current season of Modern Family through a set-top box; on retail devices through an MVPD app, Sling TV, an ABC authenticated app; over the air direct to a TV; or downloaded from iTunes, Amazon or Xbox.

<sup>35</sup> Cat Zakrzewski, *Apple's Tim Cook: "We Believe the Future of TV Is Apps"*, WALL ST. JOURNAL, Sept. 9, 2015, <http://blogs.wsj.com/personal-technology/2015/09/09/apples-tim-cook-we-believe-the-future-of-tv-is-apps/>. See also Apple, *Apple TV: The future of television*, at <http://www.apple.com/tv> (last visited Sept. 30, 2015) (“It’s all about apps. Apps are the future of television. Think about it. On your mobile devices and computers, you already use apps such as Netflix, Hulu, WatchESPN, and iTunes to watch TV shows. And that’s exactly where TV in the living room is headed. Apps have liberated television. They allow you to make individual choices about what you want to watch. And when and where you want to watch it.”).

steadily evolving toward a new paradigm of video consumption based on app stores, device home screens (that show multiple apps), app home screens (that show featured content) ...”<sup>36</sup> Apps also afford MVPDs and CE manufacturers the flexibility to pursue other business-to-business agreements, such as those governing TiVo’s search of the Netflix library; an Xbox One UI designed to be familiar to Time Warner Cable subscribers and to Xbox users; the integration of Microsoft Kinect voice and gesture control into the TWC UI; and the development of a TWC grid guide for Roku.<sup>37</sup> The continued development of these rapidly evolving marketplace solutions would only be impeded by a regulatory mandate.

### **III. THE ALLVID PROPOSAL IS TOO FLAWED AND INCOMPLETE TO PROVIDE EVEN A STARTING POINT FOR A RULEMAKING PROCEEDING**

#### **A. The AllVid Proposal Has Not Been Developed into a Technically Feasible Approach**

The AllVid proposal calls upon MVPDs to invent sweeping new interfaces through which all MVPD services must be able to pass to third party devices, including a Service Discovery Interface, a Content Delivery Interface, and an Entitlement Information Interface. The proposal asks MVPDs to also create a new “man machine interface” (“MMI”) from scratch to support various “widgets” to replicate key parts of service such as Caller ID, sports statistics, and news tickers, but the AllVid proponents would nonetheless treat those services as optional for them to decide whether to include them or not. It calls for major inventions for all of the

---

<sup>36</sup> *Tablets – not DVRs or Game Consoles – Will Be at Heart of Streaming TV Boxes, TDG Analyst Says*, COMMUNICATIONS DAILY, Sept. 24, 2015. See also D. Frankel, *DSTAC, CableCard, pay-TV apps and the future*, FIERCECABLE, Oct. 5, 2015, available at [http://www.fiercecable.com/offer/gc\\_dstac?sourceform=Organic-GC-DSTAC](http://www.fiercecable.com/offer/gc_dstac?sourceform=Organic-GC-DSTAC) (Espelien said: “The interface between services and devices is going to be an app. This is the only approach that works across all types of devices (not just living room STB which is only a part of overall video consumption) and actually relates to the technology ecosystem as it is. Consumers have already voted with their feet in favor of this approach, so there is no point in trying to turn the clock back to the 1990s on this.”).

<sup>37</sup> WG2 Report at 13; WG4 Report at 142.

system components outlined in its ill-defined proposal. It references at least 37 standards or interfaces that may require extensions, enhancements, or specific usage constraints to be defined – and many of these are not yet implemented, implemented only in limited ways by a subset of MVPDs, or not intended to work on any DBS systems.<sup>38</sup>

The MMI concept that AllVid proponents advance is vastly more complex than the MMI used for CableCARDS, which simply displays a screen of installation information about the CableCARD. Seemingly every time MVPDs identified a gap in the service delivery that might result from the AllVid proposal, its proponents claimed that this MMI could be relied upon to bridge it, contending that “interactive enhancements from the MVPD can easily be achieved by the MMI widget model.”<sup>39</sup> Yet the MMI proposal does not offer any specifics; does not promise any capability for maintaining state information in the retail device necessary for application data to persist long enough to operate; fails to provide retail device query capabilities for adapting to different retail devices and different MVPDs; and fails to provide a suitable execution environment in the client within which interactive widgets delivered through the MMI can operate.<sup>40</sup>

AllVid’s generalized presumption that such currently non-existent interfaces can readily be developed ignores the technological variation in MVPD systems that make such one-size-fits-all designs infeasible.

- During the DSTAC meetings, the AllVid proponents repeatedly conceded that their proposal was founded upon incomplete and unproven premises. The proposal, they

---

<sup>38</sup> MB Docket 15-64, Application-Based Service Advocates, Response to Competitive Navigation System Interoperability Additional Material (Aug. 7, 2015).

<sup>39</sup> MB Docket 15-64, “Competitive Proposal” Advocates Submission for the Record, *Competitive Navigation System Interoperability Additional Material*, at 4 (Aug. 3, 2015).

<sup>40</sup> See WG4 Report at 144-145.

admitted, required many new inventions and “extensions” of existing technologies,<sup>41</sup> with even basic details still “to be determined.”<sup>42</sup>

- They acknowledged that “for a lot of the operations that are described by [their proposed] provider interfaces, there might not be a current standard that exists that fits the bill absolutely, so a lot of, through this section of the report is just suggestions on technologies that come close to fitting the bill or that could be extended in one way or another to satisfy the requirements with them.”<sup>43</sup>
- They also acknowledged that “right now we have no testing and compliance regimes [called for by the AllVid proposal], so these types of operations would have to be defined in the future.”<sup>44</sup>
- And in trying to address their proposal’s gap in providing content protection, Public Knowledge’s representative said that “I can invent some extensions to DTCP that makes it work cloud to ground and I can finagle maybe a PlayReady that ... lets it work fog to ground.”<sup>45</sup>

---

<sup>41</sup> See, e.g., Transcript of Aug. 4, 2015 DSTAC meeting at 190 (Mr. Love: “Something might have to be extended or created to be able to convey the amounts of rights that's -- are to be reflected in today's systems. So the rights language is not specified because that would need to take input from the various parties to see what is actually required of them.”).

<sup>42</sup> *Id.* at 73-74 (Mr. Love: “So for the discovery itself, there’s various Zeroconf protocols ... it's just one option that can be used to be able to discover a provider interface service on the local network. At that point, you know, whether it was standardized URLs that were as part of the interface or whether the service discovery or the service announcements contained more detailed manifest of the URL's itself is to be determined.”); *id.* at 75-76 (Mr. Love: “the list of services to be delivered -- the video services themselves, we're suggesting just delivery, possibly by SML formats. There are other formats that can be used ... So there’s various manifests that you can, or manifest formats, that you can use to describe the service, the video service information. And this is another part that still to be determined.”); *id.* at 80 (Mr. Love: “In some cases, such as unidirectional services like satellites and DBS systems, some sort of other secure authentication would have to be determined”); *id.* at 107.

<sup>43</sup> *Id.* at 73.

<sup>44</sup> *Id.* at 80.

<sup>45</sup> *Id.* at 187.

These “suggestions” are unrealistic. The AllVid proposal calls for the creation of dozens of new standards that are not yet developed or implemented.<sup>46</sup> Even a single standard can take years to be finalized in standards bodies.<sup>47</sup> It would also take years to develop the hundreds of necessary protocols for use across all MVPDs. For example, the transition from IPv4 to IPv6 has been underway for decades and will not be complete for many more years. The avalanche of hypothetical inventions and developments on which the AllVid proposal depends would require massive cross-industry development, deployment, testing, revisions that maintain backward compatibility, specification writing, certification, and more. There is no realistic chance that all of these efforts can be completed and integrated in a timely and effective manner.

For example, the AllVid proponents offer none of the critical and necessary details about certificate management, the required trust infrastructure (issuance, injection, protection, propagating revocation lists and requirements to query certificate revocation lists), or any policies necessary to make the certificates useful (profile, fields and information). It took DTLA, DOCSIS, and even CableCARD years to establish an appropriate public key infrastructure (PKI), and the PKIs must be enhanced over time to address new and growing threat models.<sup>48</sup> As another example, AllVid proponents propose the invention of a new Man Machine Interface (“MMI”). The W3C has worked since 2004 to create a platform-neutral MMI in HTML5, and the most recent 2014 version of HTML5 with the EME, MSE, and Web Crypto extensions incorporated into the apps-based proposal is the only MMI that works effectively

---

<sup>46</sup> See MB Docket 15-64, “Application-Based Service” Advocates Submission for the Record, *Response to Competitive Navigation System Interoperability Additional Material* (Aug. 10, 2015).

<sup>47</sup> *Id.*

<sup>48</sup> WG4 Report at 159.

across virtually all relevant devices. Yet AllVid removes the use of those extensions, and starts over on the massive development of new widgets.<sup>49</sup>

As a third example, DTCP is a nearly twenty-year old link-layer protection system, mostly for home networking, that has never been treated as an exclusive protection system. The AllVid proposal would rely on an “extended” DTCP for content protection, but in practice it offers only fairly rigid business models for distribution of content (copy freely, copy once, copy never, copy no more), and cannot be extended sufficiently to offer sufficient protection to the rich and rapidly changing business models supported by today’s variety of content protection systems, applications and user interfaces.<sup>50</sup> While additional business models were added with the “DTCP+” extensions in 2011, DTCP+ has not been widely adopted four years later, just one of many facts that demonstrates how much of a stretch it is for the AllVid proponents to suggest that they can quickly “finagle” 37 standards into a functional retail model for retail devices.

But of course, the AllVid proponents would not do the finagling themselves, or pay for it. Instead, they would saddle all of the financial and resource burdens of trying to develop and implement the AllVid proposal on MVPDs, which in turn would likely pass on those costs to their customers. This diversion would also impose a significant opportunity cost in lost innovation. Resources devoted to the interfaces, virtual headends, widgets, APIs, standards, re-architecture of services, and other elements of AllVid could have instead been invested in improving more viable opportunities for consumers, such as apps and cloud-based delivery that reduce consumers’ need for set-top boxes of any kind. All MVPDs would be required, in addition to pursuing their own network evolution, to deploy a second overlay infrastructure to support a redundant approach out of step with the market, at significant cost and after a lengthy

---

<sup>49</sup> “Application Based Service” Advocates, *supra* note 46.

<sup>50</sup> *See id.*

development process, following a potentially even longer standards process. By making MVPDs pay for all of these costs and devote their development personnel and investment resources for years to come, the AllVid proposal would plainly violate STELAR's command that any new downloadable security regime not be "unduly burdensome."<sup>51</sup>

Tellingly, even if MVPDs and others did everything the AllVid proponents "suggest," at their own expense, the DSTAC Report offers no prediction whatsoever that AllVid would work. It cannot make that conclusion because even its proponents have not imagined all of the elements to wish for, much less evaluated whether all of those wishes can be successfully designed and integrated. As proposed, AllVid is simply vaporware that cannot practically be translated into a proposal for the availability of new retail navigation devices for consumers.

#### **B. Critical Problems with the AllVid Proposal**

The DSTAC Report contains a thorough analysis of the negative effects of the AllVid proposal even if it could work.<sup>52</sup>

➤ *AllVid would require customers to lease new equipment.* The AllVid proposal would not replace leased equipment - it would increase the need for equipment, adding cost and wasting energy. Rather than simplifying home networks and embracing a nimble apps-based approach, the proposal requires any consumer using a retail device in their home to also use an MVPD-provided "prosthetic" auxiliary device and (for cable SDV) a separable tuning adapter box, rather than using applications that can already deliver MVPD service to a smart TV with no set-top boxes or gateway devices required at all beyond the basic network modem.<sup>53</sup>

---

<sup>51</sup> STELA Reauthorization Act of 2014, H.R. 5728, 113th Cong., § 106 (2014) ("STELAR").

<sup>52</sup> WG4 Report at 144-165.

<sup>53</sup> *Id.* at 151.

➤ *AllVid would add to consumer costs.* AllVid would also impose significant new costs on consumers, just like the failed integration ban. The new “prosthetic” equipment would require more power than existing high-efficiency cable boxes, apps-based set-top devices, and Smart TVs. A recent analysis estimated that these additional devices would add more than \$1.6 billion to residential electric costs and nine million metric tons of additional greenhouse gas emissions each year.<sup>54</sup> In addition, although DSTAC reached consensus that it is unacceptably burdensome to rebuild all MVPD systems, the AllVid proposal nonetheless would require re-architecting much of the MVPDs infrastructure, from back-office systems, to headends, uplinks, and central offices, delivery platforms, network equipment, content servers, and security components, as well as creating new devices for the home.<sup>55</sup> The costs of researching, developing, and installing all of this new equipment would inevitably fall to all subscribers whether or not they wanted to buy an AllVid device.<sup>56</sup>

➤ *AllVid removes key features from MVPD service.* AllVid would not even provide consumers with the components and features of modern service as offered by MVPDs. “The Device Proposal proposes limited interfaces that strip out key features of the MVPD service.

---

<sup>54</sup> The AllVid proposal calls for a new server in the home and a separate tuning adaptor for those cable systems with switched digital video. The energy usage of that approach would exceed the energy usage of current solutions, including apps direct to Smart TVs and tablets, apps going to apps-based retail set-top boxes like Roku, and current leased set-top boxes reported by the most recent Annual Report of the Independent Administrator of the Voluntary Agreement for Ongoing Improvement to the Energy Efficiency of Set-top Boxes, available at <http://www.ce.org/CorporateSite/media/Government-Media/2014-Annual-Report-STB-Voluntary-Agreement.pdf>. If AllVid were to enjoy at least the success with consumers that MVPD apps have had (56 million downloads) and AllVid units displace these approaches proportionately, the net increase in energy usage would be approximately 13.42 TWh/year. This energy figure may be converted to residential electric costs and CO<sub>2</sub> emissions using the same formulas used by the Independent Administrator in its report.

<sup>55</sup> WG4 Report at 144, 151.

<sup>56</sup> *Id.* at 151. As the DSTAC Report reflects, the AllVid proposal is premised on completely erroneous assumptions. Among the examples cited in analysis, the AllVid proposal wrongly assumes that all MVPDs, even one-way systems, will readily converge on one solution in IP. But the proposal fails to comprehend the design of multicast IP distribution, and thereby requires the re-architecting of today’s multicast end-to-end model. It calls for MMI to deliver a widget in a manner incompatible with RVU. And it assumes, wrongly, that current home equipment can be convertible to an interim gateway. *Id.* at 152.

Current or future features that are not carried across these interfaces cannot appear on the device.”<sup>57</sup> The DSTAC Report catalogues how the AllVid proposal “strips out the very features with which MVPDs compete, improve service and market to consumers, on every retail device envisioned by the proposal.” Among the features that would be lost are:

- Sports scores and statistics;
- Instant channel change;
- Start Over and Look Back;
- telescoped and interactive advertising;
- interactive enhancements built into programming, such as shop-by-remote and multiple camera angles;
- subscriber-initiated on-screen upgrades, downgrades, and orders for technical assistance;
- tuning back by using a subscriber’s viewing history; and
- receiving a common familiar experience across all of the customer’s devices – TVs, tablets, smartphones, and set-top boxes.<sup>58</sup>

Even if an MVPD re-wrote its entire service into a new (to be invented) “widget” format, “the device manufacturer is free to eliminate or block those features in its discretion, even if it is part of the MVPD’s service as provided to subscribers.”<sup>59</sup> Thus, “[t]he Device Proposal does not offer a method for actually delivering MVPD service as it has evolved or as it is offered, advertised, subscribed to and delivered.”<sup>60</sup>

➤ *AllVid evades Title VI consumer protections and responsibilities.* The AllVid proposal would undermine significant consumer protections and consumer benefits that are built into regulated MVPD service. *AllVid proponents contend that the regulatory and contractual*

---

<sup>57</sup> *Id.* at 158.

<sup>58</sup> *Id.* at 146, 155, 156.

<sup>59</sup> *Id.* at 146-47.

<sup>60</sup> *Id.* at 147.

*obligations of MVPDs should not flow through in an enforceable way to AllVid devices.* There is no similar issue if CE devices display apps, which present the MVPD service as intended by the provider. But regulatory protections would break down if the CE device could change the programming and the services delivered by the MVPD and paid for by the consumer. A few examples illustrate this critical issue:

- Cable and satellite operators are statutorily required to protect the privacy of their video subscribers' individual viewing history and other personally identifiable information, and to disclose to their customers their practices relating to the collection and use of such information. *Under AllVid, CE device manufacturers would have access to consumers' viewing information without the same obligation to protect it.*
- Cable operators are also required to limit commercials and restrict the display of commercial or e-commerce website addresses in children's programming. *Under AllVid, a CE device could circumvent these protections by changing advertisements or overlaying prohibited website addresses.* Google, for example, just recently retracted an earlier promise that only family-friendly ads would be shown in its YouTube Kids app.<sup>61</sup>
- Cable operators carry local broadcast signals under "must carry" regulations and "retransmission consent" agreements, often on specific channels and in specific "neighborhoods" in the channel guide pursuant to those agreements. *Under AllVid, a CE device would not be bound by any of these requirements.*

---

<sup>61</sup> *Advocates Call Changes to YouTube Kids App Inadequate*, COMMUNICATIONS DAILY, Oct. 5, 2015 ("This means that the vast majority of the content available on [the app] is not subject to any limits on advertising," said Angela Campbell of Georgetown University's Institute for Public Representation.)

- Cable operators carry local Public, Educational, and Governmental Access (“PEG”) channels under franchise agreements with state and local governments. *Under AllVid, CE device manufacturers do not consider themselves bound by these agreements and could remove or relocate PEG channels, despite local franchise agreements requiring that they be made available to consumers.*
- Cable set-top boxes must transmit messages from the Emergency Alert System (“EAS”), but *retail AllVid devices are not assured to deliver EAS messages*, with the AllVid proponents in DSTAC simply expressing a hope that somehow the MMI that they want MVPDs to invent will take care of it.

➤ *AllVid ignores programming and advertising agreements that support the new Golden Age of Television.* AllVid would also jeopardize the entire ecosystem that is producing what is often called a new Golden Age of Television, in which consumers have unprecedented choices of different providers, different packages, and different devices for enjoying the world’s best TV.<sup>62</sup> It would ignore the carefully negotiated licensing agreements that establish the terms for the packaging, presentation, and protection of content and give TV content creators the certainty they need to negotiate with advertisers and fund production.

Today, Google’s YouTube and other OVDs compete with one another to obtain video content from content providers by sharing revenues and entering into complex licensing

---

<sup>62</sup> J. Koblin, *Soul-Searching in TV Land Over the Challenges of a New Golden Age*, N.Y. TIMES, Aug. 30, 2015 (“critics and viewers alike have hailed this as another golden age of television”); D. Carr, *Barely Keeping Up in TV’s New Golden Age*, N.Y. TIMES, Mar. 9, 2014 (“The addition of ancillary devices onto what had been a dumb box has made us the programming masters of our own universes. Including the cable box – with its video on demand and digital video recorder – and Apple TV, Chromecast, PlayStation, Roku, Wii and Xbox, that universe is constantly expanding. ... All the new windows for content have created an in-migration of creative interest.”).

arrangements with content providers.<sup>63</sup> Under AllVid, programmers would have no assurance that the rights negotiated in licenses would be respected by the retail device, such as channel location, neighborhood, branding, distribution or device limits, acceptable advertising, restrictions against overlays, etc. AllVid would also give third parties free reign to present pirated content right next to legitimate content – for example, a consumer searching for an on-demand movie could be shown a link to a free, pirated version instead.

AllVid makes no promise to respect restrictions by content providers on distribution generally or distribution to mobile devices.<sup>64</sup> Instead, it seeks to hijack MVPDs and turn them into delivery vehicles for raw video programming from which AllVid proponents may build their own services, without responsibility to programmers or to the MVPD to deliver the content as required by contract. As DSTAC reported: “MVPDs are not licensed by the content providers who own and license that copyrighted content to serve that role.”<sup>65</sup> AllVid would short-circuit

---

<sup>63</sup> WG2 Report at 6, citing Shalini Ramachandran and Mike Shields, *Web-Video Newcomers Undercut YouTube*, WALL ST. JOURNAL, Mar. 8, 2015 (“media companies are frustrated that Google insists on the same 55% revenue-sharing deal for them as for much smaller Web video creators.” Facebook, Snapchat, Vessel are now offering better terms to content providers for revenue sharing than YouTube); Katie Benner, *TV Bundles Challenge Apple to Make a Deal*, N.Y. TIMES, Sept. 13, 2015 (“Television broadcast and digital rights are incredibly complicated, especially when you get into international rights,” said Dan Cryan, senior director, media and content at IHS, a research firm. . . . In many cases, the digital rights to a single show are held by several different parties, which means that companies that want to offer them, like Apple, have to wait for some of those contracts to expire. Mr. McQuivey points out that HBO doesn’t even have the rights to everything it has created for its own app, since it’s waiting for agreements that it made with other distributors to expire.”).

<sup>64</sup> WG4 Report at 155-56. TiVo’s representative stated in DSTAC that “operators have made agreements where there’s not a disaggregation perhaps with the content owners, *[but] that those should not necessarily apply to a third party device which should have the freedom to not be bound...*” Transcript of March 24, 2015 DSTAC meeting at 96-97(emphasis added). The Public Knowledge representative similarly stated, “an operator might have agreed to channel numbers and channel line ups *but ... a lot of those sorts of restrictions that operators have agreed to may not make any sense in a retail place.*” *Id.* at 38-39 (emphasis added). In effect, these parties are asking the Commission to strip away the ability of content owners and MVPDs to negotiate enforceable terms for the numbering, grouping and presentation of channels that effectuate copyright license conditions, retransmission agreements, local laws, and consumer expectations, as well as asking the Commission to permit circumvention of an MVPD’s own decisions about how to present its service which are protected by the First Amendment. WG4 Report at 160.

<sup>65</sup> *Id.* at 160.

the very market in which programming is now licensed directly, on negotiated terms, to a variety of new platforms.

➤ *AllVid ignores intellectual property rights in guides.* The AllVid proposal would require MVPDs to disassemble and deliver guide data to the CE devices for their use in developing their own guides. But MVPDs do not own guide data – they license it for limited uses from third parties. The CableCARD regime only supplied minimal channel data and left it to the device manufacturers to license metadata from third party sources (e.g., Rovi and Tribune Media Service) and build their own guides. Under the applicable MOU, license and Commission rules, CableCARD-enabled retail devices only receive a virtual channel map and channel name from cable operators. TiVo licenses data from third parties at its own expense for its guide. OCUR manufacturers like Hauppauge rely on Microsoft to do the same. Even VOD data comes with restrictions from rights holders, such as business and branding rules on search and search returns. The Commission should not – and may not – require MVPDs to provide more, especially when doing so would exceed their rights under commercial agreements with the guide data owners.<sup>66</sup>

➤ *AllVid jeopardizes security and impedes protections against theft of service.* AllVid would also jeopardize security, impede the rights of MVPDs to prevent theft of service and make programming more vulnerable to theft and misuse. Today, device manufacturers and video services can choose from a competitive marketplace of content protection technologies to stay ahead of security threats. AllVid would require all gateway devices to use the same link protection as the only security standard, presenting a single point of attack for hackers to exploit. That link protection supports only limited business models and lacks the rich rights expression and security language that support today’s modern features, such as purchasing a permanent

---

<sup>66</sup> *Id.* at 160.

digital copy through “electronic sell through;” downloading a movie for a fixed period of time; or receiving content under licenses that define very specific geographic rights, in-home and out-of-home uses.<sup>67</sup> Respect for these license conditions is “required to assure that security and a chain of trust will limit the distribution and use of the content to consumers and devices that are entitled to receive the programming.”<sup>68</sup> The AllVid proposal offers “no functional approach to device authentication”<sup>69</sup> and “fails to offer essential procedures for testing and certification,”<sup>70</sup> complex matters that are essential to security but that are punted by the AllVid proposal.

➤ *AllVid constrains service innovation by MVPDs.* AllVid would impede MVPD service innovation by constraining the very tools of innovation. It seeks to reduce rich MVPD services to “only the video bits, and provides nothing at the application layer that allows applications to operate in the manner that makes the Internet such a rich environment for services.”<sup>71</sup> It supports only “the raw linear and VOD that passes through its limited interface with no mechanism for updates or improvements,” leaving customers with retail AllVid devices “stuck in the past, potentially unaware of new distinctive differences in features, offerings, and look and feel of their MVPD’s service” that otherwise occur with “application and feature updates [that] are occurring multiple times a month.”<sup>72</sup> Nor could MVPDs invent around the interfaces. The protocols are fixed, and will as surely fail to anticipate new MVPD features and technologies as

---

<sup>67</sup> *Id.* at 159, 158, 161. For cloud to ground, the AllVid proposal appears to either require one single DRM (recommending PlayReady – which is not even supported by major device makers, like Apple); or it is counting on an extension of the link protection technology that has already been demonstrated to be inadequate. Either approach reduces the competition that has kept the security industry ahead of hackers.

<sup>68</sup> *Id.* at 161.

<sup>69</sup> *Id.* at 159.

<sup>70</sup> *Id.* at 158.

<sup>71</sup> *Id.* at 144. Online Video Distributors like YouTube, Netflix, Hulu use web pages and web apps over HTTP to distribute and allow user interaction with their content. The AllVid proposal would restrict MVPDs’ use of HTTP to the transport of video and descriptive metadata only, removing – for MVPDs only – the use of standard tools and an application layer that help make the Internet such a rich environment for services.

<sup>72</sup> *Id.* at 157.

CableCARD failed to anticipate SDV. While the proposal makes vague references to later “extensions of the interface protocols,” the development of new protocols can be lengthy, and changes in business models and entitlements would require cross-industry consensus before any MVPD could make a new video offering. “Protocols freeze business models until you agree on exactly what rights are allowed and how to express them.”<sup>73</sup> Even if and when the new APIs become available, there is no guarantee under the AllVid proposal that the retail device will implement them. By contrast, apps are readily made updateable and upgradable by the MVPD to keep up with technology evolution and competition.

➤ *AllVid would impair network efficiencies.* AllVid would sacrifice the network efficiencies which DSTAC agreed to protect. The DSTAC Report explicitly concluded “that is unreasonable to expect that MVPDs will modify their access networks to converge on a single common security solution” and that “[i]t is not reasonable to expect that all MVPDs will re-architect their networks in order to converge on a common solution.”<sup>74</sup> But the AllVid proposal ignores how networks, including the applications they support, operate and assemble service in non-uniform ways in order to optimize each network architecture.<sup>75</sup> Rather, it requires each network to redesign how it assembles service elements to support the hypothetical “interfaces” of AllVid, in ways that do not support rapid innovation on both sides of the interfaces as the app model does.

---

<sup>73</sup> *Id.* at 158.

<sup>74</sup> DSTAC Summary at 3.

<sup>75</sup> See WG4 Report at 145. As DSTAC reported: “MVPDs invest hundreds of millions of dollars to deploy a network and CPE to provide service. These networks have constraints based on the physical nature of the network medium (RF wirelessly or over coax, twisted pair copper, light signals over fiber). The physical constraints drive network architectures and the capital investment necessary to build and deploy the network and CPE devices. 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) – but there are no APIs offered in the Device Proposal. Instead, it removes any APIs and fails to provide an application execution environment, with the expressed purpose of stripping out features of MVPD service.” *Id.*

➤ *AllVid would impose unique competitive disparities on MVPDs.* AllVid would create the same competitive disparities (among MVPDs and OVDs) that undermined the cable-centric CableCARD regime. AllVid would forbid MVPDs – and MVPDs alone – from negotiating for content, delivering service and innovating in the same way that Netflix, YouTube, Amazon and other online video providers do. Netflix, YouTube, Amazon and other online video providers all use their own applications, their own application-based UIs, and negotiated business-to-business agreements to present their own video services and to enforce applicable license terms when their services are delivered on retail devices. Netflix and YouTube specifically withdrew public APIs after third parties did not present the service with all the ads and features intact. Google explained that third parties should not be able to block ads on videos or allow users to download videos to devices that had not been authorized by the publisher.<sup>76</sup>

As AllVid critics reported in DSTAC, “MVPDs would be significantly disadvantaged if they could not enforce applicable license terms when their services are delivered on retail devices. Without application-level enforcement or negotiated agreements, third party devices could rearrange channel or program placement, insert different advertising into or on top of programs, ignore blackout or other geographic restrictions, or use search functionalities to promote illegitimate content sources over legitimate ones.”<sup>77</sup> MVPDs would be uniquely handicapped in negotiating for content if they cannot meet their content commitments. AllVid would also create even more competitive disparities. Today, Google shares ad revenue to obtain commercial content on YouTube.<sup>78</sup> Under AllVid, it could ingest MVPD content without license as if it were its own; change search rankings to advantage its own verticals or advertisers; and

---

<sup>76</sup> WG4 Report at 142.

<sup>77</sup> *Id.* at 169.

<sup>78</sup> *Id.* at 162.

add MVPD video to the bundle of Android, Google search, Gmail and Google Maps which the European Community and FTC are investigating for monopoly abuse.<sup>79</sup> AllVid would also shift “massive burdens, costs, and losses onto [MVPD] service providers (and their customers)” that would not be borne by online video providers.<sup>80</sup> No “technology and platform neutral” design (as described in STELAR) should create such competitive disparities.

The CableCARD mandate made a similar mistake, dooming it to failure. It presumed that by defining a digital interface for cable, a regulation could define the digital interface for all of multichannel programming. But instead, cable’s market eroded; nearly half of consumers subscribe to exempt providers such as AT&T, DirecTV, and DISH; consumers embraced apps, not CableCARD devices; and MVPDs and OVDs now provide customers with multichannel and online video services on millions of tablets, smartphones, gaming consoles, PCs, smart TVs and other IP-enabled devices via apps. None of these IP approaches use CableCARDS, rely on FCC technology mandates, or follow a uniform technology. AllVid proposes to apply draconian rules only on MVPDs, and introduce into IP the same competitive disparities that doomed the Commission’s CableCARD mandate.

---

<sup>79</sup> Conor Dougherty, *F.T.C. Is Said to Investigate Claims That Google Used Android to Promote Its Products*, N.Y. TIMES, Sept. 25, 2015; Sam Schechner, *Google Rebuffs European Union on Antitrust Charges*, WALL ST. JOURNAL, Aug. 27, 2015. The DSTAC report warns that “The retail device might also use search functionalities to promote, or otherwise skew how consumers identify and choose which content to watch (such as manufacturers charging content sources to improve their search rankings).” WG4 Report at 169. AllVid device proponents have recently gone even further, blocking competitors from presenting their offerings despite their claims to the FCC that they are neutral custodians that present choices impartially. D. Streitfeld and K. Benner, *Amazon to Stop Selling Apple TV and Chromecast*, N.Y. TIMES, Oct. 1, 2015 (“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 ...”). Apple TV previously refused to play Netflix’s streaming service because Apple did not want to promote a competitor, and in 2012, Apple similarly pushed Google’s YouTube app off its lineup of built-in apps on iPhones and iPads. *Id.*

<sup>80</sup> The AllVid proponents claim that laying all costs and burdens on the MVPDs is needed to “keep the burden of implementation and licensing concerns minimal to a third party.” WG4 Report at 122. But as AllVid critics reported to DSTAC, “none of this is needed: an application-based system also keeps the burden of implementation and licensing concerns minimal to a third party, and does so while preserving innovation and competition.” WG4 Report at 158.

➤ *AllVid will be instantly obsolete.* At present, it is impossible to have any confidence that AllVid could ever be implemented, due to the many missing pieces of the proposal that today render it technically infeasible. But even if AllVid could become something more than vaporware, it would take years before all of the many pieces could be defined, come together and retail products could launch. By that time, intervening changes in the market will likely have rendered the AllVid design moot or otherwise undesirable for most consumers. The video market is changing at a blinding pace and its cycles of change should be expected only to further accelerate. By that time, it is likely that many more consumers will not even have set-top boxes at all, but will instead rely on apps, cloud-delivered or other IP-based services. Such consumers may by then be no more interested in purchasing a retail set-top box than a retail rotary-dial landline telephone. The hours, dollars and other resources invested in AllVid will have been largely wasted, diverted from the development and enhancement of other more readily-achievable services for the benefit of consumers.

### **C. No Evidence Supports AllVid Proponents' Call For a Third-Party Guide**

The choice between AllVid and apps is not over whether consumers should be able to access MVPD programming on retail devices; both proposals are intended to do that. The difference in purpose is that the AllVid proponents seek to mash up parts of MVPD services with their own guide, free of contract, license and legal restrictions and branded as their own service. That goal would contravene the Communications Act, Copyright Act and other legal constraints. And it would trample the law for no good reason: the DSTAC Report noted that “no evidence whatsoever has been presented to the DSTAC to indicate that such a guide is the recipe for success of competitive navigation devices, or that customers want the device maker to block

available MVPD services.”<sup>81</sup> As noted, Roku’s retail set-top boxes rely entirely on apps, including a Time Warner Cable app, and are outselling TiVo ten-to-one. The Commission should focus on consumers’ eager adoption of apps and not on an AllVid wish list.

#### **IV. THE DSTAC REPORT COUNSELS FOR REGULATORY HUMILITY AND RESTRAINT**

There are clear lessons from the DSTAC Report for informing the Commission’s obligations under Section 629.

➤ *No one, including cable operators, is advocating that leased set-top boxes should be the only way to get cable.* Cable operators have been in the forefront of making their service available without a set-top box via popular apps on millions of retail devices, and are building on this successful apps-based approach to make service available to even more retail devices. Cable operators do not own set-top box divisions like some modern-day Western Electric. They pay billions to buy set-top boxes from multiple consumer electronics manufacturers so that customers may receive their subscription service as advertised.<sup>82</sup> In today’s market, cable operators have

---

<sup>81</sup> See WG4 Report at 148.

<sup>82</sup> Senators Markey and Blumenthal recently publicized an estimate that set-top box rentals for the 10 largest MVPDs covered by their data request “may be” \$19.5 billion per year and that the average MVPD household spends about \$231 on rental fees. These claims are inapposite for two basic reasons: (1) they ignore set-top box promotions and discounts; and (2) they fail to acknowledge the substantial costs in acquiring and maintaining set-top boxes. These estimates assume that MVPDs are charging the full “rack-rate” for every device deployed. However, as several cable operators pointed out in their responses, the actual average cost to customer households is lower than the rack rate because many customers enjoy promotions, free box offers, or other discounts that reduce the effective cost of the boxes. One operator estimated this discount at 37%. The Senators’ estimates appear to imply that box rental revenues for cable are about \$10 billion (since cable serves about half of MVPD households today), but when discounts are factored in, actual revenues are significantly lower. The Senators’ estimates also fail to acknowledge that operators incur substantial costs in buying and maintaining set-top boxes. For the 2013 timeframe covered by the Senators’ data request, SNL Kagan, a leading industry analyst, estimates that cable operators spent \$7 billion on CPE. See Ian Olgeirson, *Record CapEx expected for 2014, 5-year forecast points to moderating spending*, SNL KAGAN MULTICHANNEL MARKET TRENDS, Sept. 8, 2014, subscription service. Cable operators also spent an estimated \$1 billion in set-top box maintenance costs, based on data included in the rate forms that the largest operators file with local regulators. When these acquisition and maintenance costs are taken into account, the Senators’ claims that rental fees are “unjust and unjustifiable” simply don’t hold water. By comparison, TiVo charges an up-front equipment purchase, such as \$399 for its mid-range device, plus a monthly service fee of \$14.99-\$19.99, with only a limited warranty and no assurance against technological obsolescence.

enabled app for retail devices; have discounted charges for packaged or promotional equipment for customers who rent set-top boxes; 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.<sup>83</sup>

➤ *Apps are the only proposed approach that presents MVPD service as intended by Section 629.* Section 629(a) directs the Commission to promote independently manufactured devices that consumers can purchase “to access services provided by multichannel video programming distributors.”<sup>84</sup> It does not authorize the Commission to promote services provided by third parties and created from the disaggregated components of MVPD services, which is the entire point of AllVid. Title VI includes the linear video programming and VOD in cable and MVPD service that AllVid proponents seek to extract. But linear and VOD have never been a ceiling on service; if they were, then public access channels, high definition, and many other prevalent features in cable and MVPD service would never have launched.

Congress carefully crafted a limited unbundling mandate for Title II local exchange services, but not for Title VI service. Section 629 addresses the availability of retail devices that can receive multichannel services and other services “*offered*” and “*provided*” by MVPDs. Congress did *not* authorize the FCC to require MVPDs either to change the nature of their services or to facilitate the reassembly of their content into different services “provided by” third parties rather than those MVPDs. Congress considered a bill that would have granted the FCC such broader authority but then rejected it in favor of the far more limited authority

---

<sup>83</sup> For example, Charter has explained 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.” Charter Communications Management Discusses Q2 2013 Results - Earnings Call Transcript, Aug. 6, 2013, available at <http://seekingalpha.com/article/1609042-charter-communications-management-discusses-q2-2013-results-earnings-call-transcript>.

<sup>84</sup> 47 U.S.C. § 549(a) (emphasis added).

reflected in Section 629.<sup>85</sup> To make that policy choice unmistakably clear, Congress enacted Section 629(f), which provides that nothing in Section 629(a) “shall be construed as expanding . . . any authority” of the Commission beyond pre-1996 limits.<sup>86</sup> 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].”<sup>87</sup>

The D.C. Circuit warned the FCC in the *EchoStar* case against “unbridled” constructions of Section 629.<sup>88</sup> As the Court explained, the FCC’s authority under section 629 is neither “unbridled” nor “as capacious as the agency suggests,”<sup>89</sup> and it does not encompass measures with only a “tenuous . . . connection to § 629’s mandate.”<sup>90</sup> 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.”<sup>91</sup>

➤ *Only apps preserve the consumer protections built into Title VI services.* As the DSTAC Report makes crystal clear, apps and apps-based remote user interfaces allow cable operators to fulfill the consumer protections and regulatory requirements built into Title VI services on retail devices. Under the AllVid approach, consumers would have only the privacy protections the CE device manufacturer chooses to give them. A CE device could just overlay prohibited e-

---

<sup>85</sup> Unlike Section 629 as enacted, the House version of Section 629 would have authorized the Commission “to assure competitive availability, to consumers of telecommunications subscription services,” defined to promote access not only to services “provided by” MVPDs “over” MVPD platforms, but also to third-party video and data subscription services provided “by various distribution sources” (such as today’s Amazon, YouTube, Netflix or Sony Vue). H.R. 1555, 104th Cong. § 203 (1995). Congress rejected that language in conference and replaced it with a far less sweeping provision. As the Conference Report explains, “[t]he scope of the regulations” covered by the final bill was “*narrowed* to include only equipment used to access services *provided by multichannel video programming distributors.*” H.R. Rep. No. 104-204, at 112 (1995).

<sup>86</sup> 47 U.S.C. § 549(f).

<sup>87</sup> 47 U.S.C. § 544(f).

<sup>88</sup> *EchoStar Satellite L.L.C. v. FCC*, 704 F.3d 992, 997 (D.C. Cir. 2013) (“*EchoStar*”).

<sup>89</sup> *Id.* at 997-98.

<sup>90</sup> *Id.* at 998.

<sup>91</sup> *Id.* at 1000.

commerce website addresses on children’s programming. Consumers would have no assured mechanism for receiving EAS alerts. CE device manufacturers do not even consider themselves bound by the MVPDs’ agreements to carry local broadcast signals or PEG channels and could remove or relocate local channels, despite regulations and agreements to make them available to consumers. Simply put, the MVPD services delivered to consumers through AllVid devices could fail to meet the requirements applicable to Title VI services.

➤ *Only Apps Protect Robust Security.* Apps sustain the competitive marketplace of sophisticated content protection technologies that allow MVPDs and device manufacturers to stay ahead of hackers and thieves. By contrast, AllVid presents a single point of attack for hackers to exploit, limits the business models that are enabled today by competing and rapidly evolving CAS and DRM systems, punts on the critical elements of device authentication, testing and certification, and breaks the necessary license relationships and chains of trust on which the secure distribution of programming is based.<sup>92</sup> Section 629(b) requires the FCC to do nothing to “jeopardize security” of MVPD services, as the Commission specifically noted in organizing DSTAC.<sup>93</sup> Apps are the only approach that protects security as required by Section 629.

➤ *AllVid would freeze or chill the development of new technologies and services.* In adopting Section 629, Congress instructed the FCC to “avoid actions which could have the effect of freezing or chilling the development of new technologies and services.”<sup>94</sup> The DSTAC Report notes the considerable economic and academic literature documenting that the risks of government-induced market failure and the costs to innovation are particular high when the

---

<sup>92</sup> WG4 Report at 159; WG2 Report at 7-9, 24-29.

<sup>93</sup> 47 U.S.C. § 549(b); FCC, Federal Advisory Committee Act; Downloadable Security Technical Advisory Committee, 79 Fed. Reg. 75809 (Dec. 19, 2014) (providing notice of establishment of DSTAC and noting that Section 629 requires that FCC regulations “respect the ‘legal rights of a provider of such services to prevent theft of service’”).

<sup>94</sup> H.R. Rep. No. 104-458, at 181 (1996) (Conf. Rep.), *reprinted in* 1996 U.S.C.C.A.N. 124, 194.

government intervenes in new markets that are rapidly evolving – such as we have in the rapidly evolving and converging communications, media, and IT industries today.<sup>95</sup> Premature government standardization limits firms’ ability to invest in new technological approaches, reduces competition, experimentation, and creativity, limits options for consumers, and risks locking consumers into obsolete products. NCTA has previously provided the Commission with a detailed study of the video devices market by respected economists which explains this very phenomenon in the video space.<sup>96</sup> Public comments in DSTAC meetings made the same point: a representative for the security expert Verimatrix, for example, cautioned that “there is no one size fits all solution” in part because “if you standardize too much that damages security” by losing diversity, and that “if you also standardize prematurely it can stifle innovation.”<sup>97</sup>

Experience matches those predictions. MVPDs use diverse solutions that can adapt their particular networks to rapid changes in technology, competition, security needs, energy efficiency, and consumer demand. The DSTAC Report reviews the impact of CableCARD on innovation: delays in the transition to all-digital and use of switched digital video; Verizon’s need to build a redundant and slower method for delivering entitlements in FiOS; its incompatibility with modern video delivery formats.<sup>98</sup> When the Commission has attempted to

---

<sup>95</sup> WG4 Report at 164.

<sup>96</sup> MB Docket No. 10-91, CS Docket No. 97-80, PP Docket No. 00-67, Ex Parte Submission of Economic Analysis of the Regulation of MVPD Navigation Devices in Video Device Competition Notice of Inquiry, July 19, 2010, <http://apps.fcc.gov/ecfs/document/view?id=7020549667> (incorporated by reference herein).

<sup>97</sup> Transcript of DSTAC Aug. 4, 2015 meeting at 257.

<sup>98</sup> See WG4 Report at 150 (“Notwithstanding the limited successes of TiVo Series 3+, SiliconDust and Hauppauge devices, CableCARDS have been neither “upgradeable” nor conducive to innovation. As reported by WG2, the requirement to use CableCARDS in leased devices delayed cable operators’ transition to all-digital and use of switched digital video. Verizon had to bolt on a redundant method for delivering entitlements to UDCPs using CableCARDS – using a slower carousel approach for which CableCARDS were designed rather than the instant entitlement designed for FiOS. Verizon also had to add additional EAS and OOB signaling just to address UDCPs using CableCARDS. FiOS IP services do not pass through the CableCARD. The CableCARD’s limitation to 1995’s MPEG-2 Transport Streams is incompatible with modern video delivery formats (e.g., ISO Base Media File Format) used by competing video providers. Very limited innovation has occurred in CableCARD devices. For example, the CableCARD was changed to support multi-stream and SDV tuning

prescribe a government-mandated technology solution for video services, it has suffered expensive failures. Cable operators paid over \$1 billion and expended enormous personnel and technical resources to support unidirectional CableCARD devices (UDCPs) after the CE industry insisted that consumers didn't care about interactive VOD services and would buy retail devices with just linear. Very few UDCPs were ever sold. The mandated inclusion of costly IEEE 1394 outputs on cable boxes continued for years even after HDMI won out in the marketplace.

When the Commission even starts considering technology mandates, it invites market participants to expend their resources on government advocacy, rather than on innovation and commercial negotiations. AllVid would reproduce the same mistake. By contrast, apps that respond to actual market demand and leverage the technology tools developed in iOS, Android, and web-based technologies have created consumer choice, competition and rapid innovation in MVPD and OVD services and in retail devices.

➤ *AllVid violates copyright law and Constitutional protections.* The DSTAC Report includes trenchant objections to the legality of AllVid.<sup>99</sup> The Supreme Court has long recognized that the choice of programming and services by cable programmers and operators is protected editorial expression under the First Amendment.<sup>100</sup> And the scope of that protection extends to the arrangement of programming as well,<sup>101</sup> the very arrangement that AllVid proponents would seek the ability to abridge by government regulation. The AllVid proposal

---

adapters, but only with time consuming re-engineering and high cost. CE device manufacturers and MVPDs have innovated around the CableCARD to reach a wide variety of retail devices, with hundreds of new MVPD services, using the more widely adopted web- and app-based approach.”).

<sup>99</sup> WG4 Report at 160-161, 177.

<sup>100</sup> See *Turner Broadcasting System, Inc. v. FCC*, 512 U.S. 622, 636 (1994) (“Cable programmers and cable operators engage in and transmit speech, and they are entitled to the protection of the speech and press provisions of the First Amendment”).

<sup>101</sup> See *Hurley v. Irish-American Gay, Lesbian and Bisexual Group of Boston*, 515 U.S. 557, 570 (1995) (likening cable channel lineup to newspaper’s opinion page and advertising selections).

would also effect an unauthorized, uncompensated taking of private property in violation of the Fifth Amendment’s mandate that “private property” shall not “be taken for public use, without just compensation.” Indeed, the AllVid proponents urge the Commission to make MVPDs pay all of the costs of their proposal for the benefit of the CE manufacturers, without any compensation.

The AllVid proposal would also violate the Copyright Act. As noted above, AllVid would vitiate the copyrights of the content owners and the owners of programming guide data, from each of which MVPDs purchase content. But MVPDs themselves also have a protected copyright interest in the distinctive bundles of programming and additional content that comprise the service that they offer consumers. Each MVPD creates a unique service offering and exercises significant creative judgment with respect to what programming it selects, the way it organizes that programming into channel groups and tiers, and the way it combines programming with other original content, such as interactive applications, news tickers, games, portals to online video, and on-screen caller ID features. This creative judgment makes MVPD programming packages “collective works” and “compilations” protected under copyright law.<sup>102</sup> The Copyright Act gives copyright holders the exclusive right to create and control “derivative works” based on their copyrighted material.<sup>103</sup> A CE manufacturer would violate an MVPD’s statutory rights if it breaks up and recasts the MVPD’s compilation of services into its own service.<sup>104</sup>

---

<sup>102</sup> A “collective work” is “a work . . . in which a number of contributions, constituting separate and independent works in themselves, are assembled into a collective whole.” 17 U.S.C. § 101. And a “compilation” is “a work formed by the collection and assembling of preexisting materials or of data that are selected, coordinated, or arranged in such a way that the resulting work as a whole constitutes an original work of authorship.” *Id.*

<sup>103</sup> See 17 U.S.C. § 106(2).

<sup>104</sup> See, e.g., *Video Pipeline, Inc. v. Buena Vista Home Entm’t, Inc.*, 192 F. Supp. 2d 321 (D.N.H. 2002), *aff’d*, 342 F.3d 191 (3d Cir. 2003); *Greenwich Workshop, Inc. v. Timber Creations, Inc.*, 932 F. Supp. 1210 (C.D. Cal. 1996); *National Bank of Commerce v. Shaklee Corp.*, 503 F. Supp. 533 (W.D. Tex. 1980).

➤ *The market is already working far better than technology mandates in meeting the goals of Section 629.* The DSTAC Report recognized the dramatic changes in the market and the wide variety of choices that consumers have today compared to the market for cable programming as it was two decades ago when Section 629 was enacted. It also recognizes that these choices developed using technologies undreamed of during prior rulemaking proceedings.

The Commission previously abandoned the AllVid concept in 2010 with the prescient recognition that the marketplace was rapidly changing in offering consumers new ways to watch video entertainment programming. Marketplace developments have confirmed the wisdom of that approach. *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. There is even less basis today than there was in 2010 for an AllVid mandate now that consumers can access MVPD and OVD content on a wide and growing array of retail devices.* Instead, the Commission's focus should be to assure that it does not disrupt the evolving market that is already delivering benefits to consumers. Any new technology or common reliance mandate would stymie the benefits of network diversity, undermine the success of the myriad, flexible apps approaches, and frustrate as-yet unknown innovative approaches to be developed by MVPDs in the future.

The United States has a successful history of encouraging innovation by resisting government-imposed one-size-fits-all technology mandates in fast-changing, competitive markets, such as those for Internet applications, mobile communications and handsets, and video. Regulatory flexibility enables and encourages manufacturers and service providers to innovate with new and different options to win business, to the ultimate benefit of consumers. The government does not specify iOS or Android, PC or Mac, Flash or HTML5, CDMA or GSM,

MPEG-2 or MPEG-4, CurrentC or Apple Pay. The result of this policy has been massive investment, consumer choice, rapid innovation and a vibrant market in smartphones, tablets, websites, wireless, video, and mobile payment systems. Consumers are best served when they – not the government – select the most popular technologies in the market.

### **CONCLUSION**

The DSTAC Report has documented a market that has produced innovative new multichannel and online video networks, investment in new programming and new service features, multiple apps-based approaches bringing MVPD service to retail devices, all of which have contributed to a new Golden Age of Television. The retail marketplace today offers unprecedented and growing choices that have surpassed what the drafters of Section 629 could have imagined. Permitting this market to continue to develop and innovate will deliver MVPD services to retail devices as Section 629 intended, while securing content, protecting consumers, fostering innovation, and promoting competition.

In contrast, as also reflected in the DSTAC Report, a tech mandate, and in particular an AllVid tech mandate, would undermine the retail market that Section 629 is intended to advance; it would cripple the ability of MVPDs to secure content, protect consumer privacy, and meet Title VI requirements; it would violate the Constitution, the Communications Act and the Copyright Act; and it would inflict all of these harms while not even providing consumers a device option that would deliver the service for which they had paid. AllVid is pure vaporware: it imagines the invention of interfaces and devices that are barely sketched; calls for the creation of dozens of new standards that would take years to develop and implement; relies on fragments of proposed security solutions that do not sustain the current models for distributing programming, let alone future models; punts on the essentials of device authentication, testing

and certification; and does not even support the delivery to consumers of the MVPD service they have purchased. Not only is the AllVid proposal incapable of supporting the realities of the video market – there is nothing concrete enough in it to warrant further Commission action.

In light of the marketplace success of the apps-based approach and the significant risks, costs, and technical and legal infirmities of the AllVid concept, the Commission should refrain from pursuing any further action in this area at this time.

Respectfully submitted,

/s/ Neal M. Goldberg

Rick Chessen  
Neal M. Goldberg  
National Cable & Telecommunications  
Association  
25 Massachusetts Avenue, N.W. – Suite 100  
Washington, D.C. 20001-1431

Paul Glist  
Paul Hudson  
Davis Wright Tremaine LLP  
1919 Pennsylvania Avenue N.W. – Suite 800  
Washington, D.C. 20006-3401

October 8, 2015

**Attachment A**

**Joint Statement on DSTAC Report**

## Joint Statement on DSTAC Report

8/28/2015

As active members of the Downloadable Security Technology Advisory Committee (DSTAC) and as companies and organizations that have followed DSTAC's work since its inception, we congratulate DSTAC Chair Cheryl Tritt, DSTAC Designated Federal Officer Brendan Murray, Alternate Designated Officer Nancy Murphy and the members of DSTAC for the extraordinary work in finalizing a report that successfully documents the vast and growing array of choices audiences have to access video programming over various distribution services. The Report also provides a comprehensive review of downloadable security, in fulfillment of Congress's directive. However, we do have concerns with portions of the Report that range beyond this congressionally-defined purpose and that, if mandated, would violate copyright law, abrogate contracts, exceed the Commission's authority, and raise First Amendment issues.

Importantly, the DSTAC Report reached a number of significant conclusions:

- There is no collective recommendation for any new FCC technology mandate.
- There is no recommendation for a "common reliance"-based solution—the idea that operator-supplied equipment must use the same security solution as retail devices to receive MVPD service, which was the concept behind the recently repealed integration ban.
- There is wide diversity in networks, security, and communication technology choices across cable, DBS and IPTV systems; therefore, the DSTAC Report concluded "It should not be necessary to disturb the potentially multiple present and future security and other network technology choices made by cable, DBS and IPTV systems." "It is not reasonable to expect that all operators will re-architect their networks in order to converge on a common solution."
- All of the proposals in the Report advance solutions for retail devices that rely on an IP connection, rather than expecting devices to connect directly to the multiple technologies that underlie MVPDs' different access networks.

The Report includes a comprehensive review of the widely-adopted "apps"-based approach as an effective solution for the way retail devices can access MVPD programming. The downloadable "apps" approach enables consumers to watch content from Multichannel Video Programming Distributors (MVPDs) and Online Video Distributors (OVDs) on an array of customer-owned and TV-attached devices, including iOS and Android tablets and smartphones, game stations, PCs and Macs, Smart TVs, Kindle Fire, and Roku. The success of the apps-based approach is extraordinary. There have been more than 56 million downloads of MVPD apps; 96 percent of the more than 460 million IP-enabled retail devices in the U.S. market today support one or more MVPD apps, and 66 percent of them support apps from all of the top 10 MVPDs. On average there are four retail devices with available MVPD apps in consumer homes, well exceeding the 2.4 MVPD set-tops per home. OVDs (like Netflix, Hulu, and Amazon) and retail device manufacturers (like Sony and Apple) are now entering into direct distribution contracts with content providers and use the same apps-based approach for delivering service on retail devices and platforms. U.S. viewers have used these and other apps and devices to legally access 7.1 billion movies and 66 billion television episodes in 2014 alone, from among the more than 110 lawful online sources that serve the United States today.

The Report also describes how MVPDs are now pursuing additional methods to further extend this apps-based approach to more retail devices, including by using new HTML5 streaming media standards

developed by World Wide Web Consortium (W3C) and delivering apps through home networking solutions developed by major consumer electronics (CE) manufacturers, chip manufacturers, and MVPDs through the Digital Living Network Alliance (DLNA) and the RVU Alliance.

The Report's discussion of downloadable security methods fulfills the DSTAC's statutory mission. Unfortunately, the Report goes beyond this congressionally-directed mission by describing a proposal by some members to disassemble the programming, features, and functions offered through video providers' distinctive retail offerings into individual piece parts that any retail device manufacturer could selectively reassemble into a new configuration and new service. Rather than promote a retail market for navigation devices that deliver the MVPD service, this approach would turn MVPDs into suppliers of programming for commercial use by third parties without responsibilities to content providers or distributors. Notably, the Report also provides an extensive analysis cataloguing the various shortcomings of this approach, formerly known as AllVid, including how such disaggregation could require, at significant cost, massive re-architecting of MVPDs' networks and development of new not-yet-invented protocols and standards; how such an approach would abrogate the licenses under which MVPDs acquire distribution rights to copyrighted programming from content providers; and how such an approach would evade the regulatory obligations applicable to MVPDs' delivery of program content, including privacy protections. By any definition, such an approach is unduly burdensome, and it is particularly burdensome for the hundreds of small cable operators who already face significant demands on their resources. In addition, the AllVid approach claims that a third-party guide to access MVPD service is necessary for retail success, but the DSTAC found no evidence that such a costly and burdensome approach is necessary for retail to succeed in the marketplace, as is evidenced by the success of a wide variety of retail devices using the app-based approach today.

The DSTAC's Report underscores that there is no need for FCC technology mandates in a marketplace where consumers can access MVPD and OVD content on a wide and growing array of retail devices.

American Cable Association (ACA)	Evolution Digital
ARRIS Group Inc.	General Communications Inc. (GCI)
AT&T/DIRECTV	Independent Telephone & Telecommunications Alliance (ITTA)
Atlantic Broadband	Mediacom Communications Corporation
Bright House Networks	Midcontinent Communications
Buckeye Cablevision, Inc.	Motion Picture Association of America (MPAA)
Cable Television Laboratories, Inc. (CableLabs)	National Cable & Telecommunications Association (NCTA)
Cable ONE Inc.	Sjoberg's Inc.
Cablevision Systems Corporation	Suddenlink Communications
Centurylink	TDS Baja Broadband
Charter Communications, Inc.	Time Warner Cable
Cisco Systems, Inc.	Verimatrix
Comcast Corporation	Verizon Communications
Cox Communications	Vyve Broadband
DISH Network	
Eagle Communications	