

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

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

PERSONAL COMMENTS OF MICHAEL COULTER

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I. INTRODUCTION AND SUMMARY

The Commission's *Notice* is a bold attempt to shake up the set-top cable box market [1]. However, while the intention of the *Notice* is noble, the timing comes too late to have the paradigm-changing effect on set-top boxes that the FCC might have been hoping for. Since the widespread adoption of smartphones and tablets and the accompanying buildout of high-speed wireless data networks, the United States has seen a drastic decline in the role of the traditional living-room TV. This fundamental shift away from the dynamic of a large, centralized TV and nightly familial gathering in favor of small screens has led to millennials cutting the cord upon moving out, further cutting into the traditional dominance of the TV, and, by association, the cable box now used to support it. Coupled with other disruptive technologies like Google's Chromecast, Roku Inc.'s Streaming Player, and, believe it or not, the traditional rabbit ear antenna, the cable box looks like the technological dinosaur it is - So why should we try to resuscitate it?

The smartphone and broadband Internet access have opened the floodgates for the spread of knowledge and information not only in the United States, but as well as around the world. As evidenced by the Arab Spring and its reliance on social media and the Internet to not only spread its message but also allow for communication between different parties, the entire world has entered new territory when it comes to the dissemination of information. Almost all electronic devices sold today have some sort of wireless connectivity to the Internet in some form or fashion, and it's almost a shock when a consumer buys something that doesn't. When a consumer buys one of these devices, they expect connectivity to the Internet – they expect to be able to browse the Internet, access their information, and communicate with others. Though certainly not a rule, Internet-enabled devices that are locked down can create a thriving hacker

culture around them in which the sole goal is to unlock them and load custom software or firmware onto them – I would almost go as far to say that it's seen by most as un-American to restrict access to the types of software that can be run on your device.

TVs however, being one of, if not the most, single expensive electronic devices most people own, don't fit this mold. Often times, they're derogatively broken down into two categories: 'dumb' TVs that are nothing more than over glorified computer monitors, and 'smart' TVs that have some sort of OEM provided operating system on them, allowing them to stream Netflix and other Internet video services without third-party dongles or boxes, and most times with a hefty premium on the price of the TV set itself. The smart TVs can have built in Internet connectivity, and can connect to the Internet, however, allowing the watcher a seamless experience of picking up the TV remote, pressing a streaming video button, and instantly being transported to an entire catalog of material. These TVs are often top of the line TVs retailing for hundreds more than their less intelligent brethren – but why? The computer components used to make either TV differ by maybe a few dollars, and open source software can be obtained and programmed for a minimal cost – so what makes this valuable?

It's the potential to remove the cable box from the equation.

With so many people online in some form or fashion now - the ITU is tracking over 80% of the US population as being online as of 2012, and the OECD tracking 89.8% of the US population having access to a wireless broadband subscription [2, 3] – the mere potential to completely remove a clunky, outdated, expensive-as-a-monthly-rental cable box and replace it with a sleek and smartphone-controlled app is a siren song that's too big to ignore. It is this point that then makes me wonder why the FCC is proposing that we 'unlock-the-box' and open competition in the set-top box market. The competition has already happened – not between

different set top box manufactures, but between streaming video services and cable television providers - and Roku (and its ilk) won.

The Commission has asked for comments on several items, among them: if streaming devices and apps are used to access MVPD content and to what extent, the applicability of this NPRM to satellite TV providers (“DBS”), what exactly should constitute a ‘navigation device’, and billing and subsidies within this new model.

II. THE PROPOSED RULES OVERLOOK THE GROWING CONVERGENCE OF THE INTERNET AS THE MEDIUM OF CHOICE FOR CONTENT DELIVERY

The Commission has asked for comments regarding the use of devices such as Amazon Fire TV, AppleTV, Chromecast, et. al. and these devices use in streaming content from MVPD’s content to their TVs. The response, to be honest, is dire.

As of early May 2016, the official Comcast “XFINITY TV Go” app on both iOS and Android does not support streaming to Chromecast natively, and requires a separate app (confusingly named “XFINITY TV (for X1 customers)”) and a Comcast cable box rental in order to access all content [4]. In a blog post from Roku, Comcast, perhaps seeing the writing on the wall due to the FCC’s original NPRM, in April 2016 began work on an app for Roku devices that, according to a post on a Roku blog, will allow “customers [to] access to their [...] programming [...] without the need to lease a set top box” [5]. This is a clear indication that Comcast either has transitioned or will begin transitioning all of their programming to what is essentially IPTV – they are aggregating all the video sources from traditional content providers that they normally would, but instead of sending it out over traditional coax cable, they’re

packetizing it, in clear recognition that not only is the convergence to using the Internet as the delivery system for TV content imminent, but also more efficient.

Clearly, there are a plethora of devices that are capable of streaming video sources, and several of the major TV providers are beginning the transition to content that is digitized and ready to be consumed over the Internet, which is why it seems odd that the Commission's *Notice* is not about opening up these IPTV streams to outside devices, but about allowing consumers to choose which clunky, expensive, single-use box they want plugged into their TV. The *Notice* shouldn't be about essentially upgrading these devices; it should be about *replacing* these devices. Granted, the *Notice* does take into account apps that can be used to access these devices. The *Notice* should take a cue from the proliferation of the Internet and attempt to be as device agnostic as possible – as long as a device or app conforms to the technical and security standards set forth in the *Notice*, it should be able to access video content, regardless of *what* it is or where it's plugged into. If, in the early days of the Internet, a governing body had stated that a computer **MUST** meet a certain constrained paradigm, it's arguable that the Internet wouldn't have exploded like it did.

III. BROADCAST SATELLITE DEVICES ARE NOT PROPERLY ACCOUNTED FOR UNDER THE PROPOSED RULES

True direct broadcast satellite devices ("DBS", as referred to in the *Notice*) are either impractical or impossible to connect to the Internet in a broadband manner necessary to stream high definition video content. Additionally, a DBS box has the potential to have a much more specialized hardware decoder necessary to communicate with the broadcast satellites. Although I have just argued in the preceding section for the convergence of the Internet with broadcast TV,

true ‘one-way’ satellite receivers require specialized hardware to decode the signals. These receivers, potentially located in rural and remote areas where cable or other broadband services are inaccessible or unavailable, potentially offer no transmit path back to the broadcast station as would be the case in a typical cable TV scenario. In this case, DBS should *NOT* be held to the same standard as normal broadcast TV – a satellite transmitter is a highly delicate, expensive, and intricate machine, and to require DBS devices to have these so as to receive packetized IP data would be unnecessary and inefficient. Instead, DBS systems in rural or remote areas where a subscriber doesn’t have access to a broadband Internet system should continue to receive broadcasts as normal. DBS MVPDs in areas where broadband Internet is easily available and is capable of transmitting the packetized data required for sending high definition video should be required to operate like traditional cable companies and provide a fully set-top box liberated experience for their customers. Areas where satellite is the only form of communication available should not be held to this standard.

IV. “NAVIGATION DEVICES” ARE INTERNET-ENABLED DEVICES

The Commission seeks comment on if “we should add a sentence to our definition of ‘navigation devices’ [which includes] software *or* hardware...” With the continued convergence of Internet-enabled devices being able to access, transmit, and receive all manner of data and information, the Commission’s use and inclusion of the mere word ‘Navigation Device’ as defined in Section 629 serves as a detriment what I believe was the true spirit of the *Notice*- to not ‘unlock the box’ (although, I must admit, it is a catchy slogan), but to free content from set-top boxes all together. Many free, open source software packages and protocols are available which could easily stream high definition content directly from an MVPD which would be easily integrated (or have already been integrated) into numerous ‘smart’ TVs, handsets, and other

Internet-enabled devices with screens (or, as proposed, simply calling these navigation devices in general). Navigation devices, defined and implemented in this way, would truly allow for *any* device capable of physically displaying an image to become a ‘navigation device’ as defined by Section 629. For an MVPD to assert that this would not be technically feasible is asinine, because many already provide streams of their live content to their own, highly locked down and restrictive apps. In the Comcast case above, a user cannot stream live content directly to his or her TV from her phone, he or she must use a computer and Google’s Chrome browser to transcode it to Google’s Chromecast to watch it on a big screen – a less than optimal solution requiring an entirely separate computer [6]. Broadening the definition of a Navigation Device would allow the FCC greater regulatory power as to how MVPDs must allow their content to be accessed.

V. BILLINGS AND SUBSIDIES – PAYING FOR THE RIGHT TO ACCESS CONTENT

The Commission seeks comment on billing and subsidies and how it could potentially work under a greatly broadened definition of what a navigation device would be. If every channel were its own separate stream, there would be no (technical!) reason that consumers couldn’t finally have an à la carte cable service – finally, no more paying for 400 channels of unwanted TV! Again, moving to a largely Internet based distribution system for television content would allow consumers to pay for what they want to pay for. While several services are moving towards this model (PlayStation Vue comes to mind, along with Dish Network’s Sling TV), none yet offer a truly ‘pick your own channel’ model. Sling TV and Vue both offer packages which include highly in demand channels – ESPN, AMC, CNN – along with lesser known channels – Freeform, Viceland [7, 8].

VI. CONCLUSION

The *Notice* is a bold attempt to refresh the set-top box market. It's meant to be a forward looking, consumer friendly *Notice* meant to free consumers from the tyranny of clunky, old, power-hungry, and huge set-top boxes plugged into modern, efficient, and elegant TVs of the future. Instead of truly pushing the limits of what this *Notice* could be, the FCC seems preoccupied by Section 629 of the Telecommunications Act, which, understandably, would give them the power to enforce these proposed rules. The FCC should be pushing for a broader, more expansive definition of what truly constitutes a 'Navigation Device' and, instead, argue that a 'Navigation Device' can be anything that can be connected to the Internet. I believe Section 629 of the Telecommunications Act gives them the authority to do this, and encourage the Commission to push for a radical paradigm shift to the Internet as the content delivery service of the future.

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