



February 13, 2012

Federal Communications Commission
445 12th Street SW
Washington, DC 20554

REF: Commission 11-151

Dear Sir or Madam:

The Information Technology Industry Council (ITI) welcomes the opportunity to provide comments regarding the Federal Communication Commission's Proposed Rule on Implementing the Provisions of the Communications Act of 1934, as Enacted by the Twenty-First Century Communications and Video Accessibility Act of 2010 (76 Federal Register 25, pp. 82240-82264), which was published on December 30, 2011 (hereafter, "Proposed Rule"). We appreciate the change to address the important issues raised by the Commission in this rulemaking.

ITI is the premier voice, advocate and thought leader for the information and communications technology (ICT) industry. ITI is widely recognized as the tech industry's most effective advocacy organization on ICT accessibility in Washington, D.C., and in various foreign capitals around the world.

Our comments are divided according to the relevant sections of the law for which we wish to comment. Of course, we would welcome the opportunity to respond to any questions that the Commission may have regarding our views.

B. Section 718 Implementation

- Regarding ¶296: We disagree with the Commission's characterization/clarification that "In enacting Section 718... Congress carved out an exception to Section 716." An Internet browser isn't in and of itself ACS; rather it is a gateway to a variety of static and dynamic information and web applications, some of which may be ACS. Therefore the Section 718 requirement that Internet browsers on mobile phones must be accessible to a specifically enumerated set of disabilities is a stand-alone requirement.

While the statutory requirement in 718 is distinct from the ACS requirements in 716, as the Commission agreed with ITI's earlier comments the components of an accessible ICT environment on a mobile phone are essentially the same components as in a desktop computer. The Commission's decision to make the 716 ACS rules take effect in October 2013 means they align well with the statutory date for 718. This means that the underlying implementations for

screen reader accessibility of e-mail and SMS and other ACS on mobile phones may be shared with that for screen reader accessibility of Internet browsers on mobile phones.

It is necessary to understand that making a web browser accessible to blind and visually impaired users has two aspects – the user interface of the browser itself and the Web content that is being rendered by the browser. A browser cannot make inaccessible content accessible but it plays the role of a conduit from accessible content to the accessibility framework of the native platform. For example, one approach is to map the information exposed via WAI-ARIA¹ to native platform accessibility APIs as defined in the W3C WAI-ARIA User Agent Implementation Guide².

- Regarding ¶297 and the first half of the first question, “Would an accessibility API simplify the process for developing accessible screen readers for mobile phones ...”: Providing an Application Programming Interface (API) is a standard method of facilitating and/or mediating communications between different programs and technologies. In the case of an Accessibility API, it is a relatively commonplace method of providing user interface components and platform-level functions with an interface against which they can programmatically expose their information, and an interface against which Assistive Technology applications can obtain the information for presentation to the user. As we noted in our comments to the initial NPRM,³ accessibility APIs are a component of “accessible ICT ecosystems” generally. As part of implementing support for 716 requirements on mobile phones, we think it likely that mobile phone manufacturers will decide to implement an accessibility API for their mobile phone platforms. Moreover, ITI members reiterate that implementation of an accessibility API framework that adheres to ISO/IEC 13066-1 qualifies a manufacturer for safe harbor in achieving compatibility with assistive technology. That said, while an Accessibility API is a commonplace method of enabling interoperability with Assistive Technology, it is not the only way of ensuring access to covered ICT. It is inappropriate for the Commission to require this or any other specific technical approach. Vendors of applicable covered ICT may provide alternative methods of meeting the Functional Performance Criteria needed to ensure support for persons with disabilities. So long as the statutory requirements of 718 are met and the mobile Internet browsing experience – including the launching of the mobile Internet browser – is accessible to users who are blind or have a visual impairment, the Commission should deem the manufacturer as meeting this part of the CVAA.
- Regarding ¶297 and the second half of the first question “...and if so, should there be a separate API for each operating system that supports a browser?” Operating Systems for desktop computers, mobile phones and other covered ICT are often very different from one another. Such differences provide consumers with choices, offer different features, meet the same or different user needs in different ways, and ensure a competitive marketplace that benefits Americans in general. As APIs are simply a means of enabling applications to access the different Operating Systems, so too is it realistic to expect Accessibility APIs to be unique to

¹ <http://www.w3.org/TR/2011/CR-wai-aria-20110118/>

² <http://www.w3.org/TR/wai-aria-implementation/>

³ See Comments of the Information Technology Industry Council in response to the Federal Communications Commission Notice of Proposed Rulemaking, CG Docket No. 10-213 (filed April 25, 2011), located at <http://fjallfoss.Commission.gov/ecfs/document/view.action?id=7021340980>.

the platform and unrealistic to expect a single API to provide common access across an uncommon set of Operating Systems. To date all accessibility APIs have been unique to the platform for which they are designed. This market reality is equally true of mobile operating systems. While many of the leading smart phone operating systems support Internet browsers that are based on the open source WebKit project, work is required to implement the WebKit core differently and separately on each platform. Again, this is a market reality. The W3C WAI-ARIA API is designed for the web platform. To the extent that multiple operating systems and Internet browsers support WAI-ARIA, they translate it to the accessibility API of the underlying Operating System. We don't expect that to change.

- Regarding ¶297 and the second question, “What are the technical challenges, for both software developers and manufacturers, involved in developing an accessibility API?”: Developers of mainstream applications regularly face the market reality that they will need to update, if not re-write, software applications for the various Operating Systems they wish to support. Developing an accessibility API is now a fairly well understood process, having been done for multiple desktop and mobile platforms and codified in ISO/IEC 13066-1 Information technology – Interoperability with assistive technology (AT).⁴ It is noteworthy that all of the desktop and mobile accessibility API developers are ITI members.

In the experience of these ITI members, developing an accessibility API:

- requires iterative implementations with improvements over the course of multiple product releases
- requires meticulous and exhaustive attention to detail to ensure that all aspects of a platform Operating Systems are exposed to Assistive Technology
- is best served to be designed and implemented in collaboration with target Assistive Technology vendors to help improve quality, and
- is not the only, or in all situations appropriate, method of providing access to customers with disabilities.

We further note that ISO/IEC 13066-1 spells out the requirements for an accessibility API in sections 7.1.7 through 7.1.11, and ISO/IEC Technical Reports 13066-2, 13066-3, 13066-4, and 13066-6 describe how four distinct accessibility APIs meet those requirements. Based on both our experience in developing and implementing desktop and mobile accessibility APIs and our work in ISO/IEC 13066, we believe that the Commission should provide a safe harbor for those vendors who decide to implement an Accessibility API for the platform as a means of compliance with section 716 through interoperability with Assistive Technology.

Security of covered ICT platforms can be seen as comprised of basic tenets or principles that, in aggregate, depict the degree to which a platform is secure. These tenets could include Confidentiality, Integrity and Authenticity. In the context of screen reader software, the security questions/risks can be qualified as follows:

- a) Confidentiality – Screen readers can be configured to “read aloud” information and content from a covered ICT device that may have been defined by the Operating

⁴ http://www.iso.org/iso/catalogue_detail.htm?csnumber=53770

Systems as secure, cryptographically signed for use with a single ICT device terminal, or otherwise confidential in nature and intended for a limited audience. In these cases, the screen reader may “read aloud” the information to the owner of the ICT device, but also provide insecure access to secure information for anyone able to hear the information communicated in audio format. While this is a confidentiality and security issue for sensitive data, this is a security breach in the highest order for communications between, for example, the U.S. Federal Bureau of Investigation and one of its officers.

- b) Integrity – Most Operating Systems include varying degrees of security solutions that ensure information integrity, that otherwise prevents third parties from decrypting or altering the message data. Given the platform access afforded to screen readers by Accessibility APIs, it is completely within the realm of possibility that a screen reader application could instrument and make a record of incoming information, and make it available to another source for possibly malicious intent.
- c) Authenticity – Many Operating Systems include varying degrees of security measures that help to ensure that only the intended recipient terminal that is eligible/allowed to receive a given transmission is in fact sent such a transmission. In context, a screen reader renders authenticity measures useless as it provides audio access to the information otherwise considered authenticated, and can instrument (“listen”) and re-transmit secure information.

It may be that in some mobile environments additional security and privacy mechanisms must be developed or particular security and privacy limitations imposed that impact the achievability of accessibility in mobile environments by October 2013. Potential solutions addressing a balance between requirements for accessibility, security, and privacy are not exclusive to screen readers. Other forms of assistive technologies, such as speech recognition functionality, may present similar challenges to security and privacy protection.

Finally, with respect specifically to Internet browsers in the mobile environment, support for the W3C Candidate Recommendation WAI-ARIA is quite immature as compared to the desktop environment. It may be the case that in October 2013 a particular website that utilizes WAI-ARIA will be accessible on a desktop computer, but not accessible on a mobile phone – even if the two devices come from the same manufacturer and include a screen reader sharing the same name!

D. Accessibility of Information Content

Our comments are not tied specifically to the question in ¶308, but rather, to the topic in general.

It is important that the Commission not recognize content that an entity simply labels as “accessibility information” as having the privileged status accorded in Appendix F. Only that accessibility information that is present in an industry recognized standard format should have such status accorded to it.

For example, it might be the case that a University research project develops a service to provide live captions to media, and provides it on a specific TCP/IP network port. However, video playback devices may only support a standard set of network ports, which do not include the port provided by

this university research project service. It would be wrong for the Commission to require all video playback devices to listen on and process output from that TCP/IP port simply because of the existence of such a university research project. By contrast, it would be reasonable to require that live captions streamed via an industry standard mechanism be supported.

Also for example, if an organization developed Spanish audio descriptions for a broadcast show, a cable TV box shouldn't be required to have the functionality of allowing a user to direct that cable TV box to download the version of the show with Spanish audio descriptions in place of showing the regularly scheduled broadcast of that show.

Regarding specific points in the IT and Telecom RERC proposal.

- *shall not install equipment or features that can't or don't support accessibility information;*

Manufacturers and service providers cannot prevent end users from installing hardware or software from 3rd parties and cannot ascertain whether the functions of such 3rd party software can or cannot support accessibility information.

- *shall not configure network equipment such that it would block or discard accessibility information;*

The configuration of network equipment in commercial businesses or homes falls outside of the Commission's authority under the CVAA. For places of public accommodations this issue may be more appropriately covered by the ADA.

- *shall display **any** accessibility related information that is present in an industry recognized standard format;*

Devices cannot guarantee support for ANY standard that is developed. Device manufacturers may only support a few standards that are necessary for the device functionality and are technically feasible and achievable. The Commission should only enforce those standards that the device manufacturer designs the device to utilize. For example, in the IP caption Report & Order, the Commission recognized SMPTE-TT as a safe harbor for media devices which receive video via IP. If a certain service provider decides to use an alternate caption format, standardized by another industry group, device manufacturers should not have to support the format unless the device was designed to receive content from a source which employs the alternate format.

- *shall not block users from substituting accessible versions of content; and shall not prevent the incorporation or passing along of accessibility related information*

The use of content protection for commercial video content is necessary to prevent unauthorized access, duplication and redistribution of licensed video products. The Commission should not deem the use of content protection technologies as blocking users from altering or substituting accessible versions of content when content protection developers allow developers of assistive technology to license access for a specific accessibility-related purpose. It is reasonable that assistive technology developers comply with the security and robustness rules of such content protection licenses as a condition. The Commission does not have the authority to exempt AT developers from anti-circumvention provisions of the DMCA. The Copyright Office has an existing 1201 exemption process to address this issue.

E. Interoperable Video Conferencing Services

- In regard to the definition of “interoperable”, ITI reiterates that the term should be defined as service that is inter-platform, inter-network, and inter-provider. Using multiple definitions confuses all stakeholders alike. ITI cautions Commission against deviating from commonly understood interpretation of the term. ITI also supports CEA's proposal⁵ that the meaning of “interoperable” includes “the ability to operate among different platforms, networks, and providers **without special effort or modification by the end user.**” Thus, interoperability would not be achieved if it requires end-users to enter detailed technical setup parameters (e.g. adding IP-address; protocols, in advanced setup, etc.) in order to create a connection with another platform, network or provider.
- In regard to which video conferencing services or equipment must be different or distinct to qualify under the first definition of interoperability, ITI believes the primary determining factor is service provider since the term “interoperable” modifies the term “video conferencing services.” Thus, there must be at least two video conferencing service providers involved in providing interoperable services to their users in order for the term to apply. A video conferencing service that is available on multiple platforms or network but not interoperable with another video conferencing service is not an interoperable video conferencing service.
- The NPRM asked a series of questions on the IT and Telecom RERC proposal. ITI believes these questions highlight the flaws of IT and Telecom RERC’s proposal. True interoperability requires that there must be at least one partner on the other end to establish interoperability.
- Regarding Commission’s question on whether two or more manufacturers or service providers agreeing to a standard without publication constitutes interoperability, ITI wishes to note that organizations routinely cooperate to produce standards in order to reduce development cost. In fact, standards are rarely produced by a single entity in isolation. More importantly, multiple standards are used in the development and deployment of video conferencing services. Interoperability requires that the users of different service providers to conduct video conferencing with each other. Sharing of standards, whether the standards are published or not, does not establish any degree of interoperability.
- Commission asked whether the ability of video conferencing service to communicate with public safety answering point establish interoperability. Note that public safety answering points are not using video conferencing services as of today. Thus, establishment of communication with public safety answering points does not currently meet any definition of interoperability. If the NG911 proceeding eventually results in a common protocol between video conferencing services, Commission should consider whether such event would turn video conferencing services using such protocol to be “interoperable.” But ITI cautions that it is too early to know the final outcome of the NG911 proceeding today. ITI cautions the Commission that the CVAA does not provide it with authority to mandate the use of a specific video conferencing standard or to require video conferencing services for private uses be

⁵See: *Written Ex Parte Submission – Definition of “Interoperable Video Conferencing Service”*, Consumer Electronics Association (filed July 18, 2011)

interoperable. The CVAA does not provide the Commission with authority to regulate the private uses of video conferencing that are not "interoperable" in nature.

- Commission asked a series of question regarding what makes a video conferencing service “accessible.” ITI asserts that for a video conferencing service to be considered accessible, it must at least accommodates alternative forms of communication (e.g., sign language, speech and text-based. Today, most video conferencing services already facilitate visual, audio and text-based communications. The key modes of human-to-human communication (sight and sound) are already available in video conferencing services. In addition, sign language interpreters and captioners can participate via video conference to provide more flexible and potentially lower cost services as compared to conventional face-to-face meetings. Accessible video conferencing is already generally available to consumers.
- Regarding Video mail, ITI believes that it is clearly out of scope of CVAA.

F. Performance Objectives and ¶310

We urge the Commission to use the Functional Performance Criteria coming out of the Section 508 refresh process for performance objectives – which we believe should remain objectives (and not be used as testable requirements, as they are unfortunately being claimed as being in the 2011 ANPRM).

Objective testability is critical for anything that is used as a measure of compliance. A number of the Appendix G “sufficient tests” are too subjective to be testable. For example, with respect to “operable without vision” many experienced screen reader users are demonstrably better at quickly using new screen readers, new applications and new environments, while others have difficulty using well-regarded screen readers with simple applications. Any test whose results vary with the general ICT comfort, facility and skills of the tester is by its nature subjective. We need to have similarly objective tests for any performance objective that is used to measure compliance. It is also noteworthy that even the IT & Telecom RERC declined to propose a “sufficient” test for “operable with limited cognitive skills” – further highlighting challenges.

We believe that the lack of clear, objective measures for what “operable with limited cognitive skills” or “minimized cognitive, memory, language, and learning skills” will mean that ACS under 716 generally will not find this aspect of the definition of “accessible” to be achievable.

We further note that while the IT & Telecom RERC have proposed a number of subjective “sufficient tests” that are subjective and thus problematic, they have elsewhere provided what appear to be specific, concrete tests that haven’t achieved consensus. For example -

1. “Availability of auditory information... at least +15 DB... unless the default level is already 80 dB SPL.”
2. “Real-time text connectability” – RFC 4103 is the only format mentioned even though others exist.

In these two examples, the IT & Telecom RERC demonstrates that they recognize that tests should be specific and objective. However, neither (1) or (2) should be considered “performance objectives”. In addition, (1) is stated broadly and cannot be applied/ achieved across different classes of devices. ITI

recommends that properly defined performance objects shall be considered in the development of applicable industry standards to ensure that innovation is not impeded, but more importantly that persons with disabilities may functionally access ACS which is the ultimate goal.

We offer the examples above as specific criticisms to further bolster our larger argument that the Commission should reject the “sufficient test” approach in favor adopting the Functional Performance Criteria being developed with broad support via the Section 508 “refresh” rulemaking activity. We would welcome the opportunity to address this further in an *ex parte* session, should the Commission feel that would be useful.

G. Safe Harbors

- Regarding ¶312: The Commission has appropriately held in ¶14, “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.” The Commission further recognized in ¶78 “that manufacturers of equipment are not responsible for the components over which they have no control.” Where the ACS service provider doesn’t provide the end-user device (and its operating system) upon which the ACS service is running, nor the necessary assistive technology needed by users with certain kinds of disabilities, the only thing the service provider can do to be usable to those users via assistive technologies is to “programmatically expose the ACS user interface using one or more established [accessibility] APIs.” This limitation is particularly acute in the case of web-based ACS running in an Internet Browser, which further limits the ways in which ACS services can interact with assistive technologies.

Therefore we argue that the Commission recognizes this fact formally via a limited safe harbor covering this aspect of accessibility for ACS services – via assistive technologies. We do not suggest that ACS service providers utilizing such a safe harbor be exempt from other technical responsibilities unrelated to assistive technology use such as ensuring sufficient color/contrast, and not triggering photo-sensitive seizures.

- Regarding ¶313: We note that all of 716 is self executing, with the role of certification restricted to recordkeeping and responses to complaints. This should not change.

Costs for making ACS accessible vary greatly depending upon a number of factors, including but not limited to: whether the platform provides a sufficient accessibility framework, whether a range of assistive technologies exist for the platform, whether the user interface components used by the ACS application already support the platform accessibility framework (e.g. the Java Swing classes, the Win32 UI components, the GNOME GTK+ components), the complexity of the application, etc. All other things being equal, costs for manufacturers and service providers will be lower for making ACS accessible on platforms with a sufficient accessibility framework that is supported by a range of assistive technologies – particularly when that ACS application is built using a set of user interface components that already support that platform's accessibility framework. Depending upon the nature of the ACS application, it may not be possible to leverage any such set of user interface components, in which case costs would necessarily be higher (e.g. when a new user interaction model is being used).

Where such techniques are also a-priori recognized safe harbors, costs should also be somewhat lower as the business has more certainty and less risk that the route it is taking will be acceptable. Furthermore, it is likely that a greater amount of documentation, tools, and techniques will be developed and shared for those techniques that are recognized safe harbors. They will become like well worn paths, easier to navigate over time.

By lowering developments costs and speeding developing time, we believe these safe harbors would thereby benefit consumers who should enjoy accessible advanced communications products and services at a lower cost that reach the market more quickly – than in the absence of such safe harbors.

- Regarding ¶314: We urge Commission to specifically recognize as safe harbors compliance with ISO/IEC 13066 and the related Technical Reports (TR 13066-2, 13066-3, 13066-4, and 13066-6) as they are completed for Accessibility APIs, and with WCAG 2.0 for web content. Additional safe harbors should be recognized on an as-waivered basis. Such a waiver argument might include a description of how a given accessibility framework meets ISO/IEC 13066 sections 7.1.7 through 7.1.11 – which is what the Technical Reports 13066-2, 13066-3, 13066-4, and 13066-6 are; but such an argument shouldn't be a required part of a waiver argument.

Regarding specific questions raised by the Commission in this section:

- We seek comment on whether “it should be the responsibility of the appropriate manufacturer or standards body to inform the Commission when new, relevant APIs and specifications are made available to the market that meet the . . . standard.” [ITI August 9 *Ex Parte* at 2]
 - Our comment was in the context of any APIs or specifications that a manufacturer or standards body is putting forth for safe harbor consideration (either as a new safe harbor, or as a means to meet a standard such as ISO/IEC 13066), not for APIs and specifications generally. The full context of our statement is the paragraph from our August 9 *Ex Parte*:

Accordingly, an ACS manufacturer should be able to satisfy section 716 of the Act, i.e., be afforded a “safe harbor,” by programmatically exposing the ACS user interface using one or more established APIs and specifications which support the applicable provisions in ISO/IEC 13066-1:20114. As technology advances, it should be the responsibility of the appropriate manufacturer or standards body to inform the Commission when new, relevant APIs and specifications are made available to the market that meet the referenced standard.

APIs and specifications may be proprietary or sensitive due to information security concerns among others.

- If we decide to adopt a safe harbor based on recognized industry standards, we seek comment on how the industry, consumers, and the Commission can verify compliance with the standard.
 - The Commission can request the manufacturer to demonstrate compliance by showing test results from internal company testing or from external experts. We note that many regulated communications technologies make extensive use of industry standards

outside of the accessibility domain, and are not subject to compliance verification except in cases where an explicit violation is believed to have occurred.

- Should entities be required to self-certify compliance with a safe harbor? Is there a standard for which consumers can easily test compliance with an accessible tool?
 - The Commission can request entities to demonstrate compliance only in the event of a complaint germane to the safe harbor.
- What are the compliance costs for ACS manufacturers and service providers of the Commission adopting safe harbor technical standards based on recognized industry standards?
 - This is an internal decision by the company which decides to rely on a safe harbor for compliance. Companies should not be under an obligation to do so if the safe harbor is not “achievable” or if less expensive alternatives provide equivalent functionality.
- Will adopting safe harbor technical standards based on recognized industry standards reduce compliance costs for ACS manufacturers and service providers?
 - Probably by leveraging economies of scale and a lower learning curve due to a community of experts.

This concludes our comments on the Proposed Rule. Again, we would welcome any questions regarding our views and recommendations, and would also be happy to meet with the Commission to provide clarification regarding any of the points offered above. Thank you for your consideration.

Sincerely,

/signed/

Ken J. Salaets
Director