

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)
)
Media Bureau Public Notice Seeking) MB Docket No. 15-64
)
Comment On DSTAC Report)

Comments of Hauppauge Computer Works, Inc.

Hauppauge is an independent designer and manufacturer of computer and video accessory products, including TV receivers sold under the “WinTV” trademark plus game and video navigation devices. As one of the few companies that design and sell retail products that afford interoperable access to cable content through the industry’s existing CableCARD solution, Hauppauge is directly and vitally interested in the development of an interoperable successor standard, as anticipated and directed by the STELAR legislation.¹ Hence Hauppauge was invited to and did designate DSTAC participants.² Hauppauge is now pleased to respond to the FCC’s Public Notice, and looks forward to participating in a rulemaking to carry forward DSTAC’s work.

As noted in the Executive Summary to the DSTAC Final Report,³ the participants found substantial common ground, in particular agreeing that the technical efforts MVPDs are making to support MVPD applications (“Apps”) on third party devices using IP is the way forward.

But the participants formed into two camps with respect to the ability for third party applications to utilize that same technology for access to TV content. Hauppauge contributed ideas and text advocated by those supporting a “Competitive User Interface” supported by a “Virtual Headend” which would allow third party Apps to access the content through some of the same APIs that the MVPD Apps would use. Hauppauge joined in the consensus that there were many underlying similarities between these solutions and the “Operator Provided User Interface” approach favored by the other camp, but could not and does not join in their conclusion that only MVPD provided Apps should be allowed access to content despite the similarities in solutions.

Below, we explain why.

Hauppauge Supports an Apps approach to the User Interface when those apps have an available API

Based on contributions made in DSTAC Working Groups (“WG”) 3 and 4, an “app” can provide a pay TV User Interface which is open to innovation and enables competition, yet provides the security needed

¹ The STELA Reauthorization Act of 2014, Pub.L. 113-200.

² Senior Linux Engineer Brad Love and President and co-founder Ken Plotkin and were, respectively, Hauppauge’s principal and alternate participants.

³ The text of the DSTAC final report, the Working Group reports referenced below, and other materials are maintained on the FCC’s DSTAC page, <https://www.fcc.gov/dstac>. Unless otherwise indicated, all references are to the documents as maintained there.

in the pay TV market. But for a Pay TV User Interface app to be open to innovation, it needs to be supported by an API (application programmer interface) which is open to third party developers.

WG4 proposed a User Interface API based on standards used in the existing CableCARD system. While many people agree that the CableCARD itself needs to be replaced, the underlying CableCARD technology is sound and has years of field use. The WG4 “Competitive User Interface” API has three different services to support User Interface apps. There is nothing new in these three services: they are based on existing standards and technology “borrowed” from the CableCARD system using currently available standards and content protection. This means an API to support User Interface apps can be developed TODAY without the need to invent new standards.

DOCSIS + WG4 Services + DTCP-IP = API support for an Apps based UI

Apps need to be supported by an API. And the API needs to be secure and connect to the TV system in order to receive content and other types of data. So how can this work?

WG3’s description of a “Virtual Head End” gives operators flexibility in network delivery options. The “Virtual Head End” receives encrypted video and other types of content (EPG, VOD, interactive data, etc.) either over IP from the cable operators headend or via a gateway and then converts the video and other types of data into “IP Data” for use in the home.

For cable TV operators, the “Virtual Head End” can be built using the commonly available DOCSIS cable modem (millions of which are in use in the U.S. today), with the addition of the API support as suggested by WG4 and link security such as offered by DTCP-IP.⁴ To the DOCSIS cable modem you would add the three services suggested in WG4 “Competitive User Interface” and add DTCP-IP content protection offered through DTLA. The output from this modified DOCSIS cable modem is IP and can be used to provide secure video and services throughout a home.

With this DOCSIS based “Virtual Head End” in the home, you would have API support for apps running on all sorts of devices, both wired and wireless. Imagine if an app developer could use this API to develop a novel TV navigation app for the new Apple TV, the Amazon Fire box or a Google Nexus tablet with capabilities beyond the operator’s app? This would provide secure live TV and TV services on a wide range of home devices, and in our opinion would give consumers a good reason to keep their TV subscription and not join the ranks of the “cord cutters.”

In the gateway option, as demonstrated to DSTAC by satellite provider DirecTV, the same API support could be offered. Therefore, whether this was a cable TV system, a one-way satellite system or an IP video system, the API and security would be the same and apps could be developed once and run on a wide range of devices on any TV system used in the United States.

Almost any device that can support DTCP-IP decryption can have apps developed to present the TV content through new, innovative user interfaces, regardless of the network technology option the operator chooses. And since the three proposed WG4 “Competitive User Interface” services are in existence today and have been used for many years, there is nothing new to invent. Just document the API and get smart app developers to start developing their apps while the operators start adding the API to their DOCSIS cable modems or gateways.

Apps are good! But you need to read the fine print.

⁴ See <http://www.dtcp.com/>.

As discussed above, apps are good! But you need to read the fine print.

DSTAC WG4 also has a proposal for an app approach, referred to as the “App based Operator Provided User Interface”. But there was one big problem with this proposal: there was no mention of an API to support their apps. Without an API open to developers, Operator Provided User Interface apps are proprietary and can only be developed by select individuals and run on select TV systems. This would stifle innovation and competition. The TV system operator would be able to choose individuals to develop apps for their system, but their system would be closed to others.

But if you merged the two WG4 proposals, the “Competitive User Interface” services along with the WG4 support for apps, you have the ability to create a secure pay TV system which will allow independent developers to create applications for navigating and consuming the TV content they pay for.

An App platform that fosters innovation and consumer choice only works if there is an API behind it, one that is open to the software developer community. Apps work if the API is not limited to only a select group of developers controlled by the operator, but instead allows independent developers to create computer programs that can be loaded onto devices without being artificially constrained.

For example, on an iPhone today you can load the Google Chrome web browser instead of the Apple supplied Safari browser. Even though the Chrome browser replaces Apple’s supplied Safari browser, and is considered competitive to Apple Safari, the API developed by Apple supports this competitive app. Apple provides an API for app developers who can then invent competitive applications for the iPhone. Apple does not limit their API to non-competitive software developers, but embraces creative and sometimes competitive applications which enhance their iPhone platform.

Just as an iPhone user might say "I want to choose the web browser on my iPhone", a pay TV customer should be able to say "I want to choose the user interface App on my own device". The pay TV customer should not be forced to use an operator provided user interface on their own device, just as an iPhone user is not forced to use only Safari on an iPhone.

The FCC Should Move Ahead

Hauppauge looks forward to the next stage, where the FCC establishes an environment in which independent companies such as ourselves can innovate and compete. At such stage, our comments will be more specifically technical, about how the FCC can refer to industry standards in regulations, to support innovation and competition. At this public notice stage, we thank the FCC for giving Hauppauge the opportunity to participate in DSTAC, and state our willingness to see the process through to a competitive solution.

Respectfully submitted,

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