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June 16, 2016

Via ECFS

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

*Re: MB Docket No. 16-42, In re Expanding Consumers' Video Navigation Choices;
CS Docket No. 97-80, Commercial Availability of Navigation Devices*

Dear Ms. Dortch:

On June 14, 2016, representatives of Microsoft Corporation met with Commission staff to discuss the above-referenced proceedings. Attendees for Microsoft consisted of John Simmons, Media Platform Architect; Gunnar Halley, Senior Attorney; Paula Boyd, Director, Government and Regulatory Affairs, and the undersigned, outside counsel. Attendees for the Commission are identified in the cc: line of this submission.

The purpose of the meeting was to provide Commission staff with an overview of the significant industry-based open standards development work that has occurred over the past eight years in an effort to create an effective global framework for interoperable, cross-platform delivery of commercial video. In doing so, we sought to ensure that the Commission's work in this proceeding would not adversely affect the ongoing work on commercial video standards.

Microsoft explained that prior to 2008, the central challenge presented by DRM technology was that it prevented interoperability in two distinct and important ways. First, DRM prevented interoperability because (1) content encoded for one DRM technology could not be played by another, and (2) there was no common, open interface for an application to use when utilizing different DRMs on different devices. In 2008, Microsoft undertook an effort to address these challenges by proposing a specific collection or "stack" of open, global standards that, when taken together, could enable the playback of DRM-protected content to become interoperable across a multitude of device form factors.

Over the past eight years, Microsoft has worked with a broad cross-section of global technology and media companies to realize this goal through the development of five global, open standards. Microsoft described them as follows:

1. ISO/IEC/JTC1 MPEG Common Encryption Standard: This standard, which was invented by Microsoft in 2009, finalized as an open standard in 2011, and published in 2012, is

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intended to make DRM-protected content consumable by multiple DRMs. Today, all commonly-used commercial DRM technologies support common encryption, which enables the same video content to be consumed by different DRMs on different devices—something that was previously not possible.

2. W3C Encrypted Media Extensions Standard: This standard, which was jointly written and proposed by Microsoft, Google and Netflix in 2012 and is expected to become a formal W3C Recommendation later this year, is intended to enable the HTML5 playback of DRM-protected content to be interoperable. In this respect, it is a companion standard to the MPEG Common Encryption Standard and enables web browsers (as well as embedded browsers, of the kind found in television sets and navigation devices) that utilize different DRMs to consume the same DRM-protected content.

3. ISO/IEC/JTC1 MPEG Dynamic Adaptive Streaming Over HTTP (DASH) Standard: This specification, which became an international standard at the same time as the ISO MPEG Common Encryption Standard in 2012, is intended to standardize how video presentations are delivered over the internet. The standard pertains to the use of multiple, independent audio, video or other streams that can originate from different locations on the internet, be stored as individual “tracks,” and then brought together in various combinations to deliver a unified presentation on a device.

4. W3C Media Source Extensions Standard: This standard, which, like the Encrypted Media Extensions Standard, was jointly developed by Microsoft, Google and Netflix in 2012 and is expected to become a formal W3C Recommendation later this year, is intended to enable the HTML5 playback of media segments delivered by a protocol such as DASH to be interoperable between devices.

5. ISO/IEC/JTC1 Common Media Application Format (CMAF) Standard: This standard is being developed by a consortium of international technology, media, and content companies, led by Microsoft and Apple, and is expected to become a published ISO standard by 2017. It is intended to be a common encryption-based live, live linear, and on-demand streaming format for media segments.

Microsoft explained that, together, these five open, international standards are expected to provide the foundational basis for DRM-interoperable encryption and media segment delivery, and that in doing so they will lead to significant advancements in the delivery and volume of DRM-protected content on a range of devices.

Microsoft noted in this regard that a broad range of major technology, content, and media companies support the Consumer Technology Association (CTA) Web Application Video Ecosystem (WAVE) project, an international effort to ensure live and on-demand video interoperability based on the five above-referenced standards, enabling video content to be

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viewable on a broad range of devices. Once realized, the WAVE initiative is expected to increase and diversify the volume of viewable video content available to consumers.

In light of significant work that already has been invested in these efforts and the profound benefits that these efforts are expected to bring to consumers, Microsoft stated that it is important for the Commission to be aware of these developments and to ensure that any steps it contemplates taking in this proceeding do not adversely affect these industry efforts.

In response to Commission staff questions during the meeting, Microsoft also briefly described the mechanics of its PlayReady content protection technology. PlayReady is available for licensing to and use by third parties on multiple platforms under a variety of arrangements that are commercially reasonable. The terms of the PlayReady license oblige the licensee to adhere to compliance and robustness requirements. These requirements can be enforced in a number of ways, including revocation in the event that a licensee refused to correct non-compliant conditions.

Pursuant to the Commission's rules, a copy of this letter is being filed in the above-referenced docket. Please contact me if you have any questions.

Respectfully submitted,

/s/

Yaron Dori
Counsel for Microsoft

cc: Media Bureau
Bill Lake, Chief
Michelle Carey, Deputy Chief
Mary Beth Murphy, Deputy Chief
Nancy Murphy, Associate Chief
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