users to access the ASL relay CA service of their choice? If the Commission does choose to contract for these functions, should there be a single contract or multiple contracts?

Perhaps recognizing the risks to quality inherent in a centrally-planned one-provider model, this question asks whether there should instead be multiple providers in this role. But while this variation might generate some incentive to innovate, it would prove just as costly and counterproductive for consumer welfare. Creating multiple "database administrators" to handle these various functions in competition with one another would exponentially increase costs, as each would need to design and implement separate networking operations to perform the functions identified in the proposal, and each current VRS provider would need to retrofit its existing systems (which they have built at substantial expense) to interoperate with each of the new administrator entities.

The lowest-common-denominator problem would still exist for many functions (including call routing, video mail, and address books), since they would need to operate smoothly in conjunction with any VRS provider and regardless of whether a customer ported from one administrator to another. Simply put, empowering multiple new entities to provide this core component of the service currently offered competitively by VRS providers would introduce duplication, complexity, and new points of potential failure. It would lead to more aggravation (and more limited service features) for consumers, who would have to keep track of three different providers—one for interpreting, one for network functions, and one for equipment—rather than just one provider and one point of contact.

Many deaf and hard-of-hearing users will find this to be a serious impediment to service, as they may not know where to turn in the event of inadequate call quality and they may find that the providers of the various functions tend to point their fingers at one another rather than address the problem. This tendency will be particular prevalent with providers—like a

standardized endpoint developer or network function provider—that do not face competition. Since consumers would be unable to express dissatisfaction by switching to a competing provider, the provider will have little incentive to be responsive.

4. What changes in the Commission's rules would be necessary to implement such a structure?

ZVRS's network-function disaggregation proposal would require a wholesale overhaul of the rules—as well as being incompatible with the rate proposals currently being considered. Indeed, the breadth of changes would be so sweeping that they are difficult to catalog. First, the proposal would require the Commission to completely reassess the E911 obligations applicable to providers, including which entities in the chain (endpoint developer, interpreting provider, network functions provider) bear responsibility for which aspects of emergency communications. This would likely entail completely rewriting the iTRS 911 rules and also convening a working group to develop standards applicable to iTRS emergency communications.

The proposal would also require the Commission to reassess compensation at a fundamental level and to determine how each component of the new industry structure is compensated (fixed fee contract, per minute compensation, per user compensation, licensing payments, etc.), adopt ratemaking and compensation structures for each, and then make an honest assessment of the total impact on the TRS Fund. As Professor Katz observes, this would "create[] greater uncertainty with respect to rate setting,"[147] because "a more complex compensation scheme will be needed: one for each rate component."[148] In essence, then ZVRS's proposal to disaggregate the functions currently performed by VRS providers and assign some to a new service provider (or providers) is a proposal for a hybrid VRS compensation

[147] Katz PN Declaration ¶ 3.

[148] *Id.* ¶ 27.

regime—disaggregation would require a combination of compensation structures if the Commission is to have any hope of maintaining appropriate incentives for service and innovation.

Of course, disaggregation of compensation structures could, if properly pursued, have benefits. Both Sorenson and the consumer groups proposed a hybrid compensation mechanism for VRS compensation in comments and reply comments.[149] But the PN does not appear even to recognize the necessity of a hybrid regime if the Commission severs the provision of video access service from interpreting functions—the rate portions of the PN wholly ignore the possibility of a hybrid per user/per minute rate system. The rate uncertainty that Professor Katz describes is heightened by this fact that the PN does not recognize—let alone attempt to explain—how compensation would be divided between the rates left for the interpreting provider, and the rates paid to the communications platform provider.

The Commission would, as part of an overhaul of its VRS rules in response to disaggregation, also need to consider and address the kinds of information (*e.g.*, call detail records or comparable information) that providers of the various functions must submit routinely to the TRS Fund Administrator, the frequency with which the information must be submitted, and who has access to it. It would also be important to consider rule changes to address which entity involved in providing VRS bears a responsibility to report service outages. At present, the VRS provider must report outages to the FCC, but that regime would be far less appropriate if there were multiple entities involved in the provision of service. Under the proposed regime, the Commission would have to resolve whether the application developer and the network provider

[149] *See, e.g.*, Sorenson FNPRM Reply Comments at 41-46; Comments to Further Notice of Proposed Rulemaking of the Deaf and Hard of Hearing Consumer Advocacy Network *et al.*, at 48-52, CG Docket Nos. 10-51, 03-123 (filed Mar. 9, 2012).

must report outages that have a relationship to their particular deliverables, and it must assess rules to ensure that the incentive to blame other entities in the chain does not result in unreported outages. In addition, the Commission will need to rethink the certification process and the certification requirements. While the certification rules are currently tailored to stand-alone VRS providers, a disaggregated VRS model would require an overhauled approach.

Finally, and more broadly, the proposal would require the Commission to restructure all of the minimum standards, apportioning obligations, and liability among the distinct entities with different roles in the process. The regulatory structure is already complex and disjointed even under the current regime where there is little ambiguity about who provides the service. That complexity would mushroom to an unworkable level without a structural overhaul of the rules if the FCC moved to a disaggregated world. For example, the Commission would need to determine which entity bears responsibility for meeting the speed-of-answer requirements (which is a function of networking efficiency and interpreter availability) and who bears responsibility if the threshold is not achieved. Similar reassessments will be required throughout the TRS rules.

D. Before the Commission Could Adopt ZVRS's Proposals, It Would Need to Explain Why It Chose to Reverse Its Previous Rejection of Similar Proposals.

If it were to adopt any element of the disaggregation proposals reflected in the PN (including the stand-alone standardized application proposal discussed in Section III.C above), the Commission will need to explain and justify their resuscitation. The PN, it should be noted, is not the first time that these ideas have been put out for comment. In its Notice of Inquiry related to VRS released in June 2010, the FCC expressly raised the prospect of disaggregating VRS, asking whether there was any need to have the constituent components of VRS (equipment,

transmission, interpreting) supplied by vertically integrated providers.[150] Sorenson responded by urging the Commission to let the market dictate the most suitable business models for VRS. Sorenson explained that FCC intervention to limit vertical integration would harm competition and consumer choice, as integrated operations have generated cutting-edge and feature-rich services that serve consumer interests.[151] Purple's comments were similar, concurring that vertical integrations should be permitted as it has provided innovations and benefits to users.[152]

By the time it released its FNPRM in December 2011, the FCC had apparently reached the decision that there was no merit to mandated disaggregation, as the issue was completely missing from the FCC's comprehensive proposals for reforming the industry. It is therefore odd to say the least that the Bureau has re-raised this discarded issue at this late stage in the proceeding—after the Commission had raised it in an earlier context, received reasoned comments explaining the proposal's core flaws, and then appropriately removed it from its more comprehensive reform process. If the Commission were to proceed with any variant of the disaggregation proposal in the face of this record, it would need to explain not only why it is reasonable in light of the harm and cost it would inflict. It would also have to explain and justify how the proposal can constitute reasoned rulemaking considering that the FCC had assessed and abandoned it earlier in the proceeding.

Overall, it should be perfectly clear that disaggregating VRS would *not* lead to more competition and improved service. This is because the interpreting function provider, the

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[150] *See Structure and Practices of the Video Relay Service Program*, Notice of Inquiry, FCC 10-111, 25 FCC Rcd. 8597, 8608-10 ¶¶ 32-40 (2010).

[151] *See* Comments of Sorenson Communications, Inc., at 40-44, CG Docket No. 10-51 (filed Aug 18, 2010).

[152] *See* Comments of Purple Communications, Inc., at 36-37, CG Docket No. 10-51 (filed Aug 18, 2010).

network function provider, and the equipment provider do not compete with each other. Indeed, ZVRS appears to have proposed this division precisely because it has had such difficulty competing with Sorenson on each of these scores. Instead, as explained above, ZVRS has proposed a disaggregated system that would create confusion, degrade service quality, waste TRS Fund resources without combatting fraud, and introduce a centrally-planned structure that eliminates competition.

V. Conclusion.

Each of the proposals contained in the Public Notice—whether viewed individually or in aggregate—would devastate VRS as we know it. In the myriad ways catalogued above, the proposals would obliterate the financial structure of every VRS provider, freeze investment in the industry, fail to curtail fraud, eliminate consumer choice, require consumers to abandon the endpoints they prefer, undermine incentives to innovate, forcibly discard existing functionalities that users value greatly, generate enormous technical problems (and, as a result, dropped calls or call failures), and ensure disastrous customer support and customer relations experiences. Adopting any of the proposals would forge for this Commission a legacy of unraveling one of the great successes of the ADA. The proposals should be rejected.

Respectfully submitted,

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November 14, 2012

Attachment A

RESPONSE TO ADDITIONAL REQUEST FOR COMMENTS ON VRS POLICY

Declaration of Michael L. Katz

November 13, 2012

CONTENTS

I. INTRODUCTION AND OVERVIEW

1. The Federal Communications Commission (Commission) has been undertaking a multi-year review of the design of the video relay services (VRS) program. Recently, the Consumer and Governmental Affairs Bureau (CG) issued a public notice[1] seeking comment on: (a) proposals by CSDVRS, LLC, under which the Commission would force a dramatically different structure on the industry,[2] and (b) a proposal by the TRS Fund Administrator, Rolka Loube Saltzer Associates, LLC (RLSA), to reduce VRS compensation rates based on a cost-of-service rate-setting methodology.[3] I have been asked by counsel for Sorenson Communications, Inc. (Sorenson) to conduct an economic analysis of these proposals to assess their likely effects on competition and consumer welfare.

2. In brief, I find that implementing these proposals would be likely to quash competition (in some cases by design), stifle innovation, and degrade the quality of services offered to deaf and hard-of-hearing consumers. Through these mechanisms, implementing the proposals

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1 *Additional Comment Sought on Structure and Practices of the Video Relay Service (VRS) Program and on Proposed VRS Compensation Rates*, CG Docket Nos. 08-123 and 10-51, October 15, 2012 (hereinafter *Public Notice*).

2 Attachment 2 to Letter from Jeff Rosen, General Counsel, CSDVRS, LLC, CG Docket Nos. 10-51, 03-123, July 10, 2012 (hereinafter *CSDVRS Software Proposal*). Letter from Jeff Rosen, General Counsel, CSDVRS, LLC, CG Docket Nos. 10-51, 03-123, August 27, 2012 (hereinafter *CSDVRS Software Proposal II*). Comments of CSDVRS, LLC, CG Docket Nos. 10-51, 03-123, March 9, 2012 (hereinafter *CSDVRS Separation Proposal*).

3 *Supplemental Filing of the Telecommunications Relay Service Administrator Regarding Reasonable Rates for VRS Service*, CG Docket Nos. 03-123 and 10-51, October 15, 2012 (hereinafter *RLSA Filing*).

would likely inhibit the Commission's ability to meet its statutory obligation to ensure that VRS is available to all users and offers functional equivalence.[4] The welfare of other consumers would also be harmed by the fact that they would be less able to communicate with deaf and hard-of-hearing consumers.

3. More specifically, my analysis finds that:

- *If adopted, CSDVRS's proposal to create a monopoly-franchise VRS application would deny choice to deaf and hard-of-hearing consumers, stifle innovation, and create a host of administrative problems.* The U.S. Congress and the Commission have rightly abandoned the approach of granting monopolies for communications services because of the associated inefficiencies and harm to consumers. Although CSDVRS asserts that creation of a monopoly application would solve industry interoperability issues, there is a far-superior approach that is compatible with competition and consumer choice: the creation of industry-wide standards.

- *CSDVRS's proposal to rely on off-the-shelf hardware is unnecessary and would harm consumers by denying them choice and stifling innovation.*[5] There is no evidence of a public-interest problem to which CSDVRS's proposal would be a solution. If some

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[4] See FCC Regulations for the Provision of Telecommunications Relay Services (TRS) pursuant to Title IV of the Americans with Disabilities Act (ADA), Pub. L. No. 101-336, § 401, 104 Stat. 327, 366-69 (adding Section 225 to the Communications Act of 1934, as amended, 47 U.S.C. § 225).

[5] CSDVRS proposes that purpose-built video phones should be allowed for an interim period of two to three years before transitioning to off-the-shelf hardware and a universal software application. (See *CSDVRS Software Proposal*, Part 3 at 19 and *CSDVRS Software Proposal II* at 2 and 3.)

VRS providers believe that they can offer superior service more efficiently by utilizing off-the-shelf equipment, they are free to do so today. The only effect of a ban of purpose-built equipment would be to prevent firms from offering consumers a wider range of choices, including choices specifically designed for the deaf and hard-of-hearing community. Preventing a VRS provider from offering purpose-built products that consumers find highly attractive would clearly benefit VRS providers that do not provide such devices, or whose devices are not preferred by consumers. But this proposal would even more clearly harm deaf and hard-of-hearing consumers by denying them choice and weakening competition.

- *CSDVRS's proposal to sever access-related elements of video communications services (e.g., user registration and validation, authentication, call routing, and usage accounting) from other components of VRS risks blocking the realization of economies of scope, creates greater uncertainty with respect to rate setting, and may reduce provider accountability to deaf and hard-of-hearing consumers.* Here, too, there is no evidence of a public-interest problem to which CSDVRS's proposal would be a solution. If today some VRS providers believe that they can offer service more efficiently on a vertically disintegrated basis, they are free to adopt such a structure as their competitive strategy.

- *The RLSA proposal to retain rate tiers would distort competition and support inefficient service providers.* RLSA proposes to continue having a multi-tier compensation structure over at least a multi-year phase-in period and leaves open the question of whether the system ever will converge to a single tier. Although the

proposal reduces the number of tiers from a total of three to two, the rates for the two tiers RLSA proposes to combine already were very close to another. This is not a meaningful reform. The retention of tiered rate structure with a sizable gap between the higher and lower compensation rates would distort incentives and support inefficient competitors.

- *RLSA's rate proposal is based on the approach underlying traditional rate-of-return regulation, an approach which the Commission has properly rejected in other contexts.* This type of rate setting can be expected to stifle innovation that might otherwise reduce costs or improve service quality. The Commission should instead direct the TRS Fund Administrator to set compensation rates based on an incentive-regulation approach, which is widely recognized as creating superior dynamic incentives.

- *The RLSA rate proposal is based on an allowed rate of return that lacks factual foundation.* The Commission has repeatedly expressed its intention to engage in evidence-based policymaking. RLSA's proposed use of an arbitrary 11.25-percent rate of return on investment runs squarely counter to that intention. The only justification offered for using this number appears to be that it was found to be appropriate for a very different industry decades ago. Neither the Commission nor RLSA appear to have made any attempt to ground the allowed rate of return on any measure of the actual cost of capital faced by current VRS providers or on any of the characteristics of the current VRS marketplace.

- *If some or all of CSDVRS's proposals are adopted, then it will be necessary to revisit the RLSA proposal in order to disaggregate the rate components, thus creating further delay and increasing the likelihood that some or all of the rates will harm deaf and hard-of-hearing consumers by weakening providers' incentives to offer high-quality products and services.* If the provision of VRS is broken into two or more separate components, then separate compensation rates will be needed for each component. If one rate is too high and another too low, then there may be no service, or only low-quality service offered by those providers receiving the low rate. In contrast, when the different components are combined, one component's being too high can compensate for another component's being too low, thus benefitting consumers.

4. The remainder of this declaration explains these findings in greater depth and provides details of the facts and analysis that led me to reach them.

II. ANALYSIS OF CSDVRS'S PROPOSALS TO RESTRUCTURE THE VRS INDUSTRY

5. The *Public Notice* seeks comment on proposals by CSDVRS to have the Commission force the industry to adopt a radically different structure.[6] In this section, I first address these ill-advised proposals on a broad level and then turn to the *Public Notice's* detailed questions regarding the proposals.

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6 *Public Notice*, §§ I.A and I.B.

A. PREVIOUS FINDINGS WITH RESPECT TO USING REGULATION TO DETERMINE THE INDUSTRY STRUCTURE

6. At the request of counsel for Sorenson, I previously conducted two economic analyses of several proposals to modify the VRS program in order to determine the likely effects of these proposals on consumer welfare and the attainment of the Commission's goals.[7] My broad conclusion was that the Commission's fundamental approach to promoting consumer welfare in the VRS marketplace should be to promote undistorted competition because undistorted competition is widely recognized as promoting efficiency and consumer welfare, and will create incentives for providers to serve all eligible users. Indeed, the Commission has long championed competition in the industries that it oversees.

7. There are many dimensions to competition, including product or service quality, the nature of the product or service offered, the means used to produce the product or service, and the organization of the enterprises that supply the product or service. When suppliers are free to compete, they have incentives to innovate in all of these areas, including organizational structure and business-model design. It is widely recognized that the view that competition and innovation pertain only to products and manufacturing processes is outdated and

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[7] *Structure and Practices of the Video Relay Service Program and Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Further Notice of Proposed Rulemaking*, CG Docket Nos. 10-51 and 03-123, An Economic Analysis of VRS Policy Reform, Appendix A to Comments of Sorenson Communications, Inc., March 9, 2012 (hereinafter *Initial Declaration*); *Structure and Practices of the Video Relay Service Program and Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Further Notice of Proposed Rulemaking*, CG Docket Nos. 10-51 and 03-123, Reply Comments Regarding VRS Policy Reform, Appendix A to Reply Comments of Sorenson Communications, Inc., March 30, 2012 (hereinafter *Reply Declaration*).

dangerously narrow. Under a policy of promoting undistorted competition, the Commission would *not* impose a particular structure and vision on market participants. Rather, the industry structure and the business models of rival suppliers would be driven by competition.

8. Unfortunately, my previous analyses revealed that the current VRS Program distorts competition and, thus, can be expected to reduce efficiency and harm deaf and hard-of-hearing consumers, as well as other consumers. My specific findings were that:

- A compensation system of declining rate tiers harms deaf and hard-of-hearing consumers by supporting inefficient competitors and distorting competition.
- A single-tiered compensation system would benefit deaf and hard-of-hearing consumers—as well as telecommunications users more generally—by promoting efficiency and undistorted competition.
- An examination of economies of scale demonstrates that declining compensation tiers are not needed to promote quality competition.

9. I also found that several proposals before the Commission could further distort competition, thus harming deaf and hard-of-hearing individuals, as well as other telecommunications users.

- Although the creation of—and adherence to—baseline standards would enhance competition, excessive or overbroad standards can stifle product variety and innovation, thus denying deaf and hard-of-hearing users access to the most advanced technologies and attractive services.
- Proposals advanced by CSDVRS to separate equipment from interpreting services run the risk of stifling innovation, reducing availability and, thus, harming consumers and program efficiency.

- Requiring off-the-shelf equipment would harm consumers by denying them the benefits of competition and innovation.

10. It is doubly unfortunate that the *Public Notice* contemplates further distorting—and even eliminating—competition.

B. OVERVIEW ANALYSIS OF PROPOSALS TO CREATE A MONOPOLY APPLICATION, MANDATE USE OF OFF-THE-SHELF HARDWARE, AND ISOLATE PROVISIONING OF VIDEO COMMUNICATION SERVICES.

11. There are several dimensions to CSDVRS's proposals to use regulatory fiat to restructure the VRS industry. I begin by providing a brief overview of each one in turn.

1. Monopoly Application

12. CSDVRS proposes the creation of a monopoly application.[8] CSDVRS asserts that doing so would promote interoperability.[9] Interoperability is a worthy objective for VRS; the value to consumers using one VRS provider's equipment and service is enhanced by the ability to call consumers who are using other VRS providers' equipment and service. However, CSDVRS's proposal would dramatically limit consumer choice and would go far beyond the standardization required for interoperability. Implementing CSDVRS's proposal

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[8] See *CSDVRS Software Proposal* at 7 and 11, and *CSDVRS Software Proposal II* at 2. See also *Public Notice*, I.A.2, asking in connection with CSDVRS's proposal whether the Commission should mandate a single application. Given the very limited descriptions provided in these documents, it is impossible to be certain what CSDVRS is proposing. If CSDVRS is not proposing to create a monopoly application, then it is difficult to discern what the content of its proposal is. Providers are free today to create applications if they wish to do so. Perhaps the force of CSDVRS's proposal is a call for explicit compensation for the development of such applications coupled with a requirement that these applications be offered on a standalone basis. If so, the proposal would not, in itself, promote interoperability, but could be expected to have many or all of the ill effects discussed below with respect to CSDVRS's proposal to mandate vertical disintegration of the industry.

[9] *CSDVRS Software Proposal* at 7.

would be like ensuring the interoperability of mobile wireless devices by ordering all mobile wireless service providers to sell only smart phones and tablets running a new mobile operating system yet to be developed. Such an approach clearly would be detrimental to competition and consumers.

13. CSDVRS's proposal would create a monopoly application developer with all of the attendant problems associated with franchise monopolies that led the Congress and the Commission to embrace competition.[10] In addition to denying consumers the choice of a variety of competing applications that they enjoy today, creation of a monopoly application provider would eliminate competitive pressures that would otherwise promote innovation and lead to improved offerings in the future. This expected harm to innovation and, thus, to deaf and hard-of-hearing users would occur even if the Commission were to institute competitive bidding to be the monopolist. It is well-established that a franchise monopoly can give rise to lock-in of the incumbent as the result of sunk costs.[11] In the case of a VRS application, the vast majority of the costs of the application could be expected to be sunk. Moreover, even if the Commission were somehow able to overcome this problem, it still would face the very difficult problem of creating a mechanism for selecting the winner of the franchise competition (*i.e.,* a bid scoring system) that accurately represented consumer preferences. Indeed, given the heterogeneity of deaf and hard-of-hearing consumers' preferences, it is very

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[10] For a discussion of these problems, see, for example, Dennis Carlton and Jeffrey Perloff, *Modern Industrial Organization* (Fourth Edition, 2005) at 694-696.

[11] See, for example, Mark Armstrong and David Sappington, "Recent Developments in the Theory of Regulation," in *Handbook of Industrial Organization*, M. Armstrong and R. Porter (eds.), 2007, at 1649 and 1650.

likely impossible to do so. And given diverse preferences, it certainly would be impossible to develop a single application that served consumer interests as well as would a variety of competing applications.

14. If the Commission's objective is to enhance interoperability, then a better approach is for the Commission to support a process to develop and coordinate on baseline standards, many of which already exist today. For example, call control and signaling are key functions for any communications system.[12] The two main standards in use are H.323 and SIP.[13] The VRS industry historically has relied upon H.323, but is migrating to SIP.[14] All VRS providers support H.323 for calls between providers. The vast majority of Sorenson's products also support SIP. It is my understanding that Sorenson has tested SIP connectivity with several other VRS providers, including Purple, CSDVRS, GraciasVRS, and CAAG.

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12 Sending signals to establish, modify, and terminate communications sessions is a key element of any communications product. Protocols define rules governing communications between different systems. For example, communications protocols may define the format of the data being exchanged, the mapping of addresses from one format to another, the routing of data across a network or networks, the detection of transmission errors, procedures for handling lost information, and messaging from the receiver to the sender (for example, to acknowledge receipt of information or to control the flow of information).

13 Both H.323 and SIP can be used to initiate and control communications sessions, and each has advantages and disadvantages relative to the other. H.323 was available several years before SIP. (See Cisco Systems, Inc., "H.323 and SIP Integration," White Paper, *available at* http://www.cisco.com/warp/public/cc/techno/tyvdve/sip/prodlit/sh23g_wp.pdf, site visited September 4, 2012.)

14 The information in the remainder of this paragraph is based on interviews with Grant Beckmann, VP Engineering of Sorenson Communications, November 8, 2012, and Scot Brooksby, Engineering Director at Sorenson Communications, November 8, 2012, and November 12, 2012.

15. Although standards for VRS communications exist and have been adopted, it is important to recognize that different VRS providers have adopted different standards. Moreover, even providers that adopt the same standard may interpret, implement, and extend that standard in different ways. This lack of coordination can lead to lack of full interoperability. For example, it is my understanding that there is disagreement amongst VRS providers as to whether telephone numbers should include a country code or not.[15]

16. The VRS industry is in the process of developing a SIP Forum task group to make technical recommendations regarding best practices.[16] It is my understanding that Henning Schulzrinne, the Chief Technology Officer at the Commission and a developer of SIP, has participated in this process.[17] It is also my understanding that the SIP Forum Video Relay Service Task Group will consider standards beyond those applying to signaling, such as video codecs.[18] Given its position as a monopsony purchaser of VRS services and its statutory mandate to support functional equivalence, the Commission has a particular interest in ensuring interoperability. The use of—and coordination on—existing standards such as SIP

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15 Interview with Grant Beckmann, VP Engineering of Sorenson Communications, and Scot Brooksby, Engineering Director at Sorenson Communications, November 8, 2012.

16 The SIP Forum is in the process of finalizing its charter and defining its leadership. (Interview with Grant Beckmann, VP Engineering of Sorenson Communications, and Scot Brooksby, Engineering Director at Sorenson Communications, November 8, 2012.)

17 See Federal Communications Commission, "FCC Names Henning Schulzrinne Chief Technology Officer," December 19, 2011, *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-311578A1.pdf, site visited November 9, 2012.

18 Interview with Grant Beckmann, VP Engineering of Sorenson Communications, and Scot Brooksby, Engineering Director at Sorenson Communications, November 8, 2012; SIP Forum Video Relay Service Task Group Charter, draft, October 31, 2012, at 3.

would allow the Commission to achieve its interoperability objectives without harming competition.

17. As I discussed in my *Initial Declaration*:

> properly designed standards can promote economic efficiency and consumer welfare by: ensuring interoperability that allows the realization of network effects (*e.g.*, ensures that any VRS user can make point-to-point calls to any other VRS user, without regard to the two users' default VRS providers); reducing switching or porting costs; and providing a well-defined platform on which various suppliers can develop complementary products and services.[19]

However, standards, if overly broad, can also harm competition by reducing the ability and incentive to innovate. Coordination through the SIP Forum should recognize the need for baseline interoperability standards, while still allowing VRS providers to compete on advanced features.

18. In addition to making overreaching claims regarding the interoperability benefits of a standard application, CSDVRS also asserts that such an application would reduce costs by eliminating hardware (*i.e.*, video phones).[20] As I discuss below, these claimed hardware-cost savings have to be weighed against the cost of the $400 equipment stipend that CSDVRS proposes that each deaf or hard-of-hearing user would receive.

19. Lastly, CSDVRS claims that another advantage of its proposal for a standardized VRS application is that competition would be based on interpreter quality, not video-

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19 *Initial Declaration*, ¶ 84.

20 *CSDVRS Software Proposal* at 7.

phone quality.[21] Today, VRS providers compete in terms of the quality of interpreters, applications, and customer premises equipment (whether purpose built or off the shelf). Eliminating competition in one or more dimensions might be an advantage for CSDVRS, but it would not be an advantage for consumers.

2. Mandatory Use of Off-the-Shelf Hardware

20. In my *Reply Declaration*, I explained why mandating the use of off-the-shelf hardware would limit and distort competition.[22] If off-the-shelf equipment is lower cost or more attractive to users, then VRS providers currently have the incentive and ability to offer that equipment to VRS users in order to obtain competitive advantage. If a VRS provider can offer greater benefits to consumers using proprietary product designs that meet interoperability requirements, then doing so benefits consumers and makes the VRS program more efficient. If the Commission were to take away the option of competing by offering purpose-built equipment to VRS users, the only beneficiaries would be particular VRS providers that did not wish to compete with respect to equipment.

21. The history of competition in the VRS industry demonstrates that both purpose-built and off-the-shelf equipment can best serve consumer interests, depending on the situation. Today, Sorenson and CSDVRS both offer customers an option between purpose-built video-phone hardware and applications designed to work on off-the-shelf hardware such as iOS- and

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21 *Id.*

22 *Initial Declaration*, ¶ 90.

Android-based mobile devices.[23] Purpose-built video phones include features that likely would not, or could not, be implemented using off-the-shelf hardware. Such features include large screens for the vision-impaired, compatibility with off-the-shelf flashers (which typically connect via RJ9 ports, which are not available on tablet computers such as iPads), visual ringing and caller ID, and amplified audio.[24] Not surprisingly, many deaf and hard-of-hearing users have expressed a clear preference for the purpose-built video phones, which are optimized for them. The vast majority of Sorenson's customers use its purpose-built video phone instead of a general-purpose platform.[25] The Commission should respect consumer preferences.

22. The same concerns would apply with even more force to off-the-shelf equipment running a single, mandated application, as the requirement to use a particular application with particular functionality would remove competition for additional functionality even within the limitations of off-the-shelf equipment. In all likelihood, such an application would represent a least common denominator because it would have to operate across a range of constantly changing off-the-shelf equipment.

23. Finally, it is important to recognize that, in order to determine the true changes in program costs associated with CSDVRS's proposal, one must take into account the $400 per

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23 See *CSDVRS Software Proposal* at 3 and 5 and *CSDVRS Software Proposal II* at 2, discussing how CSDVRS and Sorenson both offer iPads to consumers at no charge to the consumer.

24 Interview with Grant Beckmann, VP Engineering of Sorenson Communications, and Scot Brooksby, Engineering Director at Sorenson Communications, November 8, 2012.

25 Interview with Grant Beckmann, VP Engineering of Sorenson Communications, November 8, 2012.

user equipment subsidy that is part of that proposal.[26] Although CSDVRS has not specified which users would be eligible for its proposed subsidy, the cost of CSDVRS's proposed equipment subsidy is likely to be substantial. It is my understanding that there are more than 100,000 total VRS users, and some VRS users may need multiple devices (*e.g.*, one for home and one for work).[27] Hence, CSDVRS's proposed subsidy could cost the fund $40 million or more.[28] Moreover, in an *ex parte* presentation, CSDVRS complained that getting an iPad (which CSDVRS would have eligible for the subsidy[29]) was like getting cash and that the device might be used for non-VRS purposes.[30] By CSDVRS's own logic, the cost of its proposal would be driven up dramatically if people sought subsidized, general-purpose equipment for uses other than VRS. Lastly, although CSDVRS appears to contemplate a one-time stipend, deaf and hard-of-hearing consumers will need to purchase replacement equipment in the future.[31]

24. In summary, because user interests are best served when the Commission lets users decide which applications and equipment best serve their needs, the Commission should not create an application monopoly and the Commission should not force consumers to use off-the-shelf equipment. A much better approach is to have the industry agree to baseline

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26 *CSDVRS Software Proposal* at 18.

27 Interview with Grant Beckmann, VP Engineering of Sorenson Communications, November 12, 2012.

28 Of course, some users might choose not to take advantage of the subsidy program.

29 *CSDVRS Software Proposal* at 8 and 18; *CSDVRS Software Proposal II* at 3.

30 *CSDVRS Software Proposal II* at 1.

31 *CSDVRS Software Proposal* at 18.