



January 21, 2016

Via Electronic Filing

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

Re: Media Bureau Request for Comment on DSTAC Report, MB Dkt. No. 15-64

Dear Ms. Dortch:

The Consumer Video Choice Coalition (“the Coalition”) responds to letters from other interested parties with respect to the DSTAC Report¹ and the Media Bureau’s Public Notice.² Many of the points made in the submissions by cable interests and the MPAA,³ the NCTA,⁴ AT&T,⁵ EchoStar / DISH,⁶ and a group of Content Companies⁷ already have been addressed by the Coalition, its members, and other stakeholders and interested parties.⁸ This filing summarizes prior Coalition answers and addresses new assertions.

¹ The DSTAC Final Report and related material are collected by the Commission at <https://www.fcc.gov/about-fcc/advisory-committees/general/downloadable-security-technology-advisory-committee>.

² *Media Bureau Seeks Comment on DSTAC Report*, MB Docket No. 15-64, Public Notice, DA 15-982 (rel. Aug. 31, 2015).

³ Ex parte letter from Paul Glist, Davis Wright Tremaine, Jan. 13, 2016.

⁴ Ex parte letter from Rick Chessen, Senior Vice President, NCTA, Jan. 15, 2016.

⁵ Ex parte letter from Alex Starr, General Attorney, AT&T, Jan. 13, 2016.

⁶ *See, e.g.*, Ex parte letter from Jennifer A. Manner, Vice President, EchoStar, Jan. 14, 2016.

⁷ Ex parte letter from Content Companies (A&E Television Networks, AMC Networks, Discovery Communications, NBCUniversal, Scripps Networks Interactive, The Walt Disney Co. and ESPN, Time Warner Inc., 21st Century Fox, Viacom), Jan. 14, 2016 (“Content Companies Letter”).

⁸ *See* Coalition Comments of Oct. 8, 2015; Ex parte letter of Public Knowledge, Oct. 20, 2015; Coalition Reply Comments of Nov. 9, 2015; CCIA Reply Comments of Nov. 9, 2015; TiVo Reply Comments of Nov. 9, 2015; Letter of Senators Markey, Sanders, Blumenthal, Wyden, Franken, Cantwell, Booker, Warren, Nov. 9, 2015; Ex parte letter of INCOMPAS, Nov. 18, 2015; Ex parte letters of Public Knowledge, Dec. 3 and 7, 2015; Ex parte letter of TiVo, Dec. 7, 2015; Ex parte letters of Coalition, Dec. 14 and 15, 2015; Ex parte letter of INCOMPAS, Dec. 16, 2015; Ex parte letter of TiVo, Dec. 17, 2015; Ex parte letters of Coalition, Dec. 18, 22, and 23, 2015; Ex parte letter of TiVo, Jan. 13, 2016, Ex parte

As established in the DSTAC report and as explained in prior Coalition filings, a virtual head end would convert an MVPD's signal into a form that could be viewed on a competitive navigation device. The virtual head end would not require re-architecture of MVPD systems – it is simply software that could run on existing equipment in the home, such as a cable modem or satellite receiver box, or could run in the cloud. In all cases, the MVPD would have choices about how to implement the virtual head end on its system.

Competitive navigation devices could be sold at retail by third parties or leased from MVPDs. These devices would allow a subscriber to see all of the content that he or she is purchasing from his or her MVPD but also could provide the ability to access content available on the Internet. Competitive navigation devices could take a variety of potential forms: from a tablet or smartphone, to a smart TV set or a TV box, to a dongle that attaches to a TV, or to something that has not been invented yet.

It could be reasonably expected that competitive navigation devices receiving protected content would comply with obligations equivalent to those set forth in the DFAST license as it currently applies to content received by devices using a CableCARD. The DFAST license obligations, particularly with respect to content protection and product and network robustness, were negotiated as a tradeoff for “encoding rules” to limit the circumstances in which product function could be impaired at a content provider's or distributor's discretion. The applications of the protective technologies and of the rules in the DFAST license have been uniform and consistent in nature. Furthermore, these requirements and rules are carried forward and implemented in any product receiving content under the “DTCP” technology discussed in the DSTAC Report and in later filings. Any Commission action could reflect these expectations.

- **The Competitive Navigation Device Solution Would Enable Protection In Depth, Rather Than a “Single Point of Attack”**

As explained in the Coalition's January 14 *ex parte* letter, multiple inroads for potential attack could make a system more vulnerable to compromise. For any networked technology, the issue is the depth and flexibility of the protective response. As noted, DTCP provides multiple modes for limiting the potential effect of any compromise. In limiting access only to licensed devices, it also passes on encoding obligations from device to device. A solution based on DTCP or a comparable system would provide a platform for third party manufacturers to develop

innovative types of competitive navigation device that can attach securely to any MVPD system in the U.S.

- **The Competitive Navigation Device Solution Would Not Require “More Bandwidth.”**

The virtual head end could be implemented as a feature of an already-supplied in-home device or directly “from the cloud.” Concerns over “bandwidth usage” do not arise from an in-home implementation because there is no change to content flow. If implemented from the cloud, the considerations are no different from those of an MVPD choosing to provide a variety of “apps” by direct cloud distribution. MVPDs are well along the path of cloud delivery directly to devices using proprietary apps⁹ and appear to consider it both appropriate and efficient – but resist doing the same thing to support competitive navigation devices.

- **Competition Would Spur “Continuous Innovation in Content Distribution Paths and Business Arrangements.”**

History demonstrates that *only* through standardized and flexible protocols between components has competition, innovation, and cost efficiency flourished. For instance, the price of networking equipment fell because of the use of common protocols. Major disruptive competitive entrants in network and personal transportation spaces rely on common web protocols, as do the MVPD-favored “apps.” Imagine, for example, if in every city in which a traveler sought to contact Uber or Lyft, order pizza, or find a restaurant, *a different and proprietary leased device* were needed.

⁹ AT&T, for example, says it is “committed to providing video content to consumers where and when they want it, and on all possible devices.” AT&T ex parte letter of Jan. 13, 2016, at 3. Similarly, Comcast replicates its programming service selectively through direct IP delivery. *See, e.g.,* Bertel King, Jr., *Comcast's Xfinity TV Go App Picks Up AMC, Showtime, The Weather Channel, And Several Other Networks*, Android Police, Feb. 17, 2015, <http://www.androidpolice.com/2015/02/17/comcasts-xfinity-tv-go-app-picks-amc-showtime-weather-channel-several-networks/>.

- **Copyright Principles Should Apply Equally to Navigation Devices Purchased at Retail or Leased from MVPDs.**

There is no basis for suggesting¹⁰ that operator-licensed devices should enjoy more favorable user privileges than competitive devices, or that subscribers who choose competitive devices should have their expectations of fair use restricted arbitrarily. Encoding rules reflecting fair use values were recognized by the Commission and in the DFAST license as providing balance and protecting consumers in the face of license obligations allowing content owners or distributors to turn off the outputs of consumer-owned devices. The burden should be on any entity to demonstrate why a result that is contrary to fair use is in accordance with the public interest. The proper place for this analysis to occur is in a rulemaking.

- **A License Agreement Can Be Based on DFAST Principles.**

While DFAST licensees have respected channel placements, advertising,¹¹ and other concerns raised by MVPDs, makers and marketers of competitive devices cannot be expected to respect private, secret, and temporary pacts between and among MVPDs and content owners. Such pacts apparently vary among MVPDs in both terms and execution.¹² Moreover, it would violate public policy and the public interest, as expressed in both Section 629 and in STELAR, for a content owner's agreement with an MVPD to prevent a subscriber from using a program guide to search for and display competitive programming offers to which the subscriber has rights.

¹⁰ AT&T ex parte letter of Jan. 13, 2016, at 3.

¹¹ The Content Companies raise issues regarding advertising substitution, advertising addition, and children's programming. Content Companies Letter at 3. There have been retail devices in use for 15 years without any such issues. Third party retail devices are subject to regulations such as Children's Online Privacy Protection Act (COPPA) as well as federal and state laws regarding copyright, trademark, and unfair competition. Providers of competitive devices also have the freedom to innovate proactively to afford parents even more options.

¹² See, e.g., Claire Atkinson, *Comcast Angers Cable Networks With Channel Lineup Changes*, New York Post, Dec. 14, 2015, available at <http://nypost.com/2016/01/14/comcast-angers-cable-networks-with-channel-lineup-changes/> ("Comcast has started ripping up agreements with cable networks and moving them out of basic onto digital tiers, The Post has learned. Already, Spike, CMT and Pop, the former TV Guide channel, have been moved to digital tiers, the companies told The Post. ... Channel shifting is common practice in cable-land — but has become a more tense affair as distributors like Comcast move networks to digital tiers to shrink the lineup, and cost, of basic cable.").

- **The Competitive Navigation Device Solution Would Offer an Enhanced Choice of Interactive Features.**

Features such as “Start Over” and “Look Back” are variants of video on demand. These features can be implemented through the virtual head end interface as can bursting features, including Instant Channel Change. With competition, consumers would be able to access not only these features, but also a wider variety of innovations and services.

- **The Pace of Innovation Will Be Enhanced Through the Competitive Navigation Device Solution.**

A standards-based software interface would provide programmers with a larger and more stable base on which to innovate. Just as the iOS and Android environments have attracted unexpected and orthogonal “apps” both domestically and internationally, so too will a standards-based and competitive environment for navigation devices. MVPD-supported and licensed “apps” could thrive in this environment. And, as previously noted, MVPDs could continue to copy and adapt innovations, such as DVRs and DVR features, that originated with suppliers of competitive devices.¹³

- **Existing Set-Top Formats Can Support a Virtual Head End.**

The Competitive Navigation Device solution relies on standards that do not need to be invented anew. For instance, current set-top models such as the Genie gateway server box should be able to support competitive devices. The Genie gateway already supports the proper streaming and encryption protocols, as presently employed by the RVU Alliance. The additional metadata that needs to be exposed is also already present on the Genie gateway. This data is utilized for synthesis of the RVU user interface and for the Genie gateway’s own local interface.

¹³ See, e.g., Coalition ex parte letter of Dec. 23, 2015 at 2; DSTAC Final Report at 181 – 182 (recounting that the DVR, the whole-home DVR, use of client devices designed on PC platforms, remote viewing, support of tablets and smart phones, and remote DVR management were all introduced as competitive device features).

- **No Additional Major Specifications Or Modifications to Industry Standards Or Specifications Are Necessary and No “Fourth Interface” is Needed for Resource Allocation.**

The Competitive Navigation Device solution includes a virtual head end, which converts the MVPD’s service into one that can be received by the competitive navigation device. The virtual head end is software that can be embedded in a device in the home, requiring no changes to an MVPD’s network. The simplest way to implement the virtual head end is to add the virtual head end software to an existing home receiver, so long as that receiver has a home network connection. Doing this would require no dedicated delivery equipment, no special management system interface, no special encoding, no special content protection, and no new authentication.¹⁴

The Coalition has demonstrated¹⁵ that present standards and available specifications, which are already employed in MVPD distribution chains and home networks, produce capable and flexible devices for operation in a secure environment. Reliance on these technologies¹⁶ would be a matter of reference rather than one of additional innovation. Any necessary standardization, if pursued in good faith, should take no more than a single year.

DTCP2 will further enhance DTCP’s robustness for protection of Ultra HD and other high-value content. Improvements from DTCP2 technology include implementation of certificates and key encryption/decryption functions in hardware (a “hardware root of trust” and “secure execution environment”) and extension of the elliptic curve parameters to 256 bits. These enhancements will be subject to review by DTLA’s Content Participant studios and by DTCP Adopters. Techniques currently available to guard against compromise of DTCP-IP, among others, will be available for DTCP2.

The Competitive Navigation Device solution included in the DSTAC Final Report surveyed and compiled the technical and system elements necessary for a uniform and easy to implement competitive solution. Public Knowledge’s October 20, 2015 filing described and illustrated specifically how the referenced technologies could be combined to produce

¹⁴ UPnP protocols deal with resource issues such as tuner limitations. Typically, clients make requests of a server for resources (such as a tuner), which are fulfilled when the resource is available. Where a resource is not available to satisfy all requests (e.g., when there are not enough tuners), an error code indicates that the request failed due to the lack of resources, which allows the client to take appropriate actions.

¹⁵ See INCOMPAS ex parte letters of Dec. 14 and 16, 2015.

¹⁶ A schematic representation of the virtual head end was filed by Coalition member Public Knowledge on Oct. 20, 2015.

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competitive outcomes, using technologies well-known to and in daily use by MVPDs. The Coalition's December 10 and 14 demonstrations showed that, with minimal time and dedication of resources, a working model could be implemented relying on known and established resources.

Finally, the Consumer Federation and Public Knowledge letter of January 20, 2016 indicates that the overcharge to consumers for set-top boxes is on the order of \$14 billion, and observes:

The best explanation of the set-top box market's exceptional ability to impose excess charges on consumers is its immunity to market forces and the failure of competition, both in pay TV more generally and in the set-top box market specifically.

The time is long overdue for the Commission to initiate a rulemaking proceeding to ignite the needed corrective of competition in the market for navigation devices.

Respectfully submitted,

/s/ Consumer Video Choice Coalition

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