



April 21, 2016

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

Dear Secretary Dortch,

We live in an era of disruption where old business models are challenged and swept away by technologies and digital platforms that are creating great economic opportunities, expanding the range of choices available to consumers and increasing our efficiency and connectivity. These innovations are being driven by the most dynamic companies in business history.

CALinnovates offers its views solely through the prism of what is needed to sustain and reinforce innovation and competition within this new digital-driven world where the multichannel video programming market is being reshaped on a non-stop basis, all to the benefit of consumers. The reshaping of the market is driven by open and vigorous competition. In light of the tremendous innovation in the market, FCC intervention will harm innovation, competition, and ultimately consumers.

Hence, the FCC needs to stand down on this pursuit. The initial approach taken by the NRPM, paradoxically, seems rooted in – and will prolong – the outdated paradigmatic assumptions of ancient telecommunications wars: of a segmented, non-converging landscape where generational change was once measured in years or decades, rather than in months or even weeks. Unfortunately, new innovators cannot afford to revisit that bygone era, nor should they have to contend with a governmental agency increasingly intent on picking winning and losing technologies when consumers have made it

crystal clear that the future is decidedly app-based, not box-based. Consumers may not wish to buy a new set-top box when the underlying technology will be obsolete within 18 months of purchase given the breakneck speed of innovation in the marketplace.

Indeed, the market is functioning well, with rich offerings and mixes of content and technologies vying for eyeballs across platforms, devices and generations. To repeat: Why an agency would step in at this moment to damn a rushing river is curious, if not misguided.

That is why CALinnovates – a coalition of technology leaders, startups, and entrepreneurs – opposes the Commission’s plan to interject itself into this thriving, vibrant market with a one-size-fits-all set-top box mandate that will stifle innovation and hamstring the companies working to invent the next generation of amazing products, services, and video apps. We can all do better: in fact, market innovators are already doing better and driving competition to a new level.

Numerous products are available to consumers in addition to the leased set-top box. Roku, Apple TV, and a plethora of other platforms are viable options for consumers in addition to gaming consoles like the XBOX, Wii and PlayStation. To that end, a recent CALinnovates poll shows that nearly sixty percent of Americans who own gaming consoles use these consoles to watch television, movies, or video. These options currently exist outside the framework of the leased set-top box option, proving that the box is, in fact, already unlocked. Consumers enjoy a vibrant, competitive and thriving marketplace now, absent any regulatory intervention.

These examples prove that consumers are – and should – drive the direction of the market, rather than the regulator. Pro-consumer innovation exists today, but the backwards looking box-focused mandate under FCC consideration would make it all but impossible for innovators to deliver what consumers are demanding by forcing companies to “design to rule” instead of following the market where it leads.

As in most things, timing and sound judgment are everything. It takes sound judgment and the restraint to know when new regulations will undermine innovation and derail a healthy market.

In this spirit, CALinnovates today files two detailed assessments of the proposed set-top box mandate, that together demonstrate what a threat to innovation and consumer welfare the NPRM presents.

First, CALinnovates submits its comments and analysis exposing how deeply the Commission has misread the current climate of market innovation and video competition. The proposed rule argues that “consumers have few alternatives to leasing set-top boxes from their MVPDs.” But this turns a blind eye to the widespread success of competitive services like Netflix and Hulu and devices like Roku and Amazon Fire. As we explain in our comments, “it is apparent that the FCC is missing the forest for the trees. Specifically, the Commission obsesses over the size of one ancient, crumbling tree – missing the thriving vegetation sprouting around it. Consumers have never enjoyed more ways to watch video—to conclude otherwise ignores market trends and risks creating a 20th century solution to a 20th century problem.”

Second, we submit a detailed economic analysis by Dr. Christian Dippon, a technology and telecommunications expert, warning that the proposed mandate would drive up consumers’ bills, destroy incentives to innovate, and undermine the entire video ecosystem consumers enjoy today. Dr. Dippon explains in great detail that one-size-fits-all tech mandates like the set-top box NPRM rarely if ever work in practice – and the result will be higher bills, more ads, and less diversity and innovation on TV. His report reveals the flimsy analysis and flawed assumptions being used to sell this unnecessary and regressive regulation, and leaves no doubt that, if the FCC succeeds in forcing this technology mandate, consumers will lose out.

Indeed, with change proceeding at such a rapid pace, one can only imagine how much the video consumption market will advance and reinvent itself before the FCC could even promulgate, much less implement, a final rule.

Let us be as clear as we can be: If the FCC implements its proposed regulations, there is no realistic promise of lower prices and increased innovation. To the contrary, any intervention in this competitive landscape stands to harm the market, its participants, and ultimately consumers.

And while the costs to consumers would be severe, we also observe that there is no small institutional risk here for the FCC as well. “The FCC is on the verge of fulfilling its worst stereotypes—aloof bureaucrats who ignore

market realities and propose solutions in search of problems. When an agency's view of the market is inaccurate and its aims are illusory, it is a good bet that its proposal will be a failure." This isn't an embrace of unfettered market capitalism; it is an appeal for a balanced eye, even while sitting in a regulatory chair.

We urge the Commission to stop and take a breath, to look with an honest eye at the vibrant market competition that is already underway, and to reconsider this flawed proposal, in the best tradition of wise and thoughtful regulators.

It is with this message that CALinnovates respectfully submits its comments and Dr. Dippon's economic analysis to the FCC, and looks forward to further public discussion.

Sincerely,

Mike Montgomery  
Executive Director

Before the

**FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

	)	
In the Matter of	)	
	)	
Expanding Consumers' Video Navigation	)	MB Docket No. 16-42
Choices	)	
Commercial Availability of Navigation	)	CS Docket No. 97-80
Devices	)	

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**COMMENTS OF CALINNOVATES**

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April 21, 2016

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## INTRODUCTION AND EXECUTIVE SUMMARY

CALinnovates, on behalf of stakeholders in the technology and startup communities, respectfully files these comments in response to the Commission’s Notice of Proposed Rulemaking (“NPRM”).<sup>1</sup> The NPRM proposes to require multichannel video programming distributors (“MVPDs”) to disseminate information that will allow manufacturers, retailers, and other companies that are not affiliated with an MVPD to design and build navigation devices. For the reasons discussed below, it would be unwise for the Commission to compel MVPDs to provide this information; moreover, the Commission cannot lawfully promulgate the rule under the Communications Act of 1934.

Jeff Bezos, the founder and CEO of Amazon, once stated, “One of the only ways to get out of a tight box is to invent your way out.” With respect to the set-top box, all evidence demonstrates that his advice is being heeded. Apps are the future. A growing number of over-the-top (“OTT”) video providers—including Apple, Google, Hulu, Netflix, YouTube, Roku, Amazon, Sony, and HBO—are competing with pay TV services by delivering content on a range of devices—none of which require a MVPD set-top box, and many of which do not require a MVPD-owned app. As customers have begun to crave this approach, traditional TV providers have embraced this wave of innovation. Market analysts predict a rapid increase in revenue for OTT providers in the coming years.

The Commission’s set-top box proposal tells a different story: The old, traditional TV providers rule the land through coercion while the young, new—but exiled—OTT companies

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<sup>1</sup> Notice of Proposed Rulemaking, *Expanding Consumers’ Video Navigation Choices; Commercial Availability of Navigation Devices*, 81 Fed. Reg. 14,033 (Feb. 18, 2016) [hereinafter NPRM].

offer prosperity for the masses, if only they could just be freed from their chains. But fear not! The FCC is here with the key, unlocking freedom and equality for all.

In reality, the FCC's reasons for the proposal are nearsighted and the expected benefits are illusory; the story is already one of disruption, innovation, and mutation. Such a monumental interference in the market is not only unnecessary, but also dangerous. The Commission's proposal could deprive consumers of the benefits of future innovations and endanger the business models that deliver the content they currently enjoy. Thus, as discussed in Part I below, the FCC should defer action and allow consumers to drive how they choose to access video content. The proposed rule also is unlawful. As discussed in Part II below, the Commission lacks any rational basis or any legal authority under Section 629 of the Communications Act to promulgate the proposed rule and therefore, if approved, a court would find it to be *ultra vires* and arbitrary and capricious for its failure to consider changed market conditions.

## **DISCUSSION**

### **I. THE COMMISSION SHOULD NOT INTERFERE IN THE SET-TOP BOX MARKET.**

The New Deal conception of the administrative state as a body of trained specialists underlies the primary rationale of congressional delegation to agencies—that an executive agency has a high level of expertise in the field it regulates.<sup>2</sup> This delegation of substantial policymaking authority is justified by the belief that agencies have more accurate information about the actual impacts of different policy choices.<sup>3</sup> Indeed, the purpose of the notice-and-comment process is to ensure that agencies understand the market they intend to disrupt. That is why the FCC's

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<sup>2</sup> John F. Manning & Matthew C. Stephenson, *LEGISLATION AND REGULATION*, 380 (FOUNDATION PRESS 2010) (discussing the New Deal-era interest in the “dispassionate application of technocratic expertise” by trained officials).

<sup>3</sup> Matthew C. Stephenson, *Bureaucratic Decision Costs and Endogenous Agency Expertise*, 23 J.L. ECON. & ORG. 469 (2007).



proposed set-top box rule is so disappointing. The Commission's goal is noble, but its mechanism for getting there misunderstands the trajectory of the market for video content. Consequently, instead of promoting competition, the new rule stifles it. Because its reasoning is flawed and its promised outcomes are unlikely, the FCC should refrain from promulgating its proposed rule.

**A. The Commission's Reasons for Interfering in the Market Are Misguided.**

In its NPRM, the Commission paints a portrait of the market for video content that bears little resemblance to reality. The FCC argues that "consumers have few alternatives to leasing set-top boxes from their MVPDs."<sup>4</sup> And while the Commission concedes that "[t]here is evidence that increasingly consumers are able to access video service through proprietary MVPD applications as well," it nonetheless concludes that "the market for navigation devices is not competitive."<sup>5</sup> This description minimizes the amount of competition, innovation, and upheaval in the market for video programming.

The FCC grossly understates the rising amount of competition in the video consumption marketplace. Contrary to the Commission's bleak depiction, the market is a story of competition and innovation. Many content providers have embraced applications to showcase their programming. These providers include such popular names as ABC, CBS, Comedy Central, Disney, ESPN, HBO, MTV, Showtime, Sony, and TBS. Content providers also license programming to OTT services, including Xbox Live, Amazon Prime, Hulu, Netflix, and Sling TV.<sup>6</sup> Even traditional MVPDs like Comcast and Verizon are jumping into the app arena.<sup>7</sup>

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<sup>4</sup> NPRM ¶13.

<sup>5</sup> *Id.*

<sup>6</sup> See, e.g., *Press Release: AMC NETWORKS , Hulu Announces Exclusive Licensing Agreement with AMC Networks Inc., Including AMC's Highly Anticipated Fear the Walking Dead*, (Apr. 29, 2015), <http://www.amcnetworks.com/press-releases/hulu-announces-exclusive->

Consumers can watch this content on an array of devices, including tablets, gaming systems, smart phones, personal computers, Roku, and smart TVs. Many of these services and devices are brand new. In fact, several developments have been announced since the FCC issued its NPRM:

- Hulu announced that it is now being offered as a cable TV channel on Cablevision.<sup>8</sup>
- Twitter announced that it is going to begin streaming NFL's Thursday Night Football games.<sup>9</sup>
- STARZ announced its first subscription streaming application.<sup>10</sup>

One can only imagine how much the video consumption market will advance before the FCC could even promulgate, much less implement, a final rule.<sup>11</sup> It is not surprising that consumers are embracing these new technologies: The quantity and quality of video content has never been higher, and consumers can access programming anytime and anywhere, often without slogging through commercials.

The FCC's counterargument is as straightforward as it is unfounded: Consumers have no choices and set-top boxes are too expensive. Chairman Wheeler's argument in favor of the

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licensing-agreement-with-amc-networks-inc-including-amcs-highly-anticipated-fear-the-walking-dead/.

<sup>7</sup> Emily Steel, *Suddenly, Plenty of Options for Cord Cutters*, N.Y. TIMES (Sept. 8, 2015), [http://www.nytimes.com/interactive/2015/business/media/streaming-tv-cord-cutting-guide.html?\\_r=0](http://www.nytimes.com/interactive/2015/business/media/streaming-tv-cord-cutting-guide.html?_r=0) (detailing the features of Comcast's Stream and Verizon's Go90).

<sup>8</sup> Ashley Rodriguez, *Hulu Is Now Being Offered as a Cable TV Channel on Cablevision*, QUARTZ (Apr. 7, 2016), <http://qz.com/657143/hulu-is-now-being-offered-as-a-cable-tv-channel-on-cablevision/>.

<sup>9</sup> Yoree Koh & Joe Flint, *Twitter Gets Deal to Stream NFL's Thursday Night Games*, WALL STREET JOURNAL (Apr. 5, 2016), <http://www.wsj.com/articles/twitter-gets-deal-to-stream-nfl-thursday-games-1459860568>.

<sup>10</sup> Valentina Palladino, *Starz Enters Streaming World with Its own \$9/month Subscription Service*, ARS TECHNICA (Apr. 6, 2016), <http://arstechnica.com/business/2016/04/starz-enters-streaming-world-with-its-own-9month-subscription-service/>.

<sup>11</sup> See Dissenting Statement of Commissioner Ajit Pai, *Re: Expanding Consumers' Video Navigation Choices*, MB Docket No. 16-421; *Commercial Availability of Navigation Devices*, CS Docket No. 97-80 (contending that consumers would probably not feel the effect of the rule for three years).

proposal boils down to this: “[W]hen it comes to set-top boxes mandated by pay-TV providers, consumers essentially have no choices, and they are literally paying the price for this lack of alternatives.”<sup>12</sup> Despite recognizing the popularity and growing appetite of streaming devices, applications, and OTT services, the FCC asserts that “those devices are not ‘used by consumers to access multichannel video programming.’”<sup>13</sup> The Commission concludes: “[A]lmost all consumers have one source for access to the multichannel video programming to which they subscribe: the leased set-top box, or the MVPD-provided application.”<sup>14</sup>

Chairman Wheeler’s phrasing reveals the weakness of the reasons behind promulgating this rule. In order to argue that consumers “have no choices,” the FCC has narrowly defined the market for video services to include only the traditional arrangement of MVPDs providing viewers with pay-TV programming through a converter box. This is absurd. MVPDs are only one player in a varied and growing market of OTT providers, applications, and streaming devices. In fact, in 2015, almost 5 million U.S. householders “cut the cord” by abandoning cable programming, an increase of 10.9 percent from 2014.<sup>15</sup> By 2018, one in five households will not subscribe to cable or satellite TV.<sup>16</sup> On the other hand, OTT subscription services like Netflix and Hulu are gaining as many as 67 percent more subscribers per year.<sup>17</sup>

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<sup>12</sup> NPRM ¶ 13 (stating that the average American households spends more than \$231 per year on rental fees); Statement of Chairman Tom Wheeler, *Re: Expanding Consumers’ Video Navigation Choices*, MB Docket No. 16-42; *Commercial Availability of Navigation Devices*, CS Docket No. 97-80.

<sup>13</sup> NPRM ¶ 14.

<sup>14</sup> NPRM ¶ 13.

<sup>15</sup> *Americans Cutting the Cable TV Cord at Increasing Pace*, EMARKETER (Dec. 10, 2015), <http://www.emarketer.com/Article/Americans-Cutting-Cable-TV-Cord-Increasing-Pace/1013327>.

<sup>16</sup> *Id.*

<sup>17</sup> *Over the Top TV Trends*, L.E.K. CONSULTING (June 2015), [http://www.lek.com/sites/default/files/ott-tv\\_over-the-top-tv\\_market-trends\\_ott-series-part1\\_1.pdf](http://www.lek.com/sites/default/files/ott-tv_over-the-top-tv_market-trends_ott-series-part1_1.pdf).

With these conclusions, it is apparent that the FCC is missing the forest for the trees. Specifically, the Commission obsesses over the size of one ancient, crumbling tree – missing the thriving vegetation sprouting around it. Nonetheless, even if the market is arbitrarily narrowed to devices that access traditional MVPD programming through a TV, there is a multitude of “choices.” Consumer use of connected TVs is surging—more than a half of broadband users own a connected device.<sup>18</sup> And viewers are using these new devices—from Apple TVs to Amazon Fire TV—to access subscription MVPD programming through apps. A growing number of users—currently about a third—who own a connected TV are watching MVPD-offered shows using non-MVPD apps at least once a week.<sup>19</sup> By ignoring these viewers’ existence, the FCC misses a budding segment of the market for video content.

Furthermore, it is unlikely that the FCC’s proposal would actually lower the costs of set-top boxes as detailed in-depth in the accompanying CALinnovates commissioned economic analysis by Dr. Christian Dippon.<sup>20</sup> Like any other business, cable companies set prices based on how much consumers are willing to pay for the entire video service package. If the box revenue stream is cut off, MVPDs could very well be forced to increase prices of their overall services or the other fees they charge that are unrelated to whether customers lease or supply their own devices. And because all MVPDs would be in the same predicament under the Commission’s mandate, all MVPD customers would likely be affected. Consumers are therefore unlikely to see a price reduction as a result of the FCC’s proposal.

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<sup>18</sup> 49 Million U.S. Internet Homes Now Own a Connected TV or Attached Content Device, According to the NPD Group, NPD GROUP (Mar. 7, 2016), <http://www.connected-intelligence.com/about-us/press-releases/49-million-us-internet-homes-now-own-connected-tv-or-attached-content-device/>.

<sup>19</sup> Daisy Whitney, *Connected-TV Growth on Rise, Fueled by Network Apps*, MEDIAPOST (Apr. 8, 2015), <http://www.mediapost.com/publications/article/247369/connected-tv-growth-on-rise-fueled-by-network-app.html>.

<sup>20</sup> See CALinnovates commissioned economic analysis by Dr. Christian Dippon.

Overall, the Commission’s justification for the proposed rule evinces a misunderstanding of the dynamics of the market for video content. It is clear that consumers are increasingly opting out of the standard TV model and into the new OTT- and application-based paradigm. As an analogy, it would be silly for an agency to *now* interfere with the big media conglomerates’ large share of the newspaper industry in the name of ensuring the commercial availability of news. Like for traditional MVPDs, Internet innovations have diversified the “print” news market enough without help from regulators – more than 50 percent of newspaper-advertising revenues have transferred online since 2008.<sup>21</sup> And in the same way, the FCC’s rule is a solution in search of a problem. Consumers have never enjoyed more ways to watch video—to conclude otherwise ignores market trends and risks creating a 20<sup>th</sup> century solution to a 20<sup>th</sup> century problem.

## **B. The Proposal Will Impede Innovation, Not Unleash It.**

The FCC argues that its proposal will unleash competition. But given the Commission’s track record in this area, it is far more likely that its interference in the market will stifle innovation.<sup>22</sup>

The current market for video content creation represents a delicate balance of negotiated interests. Content creators invest in high-quality programming because they can trust that

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<sup>21</sup> Michael Barthel, *Newspapers: Fact Sheet*, PEW RESEARCH CENTER (Apr. 29, 2015), <http://www.journalism.org/2015/04/29/newspapers-fact-sheet/>.

<sup>22</sup> See Larry Downes, *The Danger the FCC Can’t See in Its New Video Proposal*, THE WASHINGTON POST (Jan. 29, 2016), <https://www.washingtonpost.com/news/innovations/wp/2016/01/29/the-danger-the-fcc-cant-see-in-its-new-video-proposal/> (“Even in the best of circumstances, developing the new standards will take years, cost millions, and unintentionally slow or stifle innovations yet to be identified.”).

MVPDs will offer them a reasonable return on that investment.<sup>23</sup> These MVPDs are willing to provide these contracts because they face robust competition from other MVPDs. The FCC’s proposal risks upsetting this creative balance by allowing third parties to make money distributing content without negotiating with content creators.<sup>24</sup> Instead of promoting innovation, the proposal amounts to the FCC picking winners and losers in the market for video programming.<sup>25</sup> The absurdity of the proposal comes into sharper focus when you envision a similar NPRM, but with the chosen winners reversed. Imagine the mutiny from companies like Netflix if the FCC proposed to require them to release its original programming to Comcast and Verizon. This mandate, the FCC would likely reason, will allow consumers to choose where they watch *Orange Is the New Black* or *Unbreakable Kimmy Schmidt*. But that hypothetical proposal, like this NPRM, would only tilt the playing field toward one player in the name of consumer protection and innovation.

The Commission’s previous attempts to implement Section 629 do not inspire confidence that this foray will be triumphant. The FCC’s first major attempt was the CableCARD, a one-way plug-and-play compatibility standard for digital cable. It did not go well. As many as 15

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<sup>23</sup> See Henry Waxman, *FCC Cable Box Proposal Affects More than Just Cable Boxes*, THE HILL (Mar. 21, 2016), <http://thehill.com/blogs/congress-blog/technology/273590-fcc-cable-box-proposal-affects-more-than-just-cable-boxes>).

<sup>24</sup> See Letter to FCC from Doug Collins and Judy Chu (Feb. 16, 2016) (“Regulation in this space has the potential to drastically weaken the economics of the legitimate businesses that have fueled so much of the innovation and consumer choice that has taken place during the last decade.”).

<sup>25</sup> See Jason Llorenz, *Video App Revolution Changed TV Watching, Now Threatened*, THE FORT WORTH STAR-TELEGRAM (Feb. 10, 2016 5:33 PM), <http://www.star-telegram.com/opinion/opn-columns-blogs/other-voices/article59394508.html> (describing the proposed rule as “picking winners and losers in a market that is already competitive and flourishing instead [of] allowing competition and consumer demand to win out”).

million CableCARD devices were built, but only 618,000 were purchased.<sup>26</sup> Only about one percent of navigation devices are purchased at retail.<sup>27</sup> The lack of consumer interest in these devices “is a significant indictment of the agency’s implementation of Section 629.”<sup>28</sup> In 2009, the Commission admitted that the CableCARD rules “have resulted in limited success in developing a retail market for navigation devices. Certification for plug-and-play devices is costly and complex.”<sup>29</sup> This is agency-speak for “CableCARD was a disaster.” In 2010, the FCC sought comment on a Commission-designed converted box called the “AllVid,” which would have allowed manufacturers to offer video devices that could be used with any MVPD’s

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<sup>26</sup> See NPRM ¶ 7; see also Letter from Neal M. Goldberg, Vice President and General Counsel, National Cable & Telecommunications Association, to Marlene H. Dortch, Secretary, Federal Communications Commission, CS Docket No. 97-80, at 1 (Oct. 30, 2015).

<sup>27</sup> See *In re Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices; Compatibility Between Cable Systems and Consumer Electronics Equipment; Oceanic Time Warner Cable, a subsidiary of Time Warner Cable, Inc.; Oceanic Time Warner Cable, a division of Time Warner Cable, Inc., Oceanic Kauai Cable System; Oceanic Time Warner Cable, a division of Time Warner Cable, Inc., Oceanic Oahu Central Cable System; Cox Communications Inc., Fairfax County, Virginia Cable System; Cable One, Inc.’s Request for Waiver of Section 76.1204(a)(1) of the Commission’s Rules*, THIRD REPORT AND ORDER AND ORDER ON RECONSIDERATION, 25 F.C.C. 14,657, ¶ 4 (Oct. 14, 2010).

<sup>28</sup> T. Randolph Beard et. al., *Wobbling Back to the Fire: Economic Efficiency and the Creation of A Retail Market for Set-Top Boxes*, 21 COMMLAW CONSPECTUS 1, 2 (2012) (“If the acquisition of set-top boxes in a commercial market had even moderate consumer interest, then it seems reasonable to assume that the share of the market for such devices would be higher than one percent.”).

<sup>29</sup> Comment Sought on Video Device Innovation, Federal Communications Commission, CS Docket No. 97-80 (Dec. 3, 2009) at 4, [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-09-2519A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-09-2519A1.pdf); see also *In re Implementation of Section 304 of the Telecommunications of 1996*, FCC 10-181, THIRD REPORT AND ORDER AND ORDER ON RECONSIDERATION, 25 FCC Rcd. 14,657 (Oct. 14, 2010) at ¶ 4 (“Unfortunately, the Commission’s efforts to date have not developed a vigorous competitive market for retail navigation devices that connect to subscription video services.”); CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN, Federal Communications Commission (Mar. 16, 2010) at 50, [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-296935A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296935A1.pdf) (“Despite Congressional and FCC intentions, CableCards have failed to stimulate a competitive retail market for set-top boxes.”).

services.<sup>30</sup> Facing sharp criticism from all sides, the Commission let the proposal die on the vine, a wise decision that the FCC should replicate with this NPRM.<sup>31</sup> By rejecting AllVid—which would have similarly required TV providers to unbundle their video streams for any third party to repackage—the Commission gave the green light to a Golden Age of television.

The Commission is rushing into regulation without demonstrating a need for new rules or accurately predicting the effects of disrupting a changing market. It should refrain from proceeding with this proposed rule instead of instituting a mandate for an industry in the midst of technological disruption. With their expertise and relative efficiency, independent agencies can play a powerful role in shaping regulatory regimes to fit evolving industries and new technologies. Unfortunately, the FCC is on the verge of fulfilling its worst stereotypes—aloof bureaucrats who ignore market realities and propose solutions in search of problems. When an agency's view of the market is inaccurate and its aims are illusory, it is a good bet that its proposal will be a failure. It is not too late for the Commission to reverse course and allow consumer choice to dictate the market for video content.

## **II. The Commission Cannot Lawfully Promulgate the Proposed Rule.**

The problems with the Commission's proposed rule are not confined to its merits. The rule cannot be lawfully promulgated under the FCC's authority. Indisputably, Congress enacted Section 629 of the Telecommunications Act of 1996 to create a competitive market for the devices that access MVPD programming, so Congress gave the FCC authority to regulate set-top boxes. Thus, boiled down, the authority bestowed upon the FCC here is limited to regulating a

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<sup>30</sup> *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*, Notice of Inquiry, 25 FCC Rcd 4275, ¶ 1 (2010).

<sup>31</sup> See Lawrence J. Spiwak, *Why the FCC's AllVid Remains a Really Bad Idea*, THE HILL (Oct. 14, 2015 6:00 AM), <http://thehill.com/blogs/pundits-blog/technology/256852-why-the-fccs-allvid-remains-a-really-bad-idea>.



device, the set-top box, and within certain market circumstances—an uncompetitive MVPD device service market. Instead, with this NPRM, the FCC seeks to extend Section 629 to software – which clearly is not equipment, converter boxes, or hardware – and assorted apps offered on various hardware devices, well outside of the permitted circumstances and in a competitive market for accessing MVPD programming. Essentially, the FCC is inflating its authority to fix an antiquated problem.

This approach leads to a number of legal issues. First, the proposed rule reaches beyond FCC’s authority granted by Section 629 of the Telecommunications Act of 1996. Further, because of this changed, competitive market of MVPD navigation devices, the FCC’s timing here is inappropriate, as Congress contemplated and intended to avoid by including a “sunset provision” on the FCC’s set-top box authority under Section 629. And, finally, if approved, the rule would be found arbitrary and capricious by a court because the Commission is evidently ignoring evidence of these changed market conditions.

**A. The Commission Lacks the Authority to Promulgate the Proposed Rule Under the Communications Act of 1934.**

The Commission’s proposal exceeds its authority under the Communications Act of 1934 by regulating devices other than the set-top box.<sup>32</sup> The NPRM proposes “rules that are intended to assure a competitive market for equipment, including software, that can access multichannel video programming.”<sup>33</sup> The Commission asserts that it has authority to promulgate these proposed rules under Section 629 of the Act, which states: “The Commission shall . . . adopt regulations to assure the commercial availability, . . . of converter boxes, interactive

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<sup>32</sup> The Telecommunications Act of 1996 amended the Communications Act of 1934, representing the first major change in telecommunications law in over sixty years. *See* Communications Act of 1934, Pub. L. No. 72-416; 48 Stat. 1064 (1934).

<sup>33</sup> NPRM ¶ 11.

communications equipment, and other equipment used by consumers to access multichannel video programming and other services offered over multichannel video programming systems from manufacturers, retailers, and other vendors not affiliated with any multichannel video programming distributor.”<sup>34</sup> The Commission explains that “manufacturers, retailers, and other vendors” includes not only hardware manufacturers, but also “software developers, application designers, [and] system integrators.”<sup>35</sup> Similarly, the FCC construes “‘navigation device’ or ‘interactive communications equipment, and other equipment’ . . . to be far broader than convention cable boxes or other hardware alone.”<sup>36</sup> The Commission reasons that the section is “plainly written to cover any equipment used by consumers to access multichannel video programming . . . and software features have long been essential elements of such equipment.”<sup>37</sup> This interpretation is a misreading of the statute’s plain language and legislative history.

### 1. Navigation Devices

First, Section 629’s text counsels against the Commission’s attempt to regulate software.<sup>38</sup> While a device—defined by Merriam-Webster Dictionary as “an object, machine, or piece of equipment that has been made for some special purpose”—is tangible, software is not. Indeed, the only term in either the Communications Act or the FCC’s rules that includes software within the definition is “telecommunications equipment.”<sup>39</sup> The definition states that the term

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<sup>34</sup> See Telecommunications Act of 1996, Pub. L. No. 104-104, § 304, 110 Stat. 56, 125-126 (1996); 47 U.S.C. § 549(a).

<sup>35</sup> NPRM ¶ 21.

<sup>36</sup> NPRM ¶ 22.

<sup>37</sup> *Id.*

<sup>38</sup> See, e.g., *Connecticut Nat’l Bank v. Germain*, 503 U.S. 249, 253-54 (1992) (“We have stated time and again that courts must presume that a legislature says in a statute what it means and means in a statute what it says there.”).

<sup>39</sup> 47 U.S.C. § 153 (52).

“includes software integral to such equipment.”<sup>40</sup> The statute’s explicit inclusion of software demonstrates Congress’s intent to exclude software from other terminology used in the statute, including “converter boxes, interactive communications equipment, and other equipment.” If Congress wanted those terms to also encompass software, it would have defined them accordingly; clearly the statute’s drafters were adept at using the term “software” when they so chose. Moreover, when general words such as “interactive communications equipment” are used in association with more specific words like “converter boxes,” “the general words take on a restricted meaning analogous to the more specific words.”<sup>41</sup>

Second, the section’s legislative history only reinforces the plain reading of the text and clarifies that Congress intended to empower the FCC to regulate only hardware devices. The bill’s conference report describes the provision’s purpose as helping “to ensure that consumers are not forced to purchase or lease a specific, proprietary converter box, interactive device or other equipment from the cable system or network operator.”<sup>42</sup> The House Report calls the intended objects of regulation “devices” and “customer premises equipment” and references the goal of “allow[ing] common circuitry to be built into a single box,” clearly contemplating only physical, tangible equipment.<sup>43</sup> As the Commission notes, set-top boxes have run software since before 1996.<sup>44</sup> Had Congress intended the FCC’s authority to extend to software, the congressional record would not be completely devoid of references to software. The FCC cannot divine congressional authority for its proposed rule by wishing it to be so.

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<sup>40</sup> 47 U.S.C. §153 (52).

<sup>41</sup> *Util. Elec. Supply, Inc. v. ABB Power T & D Co.*, 36 F.3d 737, 740 (8th Cir. 1994) (construing the statutory term “industrial equipment” in the light of surrounding words).

<sup>42</sup> H.R. Conf. Rep. 104-458, 181 (1996).

<sup>43</sup> H.R. Rep. 104-204, 112 (1996).

<sup>44</sup> NPRM ¶ 22 n.65.

Section 629’s legislative history also makes it clear that Congress sought to ensure the availability of equipment used to access MVPD programming. Congress could not have stated its intention more plainly: “[T]he transition to competition in network navigation devices and other customer premises equipment is an important national goal.”<sup>45</sup> The FCC’s proposed rule is instead an attempt to promote the development of new services and products, which is a far cry from the purpose of Section 629. The House Report’s use of “customer premises equipment” is especially telling because it is a term of art used in the telecommunications industry. In 1980, the FCC acted to deregulate the pricing of customer premises equipment (“CPE”).<sup>46</sup> When debating the Telecommunications Act, Congress would have been familiar with the term, which exclusively refers to hardware equipment such as telephone sets, modems, fax machines, answering machines, and cable set-top boxes.<sup>47</sup> Thus, it is apparent that Congress intended the Commission to have authority only over customer premises equipment—also known as hardware.

The Commission’s contention that Congress “recognized the rapidly evolving nature of MVPD and consumer electronics technology and intended that the term ‘navigation devices’ be interpreted broadly” is also unavailing.<sup>48</sup> Claiming that Congress meant terms like “navigation device” and “converter box” to evolve over time is akin to claiming that a 19<sup>th</sup> century statute granting an agency the power to regulate horse-drawn carriages should be interpreted to extend to regulation of jet packs. The industry has undergone a complete transformation since 1996, not

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<sup>45</sup> H.R. Rep. 104-204, 112 (1996).

<sup>46</sup> *Re Second Computer Inquiry*, 77 F.C.C.2d 384 (1980).

<sup>47</sup> See, e.g., *Kempner Mobile Elecs., Inc. v. Sw. Bell Mobile Sys.*, 428 F.3d 706, 709 (7th Cir. 2005) (referring to CPE as “hardware”); *N. Am. Telecommunications Ass’n v. F.C.C.*, 772 F.2d 1282, 1284 (7th Cir. 1985) (citing telephone handsets as an example of “customer premises equipment”).

<sup>48</sup> NPRM ¶ 22 n.68.

a mere evolution. When Congress added Section 629 to the Communications Act of 1934, Amazon.com had just sold its first book and the prototype for the original Xbox—which lacked any streaming TV capability—was still years away.<sup>49</sup> Today, millions of people use Amazon Fire TV and the Xbox One to stream movies, television shows, and even live TV. Even Twitter will soon stream football games. The FCC’s proposed rule is not a natural extension of Congress’s intent; it is a radical expansion of authority in a completely changed landscape.<sup>50</sup>

## 2.Manufacturers, Retailers, and Other Vendors

The FCC’s interpretation of “manufacturers, retailers and other vendors not affiliated with any multichannel video programming distributor” is also specious. The Commission seeks to expand this group of covered entities to include not only hardware manufacturers, but also “software developers, application designers, system integrators, and other such entities that are not affiliated with any MVPD.”<sup>51</sup> However, it is clear from both the text and the legislative history of Section 629 that “other vendors” means exactly what it says: Congress directed the FCC to regulate the market for devices and equipment sold by entities that manufacture the equipment, entities that sell the equipment at retail, and other entities that sell the equipment to consumers. Congress made this intent plain when it stated that “[c]ompetition in the manufacturing and distribution of consumer devices has always led to innovation, lower prices and higher

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<sup>49</sup> *History and Timeline*, AMAZON, <http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irol-corporateTimeline>; Brier Dudley, *Exclusive: Microsoft Loses Last Xbox Founder, Mobile PC Visionary*, SEATTLE TIMES (May 24, 2011 1:22 PM), [http://old.seattletimes.com/html/technologybrierdudleysblog/2015137144\\_its\\_the\\_end\\_of\\_an.html](http://old.seattletimes.com/html/technologybrierdudleysblog/2015137144_its_the_end_of_an.html).

<sup>50</sup> See *Ry. Labor Execs. Ass'n v. Nat'l Mediation Bd.*, 29 F.3d 655, 671 (D.C. Cir.1994) (en banc) (“Were courts to *presume* a delegation of power absent an express *withholding* of such power, agencies would enjoy virtually limitless hegemony, a result plainly out of keeping with *Chevron* and quite likely with the Constitution as well.”).

<sup>51</sup> NPRM ¶ 21.

quality.”<sup>52</sup> Entities such as software developers and application designers neither manufacture set-top boxes nor sell them to consumers. As such, the Commission’s interpretation of Section 629 is overly broad.

### 3. Ancillary Authority

Lacking direct authority under Section 629, the Commission may seek refuge under its ancillary authority to execute its duties under either Section 629<sup>53</sup> or Section 624A.<sup>54</sup> This attempt at manufacturing authority for itself would also be a dead-end for the Commission. In its recent *EchoStar* decision, the D.C. Circuit held that the FCC’s encoding rules were not reasonably ancillary to the FCC’s effective execution of its duties under Section 629.<sup>55</sup> The court concluded: “We refuse to interpret ancillary authority as a proxy for omnibus powers limited only by the FCC’s creativity in linking its regulatory actions to the goal of commercial availability of navigation devices.”<sup>56</sup> In no uncertain terms, the court also rejected the Commission’s argument under Section 624A. The panel determined that the FCC cannot exercise its ancillary power over all MVPDs because it is “powerless to wield its ancillary jurisdiction . . . where ‘there are strong indications that agency flexibility was to be sharply delimited . . . [and] Section 624A’s textual delegation of authority to regulate cable systems, as opposed to all MVPDs, is precisely such an indication.’”<sup>57</sup> In sum, the exercise of ancillary authority would be an overreach under Section 629 and outside the textual bounds of Section 624A.

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<sup>52</sup> H.R. Rep. 104-204, 112 (1996).

<sup>53</sup> Under the Communications Act of 1934, the Commission is authorized to “perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with this chapter, as may be necessary in the execution of its functions.” 47 U.S.C. 154(i).

<sup>54</sup> 47 U.S.C. § 544a.

<sup>55</sup> *EchoStar Satellite L.L.C. v. F.C.C.*, 704 F.3d 992 (D.C. Cir. 2013).

<sup>56</sup> *Id.* at 999.

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

The Commission lacks authority to promulgate the proposed rule under Section 629 based on both a plain reading of its text and the statute’s legislative history. The FCC also lacks the ability to finalize the rule under its ancillary authority under the Communications Act in the aftermath of the D.C. Circuit’s decision in *Echostar*. Federal agencies exist to use their expertise to solve problems in the marketplace. However, agencies are not entitled to limitless power. They are constrained by congressional delegation of authority. In this case, the Commission cannot legally stretch the textual limits of the statute in order to regulate an industry that has been transformed since Congress wrote Section 629.

**B. The MVPD Device Industry Satisfies the Market Conditions Needed to Invoke the Act’s Sunset Provision.**

The Commission’s proposal also exceeds its authority under the Act by regulating within an overhauled market. Throughout the NPRM, the Commission continually responds to criticism with the assertion that Congress specifically mandated a rule, but ignores that Section 629 authority is not permanent.<sup>58</sup> The Act has a strong sunset provision that says 629 regulations “shall cease to apply when the Commission determines that—(1) the market for the multichannel video programming distributors is fully competitive; (2) the market for converter boxes, and interactive communications equipment, used in conjunction with that service is fully competitive; and (3) elimination of the regulations would promote competition and the public interest.”<sup>59</sup> The Commission defines “MVPD services” as the relevant product market for

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<sup>58</sup> NPRM ¶¶ 4-6, 21-24, 42, 49, 69.

<sup>59</sup> 47 U.S.C. § 549(e).

purposes of 629(e)(1) and “any navigation devices subject to Section 629” as the relevant product market for navigation devices.<sup>60</sup>

While the Act does not provide a statutory definition of “fully competitive,” it is apparent from contemporary data that the MVPD distribution and device market is, at least, very competitive.<sup>61</sup> History shows that in 1996, when Congress passed the Telecommunications Act, with a Section 629 provision, cable was an effective monopoly.<sup>62</sup> But in the twenty years since 1996, cable’s share of the market has fallen from 98 percent in 1996 to about 53 percent today, with over a third of American households subscribing to a DBS service and over an eighth subscribing to a telco TV provider.<sup>63</sup> It is likely that a reviewing court will agree. In striking down the Commission’s Cable Ownership Cap Rule seven years ago, the D.C. Circuit found that the

record is replete with evidence of ever increasing competition among video providers: Satellite and fiber optic video providers have entered the market and grown in market share since the Congress passed the 1992 Act, and particularly in recent years. Cable operators, therefore, no longer have the bottleneck power over programming that concerned the Congress in 1992.<sup>64</sup>

This was expressed *before* over-the-top video had become a serious contender in video distribution.<sup>65</sup> Thus, it is likely that a court will accept a finding of a fully competitive MVPD market.

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<sup>60</sup> See *Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, FCC 98-116, REPORT AND ORDER, 13 FCC Rcd. 14,775 ¶¶ 110-111 (1998).

<sup>61</sup> See *supra* Section I(A).

<sup>62</sup> See *Industry Data*, NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION, <https://www.ncta.com/industry-data>.

<sup>63</sup> *Id.*

<sup>64</sup> *Comcast v. FCC*, 579 F.3d 1, 8 (D.C. Cir. 2009).

<sup>65</sup> Indeed, Hulu did not even launch its OTT subscription service until the year after the D.C. Circuit’s decision in *Comcast*. Brian Stelter, *Hulu Unveils Subscription Service for \$9.99 a*



This comment already addressed the evidence supporting satisfaction of the second prong of the sunset provision, regarding the competitive market for navigation devices.<sup>66</sup> In summary, more than half of all households with Internet access have online video connected to their TV in one way or another.<sup>67</sup> Nearly two-thirds of U.S. broadband householders subscribe to at least one over-the-top service.<sup>68</sup> And there is a plethora of MVPD programming available on apps that are not owned by MVPDs, including the TV network apps which require a MVPD service subscription, as well as the OTT-subscription apps. Many of these TV network apps even provide live MVPD programming, such as CBS All Access. Thus, in effect, the goal of Section 629 has already been achieved—millions of consumers are getting video services over Internet-connected devices acquired from sources other than their MVPD provider.

The third leg of the sunset provisions requires that reduced regulation of the video marketplace be in the “public interest.”<sup>69</sup> Satisfying this standard is also not a problem today. Eliminating regulation that deters innovation<sup>70</sup> clearly serves the public interest. This point was not lost on Congress within the context of Section 629. Congress expressed concern that the regulations the FCC promulgates to implement Section 629 may themselves impede competition

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*Month*, NEW YORK TIMES MEDIA DECODER BLOG (June 29, 2010 1:24 PM), <http://mediadecoder.blogs.nytimes.com/2010/06/29/hulu-unveils-subscription-service-for-9-99-a-month>.

<sup>66</sup> See *supra* Section I (A).

<sup>67</sup> *49 Million U.S. Internet Homes Now Own a Connected TV or Attached Content Device*, According to the NPD Group, NPD GROUP (Mar. 7, 2016), <http://www.connected-intelligence.com/about-us/press-releases/49-million-us-internet-homes-now-own-connected-tv-or-attached-content-device/>.

<sup>68</sup> Diana Goovaerts, *Report: 60 Percent of U.S. Broadband Households Use OTT Services*, CED MAGAZINE (Jan. 28, 2016 10:32 AM), <http://www.cedmagazine.com/news/2016/01/report-60-percent-us-broadband-households-use-ott-services/>.

<sup>69</sup> 47 U.S.C. § 549 (e)(3).

<sup>70</sup> See *supra* Section I(B).

and have “the effect of freezing or chilling the development of new technologies and services.”<sup>71</sup> Thus, Congress recognized in the statute itself that under certain conditions, setting aside the rules may be “necessary to assist the development or introduction of . . . new or improved [services and technologies].”<sup>72</sup> Additionally, even the Commission has conceded that its previous attempts at implementing Section 629 have been a costly disaster, forcing operators and consumers to shoulder more than one billion dollars in costs without any discernible benefits.<sup>73</sup> The public interest in not regulating in an area that is transforming and thriving is evident.

Only the Commission can invoke the sunset provision, but its requirements reveal the limits Congress intended for Section 629. Accordingly, since all of the sunset conditions are met, the FCC should not release a new, and hugely consequential, rule in the eleventh hour of its Section 629 authority. This is especially true when we recall the stated purpose of the 1996 Act—to reduce regulation whenever possible.<sup>74</sup>

### **C. A Decision Based on this NPRM Would Be Arbitrary and Capricious.**

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<sup>71</sup> See Implementation of the Telecommunications Act of 1996, CONFERENCE REPORT NO. 104-458 (Jan. 31, 1996) at 181.

<sup>72</sup> *Id.* § 549(c).

<sup>73</sup> See *In re* Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices; Compatibility Between Cable Systems and Consumer Electronics Equipment; Oceanic Time Warner Cable, a subsidiary of Time Warner Cable, Inc.; Oceanic Time Warner Cable, a division of Time Warner Cable, Inc., Oceanic Kauai Cable System; Oceanic Time Warner Cable, a division of Time Warner Cable, Inc., Oceanic Oahu Central Cable System; Cox Communications Inc., Fairfax County, Virginia Cable System; Cable One, Inc.’s Request for Waiver of Section 76.1204(a)(1) of the Commission’s Rules, *Third Report and Order and Order on Reconsideration*, 25 F.C.C. 14,657, ¶ 4 (Oct. 14, 2010); Connecting America: The National Broadband Plan, Federal Communications Commission (Mar. 16, 2010) at 35, [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-296935A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296935A1.pdf).

<sup>74</sup> See S. Rep. No. 104-230, at 113 (1996) (Conf. Rep.) (finding that the Telecommunications Act of 1996 directed the FCC to adhere to a “pro-competitive, deregulatory national policy framework”).

Finally, and importantly, a decision based on this NPRM would be “arbitrary and capricious” under the Administrative Procedure Act (“APA”) as well.<sup>75</sup> Agency decisions are unlawful when the information upon which they are based “is erroneous or where the agency may be drawing improper conclusions from it.”<sup>76</sup> As the D.C. Circuit has explained, “[t]he function of the court is to assure that the agency has given reasoned consideration to all the material facts and issues.”<sup>77</sup> In particular, the law clearly requires agencies to account for changed factual circumstances or updated data in their decisions.<sup>78</sup> Agencies are required to consider “changed market conditions.”<sup>79</sup>

In *Sierra Club*, environmental groups sought review of EPA approval of a state implementation plan for a nonattainment area for one-hour ozone National Ambient Air Quality Standard.<sup>80</sup> The approval of the state implementation plan without the consideration of certain data was arbitrary or capricious where the agency had actual knowledge of updated data but did not substantively address disparities between updated emission data and prior data.<sup>81</sup>

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<sup>75</sup> 5 U.S.C. § 706(2); *Motor Vehicle Mfrs. Ass’n of U.S. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (holding that under arbitrary and capricious review, “the agency must examine the relevant data and articulate a satisfactory explanation for its action including a ‘rational connection between the facts found and the choice made’”).

<sup>76</sup> *Nat’l Ass’n of Regulatory Util. Comm’rs v. FCC*, 737 F.2d 1095, 1121 (D.C. Cir. 1984).

<sup>77</sup> *Greater Boston Television Corp. v. FCC*, 444 F.2d 841, 851 (D.C. Cir. 1970).

<sup>78</sup> See, e.g., *Sierra Club v. EPA*, 671 F.3d 955, 968 (9th Cir. 2012) (finding that approval of state implementation plan (SIP), without consideration of long-available updated emissions inventory data, was arbitrary and capricious); *Am. Horse Prot. Ass’n, v. Lyng*, 812 F.2d 1, 6-7 (D.C. Cir. 1986) (holding agency’s action arbitrary and capricious for failure to consider an intervening study about inhumane treatment of horses).

<sup>79</sup> *Golden Northwest Aluminum, Inc. v. Bonneville Power Adm’n*, 501 F.3d 1037, 1052 (9th Cir. 2007).

<sup>80</sup> *Sierra Club*, 671 F.3d 955.

<sup>81</sup> *Id.* at 968 (“[W]e should not silently rubber stamp agency action that is arbitrary and capricious in its reliance on old data without meaningful comment on the significance of more current compiled data.”).

Similar to the EPA's action in *Sierra Club*, the FCC's proposal has failed to account for changed factual circumstances and market conditions.<sup>82</sup> As this comment and other commenters have shown, the world of television consumption has been completely overhauled since the day when the set-top box was the only gateway into television. Still, the FCC wants to focus on MVPDs' control over devices that access their own programming. But even this argument fails to consider serious, and mounting, competition. The NPRM admits to an awareness of the exponential growth of non-MVPD devices that can access MVPD programming, but brushes it off as inconsequential without addressing contradictory evidence:

Certain MVPD commenters argue that the market for devices is competitive and that we need not adopt any new regulations to achieve Section 629's directive. They argue that the popularity of streaming devices such as Amazon Fire TV, AppleTV, Chromecast, Roku, assorted video game systems, and mobile devices that can access over-the-top services such as Netflix, Amazon Instant Streaming, and Hulu, shows that Congress's goals in section 629 have been met. We disagree. With certain limited exceptions, it appears that those devices are not "used by consumers to access multichannel video programming," and are even more rarely used as the sole means of accessing MVPDs' programming.<sup>83</sup>

Instead, the NPRM cites to data about the large amount of people that rent set-top boxes and download the MVPD apps as evidence that the only source of access is an MVPD-controlled device.<sup>84</sup> This is faulty logic. The fact that many people rent set-top boxes and download the MVPD apps does not mean that these people do not also access the MVPD programming

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<sup>82</sup> See *supra* Section I for an evaluation of the market.

<sup>83</sup> NPRM ¶ 14.

<sup>84</sup> See, e.g., NPRM ¶ 13 ("There is evidence that increasingly consumers are able to access video service through proprietary MVPD applications as well. According to NCTA, consumers have downloaded MVPD Android and iOS applications more than 56 million times, more than 460 million IP-enabled devices support one or more MVPD applications, and 66 percent of them support applications from all of the top-10 MVPDs. These statistics show, however, that almost all consumers have one source for access to the multichannel video programming to which they subscribe: The leased set-top box, or the MVPD-provided application.")

through the increasing multitude of other devices available. Especially in a transitioning market, sole consumption cannot be the only criteria evidencing a competitive market. Furthermore, the NPRM does not evaluate the consumer use of any of the devices.

What cannot be brushed off:

- Hard numbers on the production and use of devices that can stream television but are *not* set-top boxes. Some examples:
  - A report from Strategy Analytics that the global connected TV device market—including smart TVs and game consoles—hit 53 million units in the third quarter of 2015, suggesting that full year sales will reach 221 million units, representing a growth versus 2014 of 17 percent.<sup>85</sup>
  - A 2015 Q4 Nielsen study that over 40 percent of persons under age 35 use a TV-Connected Device when they turn on the TV set.<sup>86</sup>
  - A survey that 28 percent of people watch TV solely through digital streaming.<sup>87</sup>
  - A report that more than half of households get video from a connected device like Roku, Apple TV, or Amazon.<sup>88</sup>
  - A report that 46 percent access streaming video via gaming consoles.<sup>89</sup>
  - A report that 28 percent of owners of gaming consoles watched TV more on these devices than through a set-top box.<sup>90</sup>
  - A report that Smart TVs accounted for nearly 54 percent of all “Connected TV Device” sales in 2015.<sup>91</sup>

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<sup>85</sup> David Watkins, *Global Connected TV Device Vendor Share: Q3 2015*, STRATEGY ANALYTICS (Nov. 19, 2015), <https://www.strategyanalytics.com/access-services/devices/connected-home/consumer-electronics/market-data/report-detail/global-connected-tv-device-vendor-share-q3-20151#.Vwip82CkC0u/>.

<sup>86</sup> *The Total Audience Report: Q4 2015*, NIELSEN (2015), <http://www.nielsen.com/content/dam/corporate/us/en/reports-downloads/2016-reports/q4-2015-total-audience-report.pdf> (determining that a “TV-Connected Device” includes videogame consoles, multimedia devices, DVDs, and VCRs).

<sup>87</sup> Press Release, GFK, *USA: Four in Ten TV Viewers Are “Digital Enthusiasts”—Subscribe to 3+ Online Video Services Plus Cable TV* (Sept. 7, 2015), <http://www.gfk.com/es-cl/insights/press-release/usa-four-in-ten-tv-viewers-are-digital-enthusiasts-subscribe-to-3-online-video-services-plus-cable-tv/>.

<sup>88</sup> *49 million U.S. Internet Homes Now Own a Connected TV or Attached Content Device*, According to the NPD Group, NPD GROUP (Mar. 7, 2016), <http://www.connected-intelligence.com/about-us/press-releases/49-million-us-internet-homes-now-own-connected-tv-or-attached-content-device/>.

<sup>89</sup> *Connected Gaming Console Owners Frequently Access Non-Gaming Online Content*, PARKS ASSOCIATES (Sept. 23, 2014), <https://www.parksassociates.com/blog/article/pr-sept2014-gaming-consoles/>.

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

- A CALinnovates-commissioned survey that revealed that, of people that own a gaming console, more than 37 percent of owners of gaming consoles watched TV and video equal to or more on these consoles than their set-top box. And 25 percent surveyed use their gaming console *much* more.<sup>92</sup>
  - In fact, found within the same survey, about 20 percent of people who subscribe to cable and own a gaming console said it was actually more reliable to watch their favorite TV programs on the gaming console than through their set-top box.<sup>93</sup>
- The vast amount of network TV apps available on these devices that access MVPD programming but are *not* owned by MVPDs. Many of these require a MVPD subscriber log-in and password, and thus access MVPD subscription services, but, again, are *not* MVPD-owned. Some examples:
  - Live TV App options: Animal Planet L!VE, BYUtv, CBS All Access, Disney Channel, Fox News, GameSpot TV, IGN, MLB.TV, NBA App, NFL Sunday Ticket, Watch ABC, WeatherNation and more.
  - Other TV Apps offered on XboxOne, AppleTV, Amazon Fire TV Stick, and others: A&E, CW, History Channel, Lifetime, Nickelodeon, PBS, TMZ.
  - This year, the major streaming devices all offered a March Madness app so subscribers could watch the NCAA tournament.
- Emerging data about increasing use of these non-MVPD-controlled apps that access MVPD services. Although the comparative use of varying video access devices is difficult to ascertain in a changing market, there is enough data to reveal a trend:
  - A 2015 GFK MRI survey showed that 41 percent polled fell into the “Digital Enthusiasts” category, meaning they use three streaming TV options along with a satellite or cable subscription. According to the survey, 35 percent of “Digital Enthusiasts” use TV network apps that require a cable subscription.<sup>94</sup>

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<sup>91</sup> David Watkins & Chirag Upadhyay, *Chromecast Takes 35% of the 42 Million Unit Global Digital Media Streamer Market in 2015, Says Strategy Analytics*, STRATEGY ANALYTICS (Mar. 8, 2016), [https://www.strategyanalytics.com/strategy-analytics/news/strategy-analytics-press-releases/strategy-analytics-press-release/2016/03/08/chromecast-takes-35-of-the-42-million-unit-global-digital-media-streamer-market-in-2015-says-strategy-analytics#.VxfbX\\_kwivg](https://www.strategyanalytics.com/strategy-analytics/news/strategy-analytics-press-releases/strategy-analytics-press-release/2016/03/08/chromecast-takes-35-of-the-42-million-unit-global-digital-media-streamer-market-in-2015-says-strategy-analytics#.VxfbX_kwivg).

<sup>92</sup> *April 2016 CALinnovates Survey of Game Consoler Owners*, SurveyMonkey (Apr. 18, 2016), <http://www.calinnovates.org/gamers-poll/#more-2695>.

<sup>93</sup> *Id.*

<sup>94</sup> *USA: Four in Ten TV Viewers Are “Digital Enthusiasts”—Subscribe to 3+ Online Video Services Plus Cable TV*, GFK (Sept. 7, 2015), <http://www.gfk.com/es-cl/insights/press-release/usa-four-in-ten-tv-viewers-are-digital-enthusiasts-subscribe-to-3-online-video-services-plus-cable-tv/>.

- Of the gaming console owners surveyed who pay for cable, less than half use the only MVPD-owned navigation interface available on the consoles ("Cable or satellite provider apps such as Xfinity app, Verizon FiOS app, or DirectTV") the most when watching TV/video on their console. On the other hand, 25 percent reported that they mostly use the Network TV apps ("TV networks apps such as NBC, HBO, History Channel"), which usually access the user's subscribed MVPD service but are *not* MVPD-owned. And a huge 70 percent watch "services such as Netflix, Hulu or other content aggregators," which are also not MVPD-owned, the most.<sup>95</sup>
- These studies directly poke a hole through the FCC's remaining foundation for promulgating the NPRM: that "[w]ith certain limited exceptions, it appears that those devices are not 'used by consumers to access multichannel video programming'..."<sup>96</sup>

The above statistics only examine alternate devices and apps for MVPD programming. But, as previously discussed, the video consumption world has changed. For most consumers, MVPD watching does not exist in a vacuum. Few of us make much of a distinction between watching the History Channel via set-top box and watching the History Channel via Hulu, for example. When you consider the full OTT industry within the same market, the evidence for "changed market conditions" since cable owned 98 percent of viewership in 1996 is irrefutable.<sup>97</sup> Thus, without a serious assessment of this evidence by the FCC, this NPRM would be found arbitrary and capricious.

## CONCLUSION

An evaluation of the reality of the market leads us to an alternate ending to the FCC's romance starring itself as the hero: Instead of the FCC saving the day from the controlled,

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<sup>95</sup> *April 2016 CALinnovates Survey of Game Consoler Owners*, SURVEYMONKEY (Apr. 18, 2016), <http://www.calinnovates.org/gamers-poll/#more-2695>.

<sup>96</sup> NPRM ¶ 14.

<sup>97</sup> When commenting on their study, a GFK MRI executive stated, "Our study reveals important new populations of TV viewers, emphasizing how TV has taken on a whole new meaning, with different approaches to combining streaming and traditional platforms and viewing . . . . We live in a new type of video ecosystem, where online video and live TV co-exist amongst traditional cable offerings, apps, and digital streaming of live TV." *USA: Four in Ten TV Viewers Are "Digital Enthusiasts"—Subscribe to 3+ Online Video Services Plus Cable TV*, GFK.

traditional TV providers—or even the OTTs parachuting in to break the set-top box chains—what if we allow the masses rescue themselves? With a variety of video consumption choices that increase by the day, the public only needs to be allowed the freedom to choose for itself. Especially as it relates to technology markets, there is a need for aware and reactive agencies. The Commission should recognize that sometimes being a hero requires recognizing when you do not need to be one anymore, and respectively refrain from proceeding with this NPRM in the midst of technological disruption.



## **DECLARATION OF CHRISTIAN M. DIPPON, PHD**



**NERA**  
ECONOMIC CONSULTING

**April 21, 2016**

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## **Declaration of Christian M. Dippon, PhD**

### **I. QUALIFICATIONS**

1. My name is Christian M. Dippon. I am an economist and Senior Vice President at NERA Economic Consulting (NERA), an international economic consulting firm. I am Co-Chair of NERA's Global Communications, Media, and Internet Practice and head the firm's Washington, DC office. My business address is 1255 23rd Street NW, Suite 600, Washington, DC 20037.
2. I hold a PhD in Economics from Curtin University (Perth, Australia), an MA in Economics from the University of California Santa Barbara, and a BA with honors in Business Administration from California State University. I have specialized in telecommunications economics for 20 years, especially in wireless, wireline, cable, and emerging technologies. I serve on the Board of Directors of the International Telecommunications Society (ITS) and on the Editorial Board of *Telecommunications Policy*. I have authored and edited several books as well as book chapters in anthologies and have written numerous articles on telecommunications competition and strategies. I also frequently lecture in these areas at industry conferences, continuing education programs for lawyers, and at universities. National and international newspapers and magazines, including the *Financial Times*, *Business Week*, *Forbes*, the *Chicago Tribune*, and the *Sydney Morning Herald* have cited my work. Attachment A contains a list of all my published works.
3. My experience in telecommunications and media includes assessing the competitive impact of mergers and acquisitions, the need (or lack thereof) for state and federal

regulatory intervention and reform, the industry impact of competition policy, reviews of alleged anticompetitive conduct, the analysis of economic damages in complex business disputes, and the allocation of radio spectrum to cellular telephone network operators by governmental agencies. I also have assessed the level of competition in the telecommunications sector of several countries and consulted on cases involving industry standards.

4. I have testified as an expert on telecommunications matters before the US Federal Communications Commission (FCC), the US International Trade Commission (ITC), US federal and state courts, Canadian courts, arbitration panels, international competition and regulatory authorities, and numerous US state regulatory commissions. I have served as a consultant to clients in the United States, Australia, Brazil, Canada, China, the Dominican Republic, Greece, Hong Kong, Hungary, Indonesia, Ireland, Israel, Japan, Korea, Malaysia, Palestine, Qatar, Saudi Arabia, Singapore, Spain, Thailand, Turkey, and the United Kingdom. Attachment A of this report contains my curriculum vitae, which includes a list of my testimony in other cases.

## **II. PURPOSE OF THE DECLARATION**

5. CALinnovates, an advocate for California's consumers of technology and innovation,<sup>98</sup> has asked me to review and comment on the Federal Communication Commission's (FCC's) proposal contained in its Notice of Proposed Rulemaking (NPRM) regarding consumers' video navigation device choices as they apply to multichannel video

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<sup>98</sup> "CALinnovates brings together stakeholders in the technology and startup communities with government leaders to ensure a careful and considered approach in policies impacting the dynamic high-tech sector." (CALinnovates, About Us, <http://www.calinnovates.org/about-us-2-2/>.)

programming distributors (MVPDs).<sup>99</sup> In particular, CALinnovates asked me to review and comment on how the FCC's proposal would impact innovation.

6. Section III of this report presents a summary of my findings. Section IV contains a discussion of the claimed purpose of the NPRM. Section V explains why the premises underlying the NPRM are faulty, and Section VI discusses the direct broadcast satellite (DBS) set-top-box (STB) experience. Section VII provides details on why the regulatory structure proposed in NPRM is unworkable. In Sections VIII and IX, I discuss the harms that the industry will experience if the FCC issues an order that carries out the proposal in the NPRM.

### **III. SUMMARY OF FINDINGS**

7. The FCC's proposal will not attain any of its stated goals; it will hinder innovation not encourage it, prices will not be reduced but most likely will go up, and the impact on consumer welfare will be detrimental not beneficial. Further, it is unworkable and not economically justifiable. The FCC should refrain from implementing any additional rules under Section 629 (47 USC 629) and rely on the market forces that are widely present in the markets for STBs and MVPDs as these market are competitive. At a minimum, the FCC should reexamine the premises on which the NPRM is based and conduct a more detailed and fact-driven review of the costs and benefits of the proposal before proceeding with its proposed rulemaking.

8. More specifically:

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<sup>99</sup> Expanding Consumers' Video Navigation Choices; Commercial Availability of Navigation Devices, 81 Fed. Reg. 51 (March 16, 2016) (Navigation Devices Proposed Rule). The FCC believes that additional rules are necessary to ensure a competitive market for equipment including software that can access multichannel video programming.

- a. The FCC bases its proposal on significantly flawed numbers and claims. The size of the current STB market as assumed by the FCC is incorrect. The agency is also mistaken in its belief that STBs should have followed the same alleged downward trend as other customer-premises equipment (CPE) and thus are currently overpriced. The alleged drop in other CPE prices since 1994, a trend that STBs allegedly should follow, flows from a mistaken understanding of how the Bureau of Labor Statistics (BLS) calculates changes in its consumer price index (CPI), and it does not account for the vast improvements in STB equipment during this period.
- b. The NPRM does not provide a proper analysis of economic markets. In particular, it does not investigate the markets for wholesale STB provision or MVPD video distribution and thus mischaracterizes the STB market as not competitive. Had the FCC performed a proper market analysis, it would have realized that both markets are highly competitive, rendering regulatory intervention superfluous at best. Moreover, by attempting to regulate a transitioning video distribution business model, the FCC will affect the ability of both existing and new players to provide innovative pricing and technology.
- c. The FCC did not investigate and, therefore, did not even consider the extensive innovation that has already taken place in both the hardware and app sides of video navigation devices or that this trend in innovation will continue as MVPDs continue to place greater emphasis on apps.
- d. The FCC draws the wrong conclusion from past DBS STB developments. A proper analysis shows that the DBS trend from customer ownership of STBs to one of leasing STBs from the providers is a market-driven one leading to improved STBs and a greater ability of DBS providers to compete with wired MVPDs.
- e. The regulatory structure proposed in the NPRM, which requires the creation of numerous regulatory bodies, is extraordinarily bureaucratic in concept. These regulatory bodies will supposedly be composed of a range of industry participants, consisting of a fairly balanced mix “of consumer electronics, multichannel video programming distributors, content companies, application developers, and consumer

- interest organizations.”<sup>100</sup> This convoluted structure will make it extremely difficult to reach a decision, and any decision reached will lead to inevitable appeals by the losing side to the FCC and the courts, which in turn will result in increased costs and delays in introducing innovations.
- f. The FCC is unlikely to achieve its implicit goals of lower prices, more competition, and greater innovation. Instead, the impact will be the reverse of what the FCC anticipates. Retail prices will not fall but more likely will rise due to increased costs and reduced advertising revenues for content creators and video distributors. It will also hinder innovation and yield a market that operates less efficiently with greater consumer dissatisfaction. The system the FCC envisions, namely, one with navigation device companies unaffiliated with MVPDs, will be expensive to develop. Moreover, the convoluted system proposed will inevitably slow down innovation and lead to protracted disputes. With higher costs, the companies will attempt to recover these costs from consumers. Therefore, consumers will not only be unhappy about the higher costs and less innovation but also about the fact that there will be no clear line demarcating the responsibilities for equipment and the performance of other features between MVPDs and third parties.
  - g. The proposal in the NPRM will harm the video distribution ecosystem. The proposal entirely ignores the programming aspect of the ecosystem and the fact that both programmers and MVPDs rely to a significant degree on their ability to sell advertising to fund programming and reduce subscriber fees. The FCC instead proposes a regulatory structure that gives rights to third parties without any responsibility or incentive to perform in light of the contract rights of others. This is a classic free-rider problem where costs increase for programmers and MVPDs for the sole benefit of third-party-STB manufacturers or app providers.
9. The evidence in this matter is very clear. The relevant markets function properly and further action under Section 629 is not warranted. The market for video navigation devices is competitive because the wholesale STB market (which supplies MVPDs with

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<sup>100</sup> Navigation Devices Proposed Rule, p. 14039.

STBs) and the retail video distribution market are both competitive. That is, savings and innovation from the competitive wholesale market flow through to end users in the retail market. Hence, the most efficient outcome is the one produced by market forces—not the FCC. If the FCC nevertheless implements its proposed regulations, there is no realistic promise of lower prices and increased innovation. To the contrary, any intervention in a competitive market stands to harm the market, its participants, and ultimately consumers.

#### **IV. INTRODUCTION—PURPOSE OF THE NPRM**

10. In the NPRM, the FCC states:

The ground rules we propose in this Notice ... are designed to let MVPD subscribers watch what they pay for wherever they want, however they want, and whenever they want, and pay less money to do so, making it as easy to buy an innovative means of accessing multichannel video programming (such as an app, smart TV, or set-top box) as it is to buy a cell phone or TV.<sup>101</sup>

To do so, it proposes a complex regulatory structure designed to create a retail commercial video navigation device market, as described above, which is to be supplied by companies entirely unaffiliated with MVPDs.<sup>102</sup>

#### **V. THE PREMISES SET FORTH IN THE NPRM ARE FAULTY**

11. The reason for the NPRM flows from a number of faulty premises, including claims that MVPD-provided STBs are vastly overpriced compared to alleged price trends for other CPE and that third-party STBs are not available. The FCC also assumes that the markets for wholesale STB provision and MVPD video are not competitive, that apps are not

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<sup>101</sup> Navigation Devices Proposed Rule, p. 14034.

<sup>102</sup> The NPRM defines the term “navigation device” to refer to hardware and software (including applications) used to access video programming. It also includes the security function necessary for the sending the video to those who have the right to access it. (Navigation Devices Proposed Rule, p. 14033.)



replacements for STBs, and that STBs suffer from a lack of innovation. These premises are deeply flawed.

12. Operating under these faulty assumptions, the FCC does not present a cost-benefit analysis in the NPRM. Rather, the FCC starts with the faulty premise that there is market failure and if corrected it would implicitly lead to large consumer benefits in terms of reduced prices and greater innovation, further predicated on the absence of implementation costs. Thus, the FCC erroneously implies large revenue and innovation benefits from its proposal. However, it entirely fails to inquire about the significant costs in terms of investment necessary to implement the proposal, the regulatory uncertainty it will cause, and the consequent retardation in innovation that will flow from its enactment. The lack of costs envisioned in the NRPM is also premised on a rapid and flawless technical execution.

**A. The Current State of the Video Navigation Market Already Meets Section 629 Goals**

13. The NPRM states: “We tentatively conclude that the market for navigation devices is not competitive, and that we should adopt new regulations to further Section 629.”<sup>103</sup> It further states that Section 629 of the Communications Act has the goal that “these devices should be available from manufacturers, retailers, and other vendors not affiliated with any multichannel video programming distributor.”<sup>104</sup> The current state of the market for STBs meets that goal through the combination of independent STB equipment manufacturers and access to video content through apps on third-party consumer devices widely available at retail, like smartphones and tablets. In particular, the development of

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<sup>103</sup> Navigation Devices Proposed Rule, p. 14035.

<sup>104</sup> Navigation Devices Proposed Rule, p. 14033, citing 47 U.S.C. § 549(a).

app-based access has progressed rapidly in the last few years. As the NPRM noted, very large numbers of consumer devices have MVPD apps allowing them to access multichannel video programming. All of the top 10 MVPDs, thus covering cable, telco, and DBS providers that compete head-to-head, offer such apps.<sup>105</sup>

14. The video navigation device market is competitive and currently provides innovative devices. With one exception, third-party manufacturers supply these to MVPDs.<sup>106</sup> In addition, certain MVPDs already buy commercially available navigation devices for their subscribers. TiVo has partnered with Suddenlink, Mediacom, Midcontinent, and several other cable multiple system operators (MSOs).<sup>107</sup> Some MVPDs have also begun making programming available through an app that works on the Roku platform, eliminating the need for an STB.<sup>108</sup> The MVPD market for video distribution is also competitive. Consumers generally have multiple choices (e.g., cable, satellite, telco) when selecting an MVPD for their video needs. According to the FCC's *15th Report on the Status of Competition in the Market for the Delivery of Video Programming*, covering 2011 and 2012, 100 percent of homes had access to two MVPDs, 98.6 percent had access to three MVPDs, and 35.3 percent of homes had a choice of four providers.<sup>109</sup>
15. Thus, as described in more detail below, the video navigation device market meets the goals laid out in Section 629.

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<sup>105</sup> Navigation Devices Proposed Rule, p. 14034.

<sup>106</sup> The only exception that I am aware of is DISH Network that obtains its equipment from its sister company EchoStar.

<sup>107</sup> TiVo, US Operator Business, <https://www.tivo.com/for-business-partners/cable-operators>, accessed March 1, 2016.

<sup>108</sup> J. Baumgartner, "TWC Launches Roku Trial in NYC," *multichannel.com*, November 9, 2015; J. Eggerton, "Charter Lineup Joins Roku," *multichannel.com*, October 12, 2015.

<sup>109</sup> Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, 28 FCC Rcd 10496 (2013) (Fifteenth Video Competition Report).

## **B. The STB Market Size and Price Trend Claims Are Erroneous**

16. The NPRM states that US consumers spent \$19.5 billion in 2014 to lease STBs with households spending an average of \$231 per year.<sup>110</sup> Chairman Wheeler further claims that since 1994 the monthly cost to lease has risen by 185 percent, while the cost of computers, televisions, and mobile phones has allegedly dropped by 90 percent.<sup>111</sup> Commissioners Clyburn and Rosenworcel echo these claims. Commissioner Clyburn states, “Today, 99% of pay-TV customers rent a set top box from an MVPD at a cost that exceeds \$200 per year. While the costs of other technologies have fallen as competition increased, the cost of the set top box has risen by more than three times the rate of inflation for American pay-TV subscribers over the same period.”<sup>112</sup> Commissioner Rosenworcel states, “Ninety-nine percent of consumers still rent their set top boxes from their pay television provider. The typical household spends more than \$231 a year on set top box rental fees. Costs are high, innovation is slow, and competition is limited.”<sup>113</sup> An investigation into the actual data shows that these claims are flawed and should not be used to make policy.
17. The NPRM sources the spending to a press release by Senator Edward Markey.<sup>114</sup> The information in the Markey Press Release in turn relies on data collected by Senators Markey and Richard Blumenthal from top MVPDs as well as additional data sources and analysis.<sup>115</sup> The alleged rise in STB costs and the fall of other CPE costs comes from the

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<sup>110</sup> Navigation Devices Proposed Rule, p. 14035.

<sup>111</sup> Navigation Devices Proposed Rule, Statement of Chairman Tom Wheeler.

<sup>112</sup> Navigation Devices Proposed Rule, Statement of Commissioner Mignon L. Clyburn.

<sup>113</sup> Navigation Devices Proposed Rule, Statement of Commissioner Jessica Rosenworcel.

<sup>114</sup> Press Release, Sen. Edward Markey, *Markey, Blumenthal Decry Lack of Choice, Competition in Pay-TV Video Box Marketplace*, July 30, 2015 (hereafter the Markey Press Release or Markey-Blumenthal).

<sup>115</sup> The senators received responses from AT&T, BrightHouse, Cablevision, Charter, Comcast, Cox, DISH Network, DIRECTV, Time Warner Cable, and Verizon.

Consumer Federation of America (CFA), which in turn relies in part on the Markey Press Release.<sup>116</sup>

18. The claimed per-household spending of \$231.82 per year assumes an average lease price of \$7.43 per month for an STB times an average of 2.6 STBs per household multiplied by 12 months. Based on the STB prices reported by the MVPDs, the \$7.43 represents the average per-month price for a full-service STB.<sup>117</sup> Thus, the calculation assumes that *every* STB is a full-service STB. However, several MVPDs have made it clear that they also offer STBs to their customers that have more limited functionality (digital transport adapters or DTAs).<sup>118</sup> These less expensive (costing \$1 to \$2) or free STBs likely account for a significant portion of the STBs in use by the MVPDs' subscribers. For one large MVPD, they accounted for over 39 percent of all STBs in use.<sup>119</sup> The \$7.43 household price and the number-of-units average ignores that some MVPDs (e.g., AT&T U-Verse and DISH Network) also offer a free standard (without DVR) STB.<sup>120</sup> In addition, as the MVPDs pointed out in their responses, they offer a variety of discounts to their subscribers. One of the MVPDs gives a 37 percent discount off the rate card STB price reported to the senators.<sup>121</sup> The total consumer spending on STBs, estimated at over \$19.5 billion, is derived from the average STB leasing cost of \$7.43 per month multiplied by the approximately 221 million installed STBs.<sup>122</sup> Thus, both the average household-leasing cost and the total consumer-spending claims are likely significantly overstated, as

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<sup>116</sup> M. Cooper (Consumer Federation of America) and J. Bergmayer (Public Knowledge) letter to Marlene H. Dortch (FCC), Re: Media Bureau Request for Comment on DSTAC Report, MB Docket No. 15-64, January 20, 2016 (CFA Letter).

<sup>117</sup> The Markey Press Release does not explain how the \$7.43 was derived.

<sup>118</sup> See, for example, the responses of BrightHouse and Comcast.

<sup>119</sup> FCC Form 1205 Capital Assets/General Ledger Audit Report, Schedule C Information, 2014.

<sup>120</sup> See the responses of AT&T and DISH Network.

<sup>121</sup> BrightHouse Networks response.

<sup>122</sup> The Markey Press Release does not provide a source for its 221 million installed base number.

are the implied benefits of the FCC's proposal in the NPRM.<sup>123</sup>

19. When explaining why the need for the NPRM, Chairman Wheeler and Commissioners Clyburn and Rosenworcel indicated that it flowed from the CFA's claim that the monthly leasing cost of an STB went from \$2.60 in 1994 to \$7.43 in 2014, an increase of 185 percent. Whereas, other CPE, such as personal computers, televisions, and mobile phones, supposedly decreased by 90 percent during this period in comparison.<sup>124</sup> The CFA bases its claims on a misunderstanding of how the BLS calculates price indexes, and it completely fails to account for the significant improvements in the quality of today's STBs.
20. The BLS calculates the change in the price index for a particular good by making sure that today's particular good is identical to the previous version of that good. If it is not identical because of improvements in quality, for example, it attempts to adjust for those quality improvements to keep the good the same over time. This process is described by the BLS as follows:

During each call or visit [to a store or establishment], the economic assistant collects price data on a specific good or service that was precisely defined during an earlier visit. If the selected item is available, the economic assistant records its price. If the selected item is no longer available, or if there have been changes in the quality or quantity (for example, eggs sold in packages of ten when they previously were sold by the dozen) of the good or service since the last time prices were collected, the economic assistant selects a new item or records the quality change in the current item.

The recorded information is sent to the national office of BLS, where commodity specialists who have detailed knowledge about the particular goods or services priced review the data. These specialists check the data

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<sup>123</sup> The NPRM "invite[s] NCTA member companies and other MVPDs to submit financial data that includes the price that they pay for set-top boxes compared to the rate at which they lease those devices to refute the data that are currently available." However, this ignores that FCC Form 1205 already provides the FCC with the information it needs to estimate the per-household number.

<sup>124</sup> CFA Letter, p. 2.

for accuracy and consistency and make any necessary corrections or adjustments, which can range from an adjustment for a change in the size or quantity of a packaged item to more complex adjustments based upon statistical analysis of the value of an item's features or quality. Thus, commodity *specialists strive to prevent changes in the quality of items from affecting the CPI's measurement of price change.*<sup>125</sup>

21. Thus, the BLS notes, “to measure price change accurately, the CPI must be able to distinguish the portion of price change due to ... quality change.”<sup>126</sup> For televisions, one of the devices that the CFA points to, the BLS gives an example of this process. It states, “LCD direct view and plasma televisions have prices that are about 70% greater than [cathode-ray tube] CRT televisions, all other characteristics being equal.” The BLS tries to compare like with like. As the BLS explains, the adjustment for this single quality improvement explains 70 percent of the difference between the in-store price and the underlying trend in the price of a television with the same characteristics in 2014 as in 1994. If one does not make the same sort of quality adjustment for STBs and simply compares the in-store price at two different points in time, the comparison is completely misleading.
22. For STBs, the CFA, on the other hand, simply looked at the price of an STB in 1994 and compared it to the STB price estimated by Senators Markey and Blumenthal. The CFA did not compare the specific good, that is, after adjusting for changes in quality, but simply compared different STBs at two points in time. The CFA was aware of the issue, acknowledging that STBs today “are more capable than the boxes of 1994” but did not adjust for this. The CFA simply ignored the many technological improvements in STBs.

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<sup>125</sup> BLS, Consumer Price Index, Frequently Asked Questions (FAQs), <http://www.bls.gov/cpi/cpifaq.htm>, accessed March 6, 2016 (emphasis added).

<sup>126</sup> BLS, Consumer Price Index, Frequently Asked Questions about Hedonic Quality Adjustment in the CPI, last modified July 8, 2010. See also, BLS, Consumer Price Index, How BLS Measures Price Change for Personal Computers and Peripheral Equipment in the Consumer Price Index, last modified June 26, 2008.

For example, STBs can now handle digital and high definition (HD), be programmed remotely, download to mobile devices, be used in combination with apps, and, importantly, many STBs include DVRs. In contrast, the FCC report on which the CFA based its 1994 price noted that the boxes it measured included both standard (non-addressable) and addressable converters.<sup>127</sup>

23. Thus, the FCC cannot rely upon the Markey-Blumenthal or the CFA claims when estimating either spending by household on STBs or the alleged price trends that might have occurred because these calculations are not accurate due to the use of improper methodologies. The FCC simply cannot implicitly accept the illusory claims by the CFA that consumer savings could range from \$6 billion to \$14 billion.<sup>128</sup>

### **C. The NPRM Does Not Properly Approach Market Definition**

24. The FCC does not discuss the markets that it is investigating in any detail. The NPRM notes, “our proposed rules are based on three fundamental points. First, the market for navigation devices is not competitive.”<sup>129</sup> In support, the NPRM states that the Markey-Blumenthal “statistics show ... that almost all consumers have one source for access to the multichannel video programming to which they subscribe: The leased set-top box, or the MVPD-provided application. Therefore, we tentatively conclude that the market for navigation devices is not competitive, and that we should adopt new regulations to further Section 629.”<sup>130</sup>

25. Currently, most subscribers obtain STBs as part of their video contract with their MVPD.

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<sup>127</sup> FCC, *Report on the Cable Services Bureau's Survey on the Rate Impact of the Federal Communications Commission's Revised Rate Regulations*, DA 94-767, July 14, 1994, p. 5487.

<sup>128</sup> CFA Letter, pp. 2, 4. For the \$14 billion in savings to occur, the cost of the STB would have to drop from \$2.60 to \$0.31 per unit.

<sup>129</sup> Navigation Devices Proposed Rule, p. 14035.

<sup>130</sup> Navigation Devices Proposed Rule, p. 14035.

For these subscribers, STBs are a derived demand that is satisfied in two steps: the wholesale market for the acquisition of STBs by the MVPDs and the retail market for multichannel video distribution. I first discuss the wholesale market for STBs.

### **1. The wholesale market for STBs is competitive**

26. The wholesale market for the manufacture of STBs and other video gateway equipment is competitive. On the supply side, the market is characterized by numerous manufacturers supplying devices to buyers worldwide. One analyst lists seven key vendors, including ARRIS, Broadcom, and Huawei Technologies, as well as 70 other prominent vendors, including Samsung and TiVo.<sup>131</sup> In its Form 10-K, ARRIS notes that the analyst firm “Infonetics tracks market share for 38 competitors in the very competitive set-tops market.”<sup>132</sup> In the United States, the larger MVPDs, such as those responding to Senators Markey and Blumenthal, detail the product specifications they require and put the contracts out to bid. For example, DIRECTV buys devices from multiple manufacturers, including Samsung, Humax, and Pace.<sup>133</sup> The same is true for the other larger MVPDs.<sup>134</sup> A number of medium-sized MVPDs, for example, Suddenlink and Mediacom, purchase STBs and offer them in combination with TiVo services such as the TiVo guide, multi-

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<sup>131</sup> PRNewswire, “Global Set-Top-Box Market 2015-2019—Industry Analysis,” Oct. 14, 2015, <http://www.prnewswire.com/news-releases/global-set-top-box-market-2015-2019---industry-analysis-300160038.html>.

<sup>132</sup> ARRIS Group, Inc., SEC, Form 10K, December 31, 2014, p. 11.

<sup>133</sup> Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices, *Reply Comments of DIRECTV, Inc. – NBP Public Notice #30*, CS Docket No. 97-80, January 27, 2010, p. 15.

<sup>134</sup> See, for example, Charter Communications, SEC, Form 10-K, December 2015, p. 10; Comcast Corp. and Time Warner Cable, Inc., *Opposition To Petitions To Deny And Response To Comments*, In the Matter of Applications of Comcast Corp., Time Warner Cable Inc., Charter Communications, Inc., and SpinCo, For Consent To Assign or Transfer Control of Licenses and Authorizations, MB Docket No. 14-57, pp. 179-180; and In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigation Devices, *Comments of DIRECTV, Inc.*, CS Docket No. 97-80, July 13, 2010, p. 4.



room capabilities, and TiVo apps.<sup>135</sup> According to TiVo, in 2013, “smaller operators [could] purchase set-top boxes from Pace, Arris, Samsung, and TiVo in addition to Cisco and Motorola.”<sup>136</sup> In addition, the US Department of Justice (DOJ) recently cleared the merger between Arris and Pace without conditions.<sup>137</sup> The DOJ, as explained in the Horizontal Merger Guidelines, seeks to prevent competitively harmful mergers, that is, those that entrench or enhance market power. By allowing the Arris/Pace merger without conditions, the DOJ indicated that it believed the market for the wholesale provision of STBs to be competitive.<sup>138</sup>

## **2. The MVPD market is competitive**

27. The retail market for multichannel video distribution, which often includes STBs in a package with programming, is also competitive. The FCC, on the other hand, tentatively concludes that the market for navigation devices is not competitive because “almost all consumers have one source for access to the multichannel video programming to which they subscribe: the leased set-top box, or the MVPD-provided application.”<sup>139</sup> This opinion was more colorfully characterized in the Chairman’s Fact Sheet that claimed, “[n]inety-nine percent of pay-TV subscribers are chained to their set-top boxes because cable and satellite operators have locked up the market.”<sup>140</sup> Both the FCC’s and its Chairman’s statements contain more than a little distortion because subscribers have a

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<sup>135</sup> See, for example, Cequel Communications Holdings I, LLC, Annual Report, December 2014, p. 10. Suddenlink was a subsidiary of Cequel Communications; it has since been acquired by Altice.

<sup>136</sup> TiVo Inc., Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigation Devices, *Petition for Rulemaking*, CS Docket No. 97-80, July 16, 2013, pp. 22-23 (TiVo Petition).

<sup>137</sup> J. Baumgartner, “Arris: DOJ Wraps Up Probe of Pace Deal,” *multichannel.com*, December 2, 2015.

<sup>138</sup> US Department of Justice and the Federal Trade Commission, *Horizontal Merger Guidelines*, issued August 19, 2010, pp. 1–2.

<sup>139</sup> Navigation Devices Proposed Rule, p. 14035.

<sup>140</sup> FCC Fact Sheet, “FCC Chairman Proposal To Unlock The Set-Top Box: Creating Choice & Innovation,” released January 27, 2016.

choice of several MVPDs, and the FCC has declared the market for multichannel video distribution competitive.

28. Many products are sold as part of a package.<sup>141</sup> For example, a car is a package that includes an engine, tires, windows, and so on. In keeping with the FCC's approach to market definition, this would mean, for example, that the Ford Motor Company has a monopoly on motors in Ford cars (its customers are "chained" to it) because very few Ford cars do not use a Ford motor. This is an untenable approach to market definition if, as is the case with this example, there is competition among car manufacturers.
29. Consumers interested in becoming MVPD subscribers compare the packages of attributes offered by the MVPDs, including the quality of CPE offered. As the FCC noted, "[b]ecause CPE is an integral part of viewing video programming, CPE features such as recording, home networking, mobile access, and user interface are factors to consumers when choosing their programming provider and which services to purchase." Moreover, it concluded as far back as 2013, "[t]oday the CPE marketplace is more dynamic than it has ever been, offering consumers an unprecedented and growing list of choices to access video content."<sup>142</sup> As can be seen in Table 1, subscribers have a number of providers from which they can select depending on where they live, a cable MSO, a telco, two DBS providers, and a limited number of other overbuilders.<sup>143</sup>

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<sup>141</sup> It is also called a tie-in.

<sup>142</sup> Fifteenth Video Competition Report.

<sup>143</sup> Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, *Sixteenth Report*, MB Docket No. 14-16, rel. Apr. 2, 2015, Table 2 (Sixteenth Video Competition Report). An overbuilder is a company that utilizes or builds on an existing telecom operator's network, which includes telco and cable networks.

**Table 1. Access to Multiple MVPDs**

Access to:	Percent of Homes	
	2012	2013
at least two MVPDs	100%	100%
at least three MVPDs	99%	99%
at least four MVPDs	32%	35%

Although this summary precedes the acquisition of DIRECTV by AT&T, it also does not include homes with access to multichannel video from telcos other than Verizon and AT&T, such as CenturyLink and Frontier. CenturyLink’s video offering, called Prism, passed 3.2 million homes at year-end 2015.<sup>144</sup>

30. Subscribers can and regularly do switch (churn) providers and thus are not “chained” to an MVPD. According to estimates from analyst SNL Kagan, cable MSOs have a churn rate of about 30 percent per year, driven by the availability of competing services and the rate at which people move, whereas DBS services, which have a nationwide footprint, have a churn rate ranging from 18 to 20 percent per year.<sup>145</sup>
31. The FCC itself has acknowledged that the MVPD video distribution market is competitive. In July 2015, it reversed the burden of proof regarding the existence of effective competition. Specifically it stated:

In this Report and Order (“Order”), we improve and expedite the effective competition process by adopting a rebuttable presumption that cable operators are subject to “Effective Competition.” Specifically, we presume that cable operators are subject to what is commonly referred to as “Competing Provider Effective Competition.” As a result, each franchising authority will be prohibited from regulating basic cable rates unless it successfully demonstrates that the cable system is not subject to Competing Provider Effective Competition. This change is justified by the

<sup>144</sup> CenturyLink News Release, “CenturyLink Reports Fourth Quarter and Full-Year 2015 Results,” February 10, 2016, p. 4. The release calls them “addressable homes.”

<sup>145</sup> SNL Kagan, Media Trends, 2014 Edition, December 2014, pp. 62, 75; SNL Kagan, DBS impacted by diverging strategies for Q4, FY’15, March 2, 2016.

fact that Direct Broadcast Satellite (“DBS”) service is ubiquitous today and that DBS providers have captured almost 34 percent of multichannel video programming distributor (“MVPD”) subscribers.<sup>146</sup>

32. In its Effective Competition Order, the FCC explained its reasoning. At the time of its original decision in 1993, DBS providers had not yet begun operating and telcos such as Verizon and AT&T had not yet entered the video distribution business in any significant way. In its review for the Effective Competition Order, the FCC found that almost all homes had access to at least three MVPDs.

[T]he Commission has found Effective Competition in more than 99.5 percent of the communities evaluated since the start of 2013 ... the Commission has issued affirmative findings of Effective Competition in the country’s largest cities, in its suburban areas, and in its rural areas where subscription to DBS is particularly high.<sup>147</sup>

33. In addition and relevant to the current matter, the Effective Competition Order noted, “contrary to [National Association of Broadcasters] NAB’s assertion, there is no evidence in the record that a finding of Effective Competition causes cable operators to increase their other fees or equipment rental charges.”<sup>148</sup>
34. When the FCC issued its Effective Competition Order, it was aware of the request by AT&T and DIRECTV to merge. In its Order, it noted that even if the merger application were granted DIRECTV and DISH Network would continue to be competing providers.<sup>149</sup> In July 2015, the FCC granted the AT&T-DIRECTV merger. The FCC concluded:

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<sup>146</sup> Amendment to the Commission’s Rules Concerning Effective Competition Implementation of Section 111 of the STELA Reauthorization Act, *Report & Order in Amendment to the Commission’s Rules Concerning Effective Competition*, MB Docket No. 15-53, adopted: June 2, 2015, ¶ 1 (footnotes omitted) (Effective Competition Order).

<sup>147</sup> Effective Competition Order, ¶¶ 3–4 (footnotes omitted).

<sup>148</sup> Effective Competition Order, ¶ 6, fn. 33.

<sup>149</sup> Effective Competition Order, ¶ 8, fn. 41.

Our record supports the Applicants' claim that the newly combined entity will be a more effective multichannel video programming distributor ("MVPD") competitor, offering consumers greater choice at lower prices.<sup>150</sup>

35. The proposal misunderstands the nature of the video distribution market when it states:

The arrangements [between MVPDs and third party retail navigation device developers] have not assured a competitive retail market for devices from unaffiliated sources as required by Section 629 because they do not always provide access to all of the programming that a subscriber pays to access, and may limit features like recording.<sup>151</sup>

Such limitations flow from program-owner security and rights concerns and do not contradict the fact that the video distribution market is competitive.<sup>152</sup>

### **3. The impact on retail equipment prices when both the wholesale equipment and the MVPD video distribution markets are competitive**

36. The statement in the NPRM that the market for navigation devices is not competitive is incorrect. MVPDs buy program content, STBs, and numerous other inputs from wholesale suppliers and sell video distribution services to retail consumers. As shown above, the wholesale market for STBs and the retail video distribution market are competitive. The NPRM notes that there is no apparent retail market for STBs and seeks to create one. From an economic perspective, public policies are assessed by their welfare effects on the public. Here, the public represents consumers of retail STB devices. On the other hand, the demand for wholesale STB provision—a provision currently purchased under commercial agreements by MVPDs—is a derived demand in the sense that retail

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<sup>150</sup> Applications of AT&T Inc. and DIRECTV For Consent to Assign or Transfer Control of Licenses and Authorizations, *Memorandum Opinion and Order*, MB Docket No. 14-90, rel. July 28, 2015, ¶ 3.

<sup>151</sup> Navigation Devices Proposed Rule, p. 14035.

<sup>152</sup> This claim contradicts the FCC's claim that "our goal is to preserve the contractual arrangements between programmers and MVPDs." (Navigation Devices Proposed Rule, p. 14035.)

consumers do not purchase it directly.<sup>153</sup> Thus, the effects of economic regulation on the wholesale provision of STBs (by regulating how MVPDs have to operate as buyers in that market) must be measured by the corresponding effects in the downstream retail market.

37. There is widespread agreement among economists and regulators that the process of competition in effectively competitive retail markets leads to the best outcomes for consumers. Economic regulation of retail or wholesale markets is only warranted to correct some explicit market failure. As I described above, *the retail video distribution market has been found to be effectively competitive*. Regulatory intervention in the wholesale market in such circumstances is unnecessary and likely to be harmful to consumers. In the past, the FCC has recognized that in the presence of a functioning wholesale market, retail offerings are necessarily competitive. Practically, this means that if STB manufacturers offer innovation or lower prices they would be visible at the wholesale level. Given that the market for MVPD video distribution, as shown above, is also competitive, these innovations and price decreases flow directly through to the retail market. No MVPD is in a position to profitably capture price decreases from STB manufacturers or withhold innovation from the market. Hence, the most fundamental premise on which the FCC bases its proposed new rules is incorrect. There is no need for regulation because both the wholesale market for STBs and the retail market for MVPD services are competitive.

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<sup>153</sup> “derived demand. The idea that the demand for intermediate goods is *derived* from the demand for final goods they help produce....” *The New Palgrave: A Dictionary of Economics*, eds. John Eatwell, Murray Milgate, and Peter Newman (New York: The Stockton Press, Volume 1), p. 813.

#### **D. The Market for the Provision of Navigation Services to Subscribers Is Innovative**

38. As noted before, the market for the provision of navigation services to subscribers has been innovative with the emergence of apps expanding consumer choices. The introduction of apps has allowed consumers to access video through a whole range of devices available at retail. These include smartphones, tablets, laptops, and other “smart” devices. The increase in consumers with these video capable devices has been extraordinary. According to SNL Kagan, connected video devices in US households have increased from 296 million in 2010 to 717 million in 2015, a growth rate of close to 20 percent per year. This converts to 7.7 devices per-broadband household. SNL Kagan forecasts the number of connected video devices to grow to 909 million by 2019.<sup>154</sup> These devices are being loaded with video streaming apps. For example, according to the National Cable & Telecommunications Association (NCTA), apps from MVPDs are present on 460 million devices.<sup>155</sup>
39. It is also clear that consumers use these connected devices to stream. According to Nielsen, viewers used TV-connected devices, including multimedia devices like Apple TV, Roku, smartphones, and laptops, extensively. For example, on an average viewing day, persons aged 18 to 34 used: only TV connected devices 14 percent of the time, both TV and connected devices 29 percent of the time, and only TV 56 percent of the time.<sup>156</sup> Similarly, a SNL Kagan survey reported that 20 percent of the about 300 million smartphone or tablet users watched full-length TV and films on these devices weekly, up

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<sup>154</sup> SNL Kagan, “Economics of Internet Media, Forecast OTT, TV Everywhere devices,” September 23, 2015.

<sup>155</sup> Media Bureau Seeks Comment on DSTAC Report, *Comments of the National Cable & Telecommunications Association*, MB Docket No. 15-64, October 8, 2015, p. 2.

<sup>156</sup> Nielsen, “The Total Audience Report Q4 2015,” p. 11. These data are based on Nielsen’s National People Meter panel.

from 10 percent in 2013.<sup>157</sup>

## **VI. THE NPRM INCORRECTLY PORTRAYS PAST DBS STB EXPERIENCE**

40. The NPRM discusses but draws the wrong conclusions from past DBS experience. The FCC notes that since 1998 DBS has been exempt from equipment regulation requiring the separation of the security function from other nonsecurity elements. However, it proceeds to express the view, “[u]nfortunately, in the intervening years the market did not evolve as we expected; in fact, from a navigation device perspective, it appears that the market for devices that can access DBS multichannel video programming has devolved to one that relies almost exclusively on equipment leased from the DBS provider.”<sup>158</sup> The NPRM does not question whether market forces, such as competition with wired MVPDs and technical efficiencies gained, have influenced this result.
41. The FCC has regulations governing the integration of the security function of the STB with other elements such as navigation. Since 1998, the FCC exempted DBS from these regulations. The exemption was based on the fact that unlike wired cable MSOs, DBS equipment was available at retail from a number of equipment manufacturers. The FCC was:

reluctant to implement a rule that could disrupt an evolving market that is already offering consumers the benefits that derive from competition....Requiring DBS providers to separate security would serve a limited purpose and disrupt technical and investment structures that arose in a competitive environment....With DBS equipment available in retail stores, and with DBS possessing substantial incentive to pursue additional market share through additional services and improved equipment, we do not think that requiring DBS service providers to

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<sup>157</sup> SNL Kagan, “Economics of Internet Media, Forecast OTT, TV Everywhere devices,” September 23, 2015.

<sup>158</sup> Navigation Devices Proposed Rule, p. 14036.



separate security elements will serve the goal of enhanced competition in either the service or equipment markets.<sup>159</sup>

42. Over subsequent years, DBS providers moved to a system in which equipment leasing became the norm. The DBS transition occurred in part because of technical reasons,<sup>160</sup> but it also occurred for competitive reasons. DBS providers, unlike wired MVPDs, largely offer standalone video service, whereas their competitors (cable and later telcos) became capable of offering bundles including video, broadband, and voice services. In order to compete, DBS providers have been innovative with their STBs. As DIRECTV previously explained, because DBS is largely a one-way technology, “nearly all of the advanced features that have come to define the DIRECTV consumer experience reside in our set-top boxes.” Thus, DIRECTV was the first MVPD to deploy MPEG-4 compression and to introduce substantial amounts of high definition (HD) programming. Both DIRECTV and DISH Network use their STBs to offer video-on-demand (VOD) by preloading the STBs with movies at regular intervals, a feature that requires them to offer STBs with significant storage capacity. These STBs also have ports that allow a broadband connection. In addition, both DIRECTV and DISH Network regularly upgrade the capabilities of their STBs by downloading via satellite. DIRECTV speaks for both DBS services when it concludes, “[w]ithout the capabilities built into our set-top boxes, DIRECTV would never have been able to compete successfully with cable and telco systems that generally have greater capacity and also have the ability to offer a triple-play

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<sup>159</sup> Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigation Devices, *Report & Order*, CS Docket No. 97-80, rel. June 24, 1998, ¶¶ 64–65 (footnote omitted).

<sup>160</sup> Its one-way technology leads it to transmit information continuously to its electronic program guide from its satellites to keep it current. (Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigation Devices, *Comments of DIRECTV, Inc.*, CS Docket No. 97-80, August 24, 2007, p. 6.)

bundle of services.”<sup>161</sup>

43. DBS service providers have shown significant STB innovation with DIRECTV offering the Genie and DISH Network offering the Hopper. The FCC displays a fundamental misunderstanding of the DBS providers’ transition to leasing highly capable STBs when it describes the way the market has evolved as unfortunate. This transition was good for competition and for consumers.

## **VII. THE REGULATORY STRUCTURE PROPOSED IS NOT WORKABLE**

44. The FCC proposes a regulatory structure that is extraordinarily bureaucratic, requiring the creation of a number of regulatory entities: an Open Standards Body, a Trust Authority, a Licensing Organization, a Device Testing and Certification Facility, and a Self-Certification Authority. Added to these entities, of course, would be the FCC itself and the courts to adjudicate the inevitable disputes.
45. The FCC also envisions the need to expand this bureaucratic structure beyond regulating only the navigation device. That is, it anticipates requiring MVPDs “to develop applications within a specific timeframe for each device manufacturer that requests such an application,”<sup>162</sup> regulating MVPD pricing of navigation devices (it is concerned with cross subsidies),<sup>163</sup> and controlling programmers (eliminating their right to prohibit MVPDs from displaying their programming on certain devices).<sup>164</sup>
46. As the detailed review of the regulatory structure discussed in the following paragraphs will show, the complexity, expense, and uncertainty created by this convoluted structure

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<sup>161</sup> Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigation Devices, *Comments of DIRECTV, Inc.*, CS Docket No. 97-80, July 13, 2010, pp. 2-4.

<sup>162</sup> Navigation Devices Proposed Rule, p. 14040.

<sup>163</sup> Navigation Devices Proposed Rule, p. 14047

<sup>164</sup> Navigation Devices Proposed Rule, p. 14035.

will lead to less innovation and reduced consumer welfare.

## A. Regulatory Bodies

47. The FCC proposes a regulatory structure that is extraordinarily bureaucratic, requiring the creation of numerous regulatory entities.

[W]e propose to allow MVPDs to choose the specific standards they wish to use to make their services available via competitive navigation devices or solutions, so long as those standards are in a published, transparent format that conforms to specifications set by an open standards body.<sup>165</sup> [*Open Standards Body*]

We propose that MVPDs be required to support a content protection system that is licensable on reasonable and nondiscriminatory terms, and has a “Trust Authority” that is not substantially controlled by an MVPD or by the MVPD industry.<sup>166</sup> [*Trust Authority and Licensing Organization*]

We also believe that a device testing and certification process is important to protect MVPDs’ networks from physical or electronic harm and the potential for theft of service from devices that attach directly to the networks.<sup>167</sup> [*Device Testing and Certification Facility*]

The MVPDs will further have to judge whether the consumer protection self-certification they receive from third-parties meets the goals of the Communications Act (MVPDs are prohibited from providing Navigable Services if they have “a good faith reason to doubt its validity”).<sup>168</sup> [*Self-Certification Authority*]

48. The need for so many regulatory entities makes it clear that the proposal is badly flawed. Apparently fearing regulatory capture, the FCC plans to create entities in which the MVPDs have limited say but which somehow provide the ability to arrive at a satisfactory resolution. For example, in proposing the Open Standards Body, the NPRM notes:

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<sup>165</sup> Navigation Devices Proposed Rule, p. 14038.

<sup>166</sup> Navigation Devices Proposed Rule, p. 14041.

<sup>167</sup> Navigation Devices Proposed Rule, p. 14045.

<sup>168</sup> Navigation Devices Proposed Rule, p. 14045.

[W]e propose to require MVPDs to provide the Information Flows in published, transparent formats that conform to specifications set by “Open Standards Bodies.” ...A standards body (1) whose membership is open to consumer electronics, multichannel video programming distributors, content companies, application developers, and consumer interest organizations, (2) *that has a fair balance of interested members*, (3) that has a published set of procedures to assure due process, (4) that has a published appeals process, and (5) that strives to set consensus standards.<sup>169</sup>

How the Open Standards Body would arrive at this “fair balance” of members is unstated. Because the proposal “does not mandate specific standards,” this fair balance of members is also supposed to arrive at a solution that allows for variation across MVPDs but does not require a “glut” of solutions.

49. Similarly, for the Trust Authority, the FCC states:

We propose that MVPDs be required to support a content protection system that is licensable on reasonable and nondiscriminatory terms, and has a “Trust Authority” that is not substantially controlled by an MVPD or by the MVPD industry.<sup>170</sup>

As the FCC itself asks, “What criteria shall we use to determine whether a Trust Authority is not ‘substantially controlled’ by an MVPD or by the MVPD industry?”<sup>171</sup> Nor is there any guidance on what licensing on “reasonable” terms entails. Because the MVPDs must make available their three Information Flows through this Security System,<sup>172</sup> can the MVPDs recover what are likely to be substantial costs necessary to develop this system?

50. The NPRM further notes that MVPDs are concerned that features they develop as part of their competition with other MVPDs would be lost under the proposal.

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<sup>169</sup> Navigation Devices Proposed Rule, p. 14039 (footnotes omitted).

<sup>170</sup> Navigation Devices Proposed Rule, p. 14041.

<sup>171</sup> Navigation Devices Proposed Rule, p. 14041.

<sup>172</sup> Navigation Devices Proposed Rule, p. 14042

Satellite customers would lose sports scores and statistics for satellite. U-Verse customers would lose instant channel change. Cable customers would lose StartOver and LookBack, telescoped and interactive advertising. Cable program networks would lose the interactive enhancements they have built into their programming, such as shop by remote and multiple camera angles.<sup>173</sup>

However, according to the FCC, “[o]ur proposal’s grant of flexibility to MVPDs gives them the opportunity to seek and adopt standards in Open Standards Bodies that will allow [but not require] such replication [by third-parties].”<sup>174</sup> How this will take place is not detailed, but as I discuss below it is likely to be highly problematic.

51. The NRPM also mentions “fundamental disagreements” regarding security between “MVPDs and content providers” on one hand and “consumer electronics manufacturers and consumer-facing online service providers, as well as consumer advocates” on the other.<sup>175</sup> For now, the FCC proposes to handle security concerns by requiring that an MVPD “must support at least one ‘compliant’ conditional access system or link protection technology,” but this will not resolve future disputes.<sup>176</sup> The FCC’s plan requires that MVPDs completely abdicate control over protection standards (third parties “will not need to seek approval, review, or testing from the MVPDs themselves”).<sup>177</sup> Instead, it will be a Trust Authority “not substantially controlled by any MVPD or group of MVPDs” that will decide if the MVPDs’ conditional access system is “compliant.”<sup>178</sup> This is a recipe for unresolved future disputes.

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<sup>173</sup> Navigation Devices Proposed Rule, p. 14042, citing the DSTAC Report (fn. 127 in the NPRM).

<sup>174</sup> Navigation Devices Proposed Rule, p. 14039.

<sup>175</sup> Navigation Devices Proposed Rule, p. 14041.

<sup>176</sup> Navigation Devices Proposed Rule, p. 14042.

<sup>177</sup> Navigation Devices Proposed Rule, p. 14042.

<sup>178</sup> Navigation Devices Proposed Rule, p. 14042.

## **B. MVPD Obligations toward Third-Party Navigation Providers**

52. The FCC plans to impose poorly defined obligations on third-party navigation device providers, obligations that most likely will lead to uncompensated costs and litigation risk such as: 1) judging the self-certifications by third parties,<sup>179</sup> and 2) developing applications within a specific timeframe for every third party that requests an application.<sup>180</sup>
53. There are repeated admonitions that the proposal requires the provision of Information Flows “without the need [for third parties] to coordinate or negotiate with MVPDs” and “without seeking permission from MVPDs.”<sup>181</sup> Yet, the MVPDs must still determine if the consumer protection self-certification they receive from third parties meets the goals of the Communications Act, which include that “a Navigation Device will honor privacy.”<sup>182</sup> MVPDs are prohibited from providing a navigable service if they have “a good faith reason to doubt its validity.”<sup>183</sup> A good faith reason is a wonderfully flexible definition, and as the FCC posits, “MVPDs offer products that directly compete with navigation devices and therefore have an incentive to withhold permission.” Thus, no matter how justified the reason, a rejection will inevitably lead to FCC adjudication or litigation.<sup>184</sup> Such procedures are costly in time and resources.
54. The FCC also expands its regulatory proposal beyond devices to include apps. To support third-party developers of device-specific apps, it proposes that MVPDs be required “to

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<sup>179</sup> Navigation Devices Proposed Rule, p. 14045.

<sup>180</sup> Navigation Devices Proposed Rule, p. 14041.

<sup>181</sup> Navigation Devices Proposed Rule, pp. 14034-5.

<sup>182</sup> Navigation Devices Proposed Rule, p. 14051.

<sup>183</sup> Navigation Devices Proposed Rule, p. 14045. The NPRM also mentions the possibility of creating “Open Standards Bodies or some other third-party entity” to validate the certification and maintain the necessary records, but apart from exposing this entity to the same costs and litigation risk it also does not explain why the entity would have an incentive to enforce it. (Navigation Devices Proposed Rule, p. 14045.)

<sup>184</sup> Navigation Devices Proposed Rule, p. 14035.

develop applications within a specific timeframe for each device manufacturer that requests such an application and to support that application indefinitely.”<sup>185</sup> The only way the FCC envisions an MVPD being able to stop supporting a device app would be in “consultation with the device manufacturer and consumers.”<sup>186</sup> These are bewildering requirements. The FCC establishes mandates without any concern for business justification, cost, or complexity of a project. Key terms like “specific timeframe” and “consultation” are not known ahead of time or are so vague they are undefinable. They are also unilateral because it imposes the requirement for an MVPD to develop the application but no requirement for the device manufacturer to support the device.

### **C. Disputes**

55. If the FCC’s proposal is adopted, there will be numerous and continual disputes. Based on the proposed structure of just the regulatory entities, there will be no possibility of resolution without appeals to the FCC and/or litigation.
56. The NPRM itself provides evidence of future disputes, citing the DSTAC Report:

The DSTAC Report acknowledged that the committee was divided regarding how to define “MVPD service” for purposes of delineating what features and functions that the MVPD offers must be made available on a third-party device:

Some members of the DSTAC consider MVPD service to include all the various functionalities and features that the MVPD provides to its customers, including the interactive features and the User Interface which they use in their retail offerings and consider protected by copyright, licensing, and other requirements determining how their service is distributed and presented; retaining these elements is also part of respecting the contractual and copyright terms between content providers and distributors for the commercial distribution of programming.

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<sup>185</sup> Navigation Devices Proposed Rule, p. 14040.

<sup>186</sup> Navigation Devices Proposed Rule, p. 14040.

Other members consider “MVPD Service” to be primarily video transport, and consider the inclusion of the MVPD’s User Interface and other features to prevent retail devices from innovating and differentiating their products, which they believe is essential for success in the marketplace.<sup>187</sup>

The FCC indirectly acknowledges that the proposed bureaucratic structure with multiple bodies will likely not function without deep-seated and continuing disputes. The FCC states, “Just as in the non-security context, however, DSTAC [security] Working Group 3 had fundamental disagreements.”<sup>188</sup> The only acknowledgment of this problem occurs in the discussion of the Open Standards Body, as shown in para. 48 above. Note that point (4) in the description of the Open Standards Body mentions a published appeals process.

The discussion continues with:

We also believe that the characteristics listed in the definition would *arm the Commission with an established test to judge* whether an MVPD’s method of delivering the three Information Flows is sufficient (in combination with the other elements of the proposal discussed in this item) to assure a retail market.<sup>189</sup>

As experienced by the FCC following its program carriage discrimination regulations, the parties will steadily appeal to the Commission for adjudication, and, following that, embroil it in litigation.<sup>190</sup> The same will happen here, any ruling will create significant costs and business uncertainty for all parties involved.

#### **D. Uneven Impact of Regulation**

57. The proposed regulations most likely will be unevenly applied, and, therefore, they will affect competition in ways not foreseen by the FCC, an example being cross subsidies.

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<sup>187</sup> NPRM, ¶ 26, fn. 85.

<sup>188</sup> Navigation Devices Proposed Rule, p. 14041.

<sup>189</sup> Navigation Devices Proposed Rule, p. 14039 (emphasis added).

<sup>190</sup> See, for example, S. Flaherty, DC Circ. Reverses FCC Comcast Discrimination Ruling, *Law360*, May 28, 2013.



58. One of the concerns of the proposal is that consumers be able to recognize what an MVPD charges for a navigation device so that they can make an informed decision and have their bill from the MVPD reduced by that amount if they provide their own device.<sup>191</sup> This leads to a concern of the potential for cross subsidization of STBs by the MVPDs. The FCC asks one to “consider the possibility that an MVPD would ascribe a zero or near-zero price to a navigation device, and what implications might there be for further Commission responsibilities and actions?”<sup>192</sup> Thus, the FCC considers proposing a ban on cross subsidies by MVPDs but not third-party STB providers despite the FCC’s earlier determination that broadly applying an MVPD cross-subsidy prohibition “would lead to distortions in the market, stifling innovation and undermining consumer choice.”<sup>193</sup>

### **E. Regulation Will Spread beyond STBs**

59. The proposed regulations will inevitably spread beyond STBs and apps to other parts of the video distribution ecosystem. As the NPRM partially acknowledges, the FCC will likely have to regulate programmers as well. For example, the FCC already proposes to ban programmers’ contractual rights to prohibit MVPDs from displaying their programming on certain devices.<sup>194</sup> Although the FCC evinces a static view of markets, in reality, it is inevitable that programmers will try to protect themselves by adding terms to their contracts with MVPDs. One can envision a programmer trying to prevent MVPDs

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<sup>191</sup> Navigation Devices Proposed Rule, p. 14047.

<sup>192</sup> Navigation Devices Proposed Rule, p. 14047.

<sup>193</sup> Navigation Devices Proposed Rule, p. 14047, citing *First Plug and Play Report and Order*, 13 FCC Rcd at 14812, ¶ 90.

<sup>194</sup> Navigation Devices Proposed Rule, p. 14035. “Do programmers prohibit MVPDs from displaying their programming on certain devices? If so, what are the terms of those prohibitions? Should the Commission ban such terms to assure the commercial availability of devices that can access multichannel video programming, and under what authority?” (Footnote omitted.)

from dealing with third-party navigation providers that do not fully respect the terms of the contract between the programmer and the MVPD. Under the approach proposed, the FCC would become involved in regulating the terms in programmer-MVPD contracts.

### **VIII. THE PROPOSAL WILL NOT RESULT IN INCREASED INNOVATION OR REDUCED PRICES, NOR WILL IT PROMOTE CONSUMER WELFARE**

60. As noted previously, the proposal supposedly will “let MVPD subscribers watch what they pay for wherever they want, however they want, and whenever they want, and pay less money to do so, making it as easy to buy an innovative means of accessing multichannel video programming (such as an app, smart TV, or set-top box) as it is to buy a cell phone or TV.”<sup>195</sup> The FCC does not ask but simply takes as a given that the proposed rule would lead to increased innovation and reduced prices. However, the proposed rule, in fact, is more likely to hinder innovation, increase costs to consumers, and limit choice.
61. The approach delineated in the NPRM will hinder innovation, not promote it. For one, the complexity of the regulatory regime and the inevitable disputes that it will generate between MVPDs, third-party navigation providers, and, importantly, program owners, will in all likelihood slow down device development and app implementation. In addition, the proposed rules will create large uncertainties for the companies investing in devices and apps. These uncertainties will lead to a reduction in innovation. Further, the regulations themselves will add costs that will prevent innovations that would otherwise have taken place.

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<sup>195</sup> Navigation Devices Proposed Rule, p. 14034.

## A. Innovation Will Decrease

62. Business certainty is a crucial part of innovation because it requires significant investment and lead time. TiVo, one of the proponents of the proposed rules, previously explained the need for business certainty before the FCC. In *EchoStar Satellite L.L.C. v. FCC*, the Court of Appeals for the D.C. Circuit vacated the FCC rule applying encoding rules on DBS providers. In the process, the ruling also vacated the FCC regulations applying to cable MVPDs.<sup>196</sup> Despite the apparent willingness by cable MSOs to continue supporting CableCARDs,<sup>197</sup> TiVo petitioned the FCC to reinstall the rules for cable operators. TiVo's reasoning was, "[b]y vacating these rules, the Court created an unhealthy amount of uncertainty in the industry—*uncertainty that harms innovation and competition as well as settled consumer expectations.*"<sup>198</sup> The rules currently proposed in the NPRM, which even the proposal envisions taking at least two years to deploy,<sup>199</sup> are certain to create the "unhealthy amount of uncertainty" that TiVo was previously concerned about.
63. In addition to the reduction in innovation due to the uncertainty that the proposed rules will engender, there will also be delays in any innovation that does occur. This is particularly true for app development, which the FCC acknowledges is increasingly the means for providing MVPD service to retail devices.<sup>200</sup> There are at least two ways the

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<sup>196</sup> TiVo Inc., Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigation Devices, *Petition for Rulemaking*, CS Docket No. 97-80, July 16, 2013, p. 2 (TiVo Petition).

<sup>197</sup> NCTA, Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigation Devices, *Comments of the National Cable & Telecommunications Association*, CS Docket No. 97-80, September 16, 2013, pp. 3-4.

<sup>198</sup> TiVo Petition, p. I (emphasis added).

<sup>199</sup> "We also tentatively conclude that we should require MVPDs to comply with the rules we propose two years after adoption." (Navigation Devices Proposed Rule, p. 14038.)

<sup>200</sup> "There is evidence that increasingly consumers are able to access video service through proprietary MVPD applications as well." (Navigation Devices Proposed Rule, p. 14035.)

proposed rules will induce delays in app development. The first will be the long delays in introducing new apps inherent to the proposed regulatory structure, which will be true for both third-party and MVPD-proprietary apps. As described earlier, the proposed regulatory structure, even abstracting from likely appeals of adverse decisions to the FCC and the courts, envisions at least three regulatory bodies that will affect app development. These are: 1) an “open standards body” (to set the specifications MVPD “Information Flows” have to meet),<sup>201</sup> 2) a “licensing organization” (to license the MVPD content protection system(s) to third parties “on reasonable and nondiscriminatory terms”),<sup>202</sup> and 3) a “Trust Authority” for content protection (“an entity that issues the keys that each device needs to decrypt content”).<sup>203</sup> Thus, delay is inherent in the proposal.

64. Second, this process will also reduce MVPD app development and innovation because the proposed rules require an MVPD to make public the technical standards of its navigation services.<sup>204</sup> Thus, if an MVPD makes modifications to any existing app or other part of its distribution system that could affect third-party navigation device providers, it would presumably have to give them time to modify the device before implementing its own version. Because it is possible that each MVPD navigation service will attract a number of third-party providers, it is likely that there will be differences in their speed of development. The FCC is silent on how much time will be given to each third-party provider for its app to be adapted to conform to the updated version developed by the MVPD.

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<sup>201</sup> Navigation Devices Proposed Rule, p. 14036.

<sup>202</sup> Navigation Devices Proposed Rule, p. 14041.

<sup>203</sup> Navigation Devices Proposed Rule, p. 14041. It is possible that the use a “device testing and certification” facility would also be required.

<sup>204</sup> The proposal requires that MVPD “standards are in a published, transparent format that conforms to specifications set by an open standards body.” (Navigation Devices Proposed Rule, p. 14038.)

65. The FCC also proposes that MVPDs support third-party developers of device-specific apps by requiring them “to develop applications within a specific timeframe for each device manufacturer that requests such an application and to support that application indefinitely.”<sup>205</sup> The only way the FCC envisions an MVPD being able to stop supporting a device app it had developed would be in “consultation with the device manufacturer and consumers.”<sup>206</sup> If an MVPD cannot stop supporting an application it has developed when it deems it is not financially viable, then MVPDs will stop developing apps for riskier projects.
66. Third, an MVPD would have little incentive to come up with innovations to its navigation services if it: 1) has to disclose its technological innovations before introducing the product to the market, and 2) has to share its gains from these services with third parties. For example, having to disclose not only the existence of an app, as is currently the case when it is first rolled out, but also its specifications would facilitate the entry of third-party providers. Thus, it would alert third parties to business sensitive decisions, and it would ease their entry by providing a cost-free roadmap. These actions would potentially eliminate any first-mover advantage an MVPD would gain on competitor MVPDs from the introduction of a new app or other capability. Therefore, the innovating MVPD would potentially lose such benefits as being able to promote itself to all its subscribers in an identical way or the ability to win subscribers from a rival MVPD.
67. Fourth, the proposal also completely omits any discussion or request for information

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<sup>205</sup> Navigation Devices Proposed Rule, p. 14040.

<sup>206</sup> Navigation Devices Proposed Rule, p. 14040.

regarding patents. The word patent does not appear in the NPRM.<sup>207</sup> The proposal simply posits that MVPDs must provide app specifications to third parties. Innovation will certainly be reduced without clear patent protection. As Professors Carlton and Perloff explained: “some consumers of the information can obtain it costlessly ... the producer of the information has less incentive to produce it than if everyone had to pay for it. Why would anyone be willing to incur the entire expense of developing new information, processes, or products if people could benefit from them for free?”<sup>208</sup> The FCC does propose:

[E]ach MVPD use at least one content protection system that is licensed on a reasonable and non-discriminatory basis by an organization that is not affiliated with MVPDs ... and that the MVPD ensure that, on any device for which it provides an application, such a content protection system is available to competitors wishing to provide the same level of service.<sup>209</sup>

The pricing of a compulsory license would clearly not be on patent terms, which means there could be an unwilling seller. The proposal suggests a system where the licensing organization “is not affiliated with MVPDs” making it unclear what the criteria to incentivize innovation would be.

68. In addition to the reduction in future innovation, there will also likely be a reduction in existing innovation. According to the NCTA, some the features that might be lost include 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

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<sup>207</sup> RAND licensing is mentioned only in the context of security. Copyright is mentioned but only in the context of the content owners. (See, e.g., Navigation Devices Proposed Rule, pp. 14046, 14050.)

<sup>208</sup> D. W. Carlton and J. M. Perloff, *Modern Industrial Organization*, 4th ed., (Pearson/Addison Wesley, 2005), pp. 505-506.

<sup>209</sup> Navigation Devices Proposed Rule, p. 14049.

viewing history; and receiving a common familiar experience across all of the customer's devices including TVs, tablets, smartphones, and STBs.<sup>210</sup>

69. In a previous Plug-and-Play proceeding at the FCC, DIRECTV described the likely problems that the current proposal will encounter.<sup>211</sup> As DIRECTV explained:

Were the Commission to ... apply its plug-and-play regime to satellite MVPDs, all parties would have to start from scratch. The cable and consumer electronics industries have worked for nearly a decade only to reach impasse. DIRECTV sees no reason to imagine that satellite plug-and-play negotiations would fare any differently than have the decade-long cable negotiations. To the contrary, there are good reasons to think that such negotiations would take even longer. For example, because satellite – unlike cable – does not have a series of licenses, agreements, standards, regulations, and the like upon which to build, satellite negotiations would have to establish this essential foundation. In addition, to the extent these devices are intended to be interoperable among all MVPDs, such negotiations would presumably need to include not only DIRECTV, EchoStar, and CEA, but also NCTA, Verizon, AT&T, and every other industry player. It should be self-evident that three-, four-, and five-way negotiations would be more difficult than two-way negotiations between the cable and consumer electronics industries (which, after all, have failed despite years of effort).

Indeed, the reluctance to divulge sensitive business plans to competitors and the possibility of strategic behavior by the various MVPD platforms makes the prospects of successful multi-MVPD negotiations even more daunting. DIRECTV, for example, recently rolled out HD services (including HD local broadcast service) that are only made possible by the spectral efficiency of MPEG-4 compression. At the time, EchoStar was not yet using MPEG-4, and cable operators generally still do not use this technology. This surely would not have occurred had DIRECTV's set-top boxes been governed by the sort of intra-MVPD negotiations required under CEA's or NCTA's approaches. EchoStar and cable operators would have had every incentive to "slow roll" incorporation of MPEG-4 technology into a plug-and-play navigation device in order to prevent DIRECTV from capitalizing on a competitive advantage. By the same token, both DIRECTV and EchoStar now offer integrated DVRs to their subscribers as a method of delivering VOD services that had been viewed as a cable stronghold. If cross-platform negotiations were required when

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<sup>210</sup> NCTA, Media Bureau Seeks Comment on DSTAC Report, *Comments of the National Cable & Telecommunications Association*, MB Docket No. 15-64, October 8, 2015, p. 28.

<sup>211</sup> DIRECTV, Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigation Devices, *Comments of DIRECTV, INC.*, CS Docket No. 97-80, August 4, 2007, p. 10-13.

DIRECTV and EchoStar first introduced integrated DVRs, cable would have had a strong incentive to delay implementation of the new technology in order to protect its competitive advantage. (Such incentives are not cable's alone. Since satellite MVPD systems do not have the facilities to offer Internet access services, they would have an incentive to delay innovations that might favor cable and telco competitors that do have such facilities.) The Commission need not assume that any party would act in bad faith in order to conclude that, in such circumstances, the prospects of swift and successful negotiation – much less the introduction of innovative services – are dim at best.

## **B. Costs and Hence Prices Will Increase**

70. The proposal states, “[t]he ground rules we propose ... are designed to let MVPD subscribers watch what they pay for ... and pay less money to do so.”<sup>212</sup> Apparently, the FCC does not intend to investigate this premise. However, this premise, as shown below, is likely erroneous because current equipment prices are cost based, and the proposal will impose significant costs on the industry.
71. First, there is no evidence that the cost of STBs is not substantially reflected in the price to the subscriber. On the contrary, as the inquiry by Senators Markey and Blumenthal indicated, cable company charges are cost based. In BrightHouse's and Cablevision's responses to the inquiry that formed the basis for the claim that the average STB is leased for \$7.43,<sup>213</sup> both companies explained that they set rates using the FCC's equipment cost formula.<sup>214</sup>

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<sup>212</sup> Navigation Devices Proposed Rule, p. 14034.

<sup>213</sup> Markey-Blumenthal.

<sup>214</sup> The Massachusetts Department of Telecommunications and Cable describes the FCC equipment regulation as: “FCC Form 1205 calculates rates for installations and equipment such as converters and remote controls, based upon actual capital costs and expenses....A cable operator annually prepares its FCC Form 1205 using information from its previous fiscal year....In accordance with the FCC's regulatory requirements, subscriber charges established by FCC Form 1205 may not exceed charges based on actual costs....The cable operator has the burden to demonstrate that its proposed rates for equipment and installations comply with Section 623 of the Communications Act and its implementing regulations.” (Commonwealth of Massachusetts, Department of Telecommunications and Cable, Petition of Comcast Cable Communications, LLC to establish and adjust the basic service tier programming, equipment, and installation rates for the communities in Massachusetts served by



BrightHouse stated:

We buy set-top boxes supplied by a growing number of consumer electronics manufacturers that are unaffiliated with us or with other cable operators. We rent these to consumers at rates that are calculated using FCC rate rules. FCC rate rules allow cable operators to only recover the aggregate cost of boxes, maintenance, and a regulated rate of return on investment.<sup>215</sup>

Cablevision stated:

Per the rate card established under FCC rules, the price for customers choosing to lease a set top box is \$6.95.<sup>216</sup>

The equipment prices charged by BrightHouse and Cablevision to their subscribers are in line with those of the other large MVPDs responding to the inquiry.

72. The proposal also ignores the serious economic effects that mandated access to STBs would bring about. This includes the economic impact on MVPD providers (i.e., large uncompensated software development costs and unrecouped STB investment where new equipment is required) and the potential loss of economies of scale depending on the level of success of STB entrants.
73. The uncompensated development costs are likely to be substantial as even the FCC envisions a two-year development period.<sup>217</sup> These costs are likely to be passed on to subscribers in either equipment or video charges, particularly if all MVPDs will be facing them. There is also a chance that this whole process will end in failure. Development costs and development time can be significant. For example, starting in 2008 when the industry was shifting to digital STBs, six major cable MSOs attempted to introduce

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Comcast Cable Communications, LLC that are currently subject to rate regulation, Rate Order, D.T.C. 13-5, March 13, 2014, p. 6.)

<sup>215</sup> S. Miron (BrightHouse) letter to Senators E. J. Markey and R. Blumenthal, December 11, 2014, p. 2.

<sup>216</sup> E. O'Keefe (Cablevision) letter to Senators E. J. Markey and R. Blumenthal, December 11, 2014, p. 3.

<sup>217</sup> Navigation Devices Proposed Rule, p. 14038.

interactivity and addressability to their TV advertising operations.<sup>218</sup> In early 2012, some four years after the start, this effort was shuttered after the expenditure of some \$200 million due to a combination of technical difficulties and lack of market demand.<sup>219</sup> Another example of the imposition of significant extra costs is the FCC's experiment with CableCARDs. In 2009, the NCTA calculated that based on 16.7 million deployed STBs with CableCARDs at an additional cost of \$56 per STB the FCC's integration ban cost the industry \$935 million to date. Extending this calculation to the present and assuming no change in cost, the 55 million operator-supplied STBs with CableCARDs raises the total to just over \$3 billion.<sup>220</sup> As the NPRM notes, in 2015, about only 618,000 CableCARDs were in use in consumer-owned devices.<sup>221</sup>

74. The FCC envisions that STBs not acquired from MVPDs will become a significant part of the navigation device market.<sup>222</sup> Currently, the larger and midsize MVPDs, and consequently consumers, benefit from economies of scale gained from their size. Thus, for example, DIRECTV can put its entire STB order out for bid, which was one of the purposes of its shift to a leasing model. If it has to return to a retail model with multiple manufacturers supplying STBs, the economies of scale will be lost. As DIRECTV explained in 2009:

Leasing ... allows DIRECTV to purchase set-top boxes from manufacturers in large volume, thereby driving down equipment prices. A government mandate to abandon this model would inevitably erode these

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<sup>218</sup> The six consisted of Comcast, Time Warner Cable, Cox Communications, Cablevision Systems, and BrightHouse Networks. See T. Spangler, "Can this man pull together the six largest cable companies to create the next generation of TV advertising?" *Multichannel News*, June 16, 2008.

<sup>219</sup> C. Ross, "After Spending \$200 Million in 2½ Years, Cable MSOs Have Given Up on Canoe's Big Ad Plans. It Was Touted as 'Groundbreaking.' TVWeek Looks at How It Ran Aground," *tvweek.com*, March 12, 2012.

<sup>220</sup> N. M. Goldberg (NCTA) letter to M. H. Dortch (FCC), Re: CS Docket No. 97-80 (Commercial Availability of Navigation Devices), January 29, 2016.

<sup>221</sup> Navigation Devices Proposed Rule, p. 14034.

<sup>222</sup> Navigation Devices Proposed Rule, p. 14050.

economies of scale, making the cost of equipment higher across the board.<sup>223</sup>

More recently, TiVo similarly noted:

The CableCARD standard has enabled a variety of set-top box manufacturers—including Samsung, Pace, TiVo, and Arris (prior to acquiring Motorola)—to supply low-cost boxes to small and mid-sized cable operators thanks to the economies of scale that a nationwide standard allow.<sup>224</sup>

If the providers lose the benefits of economies of scale when purchasing STBs, they will likely increase consumer prices.

75. The proposal also will lead to costs being duplicated. For example, the FCC states:

Service Discovery Data should not include the detailed program guide information that unaffiliated Navigation Device developers must purchase or create today under the CableCARD regime. Instead, we believe that unaffiliated Navigation Device developers should have to continue to purchase or create this information.<sup>225</sup>

76. The proliferation of third-party apps as well as the increased variation in STBs will likely also increase customer-service costs. Past experience supports this. In 2004, DIRECTV offered about 150 user interfaces to its subscribers. According to DIRECTV, the “result was severe difficulties from a technical support perspective.”<sup>226</sup> Thus, customer-support costs are likely to increase. Customer-support problems will be compounded by the fact that there is no direct link between the MVPD and the third-party supplier of apps or STBs, making it unclear what or who is causing the technical difficulties. MVPDs are properly concerned that as the primary point of contact for subscribers they will bear the

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<sup>223</sup> Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigation Devices, *Comments of DIRECTV, Inc. – NBP Public Notice #27*, CS Docket No. 97-80, December 22, 2009, p. 11.

<sup>224</sup> TiVo Inc., Media Bureau Seeks Comment on DSTAC Report, *Comments of the National Cable & Telecommunications Association*, MB Docket No. 15-64, October 8, 2015, p. 5.

<sup>225</sup> Navigation Devices Proposed Rule, p. 14051.

<sup>226</sup> Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigation Devices, *Reply Comments of DIRECTV, Inc. – NBP Public Notice #30*, CS Docket No. 97-80, January 27, 2010, p. 14.

brunt of subscriber dissatisfaction even if they are not the cause of the difficulty.<sup>227</sup>

77. Another one of the proposal's goals, equipment portability ("our rules should allow consumers to use the same device with different MVPDs throughout the country"),<sup>228</sup> will likely not significantly increase over current levels. As the FCC recognizes, a single standard is unrealistic and likely would be detrimental in such areas as security. The proposal allows each MVPD to choose its own content protection system.<sup>229</sup> This concession leads the FCC to ask, "[w]ill the lack of uniformity that may result from this proposal create an undue burden on competitive entities?"<sup>230</sup> In addition, it is likely that third-party app developers will not write for all standards—particularly for those of smaller MVPDs. Evidence of this can be found in the mobile wireless industry where the Blackberry and the Microsoft operating systems have been and continue to be affected by the unwillingness of app providers to develop apps for them.<sup>231</sup>

### **C. Consumers Will Be Negatively Affected**

78. In addition to reduced innovation, the increase in costs, and the reduced level of service quality, consumers will also face increases in subscription costs and a potential reduction in programming choices.
79. As I discuss in more detail below, the amount of the monthly subscription charge paid by subscribers to their MVPD is influenced by at least two factors. The first is the portion of

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<sup>227</sup> Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigation Devices, *Comments of DIRECTV, Inc.*, CS Docket No. 97-80, July 13, 2010, p. 26

<sup>228</sup> Navigation Devices Proposed Rule, p. 14037.

<sup>229</sup> The NPRM states: "We therefore propose that MVPDs retain the freedom to choose the content protection systems they support to secure their programming, so long as they enable competitive Navigation Devices." (Navigation Devices Proposed Rule, p. 14042.)

<sup>230</sup> Navigation Devices Proposed Rule, p. 14043.

<sup>231</sup> Note that the NPRM already seems to exempt these two operating systems from its regulations as it only applies "if an MVPD makes available an iOS or Android application that allows access to its programming." (Navigation Devices Proposed Rule, p. 14043.)

the video subscription charge that is paid by the MVPD to its program suppliers. SNL Kagan estimates that about half of the subscription charge is passed on to program suppliers.<sup>232</sup> The second is the extent to which an MVPD can offset programming and other costs by sources of revenue other than subscriptions. In both cases, advertising revenue plays an important role. For programmers, it represents some 40 to 50 percent of revenues, whereas for MVPDs it represents about 8.5 percent of revenue.<sup>233</sup> To the extent that this source of revenue is reduced, which seems likely, it will lead the MVPDs to face pressure to compensate the programmers for their lost advertising revenue through increased subscription charges while limiting the MVPDs' ability to offset this cost increase through ad revenue.

80. In addition, with decreases in advertising revenue and increases in subscription charges, consumers are likely to see a reduction in the number of niche cable networks available to them. Niche networks, that is, those not necessarily aimed at a broad audience, benefit from the current model in terms of both advertising revenue and license fee revenue. Their advertising revenue is helped by their availability in broad packages that make it easier for the occasional viewer of that network to contribute to the audience size. An increase in subscription charges by the MVPDs as advertising revenues diminish will impact the niche channels the most because they are most likely to be dropped in an effort to reduce costs. This can be seen, for example, in the skinny package from Sling TV. Its main package contains 23 networks, and there are options to order packages containing an additional 57 networks.<sup>234</sup> These 80 networks are far fewer than the

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<sup>232</sup> SNL Kagan, "Multichannel programming fees as a % of multichannel video revenues," April 20, 2015.

<sup>233</sup> CBS Corp. Q4 2012 Earnings Call, February 14, 2013, p. 7 and SNL Kagan, "Cable Industry 10-Year Projections," July 29, 2015.

<sup>234</sup> Sling Television, <https://www.sling.com/>, accessed April 5, 2016.

approximately 190 networks receivable per household.<sup>235</sup> The Sling TV package, for example, does not include Aspire, TV One, or LOGO. As a SNL Kagan article noted, “a proliferation of skinny bundles and over-the-top products could make it harder for programmers to secure carriage for some of the lower-rated cable networks.”<sup>236</sup>

## **IX. THE PROPOSAL WILL HARM THE VIDEO DISTRIBUTION ECOSYSTEM**

81. The proposal will harm the video distribution ecosystem, which includes content providers and MVPDs. MVPDs and programmers rely on advertising revenues to reduce direct subscriber costs. Because third-party video navigation equipment suppliers do not benefit from the advertising revenue generated by the MVPDs and program providers, they will have every incentive to differentiate their products by facilitating advertising avoidance beyond what is the norm today and adding their own advertising into the programming streams. In addition, they are likely to facilitate access to pirated programming, thus affecting MVPD and programmer ability to monetize pay-per-view (PPV) programming. These effects will lead to increased subscription costs and, potentially, reduced program quality for video consumers.
82. The NPRM presents a static view of the video distribution market and the role navigation devices play in it. The FCC points to what it takes as the current lack of misuse by these devices,<sup>237</sup> and it views that as an indication that there will be no future misuse. Despite

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<sup>235</sup> Nielsen, Advertising & Audiences, State of the Media, May 2014, p. 14.

<sup>236</sup> SNL Kagan, “Economics of Networks, Nielsen universe estimates reveal 2.5% average decline,” April 4, 2016.

<sup>237</sup> “We do not currently have evidence that regulations are needed to address concerns raised by MVPDs and content providers that competitive navigation solutions will disrupt elements of service presentation (such as agreed-upon channel lineups and neighborhoods), replace or alter advertising, or improperly manipulate content. We have not seen evidence of any such problems in the CableCARD regime, and based on the current record, do not believe it is necessary for us to propose any rules to address these issues.” (Navigation Devices Proposed Rule, p. 14046, footnotes omitted)

the fact that the FCC expects the consumer to “pay less money,”<sup>238</sup> it posits the need for “unaffiliated vendors [to] be able to differentiate themselves in order to effectively compete.”<sup>239</sup> However, the FCC makes no inquiry into how third-party navigation device vendors will be able to compete without infringing on the rights of MVPDs and program owners.

83. The FCC claims that there is no need to address the concerns of MVPDs and programmers but neglects to note that TiVo recently introduced a SkipMode feature on both its newest DVR (BOLT series) as well as its older DVR (Roamio series) that allows its subscribers to skip through an entire advertising break on the 20 most watched networks with the touch of a single button.<sup>240</sup> TiVo claims that it “usually has [the necessary ad skipping] information updated for a show within 1 hour of the show ending.” The “most-watched networks” currently impacted by the “skip entire commercial sections” feature include the broadcast networks and selected cable channels such as AMC, Food Network, and Comedy Central.<sup>241</sup> The SkipMode is enabled for shows aired from 4 p.m. to midnight, covering primetime, the time period reserved for shows garnering the largest audiences.<sup>242</sup>

#### **A. The Proposal Does Not Account for Contractual Relationships**

84. One of the great flaws of the proposal is that it imposes a structure that gives third parties rights without the responsibility or incentive to meet contractual obligations that other participants in the video distribution market have negotiated. This is quite unlike the

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<sup>238</sup> Navigation Devices Proposed Rule, p. 14034.

<sup>239</sup> Navigation Devices Proposed Rule, p. 14037.

<sup>240</sup> B. Snyder, “TiVo now lets you skip all commercials with one button,” *fortune.com*, October 1, 2015.

<sup>241</sup> While currently the SkipMode feature is limited to 20 networks, TiVo has stated that “more channels will be added in the future.”

<sup>242</sup> SkipMode, support.tivo.com, accessed March 22, 2016.

present structure that has largely evolved through a series of negotiated contractual relationships. The absence of contractual relationships between MVPDs and program providers on one hand and third-party navigation device providers coupled with an absence of clear dispute resolution pathways will harm the video distribution ecosystem.

85. The lack of clear dispute resolution pathways is clear from the regulatory structure the FCC envisions. For example, it requires that the standards for the information flows be made available in a published format by an independent “Open Standards Body.”<sup>243</sup> However, it offers no mechanism to enforce disputes between a program provider and a third-party equipment provider. Nor is there a willingness of the third-party equipment providers to bind themselves to contracts negotiated between program providers and MVPDs. For example, in an ex-parte presentation to FCC staff, TiVo made the claim that it should not be held to MVPD programming contracts: “The TiVo Representatives made clear that competitive device providers are not and should not have to be bound to programming contracts entered into by MVPDs to which they were not party.”<sup>244</sup> The NCTA’s ex-parte presentation in Docket 15-64 on December 22, 2015, provided additional examples.<sup>245</sup>
86. The NPRM also skips the fact that there have been a series of disputes between program

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<sup>243</sup> Navigation Devices Proposed Rule, p. 14039.

<sup>244</sup> D. T. Kumar (TiVo Inc.) letter to M. H. Dortch (FCC), MB Docket 15-64, January 13, 2016, p. 1.

<sup>245</sup> TiVo’s representative told 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). Another AllVid proponent dismissed video distribution agreements as irrelevant: “Device manufacturers, of course, cannot violate contracts to which they are not a party.” Comments of Computer & Communications Industry Association at 10. Amazon’s representative dismissed a negotiated programming agreement enabling customers to view multiple screens of Olympic events simultaneously, saying “I’m perfectly happy as a DISH subscriber to have never viewed that....And if the device that I have is unable to do that, it’s no skin off my back at all. In fact, I want a refund because I don’t want to view that.” Transcript of July 7, 2015 DSTAC meeting at 177 (Matt Chaboud for Amazon). According to AllVid proponents, they would not be required to honor the conditions of “rights holders or intermediaries.” Electronic Frontier Foundation Comments at 2 (emphasis added).



owners and CPE providers focused on containing advertising avoidance. For example, there have been protracted disputes between DISH Network, which supplied a DVR capable of skipping all broadcast network prime-time advertising, and the major broadcast networks.<sup>246</sup> There have also been disputes about Cablevision's remote DVR and Time Warner Cable facilitating streaming to iPads.<sup>247</sup>

87. Third-party navigation device providers will have strong incentives to differentiate themselves from devices provided by the MVPDs by providing ad-skipping capabilities greater than those currently allowed in the MVPD-programmer contracts. Thus, as MVPDs now offer their own DVRs and increasingly integrate access to over-the-top (OTT) services into STB functionality,<sup>248</sup> third-party providers will find the need to go beyond the bounds of existing contract terms.<sup>249</sup> As an AdAge article notes, “[o]ne of the *key selling points* of the new TiVo Bolt is how the sleek little DVR-on-smart-drugs allows users to zap through the entire commercial pods at the push of a button.”<sup>250</sup>
88. Further, third-party navigation device providers will have strong incentives to generate revenues other than through equipment charges. Advertising-related revenue would be an obvious source. One way would be simply to replace existing ads. Another likely avenue would be overlaying ads onto the programming itself. Thus, for example, during a baseball game, the space behind home plate, which currently displays ads sold by the

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<sup>246</sup> R. Davis, Dish's Ad-Skipping DVR Must Be Banned, Fox Tells 9th Circ., Law360, December 14, 2012.

<sup>247</sup> Nate Anderson, “Cablevision remote DVR stays legal: Supremes won’t hear case,” *arstechnica.com*, Jun 29, 2009; Abigail Rubenstein, Time Warner, Viacom Square Off Over iPad App, Law360, April 7, 2011.

<sup>248</sup> An OTT application is any app or service that provides a product over the Internet and bypasses the traditional distribution network.

<sup>249</sup> As an article on TiVo's ad-skipping functionality noted, “[t]he campaign is part of TiVo's marketing push to regain relevance in the media world.” (S. Perlberg, “TiVo Touts Ad-Skipping in Image Revamp; The TiVo Bolt skips over entire commercial pods at once,” *The Wall Street Journal*, November 3, 2015.)

<sup>250</sup> A. Crupi, “TiVo Zaps Spots for Its Comm Killing Gizmo Bolt,” *adage.com*, January 7, 2016 (emphasis added).

home team, could be overlayed with third-party ads.<sup>251</sup> This could also be done in parts of the programming that do not currently display ads. I understand that YouTube already does this.<sup>252</sup> TiVo also overlays ads, currently doing so when the viewer either fast-forwards or pauses the program.<sup>253</sup> Unlike the current video distribution model, there is no contractual mechanism for sharing such revenues. In addition, depending on the extent of the overlays, it could diminish the quality of the subscriber's viewing experience and the number of subscribers to the MVPD. Another revenue source would be using the customer information generated on their navigation devices for advertising purposes. For example, the Federal Trade Commission (FTC) recently sent letters to 12 Android app developers who were using software developed in India that uses audio signals that were embedded in TV advertising for the purpose of targeting advertising, warning them that they are required to disclose the functionality.<sup>254</sup> According to comments submitted by the Center for Democracy & Technology to the FTC, "it would be difficult for [device] users to determine when and how they were being followed by web firms."<sup>255</sup>

89. There will be no clear contract-enforcement mechanism between either the MVPDs or the programmers and the third-party STB or app providers, thus it is unlikely there will be a "market" negotiated solution to misuse of the information streams as envisioned by

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<sup>251</sup> This would affect the negotiations between the MVPD carrying the channel and the team because a portion of the value of the contract is the ability to reach a wide audience with such ads.

<sup>252</sup> Bradley Hamburger, "Digital Video Recorders, Advertisement Avoidance, and Fair Use," *Harvard Journal of Law & Technology*, Volume 23, Number 2, Spring 2010, p. 583.

<sup>253</sup> V. Rispo, "TiVo Debuts 'Pause Menu' Ads During Fast-Forward And Pause," *adsavvy.org*.

<sup>254</sup> The FTC wrote: "if your application enabled third parties to monitor television-viewing habits of U.S. consumers and your statements or user interface stated or implied otherwise, this could constitute a violation of the Federal Trade Commission Act." (FTC Press Release, "FTC Issues Warning Letters to App Developers Using 'Silverpush' Code," March 17, 2016; M. Mithal (FTC) letter to App Developer, undated.

<sup>255</sup> Thomas Fox-Brewster, "Meet The 'Ultrasonic' Tracking Company Privacy Activists Are Terrified Of," *Forbes.com*, November 16, 2015.

the FCC.<sup>256</sup>

90. Moreover, no mechanism exists to enforce disputes between MVPDs and independent equipment providers arising, for example, from cases where third-party navigation devices negatively affect the performance of a subscriber's TV.<sup>257</sup> The NPRM itself highlights the lack of enforcement mechanisms when it asks, "how can MVPDs ensure, as both a technical and practical matter, that the Information Flows are no longer provided if there are any lapses in a competitor's compliance with these [device certification] obligations?"<sup>258</sup>

## **B. Economic Impact on the Video Distribution Ecosystem**

91. Agreements between program networks and MVPDs are currently negotiated based on the existing sources of revenue available to the participants in the video distribution ecosystem. This guides the terms and conditions of the contracts between programmers and MVPDs including, importantly, the licensing fees the MVPDs pay for the rights to carry broadcast stations and cable networks. Evidently, the FCC expects there to be great changes in the ecosystem. For example, the NPRM suggests that STBs will be provided entirely by third parties.
92. The licensing fee paid to a cable network is determined by bargaining over the distribution of a range that falls within the lowest amount a content provider is willing to accept and the highest amount an MVPD is willing to offer. That range is determined by the revenues each party can expect as the result of the transaction. Thus, for example, in a transaction between a cable network and an MVPD, each would consider the advertising

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<sup>256</sup> Navigation Devices Proposed Rule, p. 14045.

<sup>257</sup> Navigation Devices Proposed Rule, p. 14045.

<sup>258</sup> Navigation Devices Proposed Rule, p. 14045.

and subscriber revenue it receives. Each party may also have some related ancillary sources of revenue. The consequence of the NPRM is that there is likely to be a severe disturbance to the current equilibrium. In particular, the advertising portion of the ecosystem is likely to be strongly impacted because ad skipping will be made both easier and more effective. This will force not only difficult renegotiations because the parties are differentially affected by advertising revenue losses but also will involve determinations on how much to charge the subscriber. Here, the parties also have different interests—the programmers want compensation for the loss in advertising and the MVPDs have an interest in keeping subscription charges down, particularly in light of competitive pressure from OTT services like Netflix.

### **C. Economic Impact on MVPDs**

93. As I noted above, there will be large, uncompensated, software-development costs for MVPDs that will continue into the future. There are currently some 660 cable operators (with 5,208 systems).<sup>259</sup> The bulk of the cable operators are small. However, at a minimum, the rules would likely affect two DBS providers (DIRECTV and DISH Network), two or more telcos (AT&T, Verizon, potentially CenturyLink with 285,000 Prism subs in Q4 2015, and Frontier), and, depending on the size of the cable operators that would be exempted, seven MSOs with over one million and 21 with over 100,000 subscribers.<sup>260</sup> The MVPDs also use multiple pathways for some of their video, and any transfer of information to third parties would have to be designed to accommodate that. The most recent FCC Cable Prices Report shows that the signal path from the cable

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<sup>259</sup> NCTA, Industry Data, <https://www.ncta.com/industry-data>, accessed February 5, 2015.

<sup>260</sup> Subscriber data as of 3Q 2015, counts are not adjusted for potential mergers. (SNL Kagan, “Top cable system operators as of 9/30/15 (by basic subs),” November 18, 2015; CenturyLink News Release, “CenturyLink Reports Fourth Quarter and Full-Year 2015 Results,” February 10, 2016, p. 4.

system headend to the customer premise for a local broadcast signal uses three paths (analog/SD/HD) 45 percent of the time, two paths (analog and digital) 3 percent of the time, digital-only paths 50 percent of the time, and analog-only paths 2 percent of the time.<sup>261</sup>

94. There is variation even within the same MSO, as the FCC acknowledges, when it states, “a fundamental feature of the current market for multichannel video programming services [is] the wide diversity in delivery networks, conditional access systems, bi-directional communication paths, and other technology choices across MVPDs (and even within MVPDs of a similar type).”<sup>262</sup> The FCC proposes “to allow MVPDs to choose the specific standards they wish to use to make their services available via competitive navigation devices or solutions....”<sup>263</sup> Thus, there could potentially be the need to develop somewhere between 10 and 30 standards,<sup>264</sup> which conform to the Open Standards Body’s specifications, to spare third-party developers “from needing to build a glut of ‘capacities to function with a variety of types of different systems with disparate characteristics.’”<sup>265</sup>
95. The costs are likely to be significant. For example, DIRECTV has claimed, “the development of software for DIRECTV’s newest set-top box took two years and tens of millions of dollars, even though it was building only upon the familiar and well-understood DIRECTV platform.”<sup>266</sup>

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<sup>261</sup> FCC, Report on Cable Industry Prices, released December 15, 2014, table 9.

<sup>262</sup> Navigation Devices Proposed Rule, p. 14037, citing DSTAC Report at 2.

<sup>263</sup> Navigation Devices Proposed Rule, p. 14037.

<sup>264</sup> As one of the aims is to not force the MVPDs to replace their current solution by allowing them to maintain separate Information Flows, this means MVPDs would have to maintain two or more solutions. (Navigation Devices Proposed Rule, p. 14038.)

<sup>265</sup> Navigation Devices Proposed Rule, p. 14039, citing the *First Plug and Play Report and Order*, 13 FCC Rcd at 14824, ¶ 127. Also, see the discussion on the need for MVPDs to deploy new STBs if implementing a cloud solution does not work. (Navigation Devices Proposed Rule, p. 14040.)

<sup>266</sup> Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigation Devices, *Comments of DIRECTV, INC.*, CS Docket No. 97-80, August 4, 2007, p. 9.

96. The proposal also has a detrimental effect on an MVPD's ability to present its programming in what it considers the best way to attract customers as shown, for example, by Time Warner Cable's switch to themed neighborhoods. This would affect its competitive position as OTT services further develop.
97. The proposal could also negatively affect MVPD advertising revenue. As part of their deals with cable networks, MVPDs are allowed to sell about two to four minutes per hour of advertising time within those programs. MSOs earned an estimated \$3.7 billion in net ad revenue in 2015, equivalent to about 6.5 percent of their total video revenue.<sup>267</sup> On a per-subscriber, per-month basis, this equaled \$5.81.<sup>268</sup> In a two-sided market, where attracting an audience to view advertising is an important consideration, such non-video revenues lower the subscription price that MVPDs charge their subscribers. Third-party STB providers do not have a stake in this market and thus have a strong incentive to differentiate themselves by promoting ad skipping at rates greater than currently contracted for by MVPDs and programmers. As noted earlier, TiVo already facilitates ad skipping on 20 channels, many of them cable channels such as AMC, Food Network, and Comedy Central.
98. Another source of MVPD revenue is PPV and VOD revenue.<sup>269</sup> In 2015, cable MSO PPV/VOD revenue equaled \$2.2 billion, or 3.8 percent of total video revenue. On a per-subscriber, per-month basis, this equaled \$3.43.<sup>270</sup> Because PPV and VOD operate on a

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<sup>267</sup> Total video revenue includes basic, premium and digital revenue, equipment revenue, PPV and VOD revenue, and miscellaneous revenue.

<sup>268</sup> T. Lenoir and I. Olgeirson, "10-year cable projections reflect changes of TV ecosystem," SNL Kagan, July 29, 2015.

<sup>269</sup> The proposal includes on-demand programming in its definition of MVPD programming. (Navigation Devices Proposed Rule, p. 14037.)

<sup>270</sup> T. Lenoir and I. Olgeirson, "10-year cable projections reflect changes of TV ecosystem," SNL Kagan, July 29, 2015.

transactional basis, that is, payment is determined by usage, seamlessly integrating Internet access into STBs will likely accelerate the use of pirated movies and TV shows. According to the NCTA, “MVPDs use device authentication and device limits to meet content agreements and combat piracy.”<sup>271</sup> Thus, unlike current market participants that have a stake in limiting piracy, third-party STB providers would have an incentive to differentiate themselves by not policing piracy. Because of these impacts, there is a strong likelihood that the prices of subscriptions to MVPD video services would increase.

#### **D. Economic Impact on Content Providers**

99. The FCC does not seriously consider the interests of the content providers, mentioning only that its “approach could violate licensing agreements between MVPDs and content companies.” However, it only investigates how licensing and certification can address the protection of content piracy and hacking, prevent theft of service and harm to MVPD networks, and meet consumer protections.<sup>272</sup> The FCC is similarly unconcerned with copyright infringement and the potential impact on the advertising revenue received by programmers.<sup>273</sup>
100. The FCC overlooks the fact that the current relationship between content providers and MVPDs derives from their contractual relationships. Thus, when the FCC proposes “to leave licensing terms such as channel placement and treatment of advertising to marketplace forces, just as we did during the CableCARD regime,”<sup>274</sup> it overlooks the fact that the video marketplace during the CableCARD regime was built on contractual

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<sup>271</sup> Media Bureau Seeks Comment on DSTAC Report, *Reply Comments of the National Cable & Telecommunications Association*, MB Docket No. 15-64, November 9, 2015, p. 29.

<sup>272</sup> Navigation Devices Proposed Rule, p. 14044.

<sup>273</sup> Navigation Devices Proposed Rule, p. 14046 (footnotes omitted).

<sup>274</sup> Navigation Devices Proposed Rule, p. 14033.

relationships. This gave both parties, but particularly the program owners, the ability to enforce the terms and conditions by which their programming was made available to subscribers.

101. The NPRM also contradicts the Chairman’s Fact Sheet that “[e]xisting content distribution deals, licensing terms, and conditions will remain unchanged. These deals made between MVPDs and content providers are not affected by this proposal. MVPDs retain their customers and will still get a monthly fee for the subscription service that the MVPD provides.”<sup>275</sup> This cannot be true if, as the NPRM proposes, third parties have access to programming streams without contractual relationships with the program owners.

### **1. Licensing terms**

102. Licensing terms between program owners (represented by the broadcast and cable networks) and MVPDs typically contain a number of terms and conditions. The filing made by the DBS Providers in the DSTAC hearings lists 10 categories: approved services/service tiers, specific content for which rights are granted, approved distribution paths/territories, approved devices, content security, branding and user experience restrictions, advertising, transactions and usage reporting, metadata, and regulatory compliance.<sup>276</sup> Similar terms are found in programmer contracts with cable and telco MVPDs.
103. The approved services grants, for example, linear rights and perhaps linear streaming in the home as well as place shifting rights (TV Everywhere), can differ by content owner.

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<sup>275</sup> FCC Fact Sheet, “FCC Chairman Proposal To Unlock The Set-Top Box: Creating Choice & Innovation,” released January 27, 2016.

<sup>276</sup> DBS Providers, Media Bureau Seeks Comment on DSTAC Report, DSTAC WG1 Requirements of Content Owners on DBS Providers, MB Docket No. 15-64, March 13, 2015, p. 1.



All these help determine the license fees paid by the MVPD for the rights. There are also territorial limitations, for example, TV signals are typically restricted to a Nielsen Designated Market Area (DMA). There may be user experience and branding restrictions such as channel neighborhoods, no overlays unless initiated by the subscriber, or the exclusion of ads from overlays. The agreements further include provisions on ad inventory and ad revenue sharing, and to protect ad revenue the content owner typically limits ad skipping greater than the current norm. Thus, the proposal effectively disposes of an extensive number of terms in the contracts negotiated between the program providers and the MVPDs.<sup>277</sup>

## **2. Copyright**

104. The Chairman's Fact Sheet claims, "The proposal maintains important aspects of the traditional video distribution regime, such as protections against copyright infringement....Maintains strong protections for copyrighted content: Copyrights and licensing agreements will remain in place...."<sup>278</sup> The FCC evinces no such assurances.

Instead, it states:

We do not currently have evidence that regulations are needed to address concerns raised by MVPDs and content providers that competitive navigation solutions will disrupt elements of service presentation (such as agreed-upon channel lineups and neighborhoods), replace or alter advertising, or improperly manipulate content. We have not seen evidence of any such problems in the CableCARD regime, and based on the current record, do not believe it is necessary for us to propose any rules to address these issues.<sup>279</sup>

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<sup>277</sup> It also appears to dispose of statutory rights, such as the right of broadcast stations to be placed on their traditional channel location because elsewhere the FCC states: "Must-carry stations are generally guaranteed carriage on the cable system on a preferred channel number." (FCC, Cable Carriage of Broadcast Stations, <https://www.fcc.gov/media/cable-carriage-broadcast-stations>, accessed February 21, 2016.)

<sup>278</sup> FCC Fact Sheet, "FCC Chairman Proposal To Unlock The Set-Top Box: Creating Choice & Innovation," released January 27, 2016.

<sup>279</sup> Navigation Devices Proposed Rule, p. 14046 (footnotes omitted).

105. The programmer business model with few exceptions is dependent to a substantial degree on advertising revenue. This is true even after accounting for revenues received from subscription or retransmission-consent revenue. For example, according to CBS, even with non-advertising revenues trending up, advertising will still account for about 50 percent of revenues in the future.<sup>280</sup> A programmer's ability to maintain this model, for example, by limiting ad skipping to the current levels, is based on the complex relationship that programmers have with MVPDs. That is, the myriad of contract terms that cover TV station programming, broadcast and cable network programming, VOD, and PPV give them the necessary enforcement tools. In addition, although the programmers have copyrights over their programs, at least one federal court (Ninth Circuit) ruled that they do not have copyrights over the ads that they sell and insert into the programming, thus enforcing the terms of advertising presentation logically falls to the programmers.<sup>281</sup> This is because the STB/video navigation device providers do not have a contractual relationship with either the programmer or the advertisers, and it may be difficult to compel them to abide by the programmer/MVPD advertising agreements. On the other hand, the disputes between DISH and broadcast networks over the ad skipping capabilities of DISH's Hopper DVR were resolved when the programming contracts between DISH and the networks came up for renewal.<sup>282</sup>
106. The FCC's claim that it currently has not seen examples is belied by the DVRs that TiVo and DISH/EchoStar have already brought to market. The FCC's view is, in any case, a

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<sup>280</sup> CBS Corp. Q4 2012 Earnings Call, February 14, 2013, p. 7.

<sup>281</sup> The decision states: "as the district court held, commercial-skipping does not implicate Fox's copyright interest because Fox owns the copyrights to the television programs, not to the ads aired in the commercial breaks." (*Fox Broadcasting Company, Inc.; Twentieth Century Fox Film Corporation; Fox Television Holdings, Inc., v. DISH Network L.L.C.; DISH Network Corporation*, Order And Amended Opinion, United States Court Of Appeals For The Ninth Circuit, Filed July 24, 2013, Amended January 24, 2014, p. 16.)

<sup>282</sup> T. Johnson, "Judge Rules That Dish's Sling Features, Ad-Skipping Don't Violate Copyright," *Variety*, January 20, 2015.

static one. The need to differentiate their STBs from those offered by MVPDs will lead third-party providers to create versions that are likely to impact seriously the advertising-supported programming model. Consequently, it is likely that subscriber costs will increase because programmers will seek to collect greater amounts from license fees.

## **X. CONCLUSION**

107. In conclusion, I find that the regulatory action proposed by the FCC in this NPRM will be harmful to the multichannel video distribution ecosystem. If implemented, the regulation to provide Information Streams to third parties entirely unaffiliated with MVPDs and the extremely complicated regulatory structure that the FCC suggests is necessary to accomplish this will harm market participants and, consequently, the consumer. If the FCC nevertheless implements its proposed regulations, there is no realistic promise of lower prices and increased innovation. To the contrary, any intervention in a competitive market stands to harm the market, its participants, and ultimately consumers.

Washington, DC, April 21, 2016

By:

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Christian M. Dippon

## **Christian M. Dippon, PhD**

### **SENIOR VICE PRESIDENT**

Dr. Dippon is the Co-Chair of NERA's Global Communications, Media, and Internet Practice and the Head of NERA's Washington DC office. He specializes in the economics and business of the communications and high-tech industries, advising his clients in complex litigation disputes, antitrust matters, and regulatory and policy issues. Dr. Dippon has extensive testimonial experience, including depositions and expert testimonies before state and federal courts, the Federal Communications Commission, the International Trade Commission, numerous state commissions, and international courts and regulatory authorities.

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Deposition Testimony of Christian M. Dippon, PhD on Behalf of Sprint Spectrum LP and Wireless Co. LP, Nextel Communications Inc., and Nextel California Inc, Ayyad, et al. v. Sprint Spectrum Limited Partnership, et. al., Cellphone Termination Fee Cases, Superior Court of the State of California, County of Alameda, JCCP No. 4332, Case No. RG03114147, April 1, 2016.

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Rebuttal Expert Report of Christian M. Dippon, PhD on Behalf of Microsoft Mobile Oy and Nokia Inc., Before the United States International Trade Commission, In the Matter of Certain 3G Mobile Handsets and Components, Investigation No. 337-TA-613, October 3, 2014.

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## **Selected Speeches and Presentations**

### *Communications and High-Tech*

“Can Femtocells Resolve the Spectrum Crunch?” Presented at the International Telecommunications Society 6<sup>th</sup> Africa-Asia-Australasia Regional Conference, Curtin Business School, Curtin University – Bentley, Western Australia, August 7, 2013.

“Modern Approaches to Spectrum Valuation” Presented at the International Telecommunications Society 6<sup>th</sup> Africa-Asia-Australasia Regional Conference, Curtin Business School, Curtin University – Bentley, Western Australia, August 5, 2013.

“Consumer Demand for Mobile Phone Service in the US: An Examination Beyond the Mobile Phone,” November 20, 2012. Presented at the International Telecommunications Society (ITS) 19th Biennial Conference, Bangkok, Thailand, November 18-21, 2012.

The Link Between Spectrum Availability and Mobile Market Consolidation, Session Chair, Second Annual Spectrum Management Conference, Washington DC, October 23, 2012.

Consumer Demand for Mobile Phone Service in the U.S.: An Examination beyond the Mobile Phone, Prepared for the National Regulatory Research Institute (NRRI), March 19, 2012

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Broadband, Productivity, and Product Innovation - A Look behind the Scenes in the United States, invited Keynote Address, 5<sup>th</sup> Africa-Asia-Australasia Regional Conference, International Telecommunications Society Perth, Western Australia, November 15, 2011.

“Build It and They Will Come, Consumer Willingness to Pay for Mobile Broadband Services,” 5<sup>th</sup> Africa-Asia-Australasia Regional Conference, International Telecommunications Society Perth, Western Australia, November 14, 2011.

“Consumer Preferences for Mobile Phone Service in the US – An Application of Efficient Design to Conjoint Analysis,” Guest Lecture, University of California, Santa Barbara, March 1, 2011.

“Wireless Litigation and Spectrum Valuations, Current topics in the U.S. wireless sector.” Prepared for Arnold & Porter, LLP, February 17, 2011.

“Bringing Broadband to the Masses, Practical Considerations in Implementing the National Broadband Plan.” Prepared for Latham & Watkins, LLP, November 5, 2010

“Wireless Litigation in the US, The Quest to Regulate the Wireless Sector.” Prepared for SNR Denton, November 4, 2010.

“Update on Key U.S. and International Wireless and Data Issues,” Federal Communications Bar Association, International Telecommunications and Wireless Practice Committee, hosted by Wiley Rein LLP, Washington DC, May 26, 2010.

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“The Economics and Future of Mobile Virtual Network Operators – Understanding the MVNO Business Model,” Guest Lecture, University of San Francisco, May 5, 2009.

“Update on Key U.S. and International Wireless Issues: Legal and Regulatory, Market and Technical Views – What is in Store for 2009?” Federal Communications Bar Association, International Telecommunications and Wireless Practice Committee, hosted by Bingham McCutchen LLP, Washington DC, April 16, 2009.

“Essential Facilities and Network Convergence, Does Wholesale Unbundling Increase Competition,” International Telecommunications Society Symposium, hosted by the National Telecommunications Commission, Thailand in collaboration with the International Telecommunications Society, Bangkok, Thailand, April 2–3, 2009.

“Next Generation National Broadband Network in Singapore, Economic Impact of Regulatory Intervention in the ICT Sector,” Rajah & Tann, LLP, Lunch Time Seminar Series 2009, Singapore, March 11, 2009.

“Using Econometrics in Business Decisions, Applying Econometric Techniques to Wireless Spectrum Valuation,” Guest Lecture, University of California, Santa Barbara, March 2, 2009.

“Broadband Deployment and Take Up, Experiences from the EU and developing countries, Federal Communications Bar Association,” Washington DC, February 6, 2008; also at the Telecommunications Invitational Forum, Cambridge, Ontario, April 30–May 2, 2008.

“Expanding Broadband Connectivity,” Panel Discussant, 2008 Telecommunications Invitational Forum, Cambridge, Ontario, Canada, April 30, 2008.

“Competition Policy: Seismic Eruptions and Disruptions in an Internet-Enabled World,” Panel Discussant, Spring 2008 VON.x Conference & Expo, Hosted by Pulvermedia, San Jose, CA, March 17, 2008.

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“The Race to Quadruple Play, Who will Rule the Telecommunications Kingdom?” Law Seminars International, Advanced Conference on Wireless Telecommunications, Seattle, Washington, November 8, 2007.

“Mobile Broadband Issues and Convergence, Economic Development and Regulatory Questions,” Lecture, University of Florida, Warrington College of Business Administration, Public Utility Research Center, September 11, 2007.

“The Economics and Future of Mobile Virtual Network Operators, Economic Assessment Methods and Policy Framework,” Lecture, University of Florida, Warrington College of Business Administration, Public Utility Research Center, September 11, 2007.

“Antitrust Issues in Today’s Telecommunications Industry, Examining the Relationship between Predatory Pricing and Public Policy,” NERA Antitrust Seminar, Tokyo, Japan, March 15, 2007.

“Mobile Trends,” Panel Discussant, Pacific Telecommunications Council (PTC) Annual Conference, “PTC ‘07 Beyond Telecom,” Honolulu, Hawaii, January 16, 2007.

“VoIP and Broadband Developments in Europe and Asia,” Panel Discussant, Federal Communications Bar Association, Washington, DC, November 2, 2006.

“Communications Regulation and Policy under Convergence, Advancing the State of the Debate,” with Dr. Aniruddha Banerjee, prepared for the 16th Biennial Conference of the International Telecommunications Society, Beijing, China, June 15, 2006.

“Fixed-Mobile Substitution, Econometric Methods for Market Definition.” Prepared for the International Telecommunications Society, Africa-Asia-Australasia Regional Conference, Perth, Australia, August 29, 2005.

“Fixed-Mobile Convergence, Economic Motivations and Market Implications.” Prepared for the International Telecommunications Society, Africa-Asia-Australasia Regional Conference, Perth, Australia, August 29, 2005.

“Fixed-Mobile Convergence, Economic Motivations and Market Implications.” Prepared for the Center for Research in Regulated Industries, 18th Annual Western Conference, San Diego, CA, June 23, 2005.

“The Coming Transition Away from the Traditional Public Switched Network.” Prepared for Law Seminars International, Telecommunications Carrier Contracts, Atlanta, Georgia, November 18, 2004.

“Economic and Regulatory Challenges in Telecommunications: The Case of VoIP.” Prepared for the Center for Research In Regulated Industries, 17th Annual Western Conference, San Diego, CA, June 23, 2004.

“The Pace of the Transition Away From the Public Switched Telephone Network.” Prepared for Law Seminars International, Ninth Annual Telecommunications Law Conference, Seattle, WA, May 20, 2004.

“Unverifiable and Inaccurate: A Summary of HM 5.3 Clustering Errors.” Presentation to the California Public Utilities Commission and SBC Pacific, San Ramon, CA, June 11, 2003.

“Competitive Pricing Methodologies For Wholesale Broadband Services.” Prepared for the 12th ITS-Europe Regional Conference, Dublin, Ireland, 2-3 September 2001, Presented by Dieter Elixmann, Head of Research Group, WIK GmbH Germany.

“Competitive Pricing Methodologies For Wholesale Broadband Services.” Prepared for the 14th Annual Western Conference, Advanced Workshop in Regulation and Competition, Rutgers University, San Diego, CA, June 27, 2001.

“Implementing Local Loop Unbundling in Europe. Are Cost Proxy Models accurate estimators of forward-looking costs?” Presented at the 11th International Telecommunications Society Regional Conference, Lausanne, Switzerland, September 23–25, 2000.

“Estimating the Cost of Local Telephone Service. Where are the customers?” Presented at the Advanced Workshop in Regulation and Competition, Rutgers University, The Sagamore, Lake George, Bolton Landing, NY, May 25, 2000.

“The Cost of the Local Telecommunications Network: A Comparison of Minimum Spanning Trees and the HAI Model.” Presented with Dr. Kenneth Train at the Telecommunications Policy Research Conference, Alexandria, VA, October 1998.

“Economic And Engineering Errors in HM 3.1.” Presented with F. Murphy before the Hawaiian Public Utilities Commission, Honolulu, HI, February 1998.

### *Intellectual Property and Commercial Litigation*

“The Economic Impact of Counterfeiting, an Economic Perspective of the 2007 OECD Report on Counterfeiting,” American Intellectual Property Law Association, Annual Meeting, Washington DC, October 18, 2007.

“Current Issues in Lost Profits, Using Economics to Determine Lost Profits,” Law Seminar International, *Calculating and Proving Patent Damages* Conference, San Francisco, California, February 26, 2007.

“When East Meets West II, Economic Principles of U.S. Style Patent Litigation.” Prepared for the Japan Intellectual Property Institute, Tokyo, Japan, August 4, 2004.

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“Show Me The Money – Market based intellectual property valuation for strategy and litigation.” Prepared for [Confidential], March 25, 2003.

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“Basic Economics of Rigorous Intellectual Property Damages Calculation.” Presentation with Kenneth Train and Alan Cox given at Marsh in San Francisco, CA on December 3, 2002.

“Basic Economics of Rigorous Intellectual Property Damages Calculation.” Presentation with Kenneth Train and Alan Cox given at Covington & Burling, LLP in San Francisco, CA on November 11, 2002.

“The Cost of the Local Telecommunication Network: A Comparison of Minimum Spanning Trees and the HAI Model.” Presentation with Kenneth Train given at TPRC in Washington, DC on October 5, 1998.