

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Structure and Practice of the Video Relay Service Program)	CG Docket No. 10-51
)	
Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities)	CG Docket No. 03-123
)	

REPLY COMMENTS OF CONSUMER GROUPS

Telecommunications for the Deaf and Hard of Hearing, Inc., National Association of the Deaf, Deaf and Hard of Hearing Consumer Advocacy Network, Association of Late-Deafened Adults, Inc., Cerebral Palsy and Deaf Organization, and Deaf Seniors of America (collectively “Consumer Groups”) submit these comments in response to the Public Notice released by the Consumer and Governmental Affairs Bureau (“CGB”) of the Federal Communications Commission (“the Commission”),¹ seeking comment on a petition filed by Sorenson Communications, LLC’s (“Sorenson”)² for partial reconsideration, or in the alternative, suspension of the deadline for implementation of the Relay User Equipment (“RUE”) Profile technical standard adopted in the *2017 VRS Interoperability Order*.³ Omnitor AB, the Rehabilitation Engineering Research Center on Technology for the Deaf and Hard of Hearing at

¹ *Consumer and Governmental Affairs Bureau Seeks Comment on Sorenson Communications, LLC Petition for Partial Reconsideration of Video Relay Service Interoperability Order*, CG Docket Nos. 10-51 and 03-123, Public Notice, DA 17-656 (rel. Jul. 7, 2017) (the “Public Notice”).

² Petition of Sorenson Communications, LLC for Partial Reconsideration, or in the Alternative, Suspension of the RUE Implementation Deadline, CG Docket Nos. 10-51 and 03-123 (filed May 30, 2017) (“Petition”).

³ See *Structure and Practice of the Video Relay Service Program et al.*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 687 (CGB 2017) (“*2017 VRS Interoperability Order*”).

Gallaudet University, and the Rehabilitation Engineering Research Center on Universal Interface and Information Technology Access at the University of Maryland (the “Academic & Research Groups”) also support these Reply Comments.

Sorenson asserts that the RUE Profile and Accessible Communications for Everyone Application (“ACE App”) remain incomplete and the Commission or CGB should therefore suspend the implementation deadline while problems with the RUE Profile and ACE App can be resolved. Sorenson states that Video Relay Service (“VRS”) providers should have at least one year after the RUE Profile and ACE App are released for testing before they must support communications with ACE App endpoints, rather than one year from adoption of the *2017 VRS Interoperability Order*.⁴

Sorenson alleges that the RUE Profile is still in draft form⁵ and lacks necessary security provisions and operational details with respect to security, maintenance, support and centralized services.⁶ Sorenson further states that users are unable to update his/her registered locations for 911 purposes in the RUE Profile.⁷

With respect to the ACE App, Sorenson asserts several shortcomings. First, Sorenson explains that web-based repositories regarding each VRS provider that assist with establishing communication between the ACE App user and the VRS provider’s network do not exist, nor does there appear to be any action toward creating and maintaining them.⁸ Second, similar to the RUE Profile, the current version of ACE App does not include an in-App mechanism for users to update his/her registered location for 911 purposes which will result in routing of 911 calls to

⁴ Sorenson also challenges the legal authority for CGB to incorporate the RUE Profile into its rules. Consumer Groups take no position at this time on Sorenson’s assertion that CGB lacked delegated authority to incorporate the RUE Profile as a voluntary, consensus standard.

⁵ Petition at 2.

⁶ *Id.* at 14-15.

⁷ *Id.* at 15.

⁸ *Id.* at 15-16.

Public Safety Answering Points (“PSAPs”) associated with the user’s original location without regard to how many times he/she has changed locations.⁹ According to Sorenson, a user would therefore have to take affirmative steps to notify the VRS Provider via customer service (which may be unavailable during some nights and weekends) each time he/she changes locations.¹⁰ Sorenson also states that the current vendor has allegedly been told not to develop or maintain any versions of the ACE App except for Windows.¹¹ Finally, Sorenson argues that the ACE App lacks a way for VRS providers to verify the authenticity of the ACE App leading to concerns about malware and the risk that calls from ACE App users may be ignored by VRS providers as a result.¹²

GlobalVRS filed a brief letter generally requesting that the Commission maintain the RUE Profile as a guideline and require implementation only for VRS providers that make proprietary equipment available to their subscribers.¹³ ZVRS and Purple Communications, Inc., similarly filed comments on Sorenson’s petition requesting that the Commission focus on improving interoperability through efforts other than the RUE Profile, “including the successful implementation of the VRS Interoperability Profile and xCard XML Format and the establishment of a neutral third-party laboratory to test the interoperability of VRS products and services.”¹⁴

As a general matter, in order to truly achieve the goal of providing functional equivalency in telecommunications relay services, interoperable communications must be readily available

⁹ *Id.* at 16.

¹⁰ *Id.*

¹¹ Petition at n.52.

¹² *Id.* at 17.

¹³ Letter from Andrew O. Isar, Miller Isar, Inc., to Marlene H. Dortch, Secretary, FCC, CG Docket Nos. 10-51 and 03-123 (filed Aug. 7, 2017).

¹⁴ Comments of ZVRS Holding Company, ZVRS, and Purple Communications, CG Docket Nos. 10-51 and 03-123 (filed Aug. 7, 2017)

and achieved with anyone, anytime, and anywhere.¹⁵ Consumer Groups believe that the RUE Profile and ACE App in combination with the VRS Interoperability Profile provide an unprecedented opportunity to resolve longstanding barriers to VRS users enjoying the same freedoms that mainstream telephone users enjoy, such as being able to call others without having to go through preferred vendors or having their intended call recipients “registered” in the VRS system in advance and using the same mainstream technologies as everyone else.¹⁶ Additionally, the ACE platform itself could be advanced, at some point, as a free open-source communication platform directly usable by consumers in addition to being a model from which others can build innovative products and services.

Too much progress has been made toward these goals to turn back now toward the status quo ante of proprietary solutions from VRS providers in the absence of the RUE Profile and ACE App. Consumer Groups strongly believe the RUE Profile and ACE App hold the key to unlocking an accelerated pace of innovation that will address the diverse needs of individuals who are deaf, hard-of-hearing, deaf-blind, speech-disabled or deaf and mobile-disabled. Consumer Groups urge the Commission and CGB to not abandon these efforts now due to issues that can be remedied with a little extra work and collaboration, as doing so would only further delay achievement of functional equivalency and continue relegating VRS users to a second-class communications ecosystem while other consumers enjoy an unprecedented variety of innovative communications technologies.

Regarding Sorenson’s claims with respect to the inability for consumers to update registered locations for 911 purposes, Chapter 11 of the RUE Profile has a well-defined and

¹⁵ See Consumer Groups’ TRS Policy Statement – Functional Equivalency of Telecommunications Relay Services: Meeting the Mandate of the Americans with Disabilities Act (Apr. 12, 2011) (“TRS Policy Statement”), available at: <https://ecfsapi.fcc.gov/file/7021748016.pdf>.

¹⁶ *Id.* at 2.

suitable method for providing the location of the device automatically in each 911 call. Section 64.605(b)(4)(ii) of the Commission’s rules regarding the updating of registered locations appears to require that VRS or IP Relay services capable of being used from more than one location “includ[e] at least one option that requires use only of the iTRS access technology necessary to access the VRS or IP Relay.”¹⁷ The Commission should make clear the extent to which the rules require the provision of the user’s actual location automatically in each 911 call without the need for any specific user action other than calling 911 and the extent to which an in-App mechanism meets this requirement. Any updating of location information by separate user action is not effective and is not a method worth maintaining as it would be unduly burdensome for mobile users to continuously update their location and some users will likely forget to make continuous updates to their locations. Providing an updated registered location automatically for each 911 call is much more reflective of the modern mobile-dominated communications environment than is updating the location on specific user request through an in-App mechanism as described by Sorenson. Accordingly, Consumer Groups believe that the additional work necessary to address 911 concerns should be outlined by the Commission, providers and other stakeholders with the goal of strengthening the RUE Profile’s 911 calling capabilities.

Consumer Groups also are concerned regarding Sorenson’s claims with respect to the development of the ACE App for use only with Windows. Consumers use phones, tablets and other electronic devices over a wide range of platforms and VRS users must have a similarly wide selection of choices regarding equipment and software interfaces as well as hardware options.¹⁸ The RUE Profile will provide users the ability to enjoy high quality relay services using mainstream products and services by enabling interconnections between mainstream

¹⁷ See 47 C.F.R. § 64.605(b)(4)(ii). Section 64.605 also requires that registered Internet-based TRS users be able “to update the Registered Location at will and in a timely manner.”

¹⁸ See TRS Policy Statement at 2.

services and VRS. If the ACE App is only available for users of the Windows operating system, it will be unusable for consumers who have the most popular smartphones and tablets. If Sorenson's description is true, having the ACE App compatible solely with the Windows operating system would be a major impediment to achieving true interoperability and portability for VRS users. Consumer Groups urge that the ACE App be made available on all widely used platforms previously identified by the CGB including Android, Apple, and iOS in addition to Windows to ensure that consumers can use the ACE App without purchase of a new device.

Consumer Groups have concerns that – if Sorenson is correct regarding the inadequacy of authentication of the ACE App and the optional nature of client certificates in the RUE Profile specifications – some calls may be ignored by VRS providers under the guise of securing their networks. If VRS providers ignore calls as a result of the provider's inability to authenticate the ACE App via a client certificate or other method of authentication, the user may have no ability for their calls to successfully reach the intended recipients. This is especially concerning with respect to emergency or other important and time-sensitive calls. If implementation of the RUE Profile and ACE App in their current forms could result in calls being ignored for justifiable network security concerns, a delay in implementation may be appropriate until such concerns can be resolved. Similar to work regarding the enhancement of 9-1-1 capabilities, additional work necessary to address security concerns should be outlined by the Commission, providers, equipment makers, consumer groups and other stakeholders with the goal of ensuring that VRS users are able to successfully place calls without such calls being ignored for the sake of network security.

In light of the fact that innovation in the VRS industry has been stagnant for years, and the fact that the more uncertain and riskier approaches to technological innovation are not currently coming from VRS providers, Consumer Groups continue to be alarmed that – in the

absence of the RUE Profile and ACE App – third-parties seeking to bring new VRS products and services will continue to be unable to ensure that their work is compatible with the entire VRS ecosystem. Notwithstanding these concerns, if Sorenson’s claims regarding the existing technical and functional flaws of the RUE Profile and ACE App are correct, Consumer Groups would be willing to agree to a brief and finite delay in compliance if such a delay is *truly* necessary to address these important issues, subject to a sufficient degree of oversight by the Commission to ensure that progress is being made toward reaching interoperability and portability goals and that Consumer Groups and other non-provider stakeholders are included in the process. In the event that the Commission finds a delay in implementation of the RUE Profile and ACE App is unavoidable, Consumers Groups would be willing to accept the framework with the VRS Provider Interoperability Profile and the xCard standard to be used while working alongside VRS providers and the Commission to craft modified or substitute standards, provided that industry stakeholders understand and recognize that the VRS Interoperability Profile, RUE Profile and ACE App are critical components to achieving interoperability and portability that will allow VRS users to connect to any provider’s network and for facilitating innovation and fuller participation in developing new products and services through an open source platform.¹⁹

Respectfully submitted,

/s/ Claude L. Stout
Claude L. Stout, Executive Director
Telecommunications for the Deaf and Hard of
Hearing, Inc.
8630 Fenton Street, Suite 121
Silver Spring, MD 20910
cstout@TDIforAccess.org

¹⁹ Consumer Groups’ perspective on the importance of the VRS Interoperability Profile, RUE Profile, and ACE App is further described in Attachment A, which was prepared by the Academic and Research Groups.

Howard Rosenblum, Chief Executive Officer
Zainab Alkebsi, Policy Counsel
National Association of the Deaf (NAD)
8630 Fenton Street, Suite 820
Silver Spring, MD 20910
howard.rosenblum@nad.org
zainab.alkebsi@nad.org

Steve Larew, President
Association of Late-Deafened Adults, Inc.
8038 MacIntosh Lane, Suite 2
Rockford, IL 61107
slawrew@aol.com

Alfred Sonnenstrahl, Vice President
Deaf Seniors of America
10910 Brewer House Rd
Rockville, MD 20852
alfredsonny@gmail.com

Gregg Vanderheiden Ph.D., Director
Rehabilitation Engineering Research Center on
Universal Interface and Information
Technology Access (IT-RERC)
2117A Hornbake Building, South Wing
4130 Campus Drive
College Park, MD 20742
GreggVan@umd.edu

Bernie Palmer, Vice Chair
Deaf and Hard of Hearing Consumer Advocacy
Network
8630 Fenton Street, Suite 121
Silver Spring, MD 20910-3803
edgar.palmer@gallaudet.edu

Mark Hill, President
Cerebral Palsy and Deaf Organization
12025 SE Pine Street, Apt. #302
Portland, OR 97216
president@cpado.org

Christian Vogler, Ph.D., Director
Rehabilitation Engineering Research Center on
Technology for the Deaf and Hard of Hearing
Gallaudet University
800 Florida Avenue NE, TAP – SLCC 1116
Washington, DC 20002
christian.vogler@gallaudet.edu

Gunnar Hellström
Founder of
Omnitor AB
Hammarby Fabriksväg 23
120 63 Stockholm
Sweden
gunnar.hellstrom@omnitor.se

Dated: August 17, 2017

The Case for RUE Spec and ACE App

Christian Vogler, Gunnar Hellström, Gregg Vanderheiden

2017-08-15

The Problem/Question

- How can we ensure that people who must use relay services can call each other and call others (and be called by others) just like everyone else -- without having to go through preferred vendors or have everyone they need to call be 'registered' in the VRS system?
- How can we give VRS users the same freedoms that mainstream telephone users enjoy?
- How can we make it so that everyone can innovate, and companies large and small can create new and better solutions, or introduce new ideas - and have them all work together?
- How do we allow people who use relay services to be able to use mainstream technologies as openly as everyone else -- and not be relegated to telecom silos that are incompatible with everything in the mainstream?
- How do we eliminate our dependence on proprietary VRS relay provider solutions that require that we go through their systems even when we make calls that don't involve them in any way?

But this will happen ONLY if we have standard, mainstream compatible ways for equipment to interconnect or they will not work together. The RUE specification and ACE app offer a way to do this. Most of the work has been done -- but there is pressure now to throw it aside instead of completing it -- and to turn back to the status quo ante of proprietary solutions.

Background

With TRS, people used TTYs and could use any relay service provider they chose. As we went to IP Relay and VRS and IPCTS, Relay Service Providers have provided their own terminal equipment that only worked with their service. This had the advantage of free equipment but had two disadvantages:

1. You could only use the one relay service with that equipment
2. You could not use the equipment for person to person calls (without either involving a relay operator or relay service infrastructure)

As we move to IP based Relay of all types, computers and standard phones now can be used for relay services - removing the need to buy special equipment -- and POTENTIALLY opening up communication so that anyone can call anyone, and anyone can use their computer/phone with any relay service.

- **Here is where the RUE Specification and ACE app come in. Providers argue that the VRS Interoperability profile is sufficient, but it is not. See Table 1.**

SIP Interoperability Specification, RUE Specification, and the ACE App

First a few descriptions:

VRS Interoperability Profile - a way to call users on VRS providers other than your own. This is the analog of AT&T, Verizon, CenturyLink, T-Mobile, Sprint, etc. users being able to call each other's phone numbers. However, without the RUE spec, you could never use your phone on anyone else's network.

RUE specification - defines the way videophones and apps connect to VRS providers. This is the analog of being able to use your iPhone, Pixel, Galaxy S8, (or a phone that has not yet been invented) on the wireless carrier of your choice. However, you still need the VRS Interoperability Profile or you could not all call each other.

The ACE application - is a reference implementation of the RUE specification. This is the analog of phone manufacturers -- instead of starting from scratch -- adopting and customizing open source software to make and test their own devices. This ensures interoperability - and allows smaller companies to make new phones, with less cost, that will work with everyone else.

You need all three parts; VRS Interoperability Profile to allow you to call anyone, the RUE spec to allow you to connect to any relay's network, and the ACE app to provide an open source model to facilitate innovation and fuller participation in developing new projects and solutions.

Table 1 provides a comparison of some key aspects of VRS that consumers have mentioned in the past:

Benefit	Products are compatible with RUE and ACE	Proprietary Equipment/ Software
If you are dissatisfied with a relay provider, you can use the same product/ videophone/ app and switch to another provider as your primary provider?	YES	No ¹
Directly call hearing friends, neighbors, other consumers with the phones, computers they already have -- without each one registering first and then downloading and installing a special app.	YES	No Can't spontaneously call anyone. They must all register in advance before you to call them.
Allow VRS calls from and to other popular systems (e.g. Skype, Facetime, Google, web-based services, etc.)	YES ²	Very limited ³
Anyone, especially community stakeholders, can innovate, instead of only providers and FCC contractors	YES	No ⁴
Do not have to buy special equipment	YES ⁵	YES ⁶

What is needed

The RUE specification advances us toward an open, interoperable relay service ecosystem. As the table above shows, the RUE Spec is essential to several key demands by consumers. To get all the way there, the following still needs to happen:

- Additional work should be carried out to strengthen the RUE specification's security and address providers' concerns with 9-1-1 calling capabilities.
- The FCC and researchers or providers should outline a plan to carry out this additional work.
- Additionally, the FCC should commit funds and a reasonably long transition period to allow providers to fully support the RUE Spec.

The ACE platform has been created and provides an open source model for other apps and application to use in building open and interoperable communication products.

- To complete the implementation according to a revised RUE specification
- The ACE platform itself could be advanced to be a free open-source communication platform directly usable by consumers itself in addition to being a model from which others can build products.

¹ You can't take your equipment or app to a new provider.

² The RUE spec provides the "glue" between the other ecosystem and the VRS provider.

³ In this instance, only VRS providers could make this happen --- and they haven't and don't appear interested if it doesn't give them a commercial advantage.

⁴ The only innovation can come from providers themselves, or preapproved FFRDCs like MITRE.

⁵ Use what you already have (smartphone, computer, app etc).

⁶ As long as providers offer it.