



December 23, 2015

Via Electronic Filing

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

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

Dear Ms. Dortch:

On October 20, 2015, Consumer Video Choice Coalition¹ (CVCC) member Public Knowledge explained in a filing with the Commission how the Virtual Headend solution in the DSTAC Report could be implemented through technologies already in widespread use by MVPDs.² On December 14 and 16, Coalition member INCOMPAS filed ex parte letters with respect to December 10 and 14 feasibility demonstrations of these technologies attended by FCC staff. In its ex parte letter of December 18, NCTA poses questions pertaining to these demonstrations. While the Coalition's obligation to answer questions only extends to the FCC and not interested parties,³ the Coalition provides further information to help the Commission proceed expeditiously to a rulemaking.

- Could these demonstrations have been made in the course of DSTAC? Did the demonstration show something different from what was discussed during DSTAC or referred to in the DSTAC Recommendations? Have there been "various proposals"?

As FCC staff members who participated in WG4 calls may recall, several participants urged more specific work group discussion of what could comprise a competitive interface and of the details necessary to enable such implementations. Such work was considered premature by other WG4 members until WG4 catalogued existing MVPD practices. In response to

¹ The Coalition is comprised of Ceton Corp., Common Cause, Computer & Communications Industry Association, Consumer Action, Google Inc., Hauppauge, INCOMPAS, New America's Open Technology Institute, Public Knowledge, Silicondust USA, Inc., VIZIO, and Writers Guild of America, West.

² Letter from Public Knowledge to Marlene H. Dortch, Secretary, FCC in MB Dkt. No. 15-64 (filed Oct. 20, 2015).

³ See Letter from CVCC to Marlene H. Dortch, Secretary, FCC in MB Dkt. No. 15-64 (filed Dec. 22, 2015).

subsequent NCTA “vaporware” claims, Public Knowledge provided the October 20 explanation of how the Virtual Headend solution could be executed, and practical demonstrations were held by the Coalition on December 10 and 14.

Within DSTAC there were the linked proposals for a competitive Virtual Headend and a competitive navigation user interface. The October 20 filing supplemented the public record by refining down to specifics higher-level concepts in the WG4 Report. Neither the underlying technologies, which are well known to NCTA members, nor the potential and projected means of implementing them, have changed.

- Did the demonstration provide only a “dumbed down” backward-looking version of what MVPDs offer? Did it feature on-demand programming and integrated enhancements as well as linear TV?

Rather than allegedly “dumb down” MVPD offerings to those of years ago (before the advent of new technologies invented by competitive entrants, e.g., the DVR), the demonstrations showed what is possible when consumers are offered the ability to make informed choices. Thus, for both linear and on-demand programming, *integrated discovery* was demonstrated, in which competing offers from MVPD and non-MVPD providers could be compared in a single user interface. The demonstrations featured rich visual graphics and revealed metadata as to source. The demonstrations showed that *with any commitment to supporting competitive outcomes*, MVPDs would be able to easily support a uniform and not unduly burdensome Virtual Headend.

- What MVPD services were demonstrated? Did the demonstration include a demonstration of content protection and access to only those channels to which the customer has subscribed? What equipment and standards were used, end-to-end, in the demonstration? Did the demonstration show that the solution would work with all cable, satellite and telco MVPD network architectures and services, or would the solution require changes in network architectures and services?

The demonstrations showed interoperable use of multiple clients on different types of systems. Both a cable and a fiber system were used for the live TV feed. The Virtual Headend interface demonstrations were deployed on two different devices, one based on CableCARD and one directly from a TV service provider. The client devices used were a set-top box (with software running that could easily be integrated into a TV directly, or written as an app for SmartTV platforms) and a Windows laptop. It was demonstrated that a client device could be moved from one type of network to the other and securely self-authenticate to the new network, and populate its competitive program guide within seconds.

- What about energy savings, EAS, closed captioning?

Emergency alerts and closed captioning were demonstrated in real time. With respect to energy savings, at the December 14 demonstration, graphical slides (filed with the Commission as an attachment to the Coalition’s December 18 ex parte letter) showed that the Virtual Headend, as established by the technologies demonstrated, could be provided in the home through existing home network devices such as DOCSIS modems or as an additional port from a set-top box. This would *eliminate* the need for a separate “box.” Some devices present at the demonstration were necessary only because support for box-less implementations has not yet been provided on networks.⁴

An EAS message was shown in the Google Fiber Network device in exactly the format that is used to convey EAS messages to Google Fiber subscribers. The emergency alert was “real” in every way that is relevant to the Virtual Headend proposal, except (1) there was no real-world emergency, and (2) the alert was sent such that only the demonstration devices (and not all Google Fiber subscribers) would receive it. EAS messages are persistent on the Virtual Headend for a specified time period, ensuring that any clients will receive the current EAS message immediately on connection to a Virtual Headend. The Virtual Headend interface removes the abstraction of the “wide variety of methods” in how different MVPDs transmit EAS. This reflects the underlying purpose of the Virtual Headend interface – a uniform or common way for retail devices to access MVPD information and services.

- Did the demonstration show that the solution would work with all cable, satellite and telco MVPD network architectures and services, or would the solution require changes in network architectures and services?

The demonstration showed that the Virtual Headend, as illustrated in the October 20 ex parte letter, could be implemented by any existing MVPD without changes to its network architectures or services. Additionally, no changes were made (or would need to be made) to any of the client devices in order to access the various MVPD systems demonstrated. Similarly, the MVPD systems did not and would not require re-architecture (or changes in any way). Ease of implementation is a fundamental strength of the Virtual Headend proposal.

⁴ As noted in the Coalition’s December 18 ex parte letter and the demonstrated “slides” attached thereto, the FCC’s initial “gateway” proposal in its National Broadband Plan, and some submissions in the ensuing AllVid NOI, assumed a separate device for purposes of common reliance. This is not a part of any DSTAC recommendation and not a requirement of the virtual headend solution.

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The Virtual Headend solution included in the DSTAC Final Report surveyed and compiled the technical and system elements necessary for a uniform and accessible competitive solution that would not be unduly burdensome to implement. Public Knowledge's October 20, filing described and illustrated specifically how the referenced technologies could be combined to produce competitive outcomes, using technologies well-known to and in daily use by MVPDs. The 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.

Respectfully submitted,

/s/ Consumer Video Choice Coalition

cc:

Matthew Berry
Steven Broeckaert
Michelle Carey
Chris Clark
Hillary DeNigro
Lyle Elder
Eric Feigenbaum
Stacy Fuller
Scott Jordan
William Lake
Mary Beth Murphy
Nancy Murphy
Brendan Murray
Susan Singer
Gigi Sohn
Alex Star
Antonio Sweet
David Waterman