

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the Matter of)
)
Closed Captioning of Internet Protocol-Delivered) MB Docket No. 11-154
Video Programming: Implementation of the)
Twenty-First Century Communications and Video)
Accessibility Act of 2010)

REPLY COMMENTS OF GOOGLE INC.

Google Inc. (“Google”) hereby replies to the comments submitted in response to the *Notice of Proposed Rulemaking*¹ regarding implementation of Sections 202(b) and 203 of the Twenty-First Century Communications and Video Accessibility Act of 2010 (“CVAA”).²

I. THE RECORD SUPPORTS THE COMMISSION’S TENTATIVE CONCLUSION TO REFRAIN FROM MANDATING STANDARDS

There is broad general support³ for the Commission’s tentative conclusion to refrain from specifying any particular standard for the interchange format or delivery format of IP-delivered

¹ See *Closed Captioning of Internet Protocol-Delivered Video Programming: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010*, Notice of Proposed Rulemaking, 26 FCC Rcd. 13734 (“NPRM”).

² Twenty-First Century Communications and Video Accessibility Act of 2010, Pub. L. No. 111-260, 124 Stat. 2751 (2010) (as codified in various sections of 47 U.S.C.); Amendment of Twenty-First Century Communications and Video Accessibility Act of 2010, Pub. L. 111-265, 124 Stat. 2795 (2010).

³ See, e.g., Comments of AT&T Services, Inc. (“AT&T”), at 4-5; Comments of DIRECTV, Inc. (“DIRECTV”) at 12; Comments of Verizon and Verizon Wireless (“Verizon”) at 7-8. See also Comments of TechAmerica at 2-3 (opposing mandated standards); Comments of Telecommunications Industry Association (“TIA”) at 14 (opposing Commission-mandated standards); Comments of Digital Media Association (“DiMA”) at 7 (supporting flexible approach to VPD/VPP technology choices); Comments of National Association of Broadcasters (“NAB”) at n.68 (supporting VPAAC recommendation not to adopt a single delivery format standard); Comments of Rovi Corporation (“Rovi”) at 8 (supporting decision not to adopt delivery format standard); Comments of Telecommunications for the Deaf and Hard of Hearing, Inc., *et al.* (“Consumer Groups”) at 31 (supporting decision not to adopt interchange format standard). All Comments cited herein were filed on October 18, 2011 in MB Docket No. 11-154 in response to the NPRM.

programming.⁴ As the *NPRM* acknowledged, a Commission-mandated technology standard would undermine the goal of “foster[ing] the maximum amount of technological innovation.”⁵ Given the nascent state of the IP video market, allowing industry to develop a variety of solutions will result in greater innovation and broader benefits for more people.⁶ In contrast, a Commission-designated delivery format “would limit the capabilities of the delivery format to a lowest common feature set – and could eliminate the possibility of more advanced features for more advanced devices,”⁷ contrary to Commission goals for expanded accessibility.⁸

Google thus agrees that the Commission should not mandate the Society of Motion Picture and Television Engineers Timed Text (“SMPTE-TT”) as a standard for the interchange format.⁹ Google, however, disagrees with suggestions that SMPTE-TT should be deemed an appropriate safe harbor.¹⁰ Although recommended by the VPAAC because some broadcast television companies have been developing it for some time, the format has not yet been proven relevant on the Internet, and both web standards and consumer requirements for timed text delivered over the Internet are rapidly evolving. For example, SMPTE-TT today does not provide a means to serve audio description information as timed text, and on the web, is

⁴ *NPRM* at ¶ 40.

⁵ *Id.* at ¶¶ 40, 57.

⁶ See AT&T Comments at 5; DIRECTV Comments at 12.

⁷ Rovi Comments at 8.

⁸ See *NPRM* at ¶¶ 39, 40.

⁹ See DiMA Comments at 7; Comments of Microsoft Corporation (“Microsoft”) at 16-17; TechAmerica Comments at 3.

¹⁰ See, e.g., Comments of Consumer Electronics Association (“CEA”) at 6-7; Microsoft Comments at 16-17; Comments of National Cable & Telecommunications Association (“NCTA”) at 5.

implemented primarily via proprietary software or plug-ins rather than native browser support, which in the case of HTML5 can be entirely open-source.

One of the principal benefits of the Internet is the ability for software devices and browsers to change and evolve. The Commission correctly determined that given these market conditions the most appropriate course would be not to lock in any particular technology, but rather to allow video programming owners (“VPOs”), video programming providers (“VPPs”), and video programming distributors (“VPDs”) to determine the best solution.¹¹ Accordingly, the Commission should adopt its tentative conclusion to refrain from mandating any particular format or standard. So long as a format used to provide captions supports the performance requirements and expectations of consumers and is publicly defined, it should be acceptable for the purpose of delivering content in an accessible form.¹²

As Google noted in its initial comments, rather than adopt and mandate a single standard, the Commission should encourage video programmers to create caption files with open, publicly specified formats. TVGuardian underscores the importance of this approach, including requiring hardware and device manufacturers to provide application program interfaces (“APIs”) that meet the Commission’s functional requirements for closed captioning.¹³ If a device manufacturer refuses to provide an API to interface with the software to turn on the captions, software developers have limited ability to implement closed captioning on the video content on the

¹¹ *Id.* See also DIRECTV Comments at n.29 (cautioning Commission “not to lock in any particular standard, even if such standard represents an industry consensus today”). Moreover, robust interchange format solutions will accrue from the requirement that certain features be supported. *Id.*

¹² See Google Comments at 3. As the *NPRM* observes, many companies already provide captioning for IP-delivered video programming, even in the absence of a single format. *NPRM* at ¶ 40 & n.36.

¹³ See Comments of TVGuardian, LLC (“TVGuardian”) at 6-7 (noting that because closed caption data on much Internet video can be displayed only through VPPs’ proprietary video players, many of the benefits of closed captions provided for TV content are lost).

device. Thus, open, publicly available APIs and formats can enable closed caption information originally developed for broadcast television to be provided to consumers accessing these programs on the Internet or IP-enabled devices, with no loss of function or content.¹⁴ By declining to mandate a particular standard, the Commission will provide software developers with the continued ability to innovate and create new applications for closed captioning as technology evolves.

II. THE PROPOSED BALANCED DIVISION OF RESPONSIBILITIES AMONG VPOs, VPPs, AND VPDs IS APPROPRIATE

There is widespread support for the Commission's general approach to allocating responsibilities among VPOs, VPPs, and VPDs and, in particular, to require that VPOs send program files to VPPs/VPDs with required captions or to certify that captions are lawfully not required.¹⁵ The mechanism proposed by the Commission, of having the VPO provide either captions or a certification, is straightforward, "sensible and consistent with the CVAA."¹⁶ This process "adequately ensures that VPDs/VPPs will have information on video programming subject to the [Video Privacy Protection Act] and appropriately allocates the duty to investigate and inform on the VPO, which is in the best position to determine whether captioning is required."¹⁷ As one VPO explains, "closed captioning is a creative process which must protect the creative integrity and ownership of the underlying copyrighted work. The copyright owner, or VPO, is legally responsible for all creative aspects of a copyrighted work. . . . Closed

¹⁴ Google Comments at 3.

¹⁵ See Comments of American Cable Association at 13-14; AT&T Comments at 6; DiMA Comments at 5; DIRECTV Comments at 7; Microsoft Comments at 5; Verizon Comments at 4.

¹⁶ Verizon Comments at 4.

¹⁷ DiMA Comments at 5.

captioning . . . should similarly be the responsibility of the VPO.”¹⁸ Although complexities exist,¹⁹ many, such as managing multiple copyright owners and separate copyrights for individual components of an audio-visual work, are appropriately resolved by copyright owners and licensees. In these circumstances, VPOs are best situated to manage the relationships between copyright owners.²⁰ As Starz notes, “[a]ny Commission requirement for an entity other than the VPO to monitor and edit the copyrighted aspects of closed captioning would undermine the VPO’s right to control derivative works under copyright law and unnecessarily shift a creative burden to an entity that may not share the creative interests of the VPO.”²¹

Google does not agree that the Commission could satisfy the CVAA’s directive to “establish a mechanism to make available to [VPPs and VPDs] information on video programming subject to the Act on an ongoing basis”²² by “leav[ing] the mechanics of compliance with the Act to licenses between VPOs and VPDs”²³ or other contractual arrangements. Such an approach would be inconsistent with the plain language of the statute to “establish a mechanism.”²⁴ Continued reliance on the types of negotiations involving closed captioning for television programming would be inefficient, would not result in consistent caption quality, and would fail to adequately address the needs of consumers.

¹⁸ Comments of Starz Entertainment, LLC (“Starz”) at 3. *See also* Microsoft Comments at 5 (“VPOs are in the best position to assess whether captions are required for a particular program since they have knowledge of which content has been shown on television, and (b) as the copyright holders, the VPOs typically possess the necessary legal rights to modify the content and insert closed captions.”).

¹⁹ *See* Comments of Motion Picture Association of America, Inc. (“MPAA”) at 6.

²⁰ *See* DIRECTV Comments at 7.

²¹ Starz Comments at 4.

²² 47 U.S.C. § 613(c)(2)(D)(v).

²³ NCTA Comments at 12. *See also* MPAA Comments at 6.

²⁴ 47 U.S.C. § 613(c)(2)(D)(v).

With respect to the responsibilities of VPPs/VPDs, Google (and likely other VPPs/VPDs) is capable of giving notice to consumers about whether or not IP-delivered video programming was provided with closed captions by the VPO or was declared exempt.

III. IP-DELIVERED VIDEO PROGRAMMING CAPTIONING SHOULD BE “AT LEAST EQUAL” TO THE QUALITY OF THE CAPTIONING OF THAT PROGRAMMING WHEN SHOWN ON TELEVISION

The Commission noted in the *NPRM* that “[i]t appears that Congress intended, at a minimum, that captions of IP-delivered video programming should be of *at least the same quality* as captions shown on television.”²⁵ The Commission therefore proposed to adopt an “at least equal to” standard in the context of Section 202(b) of the CVAA for captioning delivered over IP.²⁶ Google believes the “functional equivalent” standard proposed by several commenters²⁷ is not consistent with Congressional intent and effectively would degrade the less-than-ideal quality users experience in connection with TV programming.

In contrast, the proposed “at least equal to” benchmark would provide an objective measure for determining whether the captioning is on par with television programming captioning. The proposal provides flexibility for affected parties to meet, and possibly improve, the current quality of captioning for TV programming.²⁸ Google agrees with the Consumer Groups, who correctly assert that “[a]nything less than captioning parity between the two types

²⁵ *NPRM* at ¶ 18 (emphasis added).

²⁶ *Id.*; see also *NPRM* Appendix A, 47 C.F.R. § 79.4(d) (proposed).

²⁷ See, e.g., Microsoft Comments at 13-16; AT&T Comments at 9-11.

²⁸ As the National Court Reporters Association (“NCRA”) notes, the lack of captioning quality standards in the broadcast, satellite, and cable television has led to “the continued flow of consumer complaints to the Commission, [and] is an injustice to the millions of Americans who rely on captions as an assistive technology for the purposes of access.” NCRA Comments at 3-4.

of delivery would fall short of the CVAA's guarantee of equal access for consumers who are deaf or hard of hearing to the increasingly important world of Internet video content."²⁹

Google also urges the Commission to issue a *Further Notice of Proposed Rulemaking* to consider the adoption of specific closed captioning quality standards.³⁰ The lack of such standards for broadcast programming has long been a source of complaints,³¹ and the Commission should seek to avoid similar complaints in connection with IP video.

IV. THE COMMISSION SHOULD INTERPET "APPARATUS" BROADLY, CONSISTENT WITH THE CVAA

A. SOFTWARE IS APPROPRIATELY CONSIDERED APPARATUS

There is substantial debate in the record about the extent to which apparatus includes software, and whether hardware and software can be considered separately in devices that receive, play back, and record video programming. As Rovi notes, such devices "are a combination of hardware and software, and software must enable a feature in order for the product to have that feature."³² Google believes that to the extent a device requires software to direct the use and operation to receive, play back, and record video programming, it is an apparatus "designed" to do so, and should be deemed apparatus for purposes of Section 203.

²⁹ Consumer Groups Comments at 9.

³⁰ Consumer participation and oversight should be integral to any quality standards formulated by the Commission.

³¹ See, e.g., *In the Matter of Closed Captioning of Video Programming, Implementation of Section 305 of the Telecommunications Act of 1996 – Video Programming Accessibility*, Petition for Rulemaking filed by Telecommunications for the Deaf, Inc., et al., RM-11065, at 24-27 (July 23, 2004) (emphasizing need for technical quality standards to remedy ongoing captioning quality issues).

³² Rovi Comments at 9-10 (also noting "little difference between hardware for television-related and hardware for non-television-related functions – especially for IP-connected devices"). See also Consumer Groups Comments at 41 ("Users do not experience video programming and captioning on 'physical products' independently of the software on which the products run, nor is there any utility in attempting to draw a bright line between the two for the purposes of the CVAA.").

Design necessarily includes software. Even where software is not preloaded but is downloaded by a user, the fact that the device has the capability to operate the downloaded software should be sufficient to make it an apparatus under the rules,³³ particularly given that “[i]n very few, if any, situations does hardware alone serve as the enabler of reception, unlike in traditional analog television.”³⁴ Consequently, not including software in the definition of apparatus likely would “exclude virtually all modern video playback technology [and] directly contradict the CVAA’s goal of encoding accessibility by design in video programming hardware.”³⁵

B. AN APPARATUS IS DESIGNED TO RECEIVE, PLAY BACK, OR RECORD VIDEO PROGRAMMING IF IT HAS THE CAPABILITY TO DO SO

The CVAA requires “apparatus designed to receive or play back video programming transmitted simultaneously with sound” and “apparatus designed to record video programming transmitted simultaneously with sound” to comply with captioning capability requirements.³⁶ As the *NPRM* notes,³⁷ while these provisions extend to a broad universe of apparatus, Section 203 also grants authority to the Commission to waive the requirements for apparatus “(i) primarily designed for activities other than receiving or playing back video programming transmitted simultaneously with sound; or (ii) for equipment designed for multiple purposes, capable of

³³ As Verizon notes, “[i]n either case . . . the software is an integral part of the process and must be configured to allow closed captioning, and therefore it must be considered part of the ‘apparatus.’” Verizon Comments at 7.

³⁴ NCAM Comments at 2. See also Consumer Groups Comments at 43, 44 (“In reality, video playback and captioning are and have always been accomplished in some form of ‘software,’” and a broad range of devices “use some form of software to deliver video programming.”).

³⁵ Consumer Groups Comments at 45.

³⁶ 47 U.S.C. §§ 303(u), (z).

³⁷ See *NPRM* at ¶ 48.

receiving or playing video programming transmitted simultaneously with sound but whose essential utility is derived from other purposes.”³⁸

CEA seeks to narrow the definition of “apparatus” by asserting that a device is not designed to receive, play back, or record video programming if it merely includes video hardware and/or a generic media player.³⁹ CEA also argues that a consumer’s use of a device is not relevant to whether the device constitutes “apparatus” for purposes of Section 203.⁴⁰ While these claims could be germane to whether a particular device or class of devices should be granted a waiver of the rules,⁴¹ the Commission should not read limitations into the statute where none exist. Contrary to CEA’s arguments, in this context there is no essential distinction between the intent of the manufacturer’s design and the consumer’s use. Even if a particular consumer rarely, or never, uses a device’s play back capability, the device was designed with that capability for those consumers who intend to use it. While “[i]t is important to consider the product’s actual functionality,”⁴² design and functionality are not inherently severable. Clearly,

³⁸ 47 U.S.C. § 303(u)(2)(C).

³⁹ CEA Comments at 12. CEA cites a “simple camcorder” as an example. Google believes that if a device has the capability to play back video recorded from another source that contains captions (such as the more than one million videos on YouTube containing consumer-generated captions, see Ken Harrenstien, *Happy Birthday Automatic Captions! Celebrate with more videos and higher quality*, The Official YouTube Blog (Nov. 19, 2010), <http://youtube-global.blogspot.com/2010/11/happy-birthday-automatic-captions.html>), it should have the capability to support captions from that source.

⁴⁰ CEA Comments at 12.

⁴¹ Google does not categorically oppose waivers for specific apparatus or classes of apparatus, and agrees with the Consumer Groups that the Commission should require clear evidence that video playback is not capable of serving as an essential utility of the device. Consumer Groups Comments at 43.

⁴² Rovi Comments at 9.

any device that is capable of being used to receive, play back, or record video programming from an external source has been designed to do so, and therefore is “apparatus.”⁴³

V. CONCLUSION

For the reasons stated herein and in its initial Comments, Google urges the Commission to: (1) promote the use of open, public APIs and formats; (2) refrain from mandating particular delivery and interchange format standards; (3) require that VPOs send program files to VPPs/VPDs with required captions; (4) ensure that the quality of captioning of IP-delivered video programming is at least equal to the quality of the captioning of that programming when shown on television; (5) confirm that “apparatus” includes software for purposes of Section 203 of the CVAA; and (6) confirm that under Section 203 an apparatus is designed to receive, play back, or record video programming if it has the capability to do so. Google looks forward to working with the Commission to implement the proposed rules.

Respectfully submitted,



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⁴³ Indeed, Congress sought to ensure that “devices consumers use to view video programming are able to display closed captions, decode, and make available the transmission of video description services . . .” 111 H. Rpt. 563, 34 (July 26, 2010).