
**Before the
Federal Communications Commission
Washington, DC 20554**

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

REPLY COMMENTS OF CISCO SYSTEMS, INC.

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SUMMARY

The record in this proceeding demonstrates that a mandated “AllVid” regime would be unnecessary, detrimental to innovation, and harmful to consumers. Accordingly, the Commission should not adopt the AllVid proposal.

The vibrant innovation in video delivery services and devices (in both over-the-top (“OTT”) Internet delivery and more traditional multichannel video programming distributor (“MVPD”) delivery) proves that the market is far from any failure that would justify corrective regulation. In such a rapidly changing marketplace, a regulatory mandate would only stifle innovation by locking in a single service delivery model. Furthermore, AllVid would burden consumers (including those who want to watch only the most basic MVPD television packages) with additional costs and loss of flexibility. Specifically, under the AllVid proposal, every MVPD subscriber would be required to lease or purchase an additional, unnecessary, and potentially expensive device, as well as to rewire existing home entertainment connections. Such harms are not justified by the purported benefits of AllVid – in fact, in this rapidly changing marketplace, the complex AllVid standard (which will take substantial time to develop and implement) risks being obsolete on, or even before, its deployment.

If the Commission nevertheless decides to move ahead with AllVid, the chances of success will improve if the mandate is crafted in a manner that maximizes flexibility for all MVPDs and manufacturers, and ultimately, consumers. First, the Commission should allow MVPDs and manufacturers to incorporate additional functionality into the AllVid adapter, rather than limiting AllVid functionality and thereby requiring every MVPD customer to use a minimum of two video devices. Contrary to some commenters’ claims, the “common reliance” approach applicable to CableCARD is inappropriate in the AllVid regime, due to the fundamental structural differences between AllVid and CableCARD and the strong existing

incentives MVPDs have to share their services across home networks. Allowing additional functionality in the AllVid gateway device will increase consumer choice and spur competition, while continuing to provide third-party devices with access to MVPD services as the AllVid proposal contemplates. The Commission should also preserve flexibility by permitting both home gateway and set-back form factors for the AllVid adapter, and by rejecting calls to require a specific video codec.

Two other critical matters must be addressed if the Commission continues to pursue AllVid. First, any rules should not force the disaggregation of MVPD content from the presentation of that content. Mandatory disaggregation is unnecessary, would unfairly advantage OTT providers, and would preclude the use of the popular “store-front” model common to many third-party devices and OTT applications. Mandatory disaggregation would also conflict with MVPDs’ legally binding contracts with content providers, and unnecessarily place the content owners/originators at risk.

Second, any AllVid rules must take into account concerns regarding content protection. As the record shows, DTCP-IP (proposed in the NOI) only protects content during transmission between devices. In contrast, ongoing industry standards-setting efforts are focused on developing standards to keep content secure in end-user devices. If the Commission adopts AllVid, it should consider what mechanisms will be in place to ensure that content is protected under the AllVid regime.

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REPLY COMMENTS OF CISCO SYSTEMS, INC.

I. INTRODUCTION

Cisco Systems, Inc. (“Cisco”) submits these reply comments regarding the Commission’s proposal to replace the existing CableCARD regime with a mandated all-video (“AllVid”) solution.¹ The record clearly demonstrates that there is no need for such regulations at this time, given the substantial innovation in video delivery and devices. Indeed, as numerous commenters discuss, imposing AllVid would stifle innovation and saddle consumers with additional costs and loss of flexibility; AllVid also is likely to be obsolete upon or before its effective date. Notwithstanding the clear evidence against AllVid, if the Commission nevertheless moves forward with this proposal, it must do so in a way that maximizes flexibility for all multichannel

¹ *In the Matter of Video Device Competition; Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices; Compatibility Between Cable Systems and Consumer Electronics Equipment*, MB Docket No. 10-91; CS Docket No. 97-80; PP Docket No. 00-67, Notice of Inquiry, FCC 10-60 (rel. Apr. 21, 2010) (“NOI”).

video programming distributors (“MVPDs”), manufacturers, and consumers, rather than artificially stifling innovation in leased devices. Even under an AllVid regime, the Commission can and should allow additional functionality in the AllVid gateway (since “common reliance” is inapplicable to the AllVid proposal) and avoid technical mandates, including specifications relating to the adapter form factor, video codecs, and content distribution standards. To ensure the innovation and consumer choice it seeks to promote, the Commission also should refrain from any forced disaggregation of MVPD content from presentation, which would unfairly favor over-the-top (“OTT”) video providers in addition to raising troubling contractual and Constitutional issues. Finally, because the proposed AllVid regime would interfere with the existing model for protecting video content, the Commission will need to consider what mechanisms will be in place to protect such content as it resides on third-party devices.

II. THE RECORD DOES NOT SUPPORT IMPOSING AN ALLVID REGIME AT THIS TIME

A. Commenters Have Demonstrated that AllVid is Unnecessary

The record does not demonstrate any need for an AllVid regime. As explained by economists Michael Baumann and John Gale, a government-mandated standard is only warranted in response to a clear market failure.² No such market failure is present here to justify government intervention. To the contrary, the video marketplace is dynamic and highly

² MICHAEL G. BAUMANN & JOHN M. GALE, ECONOMIC ANALYSIS OF THE REGULATION OF MVPD NAVIGATION DEVICES, at 3 (July 19, 2010) (attached to Letter from Neal M. Goldberg, NCTA, to Marlene H. Dortch, Secretary, FCC, MB Docket No. 10-91 (July 19, 2010)) (“Baumann & Gale Economic Analysis”).

competitive and is entering a new era of innovative services and devices, all without government intervention.³

First, as demonstrated by various commenters, substantial innovation is occurring in the delivery of OTT video devices and services, which are rapidly developing and exploding in popularity.⁴ The innovation and variety in OTT video devices is staggering. Today, consumers can stream Internet video (in many cases, in HD) direct to their television from their TiVo, Xbox 360, PlayStation 3, Roku, AppleTV, Sezmi, Boxee, Windows Media Center PC, and many Blu-ray Disc players.⁵ There are also a growing number of Internet-enabled HDTVs offered by Mitsubishi, Samsung, Panasonic, and Sony that can connect to Internet video sources directly.⁶ Using such devices, consumers can access a multitude of over-the-top video sources including Hulu, YouTube, Netflix, Amazon Unbox, iTunes and more.⁷ At this nascent stage, service providers are attempting to determine what is most attractive to consumers by experimenting

³ Motorola Comments at 2-3; Baumann & Gale Economic Analysis, *supra* note 2, at 23. Unless otherwise noted, all comments cited in this pleading were filed in the above-captioned proceeding on or around July 13, 2010.

⁴ See, e.g., Mitsubishi Digital Electronics America Comments at 2 (concluding that OTT video services “are quickly supplementing traditional MVPD video delivery”) (“Mitsubishi Comments”); Motion Picture Association of America Comments at 2 (stating that OTT video services “will increasingly provide consumers with greater access to content at the time and place, and on the device of their choice”) (“MPAA Comments”).

⁵ Cisco Comments at 11; DirecTV Comments at 5-6; Google Comments at 9 n.22 (noting that in 2009, 50 broadband-enabled TV models were introduced, and “as of September 2009, 15 million broadband-enabled Xbox consoles and an estimated 65,000 Roku units were purchased”) (citing Dan Rayburn, “Breakdown on the Number of Broadband Enabled Devices Sold in the U.S., Business of Video” (Sept. 15, 2009), *available at* http://blog.streamingmedia.com/the_business_of_online_vi/2009/09/breakdown-on-the-number-of-broadband-enables-devices-sold-in-the-us.html).

⁶ Cisco Comments at 11; Mitsubishi Comments at 2.

⁷ See Cisco Comments at 11; Time Warner Cable Comments at 4.

with new technologies and various business models, including advertising-supported, *a la carte*, and subscription models.⁸

Meanwhile, the market for leased set-top boxes also continues to deliver innovative features to consumers, ensuring a wide range of choices for video delivery. The competitive nature of MVPD services drives MVPDs to improve customer premise equipment by increasing performance and adding new features and services. For instance, MVPDs are constantly expanding the storage on DVRs to allow users to record more hours of programming as well as introducing multi-room DVRs and network based RS-DVRS.⁹ MVPDs are also adding new services and features such as widgets, TV caller ID, interactive advertising, chat, and recommendation engines. Critically, MVPD customers also increasingly have the ability to access Internet content via the MVPD set-top box,¹⁰ a goal emphasized in the National Broadband Plan.¹¹

B. The Record Shows That AllVid Will Stifle Innovation, Harm Consumers, and be Obsolete On or Before Deployment

Even if there were no drawbacks to AllVid, it would be simply unnecessary, as discussed above. However, as numerous commenters make clear, the AllVid proposal would entrench current technology and limit innovation, disrupt and impose unnecessary

⁸ Baumann & Gale Economic Analysis, *supra* note 2, at 24.

⁹ *Id.* at 33. See also Cablevision Comments at 22; National Cable & Telecommunications Association Comments at 7-8 (“NCTA Comments”).

¹⁰ Dish Comments at 3 (“DISH is partnering with Google to offer Google TV, an open platform that will integrate DISH programming with web content.”); Motorola Comments at 6-7, 9; Verizon Comments at 7.

¹¹ Federal Communications Commission, *Connecting America: The National Broadband Plan*, at 50 (Mar. 16, 2010) (“National Broadband Plan” or “NBP”).

costs on consumers, and stagnate technology at a moment most ripe with the potential for rapid evolution. For these reasons, the Commission should not mandate AllVid.

1. AllVid Would Stifle Innovation

The Commission's focus on promoting innovation in the delivery of video services to consumers is well placed, as consumers increasingly demand new and better ways to view video programming.¹² As discussed above and in Cisco's comments, innovation in video delivery is thriving.¹³ For example, Cisco's Next Generation IP Video Platform merges on a single platform MVPD-managed video, managed and unmanaged broadband video, high speed data services, in-home routing, and wired and wireless voice services both at the hardware/software layer and at the services layer.¹⁴ As Cisco emphasized in its comments, the Next Generation IP Video Platform would allow consumers to subscribe to each of these services from a different provider, increasing competition while still providing a single, unified home network.¹⁵ This platform would enable a wide range of IP-capable consumer electronics devices to access content via a host of MVPD- and third-party-provided services.¹⁶ The AllVid proposal, however, would stifle myriad developments now underway and many not yet imagined.¹⁷ Thus, it actually would hinder the very goals that the Commission seeks to promote.

¹² See NOI ¶ 1 (AllVid could "allow unfettered innovation in MVPD delivery platforms").

¹³ See *supra* at Section II.A; Cisco Comments at 11-13.

¹⁴ See Cisco Comments at 14-15.

¹⁵ *Id.* at 24-25 ("[A]n expanded AllVid gateway could support advanced IP routing techniques needed to allow the consumer to easily select 'video service' from one service provider and 'broadband data service' from an alternate provider...").

¹⁶ *Id.* at 14.

¹⁷ See, e.g., *id.* at 17-20 (discussing how AllVid would hinder innovation such as the Cisco Next Generation Video Platform); DirecTV Comments at 26-31.

Bauman and Gale aptly explain that

[A]lthough achieving standardization may provide benefits to manufacturers and consumers, when a standard is imposed prematurely, and in particular when a mandatory standard is imposed prematurely by government, it becomes difficult, if not impossible, for superior technologies to displace those that are embodied in the standard. When technology is changing rapidly, the danger of a mandatory standard locking in an inefficient alternative that forecloses innovation in technology and services is substantial and especially likely.¹⁸

Other commenters similarly question how AllVid will support new network-based innovations, such as real-time MVPD interactive services including interactive advertising, ecommerce, social networking, or chat.¹⁹ As Cablevision explains, “[t]he crux of the problem is that once the AllVid adapter is deployed the opportunities for cloud-based innovation immediately dim because the adapter only has the capacity to translate commands, intelligence and functionality that are based upon the toolbox of network capabilities embodied within its design.”²⁰ Network-based services – which, except for display, occur entirely in the network “cloud” – are an increasingly popular paradigm for many services, including video services.²¹ AllVid would arbitrarily preference device-based “edge” functionality over network-based cloud functionality and thus hinder such future innovation in the network.²² Such a mandate could also overburden consumer devices with functions that would be more efficiently and effectively supplied by the network.

¹⁸ Baumann & Gale Economic Analysis, *supra* note 2, at 15.

¹⁹ Cablevision Comments at 22; Cisco Comments at 16; Motorola Comments at 14-15.

²⁰ Cablevision Comments at 23-24.

²¹ See Steve Ballmer, *The Future is Cloudy, And that Suits Microsoft Just Fine*, FORBES, July 29, 2010 (noting that “[t]he cloud is revolutionizing computing,” and that 90% of Microsoft engineers will work on cloud-based products by 2011), <http://www.forbes.com/2010/07/28/microsoft-cloud-computers-opinions-contributors-steve-ballmer.html>; Cablevision Comments at 8-11.

²² Motorola Comments at 14-15.

AllVid would also slow the continued convergence of consumer information networks. AllVid fails to recognize the larger ongoing market transition to converged video, data and voice services.²³ This transition is exemplified by the Cisco Next Generation IP Video Platform, referenced above and in Cisco's comments, which would integrate all consumer information networks into a single, accessible in-home network.²⁴ The narrow, linear-video focus of AllVid will inhibit such consumer-friendly convergence.²⁵

As discussed further in Section IV.B, AllVid would inhibit innovation in the delivery of high-value content because it does not adequately support digital rights management ("DRM") of content in downstream devices.²⁶ As DirecTV explains, AllVid cannot "ensure that content stored on such a third-party device will honor commands such as 'may be rented again for \$1.99' or 'expires after July 13.'"²⁷ Without the necessary content protection assurances, content owners will withdraw their content from these types of innovative video delivery services.²⁸ Thus, AllVid may inhibit MVPDs from offering "subscribers access to the highest-value, early-release movies" and other premium content.²⁹

²³ Cisco Comments at 17.

²⁴ *Id.* at 14.

²⁵ *Id.* at 17.

²⁶ *See also* DirecTV Comments at 17; Dish Comments at 11-12.

²⁷ DirecTV Comments at 17.

²⁸ *See* NCTA Comments at 38-39.

²⁹ MPAA Comments at 7. *See also* NCTA Comments at 38 (explaining that for an MVPD to provide theatrical-release movies to the home before they are available on DVDs, the MVPD "needs to limit the offer to consumers with devices that will honor the terms of sale – such as not sending the movie out through an unprotected interface onto the Internet").

2. AllVid Would Harm Consumers

AllVid will increase consumer costs by mandating an additional, unnecessary device, imposing “another layer of ... inconvenience to [MVPD] customers.”³⁰ The AllVid mandate as contemplated in the NOI would force consumers to “pay for a device which provides for services and integration which they may not want” in an “attempt[] to accommodate all possible levels of integration.”³¹ Similar to previous Commission mandates regarding UHF receivers and IEEE 1394 connectors, AllVid would require many consumers to pay for features they rarely or never use, forcing those consumers seeking only limited services “to subsidize those looking for the most complex and extensive services, rather than allowing the market to serve their differing demands in the most efficient manner.”³²

Second, the AllVid mandate will have a disruptive impact on consumers. AllVid will increase “the number of devices in the home, even though many consumers may be averse to a directive that increases – rather than reduces – the number of devices in the home. Accommodating ... AllVid will require consumers to either reconfigure their existing home networks and/or re-wire existing home entertainment and television set-ups.”³³ Consumers seeking only “‘basic’ television service would still be required to lease and install AllVid devices, alongside leased or purchased set top boxes.”³⁴

³⁰ Cablevision Comments at 4. *See also id.* at 21; Dish Comments at 13; NCTA Comments at 42-43.

³¹ Baumann & Gale Economic Analysis, *supra* note 2, at 35. *See also id.* at 20-21 (describing the disproportionate cost of the UHF mandate to the benefits received).

³² *Id.* at 35; *see also* DirecTV Comments at 30 (“HD cable boxes were still required to include IEEE 1394 ports even though many designers believed those ports would go unused and customers would prefer different digital interfaces.”).

³³ Cablevision Comments at 21.

³⁴ *Id.*

Third, an AllVid mandate will undermine the existing competitive MVPD marketplace. As contemplated in the NOI, the AllVid device would not include storage capability and therefore would prohibit a substantial amount of Direct Broadcast Satellite (“DBS”) functionality that depends on stored information in the set-top box, placing DBS providers at a significant disadvantage relative to cable providers.³⁵ Even if storage capability was allowed, the goal of the AllVid proposal appears to be “an industry in which MVPDs deliver content and third party device manufacturers use that raw material to innovate. If MVPDs are reduced to ‘dumb pipes’ in this way, the Commission will significantly advantage those systems with the greatest capacity and ability to offer a triple-play bundle of services (*i.e.*, cable) while hamstringing those systems that have traditionally relied upon video innovation to compete (*i.e.*, satellite).”³⁶

3. AllVid Risks Being Obsolete Upon Delivery

As numerous commenters explain, a mandated AllVid device is at substantial risk of being obsolete upon delivery by failing to accommodate technological changes and evolving consumer preferences.³⁷ This is particularly true because the development and implementation of AllVid will take many years. Past experience demonstrates that complex standards like AllVid require lengthy development and implementation.³⁸ For instance, BBT explains that the

³⁵ DirecTV Comments at 23; Dish Comments at 4-7.

³⁶ DirecTV Comments at 23.

³⁷ *See, e.g.*, NCTA Comments at 33-34; ARRIS Group Comments at 8; Baumann & Gale Economic Analysis, *supra* note 2, at 14; HomeGrid Forum Comments at 5; DirecTV Comments at 18; MPAA Comments at 4.

³⁸ *See, e.g.*, Baumann & Gale Economic Analysis, *supra* note 2, at 12-13 (noting that the development of the CableCARD standards was substantially simpler than the AllVid proposal and still took five years to develop); Charter Communications Comments at 7 (“[I]t is unrealistic to expect that so many standardized protocols can be developed within the time frame expected by the Commission.”); Telecommunications Industry Association Comments at 8-9 (concluding that the Commission’s deadline “is unrealistic given the number of diverse interests involved and
(continued on next page)

development of the DOCSIS cable modem standard – “a process that involved just one transmission technology, a single industry consortium, and no conflict with existing business norms – took eleven years.”³⁹ The development of the digital broadcast standard took nine years and “culminated . . . with the adoption of the ATSC digital standard (actually, 18 different standards).”⁴⁰ Furthermore, commenters are unaware of any work being done that could possibly accommodate the Commission’s aggressive timeline.⁴¹

Given this lengthy development timeline, the risk of obsolescence is highly acute because video distribution and set-top technologies and markets are changing so rapidly. As discussed in detail above and elsewhere in the record, the video marketplace is undergoing a substantial transformation with emergence of OTT video, new and innovative MVPD services, the convergence of consumer networks, and the creation of new cloud-based services.⁴² Many commenters agree that in such a rapidly changing video marketplace, a mandated AllVid standard will likely be obsolete soon after, or even before it is deployed.⁴³

The risks associated with a mandated AllVid standard are further compounded by the fact that a government standard is far more difficult to change or supplant than a voluntary standard. With a voluntary standard, “firms who develop new services and devices that do not conform to

the complex technical issues around which these parties must develop consensus”) (“TIA Comments”); Montgomery County Comments at 2 (“Even the most optimistic ‘AllVid’ supporters, however, must recognize that it will take many years to develop and fully implement a successor technology.”).

³⁹ Beyond Broadband Technology Comments at 10 (“BBT Comments”).

⁴⁰ *Id.*

⁴¹ *See, e.g.*, Alliance for Telecommunications Industry Solutions Comments at 6-7 (“ATIS Comments”).

⁴² *See supra*, Section II.A and accompanying footnotes.

⁴³ *See, e.g.*, ARRIS Group Comments at 4; BBT Comments at 10-11; Cisco Comments at 4-6; Charter Communications Comments at 7; NCTA Comments at 33-34.

the current standard can compete . . . through price and innovation to displace the standard. Under a government-mandated standard, firms with innovative new devices must, instead, argue before government regulators for a formal decision to change the standard.”⁴⁴ There are a number of ongoing industry efforts to establish standards in this area, including efforts by the Digital Life Network Alliance (“DLNA”), Universal Plug and Play (“UPnP”); Consumer Electronics Association (“CEA”); Digital Video Broadcasting (“DVB”); Internet Engineering Task Force (“IETF”); European Technology Standards Institute (“ETSI”); Advanced Television Systems Committee (“ATSC”); Society of Cable Telecommunication Engineers (“SCTE”); BroadBand Forum; CableLabs; International Telecommunications Union – Telecommunication Sector (“ITU-T”); and Alliance for Telecommunication Industry Solutions (“ATIS”).⁴⁵ The Commission should encourage the development of these voluntary standards rather than impose its own mandate.

III. IF THE COMMISSION ADOPTS ALLVID, IT MUST AFFORD MAXIMUM FLEXIBILITY TO MANUFACTURERS IN ORDER TO PROMOTE COMPETITION AND INNOVATION IN VIDEO DELIVERY

As discussed in detail in Cisco’s comments, flexibility is critical to promotion of innovation and consumer choice.⁴⁶ The utmost flexibility here would be for the Commission to refrain from imposing AllVid. If the Commission nevertheless pursues AllVid, it can and should afford flexibility in the regime in order to increase the chances of success. As such, if the Commission chooses to adopt AllVid, it should reject calls to limit the functionality of the AllVid gateway. Additionally, as commenters note, consumers would benefit most from rules

⁴⁴ Baumann & Gale Economic Analysis, *supra* note 2, at 18-19.

⁴⁵ See Cisco Comments at 31-32.

⁴⁶ *Id.* at 22-23, 30.

that establish functional requirements, rather than specific technical mandates.⁴⁷ In particular, the Commission should allow both set-back and gateway form factors for the AllVid adapter, should reject calls to require a specific video codec, and should clarify that it does not intend to impose a single mandatory nationwide content delivery standard.

A. “Common Reliance” Is Inapplicable to AllVid and Does Not Justify a Prohibition on Additional Functionality in AllVid Adapters

Several commenters assert that common reliance is critical to the success of the AllVid standard.⁴⁸ By this, the commenters appear to mean that the AllVid adapter must be limited to security and networking functionality only, and any MVPD devices that perform navigation or other tasks must be external devices that connect to the adapter like third-party boxes.⁴⁹ These commenters argue that common reliance is essential for AllVid for the same reasons it was essential in CableCARD.⁵⁰ However, as Cisco elaborated in its comments, the structural difference between the AllVid proposal and the CableCARD standard largely eliminates the concerns that prompted common reliance under CableCARD.⁵¹ A set-top box with integrated security provides no third-party access. Accordingly, “common reliance” may have been a relevant concept before CableCARDs were widely deployed in retail and leased boxes. An AllVid gateway, however, would provide services to an entire home network of devices. As such, even if an AllVid gateway included advanced features, it would still enable third-party

⁴⁷ Panasonic Comments at 1; TIA Comments at 8.

⁴⁸ Sony Comments at 10; Mitsubishi Comments at 3; Joint Comments of Consumer Electronics Association and Consumer Electronics Retailers Coalition at 14-15 (“CEA-CERC Comments”); TiVo Comments at 11; Free Press Comments at 4-5.

⁴⁹ See *supra* note 48.

⁵⁰ See Free Press Comments at 4-5; Public Knowledge Comments at 7-9; Sony Comments at 10-11; CEA-CERC Comments at 14-15; Media Access Project Comments at 3.

⁵¹ See Cisco Comments at 27-28.

boxes to access MVPD services. In addition, an enhanced AllVid gateway would provide all the functionality (and more) of any AllVid device, while an integrated security set-top box provides none of the functionality of a CableCARD with respect to third-party devices. Thus, there is no reason to forbid enhanced features in AllVid gateways, while the benefits of such features (as Cisco noted in its comments) are significant.⁵²

The record also emphasizes that MVPDs already have a strong interest in making their services available across home networks, and have invested millions of dollars in technologies to do so; commenters also have described at length the home networking efforts of the industry and the interest MVPDs have in establishing such an environment.⁵³ Given these investments, common reliance is not needed to incentivize adequate support for MVPD content on home networks.

⁵² *Id.* at 22-26. Furthermore, provided that AllVid is implemented using a well-defined, well-known, commonly used network interface and protocol (*see* NOI ¶¶ 22, 26-27), the installation, cost, and support issues that led to common reliance in the CableCARD regime should be minimized. The familiarity of the underlying technologies would mean professional and consumer expertise regarding installation and support, as well as pre-existing, cost-reducing manufacturing scale. Additionally, any lack of compliance with well-known technologies will be easily identifiable and correctable. To the extent IP networking technologies are chosen for AllVid – which seems likely – MVPDs that provide Internet service will have established expertise in installing and supporting such home networks.

⁵³ *See, e.g.*, ATIS Comments at 4-6 (describing the industry standard-setting organization’s efforts to establish standards for IPTV); ARRIS Group Comments at 4-6 (noting that MVPDs are already investing capital in exploring IP-based solutions); AT&T Comments at 6-12 (discussing industry efforts to establish an industry standard gateway, and AT&T separate efforts to enable third-party devices to serve as STBs); Cablevision Comments at 7-17; Cisco Comments at 13-15; DLNA Comments at 4-5; DirecTV Comments at 4-9; Dish Comments at 3; Intel Comments at 1 (“Since the 1990’s, Intel has worked closely with members of the ... cable, telecommunications, and satellite television services ... to bring to fruition a true digital networked home and personal environment.”); Motorola Comments at 9-10; NCTA Comments at 13-14; Verizon Comments at 5-9.

With no valid technological or practical reason for restricting additional functionality in an AllVid adapter, it appears that TiVo and others are seeking merely to protect their particular business and technology model at the expense of innovation and, ultimately, the consumer. For example, TiVo and CEA-CERC seek to calcify the existing allocation of client device functions (audio visual performance output, display of guides and external and internal network games and services, client / home storage, and ATSC tuners), proposing to reserve such functions to clients and home networks.⁵⁴ However, such a restriction would arbitrarily and permanently eliminate the possibility of these functions being provided in a “cloud” format over the network – the exact architecture that so many OTT video sites use. Adopting such an approach would eliminate an entire domain of technical and business model innovation, and is contrary to the Commission’s intent to permit innovation in the network.⁵⁵ Additionally, TiVo and CEA-CERC’s proposal would unnecessarily prevent the AllVid gateway from offering certain services that may be more efficiently provided from such a centralized location.⁵⁶

Google states that allowing additional functionality, such as navigation, in the AllVid adapter will “slow down innovation by requiring device manufacturers ... to duplicate

⁵⁴ TiVo Comments at 10-11; CEA-CERC Comments at 11-14. Public Knowledge also appears to state that the AllVid adapter should not contain “any tuning ability.” Public Knowledge Comments at 16. To the extent that Public Knowledge is sincere in this statement, the Commission should reject it as technically infeasible, since tuning to specific carriers is required in order to receive cable or DBS services. Indeed, in a passage Public Knowledge quotes, the Commission notes that the function of the adapter “should be to bridge the proprietary or unique elements of the MVPD network (e.g., conditional access, *tuning* and reception functions).” NBP at 67.

⁵⁵ NOI ¶¶ 1, 23.

⁵⁶ See Cisco Comments at 22-26 (discussing the technical and consumer advantages for providing networking, storage, and other services in the gateway device).

capabilities unnecessarily.”⁵⁷ Yet what Google calls “duplication” is more properly considered competition, and as the Commission has noted, competition further spurs innovation and promotes consumer choice.⁵⁸ The Google TV product “duplicates” many of the functions of existing set-top boxes, but this does not indicate a lack or slowing of innovation; to the contrary, Google claims that Google TV improves upon the set-top box devices whose functions it imitates.⁵⁹ Likewise, even if the AllVid gateway were to include enhanced services, third-party devices would remain both free to and capable of improving upon those services. (Indeed, as Cisco has argued, enhanced AllVid gateway services would *benefit* third-party devices by improving the quality and variety of services available.)⁶⁰ Allowing additional functionality in the AllVid gateway would give consumers more choices of devices to use; these additional choices provide competition, not “duplication.”

B. The Commission Should Permit Both Home Gateway and Set-Back Form Factors for the AllVid Adapter

Contrary to some commenters’ proposals, the Commission should not forbid the deployment of the set-back form factor of the AllVid adapter.⁶¹ One significant flaw of the AllVid proposal is that, when used as a set-back device, the result is simply another set-top box. If the Commission pursues AllVid, however, it must allow for the set-back approach in addition to the gateway approach. While Cisco agrees that the set-back approach may not be appropriate

⁵⁷ Google Comments at 10.

⁵⁸ *See, e.g.*, NOI ¶ 1 (“We believe [AllVid] could foster a competitive retail market in smart video devices to spur investment and innovation.”).

⁵⁹ Google Comments at 5-7.

⁶⁰ Cisco Comments at 23-25.

⁶¹ Public Knowledge Comments at 13 n.24 (“The set-back box approach... merely replicates the obsolete set-top box approach and fails to take into account the flexibility of home networking.”).

for households with multiple television sets or which desire home networking functionality, these critics fail to consider that there are many households that would benefit from the lower-cost set-back form factor and would be disproportionately harmed by the cost of a “gateway-only” AllVid approach. Specifically, the set-back form factor may be less expensive than a complex home gateway device for the 45 percent of households that have only one or two televisions.⁶² Many of these households are elderly or low income households which are seeking only basic cable reception and may not even have an Internet connection necessary to deliver OTT video. As Motorola explains, the appropriate form factor “will depend on the particular service provider and customer,”⁶³ and as Massillon Cable TV notes, “some people just want to watch TV.”⁶⁴ The Commission should permit manufacturers to serve the various market segments with whichever form factor is most appropriate.

C. The Commission Should Not Mandate Any Particular Video Codec or Content Distribution Standard

The Commission should deny the request of Public Knowledge to mandate inclusion of the VP8 video codec in AllVid devices.⁶⁵ This proposal goes far beyond the establishment of basic video compression requirements, as the existing AllVid proposal does in suggesting use of MPEG standards. Codec issues should be resolved in the marketplace. In fact, although relatively new and unknown, the VP8 codec is claimed to be royalty-free, owned by Google, and

⁶² The Nielsen Company, Television Audience 2009 Report at 4, *available at* http://blog.nielsen.com/nielsenwire/wp-content/uploads/2010/04/TVA_2009-for-Wire.pdf.

⁶³ Motorola Comments at 16.

⁶⁴ Massillon Cable TV Comments at 3.

⁶⁵ Public Knowledge Comments at 11.

has the backing of a significant number of technology companies;⁶⁶ it would therefore seem to be well positioned in the marketplace and in no need of a regulatory mandate.⁶⁷ As the IEEE 1394 requirement has demonstrated, such a technology mandate would risk imposing a specific technology that, in the long run, may not be the appropriate choice.⁶⁸

Sony suggests that the lack of a nationwide standard for video content delivery is “the fundamental barrier to interoperability,” noting that different technologies are used by providers to deliver video content.⁶⁹ While Sony appears to generally support the AllVid proposal, in the first instance the company proposes a single mandated standard for multichannel video delivery, regardless of the underlying delivery technology, patterned after “examples [such as] NTSC and ATSC standards for over-the-air broadcasting.”⁷⁰ The Commission should affirmatively and emphatically reject such a heavy-handed and intrusive approach, as it is far outside the scope of the AllVid proposal and is in complete opposition to the Commission’s goal⁷¹ of enabling ongoing innovation in MVPD networks.

⁶⁶ See WebM Project, WebM Supporters, <http://www.webmproject.org/about/supporters/> (last visited Aug. 7, 2010) (listing 60 companies which support WebM, another name for the VP8 codec).

⁶⁷ Additionally, requiring the relatively new VP8 standard would contradict the FCC’s goal of using well-established, popular standards. NOI ¶¶ 26-27 (proposing the use of Ethernet and IP standards due to their familiarity and ubiquity.)

⁶⁸ See *supra* at II.B.2 (discussing the IEEE 1394 mandate and its negative results).

⁶⁹ Sony Comments at 8.

⁷⁰ *Id.* at 8.

⁷¹ NOI ¶ 1 (stating that the AllVid proposal “could ... allow unfettered innovation in MVPD delivery platforms”).

IV. OTHER CRITICAL ISSUES MUST BE ADDRESSED BY THE COMMISSION IN THE EVENT OF AN ALLVID REGIME

A. Any Rules Should Not Force Disaggregation of MVPD Content from Presentation

MVPDs have negotiated contracts for a limited bundle of rights and responsibilities regarding the treatment of the content they distribute. Many of these contracts require specific packaging, presentation, and protection of content. If the Commission adopts AllVid, it must do so in a manner that in no way negates these agreements, leaving MVPDs free to package, present, and sell their content in the manner they choose.

Some commenters suggest that AllVid rules should force MVPDs to disaggregate the packaging and presentation of MVPD-provided content and services.⁷² This approach would unfairly advantage OTT content providers, which would remain free to aggregate content, presentation, and other elements. Chairman Genachowski has referred to the goal of AllVid as one of providing a virtual shopping mall of video content.⁷³ This is an apt metaphor. As DirecTV has noted, individual stores in shopping malls maintain control over the exact presentation pricing, billing, and sale of their goods, while consumers are free to move from store to store.⁷⁴ AllVid should embody an analogous model by enabling all SVDs to provide a shopping mall of content choices, but leaving the details of presentation, billing, and sale to the video source.

⁷² TiVo Comments at 14 (arguing that MVPD menus should not be segregated from other sources); CEA-CERC Comments at 13 (“[A]vailable [video] choices should be assembled and rendered by the consumer’s own device.”).

⁷³ NOI, Statement of Chairman Genachowski.

⁷⁴ DirecTV Comments at 8. *See also* NCTA Comments at 14.

This “storefront” model is already established in the OTT video marketplace. Many TVs, Blu-ray players, gaming platforms and other OTT devices provide separate “storefronts” for YouTube, Netflix, Amazon Unbox, and other OTT video providers. On the Internet, Hulu, ABC, and others fully control the presentation, packaging, sale, and billing of their video content. The success of this model for OTT services argues for not arbitrarily eliminating such a model for MVPD-sourced content. Indeed, some AllVid proponents recognize the benefits of permitting MVPDs to control the billing and sale interactions with consumers.⁷⁵

The storefront model would meet the Commission’s goals by providing to consumers a huge variety of choices in content and services (including MVPD content and services) on third-party smart video devices, while still enabling the content provider or distributor to promote and sell its content and services in the manner it deems most effective. Therefore, the Commission should not establish rules that would foreclose the adoption of a storefront model or other models that would achieve the Commission’s goals.

Imposing disaggregation on MVPDs would inequitably benefit OTT video providers. MVPDs would be bound and limited to one specific, disaggregated distribution model, while OTT providers would remain free to package, promote, and sell their content and services in whatever manner they deemed to be most effective. Such arbitrarily imposed limits would be counter to the Commission’s goal of enabling “unfettered innovation” in video content delivery

⁷⁵ See Google Comments at 12 (“The Commission should ... leave MVPDs and others free to reach commercial arrangements on ordering and billing, and other transaction-related issues.”).

and would contradict general Commission principles of regulating similarly situated entities similarly.⁷⁶

Requiring disaggregation could also force MVPDs to violate many of their legally-binding agreements with content producers, ratings agencies, and channel guide providers.⁷⁷ Agreements with content producers often incorporate presentation requirements such as the tier of service in which the programming will appear, what type of content surrounding channels contain, what advertisements are embedded in the content, and which DRM protections are to be enforced. Such non-monetary compensation reduces the price at which MVPDs are able to acquire content; eliminating the ability to negotiate these measures will necessarily raise the cost of content.⁷⁸ Similarly, the sharing of episode guide and content ratings information is often limited by contract, and disaggregation could conflict with these agreements.⁷⁹

Fortunately, disaggregation is completely unnecessary to achieve the FCC's goals. The Commission should therefore disregard this harmful proposal and should, if it implements

⁷⁶ NOI ¶ 19. *See, e.g. Amendments of Parts 1, 22, 24, 27, 74, 80,90, 95, and 101*, WT Docket No. 10-112, Notice of Proposed Rulemaking and Order, FCC 10-86 ¶ 53 (rel. May 25, 2010) (reasoning that adopting a wireless rule change “will serve the public interest by ensuring that similarly situated licensees are afforded comparable regulatory treatment”).

⁷⁷ AT&T Comments at 51; Charter Communications Comments at 3-4; DirecTV Comments at 19. Required disaggregation of MVPD content also raises significant Constitutional issues. AT&T and others argue that the proposal would run afoul of the First and Fifth amendments, infringing MVPDs' free speech rights and constituting an uncompensated taking. *See* AT&T Comments at 57-63, 64-66; BBT Comments at 12; Dish Comments at 10. The Commission should fully analyze such issues and should ensure that any future efforts are legally sustainable before taking further action.

⁷⁸ Charter Communications Comments at 3-5; NCTA Comments at 43-44.

⁷⁹ AT&T Comments at 50 n.78; NCTA Comments at 40-41; Rovi Comments at 6 (“If cable operators supply guide data to ... retail devices, the operators would be in breach of their license obligations to Rovi with respect to the guide data.”); MPAA Comments at 8-9.

AllVid, do so in a manner that preserves the rights of MVPDs to package, present, and sell their content and services as they see fit.

B. Any Rules Must Ensure Effective Protection of Content

As discussed above, the AllVid NOI neglects to explore how AllVid will ensure that content is protected on third-party consumer devices, whose manufacturers would have no contractual or industry standards obligations to protect such content. This flaw in AllVid is one of many reasons why rules should not be adopted. If the Commission pursues AllVid, however, leaving content unprotected is not an option. Content protection is critical to ensure the availability of high value content in a digital world.

Content producers secure protection for their video works through distribution contracts that detail permissible uses.⁸⁰ MVPDs effectuate these contractual responsibilities through binding contracts with equipment manufacturers, or through binding industry standards, creating a chain of contractual obligations to protect content.⁸¹ The AllVid proposal would break this chain, requiring MVPDs to supply their content to third parties with no assurance regarding content protection. The AllVid NOI does inquire about securing content using DTCP-IP. However, as numerous commenters have indicated,⁸² DTCP-IP only protects content while it is being transmitted *between* devices. There are no established industry standards on the use of content *in* devices in home networks, although efforts to achieve this complex goal are

⁸⁰ MPAA Comments at 8; AT&T Comments at 32-33.

⁸¹ MPAA Comments at 8.

⁸² *See, e.g.*, AT&T Comments at 33-35; DirecTV Comments at 16-17. *See also* DTLA Comments at 3 (describing DTCP-IP as a “link-protection” protocol).

ongoing.⁸³ Thus, the Commission must specifically consider what mechanisms will be in place to ensure that content remains protected under the AllVid standard.

V. CONCLUSION

Today's rapidly changing, innovative environment for video delivery and services shows no compelling need for regulatory action, particularly regulatory action that would harm innovation and consumer welfare by adding unnecessary costs and limiting flexibility. For the reasons set forth above, Cisco respectfully requests that the Commission set AllVid aside and instead focus its efforts on policies that would truly spur innovation and competition in video delivery and increase the deployment and adoption of broadband. However, if the Commission does move forward with the AllVid proposal, it should maximize the flexibility available to MVPDs and manufacturers in meeting the Commission's goals, reject proposals that would effectively disaggregate MVPD content, and ensure that secure measures to protect content are in place before any mandates become effective.

Respectfully submitted,

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⁸³ See AT&T Comments at 36-37 (quoting MPAA and Sony Pictures discussions with Commission staff regarding DRM standardization efforts).