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

DOCKET FILE COPY ORIGINAL

MAILED
OCT 13 2011
FCC Mail Room

In the Matter of	)	
	)	
Implementation of Sections 716 and 717 of the Communications Act of 1934, as Enacted by the Twenty-First Century Communications and Video Accessibility Act of 2010	)	CG Docket No. 10-213
	)	
Amendments to the Commission's Rules Implementing Sections 255 and 251(a)(2) of the Communications Act of 1934, as Enacted by the Telecommunications Act of 1996	)	WT Docket No. 96-198
	)	
In the Matter of Accessible Mobile Phone Options for People who are Blind, Deaf-Blind, or Have Low Vision	)	CG Docket No. 10-145

REPORT AND ORDER AND FURTHER NOTICE OF PROPOSED RULEMAKING

Adopted: October 7, 2011 **Released: October 7, 2011**

Comment Date: (45 days after date of publication in the Federal Register)
Reply Comment Date: (75 days after date of publication in the Federal Register)

By the Commission: Chairman Genachowski and Commissioners McDowell and Clyburn issuing separate statements; Commissioner Copps approving in part, dissenting in part and issuing a statement.

TABLE OF CONTENTS

Heading Paragraph #

I. INTRODUCTION AND BACKGROUND 1
II. EXECUTIVE SUMMARY 13
III. REPORT AND ORDER 30
A. Scope and Obligations 30
1. Advanced Communications Services 30
a. General 30
b. Interconnected VoIP Service 33
c. Non-interconnected VoIP Service 40
d. Electronic Messaging Service 42
e. Interoperable Video Conferencing Service 46
2. Manufacturers of Equipment Used for Advanced Communications Services 52
3. Providers of Advanced Communications Services 81
4. General Obligations 91
a. Manufacturers and Service Providers 92

b. Providers of Applications or Services Accessed over Service Provider Networks 95
c. Network Features 97
d. Accessibility of Information Content 100
5. Phased in Implementation 105
B. Nature of Statutory Requirements 114
1. Achievable Standard 114
a. Definitions 114
(i) Accessible to and Usable by 114
(ii) Disability 117
b. General Approach 119
c. Specific Factors 127
(i) Nature and Cost of Steps Needed with Respect to Specific Equipment or Service 127
(ii) Technical and Economic Impact on the Operation 131
(iii) Type of Operations 136
(iv) Extent to which Accessible Services or Equipment are Offered with Varying Functionality, Features, and Prices 140
2. Industry Flexibility 149
3. Compatibility 158
C. Waivers and Exemptions 170
1. Customized Equipment or Services 170
2. Waivers for Services or Equipment Designed Primarily for Purposes other than Using ACS 179
3. Exemptions for Small Entities – Temporary Exemption of Section 716 Requirements 201
D. Additional Industry Requirements and Guidance 210
1. Performance Objectives 210
2. Safe Harbors 213
3. Prospective Guidelines 216
E. Section 717 Recordkeeping and Enforcement 219
1. Recordkeeping 219
2. Enforcement 231
a. Overview 231
b. General Requirements 232
c. Informal Complaints 241
d. Formal Complaints 241
e. Remedies and Sanctions 275
IV. FURTHER NOTICE OF PROPOSED RULEMAKING 279
A. Small Entity Exemption 279
B. Section 718 Implementation 292
C. Interoperable Video Conferencing Services 301
1. Meaning of Interoperable 301
2. Coverage of Video Mail 306
D. Accessibility of Information Content 308
E. Electronically Mediated Services 309
F. Performance Objectives 310
G. Safe Harbors 311
H. Section 718 Recordkeeping and Enforcement 315
V. PROCEDURAL MATTERS 318
A. *Ex Parte* Rules – Permit-But-Disclose 318

B. Comment Filing Procedures 319
C. Final Regulatory Flexibility Analysis 321
D. Final Paperwork Reduction Analysis 322
E. Initial Regulatory Flexibility Analysis 324
F. Initial Paperwork Reduction Analysis 325
G. Further Information 326
VI. ORDERING CLAUSES 327
APPENDIX A - List of Commenters
APPENDIX B - Final Rules
APPENDIX C - Proposed Rules
APPENDIX D - Final Regulatory Flexibility Analysis
APPENDIX E - Initial Regulatory Flexibility Analysis
APPENDIX F - Accessibility of Information Content
APPENDIX G - Performance Objectives

I. INTRODUCTION AND BACKGROUND

1. In this *Report and Order*, we implement provisions of Section 104 of the "Twenty-First Century Communications and Video Accessibility Act of 2010"[1] (hereinafter referred to as the "CVAA"), which was enacted to ensure that people with disabilities have access to the incredible and innovative communications technologies of the 21st-century. These rules are significant and necessary steps towards ensuring that the 54 million Americans with disabilities[2] are able to fully utilize and benefit from advanced communications services ("ACS"). Given the fundamental role ACS plays in our everyday lives, we believe that the CVAA represents the most significant accessibility legislation since the passage of the Americans with Disabilities Act ("ADA") in 1990.[3]

2. In enacting the CVAA, Congress noted that the communications marketplace had undergone a "fundamental transformation" since it last acted on these issues in 1996, when it added Section 255 to the Communications Act of 1934, as amended (hereinafter referred to as "the Communications Act" or "the Act").[4] For example, statistics show that as of 2010, "40% of adults use the Internet, e-mail or instant messaging on a mobile phone."[5] Congress found,

---

[1] 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.) (CVAA). The law was enacted on October 8, 2010. *See also* Amendment of Twenty-First Century Communications and Video Accessibility Act of 2010, Pub. L. No. 111-265, 124 Stat. 2795 (2010), also enacted on October 8, 2010, to make technical corrections to the Twenty-First Century Communications and Video Accessibility Act of 2010 and the amendments made by that Act. Hereinafter, all references to the CVAA will be to the CVAA as codified in the Communications Act of 1934, as amended, unless otherwise indicated.

[2] Matthew W. Brault, Current Population Reports 3, *Americans with Disabilities: 2005,* (Dec. 2008) ("2005 Census Report"), http://www.census.gov/prod/2008pubs/p70-117.pdf.

[3] Americans with Disabilities Act of 1990, Pub. L. No. 101-336, 104 Stat. 327 (1990) (codified at 42 U.S.C. §§ 12101-12213) (ADA).

[4] *See* 47 U.S.C. § 255; S. Rep. No. 111–386, at 1 (2010) ("Senate Report"); H.R. Rep. No. 111-563, at 19 (2010) ("House Report").

[5] Aaron Smith, Pew Internet, *Mobile Access 2010*, (July 7, 2010), available at http://www.pewinternet.org/Reports/2010/Mobile-Access-2010.aspx. The Pew Report states that "40% of (continued....)

however, that people with disabilities often have not shared in the benefits of this rapid technological advancement.[6] Implementation of the CVAA is a critical step in addressing this inequity.

3. The actions we take today are consistent with the Commission's commitment to rapid deployment of and universal access to broadband services for all Americans. As described in the National Broadband Plan, broadband technology can stimulate economic growth and provide opportunity for all Americans.[7] Only 41% of Americans with disabilities, however, have broadband access at home compared to the national average of 69%.[8] Congress recognized that this gap must be closed in order to afford persons with disabilities to share fully in the economic, social, and civic benefits of broadband.

4. In keeping with Congress's clear direction, our actions today advance the accessibility of ACS in a manner that is consistent with our objectives of promoting investment and innovation, while being mindful of the potential burden on industry. We have crafted our rules to provide manufacturers and service providers flexibility in how they achieve accessibility. Our rules encourage efficient accessibility solutions and do not require the retrofitting of equipment or services. Further, our rules will phase in over two years, balancing the potentially significant industry-wide changes the law requires with the need to ensure that people with disabilities can take advantage of the benefits of ACS.

5. Today, we specifically take action to implement Sections 716, 717, and 718 of the Act. Section 716 requires that providers of ACS and manufacturers of equipment used for ACS make their services and products accessible to people with disabilities, unless it is not achievable to do so.[9] The CVAA provides flexibility to providers of ACS and manufacturers of ACS equipment by allowing covered entities to comply with Section 716 by either building accessibility features into their equipment or services[10] or relying on third-party applications, peripheral devices, software, hardware, or customer premises equipment ("CPE") that are available to individuals with disabilities at nominal cost.[11] Section 716 grants the Commission the authority to waive the requirements of this section for equipment and services that provide access to ACS but are designed primarily for purposes other than using ACS and to exempt small

(Continued from previous page)
adults use the Internet, e-mail or instant messaging on a mobile phone (up from the 32% of Americans who did this in 2009)" and that "mobile data applications have grown more popular over the last year." *Id.* The report shows that the usage of "non-voice data applications" has grown dramatically in the last year as the percentages have risen for people who use their phones for such things, among others, as checking the Internet, taking pictures, and sending text messages, instant messages, and e-mail and also states, "[o]f the eight mobile data applications we asked about in both 2009 and 2010, all showed statistically significant year-to-year growth." *Id.*

[6] *See* Senate Report at 1-2; House Report at 19.

[7] Federal Communications Commission, *Connecting America: The National Broadband Plan* at Recommendation 9.10. (rel. Mar. 16, 2010) ("National Broadband Plan" or "NBP"), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296935A1.pdf.

[8] Susannah Fox, Pew Internet, Americans Living with Disability and their Technology Profile (January 21, 2011), available at http://pewinternet.org/Reports/2011/Disability.aspx.

[9] *See* 47 U.S.C. §§ 617(a)(1) and (b)(1).

[10] *See* 47 U.S.C. §§ 617(a)(2)(A) and (b)(2)(A).

[11] *See* 47 U.S.C. §§ 617(a)(2)(B) and (b)(2)(B).

entities from the requirements of the section.[12] Finally, Section 716 provides that the requirements of the section do not apply to customized equipment or services not offered directly to the public or to such classes of users as to effectively be made available to the public.[13]

6. Section 717 of the Act requires that the Commission establish new recordkeeping and enforcement procedures for manufacturers and providers that are subject to Section 255 and Section 716.[14] It provides that covered entities submit to the Commission an annual certification that records are kept in accordance with the requirements of the section.[15] Every two years after enactment of the CVAA, the Commission is required to file a report to Congress including an assessment of compliance with Sections 255, 716, and 718; the extent of persistent barriers to accessibility with respect to new communications technologies; and a summary of complaints handled, along with their resolutions, over the preceding two years.[16] Section 717 also compels the Comptroller General to conduct a study on the Commission's enforcement actions, as well as the extent to which the sections' requirements have affected the development of new technologies, within five years of enactment of the CVAA.[17] Finally, Section 717 requires the creation of a clearinghouse for information about the accessibility of products, services, and accessibility solutions and requires the Commission, in coordination with NTIA, to develop an information and educational program to inform the public about the clearinghouse and the protections and remedies in Sections 255, 716, and 718.[18]

7. Section 718, which is effective three years after the date of enactment of the CVAA, requires manufacturers and service providers to make Internet browsers built into mobile phones accessible to and useable by people who are blind or have visual impairments, unless doing so is not achievable.[19] Section 718 makes clear that this obligation does not include a requirement to make Internet content, applications, or services accessible to or usable by individuals with disabilities.[20] Section 718 also provides flexibility for manufacturers or providers to comply with this section by either building accessibility features into their equipment or services or relying on third-party applications, peripheral devices, software, hardware, or CPE.[21] Finally, Section 718 amends Section 503 of the Act to provide forfeiture penalties for manufacturers or providers who violate Sections 255, 716, or 718.[22]

8. *Procedural history.* On October 21, 2010, the Consumer and Governmental

[12] 47 U.S.C. § 617(h)(1)-(2).

[13] 47 U.S.C. § 617(i).

[14] *See* 47 U.S.C. § 618(a). The Section 717 requirements also apply to manufacturers and providers subject to Section 718, which provides for the accessibility of mobile phone browsers and is effective three years after enactment of the CVAA. *See* Section 717 Recordkeeping and Enforcement, Section III.E, *infra*..

[15] 47 U.S.C. § 618(a)(5)(B).

[16] 47 U.S.C. § 618(b).

[17] 47 U.S.C. § 618(c).

[18] 47 U.S.C. § 618(d), (e).

[19] *See* 47 U.S.C. § 619.

[20] 47 U.S.C. § 619(a)(1)-(2).

[21] 47 U.S.C. § 619(b).

[22] 47 U.S.C. § 619(c).

Affairs Bureau ("CGB") and the Wireless Telecommunications Bureau ("WTB") jointly issued a Public Notice ("*October Public Notice*") seeking input on key provisions in Sections 716, 717, and 718 of the Communications Act, as amended by the CVAA.[23]

9. In March 2011, the Commission issued a *Notice of Proposed Rulemaking*, proposing new accessibility requirements to implement Sections 716 and 717 of the Act.[24] In the *Accessibility NPRM*, the Commission proposed that the accessibility requirements of Section 716 generally should apply to a wide range of manufacturers and service providers, including applications developers and providers of applications or services downloaded and run by users over service providers' networks.[25] The Commission also sought comment on whether and how it should exercise its authority to adopt exemptions for small entities[26] and waivers, both individual and blanket, for offerings that are designed primarily for purposes other than using advanced communications services.[27]

10. The Commission proposed, in the *Accessibility NPRM*, to define "achievable," consistent with the statutory language, as "with reasonable effort and expense"[28] and proposed to adopt the four statutory factors that could be used to conduct an achievability analysis pursuant to Section 716.[29] The Commission also sought comment on whether it should base some of its definitions on the United States Access Board ("Access Board")[30] guidelines and the existing Section 255 rules. Section 255(e) of the Act, as amended, directs the Access Board to develop equipment accessibility guidelines "in conjunction with" the Commission, and periodically to

[23] *See Consumer and Governmental Affairs Bureau and Wireless Telecommunications Bureau Seek Comment on Advanced Communication Provisions of the Twenty-First Century Communications and Video Accessibility Act of 2010*, CG Docket No. 10-213, DA 10-2029, Public Notice, at 2, released October 21, 2010 ("*October Public Notice*").

[24] *Implementation of Sections 716 and 717 of the Communications Act of 1934, as Enacted by the Twenty-First Century Communications and Video Accessibility Act of 2010*, CG Docket No. 10-213, Notice of Proposed Rulemaking, 26 FCC Rcd 3133, 3142, ¶ 16 (2011) (*Accessibility NPRM*).

[25] *Accessibility NPRM*, 26 FCC Rcd at 3142-3151, ¶¶ 19-47.

[26] *Accessibility NPRM*, 26 FCC Rcd at 3157-58, ¶ 66.

[27] *Accessibility NPRM*, 26 FCC Rcd at 3153-56, ¶¶ 52-60.

[28] *Accessibility NPRM*, 26 FCC Rcd at 3158-59, ¶¶ 67-69.

[29] The Commission proposed to consider the following four factors equally to make achievability determinations: 1) the nature and cost of the steps needed to meet the requirements of this section with respect to the specific equipment or service in question; 2) the technical and economic impact on the operation of the manufacturer or provider and on the operation of the specific equipment or service in question; 3) the type of operations of the manufacturer or provider; and 4) the extent to which the service provider or manufacturer in question offers accessible services or equipment containing varying degrees of functionality and features, and offered at differing price points. *Accessibility NPRM*, 26 FCC Rcd at 3158-3162, ¶¶ 68-76.

[30] The U.S. Access Board is "an independent Federal agency devoted to accessibility for people with disabilities [which] . . . develops and maintains design criteria for the built environment, transit vehicles, telecommunications equipment, and for electronic and information technology." United States Access Board, *About the U.S. Access Board*, http://www.access-board.gov/about.htm (last visited February 18, 2011).

review and update those guidelines.[31] In accordance with this directive, in March 2010, the Access Board released Draft Guidelines for public comment.[32] Although a number of the issues discussed in the instant proceeding overlap with the guidelines now under consideration by the Access Board, the Access Board's process for developing guidelines is still not complete.

11. In addition, the Commission proposed to adopt the Act's flexibility to allow manufacturers and service providers to comply with the requirements of Section 716 either by building accessibility features into their equipment or service or by relying on third-party applications or other accessibility solutions.[33] The Commission also proposed, consistent with the Act, to require that manufacturers and service providers make their products compatible with specialized devices commonly used by people with disabilities, when it is not achievable for manufacturers and service providers to make their products accessible to people with disabilities.[34]

12. To enforce the provisions of Sections 255, 716, 717, and 718, the Commission proposed procedures in the *Accessibility NPRM* to facilitate the filing of complaints,[35] including implementing the Congressional 180-day deadline to issue an order resolving informal complaints concerning the accessibility of products.[36] If the Commission fails to act on a complaint as prescribed in Section 717, the complainant may file for mandamus in the U.S. Court of Appeals for the District of Columbia to compel the Commission to carry out its responsibility under the section.[37] In addition, the Commission proposed that manufacturers and providers subject to Sections 716, 718, and Section 255 maintain records of (1) their efforts to consult with people with disabilities; (2) the accessibility features of their products; and (3) the compatibility of their products with specialized devices, consistent with the Act. The Commission also sought comment on whether it should require entities to maintain other records to demonstrate their compliance with these provisions and sought input on a "reasonable time period" during which covered entities would be required to maintain these records.[38] Finally, in the *Accessibility NPRM*, the Commission sought input on steps the Commission and stakeholders could take to ensure that manufacturers and service providers could meet their obligations pursuant to Section 718 by 2013.

II. EXECUTIVE SUMMARY

13. In this *Report and Order*, we conclude that the accessibility requirements of Section 716 of the Act apply to non-interconnected VoIP services, electronic messaging services,

---

[31] 47 U.S.C. § 255(e). *See Implementation of Sections 255 and 251(a)(2) of the Communications Act of 1934, as enacted by the Telecommunications Act of 1996*, WT Docket No. 96-198, Report and Order and Further Notice of Inquiry, 16 FCC Rcd 6417 (1999) ("*Section 255 Report and Order*").

[32] *Accessibility NPRM,* 26 FCC Rcd at 3164-3165, ¶¶ 82-83. *See also* United States Access Board, *Draft Information and Communication Technology (ICT) Standards and Guidelines*, (March 2010), ("Access Board Draft Guidelines"), http://www.access-board.gov/sec508/refresh/draft-rule.pdf.

[33] *See Accessibility NPRM,* 26 FCC Rcd at 3136-70, ¶¶ 4, 77-80, 100.

[34] *Accessibility NPRM,* 26 FCC Rcd at 3165-67, ¶¶ 85-90, 3170 ¶ 100.

[35] *Accessibility NPRM,* 26 FCC Rcd at 3180-83, ¶¶ 126-133.

[36] *Accessibility NPRM,* 26 FCC Rcd at 3183-85, ¶¶ 136-139.

[37] 47 U.S.C. § 618(a)(6).

[38] *Accessibility NPRM,* 26 FCC Rcd at 3176-78, ¶¶ 117, 121.

and interoperable video conferencing services. We implement rules that hold entities that make or produce end user equipment, including tablets, laptops, and smartphones, responsible for the accessibility of the hardware and manufacturer-provided software used for e-mail, SMS text messaging, and other ACS. We also hold these entities responsible for software upgrades made available by such manufacturers for download by users. Additionally, we conclude that, except for third-party accessibility solutions, there is no liability for a manufacturer of end user equipment for the accessibility of software that is independently selected and installed by the user, or that the user chooses to use in the cloud. We provide the flexibility to build-in accessibility or to use third-party solutions, if solutions are available at nominal cost (including set up and maintenance) to the consumer. We require covered entities choosing to use third-party accessibility solutions to support those solutions for the life of the ACS product or service or for a period of up to two years after the third-party solution is discontinued, whichever comes first. If the third-party solution is discontinued, however, another third-party accessibility solution must be made available by the covered entity at nominal cost to the consumer. If accessibility is not achievable either by building it in or by using third-party accessibility solutions, equipment or services must be compatible with existing peripheral devices or specialized customer premises equipment commonly used by individuals with disabilities to achieve access, unless such compatibility is not achievable.

14. We also conclude that providers of advanced communications services include all entities that offer advanced communications services in or affecting interstate commerce, including resellers and aggregators. Such providers include entities that provide advanced communications services over their own networks, as well as providers of applications or services accessed (*i.e.*, downloaded and run) by users over other service providers' networks. Consistent with our approach for manufacturers of equipment, we find that a provider of advanced communications services is responsible for the accessibility of the underlying components of its service, including software applications, to the extent that doing so is achievable. A provider will not be responsible for the accessibility of components that it does not provide, except when the provider relies on a third-party solution to comply with its accessibility obligations.

15. We adopt rules identifying the four statutory factors that will be used to conduct an achievability analysis pursuant to Section 716: (i) the nature and cost of the steps needed to meet the requirements of Section 716 of the Act and this part with respect to the specific equipment or service in question; (ii) the technical and economic impact on the operation of the manufacturer or provider and on the operation of the specific equipment or service in question, including on the development and deployment of new communications technologies; (iii) the type of operations of the manufacturer or provider; and (iv) the extent to which the service provider or manufacturer in question offers accessible services or equipment containing varying degrees of functionality and features, and offered at differing price points. Pursuant to the fourth achievability factor, we conclude that covered entities do not have to consider what is achievable with respect to every product, if such entity offers consumers with the full range of disabilities products with varied functions, features, and prices. We also conclude that ACS providers have a duty not to install network features, functions, or capabilities that impede accessibility or usability.

16. We adopt rules pursuant to Section 716(h)(1) to accommodate requests to waive the requirements of Section 716 for ACS and ACS equipment. We conclude that we will grant waivers on a case-by-case basis and adopt two factors for determining the primary purpose for which equipment or a service is designed. We will consider whether the equipment or service is capable of accessing ACS and whether it was designed for multiple purposes but primarily for purposes other than using ACS. In determining whether the equipment or service is designed primarily for purposes other than using ACS, the Commission shall consider the following

factors: (i) whether the product was designed to be used for ACS purposes by the general public; and (ii) whether the equipment or services are marketed for the ACS features and functions.

17. Our new accessibility rules further provide that we may also waive, on our own motion or in response to a petition, the requirements of Section 716 for *classes* of services and equipment that meet the above statutory requirements and waiver criteria. To be deemed a class, members of a class must have the same kind of equipment or service and same kind of ACS features and functions.

18. We further conclude that the Commission has the discretion to place time limits on waivers. The waiver will generally be good for the life of the product or service model or version. However, if substantial upgrades are made to the product that may change the nature of the product or service, a new waiver request must be filed. Parties filing class waiver requests must explain in detail the expected lifecycle for the equipment or services that are part of the class. All products and services covered by a class waiver that are introduced into the market while the waiver is in effect will ordinarily be subject to the waiver for the duration of the life of those particular products and services. For products and services already under development at the time when a class waiver expires, the achievability analysis conducted may take into consideration the developmental stage of the product and the effort and expense needed to achieve accessibility at that point in the developmental stage. To the extent a class waiver petitioner seeks a waiver for multiple generations of similar equipment and services, we will examine the justification for the waiver extending through the lifecycle of each discrete generation.

19. We adopt a timeline for consideration of waiver requests similar to the Commission's timeline for consideration of applications for transfers or assignments of licenses or authorizations relating to complex mergers. We delegate to the Consumer and Governmental Affairs Bureau the authority to act upon all waiver requests, and urge the Bureau to act promptly with the goal of completing action on each waiver request within 180 days of public notice. In addition, we require that all public notices of waiver requests provide a minimum 30-day comment period. Finally, we note that these public notices will be posted and highlighted on a webpage designated for disability-related information in the Disability Rights Office section of the Commission's website.

20. The Commission has already received requests for class waivers for gaming equipment, services, and software, and TVs and Digital Video Players ("DVPs") enabled for use with the Internet. While we conclude that the record is insufficient to grant waivers for gaming and IP-enabled TVs and DVPs, parties may re-file requests consistent with the new waiver rules.

21. We construe Section 716(i) of the Act to provide a narrow exemption from the accessibility requirements of Section 716. Specifically, we conclude that equipment that is customized for the unique needs of a particular entity, and that is not offered directly to the public, is exempt from Section 716. We conclude that this narrow exemption should be limited in scope to customized equipment and services offered to business and other enterprise customers only. We also conclude that equipment manufactured for the unique needs of public safety entities falls within this narrow exemption.

22. We find that the record does not contain sufficient support to adopt a permanent exemption for small entities. Nonetheless, we believe that relief is necessary for small entities that may lack the legal, technical, or financial ability to conduct an achievability analysis or comply with the recordkeeping and certification requirements under these rules. Therefore, we adopt a temporary exemption for ACS providers and ACS equipment manufacturers that qualify as small business concerns under the Small Business Administration's rules and small business size standards. The temporary exemption will expire on the earlier of (1) the effective date of

small entity exemption rules adopted pursuant to the *Further Notice of Proposed Rulemaking*, or (2) October 8, 2013.

23. We adopt as general performance objectives the requirements that covered equipment and services be accessible, compatible, and usable. We defer consideration of more specific performance objectives to ensure the accessibility, usability, and compatibility of ACS and ACS equipment until the Access Board adopts Final Guidelines[39] and the Emergency Access Advisory Committee (EAAC)[40] provides recommendations to the Commission relating to the migration to IP-enabled networks. Additionally, consistent with the views of the majority of the commenters, we refrain from adopting any technical standards as safe harbors for covered entities. To facilitate the ability of covered entities to implement accessibility features early in product development cycles, we gradually phase in compliance requirements for accessibility, with full compliance required by October 8, 2013.

24. We also adopt new recordkeeping rules that provide clear guidance to covered entities on the records they must keep to demonstrate compliance with our new rules. We require covered entities to keep the three categories of records set forth in Section 717(a)(5)(A).[41] We remind covered entities that do not make their products or services accessible and claim as a defense that it is not achievable for them to do so, that they bear the burden of proof on this defense.

25. In an effort to encourage settlements, we adopt a requirement that consumers must file a "Request for Dispute Assistance" with the Consumer and Governmental Affairs' Disability Rights Office as a prerequisite to filing an informal complaint with the Enforcement Bureau. We also establish minimum requirements for information that must be contained in an informal complaint. While we also adopt formal complaint procedures, we decline to require complainants to file informal complaints prior to filing formal complaints.

26. In the accompanying *Further Notice of Proposed Rulemaking* ("*Further Notice*"), we seek comment on whether to adopt a permanent exemption for small entities and, if so, whether it should be based on the temporary exemption or some other criteria. We seek comment on the impact of a permanent exemption on providers of ACS and manufacturers of ACS equipment, including the compliance costs for small entities absent a permanent exemption. We also seek comment on the impact of a permanent exemption on consumers, including on the availability of accessible ACS and ACS equipment and on the accessibility of new ACS innovations or ACS equipment innovations. We propose to continually monitor the impact of any small entity exemption, including whether it promotes innovation or whether it has unanticipated negative consequences on the accessibility of ACS.

27. We propose to clarify that Internet browsers are software generally subject to the requirements of Section 716, with the exception of the discrete category of Internet browsers built into mobile phones used by individuals who are blind or have a visual impairment, which Congress singled out for particular treatment in Section 718. We seek to further develop the record on the technical challenges associated with ensuring that Internet browsers built into mobile phones and those browsers incorporated into computers, laptops, tablets, and devices

[39] *See* discussion *supra* para. 10. *See also* Access Board Draft Guidelines.

[40] The EAAC was established pursuant to Section 106 of the CVAA for the purpose of achieving equal access to emergency services by individuals with disabilities, as part of the migration to a national Internet Protocol-enabled emergency network. Pub. L. No. 111-260, § 106.

[41] 47 U.S.C. § 618(a)(5)(A)(i)-(iii).

other than mobile phones are accessible to and usable by persons with disabilities.

28. With regard to Section 718, which is not effective until 2013, we seek comment on the best way(s) to implement Section 718 so as to afford affected manufacturers and service providers the opportunity to provide input at the outset, as well as to make the necessary arrangements to achieve compliance at such time as the provisions of Section 718 become effective.

29. To ensure that we capture all the equipment Congress intended to fall within the scope of Section 716, we seek comment on alternative proposed definitions of "interoperable" as used in the term "interoperable video conferencing." Additionally, we ask whether we should require that video mail service be accessible to individuals with disabilities when provided along with a video conferencing service. We seek to further develop the record regarding specific activities that impair or impede the accessibility of information content. We also seek comment on whether performance objectives should include certain testable criteria. In addition, we seek comment on whether certain safe harbor technical standards will allow the various components in the ACS architecture to work together more efficiently, thereby facilitating accessibility. We also seek comment on the definition of "electronically mediated services," the extent to which electronically mediated services are covered under Section 716, and how they can be used to transform ACS into an accessible form.

III. REPORT AND ORDER

A. Scope and Obligations

1. Advanced Communications Services

a. General

30. *Background.* Section 3(1) of the Act defines "advanced communications services" to mean (A) interconnected VoIP service; (B) non-interconnected VoIP service; (C) electronic messaging service; and (D) interoperable video conferencing service.[42] Section 3 of the Act also sets forth definitions for each of these terms.[43] In the *Accessibility NPRM*, the Commission proposed to treat any offering that meets the criteria of the statutory definitions as an "advanced communications service."[44]

31. *Discussion.* We will adopt into our rules the statutory definition of "advanced communications services." We thus agree with commenters that urge us to include all offerings of services that meet the statutory definitions as being within the scope of our rules.[45] In doing so, we maintain the balance that Congress achieved in the CVAA between promoting accessibility through a broadly defined scope of covered services and equipment and ensuring industry flexibility and innovation through other provisions of the Act, including limitations on

[42] *See* 47 U.S.C. § 153(1).

[43] *See* 47 U.S.C. §§ 153(19), (25), (27), (36).

[44] *Accessibility NPRM*, 26 FCC Rcd at 3145-6, 3150, ¶¶ 32, 43.

[45] *See* IT and Telecom RERCs Comments at 9 and 13. *See also* ACB Reply Comments at 17-19; AFB Reply Comments at 7. *But see* TIA Comments at 8; T-Mobile Comments at 3.

liability, waivers, and exemptions.[46]

32. Some commenters asserted that the Commission should exclude from the definition of advanced communications services such services that are "incidental" components of a product.[47] We reject this view. Were the Commission to adopt that approach, it would be rendering superfluous Section 716's waiver provision, which allows the Commission to waive its requirements for services or equipment "designed primarily for purposes other than using advanced communications service."[48] Several parties also ask the Commission to read into the statutory definition of advanced communications services the phrase "offered to the public." They argue that we should exclude from our definition advanced communications services those services that are provided on an "incidental" basis because such services are not affirmatively "offered" by the provider or equipment.[49] There is nothing in the statute or the legislative history that supports this narrow reading. Section 3(1) of the Act clearly states that the enumerated services are themselves "advanced communications services" when provided, and does not limit the definition to the particular marketing focus of the manufacturers or service providers.[50]

b. Interconnected VoIP Service

33. *Background.* Section 3(25) of the Act, as added by the CVAA, provides that the term "interconnected VoIP service" has the meaning given in section 9.3 of the Commission's rules, as such section may be amended from time to time.[51] Section 9.3, in turn, defines interconnected VoIP as a service that (1) enables real-time, two-way voice communications; (2) requires a broadband connection from the user's location; (3) requires Internet protocol-

[46] *See, e.g.*, Pub. L. No. 111-260, § 2 (limitation on liability); 47 U.S.C. §§ 617(h)(1) (provision for waivers); 617(h)(2) (provision for exempting small entities); 617(i) (exempting customized equipment and services).

[47] *See, e.g.*, CEA Comments at 10, 12, and 14; CTIA Comments at 19 and 21; ESA Comments at 3; ITI Comments at 23; OnStar Comments at 6; TIA Comments at 9 and 12; Verizon Comments at 6-7. CEA also suggests that excluding "incidental" non-interconnected VoIP services by definition, rather than by using a waiver process, would also result in the exclusion of these "incidental" services being subject to Telecommunications Relay Service Fund ("TRS Fund") contributions and FCC Form 499-A filing requirements. CEA Comments at 12-13. *See also Contributions to the TRS Fund*, Notice of Proposed Rulemaking, CG Docket No. 11-47, 26 FCC Rcd 3285 (2011). Any definition adopted in this proceeding does not necessarily determine the outcome in other proceedings.

[48] *See* 47 U.S.C. § 617(h)(1). *See also* Waivers for Services or Equipment Designed Primarily for Purposes other than Using ACS, Section III.C.2, *infra*.

[49] *See, e.g.*, CEA Comments at 10-11 and 14; T-Mobile Comments at 6; Verizon Comments at 7-8, *citing, inter alia,* 47 U.S.C. §§ 617(a) and (b).

[50] *See* 47 U.S.C. § 153(1). We also reject TIA's recommendation that "advanced communications services" be limited to "human-to-human" services. *See* Letter from Mark Uncapher, Director, Regulatory and Government Affairs, Telecommunications Industry Association, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 10-213, at 2 (filed Sept. 28, 2011) ("TIA Sept. 28 *Ex Parte*"). We note that, while Congress did not indicate that "advanced communications services" must be "human-to-human," Congress defined, in part, "interconnected VoIP service" as a service that "enables real-time, two-way voice communications" (*see* para. 32, *infra*), "non-interconnected VoIP service" as a service that "enables real-time voice communications" (see para. 39, *infra*), "electronic messaging service" as a service that "provides real-time or near real-time non-voice messages in text form between individuals" (*see* para. 41, *infra*), and "interoperable video conferencing services" as a service that "provides real-time video communications" (*see* para. 45, *infra*), and our rules adopt those definitions.

[51] 47 U.S.C. § 153(25); 47 C.F.R. § 9.3.

compatible customer premises equipment ("CPE"); and (4) permits users generally to receive calls that originate on the public switched telephone network ("PSTN") and to terminate calls to the PSTN.[52] In the *Accessibility NPRM*, the Commission proposed to continue to define interconnected VoIP in accordance with section 9.3 of the Commission's rules and sought comment on that proposal.[53]

34. In addition, Section 716(f) of the Act provides that "the requirements of this section shall not apply to any equipment or services, including interconnected VoIP service, that are subject to the requirements of Section 255 on the day before the date of enactment of the Twenty-First Century Communications and Video Accessibility Act of 2010,"[54] that is, on October 7, 2010. In the *Accessibility NPRM*, the Commission sought comment on AT&T's suggestion that "the Commission should subject multipurpose devices to Section 255 to the extent that the device provides a service that is already subject to Section 255 and apply Section 716 solely to the extent that the device provides ACS that is not otherwise subject to Section 255."[55] The Commission also sought comment on alternative interpretations of Section 716(f).

35. *Discussion.* As urged by commenters,[56] we adopt the definition of "interconnected VoIP service" as having the same meaning as in section 9.3 of the Commission's rules, as such section may be amended from time to time.[57] Given that this definition has broad reaching applicability beyond this proceeding,[58] we find that any changes[59] to this definition should be undertaken in a proceeding that considers the broader context and effects of any such change.

36. We confirm that Section 716(f) means that Section 255, and not Section 716, applies to telecommunications and interconnected VoIP services and equipment offered as of

---

[52] 47 C.F.R. § 9.3.

[53] *Accessibility NPRM*, 26 FCC Rcd at 3145, ¶ 29.

[54] *See* 47 U.S.C. § 617(f).

[55] *Accessibility NPRM*, 26 FCC Rcd at 3145, ¶ 29, *citing* AT&T Comments in response to *October Public Notice* at 5.

[56] *See, e.g.*, CEA Comments at 9; TIA Comments at 8; Verizon Comments at 5-6.

[57] 47 U.S.C. § 153(25); 47 C.F.R. § 9.3.

[58] *See, e.g.*, *Contributions to the Telecommunications Relay Services Fund*, CG Docket No. 11-47, FCC 11-38, Notice of Proposed Rulemaking, 26 FCC Rcd. 3285, 3291 ¶¶ 13-14 (2011); *Rules and Regulations Implementing the Truth in Caller ID Act of 2009*, WC Docket No. 11-39, FCC 11-41, Notice of Proposed Rulemaking, 26 FCC Rcd 4128, 4134, ¶ 15 (2011); *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; E911 Requirements for IP-Enabled Service Providers*, CG Docket No. 03-123 and WC Docket No. 05-196, FCC 08-78, Report and Order, 23 FCC Rcd. 5255, 5257, 5268, ¶¶ 22, 27 (2008); *Implementation of Sections 255 and 251(a)(2) of the Telecommunications Act of 1996: Access to Telecommunications Services, Telecommunications Equipment and Consumer Premises Equipment by Persons with Disabilities*, WT Docket No. 96-98, Order and Notice of Proposed Rulemaking, 22 FCC Rcd 11275, 11280-90, ¶¶ 7-24 (2007); *IP-Enabled Service Providers*, WC Docket No. 04-36, FCC 05-116, First Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 10245, ¶¶ 22-28 (2005).

[59] *See* IT and Telecom RERCs Comments at 7 (urging us to amend the definition in section 9.3 of the Commission's rules to delete the word "generally" and to include "successors to the PSTN").

October 7, 2010.[60] Our proposed rule read, in part, that "the requirements of this part shall not apply to any equipment or services . . . that *were* subject to the requirements of Section 255 of the Act on October 7, 2010."[61] We decline to amend our proposed rule by substituting the word "were" with the word "are," as urged by NCTA.[62] The statute makes clear that any equipment or service that was subject to Section 255 on October 7, 2010, should continue to be subject to Section 255, regardless of whether that equipment or service was offered before or after October 7, 2010. With respect to a *new* service (and equipment used for that service) that was not in existence on October 7, 2010, we believe we have the authority to classify the service as a service subject to either Section 255 or Section 716 (or neither). In addition, Congress anticipated that the definition of interconnected VoIP service may change over time.[63] In that event, it is possible, for example, that certain non-interconnected VoIP services that are currently subject to Section 716 may meet a future definition of interconnected VoIP services and yet remain subject to Section 716.

37. With respect to multipurpose devices, including devices used for both telecommunications and advanced communications services, we agree with the vast majority of commenters that argued that Section 255 applies to telecommunications services and to services classified as interconnected VoIP as of October 7, 2010, as well as to equipment components used for those services, and Section 716 applies to non-interconnected VoIP, electronic messaging, and interoperable video conferencing services, as well as equipment components used for those services.[64] We reject the suggestion of some commenters that such multipurpose devices should be governed exclusively by Section 255.[65] Nothing in the statute or legislative history indicates that Congress sought to exclude from the requirements of Section 716 a device used for advanced communications merely because it also has telecommunications or interconnected VoIP capability. Rather, both the House Report and the Senate Report state that smartphones represent a technology that Americans rely on daily and, at the same time, a technological advance that is often still not accessible to individuals with disabilities.[66] If multipurpose devices such as smartphones were subject exclusively to Section 255, then the advanced communications services components of smartphones, which are not subject to Section 255, would not be covered by Section 716. That is, there would be no requirement to make the advanced communications services components of multipurpose devices such as smartphones accessible to people with disabilities. Such an approach would, therefore, undermine the very purpose of the CVAA.[67]

---

[60] *See* 47 U.S.C. § 617(f). *See, e.g.*, CEA Comments at 9; NCTA Comments at 3 and 6-8; TechAmerica Comments at 3; T-Mobile Comments at 5-6; TWC Comments 8-9; Verizon Comments at 5-6. *But see* Words+ and Compusult Comments at 12 (substantial updates and wholly new interconnected VoIP services and equipment, after October 7, 2010, must comply with Section 716).

[61] *See Accessibility NPRM,* 26 FCC Rcd at 3193, Appendix B.

[62] *See* NCTA Comments at 7-8.

[63] *See* 47 U.S.C. § 153(25).

[64] *See, e.g.*, AT&T Comments at 4; CEA Comments at 9-10; IT and Telecom RERCs Comments at 7-8; T-Mobile Comments at 5-6; Verizon Comments at 5-6. *See also* CEA Reply Comments at 5-6.

[65] *See* CTIA Comments at 13; NCTA Comments at 3, 9.

[66] House Report at 19; Senate Report at 1-2.

[67] *See* Words+ and Compusult Comments at 12 (exclusive coverage under Section 255 would undermine virtually all accessibility benefit to be gained by the CVAA).

38. Due to the large number of multipurpose devices, including smartphones, tablets, laptops and desktops, that are on the market, if Section 716(f) were interpreted to mean that Section 716 applies only to equipment that is used exclusively for advanced communications services,[68] and that Section 255 applies only to equipment that is used exclusively for telecommunications and interconnected VoIP services,[69] almost no devices would be covered by Section 716 and only stand-alone telephones and VoIP phones would be covered by Section 255. That reading would undercut Congress's clear aim in enacting the CVAA.[70] We also disagree with commenters that suggest that such multipurpose devices should be governed exclusively by Section 716.[71] Such an interpretation would render Section 716(f) meaningless.

39. We recognize that the application of Section 255 and Section 716 to such multipurpose devices means that manufacturers and service providers may be subject to two distinct requirements, but as discussed above, we believe any other interpretation would be inconsistent with Congressional intent. As a practical matter, we note that the nature of the service or equipment that is the subject of a complaint – depending on the type of communications involved – will determine whether Section 255 or Section 716, or both, apply in a given context.[72]

c. Non-interconnected VoIP Service

40. *Background.* Section 3(36) of the Act, as added by the CVAA, states that the term "non-interconnected VoIP service" means a service that "(i) enables real-time voice communications that originate from or terminate to the user's location using Internet protocol or any successor protocol; and (ii) requires Internet protocol compatible customer premises equipment" and "does not include any service that is an interconnected VoIP service."[73] In the

[68] *See* ESA Comments at 3 (application of CVAA requirements should be limited only to "equipment used for advanced communications services," not other purposes); NCTA Comments at 7 (suggesting that Section 716 applies to equipment used only for advanced communications services).

[69] *See* AFB Comments at 6.

[70] Such a result is also contrary to how Section 255 is currently applied to multipurpose equipment and services. Under Commission rules implementing Section 255, "multipurpose equipment . . . is covered by Section 255 only to the extent that it provides a telecommunications function" and not "to all functions . . . whenever the equipment is capable of any telecommunications function." *Section 255 Report and Order*, 16 FCC Rcd at 6453, ¶ 87. Similarly, "[a]n entity that provides both telecommunications and non-telecommunications services . . . is subject to Section 255 only to the extent that it provides a telecommunications service." *Section 255 Report and Order*, 16 FCC Rcd at 6450, ¶ 80.

[71] *See* AFB Comments at 4-6. AFB states that Congress enacted Section 716(f) because industry and advocates agreed "that it would not be fair to apply a brand new set of legal expectations to old technology which, at least in theory, has had to be in compliance with a fifteen-year-old mandate, namely Section 255." AFB Comments at 4. Nonetheless, AFB claims, for example, that Section 716(a)(1) is "comprehensive and requires that the *equipment* must be accessible, not just those functions of the equipment that are used for advanced communications." AFB Comments at 5 (emphasis added). AFB asserts that "the fact that the equipment can be used for advanced communications is nothing more and nothing less than the trigger that pulls the equipment in question within the reach of the CVAA." AFB Comments at 5.

[72] For example, a complaint about the accessibility of an electronic messaging service on a mobile phone will be resolved in accordance with the mandates of Section 716, while a complaint about the accessibility of the voice-based telecommunications service on the same mobile phone will be resolved in accordance with the mandates of Section 255.

[73] 47 U.S.C. § 153(36).

Accessibility NPRM, the Commission proposed to define "non-interconnected VoIP service" in our rules in the same way and sought comment on that proposal.[74]

41. *Discussion.* The IT and Telecom RERCs urge us to modify the statutory definition of non-interconnected VoIP to read "any VoIP that is not interconnected VoIP."[75] They are concerned that the language in Section 3(36) which reads "does not include any service that is an interconnected VoIP service" could be interpreted to mean that if a service "includes both interconnected and non-interconnected VoIP, then all the non-interconnected [VoIP] is exempt because it is bundled with an interconnected VoIP service."[76] In response to these concerns, we clarify that a non-interconnected VoIP service is not exempt simply because it is bundled or provided along with an interconnected VoIP service.[77] Accordingly, we agree with other commenters that it is unnecessary and not appropriate to change the statutory definition[78] and hereby adopt the definition of "non-interconnected VoIP service" set forth in the Act.

d. Electronic Messaging Service

42. *Background.* Section 3(19) of the Act, as added by the CVAA, states that the term "electronic messaging service" "means a service that provides real-time or near real-time non-voice messages in text form between individuals over communications networks."[79] In the *Accessibility NPRM,* the Commission proposed to adopt that definition and sought comment on the services included in electronic messaging service.[80] The Commission also sought comment on whether services and applications that merely provide access to an electronic messaging service, such as a broadband platform that provides an end user access to a web-based e-mail service, are covered.[81]

43. *Discussion.* We adopt, as proposed, the definition of "electronic messaging

---

[74] *Accessibility NPRM*, 26 FCC Rcd at 3145, ¶ 31.

[75] IT and Telecom RERCs Comments at 8.

[76] *Id.*

[77] We interpret the meaning of the clause "does not include any service that is an interconnected VoIP service" to mean that a service that meets the definition of an "interconnected VoIP service" is not a "non-interconnected VoIP service." *See* Senate Report at 6 ("Interconnected VoIP services'' are specifically excluded from the group of services classified as ''non-interconnected VoIP services'' under the Act).

[78] *See* CTIA Reply Comments at 9-10 (adopting a new definition would cause confusion); Verizon Reply Comments at 5 (Congress defined the term and the Commission has no authority to change it and no other choice but to adopt it).

[79] 47 U.S.C. § 153(19).

[80] *Accessibility NPRM*, 26 FCC Rcd at 3146-3147, ¶¶ 33-34.

[81] *Accessibility NPRM*, 26 FCC Rcd at 3146, ¶ 33. In addition, the Commission sought comment on whether the "text leg" of an Internet protocol relay ("IP Relay") services call is an "electronic messaging service" subject to the requirements of Section 716. *Accessibility NPRM*, 26 FCC Rcd at 3146, ¶ 33. IP Relay is a form of telecommunications relay services ("TRS") under Section 225 of the Act. *See* Consumer and Governmental Affairs Bureau, FCC Consumer Facts, *IP Relay Service* at http://www.fcc.gov/cgb/consumerfacts/iprelay.html (visited September 27, 2011). We defer consideration of whether Section 716 covers IP Relay as an electronic messaging service until such time as we can address the applicability of Section 716 to all forms of TRS. *See* note 95, *infra.* Until that time, we encourage all IP Relay providers to make IP Relay accessible to users who are deaf, hard of hearing, deaf-blind, or speech disabled and who have other disabilities, if achievable.

service" contained in the Act.[82] We agree with most commenters and find it consistent with the Senate and House Reports that electronic messaging service includes "more traditional, two-way interactive services such as text messaging, instant messaging, and electronic mail, rather than . . . blog posts, online publishing, or messages posted on social networking websites."[83] While some common features of social networking sites thus fall outside the definition of "electronic messaging service," other features of these sites are covered by Sections 716 and 717. The Wireless RERC asserts that, to the extent a social networking system provides electronic messaging services as defined in the Act, those services should be subject to Sections 716 and 717.[84] While the statute does not specifically reference the use of electronic messaging services as part of a social networking site, the comments referenced above in the Senate and House Reports suggest it was well aware that such aspects of social networking sites would fall under the Act. The reports specifically exclude "messages posted on social networking websites," but do not exclude the two-way interactive services offered through such websites. We therefore conclude that to the extent such services are provided through a social networking or related site, they are subject to Sections 716 and 717 of the Act.

44. We also find, as proposed in the *Accessibility NPRM*, that the phrase "between individuals" precludes the application of the accessibility requirements to communications in which no human is involved, such as automatic software updates or other device-to-device or machine-to-machine communications.[85] Such exchanges between devices are also excluded from the definition of electronic messaging service when they are not "messages in text form."[86] The definitional requirement that electronic messaging service be "between individuals"[87] also excludes human-to-machine or machine-to-human communications.[88]

---

[82] 47 U.S.C. § 153(19).

[83] Senate Report at 6; House Report at 23. *See also* CEA Comments at 13; IT and Telecom RERCs Comments at 9; Microsoft Comments at 15; T-Mobile Comments at 7; TechAmerica Comments at 3-4; TIA Comments at 10; Verizon comments at 7-8; CEA Reply Comments at 7-8; T-Mobile Reply Comments at 8. While we recognize that Congress's "primary concerns . . . are focused on more traditional, two-way, interactive services," we do not interpret that expression of primary concerns or focus to exempt new or less traditional electronic messaging services that fully meet the definition in the Act. Senate Report at 6; House Report at 23.

[84] Wireless RERC Comments at 3. *See, e.g.*, Facebook Chat information available at http://www.facebook.com/help/?topic=chat (visited September 17, 2011) and Facebook Messages information available at http://www.facebook.com/help/?topic=messages_and_inbox (visited September 17, 2011). Similarly, to the extent a social networking system provides "non-interconnected VoIP services" or "interoperable video conferencing services," as defined in the Act, those services are subject to the accessibility requirements of Sections 716 and 717.

[85] 47 U.S.C. § 153(19) (definition of "electronic messaging service"). *Accord*, AT&T Comments at 5; CEA Comments at 13; Consumer Groups Comments at 6; CTIA Comments at 20; ESA Comments at 3; ITI Comments at 23-24; Microsoft Comments at 15; T-Mobile Comments at 7; TechAmerica Comments at 3-4; TIA Comments at 10; Verizon Comments at 7-8; VON Coalition Comments at 4-5; Words+ and Compusult Comments at 13; CEA Reply Comments at 7; CTIA Reply Comments at 10-11. *See also* ITI Comments at 23-24 (urging us to limit the definition of "electronic messaging service" to services designed primarily for communication between individuals and to services that involve a store-forward modality).

[86] 47 U.S.C. § 153(19).

[87] 47 U.S.C. § 153(19).

[88] *See* CEA Comments at 13; ITI Comments at 23-24; Microsoft Comments at 15; T-Mobile Comments at 7; VON Coalition Comments at 4-5; CEA Reply Comments at 7; T-Mobile Reply Comments at 8. As a (continued....)

45. We conclude that Section 2(a) of the CVAA[89] exempts entities, such as Internet service providers, from liability for violations of Section 716 when they are acting only to transmit covered services or to provide an information location tool.[90] Thus, service providers that merely provide access to an electronic messaging service, such as a broadband platform that provides an end user with access to a web-based e-mail service, are excluded from the accessibility requirements of Section 716.

e. Interoperable Video Conferencing Service

46. *Background.* As noted above, an "interoperable video conferencing service" is one of the enumerated "advanced communications services" in the CVAA. Such a service is defined by the CVAA as one "that provides real-time video communications, including audio, to enable users to share information of the user's choosing."[91] One question that has arisen is what Congress meant by including the term "interoperable." In the *Accessibility NPRM*, the Commission noted that earlier versions of the legislation did not include the word "interoperable" in the definition of the term "advanced communications services" and that the definition of "interoperable video conferencing services" in the enacted legislation is identical to the definition of "video conferencing services" found in earlier versions.[92] In addition, language in the Senate Report regarding "interoperable video conferencing services" is identical to language in the House Report regarding "video conferencing services."[93] Both the Senate Report and the House Report state that "[t]he inclusion . . . of these services within the scope of the requirements of this act is to ensure, in part, that individuals with disabilities are able to access and control these services"[94] and that "such services may, by themselves, be accessibility solutions."[95]

(Continued from previous page)
practical matter, however, we agree with AFB that these exclusions will have little practical effect on the experience of the human user as the message recipient or sender. AFB Reply Comments at 6.

[89] Section 2(a) of the CVAA provides that no person shall be liable for a violation of the requirements of the CVAA to the extent that person "transmits, routes, or stores in intermediate or transient storage the communications made available through the provision of advanced communications services by a third party" or who "provides an information location tool, such as a directory, index, reference, pointer, menu, guide, user interface, or hypertext link, through which an end user obtains access to such video programming, online content, applications, services, advanced communications services, or equipment used to provide or access advanced communications services." Pub. L. No. 111-260, Section 2(a). These limitations on liability do not apply "to any person who relies on third-party applications, services, software, hardware, or equipment to comply with the requirements of the [CVAA]." *Id.* at § 2(b).

[90] *See* Pub. L. No. 111-260, § 2(a). *See also* Senate Report at 5, House Report at 22 ("Section 2 provides liability protection where an entity is acting as a passive conduit of communications made available through the provision of advanced communications services by a third party . . . .")*;* CEA Comments at 14; CTIA Comments at 20; CTIA Reply Comments at 10; NCTA Reply Comments at 3. *But see* Consumer Groups Comments at 6. We disagree with T-Mobile that third-party or web-based electronic messaging services that might be accessed via a mobile device, but are not offered by the underlying Internet service provider, are expressly excluded from the definition of "electronic messaging service." T-Mobile Comments at 7. Instead, Section 2(a) immunizes Internet service providers that are passive conduits for third-party advanced communications services.

[91] 47 U.S.C. §§ 153(1) and (27).

[92] *Accessibility NPRM*, 26 FCC Rcd at 3147, ¶ 35, *citing* S. 3304 and H.R. 3101.

[93] *See* Senate Report at 18; House Report at 38.

[94] *See* Senate Report at 6; House Report at 25.

47. *Discussion.* Many commenters argue that that the word "interoperable" cannot be read out of the statute, and we agree.[96] Congress expressly included the term "interoperable," and therefore the Commission must determine its meaning in the context of the statute. We find, however, that the record is insufficient to determine how exactly to define "interoperable," and thus we seek further comment on this issue in the *Further Notice* below.

48. We also find that the inclusion of the word "interoperable" does not suggest that Congress sought to *require* interoperability, as some commenters have suggested.[97] There simply is no language in the CVAA to support commenters' views that interoperability is required or should be required, or that that we may require video conferencing services to be interoperable because "interoperability" is a subset of "accessibility," "usability," and "compatibility" as required by Section 716.[98]

49. We reject CTIA's argument that personal computers, tablets, and smartphones should not be considered equipment used for interoperable video conferencing service, because these devices are not primarily designed for two-way video conferencing, and accessibility should be required only for equipment designed primarily or specifically for interoperable video conferencing service.[99] Consumers get their advanced communications services primarily through multipurpose devices, including smartphones, tablets, laptops and desktops. If Section 716 applies only to equipment that is used exclusively for advanced communications services,[100] almost no devices would be covered by Section 716, and therefore Congress's aims in enacting the statute would be undermined.

50. With respect to webinars and webcasts,[101] we find that services and equipment

(Continued from previous page)

[95] *Id.* In addition, the Commission sought comment on whether the "video leg" of a video relay service ("VRS") call and point-to-point calls made by deaf or hard of hearing consumers who use video equipment distributed by VRS providers are covered under the CVAA. *Accessibility NPRM*, 26 FCC Rcd at 3148-49, ¶¶ 39-40. VRS is a form of telecommunications relay services ("TRS") under Section 225 of the Act. *See* Consumer and Governmental Affairs Bureau, FCC Consumer Facts, *IP Relay Service* at http://www.fcc.gov/cgb/consumerfacts/videorelay.html (viewed September 27, 2011). We are addressing, in a separate proceeding, a possible restructuring of the VRS program, including issues regarding regulatory structure, equipment and compensation. *See Structure and Practices of the Video Relay Service Program*, Notice of Inquiry, CG Docket No. 10-51, 25 FCC Rcd 8597 (2010) ("*VRS Restructuring NOI*"). Because the resolution of the issues addressed in that proceeding could have an impact on the regulatory treatment of VRS services and equipment, as well as other forms of TRS, we will defer consideration of whether Section 716 covers VRS or point-to-point calls as interoperable video conferencing services until after we resolve the issues raised in the *VRS Restructuring NOI* proceeding. Until that time, we encourage all VRS providers to make VRS and point-to-point video conferencing services accessible to users who are deaf, hard of hearing, deaf-blind, or speech disabled and have other disabilities, if achievable.

[96] *See, e.g.*, CTIA Comments at 22; ESA Comments at 3; ITI Comments at 24; Microsoft Comments at 4; TechAmerica Comments at 4-5; TIA Comments at 12; T-Mobile Comments at 7; Verizon Comments at 9; VON Coalition Comments at 5-6.

[97] *See* IT and Telecom RERCs Comments at 13-14; CSDVRS Reply Comments at 2-4.

[98] *See* Consumer Groups Comments at 9-10.

[99] *See, e.g.*, CTIA Comments at 20-21.

[100] *See* ESA Comments at 3 (application of CVAA requirements should be limited only to "equipment used for advanced communications services," not other purposes); NCTA Comments at 7 (suggesting that Section 716 apply to equipment used only for advanced communications services).

[101] *See Accessibility NPRM*, 26 FCC Rcd at 3149-50, ¶¶ 41-42.

that provide real-time video communications, including audio, *between two or more users*, are "video conferencing services" and equipment, even if they can also be used for video broadcasting purposes (*only from one user*).[102] We disagree, however, with the IT and Telecom RERCs that providing interactive text messaging, chatting, voting, or hand-raising by or between two or more users, along with real-time video communications, including audio, *only from one user*, constitutes a "video conferencing service."[103] In this example of a system that provides multiple modes of communication simultaneously, providing text messaging between two or more users is an electronic messaging service. Similarly, telecommunications or VoIP services may be provided as part of a webinar or webcast. The provision of electronic messaging, VoIP, or other services, alongside real-time video communications, including audio, *only from one user*, does not convert the latter into a "video conferencing service."[104]

51. Finally, we agree with commenters that non-real-time or near-real-time features or functions of a video conferencing service, such as video mail, do not meet the definition of "real-time" video communications."[105] We defer consideration to the *Further Notice* as to whether we should exercise our ancillary jurisdiction to require that a video mail service be accessible to individuals with disabilities when provided along with a video conferencing service.[106] We also do not decide at this time whether our ancillary jurisdiction extends to require other features or functions provided along with a video conferencing service, such as recording and playing back video communications on demand, to be accessible.[107]

2. Manufacturers of Equipment Used for Advanced Communications Services

52. *Background.* Section 716(a) of the Act provides that, with respect to equipment

[102] *See* Consumer Group Comments at 8 (the application of accessibility requirements is based on the fact that the service and equipment provide the advanced communications as defined in the Act, not on whether the service or equipment may be or is used to also provide another form of communication); IT and Telecom RERCs Comments at 12. *But see* TIA Comments at 10-11 (videos broadcast by one user to multiple participants, and that do not provide for a two-way video exchange of information, are not video conferencing services). In other words, the service and equipment must provide the user with the opportunity, but not the obligation to communicate in the manner as defined in the Act. *See* Words+ and Compusult Comments at 14. *But see* Microsoft Comments at 3, n.2 (the CVAA does not apply to webinars because they are designed primarily to broadcast information).

[103] IT and Telecom RERCs Comments at 12. *See also* Words+ and Compusult Comments at 14.

[104] Entities that use advanced communications services and equipment may have legal obligations to ensure the accessibility of their programs and services, including the obligation to communicate effectively, under other disability related statutes such as Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. *See* 29 U.S.C. § 794(d); 42 U.S.C. §§ 12101-12213.

[105] *See Accessibility NPRM,* 26 FCC Rcd at 3149-50, ¶¶ 41-42. *See, e.g.*, CEA Comments at 15-16; CTIA Comments at 21; Verizon Comments at 9; NCTA Reply Comments at 6-7. As a technical matter, "video mail" may not be "real-time" communication, but, as a practical matter, if an interoperable video conferencing service and equipment is accessible, the video mail feature or function will likely also be accessible.

[106] *See* CEA Comments at 15-16 (consideration of video mail is premature); CTIA Comments at 21 (asserting that the definition precludes the exercise of our ancillary jurisdiction). *But see* Consumer Groups Comments at 9 (urging us to exercise our ancillary jurisdiction to require accessibility).

[107] *See* IT and Telecom RERCs Comments at 12 (asserting that, "if a person with a disability is unable to attend a live videoconference, that person should not lose the ability to access it through a later download or streaming, if non-disabled participants can access it later").

manufactured after the effective date of applicable regulations established by the Commission and subject to those regulations, the accessibility obligations apply to a "manufacturer of equipment used for advanced communications services, including end user equipment, network equipment, and software . . . that such manufacturer offers for sale or otherwise distributes in interstate commerce."[108] In the *Accessibility NPRM*, the Commission sought comment on several issues and proposals relating to how it should interpret this provision.[109]

53. The Commission proposed to define "end user equipment" as including hardware;[110] "software" as including the operating system,[111] user interface layer,[112] and applications,[113] that are installed or embedded in the end user equipment by the manufacturer of the end user equipment or by the user; and "network equipment" as equipment used for network services.[114] It also sought comment on whether upgrades to software by manufacturers are included in this definition.[115]

54. The Commission sought comment on the meaning of the phrase "used for advanced communications services" and asked whether equipment subject to Section 716(a) must merely support or be capable of offering advanced communications services on a stand-alone basis.[116] Consistent with the Commission's Section 255 rules, the Commission also proposed to define "manufacturer" as "an entity that makes or produces a product."[117]

55. The Commission also sought comment on software upgrades, whether the limitations on liability in Section 2(a) of the CVAA generally preclude manufacturers of end user equipment from being liable for third-party applications that are installed or downloaded by the consumer,[118] and whether manufacturers of software used for advanced communications services that is downloaded or installed by the user are covered by Section 716(a).[119] Finally, the Commission sought comment on Section 718,[120] which requires manufacturers and service providers to make Internet browsers built into mobile phones accessible to people who are blind or have visual impairments.[121] Specifically, the Commission sought input on steps the Commission and stakeholders could take to ensure that manufacturers and service providers could

[108] *See* 47 U.S.C. § 617(a)(1).

[109] *See Accessibility NPRM,* 26 FCC Rcd at 3142-43, ¶¶ 19-24.

[110] *See* note 142, *infra.*

[111] *See* note 143, *infra.*

[112] *See* note 144, *infra.*

[113] *See* note 145, *infra.*

[114] *See* note 146, *infra.*

[115] *Accessibility NPRM,* 26 FCC Rcd at 3143, ¶ 21.

[116] 47 U.S.C. § 617(a)(1); *Accessibility NPRM*, 26 FCC Rcd at 3143, ¶ 22.

[117] 47 C.F.R. § 6.3(f). *See also Section 255 Report and Order*, 16 FCC Rcd at 6454, ¶ 90.

[118] *Accessibility NPRM*, 26 FCC Rcd at 3143, ¶ 21. *See also* note 89, *supra.*

[119] *Accessibility NPRM*, 26 FCC Rcd at 3143, ¶ 24.

[120] 47 U.S.C. § 619.

[121] *Accessibility NPRM*, 26 FCC Rcd at 3186, ¶¶ 143-144.

meet their obligations by 2013.[122]

56. *Discussion.* Section 716(a)(1) states the following:

> a manufacturer of equipment used for advanced communications services, *including end user equipment, network equipment, and software*, shall ensure that the equipment and software that such manufacturer offers for sale or otherwise distributes in interstate commerce shall be accessible to and usable by individuals with disabilities, unless the requirements of this subsection are not achievable.[123]

57. In the *Accessibility NPRM* the Commission proposed to find that developers of software that is used for advanced communications services and that is downloaded or installed by the user rather than by a manufacturer are covered by Section 716(a).[124] The IT and Telecom RERCs support that proposal on the grounds that coverage should not turn on how a manufacturer distributes ACS software (pre-installed on a device or installed by the user).[125] Microsoft and the VON Coalition, on the other hand, argue that Section 716(a) must be read as applying only to manufacturers of equipment, that "software" is not "equipment," and that our proposal would impermissibly extend the Commission's authority beyond the limits set by Congress in the CVAA.[126]

58. We find that, while the language of Section 716(a)(1) is ambiguous, the better interpretation of Section 716(a)(1) is that it does not impose independent regulatory obligations on providers of software that the end user acquires separately from equipment used for advanced communications services.

59. Section 716(a)(1) can be read in at least two ways. Under one reading, the italicized phrase "including end user equipment, network equipment, and software" defines the full range of equipment manufacturers covered by the Act. Under this construction, manufacturers of end user equipment used for ACS, manufacturers of network equipment used for ACS, and manufacturers of software used for ACS, would all independently be subject to the accessibility obligations of Section 716(a)(1), and to the enforcement regime of Section 717. "Equipment," as used in the phrase "a manufacturer of equipment used for advanced communications services" would thus refer both to physical machines or devices and to software that is acquired by the user separately from any machine or device, and software would be understood to be a type of equipment. This first reading is the interpretation on which we sought comment in the *Accessibility NPRM.*[127]

---

[122] *Accessibility NPRM*, 26 FCC Rcd at 3186, ¶ 144.

[123] 47 U.S.C. § 617(a)(1) (emphasis added).

[124] *Accessibility NPRM*, 26 FCC Rcd at 3143, ¶ 24.

[125] IT and Telecom RERCs Comments at 4-5.

[126] Letter from Gerard J. Waldron, Counsel to Microsoft Corp., to Marlene H. Dortch, Secretary, FCC, CG Docket No. 10-213, at 1-2 (filed Sept. 9, 2011) ("Microsoft Sept. 9 *Ex Parte*"); Letter from Glenn S. Richards, Executive Director, Voice on the Net Coalition, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 10-213, at 4-5 (filed Aug. 12, 2011) ("VON Coalition Aug. 12 *Ex Parte*"); Letter from Glenn S. Richards, Executive Director, Voice on the Net Coalition, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 10-213, at 3 (filed Sept. 6, 2011) ("VON Coalition Sept. 6 *Ex Parte*").

[127] *Accessibility NPRM*, 26 FCC Rcd at 3143, ¶ 21. *See also* para. 53, *supra* (definitions of end user equipment and software proposed in the *Accessibility NPRM*).

60. Under a second possible reading, the phrase "manufacturer of equipment" would be given its common meaning as referring to makers of physical machines or devices. If such equipment is used for advanced communications services, then the equipment manufacturer is responsible for making it accessible. Under this reading, the phrase "including end user equipment, network equipment, and software" makes clear that both end user equipment and network equipment, as well as the software included by the manufacturer in such equipment, must be consistent with the CVAA's accessibility mandate.[128] Thus, to the extent that equipment used for advanced communications services include software components -- for example, operating systems or e-mail clients -- the manufacturer of the equipment is responsible for making sure that both "the equipment *and* software that such manufacturer offers for sale or otherwise distributes in interstate commerce" is accessible.[129]

61. The text of the CVAA does not compel either of these inconsistent readings. The first, more expansive, reading accords more easily with the use of commas surrounding and within the phrase ", including end user equipment, network equipment, and software," but it requires giving the term "equipment" a meaning that is far broader than its ordinary usage. In addition, if "equipment" means "software" as well as hardware, then there was no need for Congress to say in the same sentence that "the equipment *and software*" that a manufacturer offers must be made accessible. The second, narrower, reading gives a more natural meaning to the word "equipment" and explains why it was necessary for Congress to say that the manufacturer of equipment used for ACS must make both "equipment and software" accessible. The second reading is thus more consistent with the interpretive canon that all words in a statute should if possible be given meaning and not deemed to be surplusage (as "software" would be in this phrase under the first reading).[130]

62. Looking to other provisions of the CVAA, the language of Section 716(j) is more consistent with the second, narrower understanding of Section 716(a)(1). Section 716(j) establishes a rule of construction to govern our implementation of the Act, stating that Section 716 shall not be construed to require a manufacturer of equipment used for ACS or a provider of ACS "to make every feature and function of every *device or service* accessible for every disability."[131] The word "device" refers to a physical object and cannot reasonably be construed to also refer to separately-acquired software. If, as in the broader interpretation of Section 716(a)(1), "manufacturer of equipment" includes manufacturers of separately acquired software, then Congress created a rule of construction for Section 716 as a whole that applies to only some of the equipment that is subject to Section 716(a). The narrower interpretation of Section 716(a)(1) produces a more logical result, in that Section 716(j), as it applies to manufacturers of equipment, has the same scope as Section 716(a).

63. Examining the legislative history of the CVAA, we find no indication in either

[128] We have modified the definitions of "end user equipment" and "network equipment" that are proposed in the *Accessibility NPRM* to make clear that such equipment may include both hardware and software components.

[129] 47 U.S.C. § 617(a)(1) (emphasis added).

[130] *See Montclair v. Ramsdell*, 107 U.S. 147, 152 (1883); *Astoria Federal Savings & Loan Ass'n v. Solimino*, 501 U.S. 104, 112 (1991); *Sprietsma v. Mercury Marine*, 537 U.S. 51, 63 (2003) (interpreting word "law" broadly could render word "regulation" superfluous in preemption clause applicable to a state "law or regulation"); *Bailey v. United States*, 516 U.S. 137, 146 (1995) ("we assume that Congress used two terms because it intended each term to have a particular, nonsuperfluous meaning").

[131] 47 U.S.C. § 617(j).

the Senate Report or the House Report that Congress intended to instruct the Commission to regulate directly software developers that are neither manufacturers of equipment nor providers of advanced communications services -- a class of businesses that the Commission historically has not regulated. There is, on the other hand, evidence that Congress had makers of physical objects in mind when it made "manufacturers of equipment" responsible for accessibility. For example, the Senate Report states that the Act requires manufacturers of equipment used for ACS and providers of ACS to "make any such equipment, which they design, develop, *and fabricate,* accessible to individuals with disabilities, if doing so is achievable."[132] The Senate Report further says that Sections 716(a) and 716(b) "require that manufacturers and service providers, respectively, make their *devices* and services accessible to people with disabilities."[133] Likewise, the House Report states that Sections 716(a) and 716(b) "give manufacturers and service providers a choice regarding how accessibility will be incorporated into a *device* or service."[134] Software is not fabricated, nor are software programs or applications referred to as devices.[135] Particularly in light of this legislative history, we are doubtful that Congress would have significantly expanded the Commission's traditional jurisdiction to reach software developers, without any clear statement of such intent.

64. We disagree with commenters that suggest that the Commission's interpretation of "customer premises equipment" ("CPE") in the *Section 255 Report and Order* compels us to find that software developers that are neither manufacturers of ACS equipment nor providers of ACS are covered under Section 716(a).[136] First, in the *Section 255 Report and Order*, the Commission found that CPE "includes software integral to the operation of the telecommunications function of the equipment, whether sold separately or not."[137] Although the statutory definition of CPE did not reference software, the Commission found that it should construe CPE similarly to how it construed "telecommunications equipment" in the Act, which Congress explicitly defined to include "software integral to such equipment (including upgrades)."[138] The Commission did not in the *Section 255 Report and Order* reach the issue of whether any entity that was not a manufacturer of the end user equipment or provider of telecommunications services had separate responsibilities under the Act.[139]

---

[132] Senate Report at 7 (emphasis added).

[133] Senate Report at 7 (emphasis added).

[134] House Report at 24 (emphasis added).

[135] Similarly, Section 716(j) of the Act also uses the word "device" as a synonym for "equipment." 47 U.S.C. § 617(j).

[136] *See, e.g.,* Letter from Andrew S. Phillips, Counsel to National Association of the Deaf, on behalf of the Coalition of Organizations for Accessible Technology (COAT), to Marlene H. Dortch, Secretary, FCC, CG Docket No. 10-213, at 2 (filed Sept.28, 2011) ("COAT Sept. 28 *Ex Parte*").

[137] *Section 255 Report and Order*, 16 FCC Rcd at 6451, ¶ 83.

[138] CPE is defined in the Act as "equipment employed on the premises of a person (other than a carrier) to originate, route, or terminate telecommunications." 47 U.S.C. § 153(14). Telecommunications equipment is defined as "equipment, other than customer premises equipment, used by the carrier to provide telecommunications services, and includes software integral to such equipment (including upgrades)." 47 U.S.C. § 153(45).

[139] When using its ancillary authority to apply similar obligations to interconnected VoIP providers, the Commission imposed obligations on "providers of interconnected VoIP service and to manufacturers of equipment that is specifically designed for that service, including specially designed software, hardware, (continued....)

65. Second, in the CVAA, Congress gave no indication that it intended the Commission to incorporate, when defining the scope of "equipment and software" for purposes of Section 716(a)(1), the definitions we have established for the different, but analogous, terms ("telecommunications equipment" and "customer premises equipment") used in Section 255. Here, we interpret the statutory language to include all software, including upgrades, that is used for ACS and that is a component of the end user equipment, network equipment, or of the ACS service – and do not limit software to meaning only software that is integral to the network equipment or end user equipment. As we discuss further in paragraph 86, *infra,* if software gives the consumer the ability to engage in advanced communications, the provider of that software is a covered entity, regardless of whether the software is downloaded to the consumer's equipment or accessed in the cloud.

66. The purpose of Sections 716 through 718 of the CVAA – to ensure access to advanced communications services for people with disabilities – is fully served by the narrower interpretation of Section 716(a) that we describe above because that interpretation focuses our regulatory efforts where they will be the most productive.

67. Advanced communications services are delivered within a complex and evolving ecosystem.[140] Communications devices are often general-purpose computers or devices incorporating aspects of general-purpose computers, such as smartphones, tablets, and entertainment devices.[141] In the *Accessibility NPRM* we observed that such systems are commonly described as having five components or layers: (1) hardware (commonly referred to as the "device");[142] (2) operating system;[143] (3) user interface layer;[144] (4) application;[145] and (5)

(Continued from previous page)

and network equipment." But the Commission did not revisit its fundamental conclusions regarding the manufacturers of telecommunications equipment and providers of telecommunications services addressed directly by Section 255. *IP-Enabled Services; Implementation of Sections 255 and 251(a)(2) of the Communications Act of 1934, as Enacted by the Telecommunications Act of 1996*, WC Docket No. 04-36, WT Docket No. 96-196, CG Docket No. 03-123 and CC Docket No. 92-105, 22 FCC Rcd 11275, 11286 ¶ 20 (1997).

[140] *See Accessibility NPRM*, 26 FCC Rcd at 3140, ¶¶ 14-15, *citing* Kaveh Pahlavan & Prashant Krishnamurthy, NETWORKING FUNDAMENTALS: WIDE, LOCAL, & PERSONAL AREA COMMUNICATIONS at 21-25 (John Wiley and Sons Ltd. 2009), and http://www.qualcomm.com/documents/files/evolution-toward-multimode-future.pdf, at 3, 8-9.

[141] *See Accessibility NPRM*, 26 FCC Rcd at 3140, ¶ 15, *citing* Kaveh Pahlavan & Prashant Krishnamurthy, NETWORKING FUNDAMENTALS: WIDE, LOCAL, & PERSONAL AREA COMMUNICATIONS 21-23 (John Wiley and Sons Ltd. 2009), and http://www.qualcomm.com/documents/files/evolution-toward-multimode-future.pdf, at 3, 8-9.

[142] Advanced communications services may rely on hardware with general-purpose computing functionality that typically includes a central processing unit ("CPU"), several kinds of memory, one or more network interfaces, built-in peripherals, and both generic and dedicated-purpose interfaces to external peripherals. *Accessibility NPRM*, 26 FCC Rcd at 3141, ¶ 15.

[143] Almost all devices with a CPU have an operating system that manages the system resources and provides common functionality, such as network protocols, to applications. *Accessibility NPRM*, 26 FCC Rcd at 3140, ¶ 15, *citing* William Stallings, OPERATING SYSTEMS, INTERNALS AND DESIGN PRINCIPLES, 51-55 (Pearson and Prentice Hall 2009); Abraham Silberschatz, Peter B. Galvin & Greg Gagne, OPERATING SYSTEM CONCEPTS, 3-5 (Wiley 8th ed. 2008).

[144] Most modern devices have a separate user interface layer upon which almost all applications rely to create their graphical user interface, and which is typically provided as a package with the operating system.[144] *Accessibility NPRM*, 26 FCC Rcd at 3140, ¶ 15, *citing* William Stallings, OPERATING SYSTEMS, INTERNALS AND DESIGN PRINCIPLES, 51, 84-86 (Pearson and Prentice Hall 2009). In many cases, web

(continued....)

network services.[146] We agree with ITI that three additional components in the architecture play a role in ensuring the accessibility of ACS: (1) assistive technology ("AT") utilized by the end user; (2) the accessibility application programming interface ("API");[147] and (3) the web browser.[148]

68. For individuals with disabilities to use an advanced communications service, *all* of these components may have to support accessibility features and capabilities.[149] It is clear, however, that Congress did not give us the task of directly regulating the manufacturers, developers, and providers all of these components. Rather, Congress chose to focus our regulatory and enforcement efforts on the equipment manufacturers and the ACS providers.

69. We believe that end user equipment manufacturers, in collaboration with the developers of the software components of the equipment and related service providers, are best equipped to be ultimately responsible for ensuring that all of the components that the end user equipment manufacturer provides are accessible to and usable by individuals with disabilities.[150] The manufacturer is the one that purchases those components and is therefore in a position to require that each of those components supports accessibility.[151] Similarly, as we discuss further below,[152] the provider of an advanced communications service is the entity in the best position to make sure that the components (hardware, software on end user devices, components that reside on the web) it provides and that make up its service all support accessibility.

70. We believe these conclusions will foster industry collaboration between manufacturers of end user equipment, software manufacturers, and service providers and agree

(Continued from previous page)
browsers are considered to be part of the user interface layer although they themselves are also an application. *Accessibility NPRM*, 26 FCC Rcd at 3140, ¶ 15.

[145] Software, which may be embedded into the device and non-removable, installed by the system integrator or user, or reside in the cloud, is used to implement the actual advanced communications functionality. *Accessibility NPRM*, 26 FCC Rcd at 3141, ¶ 15, *citing* Media Phone by Intel Corporation. http://edc.intel.com/Applications/Embedded-Connected-Devices/.

[146] Advanced communications applications rely on network services to interconnect users. *Accessibility NPRM*, 26 FCC Rcd at 3141, ¶ 15. These networks perform many functions, ranging from user authentication and authorization to call routing and media storage and may also provide the advanced communication applications. *Id.*

[147] ITI uses the term "Accessibility Services" to describe what the Commission refers to as the accessibility API.

[148] Letter from Ken J. Salaets, Director, Information Technology Industry Council, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 10-213 (filed July 8, 2011) ("ITI July 8 *Ex Parte*"). We would note that in its original description of the architecture, the Commission stated that "in many cases, web browsers are considered to be part of the user interface layer, although they themselves are also an application." *Accessibility NPRM*, 26 FCC Rcd at 3141, ¶ 15.

[149] *Accessibility NPRM*, 26 FCC Rcd at 3142, ¶ 17.

[150] Manufacturers are responsible for the software components of their equipment whether they pre-install the software, provide the software to the consumer on a physical medium such as a CD, or require the consumer to download the software.

[151] *But see* Green Reply Comments at 5 (arguing that the operating systems developers, rather than end user equipment manufacturers or other software developers, should be responsible for accessibility, because they are limited in number and have significant resources and contractual leverage).

[152] *See* Providers of Advanced Communications Services, Section III.A.3, *infra*.