

Phase 4:

VRS Models in Other Countries

VRS Feasibility Study

Mission Consulting

February 24, 2012

CONTENTS

EXECUTIVE SUMMARY

| | |
|---------------------------------|-----------|
| 1. Overview | 1 |
| 2. Methodology | 2 |
| 3. Summary Findings..... | 3 |
| 4. Conclusion | 13 |

AUSTRALIA VRS

| | |
|--|-----------|
| Summary | 14 |
| 1. Overview | 14 |
| 2. Findings..... | 14 |
| Research..... | 16 |
| 1. Demographics..... | 16 |
| 2. Legal Background..... | 17 |
| 2.1. Rights of People with Disabilities | 17 |
| 2.2. Telecommunications Service Obligations | 18 |
| 2.3. Regulatory Funding of MRS/VRS | 18 |
| 3. Relay Services in Australia..... | 20 |
| 3.1. Types of User Services Provided | 20 |
| 3.2. Current VRS Communication Technologies | 21 |
| 3.3. Broadband and Connectivity Infrastructure | 22 |
| 4. VRS Usage Volumes | 23 |
| 5. Fraudulent Call Volumes and Costs..... | 24 |

| | |
|--|-----------|
| 6. Interpreter Resources and Programs | 24 |
| 7. Access to Emergency Services..... | 26 |
| 8. VRS Education and Outreach Programs..... | 27 |

FINLAND VRS

| | |
|--|-----------|
| Summary | 32 |
| 1. Overview | 32 |
| 2. Findings..... | 32 |
| Research..... | 34 |
| 1. Demographics..... | 34 |
| 2. Legal Background..... | 34 |
| 2.1. Rights of People using Different Languages..... | 34 |
| 2.2. Rights of People with Disabilities | 35 |
| 2.3. Telecommunications Service Obligations | 35 |
| 2.4. Regulatory Funding of MRS/VRS | 35 |
| 3. Relay Services in Finland | 36 |
| 3.1. Types of User Services Provided | 36 |
| 3.2. Current VRS Communication Technologies | 37 |
| 3.3. Broadband and Connectivity Infrastructure | 38 |
| 4. VRS Usage Volumes | 40 |
| 5. Fraudulent Call Volumes and Costs..... | 41 |
| 6. Interpreter Resources and Programs | 41 |
| 7. Access to Emergency Services..... | 42 |
| 8. VRS Education and Outreach Programs..... | 43 |
| Appendix A | 45 |
| Appendix B | 46 |

FRANCE VRS

| | |
|--|-----------|
| Summary | 47 |
| 1. Overview | 47 |
| 2. Findings | 47 |
| Research | 49 |
| 1. Demographics | 49 |
| 2. Legal Background | 49 |
| 2.1. Rights of People with Disabilities | 49 |
| 2.2. Telecommunications Service Obligations | 50 |
| 2.3. Funding of MRS/VRS | 50 |
| 3. Relay Services in France | 51 |
| 3.1. Types of User Services Provided | 51 |
| 3.2. Current VRS Communication Technologies | 55 |
| 3.3. Broadband and Connectivity Infrastructure | 57 |
| 4. VRS Usage Volumes | 58 |
| 5. Fraudulent Call Volumes and Costs | 59 |
| 6. Interpreter Resources and Programs | 59 |
| 7. Access to Emergency Services | 61 |
| 8. VRS Education and Outreach Programs | 62 |
| Appendix A | 64 |
| Appendix B | 65 |
| Appendix C | 66 |
| Appendix D | 67 |

GERMANY VRS

| | |
|--|-----------|
| Summary | 68 |
| 1. Overview | 68 |
| 2. Findings | 68 |
| Research | 70 |
| 1. Demographics | 70 |
| 2. Legal Background | 70 |
| 2.1. Rights of People with Disabilities | 70 |
| 2.2. Telecommunications Service Obligations | 72 |
| 2.3. Regulatory Funding of MRS/VRS | 72 |
| 3. Relay Services in Germany | 74 |
| 3.1. Types of User Services Provided | 74 |
| 3.2. Current VRS Communication Technologies | 76 |
| 3.3. Broadband and Connectivity Infrastructure | 79 |
| 4. VRS Usage Volumes | 80 |
| 5. Fraudulent Call Volumes and Costs | 80 |
| 6. Interpreter Resources and Programs | 80 |
| 7. Access to Emergency Services | 82 |
| 8. VRS Education and Outreach Programs | 83 |
| Appendix A | 84 |
| Appendix B | 86 |

NEW ZEALAND VRS

| | |
|--|------------|
| Summary | 87 |
| 1. Overview | 87 |
| 2. Findings | 87 |
| Research | 89 |
| 1. Demographics | 89 |
| 1.1. General Population | 89 |
| 1.2. Maori Deaf Population | 90 |
| 2. Legal Background | 90 |
| 2.1. Rights of People with Disabilities | 90 |
| 2.2. Telecommunications Service Obligations | 91 |
| 2.3. Regulatory Funding of MRS/VRS | 92 |
| 3. Relay Services in New Zealand | 94 |
| 3.1. Types of User Services Provided | 94 |
| 3.2. Current VRS Communication Technologies | 95 |
| 3.3. Broadband and Connectivity Infrastructure | 96 |
| 4. VRS Usage Volumes | 97 |
| 5. Fraudulent Call Volumes and Costs | 99 |
| 6. Interpreter Resources and Programs | 99 |
| 6.1. Trilingual Interpreters | 101 |
| 7. Access to Emergency Services | 101 |
| 8. VRS Education and Outreach Programs | 102 |

SWEDEN VRS

| | |
|--|------------|
| Summary | 104 |
| 1. Overview | 104 |
| 2. Findings | 104 |
| Research | 106 |
| 1. Demographics | 106 |
| 2. Legal Background | 106 |
| 2.1. Rights of People with Disabilities | 106 |
| 2.2. Regulatory Framework to Provide Relay Service (including VRS) | 107 |
| 3. Relay Services in Sweden | 108 |
| 3.1. Types of User Services Provided | 108 |
| 3.2. End User equipment | 109 |
| 3.3. Current VRS Communication Technologies | 112 |
| 3.4. Broadband and Connectivity Infrastructure | 112 |
| 4. VRS Usage Volumes | 114 |
| 5. Fraudulent Call Volumes and Costs | 116 |
| 6. Interpreter Resources and Programs | 116 |
| 7. Access to Emergency Services | 118 |
| 8. VRS Education and Outreach Programs | 119 |

SWITZERLAND VRS

| | |
|--|------------|
| Summary | 121 |
| 1. Overview | 121 |
| 2. Findings | 121 |
| Research | 123 |
| 1. Demographics | 123 |
| 2. Legal Background | 124 |
| 2.1. Rights of People with Disabilities | 124 |
| 2.2. Telecommunications Service Obligations | 125 |
| 2.3. Regulatory Funding of MRS/VRS | 127 |
| 3. Relay Services in Switzerland | 127 |
| 3.1. Types of User Services Provided | 127 |
| 3.2. Current VRS Communication Technologies | 127 |
| 3.3. Broadband and Connectivity Infrastructure | 128 |
| 4. VRS Usage Volumes | 129 |
| 5. Fraudulent Call Volumes and Costs | 129 |
| 6. Interpreter Resources and Programs | 129 |
| 7. Access to Emergency Services | 130 |
| 8. VRS Education and Outreach Programs | 130 |

UNITED KINGDOM VRS

| | |
|--|------------|
| Summary | 131 |
| 1. Overview | 131 |
| 2. Findings | 131 |
| Research | 133 |
| 1. Demographics | 133 |
| 2. Legal Background | 134 |
| 2.1. General Regulatory Background | 134 |
| 2.2. Rights of People with Disabilities | 134 |
| 2.3. Telecommunications Service Obligations | 136 |
| 2.4. Regulatory Funding of MRS/VRS | 137 |
| 3. Relay Services in the United Kingdom | 137 |
| 3.1. Types of User Services Provided | 137 |
| 3.2. Current VRS Communication Technologies | 139 |
| 3.3. Broadband and Connectivity Infrastructure | 140 |
| 4. VRS Usage Volumes | 142 |
| 5. Fraudulent Call Volumes and Costs | 142 |
| 6. Interpreter Resources and Programs | 142 |
| 7. Access to Emergency Services | 143 |
| 8. VRS Education and Outreach Programs | 146 |
| Appendix A | 149 |
| Appendix B | 151 |
| Appendix C | 152 |
| Appendix D | 153 |

UNITED STATES VRS

| | |
|---|------------|
| Summary | 155 |
| 1. Overview | 155 |
| 2. Findings | 155 |
| Research | 157 |
| 1. Demographics | 157 |
| 2. Legal Background | 157 |
| 2.1. General Regulatory Background in the United States | 157 |
| 2.2. Rights of People with Disabilities | 162 |
| 2.3. Telecommunications Service Obligations | 162 |
| 2.4. Regulatory Funding of TRS/VRS | 163 |
| 3. Relay Services in the United States | 165 |
| 3.1. Types of User Services Provided | 165 |
| 3.2. Current VRS Communication Technologies | 169 |
| 4. Broadband and Connectivity Infrastructure | 171 |
| 4.1. Broadband in the United States..... | 171 |
| 4.2. Current Broadband Availability in the United States..... | 171 |
| 5. VRS Usage Volumes | 175 |
| 6. Fraudulent Call Volumes and Costs | 180 |
| 7. Interpreter Resources and Programs | 184 |
| 8. Access to Emergency Services | 188 |
| 9. VRS Education and Outreach Programs | 189 |
| Appendix A | 192 |
| Appendix B | 193 |

VRS IN OTHER COUNTRIES

EXECUTIVE SUMMARY

1. Overview

This research summary represents the findings of the fourth of twelve phases of a study commissioned by Bell Canada (Bell). The feasibility study was commissioned by Bell as part of a deferral account proposal. The objective of the feasibility study is to provide information to facilitate informed decisions regarding potential regulations and implementation of Canadian video relay service (VRS). Bell engaged Mission Consulting to conduct an independent and comprehensive study of the feasibility of VRS for Canada. The final feasibility report will draw, in part, on information contained in this research summary.

This phase 4 research summary, *VRS in Other Countries*, is intended to provide an understanding of the challenges and success other countries encountered in their efforts to test and deploy VRS. Mission Consulting conducted research on VRS in nine countries:

- Australia
- Finland
- France
- Germany
- New Zealand
- Sweden
- Switzerland
- United Kingdom
- United States

Although phase 4 is not intended to provide detailed research on Canada, some Canadian references are included such as comparative demographic data. Additionally, research on international standards and multi-national policy agreements, related to the rights of people with disabilities and the use of enabling technologies, were reviewed and referenced where appropriate.

The phase 4 research summary, *VRS Models in Other Countries*, provides a country-by-country synopsis of the legal, regulatory, social and operational environment related to message relay services, and specifically Video Relay Services. By country, each summary includes:

- An overview of the population and potential VRS user demographics;
- Regulatory issues related to oversight of MRS/VRS;
- How the rights of people with disabilities are established and the relationship these rights have to the provision of relay services;
- Funding models and sources supporting MRS/VRS;

- ☑ Types of relay services provided and any user limitations;
- ☑ Technology issues related to VRS;
- ☑ Restrictions on relay services, such as limited access to VRS;
- ☑ Service related issues encountered such as abuse of the relay service or fraudulent billing by providers;
- ☑ Interpreter resources and initiatives to address increased demand;
- ☑ Access to emergency services; and
- ☑ VRS education and outreach programs.

2. Methodology

Prior to beginning the research on other countries, Bell representatives were engaged in finalizing the scope and methodology for this Phase. Organizations, individuals, providers and regulators in the subject countries were approached to participate in this research, with the understanding that the purpose of the research was to gather information related to VRS on behalf of Bell and for possible inclusion in a report to the CRTC.

For each country, a list of potential resources to be interviewed was developed, working from international rosters of MRS and VRS stakeholder organizations, governmental regulatory directories, known MRS and VRS providers, manufacturers of VRS equipment, and recommendations by others who are informed on the rights and services for individuals with disabilities.

Before any direct contact with stakeholders, extensive online research was conducted to determine a base level understanding of the services in each country and to refine the topics of discussion when direct contact was achieved. Unfortunately, in some instances direct contact was not possible and the online research, as well as the data provided by others knowledgeable on that country's VRS, was used to best understand the issues in that particular environment. The contact list was modified as the research continued. In fact twelve countries were included in the initial research effort. However the participants from the Czech Republic, Italy and Spain were nonresponsive, or offered very little information, and it was agreed that their VRS market data was not significant to the purpose of the study.

To facilitate data gathering and prepare those that were interviewed by telephone, unique questionnaires were developed and distributed to the following categories of stakeholders: Consumer Groups, VRS Providers, and Regulatory Organizations. Additionally, when an identified party was unresponsive, multiple efforts were made to email the questionnaire a second or third time, to call them, and also to find an alternative country representative in that category of stakeholder.

Additionally, some research obtained for other phases of the study, such as Phase 5 - *Technologies and their Forecasts* and Phase 6 - *Interpreter Considerations*, was also used as applicable in completing the summary report on *VRS Models in Other Countries*.

There was reluctance for individuals to contribute to the report as accurate VRS traffic, costs, and user profiles in most countries are not generally published or available to the public. While overall VRS traffic and cost data was available in the United States, this is a highly competitive market, where some providers have had legal problems related to relay practices, and providers and regulators were very guarded in what they would discuss. In personal conversations with many of the VRS stakeholders it became apparent that sharing the type of information we were pursuing, such as VRS call volumes, challenges in test programs, user data, and actual costs, was not going to be forthcoming. Responses from 27 representatives are incorporated in this summary report. Some subjects agreed to be interviewed, to provide as much help as they could, but only if their comments and experiences were considered from a confidential source.

As stated earlier, additional VRS information on other countries' VRS programs continues to be provided, and relevant information may be incorporated into the final feasibility study.

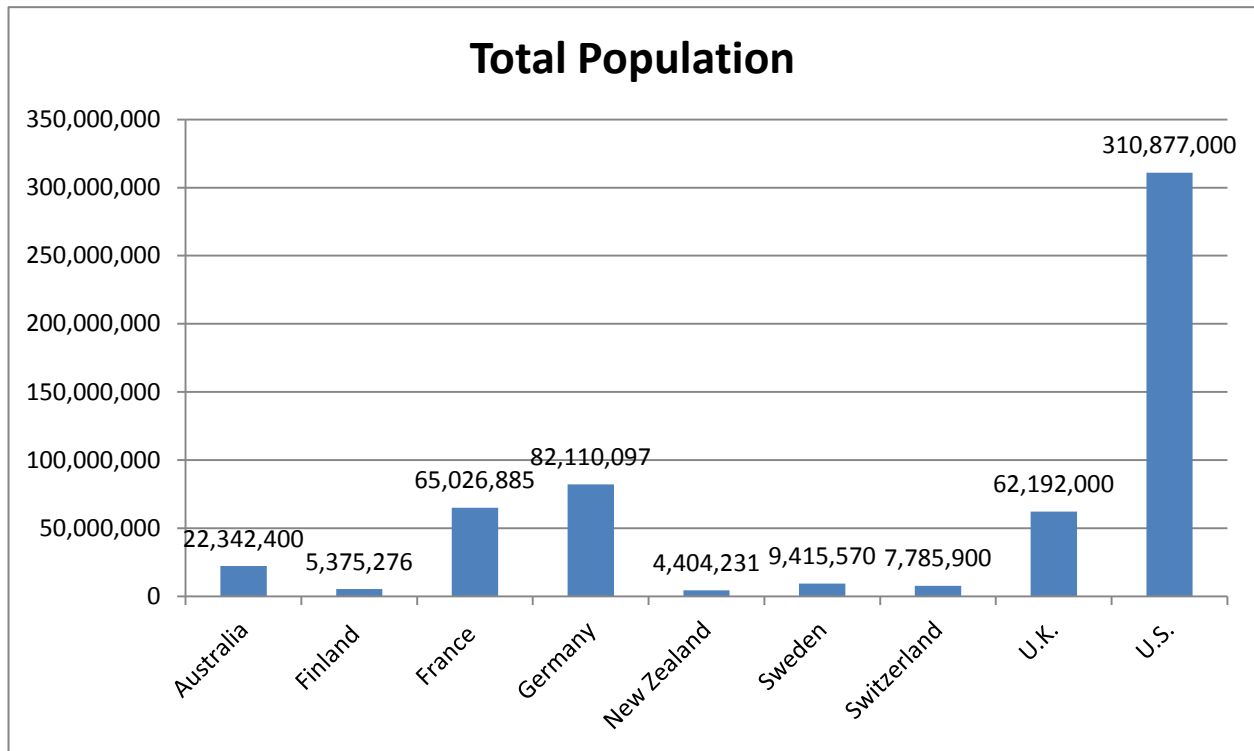
3. Summary Findings

There is a substantial amount of data in each country's summary report. There are several reoccurring themes related to VRS deployment in many of the countries reviewed, such as concerns about the limited availability of qualified interpreters. However, there are also unique instances where an issue, such as outreach and education in with the introduction of VRS, is identified as having been thoughtfully addressed. The following summary findings are meant to provide an overview of particularly interesting VRS issues that may have significance to the potential application of VRS in Canada, or help inform stakeholders on issues of consequence; but it is not intended to replace the need to read each individual country summary.

Deaf and hard of hearing population

Each country report begins with population estimates. However, one of the challenges in gathering data on individuals with disabilities is that affected individuals often are not included accurately in census data, and they may not wish be identified as having a limitation. This challenge, of individuals not correctly reporting or self-identifying a disability, is particularly true for the late deafened and hard of hearing population. The cultural standards for each country may discourage certain self reporting, while in others there may be a reduced stigma or social isolation for those with disabilities. Also, in some cases there were different statistics available, such as when the government offers one set of numbers and stakeholder organizations publish a significantly different projection. Therefore, the numbers and percentages of individuals reported with disabilities may not be as reliable as desired. Nevertheless, estimates of the total populations for each country as well as the Deaf or hard of hearing population, and users of sign language, are represented on the following charts.

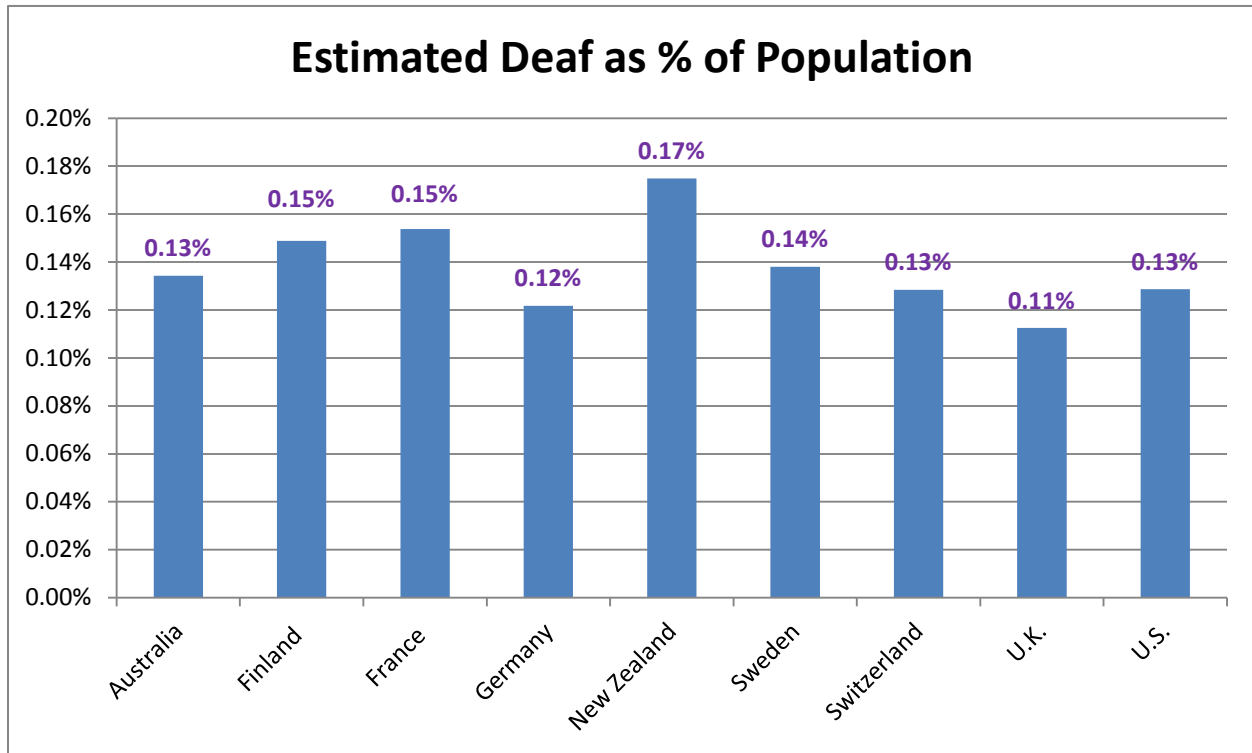
Figure 1: Total Populations by Country



In collecting the data for the total populations of Deaf and hard of hearing individuals reported from each country, it became apparent that there is a great disparity in the ratios (from country to country) of this focus population to the total population. It is believed that the accuracy of the estimated populations for hard of hearing individuals reported by some countries caused of the wide discrepancy.

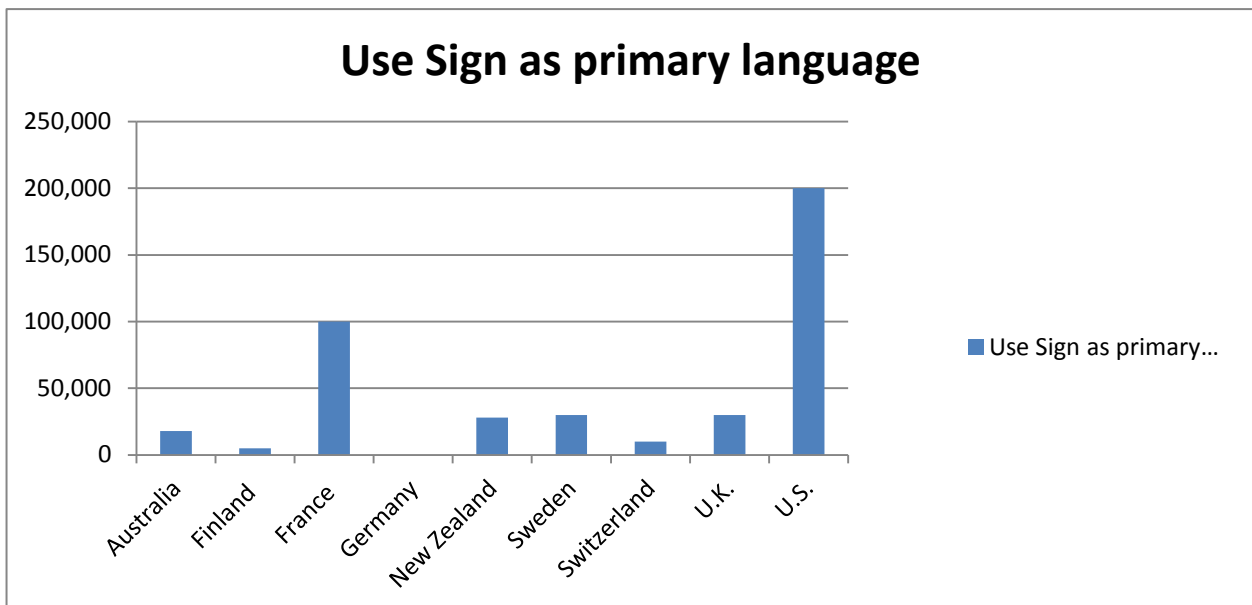
However, if the ratios reported Deaf populations alone are measured and considered as a partial indicator of potential VRS consumers, there is a fairly consistent ratio from country to country.

Figure 2: Estimated Deaf Population as Percentage of Population



Also of interest is the number of individuals who are reported using sign as their *primary* language. While video relay may well be used to enhance other forms of communications, the population of sign users is of consequence as it may most directly relate to the number of potential users of VRS.

Figure 3: Estimated Population that Use Sign Language as Their Primary Language



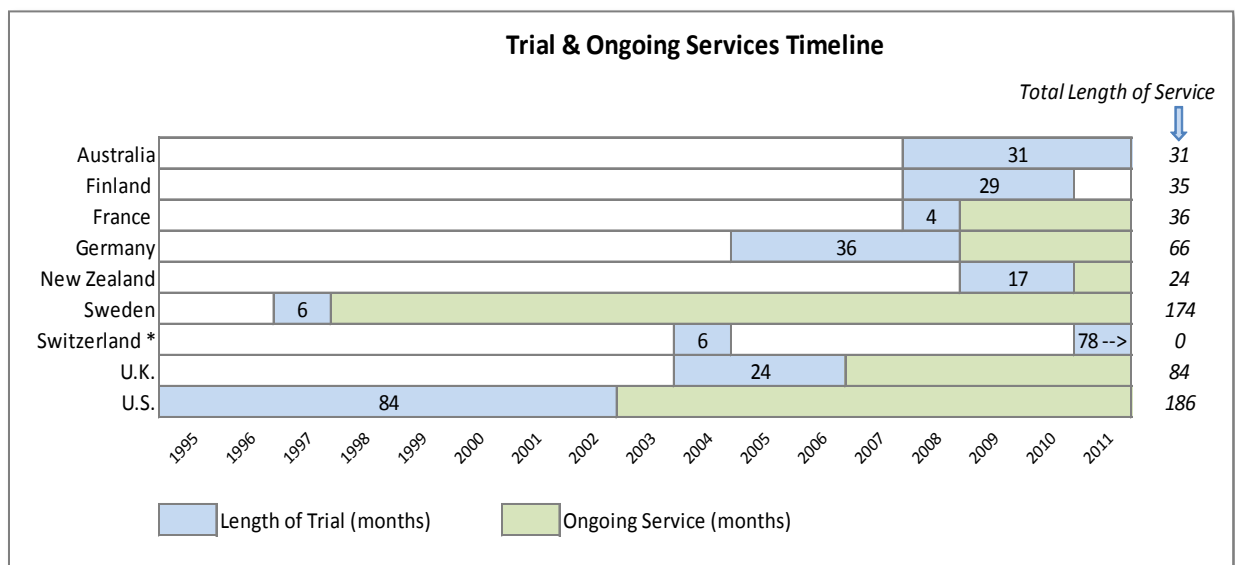
Status of VRS Development

Each of the nine countries surveyed had some form of VRS trial period and three continue to provide VRS as a trial. Seven countries reported having ongoing VRS services. The following charts represent the length of each country's trial, as well as a timeline of VRS trial periods and ongoing services.

Table 1: VRS Trial Dates and Length of Service by Country

| Country | Length of Trial (months) | Trial Dates | Total Length of Service (months) |
|-------------|--------------------------|-----------------------------------|----------------------------------|
| Australia | 31 | 11/2008 - present | 31 |
| Finland | 29 | 7/2008 - 12/2010 | 35 |
| France | 4 | 4/2008 - 7/2008 | 36 |
| Germany | 36 | 2005 - 2008 | 66 |
| New Zealand | 17 | 6/2/2009 - 11/2/2010 | 24 |
| Sweden | 6 | 1/1997 - 6/1997 | 174 |
| Switzerland | 78 | 6/2011 - 6/2017 (+ 6 months 2004) | None |
| U.K. | 24 | 2004 - 2006 | 84 |
| U.S. | 84 | 1995 - 2002 | 186 |

Figure 4: Timeline of VRS Trial Dates and Ongoing Service by Country



Each country has a unique regulatory structure to oversee and manage its VRS. To varying degrees the consumer access to and actual speed of their broadband service may impact the quality and growth of VRS. But these issues are not of great concern.

The individual country reports provide the legal and social foundations that support the rights of individuals with disabilities and the available funding to support these services. These issues are important to understanding a government’s interest in deploying VRS, as well as their current and often very limited service environment.

Recent developments of commercially available VRS platforms, as well as trends towards interoperability of systems and service, will provide the greatest consumer and regulatory flexibility. The development of the EU Total Conversation Standard requiring simultaneous voice, text, TTY and video will further ensure international consistency of service options.

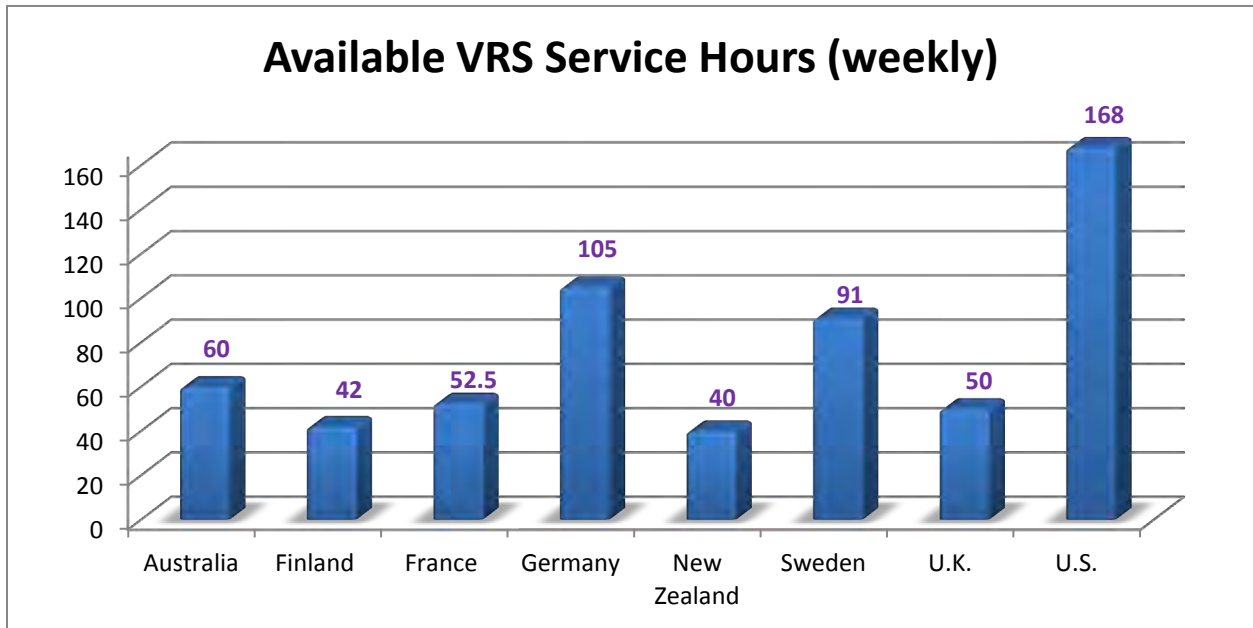
Availability of VRS

With the exception of the U.S. program, no other country with ongoing (non-trial) VRS services currently provides continuous services, 24 hours a day, 365 days a year.

Figure 5: Availability of VRS by Country

| Country | VRS Schedule | Hours available per week |
|-------------|--------------------------------------|--------------------------|
| Australia | 7AM - 7PM weekdays | 60 |
| Finland | 8AM - 4PM M,T,TH, F & 8AM - 6PM W | 42 |
| France | 8:30AM - 7PM weekdays | 52.5 |
| Germany | 8AM - 11PM 7 days a week | 105 |
| New Zealand | 9AM - 5PM weekdays | 40 |
| Sweden | 7AM-10PM weekdays / 9AM - 5PM SA, SU | 91 |
| U.K. | 8AM - 6PM weekdays | 50 |
| U.S. | 24/7/365 | 168 |

Figure 6: Hours of Availability of VRS by Week, by Country



If countries offering limited access to VRS based on daily or weekly schedules are examined further, other current considerations and limitations are identified, such as:

- Australia’s trial VRS program has a maximum of 2 VRS VI workstations at any time which results in blockage and delays. Their “trial” funding of \$1 Million AU is extended from year to year, so some consider this the permanent service.
- Finland’s VRS is funded by a governmental social insurance program. Services are regionally distributed with many small facilities. It is in the process of transitioning from a limited trial to an ongoing service. But those services are not yet established, and VRS appears not to be operational at this time.
- France’s disability laws and regulations are focused on business communications. A consortium of businesses (Tadeo) was created to provide the access services they were required to provide. Use of VRS is primarily for business use. For private use, a credit system has been established for the consumer to pay for any desired use.
- Germany’s VRS is a two-tiered system. Business calls paid by employer with the government reimbursing commercial enterprises for the first €1,023 per month. Private use is available at a lower charge and 95% paid by government
- New Zealand’s VRS schedule (like Finland’s) is irregular, during weekdays only, and is only available 20 hours a month.

- U.K. provides VRS for business use and calls to government only. Private use allowed, but at a charge. Not an “official trial or pilot” nor is it a permanent component of Universal Services (which covers TRS).

Unique Characteristics of the U.S. VRS Program

Relay services that support individuals with disabilities are established in law based upon the Americans with Disabilities Act of 1990 (ADA). The ADA and the FCC established the standard of “functionally equivalent” relay services or equal to a hearing person’s access to a telephone

The Federal Communication Commission (FCC) and the individual states share in the costs of providing traditional relay services (e.g. MRS, Speech-to-Speech) based on interstate vs. intrastate use. IP based services such as IP-Relay and VRS are the sole responsibility of the FCC

Individual states and the federal government levy surcharges on telecommunications carriers to support relay in the U.S. The FCC pays for the interstate and IP service (including VRS) costs from the Interstate TRS Fund, through a contracted Administrator who receives, reviews, and authorizes payment for associated relay service costs.

Because each state is required to provide traditional TRS, there are many TRS providers contracted to the individual states. The FCC initially authorized any relay contractor doing business with a state relay program to provide VRS and eventually certified a few others.

As the FCC does not have contracts with any relay providers, it relies on:

- Its own rules qualifying providers for reimbursement from the Intestate TRS Fund
- The submission of providers’ self-certified monthly invoices and reports

However, FCC VRS authorization was granted before adequate service requirements were defined or safeguards were in place to ensure against misuse and fraud.

This resulted in:

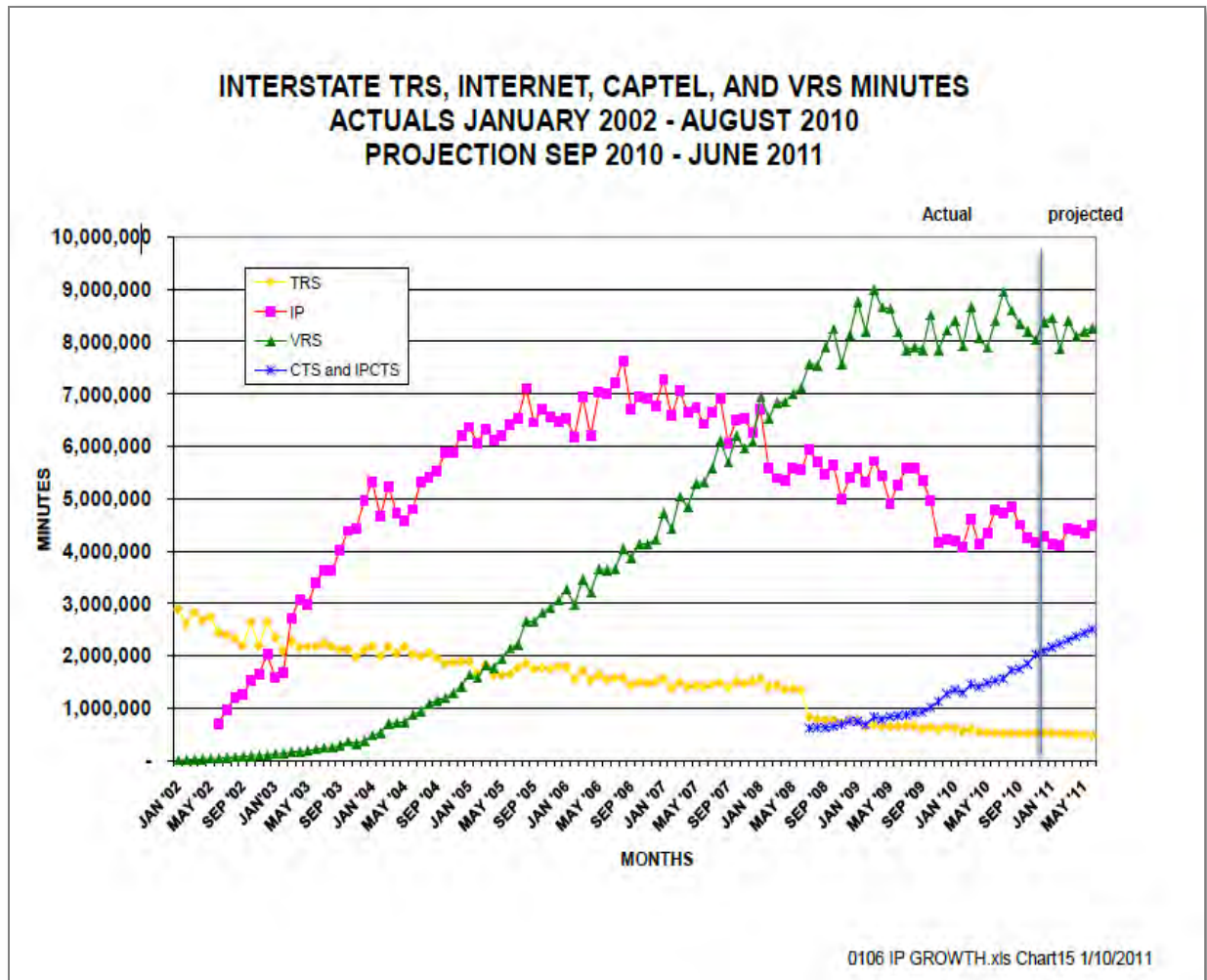
- An open market where competing providers aggressively promoted their service to consumers
- Certified providers, successful in their advertising and outreach campaigns, then subcontracting VRS traffic to others
- Entrepreneurs, eager to enter the profitable VRS market, opening relay centers
- opportunities for fraudulent billing and abuse of the service

From the consumers’ perspective, this environment also

- Offered choices in service providers
- Satisfied the dramatic growth in consumer demand

The FCC is establishing additional regulatory restrictions on VRS providers to ensure quality of service and control fraud as well as restrictions on the use of uncertified subcontractors.

Figure 7: Interstate Relay Service Traffic History in the United States, by Modality



Traffic patterns reflect that growth of new relay services, specifically VRS and IP-Relay, greatly exceeds the reduced use of traditional relay. Once new services stop their initial growth, usage volumes become predictable

Availability of Interpreters

The following charts reflect the number of qualified interpreters reported. As the U.S. has significantly more interpreters than any other country, the second chart provides perspective without the U.S. data.

Figure 8: Reported Number of Interpreters by Country

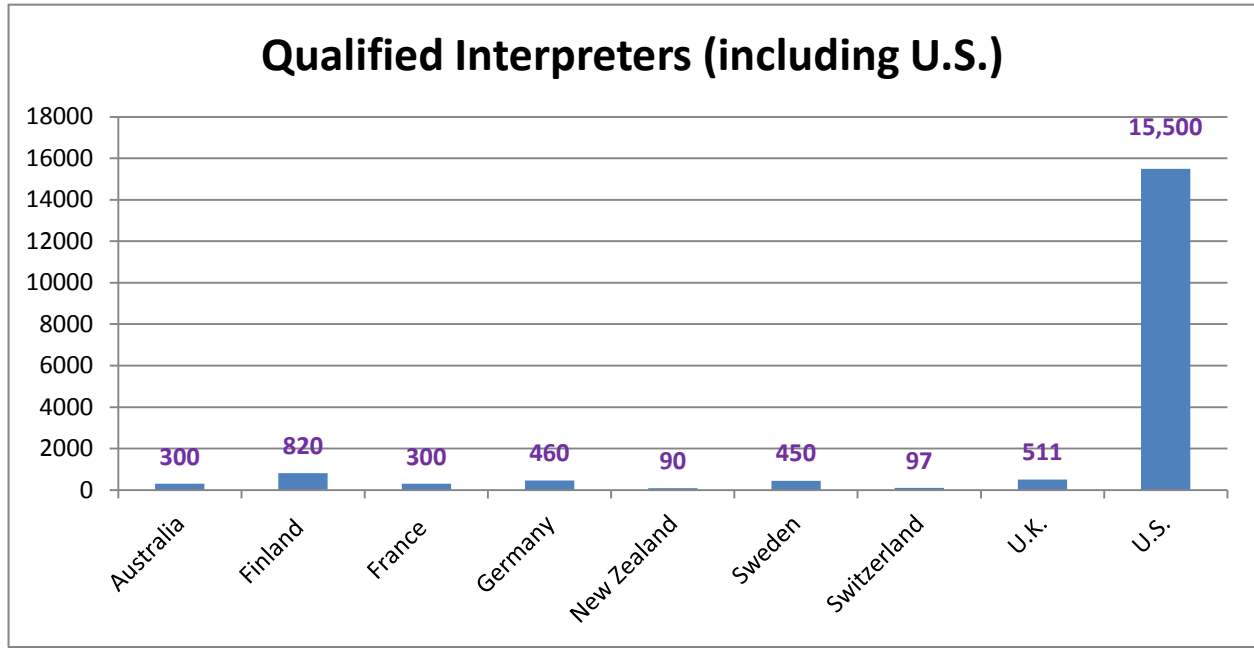


Figure 9: Reported Number of Interpreters by Country Without U.S.

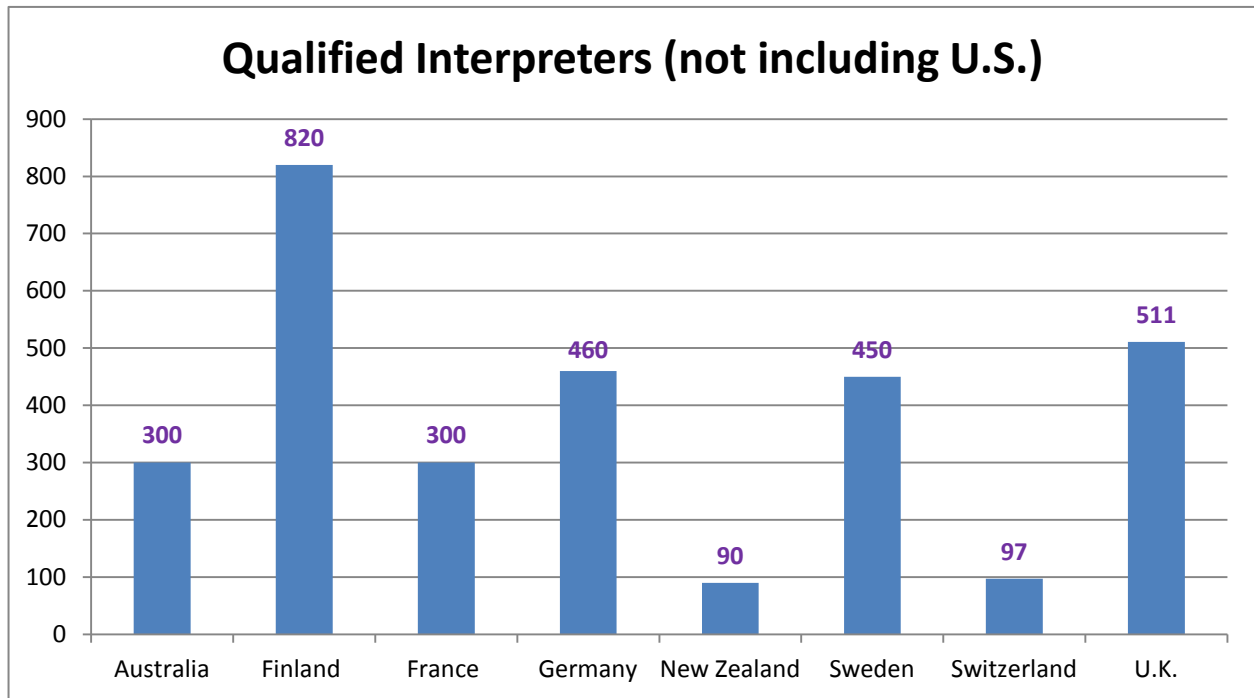


Figure 10: Reported Number of Interpreters as a Percentage of Deaf Population by Country with U.S.

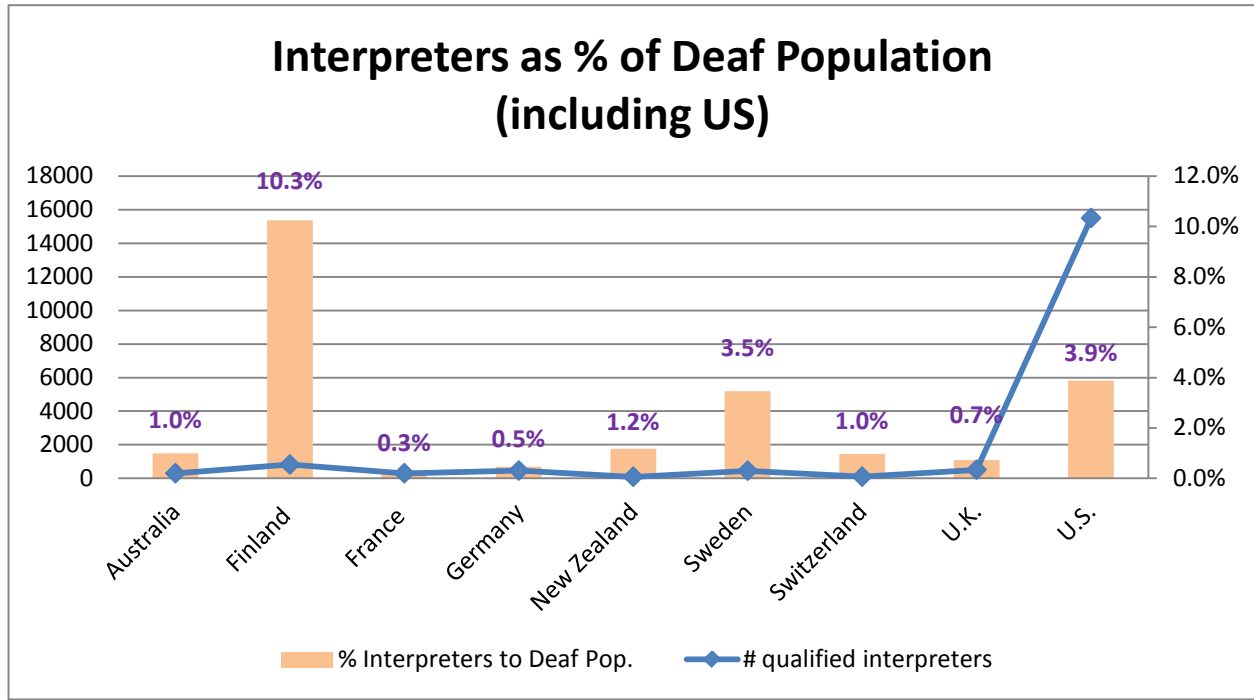
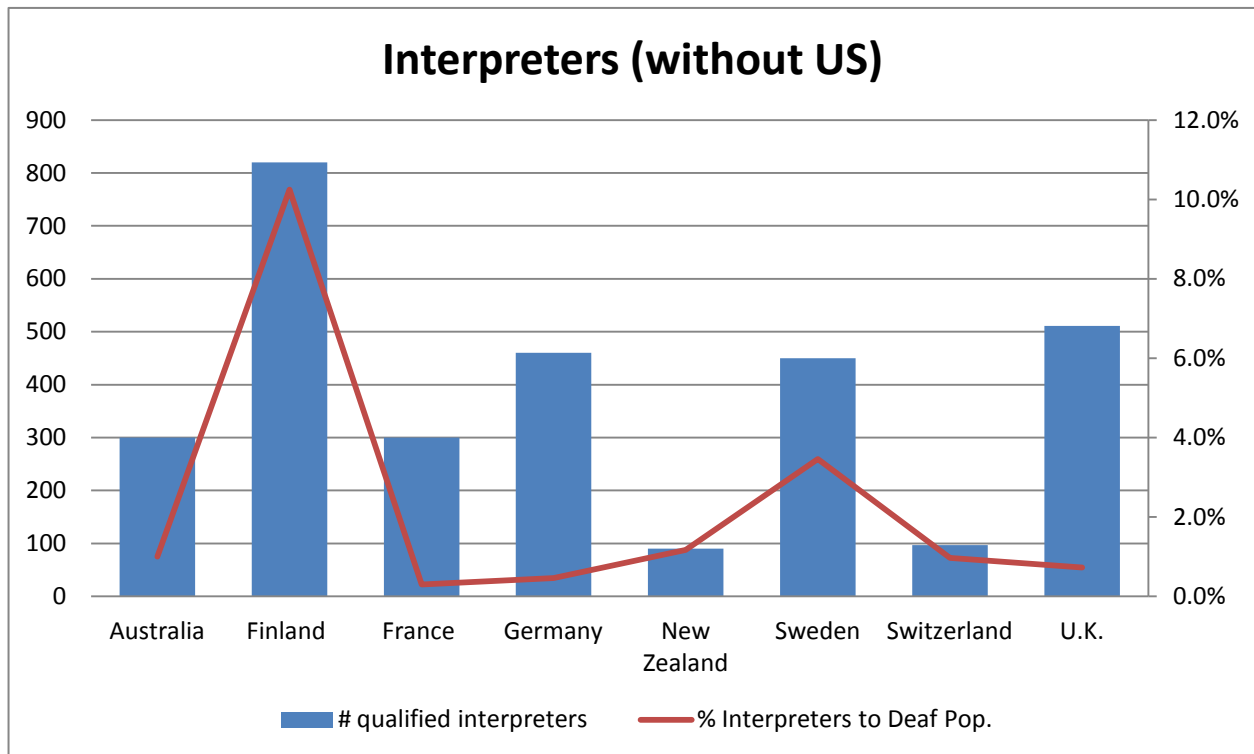


Figure 11: Reported Number of Interpreters as a Percentage of Deaf Population by Country without U.S.



Finland has achieved both a large number of interpreters and a high percentage in comparison the reported Deaf population. Australia, France, Germany, New Zealand, Switzerland and the U.K. all report under a 1% ratio of interpreters to the reported Deaf population.

It is believed that the social and legal status of individuals with disabilities has a great influence of the number and ratio of interpreters.

The number of interpreters reported for the U.S. has grown significantly as a result of the rapid unrestrained growth of VRS as, discussed above. For other countries, that do not have this additional commercial opportunity and its financial incentives for both providers and potential interpreters, training for additional “qualified” interpreters lags well behind need. This disparity would be even more noticeable with the additional demand on resources as a result of expanded VRS services. Although certain countries such as Finland have made concerted and successful efforts to encourage the development of sign language programs and schools, a shortage of qualified interpreters was still reported as universal to all countries.

4. Conclusion

Of the nine countries surveyed, six claim to have ongoing VRS. Only the U.S. offers VRS coverage 24-hour a day, 365 days a year. All other countries have severe limitations on VRS availability by restricting the hours of operation, the parties that may be contacted with VRS (such as for business use or for government contact only), the number of VRS CA positions enabled, or limited funding.

The two primary limiting factors appear to be availability of interpreters and funding.

Although access to high-speed broadband is one key factor in the successful deployment of VRS, most countries have significantly high availability of broadband to almost all of their populations.

Recent developments and international initiatives have created standardized requirements for relay service platforms, particularly as a result of the EU Total Conversation initiative and standards.

The U.S. model is established in law (the ADA). Aggressive providers each promoted their own VRS, frequently with the use of subcontractors to satisfy user demand, with services offered free to the consumers. While providing wide availability, unregulated growth of VRS has proven to be very expensive.

AUSTRALIA VRS

SUMMARY

1. Overview

| | |
|--------------------------------|--|
| Total Population: | 22,342,400 |
| Deaf Population: | 20,000-40,000 |
| Hard of Hearing Population: | 200,000-3,550,000 |
| Use Sign as Primary Language: | 18,000 |
| No. of Qualified Interpreters: | 300 |
| Official Language: | English |
| Name of Sign Language: | Auslan |
| VRS Service Schedule: | 2008 Trial, Continuing 2011 |
| VRS Vendor: | ACE (Australian Communication Exchange) |
| MRS/VRS Funding Model: | MRS is funded by a tax levied on current telecommunications carriers with annual revenues greater than \$10 million AUD. |

2. Findings

This Phase 4 research summary, *VRS Models in Other Countries – Australia*, provides a synopsis of the VRS environment in Australia.

Key points:

- Australia has a high ratio of hard of hearing to hearing people compared to other countries.
- Australia has an average ratio of Deaf to hearing people compared to other countries.
- Australia has a unique native (Aboriginal) population, which could affect the complexity of interpreter requirements.
- The 1992 Disability Discrimination Act and the 1999 Telecommunications Act (Consumer Protection and Services Standards) provide access to relay services for the Deaf.
- Non-VRS MRS services are funded by a levy on telecommunications carriers.
- Pilot funding for VRS is funded by the government at approximately \$1 million AUD.

- The MRS levy is collected and distributed by a separate, independent government body, similar to MRS models in other countries.
- TTY Relay is available 24 hours a day, 365 days a year.
- VRS is available for 12 hours per day, Monday through Friday.
- Video Relay volume is, currently, approximately 2,500 minutes per month in 2011.
- Interpreter education and outreach programs are a required component of MRS and are provided by an entity separate from the MRS vendor.

AUSTRALIA VRS

RESEARCH

1. Demographics

The Australian Bureau of Statistics estimates the Australia population at 22,342,400.¹

Australia has a relatively large Deaf and hard of hearing community. While the ratio of Deaf individuals to hearing individuals is about the same as in other countries, it is estimated that Australia has a large number of hard of hearing individuals.

- 20,000-40,000 Deaf individuals / 22,342,400 total population
- Over 3 million hard of hearing individuals, 13% of the population²
- 100,000-200,000 Deaf or hard of hearing users likely to use text and video relay services³

The Aboriginal population:⁴

- comprises 558,560 individuals;
- accounts for 2.5% of the total population;
- uses over 200 different languages and dialects.

Regarding the use of sign language among the Aboriginal deaf communities, there is conflicting information. It is thought that many deaf Aboriginals are isolated and communicate with immediate family via a system of home sign and would not be able to communicate with VRS officers via the Australian sign language, Auslan. It is also widely recognized that many Aboriginal people have transformed into the mainstream culture, and deaf members of those Aboriginals may or may not have learned Auslan. Use of an Aboriginal dialect of Auslan has developed in Far North Queensland. Currently, the NRS/VRS provider, ACE, makes no references to this Aboriginal dialect of Auslan and provides no information regarding the Deaf and hard of hearing Aboriginal population.

¹ The Australian Bureau of Statistics (ABS) is a government department in charge of the national census, which is administered every five years. The next census is scheduled to take place in August 2011. Therefore the current population is estimated from the 2006 census figures. <http://www.abs.gov.au/>

² NRS/VRS provider Australian Communication Exchange (ACE), at <http://www.aceinfo.net.au/>.

³ NRS/VRS provider Australian Communication Exchange (ACE)at, <http://www.aceinfo.net.au/>.

⁴ Estimates of the Aboriginal population are based on the ABS 2006 census, at <http://www.abs.gov.au/>.

2. Legal Background

2.1. Rights of People with Disabilities

The Disability Services Act 1986 provides support services, funded and procured by the Commonwealth (i.e., federal) government for people with disabilities. Under this Act, the Commonwealth is responsible for employment services, and the states and territories are responsible for accommodation and other support services.

The 1992 Disability Discrimination Act upholds the equality of people with disabilities and protects Australians from direct and indirect discrimination in a majority of public situations, including employment, education, and access to premises.⁵

The Disability Discrimination Act 1992 and the Telecommunications (Consumer Protection and Services Standards) Act 1999 ensure that people with disability have access to the standard telephone service. Through these regulations, the National Relay Service (NRS) is made available to all Australians to allow the Deaf or those with a hearing or speech impairment to access the standard telephone service.

The Telecommunications (Consumer Protection and Services Standards) Act 1999 defines the right to access standard telephone service as being:

- “a telephone service fit for the purpose of voice telephony, or
- If voice telephone is impractical for a person with a disability, a form of communication that is equivalent to voice telephony.”⁶

Section 6 of the Act of 1999 states that voice telephony can include the carriage of data. The Australian Association of the Deaf asserts that, as defined by the telecommunications industry, "data" includes video transmission and therefore VRS is “a form of communication that is equivalent to voice telephony” and should be made accessible as a result of this legislation.⁷

The Disability Discrimination Act 1992 and the Telecommunications (Equipment for the Disabled) Regulations 1998 enable people with disabilities to access appropriate equipment for using the NRS. This applies primarily to TTY equipment and special telephones. The only available equipment solutions for accessing VRS are user's personal computers or mobile phones. This is not just because VRS is a trial

⁵ Australian Human Rights Commission; About Disability Rights in Australia, at http://www.hreoc.gov.au/disability_rights/

⁶ The Telecommunications (Consumer Protection and Services Standards) Act of 1999; Section 6.1.b, at http://www.austlii.edu.au/au/legis/cth/consol_act/tpassa1999620/s6.html.

⁷ Australian Association of the Deaf Inc.; Deaf Telecommunication Access and Networking Project page 5

service. IP Relay is an established service, and no IP Relay or VRS equipment is offered free of charge to users. Users must purchase their own computer or mobile phone as well as any connectivity required.⁸

2.2. Telecommunications Service Obligations

The National Relay Service (NRS) is the government sponsored relay and communication service for the Deaf and hard of hearing. The NRS is a legislated consumer protection under Part 3 of the Telecommunications Act 1999. As such, the Act “provides persons who are deaf, or who have a hearing and/or speech impairment, with access to a standard telephone service on terms, and in circumstances, that are comparable to the access to which other Australians have in regards to standard telephone service.”⁹

The NRS has two focuses and, correspondingly, contracts with two companies:

- Relay Services
 - Australian Communication Exchange Ltd. (ACE) is contracted to deliver relay services. Relay Officers work in the Call Center where they relay calls between the Deaf, individuals with hearing or speech impairments, and hearing individuals.
 - Call relay services are provided 24 hours a day, 365 days a year, in English.¹⁰
- Outreach Service
 - Westwood Spice Pty Ltd. (WWS) is contracted to deliver outreach services, providing activities that support awareness, training, and use of the NRS.

ACE is an Australian not-for-profit company that focuses on the Deaf population of Australia. It has a Call Center located in Brisbane and has been under contract to provide NRS in Australia since 1995.

WWS is a consulting group that specializes in community and public sector work. Their current contracts with the Australian Government began on July 1, 2006 and expire on June 30, 2011.

2.3. Regulatory Funding of MRS/VRS

Australia’s NRS is funded through a levy on eligible telecommunications carriers, paid quarterly to the Australian Communications and Media Authority (ACMA). The ACMA has statutory authority for the federal regulation of broadcasting, Internet, radio communications, and telecommunications.¹¹

⁸ www.relayservice.com.au; NRS Relay Equipment page

⁹ Australian Telecommunications (Consumer Protection and Service Standards) Act 1999; Part 3 – The National Relay Service, p. 90.

¹⁰ National Relay Service Plan 2009-10 – An Australian Government Initiative pp. 3-4.

As of July 1, 2006, the ACMA has had contract management responsibilities for NRS relay services and NRS outreach contracts. The ACMA's related legislated duties include:

- monitor contractor performance;
- maintain contract compliance;
- provide necessary, contractually required, approvals;
- provide approval of government branding on all NRS materials;
- provide the Minister annual written reports on the performance of the NRS contractors and service;¹²
- determine, through annual assessment of revenues, which carriers are required to pay;
- collect the NRS levy on behalf of the Australian Government.

As of 2005 the levy requirement applies to telecommunications carriers that have an annual gross revenue of \$10 million or more and that are already included in the previous year's ACMA revenue assessment.¹³ The actual proportions of the levy costs paid by each carrier are calculated based on its share of that year's total revenue of all carriers.¹⁴

The ACMA takes a forward estimate of the provision of NRS call services and outreach for the current quarter and adjusts it by the actual costs of providing these services in the previous quarter. Total costs in Australian dollars of providing NRS have been:¹⁵

- \$13.1 million for relay and \$3 million for outreach, FY 2007-2008
- \$13.4 million for relay and \$3 million for outreach, FY 2008-2009
- \$1 million annually, VRS pilot

The ACMA payments to the NRS contractors are based on actual service call minutes delivered (3.25 million call minutes in 2008-2009). There is a contracted per-minute rate specified in the NRS VRS pilot

¹¹ The ACMA is equivalent to the CRTC.

¹² Telecommunications (Consumer Protection and Service Standards) Act of 1999; subsection 97 (2)

¹³ The levy is imposed on the NRS contribution amount by the *NRS Levy Imposition Act 1998*. Australian Telecommunications (Consumer Protection and Service Standards) Act 1999; Division 3, The NRS levy; Section 100, Amount of levy, page 92

¹⁴ Australian Communications and Media Authority; National Relay Service; performance Report 2008-2009

¹⁵ Australian Communications and Media Authority; National Relay Service; performance Report 2008-2009

contract. It is assumed that the payments for VRS will be incorporated into the NRS cost and funding mechanisms already in place once VRS is made a permanent NRS component service.¹⁶

3. Relay Services in Australia

3.1. Types of User Services Provided

NRS provides traditional relay service that operates 24 hours a day, 365 days a year. Users can make as many calls as they wish with no limit on the length of calls or the number of follow-on calls to local, long distance, or mobile numbers. However, users are required to create an account through which they can make payments if they wish to make calls to international or premium rate numbers. If equipment such as a TTY is required, or network connection is required, these costs are paid by the user.

The Australian National Relay Service provides the following services:

- Text to Speech
- Speech to Text
- HCO
- VCO
- VCO to VCO
- VCO to TTY
- Speech to Speech
- IP Relay
- VRS (as a pilot)

The NRS call options, include all traditional forms of relay services, including TTY text relay to emergency services. VRS is not listed in the report or on the National Relay website due to its limited trial status.¹⁷ In November of 2008, the first trial of VRS was initiated through the national not-for-profit organization, the Australian Communication Exchange (ACE). The original pilot trial was offered on a very limited schedule. VRS continues to be provided through ACE, and the hours of availability were extended in 2009 to Monday through Friday, 9AM to 5PM. Hours of availability were further extended in 2011 to Monday through Friday, 7AM to 7PM. Services are described at the ACE website.¹⁸

¹⁶ Australian Communications and Media Authority; ITU International Training Program 2009. These payments also include the cost of MRS capital improvements.

¹⁷ National Relay Service Plan 2009-10 – An Australian Government Initiative p. 4

¹⁸ <http://www.aceinfo.net.au/>

3.2. Current VRS Communication Technologies

When the VRS trial was launched, users had to download a proprietary script software program from ACE. This service was referred to as MMR (MultiMedia Response) Service since VRI was also made available for trial on the same platform and with the same funding. One year after the service was introduced, the platform was changed to satisfy the Skype standard¹⁹.

Users with high-speed broadband currently have various options, including videophones or computers with webcams, for connecting to VRS. The NRS and ACE recommend no specific brands or models of equipment on their websites. The ACE website does have links for downloading Skype user software and a lengthy, customized instruction manual.

The ACE website has various YouTube videos in Auslan that describe VRS technical requirements. The videos present the fundamentals and do not recommend specific videophone equipment, but they do state that computer users need Windows XP, Vista, or Windows 7 for compatible connectivity. Users should also have a 1.5 Mbps downstream Internet browser speed (and a URL to allow ACE to confirm status online) and an upstream speed of 512 Mbps or better.²⁰

The Telecommunications Act of 1997 provides for all people in Australia to have “reasonable access to standard telephone service, which includes supplying equipment required by people with a disability.” The right to special equipment was legislated as early as the Telecommunications (Equipment for the Disabled) Regulations 1998, which says: “People who are Deaf, hearing impaired or speech impaired have a right to certain types of disability equipment, including a TTY, computer modem or a Cochlear Implant Telephone Adaptor device.”²¹ However, under NRS there is no provision for equipment such as videophones, computers, or other VRS hardware.

Telstra, a national telecommunications provider, established a “Disability Action Plan” to meet the regulatory requirement and provide disability equipment. However, the equipment currently available under this plan only includes specialized telephones, TTYs, and computer modems for text-relay; it does not include any equipment to access VRS.²² Optus, another national telecommunications provider, has a similar Disability Action Plan that is also limited in the relay equipment available and has no video relay options.²³

In spring 2010, ACE announced a new way to access VRS. As part of a new phase for the VRS trial, ACE kiosks are being introduced to schools with deaf units, to advocacy bodies, and to organizations with Deaf employees. According to ACE, the new kiosk is “a small compact portable touch-screen netbook

¹⁹ Mission Consulting March 2011 interview with Kirk Pascoe, IT Director at ACE

²⁰ www.youtube.com; aurelayinfo

²¹ Telecommunications (Equipment for the Disabled) Regulations of 1998

²² www.telstra.com.au; disability equipment program

²³ www.optus.com.au; disability equipment

with integrated camera. It provides instant access to an ACE Auslan interpreter to make VRS video phone calls through one-touch.”²⁴

3.3. Broadband and Connectivity Infrastructure

The ACMA is currently working with the Government to amend the existing Telecommunications Act to add new broadband "consumer protection standards." These are different from the existing consumer codes, as they would be directly enforceable by the ACMA and violators would be subject to monetary penalties. The ACMA also intends to amend the Act to further extend consumer protections by creating "consumer-related" Service Provider Determinations.²⁵

In April 2011, the Australian Bureau of Statistics released an *Internet Activity Report* that provided the following broadband information as of December 2010:

- Overall Internet subscribers:
 - Internet subscribers numbered 10.4 million;
 - 47% of the total population of 22.3 million were internet subscribers.²⁶
- Mobile Wireless:
 - There was a significant increase in mobile wireless broadband connections. During a six month period there were 777,000 additional users (a growth of 22.5%), and by the end of 2010 there were over 4 million subscribers.²⁷
 - Mobile wireless was the fastest growing Internet access technology; annual numbers for 2010 show an increase from 2.8 million to 4.2 million subscribers.
- DSL:
 - Although the DSL percentage share decreased, DSL continues to be the major technology for broadband connectivity in Australia.

²⁴ ACE, Australian Communication Exchange; Spring 2010 Communiqué

²⁵ Senator Stephen Conroy; Minister for Broadband, Communications and the Digital Economy; Address to CommsDay Summit; April 20, 2010

²⁶ “Active subscribers are defined as subscribers that have an Internet connection with an ISP on the last day of the reference period. These statistics measure the number of ‘subscriber lines’ rather than number of users and therefore, counts of subscribers are not the same as counts of people/organizations with Internet access. This is because some subscribers may have accounts with more than one ISP or multiple accounts with a single ISP. Conversely, there are single ISP subscriber accounts that provide Internet access for multiple people/organizations (e.g. universities). Australian Bureau of Statistics

²⁷ Australian Bureau of Statistics; Commonwealth of Australia; Media Release; “Australia’s Internet subscribers exceed 10 million”; April 1, 2011

- Other technologies:
 - Cable, fibre, satellite, and other technologies did not show much growth and continue to represent approximately 10% of connectivity (See Appendix C).²⁸
 - Dial-up connections are disappearing: “the phasing out of dial-up Internet connections continued with 93% of connections being non dial-up.”

According to the report, “Australians continued to access increasingly faster download speeds, with 81% of access connections offering a download speed of 1.5 Mbps or greater.” The data shows that over 4 million subscribers had speeds between 1.5 Mbps and 8 Mbps. Another 3.5 million subscribers had speeds between 8 Mbps and 24 Mbps.²⁹ A full 9.7 million (93%) of the 10.4 million subscribers satisfied the minimum connectivity speed required for VRS (256 Kbps) in Australia.

The Australian Department of Broadband, Communications and the Digital Economy (DBCDE) is investing in a National Broadband Network, and in 2009 it created the NBN Company. The NBN Company spent its first year developing a nationwide Broadband implementation study on how to provide access to 100 Mbps connectivity for most of Australia. It is currently developing procurement contracts and building new superfast broadband services throughout various regions. Thousands of kilometres of fibre optic cable have already been deployed to improve Australia’s digital infrastructure.

4. VRS Usage Volumes

The trial for VRS began as a limited service in 2008. Initially, approximately 200 Deaf consumers across Australia registered to use the service,³⁰ which was offered only during the week and had limited hours. Although the service hours were extended in 2009 and 2011, no weekend or holiday service is available. VRS continues to be provided as a not-for-profit pilot with no user fees.

VRS is available for 12 hours a day, Monday through Friday, with times varying by territory.³¹ The trial period may soon end, and VRS may become a permanent service. ACE and the NRS are working on securing and implementing a new NRS contract.³²

The NRS Performance Report for 2008-2009 indicates very steady year-over-year traffic volumes (variations within 5%) for the previous six years. Usage figures are as follows:

²⁸ Australian Bureau of Statistics; Commonwealth of Australia; Internet Activity Report, Australia (cat. No. 8153.0); March 31, 2011

²⁹ Ibid

³⁰ Australian Communication Exchange CEO Sandy Gilliland

³¹ Times are 5:00 AM – 5:00 PM, 6:30 AM – 6:30 PM, or 7:00 AM – 7:00 PM. See http://www.aceinfo.net.au/index.php?option=com_content&view=article&id=5&Itemid=16.

³² Australian Communication Exchange; The ACE Plan for 2011; Delivery Components

- An estimated 8,000 Australians used the NRS each month for calls to and from the Deaf and hard of hearing
- 88% of the calls were from the Deaf and hard of hearing population to voice telephone users
- Approximately 3.5 million total call minutes were relayed per year
- Approximately 2,200 – 2,500 calls are made per day in 2011
- 2011 VRS traffic is approximately 2,500 minutes per month³³

Due to recent confidentiality concerns, ACE was not able to divulge if the service was working at or below capacity. Since the current MRS/VRS contract is undergoing the final stages of a new bidding and procurement cycle, ACE declined to share more recent details and updates regarding usage volumes and trends.

5. Fraudulent Call Volumes and Costs

No examples of fraudulent use were indicated in the news media or in the questionnaire responses. However, during the 2008-2009 year the relay service provider informed the ACMA that its traffic reports were not accurate that year “due to an abnormally high volume of calls made by people inappropriately dialling the NRS contact numbers listed on contact information for government agencies.”³⁴ The NRS provider recognized that these users were not part of the legitimate use for the service and did not allow them to make outbound relay calls. Apparently, due to congestion on standard telephone lines for certain government agencies during that year, people tried to call these agencies through their NRS numbers.

6. Interpreter Resources and Programs

Australia has a shortage of qualified Sign Language Interpreters for the Deaf. Due to the large distances involved, this is especially true for the rural Deaf populations. A report related to interpreting services in the State of Victoria confirmed that the interpreter pool is very limited and that the need is even greater in regional areas where fewer interpreters live and work. Furthermore, the report stated: “There is a very large cost associated with getting Interpreters from the city to travel and work in the country. If the distance traveled is greater than 40 kilometres, then the client must pay travel costs in addition to

³³ Mission Consulting March 2011 interview with Kirk Pascoe, IT Director at ACE

³⁴ National Relay Service Performance Report; 2008-2009; Snapshot of the NRS; Call Minutes

the two hour minimum booking cost.” This high expense leads the rural Deaf to cope by relying on family members and using pen and paper.³⁵

Most Interpreter services are not free to consumers in Australia; this includes the use of interpreters for school and other educational needs. However, the government does provide free Sign Language Interpreters for private medical appointments through the National Auslan Interpreter Booking Service (NABS). NABS provides qualified sign language interpreters to Deaf users free of charge for this limited purpose Monday through Friday from 8:00 AM to 8:00 PM, and 8:00 AM to 1:00 PM on Saturdays (excluding national holidays). The following is a list of NAB interpreter suppliers by territory served:³⁶

All States

- Australian Communication Exchange
- Sign Language Communications

Australian Capital Territory

- Deaf Society of NSW

New South Wales

- Deaf Society of NSW

Northern Territory

- National Auslan Interpreter Booking and Payment Service
- Royal South Australian Deaf Society

Queensland

- Deaf Services Queensland
- See.You.Say Sign Language Services and Consultancy
- Signing Hands
-

South Australia

- Royal South Australian Deaf Society

³⁵ Worcester Polytechnic Institute; “Video Relay Interpreting Services in Victoria”; An Insight into the human experience surrounding video relay interpreting services and an outline of the current awareness and expectations of Victorian stakeholders; April 2008

³⁶ Official Australian Government web portal; <http://jobaccess.gov.au>; Product or solution; Auslan Interpreters

Tasmania

- Tasmanian Deaf Society

Victoria

- Auslan Services
- Gippsland Auslan Interpreter Service at Latrobe Community Health Service
- The Auslan Company
- Victorian Deaf Society

The Australian Sign Language Interpreters' Association (ASLIA) is the national leading organization representing Auslan community and relay Interpreters in Australia. Although ASLIA does not publish its total membership or the number of current sign language interpreters in Australia, ACE states that there are currently approximately 300 sign language interpreters in Australia.³⁷

ASLIA is working to provide an adequate supply of qualified sign language interpreters across Australia. ASLIA also supports industry expansion and provides policy advice to the government and service providers on subjects such as: “training, professional development, recruitment, working conditions, remuneration, and the provision of services.”³⁸

According to data provided in the State of Victoria Report, national statistics for sign language interpreters showed that there were only 46 Interpreters per 1,000 Deaf users in Australian metropolitan areas. In rural areas, the Report estimated that there were only 73 Auslan Interpreters for 1,244 Deaf users (59 per 1,000), although the Australian Government reported “only 6 Auslan Interpreters for 595 Deaf Auslan users living in remote areas (27 per 1,000).”³⁹

7. Access to Emergency Services

Australian Relay has limited ability to connect and communicate with local emergency services authorities. The NRS operates a dedicated ‘106’ text-based emergency service for people who are deaf or have a hearing or speech impairment. The Telecommunications (Emergency Call Persons) Determination of 1999 specified the NRS as the national operator of emergency call services for text calls to the emergency service number 106.⁴⁰

³⁷ Mission Consulting March 2011 interview with Kirk Pascoe, IT Director at ACE

³⁸ ASLIA (Australian Sign Language Interpreters’ Association; Official web portal; www.aslia.com.au; about ASLIA

³⁹ Worcester Polytechnic Institute; “Video Relay Interpreting Services in Victoria”; An Insight into the human experience surrounding video relay interpreting services and an outline of the current awareness and expectations of Victorian stakeholders; April 2008

⁴⁰ National Relay Service Plan 2009-10 – An Australian Government Initiative p. 6

According to the Australian NRS, the 106 service is the world’s first national text-based emergency service. The NRS provider receives the text call (from a TTY or a computer with dial up modem), connects the caller to the requested emergency agency (police, fire, or medical), and relays the call during the emergency. 106 calls are treated as a priority over other NRS calls. The 106 service is limited to text only; it will not accept voice calls or SMS messages, and it cannot be called using a regular telephone, Internet Relay, or mobile phone.⁴¹ According to the ACMA, there were 359 genuine emergency calls routed through the dedicated 106 number in the 2008-2009 annual period.⁴²

In April 2010 the Minister for Broadband, Communications and the Digital Economy announced the intention to establish an SMS emergency service for people with disabilities. The Ministry has also acknowledged that there are a range of technical and legislative issues that would need to be addressed for this service to become a reality.⁴³

Callers using Internet Relay can also make emergency calls by dialling the general NRS access numbers, and then requesting that the relay officer connect them to Triple Zero (000) – the national voice emergency number. These calls cannot be identified as an emergency and cannot be given any priority until the connection to the relay officer has been made. Additionally, the caller’s true location cannot be automatically determined, so the caller must be able to identify his or her location.⁴⁴

8. VRS Education and Outreach Programs

The Outreach Service is an integral part of the NRS contract and will expand to cover VRS as it becomes a permanent service. This service is designed to increase awareness and acceptance of Relay Services. As stated by the ACMA, the goal of the Outreach Service is: “For all users and potential users of the relay service component of the NRS to be aware of it, know how it works, and be able to use it effectively.”⁴⁵ The Outreach Service has consistently been operating under a capped budget of \$3 million a year, as set forth by the NRS contract and the ACMA funding.⁴⁶

The current Outreach Services, contracted to Westwood Spice (WWS) have been subcontracted to the Australian Federation of Deaf Societies and to specialist social marketing consultants. To support the

⁴¹ www.relayservice.com.au; making a call; emergency calls

⁴² Australian Communications and Media Authority; ITU International Training Program 2009

⁴³ www.Minister.scbde.gov.au; Sen. Stephen Conroy, Minister for Broadband, Communications and the Digital Economy; Media Speech, April 2010

⁴⁴ www.relayservice.com.au; making a call; emergency calls

⁴⁵ Australian Communications and Media Authority; National Relay Service; Outreach Service Provider performance Report 2008-2009

⁴⁶ Australian Communications and Media Authority; National Relay Service; performance Report 2008-2009

NRS, WWS has established a national network of seven information and education officers as well as three customer service officers.

The NRS Plan for Education and Outreach initiatives provided by WWS is to:

- “Develop and deliver a national Outreach Service;”
- “Promote and raise awareness of the NRS to its users and potential users;”
- “Offer information, support and training to users and potential users;”
- “Handle NRS/VRS questions and complaints.”⁴⁷

Deaf Australia Inc., a national organization for the Deaf in Australia, represents the views of Deaf Auslan users. According to their Mission Statement, “Deaf Australia is the only leading national peak body for deaf people managed for and by deaf people. We represent, promote and preserve the Australian Deaf community and its language and culture. We provide an advocacy and information service for and about deaf people. We work with the deaf community and stakeholders in the best interest of deaf people.”⁴⁸

Deaf Australia has been actively promoting VRS to the Deaf community and providing “VRS Community Consultation” meetings, presented in Auslan, that describe the benefits of VRS to potential consumers. A goal of its “Next Generation NRS Campaign” is to promote the inclusion of VRS as a permanent element of NRS contracted services. (See Appendices A and B).

⁴⁷ Telecommunications (Consumer Protection and Service Standards) Act 1999; Under Section 95, the NRS Providers are required to develop NRS Plans for the Relay Service and Outreach Service

⁴⁸ www.deafau.org.au

APPENDIX A



I support the Video Relay Service and my vote counts for you!

I am a [Deaf/hard of hearing/hearing] person and I support for the need to have an enhanced National Relay Service (NRS) based on the emerging National Broadband Network (NBN) which will provide accessible, affordable and available new telecommunications services for the deaf and hard of hearing community in Australia.

The existing NRS is an Australia-wide telephone access service provided for people who are Deaf or have a hearing or speech impairment. To use NRS, a deaf person can use a teletypewriter (TTY) or an IP based text relay service (www.iprelay.com.au) to call anyone. Since the NRS was setup in Australia in 1995, it has provided fairly accessible telecommunication services to many people (including myself) and enables us to use the 106 Text based emergency services for the last 15 years.

Australia ratified the United Nations Convention on the Rights of Persons with Disabilities in 2008 which means the Australian government must guarantee availability, affordability and accessibility of telecommunications for deaf and hard of hearing people in Australia. Deaf Australia is very pleased that the government is planning to implement an essential SMS emergency service for deaf people.

Responses to Deaf Australia's 2005 telephony discussion paper indicated that Deaf people would happily change over from TTY to video telephony were a staggering 85% Yes compared to a 15% No. Also when asked to rate different telecommunications equipment currently available in terms of what Deaf people consider to be a Deaf equivalent to a voice phone. Video telephony rated the highest at 64% whilst SMS (not a real time communications tool) rated 38% and the TTY lowest at 22%.

The enhanced NRS with Video Relay Services will greatly improve the lives of Deaf and hard of hearing people, promote participation and create a more inclusive society.

For more information, please visit Deaf Australia's website » www.deafau.org.au

Email this document to:

ALP Senator the Hon Stephen Conroy minister@dbcde.gov.au

ALP The Hon Bill Shorten bill.shorten.mp@aph.gov.au

Liberal The Hon Malcolm Turnbull Malcolm.Turnbull.mp@aph.gov.au

Liberal The Hon Tony Smith Tony.Smith.mp@aph.gov.au

Greens Senator Bob Brown senator.bob.brown@aph.gov.au

Greens Senator Scott Ludlam senator.ludlam@aph.gov.au



CC David Parker. Email david.parker@deafau.org.au. Fax 02 9871 8218 Mail PO Box 4681 North Rocks NSW 2151

APPENDIX B



VRS Community Consultation

David Parker, a Deaf person, from Deaf Australia will give a presentation in Auslan about the Video Relay Service (VRS) and the Next Generation NRS campaign.



When:
Friday 30th April

Time:
7pm for one hour.

Where?
Braddon Club
Corner of Cooyang St
and Donaldson St
Braddon Canberra

Free!

- What is a Video Relay Service?
- What is happening about a Video Relay Service in Australia?
- Next Generation NRS Campaign
- Questions

For more information about the VRS campaign, go to:
<http://sites.google.com/site/nrscampaign/how-does-it-work>

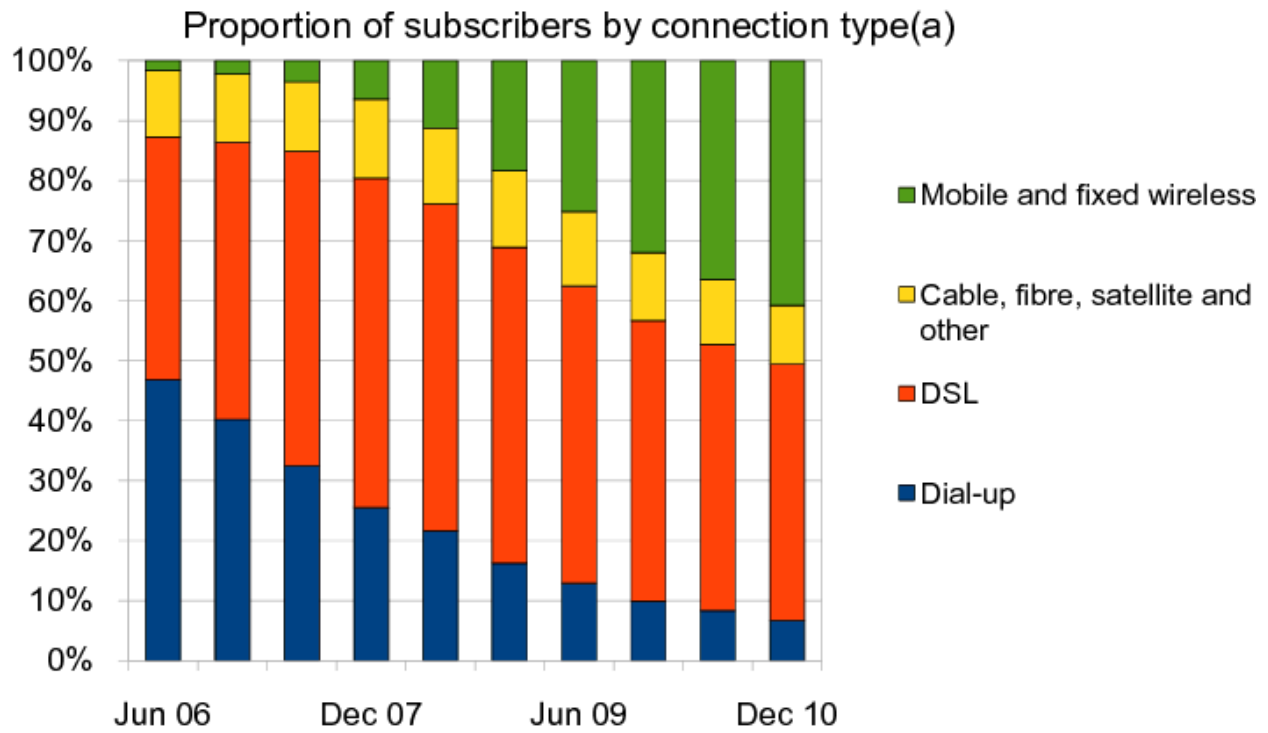
Questions? Contact:

David Parker at Deaf Australia

Email: david.parker@deafau.org.au

WWW: www.deafau.org.au

APPENDIX C



FINLAND VRS

SUMMARY

1. Overview

| | |
|--------------------------------|---|
| Total Population: | 5,375,276 |
| Deaf Population: | 8,000 |
| Hard of Hearing Population: | Not Available |
| Use Sign as Primary Language: | Less than 5,000 |
| No. of Qualified Interpreters: | 820 |
| Official Languages: | Finnish, Swedish, and indigenous Sami & Roma, and the Finnish sign language |
| Name of Sign Language: | Suomalaisen Viittomakielen |
| VRS Service Schedule: | VRS Trial 2008- 2010 |
| VRS Vendors: | Etätulkki/ Evantia Oy/ TeliaSonera |
| TRS/VRS Funding Model: | Interpreting services (including VRS trial) are funded primarily by the Social Insurance Institution of Finland (KELA) and a contribution from the regional and local municipalities (new law Sep. 2010). The funds come from general taxation of the population. |

2. Findings

This Phase 4 research summary, *VRS Models in Other Countries – Finland*, provides a synopsis of the VRS environment in Finland for telecommunications, relay services and VRS.

Key points:

- Finland has a relatively low percentage of sign language users
- Finland has a relatively low demand for VRS and interpreter services
- Finland has a higher ratio of interpreters to sign language users than many other nations
- Finland, despite the above points, does not have a sufficient number of interpreters

- Regulatory obligations to provide interpreting services were transferred to the Social Insurance Institution of Finland in September 2010 (a regional to national change)
- The VRS trial was co-funded by the Ministry of Social Affairs and Health, the municipalities, and the joint municipal authorities
- The trial budget was €1.3 million.⁴⁹
- Permanent VRS after 2011 will be funded entirely by the government (not by telecommunications providers or as a direct cost to users)
- The MMX Call Center platform was adopted during the VRS trial (as used in Sweden, Germany, and other EU relay centers)
- Education and outreach programs were very well developed throughout the trial
- There are 4-year sign language interpreter degrees offered by two institutes
- All interpreters must be accepted into the Finnish National Register of Interpreters prior to professional work
- The trial ended in December 2010.
- New service is currently in the bidding process. Between the trial period and the start of services under a new contract, VRS has not been available.

⁴⁹ One Euro (€) is equivalent to approximately 1.39 Canadian dollars. All funds shown herein are in Euros.

FINLAND VRS

RESEARCH

1. Demographics

The total population of Finland is estimated at approximately 5,375,276. The national census was recently conducted in Finland, and the census results are yet to be published. Census day was 31 December 2010, and results will be published between 2011 and 2012.⁵⁰ Demographics reported by various other entities include:

- There are approximately 8,000 Deaf people in Finland
 - 0.001% of the total population
- Less than 5,000 are identified as using sign language as primary method of communication.⁵¹
- Finland has one of the lowest ratios in the EU of sign language users and potential VRS users
- Finland has over 800 sign language interpreters
 - The highest ratio of interpreters to Deaf people in Europe⁵²

2. Legal Background

2.1. Rights of People using Different Languages

Finland passed a new Constitution in 1999, enacted in 2000, that guaranteed rights to one's own language.⁵³ This made both Finnish and Swedish national languages, as well as the native languages of the indigenous people, the Sami and Roma, and Suomalaisen Viittomakielen, the Finnish sign

⁵⁰ Tilastokeskus; Statistics Finland; Census Population

⁵¹ Kuurojen Liitto; Finnish Association of the Deaf; Facts in Finland

⁵² Suomen Viittomakielen Tulkit ry; Finnish Association of Sign Language Interpreters;

⁵³ The Constitution of Finland; 1999; Section 17 (731/1999); Fundamental Rights;

language.⁵⁴ Previously the constitutional recognition of sign language rights was adopted in 1995; this made Finland the second country in the world to acknowledge sign language at the Constitutional level.⁵⁵

The new Constitution of Finland guarantees Minority Rights. It requires society to support the linguistic and cultural development of minorities and their languages. These rights oblige public authorities to take active measures to ensure that sign language users have the opportunity to use their own language and to develop their own culture.

2.2. Rights of People with Disabilities

The Constitution of Finland declares that, “the State and the Municipality have to guarantee preconditions for a life with human dignity in situations in which one’s own resources do not suffice.”⁵⁶

Finland’s Non-Discrimination Act of 2004 included a section dedicated to “improving the access to employment and training of persons with disabilities” and a blanket prohibition of discrimination on the basis of: age, ethnic or national origin, nationality, language, religion, belief, opinion, health, disability, sexual orientation, or other personal characteristics.⁵⁷

Finland also participates in many international conventions and treaties regarding the rights of people with disabilities.

The regulatory department responsible for disability services in Finland is the Ministry of Social Affairs and Health.

2.3. Telecommunications Service Obligations

The obligation to provide MRS and VRS are not associated with telecommunications laws or regulations.

2.4. Regulatory Funding of MRS/VRS

Municipalities in Finland were, traditionally, responsible for the funding of all interpreter services including traditional relay services. The VRS trial, Etätulkki, was co-funded by the Ministry of Social Affairs and Health, the municipalities, and the joint municipal authorities. According to available information for the Etätulkki trial, which ended in 2010:

⁵⁴ Nousiainen, Jaakko; “The Finnish System of Government: From a Mixed Constitution to Parliamentarism; Political and Historical Background” Note that at one time the linguistic divide between Finnish-speakers and Swedish-speakers threatened to divide the governance of the country

⁵⁵ Kansanvalta; Finland Democracy Data Bank;

⁵⁶ The Constitution of Finland; 1999; Section 17 (731/1999); Fundamental Rights

⁵⁷ Finland Ministry of Employment and the Economy; January 2010; Non-Discrimination Act of 2004

- The total budget was €1.3 million
 - The State provided €993,000; 76.4% of the budget

In September 2010, a “Law for Interpreting Services – Tulkkauspalvelulaki”⁵⁸ was passed and will affect regulatory funding for and administration of all interpreting services, including VRS. This law requires the Social Insurance Institution of Finland (KELA) to fund and manage all interpreting services.⁵⁹ The new law allocates 180 hours of community (in-person) interpreting services per person per year. These hours can be increased on request. Deaf-Blind users have up to 360 hours per person per year.⁶⁰

The new law does not specify any limit for usage of traditional or video relay. It does state that KELA will pay for video relay interpreting services, as well as any equipment needed, including broadband connectivity (computer, webcam, ADSL, etc.)⁶¹

KELA is financed both by statutorily required contributions from insured persons and by contributions from the public. Therefore, it is expected that the new VRS will be entirely funded by the State when the permanent service is launched later this year.⁶²

3. Relay Services in Finland

3.1. Types of User Services Provided

A VRS trial, Etätulkki, began in July 2008 as a nationwide project to establish remote interpreting services in Finland for the Deaf and people with speech impairments. Etätulkki also provided a remote interpreting service for government authorities that work with immigrants, refugees, and other minority language groups (such as Sami language users).⁶³

The Finnish Government launched the trial service to improve availability and accessibility of interpreting services. It expected interpreter service providers to operate more efficiently by using remote call centers since this would free up resources for targeted, on-site interpreting needs (Community Interpreting). By distributing call centers regionally, the demand for resources was divided

⁵⁸ Sosiaali-ja Terveysministeriö; Ministry of Social Affairs and Health

⁵⁹ Providing interpreting services and VRS is a subcomponent of KELA’s overall disability benefits services. See Appendices A and B.

⁶⁰ www.kela.fi; Social Insurance Institution of Finland; Vammaister Tulkkauspalvelukeskus; Legislation

⁶¹ Kuurojen Litto; Tulkkisihteeri; Finnish Association of the Deaf, Interpreting Officer; Virpi Thurén; Mission Consulting correspondence March 2011

⁶² Kela; Social Insurance Institution of Finland; About the FPA; Financing

⁶³ Evantia Account Manager Belinda Troger; Mission Consulting correspondence March 2011

between different regional providers. The trial included the latest broadband and mobile solutions in an effort to expand the geographical reach of interpreter services into remote areas.⁶⁴

The VRS trial ended in December of 2010 and was considered a success. This was a small trial with only 60 registered users. The pilot users gave very positive feedback and reported that, “being able to call someone with the help of an interpreter without being forced to leave the home or office was experienced as an equalizing factor compared to hearing people.”⁶⁵ As of April 2011, the government had yet to decide whether to permanently deploy VRS in Finland.

3.2. Current VRS Communication Technologies

The VRS trial was available via the Etätulkki web site, www.etatulkki.fi. The Etätulkki homepage stated that, “Etätulkki.fi is a website intended for those interested in remote interpreting. In the future, the site will also provide access to a nationwide interpreting service.”⁶⁶ The website is no longer available since the trial has ended and permanent service has not yet started.

During the trial, VRS was available via PCs with webcams and broadband connections. The service was also available via mobile 3G devices as well as off-the-shelf videoconferencing equipment. Due to the confidential nature of the current bidding process, further details on technical requirements are unavailable. However, it was confirmed that the pilot trial used the same call center platform (MMX) currently deployed in Sweden, Norway, Denmark, and other countries.

The MMX call center application was developed by nWise AB, a Swedish company. In addition to providing call center functionality in a multi-media environment (voice, video, text, land lines, broadband, mobile, etc.) it also provides a graphic interface that gives remote users call queuing position information.⁶⁷

VRS stakeholders are currently awaiting the conclusion of the government’s bidding process for new services. As of November of 2011, the new service was announced to be awarded to Telecom operator TeliaSonera. TeliaSonera is the result of a 2002 merger between the Swedish and Finnish telecommunications companies, Telia and Sonera. Telia Sonera will host the service for Kela using the nWise MMX platform. It will provide the hardware, MMX software application and internet connection to users. It will coordinate with the two interpreter agencies that were awarded the contract for booking and interpreter services. The immediate goal is to roll out the service during 2011-2012 for approximately 2,000 end users.

⁶⁴ www.etatulkki.fi; Etätulkki Project

⁶⁵ Evantia Account Manager Belinda Troger; Mission Consulting correspondence March 2011

⁶⁶ www.etatulkki.fi; Etätulkki Home Page Announcement

⁶⁷ Evantia Account Manager Belinda Troger; Mission Consulting correspondence March 2011

3.3. Broadband and Connectivity Infrastructure

Finland is one of the highest ranking countries in the EU for Internet use. An October 2010 report by Statistics Finland stated that: “Every second Finn uses the Internet several times a day.”

- 93% - 100% of people 16-54 had used the Internet in the 3 months prior to the study
- This percentage was 100% for people 25-34
- 65-74 year olds had the lowest usage at 43%
 - This brought the total average down to 86%⁶⁸
- Most users access the Internet via high-speed broadband connections

According to the European Commission on Digital Competitiveness, Finland is also one of the leading countries in providing broadband. In its 2008 National Broadband Strategy, Finland set goals for nationwide internet access:

- By 2010 all households, businesses, and government offices were to have access to the Internet and eServices
 - Download speeds were to meet or exceed 1Mbps
- By the end of 2015, at least 99% of these same entities are to have speeds of 100 Mbps
- According to an update by the Commission, “DSL coverage in Finland stands above the EU average, but a small part of the population is still not covered.”⁶⁹

The Finnish Communications Regulatory Authority recently released highlights of the 2010 Annual Report. According to the report, development toward faster data transmission increased in 2010:⁷⁰

- Over 50% of all fixed broadband subscriptions had a download speed of 4 Mbps or more
- Almost 60% of mobile broadband subscriptions had a nominal speed of 2 Mbps or more
- Data transmission in mobile networks grew
 - Mobile broadband accounted for over 50% of all broadband subscriptions
 - There were over 1.6 million mobile broadband subscriptions
 - An increase of 720,000 from the year before

⁶⁸ Statistics Finland; Prevalence of Internet Usage; 10/26/2010

⁶⁹ European Commission; Europe’s Digital Competitiveness Report; Volume 2; Brussels, May 2010; Finland; page 152

⁷⁰ Finnish Communications Regulatory Authority; Press Release; March 31, 2011; Annual Communications market review 2010; Mobile broadband

Although the following charts were published as part of the Finnish Communications Regulatory Authority mid-year report, the trends for broadband subscriptions and technologies in Finland are evident:

Table 2: Development of broadband connections 2007-2010⁷¹

| Year | 2007 | | 2008 | | 2009 | | 2010 |
|--|------------------|------------------|------------------|------------------|------------------|------------------|-------|
| Date | 31.12. | 30.6. | 31.12. | 30.6. | 31.12. | 30.6. | 30.6. |
| DSL | 1 270 500 | 1 270 100 | 1 231 300 | 1 216 300 | 1 185 900 | 1 162 600 | |
| Real estate and housing company subscription | 114 000 | 104 600 | 134 900 | 104 700 | 106 600 | 117 500 | |
| Cable modem | 209 600 | 212 900 | 214 800 | 215 500 | 222 700 | 229 600 | |
| Mobile broadband | 143 100 | 307 100 | 479 700 | 664 300 | 908 000 | 1 152 200 | |
| Wireless broadband | 15 300 | 19 600 | 26 100 | 31 600 | 31 800 | 30 100 | |
| FTTH | | | | | 12 600 | 14 500 | |
| Other* | 7 700 | 9 000 | 9 800 | 11 500 | 6 000 | 800 | |
| Total | 1 760 200 | 1 923 300 | 2 096 600 | 2 243 900 | 2 473 600 | 2 707 300 | |

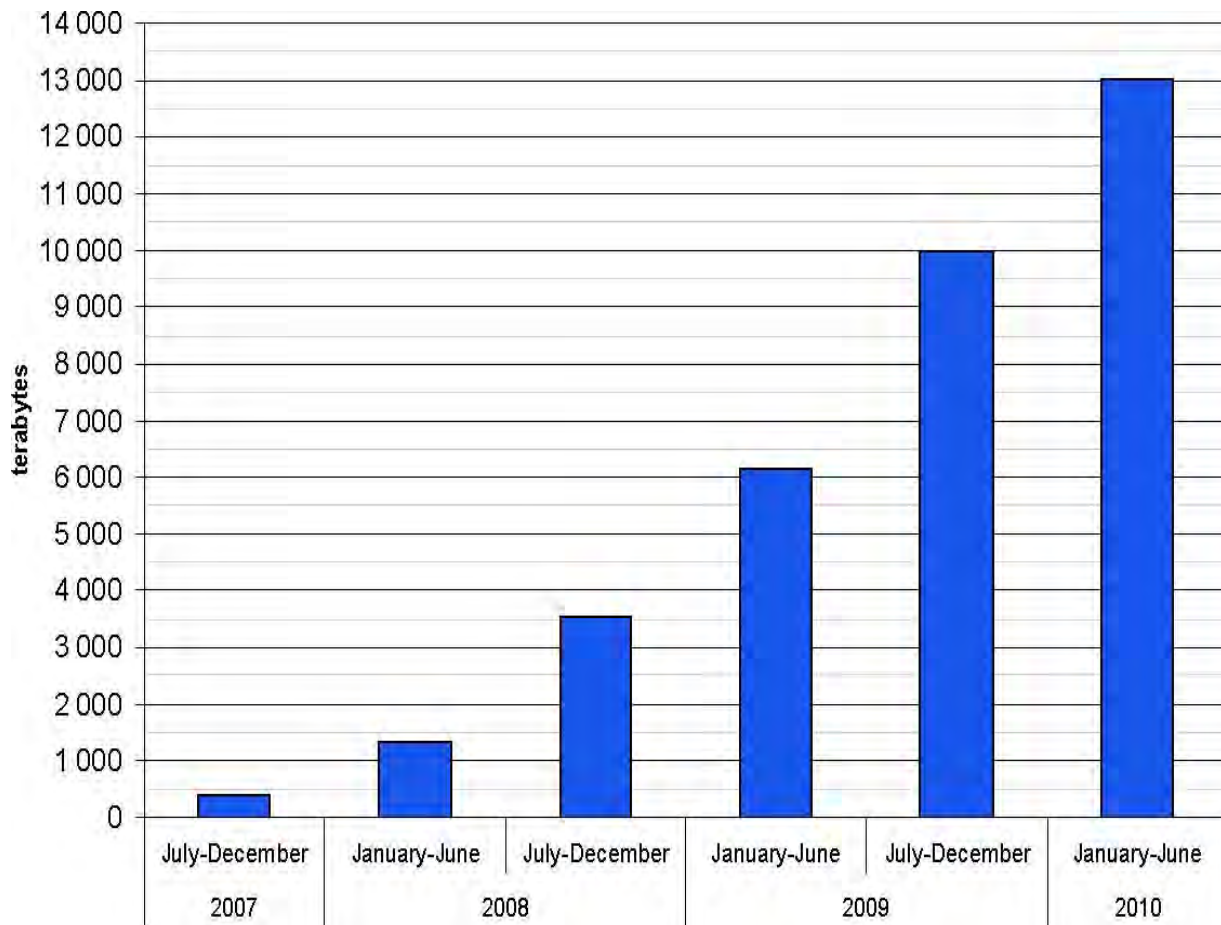
*The "Other" group includes subscriptions that cannot be included in the above-mentioned technology categories. The changes may partly be due to the specification of the reporting, which allows a better itemization of technologies.

Table 3: Development of fixed broadband connection speeds 2007-2010

| Year | 2007 | | 2008 | | 2009 | | 2010 |
|--|--------|-------|--------|-------|--------|-------|-------|
| Date | 31.12. | 30.6. | 31.12. | 30.6. | 31.12. | 30.6. | 30.6. |
| Less than 2Mbit/s | 70% | 54% | 40% | 43% | 39% | 30% | |
| 2Mbit/s – less than 4Mbit/s | 26% | 40% | 50% | 47% | 26% | 22% | |
| 4Mbit/s – less than 10Mbit/s | | | | | 19% | 25% | |
| 10Mbit/s or more, but less than 25Mbit/s | 4% | 6% | 9% | 9% | 14% | 19% | |
| 25Mbit/s – less than 100Mbit/s | | | < 1% | 1% | | | |
| 100Mbit/s or more | | | 1% | 1% | 2% | 3% | |

⁷¹ Finnish Communications Regulatory Authority (FICORA); FICORA Market Review 2010 Bi-annual review; 2.1 Broadband services, Broadband subscriptions and technologies

Table 4: Data volume transferred over mobile networks 2007-2010⁷²



4. VRS Usage Volumes

Current usage volumes for VRS in Finland are not available due to confidentiality concerns during the government’s tender process for the first official national VRS contract. Earlier usage was sporadic and limited to 60 trial participants during limited operational schedules. The provider’s trial manager suggested that Sweden’s usage volumes are good predictors of anticipated usage in Finland.

⁷² ⁷² Finnish Communications Regulatory Authority (FICORA); FICORA Market Review 2010 Bi-annual review; 2.2 Mobile services

5. Fraudulent Call Volumes and Costs

No examples of fraudulent use were indicated in the news media or in the questionnaire responses.

6. Interpreter Resources and Programs

According to the Finnish Sign Language Interpreter Register, Finland has approximately 820 interpreters. This is confirmed by numbers published by the Finnish Association of Sign Language Interpreters (Suomen Viittomakielen Tulkit ry).⁷³

Beginning in 1979, local and regional municipalities supplied and financed community interpreting services, which they provided to the population without charge. Interpreting services are available for work, studies, social participation, recreation, and other corresponding communication needs. Interpreters are expected to provide interpreting services in both Finnish and Finnish-Swedish sign languages.

The first training courses for Finnish Sign Language interpreters began over 30 years ago; graduate level programs began in 2009. Currently there are 4-year, full-time, sign language interpreting programs offered by two institutes:

- Humanities Polytechnic
 - Helsinki campus
 - Kuopio campus
- Diaconia Polytechnic
 - Turku campus⁷⁴

The Finnish National Register of Interpreters is maintained by many stakeholders. These include:

- The Finnish Association of the Deaf
- The Finnish Association of the Hard of Hearing
- The Finnish Deafblind Association
- The Finnish Association of Sign Language Interpreters

Once potential interpreters have completed training to become professionals, they may apply to be accepted by the members of the cooperation, and to be listed in the directory and register. Interpreters

⁷³ Finnish Association of Sign Language Interpreters (Suomen Viittomakielen Tulkit ry); The Register and Directory of Interpreters; as quoted in an interview with the European Union of the Deaf; Last Updated December 22, 2010

⁷⁴ Suomen Viittomakielen Tulkit ry; Finnish Association of Sign Language Interpreters; Education and Training

will only be accepted if they intend to take assignments or to become full time interpreters. Registration is not granted to someone who does not intend to enter the field of professional interpreting in Finland. The register also contains the names of the interpreter service providers (agencies) that these interpreters may be working through if they do not take up freelance work. The purpose of the register is to serve Deaf and hard of hearing users, to ensure quality, and to track the supply of interpreters in the field.⁷⁵

The services of interpreters, including for VRS, are booked by the Social Insurance Institution of Finland, KELA, through independent agencies. None of the agencies are owned by the national government. It is currently estimated that there are over 30 agencies. These agencies are typically owned by a group of interpreters, a single interpreter, the Finnish Association of the Deaf, a cooperative, a foundation, a municipality, or other organizations. It is important to note that in this system interpreters need to be employed by an agency.⁷⁶

7. Access to Emergency Services

Finland has adapted to new technologies to connect and communicate with local emergency services and has developed legislation to ensure equal access. The Communications Market Act in Finland includes a requirement that, “people with a disability must have access to emergency services equivalent to that enjoyed by other users.”

The Finnish strategy has incorporated access to the Emergency Number ‘1-1-2’ through an SMS-based service since 2005.⁷⁷ The system was intended for individuals with disabilities, such as those with a hearing impairment, but it may be used by anyone in an emergency situation. The system routes all 1-1-2 emergency text messages to one centralized answering service. The centralized emergency service provider then sends an acknowledgement message to the user and pinpoints the location of the mobile device by means of an emergency call positioning system. The centralized answering service then uses the location data to deliver the 1-1-2 emergency message and corresponding information to the closest emergency response center.⁷⁸

Although SMS emergency access has been in place for years, technical integration with video technology and mobile phones has not yet been implemented. In addition, the operational limitations during the VRS trial raised concerns about emergency situations among the pilot users. Not only would they be

⁷⁵ Suomen Vottomakielen Tulkit ry; Finnish Association of Sign Language Interpreters; Facts About Services

⁷⁶ Kuurojen Litto; Tulkkiyhdistys; Finnish Association of the Deaf, Interpreting Officer; Virpi Thurén; Mission Consulting correspondence March 2011

⁷⁷ Finnish Communications Regulatory Authority (FICORA); FICORA Working Group Report for Emergency Communications

⁷⁸ Finnish Communications Regulatory Authority (FICORA); FICORA Working Group Report for Emergency Communications

unable to make emergency calls during the day when all agents were busy with other calls, but the service was not available during nights or weekends because of its limited schedule. Users provided feedback to the trial project team, requesting that at least one video interpreter be made available 24 hours a day so that users could access emergency services by using Finnish Sign Language through VRS.⁷⁹

8. VRS Education and Outreach Programs

The Finnish Ministry of Social Affairs and Health funded the VRS trial project, Etätulkki. It also partnered with a national interpreter brokerage firm, Evantia Oy, which provided the overall project management of the trial. Because of the trial nature of the project, as well as current bidding for permanent services, contract details and requirements for VRS education and outreach are minimal. However, public information regarding the project indicates that much effort was made to introduce and integrate VRS into the communities and municipalities.

The project steering committee compiled a comprehensive list of participating municipalities, joint municipal boards, and consumer organizations; it worked closely with all stakeholders to ensure success. The Ministry of Social Affairs assigned an interpreter services manager to the project in order to gain experienced insight. The project team also contacted various Universities to hold seminars on VRS and to test the VRS trial. In November 2007, the team held a seminar at the University of Art in Helsinki to announce the trial objectives and to introduce the various consumer groups involved in influencing the service development. The team also discussed how VRS would affect the availability of local interpreters as they transitioned to supporting a nationwide state service. The Executive Director of the Finnish Deaf Association opened the seminar, and the well-known actor, Markku Toikka, hosted the Panel discussion; this enhanced the public profile of the project.⁸⁰

Later that year, the Etätulkki project launched a mobile tour to market the new service and recruit interpreters for VRS. Tour events were organized in cooperation with the Applied Sciences, Turku campus of Diaconia University. All events were presented in sign language, were free, and were open to all people. The project team was accompanied by sign language interpreters from the Finland Association of Interpreters.

The Etätulkki project also organized informational gatherings in various cities to target sign language customer groups. In addition to explaining the system features and benefits, they enabled participants to experiment with VRS after the presentation. These meetings took place before access to the call centers was established, but by working with an interpreter available in a test studio in Helsinki consumer tests were made possible.

⁷⁹ Evantia Account Manager Belinda Troger; Mission Consulting correspondence March 2011

⁸⁰ www.Etatulkki.fi; archives; seminar

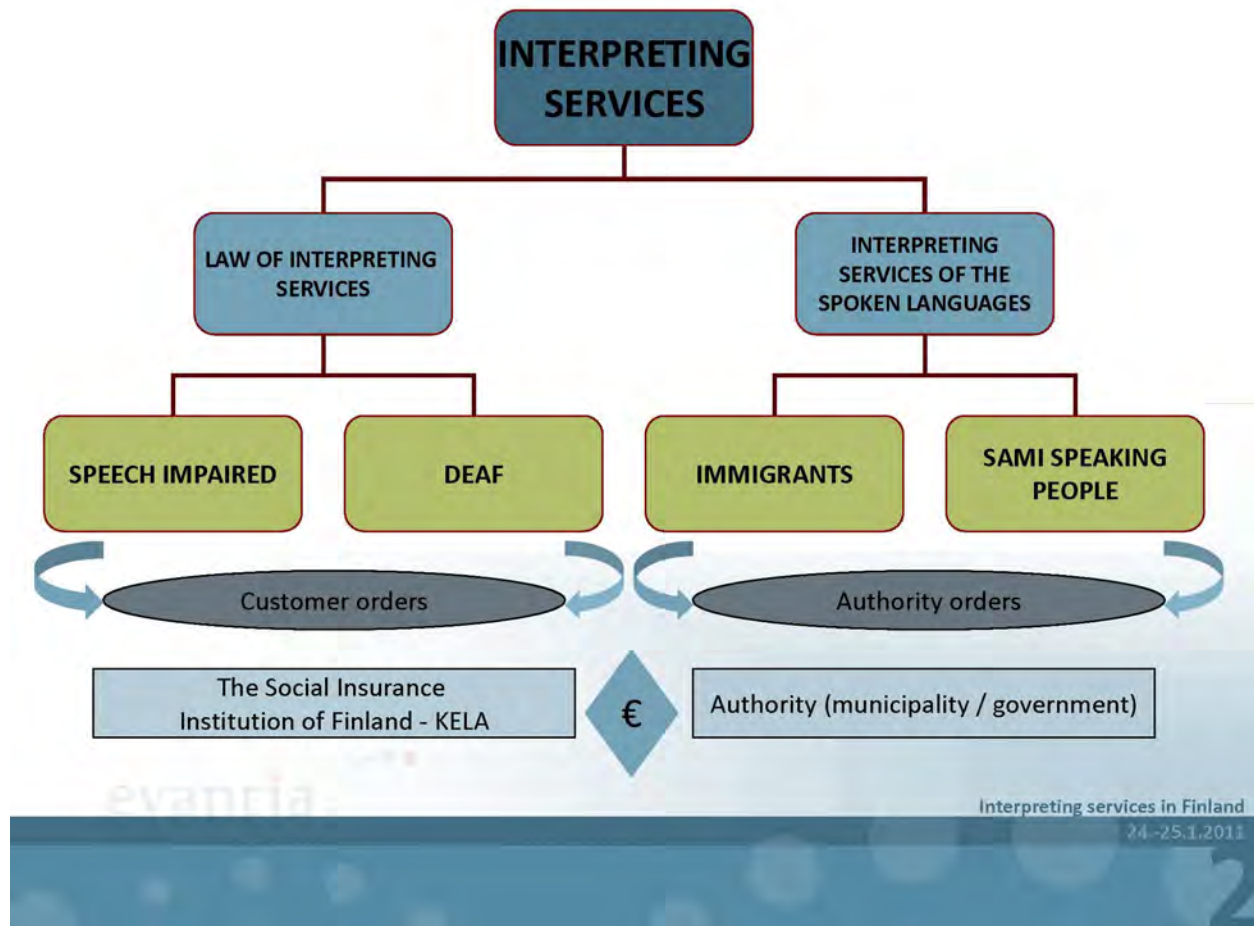
In the second year of the trial, the project team again partnered with Diaconia University to test 3G VRS functionality. During the test the service was available six hours a day, four days a week. Test calls were made outside of normal service hours to enable testing for 3G gateway functionality to three different call centers.

Another technical test took place with system supplier nWise for adaptation to the new MMX call center platform software. This test was initiated with a group of 20 testers and was later expanded. The test users were selected through Deaf Associations, via television advertisements, and from active work groups. In addition to testing for technical issues in the new application, the project team used these tests to learn about Finnish Sign Language communication.⁸¹

The Etätulkki effort is recognized as an example of a creative and comprehensive VRS education and outreach program.

⁸¹ www.Etatulkki.fi; archives; Network types; regional Spokespeople

APPENDIX A

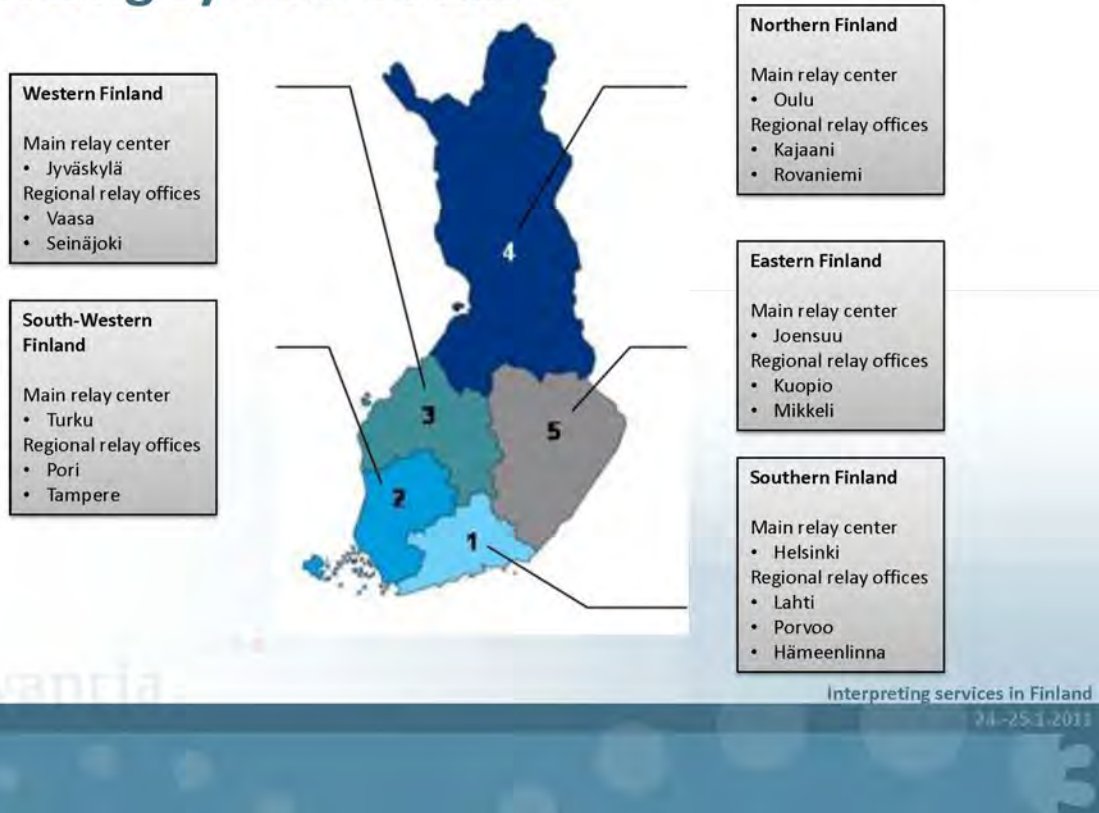


82

⁸² Regulatory and Funding Model for Interpreting Services (including VRS trial) in Finland; Belinda Troger; Etätulkki Project; "Interpreting Services in Finland"; January 2011

APPENDIX B

Booking system of KELA



83

⁸³ Regional Model for Interpreting Services (including VRS trial) in Finland; Belinda Troger; Etätulkki Project; "Interpreting Services in Finland"; January 2011

FRANCE VRS

SUMMARY

1. Overview

| | |
|--------------------------------|--|
| Total Population: | 65,026,885 |
| Deaf Population: | 100,000 |
| Hard of Hearing Population: | 3,000,000 |
| Use Sign as Primary Language: | Nearly 100,000 |
| No. of Qualified Interpreters: | 300 |
| Official Language: | French |
| Name of Sign Language: | Langue de Signes Français (LSF) |
| VRS Service Schedule: | 2008 |
| VRS Vendors: | Tadeo, WebSourd, Viable France |
| MRS/VRS Funding Model: | Relay Services are mandated as employment rights. They are provided for employees and are paid for by employers. The general public can use relay services free of charge to contact government offices; they must pay for all other uses. |

2. Findings

This Phase 4 research summary, *VRS Models in Other Countries – France*, provides a synopsis of VRS environment in France.

Key Points:

- France has a high demand for VRS and interpreter services
- France has a high percentage of LSF users in the general population
- Regulatory obligations to provide MRS require that Text Relay and Video Relay be made available:
 - At the workplace
 - For communications with Government offices and public services

- MRS services are currently funded by:
 - The Government for limited uses
 - Employers for their Deaf employees
- Some VRS providers will relay calls for private use from individuals willing to pay for the service
- The 2010 stated funding for one of three VRS providers was €5 million
- Video relay and text relay were made available at the same time using Total Conversation standards technology
- VRS did not have the typical adoption pattern of high text relay volume which would later decline in favour of video
- France is incorporating many leading technological solutions within the VRS environment including:
 - Total Conversation access to 1-1-2 emergency services
 - Sign language avatar interpreters
- Interpreter education and outreach programs exist in France
 - These programs are reported to be insufficient to satisfy demand
- Four universities in France offer 2 and 3 year LSF Interpreting training programs

RESEARCH

1. Demographics

France has:

- An estimated population of 65,026,885⁸⁴
- An estimated population of over 3,000,000 Deaf and hard of hearing individuals
 - Approximately 4.75% of the total population
 - Approximately two times the ratio of any other country in this study
- Nearly 100,000 individuals who use LSF (*Langue des Signes Française*—French Sign Language) as their primary language⁸⁵
- Approximately 300 LSF interpreters⁸⁶
 - A very low ratio of interpreters to LSF users

2. Legal Background

2.1. Rights of People with Disabilities

France is a signatory of the United Nations Convention of 2006 on the Rights of Persons with Disabilities; and has adopted the principles of the EU Disability Action Plan. This Plan outlines an overarching set of strategies that began in 2003; it is updated every two years. The Plan is intended to integrate the needs of people with disabilities into the framework of general policies, both new and existing.⁸⁷

⁸⁴ L’Insee et la statistique publique; French Institute of Public Statistics

⁸⁵ Federation Nationale des Sourds de France (France National Deaf Federation)

⁸⁶ (see Interpreter Resources and Programs section of this report)

⁸⁷ European Commission; Employment, Social Affairs and Inclusion; The EU Disability Action Plan at <http://ec.europa.eu/social/main.jsp?catId=430&langId=en>

The EU has also passed new laws and directives in order to further the principles of equal treatment and anti-discrimination. The European Union Council Directive 2000/78/EC establishes disability rights in employment. The directive states that: “all employers must provide ‘reasonable accommodation’ for people with disabilities;” the workplace must be adapted to accommodate employees with disabilities in the fulfillment of their jobs.⁸⁸ Member states such as France were given three years (from December 2000) to enact their own legislation in support of this disability directive.

The “*Loi du 11 février 2005*” (Law of 11 February 2005) was passed in order to provide new rights for people living with disability in France. It legally defines disabilities and social rights and grants official recognition of LSF (French Sign Language) as a language by the French Republic. This legislation also requires companies to hire a minimum number of employees with disabilities based on the size of company. Companies must make the workplace accessible to these employees. VRS (and to a lesser extent text relay and transcription services) have been made available to employees with disabilities in compliance with this mandate.⁸⁹

The *Loi du 11 février 2005* is the strongest legislation in France requiring relay services for the Deaf. Mr. Hillyard, Project Developer of *Viable France* stated, “Our new laws are not as strong as the ADA. It is a system of regulations for the disabled that work...(and)... there are no relay center specifics.”⁹⁰

Legislation is being worked on in France to adopt the European requirements from 2009 regarding Amendments to Universal Service Directives. As soon as they become ratified, they will become public once registered in the Official Journal (“le journal officiel”: <http://www.journal-officiel.gouv.fr/>). Indications are that it will expand the video relay service for all consumers in France and will receive funding as a Universal Service.

2.2. Telecommunications Service Obligations

Relay services in France are not regulated; they are not provided by telecommunications carriers, and they do not have the government or telecommunications industry funding. Consequently they are not offered as a free or discounted service for the general population.

2.3. Funding of MRS/VRS

Prior to the *Loi du 11 février 2005* (Law of 11 February 2005) France passed legislation in 1987 promoting the employment of people with disabilities. This earlier law required that for public and private employers with at least 20 employees, at least 6% of their workforce must be individuals with

⁸⁸ European Commission; Employment, Social Affairs and Inclusion; The EU Legislation; European Union Council Directive 2000/78/EC; L303 02.12.2000 pages 16-22

⁸⁹ www.Legifrance.gouv.fr; Le Service Public de la Diffusion du Droit; Act No. 2005-102 of 11 February 2005 ‘for Equal Rights and Opportunities, Participation and Citizenship of Persons with Disabilities; NOR SANX0300217L

⁹⁰ Mission Consulting interview with Mr. Tom Hillyard of *Viable France*, March 22 2011

disabilities. Private-sector employers that failed to comply with this requirement were to be fined with a levy. This triggered the creation of *L'Association de Gestion du Fonds pour l'Insertion des Personnes Handicapées* (The Association of Fund Management for the Professional Integration of People with Disabilities—AGEFIPH).

AGEFIPH collects and manages the levy fund and uses this money for integration programs to help individuals with disabilities to find employment. AGEFIPH also promotes local professional integration and defines and implements local policies for the employment of people with disabilities.

In the absence of permanent government funding mechanisms, most VRS providers are funded by the companies that provide relay services to employees in compliance with the Law of 11 February 2005.

VRS was begun in 2008 (see section 3 below) and was funded by commercial entities. These entities sometimes cooperated with government-funded organizations such as in the case of the collaboration between WebSourd and AGEFIPH. WebSourd is funded by an endowment budget of €5 million per year sponsored by the consortium of government and commercial partners.⁹¹

3. Relay Services in France

3.1. Types of User Services Provided

There are three main providers of VRS in France:

- Tadeo
- WebSourd
- Viable France SARL

Tadeo

Tadeo is unique; it is a consortium of 16 large commercial companies in France:

⁹¹ Francis Goudenov; Director at WebSourd at announcement of 2012 Plan for Deaf and Hard of Hearing by Ministers Xavier Darcos and Nadine Morano; Toulouse, February 11, 2010

- Air France
- Alcatel
- Lucent
- Areva
- BNP Paribas
- Cap Gemini
- Crédit Agricole
- Delta Process
- GE Healthcare
- GMF
- Lyonnaise des Eaux
- Pôle Emploi
- Siemens
- Société Générale
- Sopra Group
- Thalès

This group supports Tadeo through joint financing and governs the company through an Executive Board with representatives from each of the 16 companies. These companies also support and enhance the development and delivery of Tadeo’s services by contributing their combined expertise and know-how in research and development, engineering, human resources, finance, and law.⁹²

- December 2006
 - Tadeo began researching the possibility of a VRS solution
- October 2007
 - Tadeo began experiments with different technologies and platforms
 - Tadeo began working with Deaf user focus groups
- July 2008
 - Tadeo created its first VRS and Remote Interpreting platform
 - This platform transitioned from developmental to operational
 - During the trial phase Tadeo progressively increased the load of traffic on the platform
- November 2008
 - The Tadeo VRS became fully operational⁹³

⁹² www.Thalesgroup.com; Press Releases; Group 2010; Thales and Tadeo win 2010 Innovation Prize for Sustainable Development

⁹³ www.Tadeo.fr; Company; History

Tadeo emphasizes:

- *Who can use Tadeo?* “This service has been created by companies for companies only,”
- *How can I get Tadeo?* “Your company has to become a partner of Tadeo,”
- *How much does the Tadeo Box cost?* “Tadeo is provided by the employer. The employee does not pay anything,”
- *What if the company refuses to pay? Can I pay for it?* “That is not the purpose of Tadeo. Tadeo is meant for companies.”⁹⁴

WebSourd

WebSourd was first established in 2002 by the National Federation of the Deaf and the France Regional Union of Cooperatives—Midi-Pyrenees. WebSourd began the first official VRS in France as a trial in February 2008 and began offering Text Relay at the same time. Additional partners joined to support the deployment of VRS including: France Telecom R&D, SFR, Caisse d’Epargne, Macif, and the Groupement des Industriels de Santé en Midi-Pyrenees. The WebSourd Video Relay Center services were built in partnership with IVès as the prime contractor. IVès provides the call center infrastructure and service, Visio08; this service was rebranded in April 2011 and is now called Elision.

WebSourd offers both VRS and VRI and is compatible with the Total Conversation standard. It simultaneously provides access to users via any combination of video, text, or voice. The WebSourd IVès services supply VRS to public organizations and private companies and are the only Video Relay link available on the AGEFIPH website.

Viable France, SARL

Viable France, SARL was established in 2008 by Viable Inc., a VRS provider from the United States. Viable France participated in the VRS trial sponsored by AGEFIPH and opened its relay call center in May 2008. To access Viable, PC users download a proprietary software application called Viable Vision. Users can also access Viable through a specialized videophone, the VPAD, or any broadband videophone.

All three VRS providers offer, or are developing and will soon offer, services made possible by cutting-edge technologies:

- All three VRS providers:
 - Offer platforms that satisfy the Total Conversation technology requirements
 - Include Text and IP relay as simultaneous user services
- Tadeo:

⁹⁴ www.Tadeo.fr; TadeoFAQ; Tadeo France website; Frequently Asked Questions tab

- Has developed “RepeaWriting”
 - A relay service linking lip-reading to speech recognition software
 - An aid for people with speech impairments
 - A service that can be used with or without sign language
 - A service available in English and French
- Employs Speech Recognition and Speech-to-Text technology in real-time speech transcription services⁹⁵
- Viable:
 - Has been developing speech recognition technology to enhance its real-time transcription service
 - Is available from a web browser
 - Can display text on mobile devices
 - Markets its real-time remote captioning service as ideal for:
 - Meetings
 - Training sessions
 - Education
 - Provides subtitles in foreign languages in real-time
 - A list of languages is available on request⁹⁶
- WebSourd:
 - Has been pioneering the development of LSF avatar technology
 - Is a partner in the SignCom project⁹⁷

These three companies are dedicated to providing VRS for employees and government services in compliance with the 11 February 2005 law.

Few Deaf or hard of hearing users are willing to pay for VRS; most have access to these services through an employer.

⁹⁵ www.Tadeo.fr, Plateforme de Communication; TadelInnovations; Le RepeaWriting; Le Nouveau Service de Tadeo

⁹⁶ www.Viable.fr; Viable France SARL; L’espace pour les particuliers; Centre de Transcription à Distance

⁹⁷ Both LSF avatar technology and the SignCom project are explained in further detail in the following section of this report, as well as in this VRS study’s phase 5, Technologies and Their Forecasts.

3.2. Current VRS Communication Technologies

Each of the three French VRS providers offers unique technical capabilities:

WebSourd

It is common to connect to VRS in France through a videophone. WebSourd provides information on Oplink, a videophone device it sponsors. (See Appendix A) Additional features for this videophone include mobile WiFi portability and 3D video resolution. WebSourd describes it as: “The latest generation terminal primarily aimed at the Deaf and Hard of Hearing, allowing them to communicate in sign language.”⁹⁸

Most of WebSourd relay traffic is accounted for by commercial companies, and WebSourd has a dedicated service offer for this clientele. This service, Elision Pro, is described on the WebSourd website: “Elision Pro is a suite of communications services for business customers. Elision Pro is available via the Internet from a Broadband video phone, computer or other compatible terminal.”⁹⁹ This is a new generation service that employs the Total Conversation standard, allowing simultaneous or concurrent communication in multiple modalities. According to WebSourd: “The interface allows contacting written, visual and audible operator relays and contacts, according to the selected communication modes (LSF, French written or oral, LPC). Elision Pro also offers many functions to manage calls, voice mail, contacts, organization and planning of meetings, etc.”¹⁰⁰

Tadeo

Tadeo developed its proprietary Video Relay Center platform in cooperation with Delta Process. Tadeo also provides an end-user terminal, the Tadeo Box, which includes a pre-packaged laptop (pre-loaded with the video relay application software), two 3D resolution webcams, and a microphone. An additional feature is high level software encryption to guarantee the confidentiality of communications. (See Appendix B)¹⁰¹

Viable

Viable has recently introduced its own proprietary tablet videophone, the VPAD, which was designed by Deaf engineers and is produced by Viable. The VPAD performs in the Total Conversation environment using video, voice, and text. It has a touch screen with a video resolution of 30 frames per second (broadcast quality full motion video) and has both WiFi and Bluetooth capability. The VPAD includes a

⁹⁸ www.Websourd.com; Web Site services remote communication; Oplink

⁹⁹ www.elision-services.com; Products and Services; Communication Services to Remote; Elision Pro

¹⁰⁰ Ibid

¹⁰¹ www.Tadeo.fr; Tadeo Company website; The TadeoBox

stand to provide proper viewing and projection angles when used as a stand-alone device. It can also be connected to a computer or television. (See Appendix C)¹⁰²

France is also experimenting with Virtual Sign Language technologies. A consortium of academic, industrial, and research partners, including WebSourd, is working on the SignCom Project. This project is funded by the *Agence Nationale de la Recherche* (ANR—French National Research Agency), and its goal is to: “improve the quality of real-time interaction between humans and virtual agents.” By using motion capture data and building a comprehensive database of multiple repetitions of the same sign in many different contexts, the team can animate a virtual French Sign Language (LSF) signing avatar.¹⁰³ (See Appendix D)

The project team divided tasks into two goals:

- Sign Language Analysis
- Sign Language Animation

The data collection for analysis included motion capture (mocap), video, and annotations. The team initially developed the avatar vocabulary in a laboratory. Twelve cameras were placed around a Sign Language interpreter to capture the motions of body markers placed on the interpreter. The markers included:

- 41 facial markers
- 43 body markers
 - 12 hand markers
 - 6 per hand¹⁰⁴

Once the vocabulary database was built, it could be used to animate the avatar for various applications.

While recognizing that the research: “will be valuable for the creation of multiple ‘intelligent and expressive’ interfaces for people who use signed languages,” the SignCom project identified two main applications for the avatar:

- Interactive Kiosk: “making public announcements accessible for Deaf and Hard-of-Hearing people is recognized as a national priority. With the interactive kiosk, users’ gestures are

¹⁰² www.Viable.fr; Viable France SARL; Company website; Particuliers; The VPAD

¹⁰³ Corpus Design for Signing Avatars; by Kyle Duarte and Sylvie Gibet; Université de Bretagne-Sud, Laboratoire VALORIA, Vannes France; Author manuscript, published in “Workshop on Representation and Processing of Sign Languages: Corpora and Sign Language Technologies, Valetta: Malta (2010)

¹⁰⁴ Language Resources and Evaluation Conference (LREC); Valletta, Malta; May 22-May 23 2010; Kyle Duarte and Sylvie Gibet; Université de Bretagne-Sud, Laboratoire VALORIA, Vannes France; Heterogeneous Data Sources for Signed Language Analysis and Synthesis: The SignCom Project

captured by cameras and recognized by the system; then, responses are provided through a virtual expressive character, giving information and advice. In this case, the dialogue is guided by restrictive scenarios.”

- Virtual Reality: “LSF signs, previously recorded with motion capture (mocap), are used to drive a virtual character’s animation. Interaction is guided by the progressive construction of a 3D virtual space shared by the human user and the humanoid character.”¹⁰⁵

There are no indications of when these applications will be commercially available. However, in a July 2010 update to the Corpus Abstract report, researchers concluded: “Having collected our data, we believe that we have an excellent base with which we can create convincing animations of French Sign Language, due in large part to the intentional way we built the SignCom corpus.”¹⁰⁶ The project team shared its experience and results at the LREC conference in Malta in May 2010 and at many other venues including:

- Proceedings of the Colloque A3DM 2010 in Poitiers, France, 17-18 June 2010
- Proceedings of the Workshop *Traitement Automatique des Langues des Signes (TALS 2010)*, Montréal, Quebec, Canada, 23 July 2010
- The First International Workshop on Sign Language Translation and Avatar Technology in Berlin, Germany, 10-11 January 2011¹⁰⁷

3.3. Broadband and Connectivity Infrastructure

In recent years, France has created new directives placing emphasis on Information Communication Technologies (ICT); it has created a new Directorate-General post (a CIO) to oversee the deployment of broadband infrastructure and to modernize public administration of eGovernment.¹⁰⁸

In France, the number of Internet and eGovernment users has been rising:

- France has more Internet and eGovernment users than the EU average
- However, France ranks 12th in EU broadband penetration into households

¹⁰⁵ www.valoria.univ-ubs.fr/signcom; Valoria University website; The SignCom Project: Sign-Based Communication Between Real and Virtual Agents; Overview; Applications

¹⁰⁶ Corpus Design for Signing Avatars; by Kyle Duarte and Sylvie Gibet; Université de Bretagne-Sud, Laboratoire VALORIA, Vannes France; Author manuscript, published in “Workshop on Representation and Processing of Sign Languages: Corpora and Sign Language Technologies, Valetta: Malta (2010); hal-00505182, version 1 – July 22, 2010

¹⁰⁷ www.valoria.univ-ubs.fr/signcom; Valoria University website; The SignCom Project: Sign-Based Communication Between Real and Virtual Agents; Dissemination; Publications and Events

¹⁰⁸ European Commission; Europe’s Digital Competitiveness Report; Volume 2 SEC (2010) 627; Information Communication Technologies Country Profiles; page 154

- 56% of French households have subscribed to broadband service

Part of the State reform was the implementation of the national plan, *France numérique 2012*.

Highlights include:

“Broadband for all: the number of high-speed connections increased, bringing closer one of the main goals of the national plan, which is to provide broadband access to 100% of the population at a reasonable price, by exploiting the wide coverage provided by satellite solutions.”

“Deployment of optical fiber: the Government launched several actions to enable the extensive deployment of optical fiber in France with the aim of connecting 4 million households by 2012. The objective is for 70% of the population to be connected to high-speed Broadband by 2020 and 100% by 2025.”

“Mobile Broadband: the granting of licenses for the available frequencies. This will lead to the availability of commercial mobile Broadband services by 2012.”¹⁰⁹

The effort to rapidly deploy widespread availability of broadband services has resulted, to some degree, in uneven growth; some technologies establish themselves more quickly than others. For example:

- France surpasses many countries in DSL technology
 - France reports 100% coverage availability
- As reported in 2010, wireless technologies have not made similar progress¹¹⁰
 - Only 2% of the population was accessing the Internet on 3G mobile devices
 - France was below the EU average for use of wireless Internet on laptops

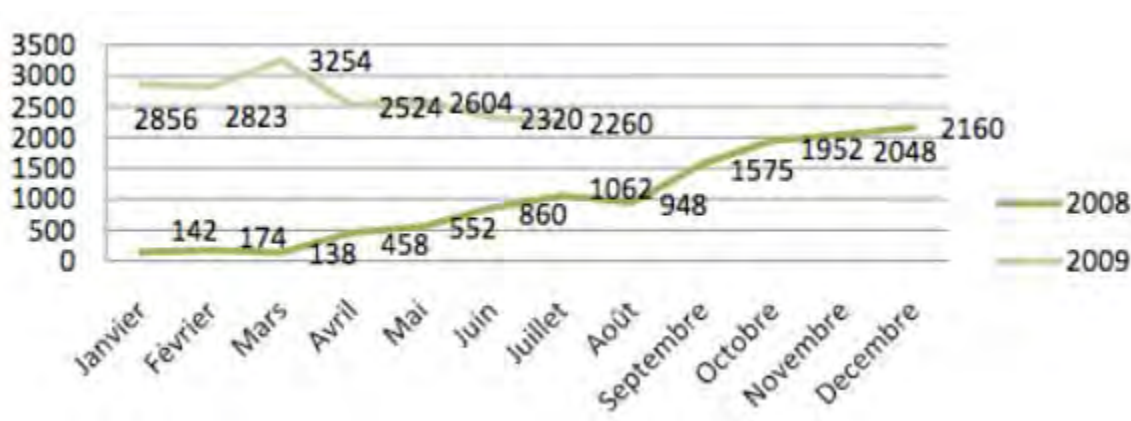
4. VRS Usage Volumes

WebSourd is the only VRS vendor that made information on consumer traffic available. The WebSourd VRS trial began in February 2008. This is also when WebSourd began offering Text Relay. WebSourd reported handling 30,710 Video Relay calls (through December 2009 as shown below) and only 826 calls for Text Relay.

¹⁰⁹ European Commission; Europe’s Digital Competitiveness Report; Volume 2 SEC (2010) 627; Information Communication Technologies Country Profiles; page 154

¹¹⁰ Ibid

Figure 12: WebSourd Video Relay calls January 2008 through July 2009¹¹¹



This difference may be due in part to the hours of service. Text Relay is available Monday afternoon 2:00 to 4:00 PM and Tuesday morning 10:00 AM to 12:00 noon. In comparison, VRS is available Monday through Friday 8:30 AM to 7:00 PM. WebSourd reports that most people who use Text Relay also use VRS.¹¹²

Tadeo does not report precise numbers, but states they serve thousands of clients in over 140 organizations.

5. Fraudulent Call Volumes and Costs

No examples of fraudulent use were indicated in the news media or in the questionnaire responses.

6. Interpreter Resources and Programs

According to Guilane Paris of AFILS (*Association Française des Interprètes en Langue des Signes*), there are approximately 300 LSF interpreters in France. The demand on sign language interpreter resources is a significant challenge in France. The lack of sufficient LSF resources is particularly interesting given that France has had some form of sign language since the 16th century and had the "first sign language in the world to gain recognition as a language in 1830."¹¹³

¹¹¹ Reach 112 Project; Information and Communication Technologies (ICT) Policy Support Programme (PSP); Current Status and Availability of Total Conversation Systems, Version 1.0; page 83

¹¹² www.WebSourd.com; horaire; WebSourd website schedule of services

¹¹³ Lewis, M. Paul, 2009; *Ethnologue: Languages of the World*, Sixteenth edition; ISO 639-3: FSL

WebSourd collaborates with a number professional organizations in order to engage LSF interpreters for its VRS call center. Most of the interpreters come from the Interpretis agency in Toulouse.

WebSourd and Interpretis are working together to develop additional, formal university training programs for Sign Language Interpreters. The current course in Sign Language Interpreting at the University of Toulouse includes teaching interpreters about working in a relay center. Interpretis also offers similar in-house training for interpreters who have not taken university classes.

There are four Universities in France that offer LSF Interpreting training:

- The University of Toulouse – Le Mirail
 - 3-year interpreter training program
- The University of Paris
 - 2-year program
- The University of Lille
 - 2-year program
- ESIT (l'École Supérieure d'Interprètes et de Traducteurs)
 - A specialized school of Interpreters sponsored by l'Université Sorbonne Nouvelle – Paris
 - 2-year program

Many interpreters in France, as in many other nations, do not work in the relay centers full time. This may be due to many factors. One stakeholder commented, “We don’t know who’s working full-time; no data, no statistics about it.”¹¹⁴ Interpreters may work part time in VRS because they:

- Also work in the community
- Are new to interpreting in a relay center environment
- Are working toward full certification and qualification experience.

Although WebSourd estimates that there are 280 interpreters in France, this number may be increasing due to training and exposure to employment opportunities like VRI.¹¹⁵ According to an executive for Viable, there may be approximately 300 LSF interpreters; approximately 20 new LSF interpreters graduate every year, but this is far from satisfying the need. The same Viable executive says: “This

¹¹⁴ Mrs. Guylaine Paris; President; Association Française des Interprètes en Langue des Signes (AFILS); 2010 Interview and French Country Report for the European Forum of Sign Language Interpreters (efsli)

¹¹⁵ Francis Goudenov; Director at WebSourd at announcement of 2012 Plan for Deaf and Hard of Hearing by Ministers Xavier Darcos and Nadine Morano; Toulouse, February 11, 2010

makes it very difficult to think of being able to offer the services around the clock if the funding was provided for more than just people that work.”¹¹⁶

Tadeo agrees that there are only a few hundred LSF interpreters available and that this is not enough to satisfy the demand, especially in light of the 2015 deadline in the Law of 11 February 2005. Tadeo calculates that the demand for the Deaf population (3 million hours), would require 20,000 full-time interpreters).¹¹⁷ These Tadeo projections presume that 600,000 Deaf and hard of hearing individuals are able to use LSF to communicate. However, the Federation Nationale des Sourds de France (France National Deaf Federation) estimates the number of Deaf and hard of hearing that use LSF is approximately 100,000. Adjusting the Tadeo number to support 100,000 people would result in a need for 3,333 full-time interpreters. Even this number may be high. According to the opening statement of the 2011/2012 Licensing of Applied Languages Specialty (French/English/LSF) within the University of Toulouse Le Mirail, France currently has 280 Sign Language Interpreters for a requirement estimated at 2,500 in 10 years.¹¹⁸

7. Access to Emergency Services

Access to emergency services has always been a challenge and a concern when it comes to the Deaf and hard of hearing populations in France. According to an EU Information and Communication Technologies (ICT) program report: “There is currently no national availability of either text or video relay through which to be able to communicate with emergency services – although contact by FAX is possible in some locations.”¹¹⁹

Historically, emergency calls in France were answered by local emergency services. Users dialed many different numbers in addition to the 1-1-2 EU standard. For example, Emergency voice calls can be made directly to:

- Emergency medical services —15
- The police and gendarmerie—17
- The fire department—18
- SAMU or the fire department—112

¹¹⁶ Mission Consulting interview with Mr. Hillyard of Viable France, March 22 2011

¹¹⁷ This number is based on taking the 18 billion minutes per month of telephone usage by the general population and dividing it by the general population of 63 million people. Then they apply a 1% formula to come up with 600,000 Deaf and/or Hard of Hearing people. www.Tadeo

¹¹⁸ University of Toulouse le Mirail; CETIM (Centre for Translation, Interpreting and Linguistic Mediation); Academic Year 2011-2012; Licensing of Applied Languages; Elise Leroy; Head of Training

¹¹⁹ Reach 112 Project; Information and Communication Technologies (ICT) Policy Support Programme (PSP); Current Status and Availability of Total Conversation Systems, Version 1.0; page 46

The fire department responds to 80% of all 1-1-2 calls in France

The organization of these call handling systems is managed separately and the interoperability of communication and information systems can be very different across the various parts of France. For example, SAMU services (15) in Grenoble are interconnected with the fire brigade (18/112) which has voice and data capability, but they are not interconnected with the police or gendarmerie services (17). Calls can be transferred to each other, but the medical and fire systems cannot share emergency call and caller data.¹²⁰

France and the EU ICT Policy Support Programme (PSP) are working together to make the adaptations necessary to implement the Reach 1-1-2 Project on a national level. They will be using the Total Conversation technology (simultaneous real-time transmission of video, voice, and text) already available in France to accomplish this. According to the project report: “Deaf people, speech impaired people and other citizens currently unable to access emergency services, will be able to call 112 at the national level and be answered by a Deaf 112 agent in sign language and text communication, or in text and voice communication by a hearing 112 agent. Each agent will then pass the information to the local emergency services, with the help of an onsite interpreter.”¹²¹

The French pilot will recruit both Deaf and hearing operators as well as interpreters for voice communication. According to the report, “In order to be able to handle many simultaneous calls, an unfeasibly large number of Deaf operators could potentially be needed at the National Emergency Platform.” The report recommends using external relay service in the event that no Deaf operator is available.¹²² However, VRS in France is not accessible to most Deaf people except through their work.

8. VRS Education and Outreach Programs

Outreach programs in France are limited. Some form of VRS has been available for years; and most of the Deaf population are already aware of its existence. The National Federation of the Deaf and other organizations such as AGEFIPH continue to mount public relations campaigns. For example, they celebrate the anniversary of the Law of 11 February 2005. WebSourd and other VRS providers also participate in public relations campaigns for the Deaf. They also continue to update their service and technology marketing strategies with web presences including Facebook and Twitter.

Press and event coverage for new technologies also develop outreach and awareness. Viable France participated in the 3D European eAccessibility Forum at which Tom Hillyard gave the presentation:

¹²⁰ www.samu-de-france.fr/fr/rapport; SAMU France website; Rapport: “Ressources nécessaires au bon fonctionnement d’ une structure d’ urgence”

¹²¹ Reach 112 Project; Information and Communication Technologies (ICT) Policy Support Programme (PSP); Current Status and Availability of Total Conversation Systems, Version 1.0; page 71

¹²² Reach 112 Project; Information and Communication Technologies (ICT) Policy Support Programme (PSP); Current Status and Availability of Total Conversation Systems, Version 1.0; Quoted from text in the report; page 77

“Mobile communications; helping people with disabilities at work.” WebSourd, and the team sponsored by the ANR (French National Research Agency—*Agence Nationale de la Recherche*), garnered press coverage promoting their work in Sign Language Avatars. The applicability of all education and outreach is limited by the restriction to VRS through work, except by some providers for a fee.

AGEFIPH and ARCEP also collaborated on a report regarding video relay services in France. The report covered similar topics related to the existence of video relay services around the globe. It also researched the operational details of providing VRS, such as interpreter training and availability, staffing, ancillary services, costs, etc. The report determined that finding enough qualified interpreters is the biggest challenge to implementing and expanding video relay services in France.¹²³

¹²³ ARCEP, AGEFIPH, FIPHP, Advent Report; “Evaluation des besoins des personnes sourdes ou malentendantes en matière d’accessibilité des services téléphoniques”; “Assessment of the accessibility needs of Deaf and hearing impaired of phone services”; March 1, 2010. Editorial note: Although the report was broad in scope and overall very useful, portions of the data included incongruities, was dated or incomplete.

APPENDIX A

Figure 13: WebSourd Oplink



Figure 14: WebSourd Oplink Videophone Tablet



APPENDIX B

Figure 15: TadeoBox Package Solution



APPENDIX C



Le VPAD+

En vente !



[Fonctions et caractéristiques techniques](#) | [Prix d'un VPAD+](#) | [Acheter un VPAD+](#)

Qu'est ce que le VPAD+ ?



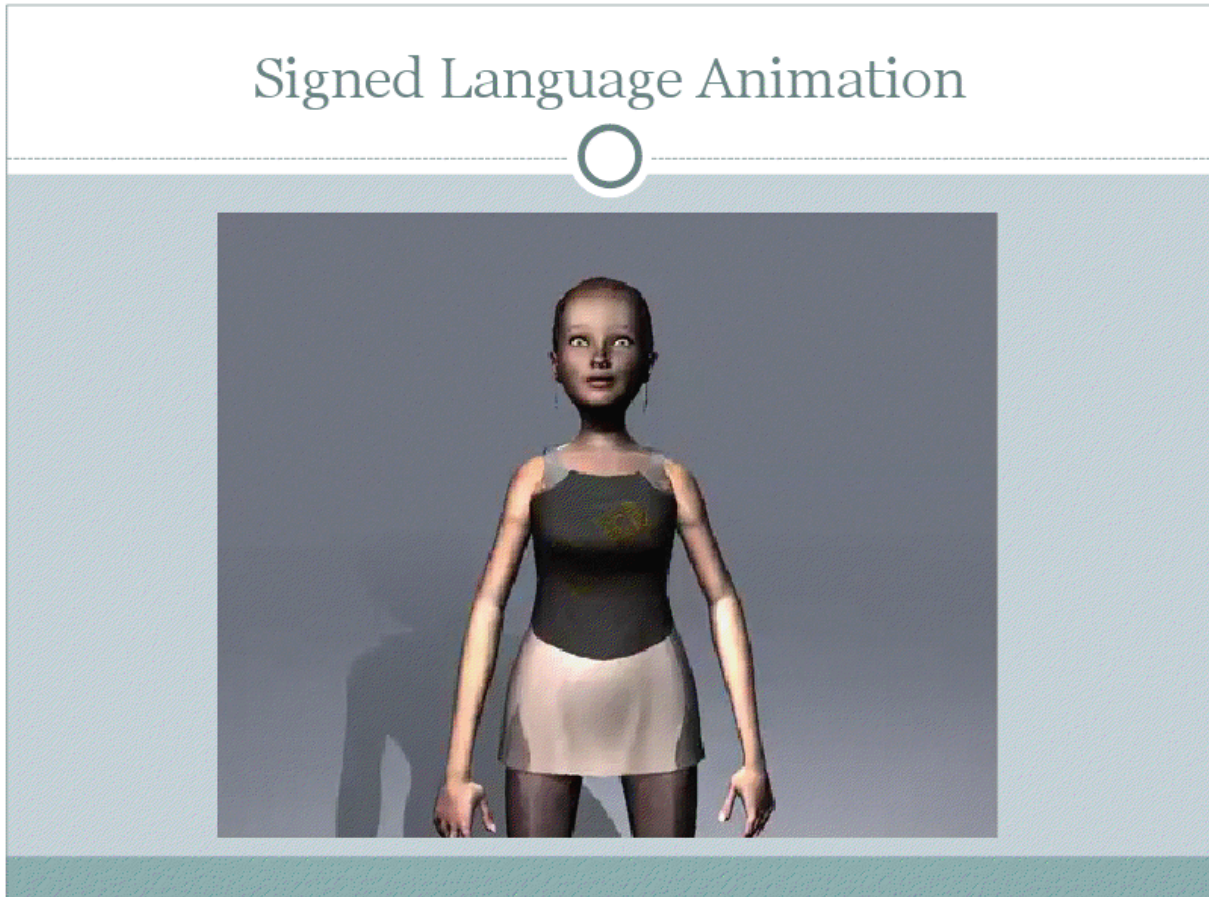
C'est un vidéophone révolutionnaire qui permet aux personnes sourdes et malentendantes de communiquer, directement, sans intermédiaire et en temps réel, avec leurs amis, leurs familles, leurs collègues, depuis n'importe quel lieu.

Le VPAD+ est spécifiquement adapté aux différents modes de communication des personnes sourdes et malentendantes : Langue des signes française (LSF), langage parlé complété (LPC) et écrit.



APPENDIX D

Figure 16: SignCom LSF Virtual Interpreter Avatar



GERMANY VRS

SUMMARY

1. Overview

| | |
|--------------------------------|--|
| Total Population: | 82,110,097 |
| Deaf Population: | 100,000 |
| Hard of Hearing Population: | 260,000 |
| Use Sign as Primary Language: | Not Available |
| No. of Qualified Interpreters: | 460 |
| Official Language: | German |
| Name of Sign Language: | DGS (<i>Deutsche Gebärdensprache</i>) |
| VRS Service Schedule: | 2005-2008 Trial |
| VRS Vendors: | TeleSign, TeSS |
| MRS/VRS Funding Model: | A fund paid into by all telecom service providers pays 95% of the VRS costs for one national relay provider for public consumer use. 5% is paid for by consumers. A different government fund reimburses users for VRS costs paid for by business users. |

2. Findings

This Phase 4 research summary, *VRS Models in Other Countries – Germany*, provides a synopsis of the VRS environment in Germany.

Key Points:

- Germany has an average demand for VRS and interpreter services
- Germany has an average ratio of sign language users to general population
- As a founding member of the EU, Germany's BGG, Behindertengleichstellungsgesetz (Federal Act on Equal Opportunities of Disabled People) and the SGB IX, Sozialgesetzbuch IX (Social Security Code IX) are based on EU Initiatives.
- One provider, TeSS, is required to provide MRS for public use

- Separate funding provides for business use of the VRS
- Germany's national relay provider service costs are currently covered by a telecom fund and minimal user fees
- 95% of the total costs for personal consumer use of TeSS Video Relay are divided among the telecom service providers
- The remaining 5% is paid by the consumers
 - Basic Fee = €220 per month, plus Call Cost = €1 per minute
- VRS business calls are paid for by the business consumer
- Consumers can apply for reimbursements up to €1,023 per month
- Business video relay calls from TeSS or TeleSign can be made Monday through Friday, 8:00 AM to 5:00 PM.
- TeSS relay services are available for personal use 7 days a week, from 8:00 AM to 11:00 PM (TeleSign only processes business calls.)
- TeleSign provides pairs of interpreters for translations in English from 8:30 AM to 12:30 PM on Wednesdays, and from 9:00 AM to 4:00 PM on Fridays.
- Interpreter Education and Outreach programs are in place
 - Germany has more technical information and documentation for users than any other country
- Three universities offer full time interpreter training programs
- Four organizations offer part time interpreter training programs

GERMANY VRS

RESEARCH

1. Demographics

Germany has a total population of 82,110,097. It is the most populous EU member state and has the largest economy in the European Union.¹²⁴

According to the German Deaf Association (*Deutscher Gehörlosen-Bund e.V.*):¹²⁵

- There are 100,000 Deaf in Germany
- There are 260,000 hard of hearing people in Germany
- The number of Deaf people who use German Sign Language (*Deutsche Gebärdensprache* or 'DGS') is unknown
- The need for interpreters cannot be calculated

According to the European Union of the Deaf: "There are no statistics in Germany about the number of Deaf people using sign language as their primary sign language."¹²⁶

2. Legal Background

2.1. Rights of People with Disabilities

Germany developed formal policies regarding people with disabilities as it adopted the UN Convention Ninth Book of the Social Codes (19 June 2001) and the Act on Equal Opportunities for Disabled Persons (27 April 2002). Since then, Germany has often set the standard in the EU, and was the EU's main

¹²⁴ Statistisches Bundesamt Deutschland; German Federal Statistics Office. The reported number is based on statistical extrapolation from the last complete census that was held in 1987. According to the statistics office, this number may be "about 1.3 million too high" as much has happened through European integration since then. The next census is currently being conducted (May 2011) and the real-time results are not available as of the writing of this report.

¹²⁵ As a ratio of deaf to general population, the German environment ranks 5th, in the middle of the pack of our 10 country reports. The actual ratio is .12% deaf and .32% Hard of Hearing.

¹²⁶ www.eud.eu; European Union of the Deaf; Germany; Deutscher Gehörlosen-Bund e.V;

negotiator for key draft articles of the 2006 United Nations Convention on the Rights of Persons with Disabilities. Germany is a prime signatory of this Convention.¹²⁷

Germany adopted the principles of the EU Disability Action Plan. This Plan outlines an overarching set of strategies that began in 2003; it is updated every two years. The Plan is intended to integrate the needs of people with disabilities into the framework of general policies, both new and existing.¹²⁸

The EU has also passed new laws and directives in order to further the principles of equal treatment and anti-discrimination. The European Union Council Directive 2000/78/EC established disability rights and protections against discrimination in employment. The directive states that, “all employers must provide ‘reasonable accommodation’ for people with disabilities;” the workplace must be adapted to accommodate employees with disabilities in the fulfillment of their jobs.¹²⁹

The German *General Equal Treatment Act* (*Allgemeines Gleichbehandlungsgesetz* or ‘AGG’) resulted from the EU Directives. This legislation was passed to protect against discrimination based on: “disability as well as discrimination based on race, gender, religion or belief, age or sexual identity, especially in civil and labour law.”¹³⁰

The German *Federal Act on Equal Opportunities of Disabled People* (*Behindertengleichstellungsgesetz*— or BBG) and the *Social Security Code IX* (*Sozialgesetzbuch IX* or ‘SGB IX’) are also important to the implementation of VRS.

The BGG is a German national State law enacted to improve accessibility for people with disabilities in public and government offices and to German authorities. The SGB is a Social Security Code that works against discrimination based on disability and fosters self-determination and equal participation in the workplace. This is one of the regulations that justify federal funding of VRS for employees.¹³¹ VRS providers in Germany reference Section 102, paragraph 4, regarding the importance of VRS to business users. Paragraph 4 states: “Within the framework of the Integration Office’s scope of responsibility for accompanying aid in vocational life, from the available countervailing charges fund, severely

¹²⁷ Auswärtiges Amt; German Federal Foreign Office; The International Convention on the Rights of Persons with Disabilities; Germany’s Role

¹²⁸ European Commission; Employment, Social Affairs and Inclusion; The EU Disability Action Plan

¹²⁹ European Commission; Employment, Social Affairs and Inclusion; The EU Legislation; European Union Council Directive 2000/78/EC; L303 02.12.2000 pages 16-22

¹³⁰ Deutsches Institut für Menschenrechte (German Institute for Human Rights); Aktiv gegen Diskriminierung (Rights and Opportunities for Participation); Allgemeines Gleichbehandlungsgesetz, AGG; Procedure according to the General Equal Treatment Act **The AGG was passed for implementation of three other EU Equal Treatment Acts in addition to the Council Directive 2000/78/EC; it also included Council Directives 2000/43/EC, 2002/73/EC and 2004/113/EC.

¹³¹ Deutsches Institut für Menschenrechte (German Institute for Human Rights); Aktiv gegen Diskriminierung (Rights and Opportunities for Participation); Sozialgesetzbuch, SGB IX (Social Security Code IX)

handicapped employees are entitled to reimbursement of costs for a work assistant.”¹³² VRS in a business environment is considered a 'work assistant' and therefore qualifies for reimbursement under a separate funding mechanism than from the national fund of the telecommunications service providers.

2.2. Telecommunications Service Obligations

Germany has a national relay contract supported by legislation in the German Disability Act. Through this contract, relay services are awarded to one vendor, TeSS Relay Dienste GmbH (TeSS). This is similar to the Universal Service Obligation that exists in North America, Australia, New Zealand, and other EU countries.

The Telecom Regulator—*Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen* (Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway) awarded the contract for a trial of Text and Video Relay Services to TeSS on 1 January 2005. The trial lasted for four years and ended on 31 December 2008. The service then became permanent. TeSS has been the national relay service provider since 1 January 2009.¹³³

The trial and permanent relay services were organized through a cooperation between the *Deutsche Gesellschaft der Hörgeschädigten – Selbsthilfe und Fachverbände e.V.* (German Society of hearing impaired people, self-help and professional associations) and Deutsche Telecom AG.¹³⁴

2.3. Regulatory Funding of MRS/VRS

VRS funding is provided differently for the two VRS providers: TeSS and TeleSign. However, both providers receive grant funds awarded by the Integration Office for Deaf employees.

The regulatory funding for the use of VRS by the general public¹³⁵ is provided to TeSS through the telecom regulator, from a national fund with contributions from all Telecommunication Service Providers (TSPs). The German regulator (*Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen*) manages the contributions to and distribution of the fund.

- 95% of the total costs for private, personal, consumer use of TeSS VRS is from the TSP fund
- 5% of VRS costs for private use are paid for by the consumers

¹³² Auswärtiges Amt; German Federal Foreign Office; Sozialgesetzbuch, SGB IX (Social Security Code IX); Chapter 6 Implementation of the Special Regulations for Integrating Severely Handicapped Persons; Section 102 Integration Office Duties

¹³³ Mission Consulting Questionnaire response from Tess-Relay-Dienste GmbH, April 5, 2011

¹³⁴ Ibid

¹³⁵ calls made by individuals for personal or private use as opposed to working persons making calls as an employee

According to an executive at TeSS, current funding is based on actual costs: “for the given extent and degree of care (opening times and number of working interpreter’s stations). An expansion of times and the interpreter’s stations would mean a rise in cost. This would have to be regulated by the Bundesnetzagentur.”¹³⁶

The costs for business calls are not paid for by the telecom fund, but are paid for by consumers regardless of VRS provider. Business consumers can apply for reimbursement of costs at their Integration Offices (*Integrationsamt*). The Integration Office decides how much money is allotted to each user based on need as described in the user’s application. This decision is usually limited by a standard budget allotment of up to €1,023 per month. This amount may be increased; however the employer must also support the employee's claim to confirm that the need is real.¹³⁷

TeSS

TeSS recently made a change in its pricing structure to reflect the fact that the rates charged to business users are higher than the rates publicized for private use. Business use is not subsidized and actual costs of providing the service are passed on to businesses that use the service. For business calls, TeSS employs specialized interpreters called “Professional TeSign Interpreters” who have more training and experience and whose services cost more.

TeSS rates for business use are: ¹³⁸

| | |
|---------------------------|---|
| TeSign (VRS): | Basic Fee = €220 per month Call Cost = €1 per minute |
| TeScript (IP/Text Relay): | Basic Fee = €110 per month Call Cost = €0.50 per minute |
| Both TeSign and TeScript: | Basic Fee = €330 per month TeSign Call Cost = €1 per minute TeScript Call Cost = €0.50 per minute |

Individual users must also directly pay some of the costs of TeSS relay services. TeSS rates for private use are: ¹³⁹

¹³⁶ Mission Consulting Questionnaire response from Tess-Relay-Dienste GmbH, April 5, 2011

¹³⁷ Deutsches Institut für Menschenrechte (German Institute for Human Rights); Aktiv gegen Diskriminierung (Rights and Opportunities for Participation); Sozialgesetzbuch, SGB IX (Social Security Code IX)

¹³⁸ TeSS business rates as advertised in May of 2011 and do not include 19% VAT

¹³⁹ TeSS private rates as advertised in May of 2011 and include 19% VAT

In March 2011, TeSS separated the more experienced and higher skilled interpreters into a dedicated service to support business callers. In order to have the business callers reach appropriate interpreters, business and personal customers are routed separately through the call center platform based either on the user's registration number or on the number dialled (in the case of hearing callers).

All business users must register as "professional services" customers and must select whether they want to pay for TeSign (VRS), TeScript (IP relay), or both. Each user is charged for services according to the published business rates. Users who wish to place both business and personal calls must register in separate accounts for each purpose. The government and the VRS provider control inappropriate use by instructing interpreters to refuse business calls made from a private account and vice-versa.¹⁴²

The TeSS Relay hours of operation differ depending on the nature of the call:

- The business service is available Monday – Friday, 8:00 AM – 5:00 PM
- The private service is available seven days a week, 8:00 AM – 11:00 PM¹⁴³

TeleSign

TeleSign provides services only to business users and therefore relies heavily on reimbursement/grant funding provided by the Integration Office. TeleSign only provides VRS; it does not provide any form of text relay. TeleSign provides VRS Monday – Friday, 8:00 AM – 5:00 PM. Interpreters work with both German Sign Language and a form of oral transliteration described as the use of sound-speech related gestures. TeleSign also provides paired interpreter and translator teams for communications in English – Wednesday, 8:30 AM – 12:30 PM and Friday 9:00 AM to 4:00 PM.¹⁴⁴

Additional information about these services was provided by the German Deaf Association (*Deutscher Gehörlosen-Bund e.V.*):¹⁴⁵

- Users wish they had 24-hour service
- Users can currently make multiple calls without having to hang up and reconnect
- Users have a 30 minute time limit after which they must reconnect
- The downloadable software application (MMX) for the relay service is free
- End-user devices for private use can cost €200 – €1000
 - The Integration Office (*Integrationsamt*) can reimburse this expense for business users

¹⁴² Letter to TeSS customers from TeSS Managing Director Sabine Broweleit, March 2011

¹⁴³ Mission Consulting Questionnaire response from Tess-Relay-Dienste GmbH, April 5, 2011

¹⁴⁴ www.Telesign.de; TeleSign website portal; Leistungen (Services) section

¹⁴⁵ Mission Consulting Questionnaire response by Cornelia von Pappenheim and Kathleen Schulze; Deutscher Gehörlosen-Bund e.V.; March 28, 2011

3.2. Current VRS Communication Technologies

Users can connect to VRS in Germany in various ways.

TeSS:

- With a computer with a webcam:
 - The user downloads a free PC MMX software application
 - The user's PC must:
 - Have a webcam
 - Use a Windows operating system¹⁴⁶
 - Have high-speed Internet access of at least 256Kbps upstream
- With a videophone:
 - A standard off-the-shelf SIP-based videophone is compatible
 - Only the ISDN View 100 model is supported for ISDN users¹⁴⁷
- With mobile phone:
 - The service is compatible with UMTS-enabled mobile phones

The TeSS website has a lengthy technical requirements section that explains the technology and provides more information in a detailed FAQ (Frequently Asked Questions) section. Visitors can access this information at the TeSS website: www.tess-relay-dienste.de/. The website contains information regarding accessibility technology, including:

- *Erreichbarkeit* (Accessibility)
- *Technik/Anforderungen* (Technology and Requirements)
 - Five subcategories
 - The first subcategory is *Technik/Handbuch*, a 44 page Technology Manual
- *TeSS-Kundeninfos* (TeSS Customer Information)

¹⁴⁶ The TeSign Video Relay Service using MMX software is NOT compatible with Apple's MAC operating system. An Apple user would need to download additional SIP softphone software such as X-Lite 4 or Bria 3 as referenced in the technical requirements of the TeSS website.

¹⁴⁷ Due to concerns over video quality, TeSS states, "older technology of the ISDN videophone and low bandwidth of an ISDN line. Therefore, TeSS cannot guarantee a successful communication." www.tess-relay-dienste.de; Technik/Anforderungen; TeSS relay website portal; Technology and Requirements section.

- FAQ
- *Forum für Nutzer* (Forum for Users)
 - Includes many technical discussions

The description of firewall requirements is an example of the extent to which this VRS provider educates users regarding technology requirements. For secure networking environments, TeSS provides warnings that firewall settings will need to be configured for access to the service. It also provides detailed specifications regarding these adjustments. (See Appendix A)

TeSS also provides compatibility and access instructions for its TeSign (Text/IP relay) customers:

- A PC with MMX software (provided by TeSS)
- Textphone technology
- A PC with the Apple MAC OS X operating system
 - There may be pressure from the user community to use Apple technology
 - TeSS has gone to great effort to communicate when and how Apple systems can be used with TeSS services

TeleSign

To access TeleSign VRS, users must have one of the following:

- An ISDN-based videophone with DSL connection
- An SIP-based videophone with DSL connection¹⁴⁸
 - Including the VPAD SIP videophone, which can use wireless LAN connectivity
- The minimum required DSL speed is 512 Kbps
- TeleSign VRS cannot be accessed with a PC and an Internet connection

¹⁴⁸ The website Frequently Asked Questions section makes reference to the availability of videophones. This is because Deutsche Telecom AG has stopped production of the T-view videophone and there are currently no more Deutsche Telecom videophones on the market. The answer from TeleSign indicates that foreign-built videophones such as the VPAD and The Theseus will work as well.

Figure 17: SIP-based rexfon 5 as recommended by TeleSign



Figure 18: VPAD as recommended by TeleSign



3.3. Broadband and Connectivity Infrastructure

- In Germany the largest broadband market provider is Deutsche Telecom
 - This company has upgraded its DSL network with ADSL2+ and VDSL in many urban areas
- DSL coverage in Germany is nearly 100% nationwide and up to 90% in rural areas¹⁴⁹
- Cable companies are gaining share with their faster 120Mb/s services. These companies include:
 - Kabel Deutschland
 - United Internet

The availability of high-speed broadband has created additional demand for new bundled services, and the competitive environment has caused pricing to drop dramatically. Demand is evident in increasing broadband penetration numbers:¹⁵⁰

- Broadband penetration in Germany is 30.4%; which is higher than the EU average of 24.8%
- Only 19% of the German population has never used the Internet compared to the EU average of 30%.

Mobile telephony and wireless Internet technologies also continue to gain popularity:

- The number of mobile users in Germany tripled between 2005 and 2007
- 2G/3G technology is now the main voice access technology in Germany
- By the end of 2009, mobile subscriptions reached 108.26 million
 - Mobile penetration was at 132.2%¹⁵¹

According to the European Commission's Digital Competitiveness Report, Germany: "has a very comprehensive eGovernment program, including putting the Internet at the core of public service delivery."¹⁵² In addition, the German government is pursuing an IT Investment Program and in the 2009/2010 Fiscal year set aside a 500 million euro budget to modernize government administration and stimulate investment in the IT Sector. German government initiatives also include national broadband strategies. Goals include the deployment of broadband infrastructure to provide:

¹⁴⁹ European Commission; Europe's Digital Competitiveness Report; Volume 2 SEC (2010) 627; Information Communication Technologies Country Profiles; page 156

¹⁵⁰ Ibid;

¹⁵¹ www.point-topic.com/content; Germany Broadband Overview; Point Topic is an independent company out of the UK. It specializes in worldwide DSL statistics and Broadband industries

¹⁵² European Commission; Europe's Digital Competitiveness Report; Volume 2 SEC (2010) 627; Information Communication Technologies Country Profiles; page 156

- Nationwide availability of 1Mbps
- 75% availability of 50 Mbps by 2014¹⁵³

4. VRS Usage Volumes

TeSS did not provide any statistical information regarding the volume of calls or minutes of use. Similarly, there is no public information readily available from the German regulatory agency.

TeSS did indicate that it had 44 German Sign Language interpreters; and that each interpreter worked an average of 5 hours per work day for VRS usage.

5. Fraudulent Call Volumes and Costs

No examples of fraudulent use were indicated in the news media or in the questionnaire responses.

6. Interpreter Resources and Programs

As in all countries, VRS in Germany is dependent on the quality and availability of sign language interpreters. According to the German Deaf Association (*Deutscher Gehörlosen-Bund e.V.*), German Sign Language interpreters do not have to be members of the Association of Sign Language Interpreters; “Therefore, it is hard to tell how many qualified sign language interpreters there are in Germany. We have estimated approximately 360.”¹⁵⁴ The Federal Association of German Sign Language Interpreters (*Bundesverband der GebardensprachdolmetscherInnen Deutschlands e.V.*) agrees that it is difficult to obtain exact figures on interpreters: “Interpreters are working some part-time, some full-time; we don’t have exact data about the percentages yet.” However, the association states that:

- It believes its 400 interpreter members represents 75% of German sign language interpreters.
- Therefore their estimated total number of German sign language interpreters is approximately 460.¹⁵⁵

¹⁵³ The German Regulator (Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen); Eckpunkte über die regulatorischen Rahmenbedingungen für die Weiterentwicklung moderner Telekommunikationsnetze und die Schaffung einer leistungsfähigen Breitbandinfrastruktur März 2010; Regulatory report titled “Vertices on the Regulatory Framework for the Development of Modern Telecommunication Networks and Developing an Effective Broadband Infrastructure; March 2010

¹⁵⁴ www.eud.eu; European Union of the Deaf; Germany; Deutscher Gehörlosen-Bund e.V.;

¹⁵⁵ Bundesverband der GebardensprachdolmetscherInnen Deutschlands e.V.; Federal Association of German Sign Language Interpreters; Annual Country Report 2008/2009

TeSS employs:

- 44 German Sign Language Interpreters for VRS
- 7 Text Interpreters

All TeSS interpreters:

- Are hired “based on permanent contracts” (not freelance or part-time contracts)
- Have Master’s Certificates
- Sign an Oath of Confidentiality¹⁵⁶

TeleSign interpreters:

- TeleSign does not cite specific degree or certification requirements
- Interpreters are not interns or trainees
- All interpreters are bound by an Oath of Confidentiality¹⁵⁷

There are three full-time training programs in Germany at the following Universities:

- University of Applied Sciences in Magdenburg-Stendal; (Diploma in Sign Language Interpreting)
- University of Applied Sciences in Zwickau ; (Diploma in Sign Language Interpreting)
- University of Hamburg; (BA and MA in Sign Language Interpreting)

University BA programs run for three and a half years, and MA degrees add two more years. Part-time programs for interpreters who already have knowledge and experience with German Sign Language are offered by the following organizations:

- The Institute of Sign Language in North Rhine-Westphalia
- The Institute of the Deaf in Bavaria
- The Institute of Sign Language in Baden-Wuerttemberg
- The University of Applied Sciences in Frankfurt

These part-time training programs take 2 to 3 years to complete and require participants to pass a prerequisite course in Sign Language Competency. Many of the sign language interpreters who take the part-time courses are preparing for the State Interpreter Examination (*Staatliche Prüfung*). The State

¹⁵⁶ Mission Consulting Questionnaire response from Tess-Relay-Dienste GmbH, April 5, 2011

¹⁵⁷ www.Telesign.de; TeleSign website portal; Leistungen (Services) section; FAQ

Examination can be taken in Darmstadt or Nuremberg and, any interpreter who passes receives a “State Approved” Sign Language Interpreter Certification.¹⁵⁸

7. Access to Emergency Services

Germany has adopted the EU 1-1-2 emergency number standard. However, it has not agreed to the ICT Reach 1-1-2 Project; this project is intended to modernize EU emergency calling networks and procedures and incorporate the Total Conversation standard (the ability to communicate simultaneously via voice, text, or video).¹⁵⁹

In Germany, the traditional emergency number for the police was 1-1-0. This number is still listed as the primary emergency number, and both 1-1-0 and 1-1-2 can be used to reach the police. Germans trying to reach emergency medical assistance or fire brigades now usually call 1-1-2.

Accessibility to these services is still quite limited for the Deaf population. The Deaf can connect to an emergency number via FAX (direct TTY access is not listed on Relay provider sites or telecom provider sites such as Deutsche Telecom).¹⁶⁰ Mobile 1-1-2 is available via the GSM network for SMS messages, but will not work if the phone does not have a SIM card.¹⁶¹

Emergency calls are not required in the contract TeSS has with the German regulatory authority (*Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen*) and are therefore not an official relayed service offered to the public. However, TeSS will relay emergency calls during business hours: “thanks to a cooperation between TeSS and the Federal emergency call center in Frankfurt am Main.”¹⁶² As confirmed by the German Deaf Association (*Deutscher Gehörlosen-Bund e.V.*): “It is possible to make emergency calls using the relay services during the offered schedule. Deaf people with other working hours are not able to use the service.”¹⁶³

¹⁵⁸ Bundesverband der GebärdensprachdolmetscherInnen Deutschlands e.V.; Federal Association of German Sign Language Interpreters; Annual Country Report 2008/2009

¹⁵⁹ Reach 112 Project; Information and Communication Technologies (ICT) Policy Support Programme (PSP); Current Status and Availability of Total Conversation Systems, Version 1.0

¹⁶⁰ www.eena.org; EENA website; European Emergency Number Association; Germany

¹⁶¹ A SIM card is a specially programmed microchip that inserts into a compatible Global System for Mobile Communications (GSM) mobile device. The SIM card encrypts transmissions and identifies the user to the mobile network.

¹⁶² Mission Consulting Questionnaire response by Nadine Brohm, Tess-Relay-Dienste GmbH, April 5, 2011

¹⁶³ Mission Consulting Questionnaire response by Cornelia von Pappenheim and Kathleen Schulze; Deutscher Gehörlosen-Bund e.V.; March 28, 2011

8. VRS Education and Outreach Programs

German government offices and the regulatory agency publish information about VRS. Much of this information is intended to educate the public about how to access their services. The government also publishes information on funding business calls through the *Integrationsamt* (Integration) Office. The *Deutsches Institut für Menschenrechte* (German Institute for Human Rights) provides a significant amount of VRS information via a government web portal.

Both VRS providers make information available on their websites. They make it easy for the user to understand the Integration Office program, and they have downloadable sample applications on their sites. TeSS has effective marketing and outreach materials, which it has used in public relations efforts including community presentations about VRS and traditional mainstream advertising channels. (See Appendix B)

The amount of technical education and information available to users on the VRS provider websites is voluminous. The TeSS site in particular is very comprehensive. In one section, users can review or download a seven-page “Terms and Conditions” document that outlines the relationship agreement between the VRS provider and the user. It also offers the availability of experimental services that may become available, but that the provider is under no obligation to make permanent. Software update information and user responsibilities for hardware maintenance are also listed at the TeSS website.¹⁶⁴

TeSS also provides a downloadable Power of Attorney document. This is helpful for users that need to use relay for banking, medical, or other communications in which the retail associate is instructed not to help if contacted by a third party (this problem often arises when a relay interpreter announces he or she is relaying the call for the actual customer).¹⁶⁵

There is a very active Deaf community in Germany that uses websites and social media for connecting, marketing, and keeping current. *Taubenschlag-Das Portal für Gehörlose und Schwerhörige* (the portal for the Deaf and hard of hearing) is a good example. This portal has many sponsors including:

- VRS providers (TeSS)
- The German Deaf Association (*Deutscher Gehörlosen-Bund e.V.*)
- Training schools (Vibelle)

¹⁶⁴ www.tess-relay-dienste.de; Tess-Kundeninfos; TeSS relay website portal; Customer Information section

¹⁶⁵ Ibid

APPENDIX A



[Home](#)

[News](#)

[Customers get customers](#)

[Tess - Relay services](#)

[Application](#)

[Costs](#)

[Accessibility](#)

[Technology and Requirements](#)

[Our interpreters](#)

[Help](#)

[Tess-customer information](#)

[FAQ](#)

[Forum for users](#)

[Development of TESS](#)

[Press](#)

Which router do I need?

Most routers are suitable for Tess. If the router will block the video communication, then the function "SPI and Anti-DoS firewall protection" turned off.

Known problems and solutions:

- T-Sinus 154 DSL Basic
 - Switch off in the advanced settings to select "Turn on SPI and Anti-DoS Firewall"
- Arcor and Vodafone Router
 - In the Advanced Settings / Firewall in "SPI and Anti-DoS firewall protection" Remove marker

For Tess is not suitable:

- Speedport W 303V, Type A (Arcadyan)
- Speedport W 502V, Type A (Arcadyan)
- Speedport W 503V, Type C (Arcadyan)
- Speedport W 504V, Type A (Arcadyan)
- Speedport W 700V (Siemens / Arcadyan)
- Speedport W 720V (Arcadyan)
- Speedport W 722V, Type B (Arcadyan)

Firewall settings

NEW as valid 10.11.2009

! Only for business!

Use the following table, it should be possible to use a corporate firewall to
To configure that use of Tess relay services both through the web client as the
also on the MMX client is possible.

Web Client (Tess is available on site):

| SrcIP | SrcPort | Protocol | DestIP | DestPort |
|-------|---------|----------|---------------|----------|
| own | any | TCP | 79.171.92.199 | 443 |
| own | any | TCP | 79.171.92.199 | 20000 |

MMX Client Video:

| SrcIP | SrcPort | Protocol | DestIP | DestPort |
|-------|---------|----------|----------------|---------------------|
| own | any | TCP | 79.171.92.199 | 80 |
| own | any | TCP | 79.171.92. 202 | 80 |
| own | any | TCP | 79.171.92.199 | 8093 |
| own | any | TCP | 79.171.92.199 | 1098 |
| own | any | TCP | 79.171.92.199 | 1099 |
| own | any | TCP | 79.171.92.199 | 4444 |
| own | any | UDP | any | 25000-25007 RTP-out |
| any | any | UDP | own | 25000-25007 RTP in |

MMX-client text:

| SrcIP | SrcPort | Protocol | DestIP | DestPort |
|-------|---------|----------|----------------|----------|
| own | any | TCP | 79.171.92.199 | 80 |
| own | any | TCP | 79.171.92. 202 | 80 |
| own | any | TCP | 79.171.92.199 | 8093 |
| own | any | TCP | 79.171.92.199 | 1098 |
| own | any | TCP | 79.171.92.199 | 1099 |
| own | any | TCP | 79.171.92.199 | 4444 |

For questions, please send an email to support@tess-relay-dienste.de.

Stand: 20.10.2009

APPENDIX B

Ohne Kommunikationsbarrieren telefonieren!

www.tess-relay-dienste.de

Dein hörgeschädigte Mensch ...

... erreichen über die
Stimme über die
Tess - Relay-Dienste ...

... in
Gebärdensprache ...

... oder Schriftsprache

... klanglose Menschen
am Telefon oder Handy.

Tess - Sign & Script -
RELAY-DIENSTE FÜR HÖRSCHÄDIGTE MENSCHEN GMBH

Höfenerstraße 18 • 34708 Bielefeld
Tel.: +49 (0) 43 31 38 97 - 23 • Fax: +49 (0) 43 31 38 97 - 26
info@tess-relay-dienste.de • www.tess-relay-dienste.de

 **Tess**
Relay-Dienste

NEW ZEALAND VRS

SUMMARY

1. Overview

| | |
|--------------------------------|---|
| Total Population: | 4,404,231 |
| Deaf Population: | 7,700 |
| Hard of Hearing Population: | 200,000 |
| Use Sign as Primary Language: | 28,000 |
| No. of Qualified Interpreters: | 90 |
| Official Languages: | English, Maori, New Zealand Sign Language |
| Name of Sign Language: | New Zealand Sign Language (NZSL) |
| VRS Service Schedule: | 2009 Trial, Nov. 2010 Permanent |
| VRS Vendor: | Sprint New Zealand |
| MRS/VRS Funding Model: | MRS funded by combination of federal subsidy, levy on telecommunications carriers, and limited user fees. (VRS trial funded solely by federal subsidy.) |

2. Findings

This Phase 4 research summary, *VRS Models in Other Countries – New Zealand*, provides a synopsis of the VRS environment in New Zealand.

Key Points:

- New Zealand has a high demand for VRS and interpreter services
- New Zealand has a high ratio of sign language users to general population
- New Zealand has an indigenous native population (Maori)
 - There are almost no trilingual interpreters
 - Most Maori speak English
- Regulatory obligations to provide MRS services are called Kiwi Share Obligations
 - Kiwi Share Obligations are similar to Universal Service Obligations

- MRS services currently receive funding from three sources:¹⁶⁶
 - Government subsidy
 - Levy on current telecommunications carriers
 - Limited user fees
 - Surplus MRS funds are used to pay for VRS
- Current MRS average cost is \$2 million–\$2.5 million NZD per year¹⁶⁷
- The Ministry of Economic Development projects \$5 million per year to extend VRS as a permanent service
- MRS funding includes \$100,000 grant for 20 annual interpreter scholarships
- MRS TTY relay services are offered 24 hours a day, 365 days a year, with limited availability for Speech-to-Speech and VRS.
 - VRS:
 - Monday through Friday: 9:00 AM – 5:00 PM
 - Weekends and public holidays: No service
- VRS availability is further restricted by a maximum of only two video interpreters operating at the same time.
- VRS education and outreach programs are in place
 - Consumer representatives desire improvement in these programs

¹⁶⁶ In New Zealand the relay services are termed Telecommunications Relay Services or TRS. They are referred to herein as MRS except when referring to named laws or in quotes.

¹⁶⁷ One New Zealand Dollar (NZD) equals approximately 0.79 Canadian Dollars. All dollars shown herein are NZD.

NEW ZEALAND VRS

RESEARCH

1. Demographics

1.1. General Population

New Zealand has an estimated population of 4,404,231.¹⁶⁸ Statistics New Zealand (*Tatauranga Aotearoa*) is a government department and New Zealand's national statistical office. It administers the [Statistics Act 1975](#) and is the Government's primary source of official statistics. In the wake of the 22 February Christchurch earthquake, the 8 March [2011 National Census was](#) cancelled, and the Census will not proceed in 2011.

The next [Disability Survey](#) was scheduled to take place soon after the 2011 Census,¹⁶⁹ therefore there are no current statistics on the number of Deaf people in New Zealand. Statistics New Zealand did a 2006 limited survey of people with disabilities resulting in the following extrapolations for the country:

- 7,700 partially or completely deaf adults living in households were using NZSL to communicate
- This is only a fraction of the 200,000 people in New Zealand with hearing impairments
- 6,057 people can communicate in all three of New Zealand's official languages:
 - English
 - Te Reo Maori
 - New Zealand Sign Language

According to Deaf Aotearoa:¹⁷⁰

- Nearly 28,000 New Zealanders use New Zealand Sign Language
 - 0.64% of the population (This is a very high ratio)

¹⁶⁸ www.stats.govt.nz

¹⁶⁹ www.stats.govt.nz

¹⁷⁰ www.deaf.org.nz; Deaf Aotearoa, "About New Zealand Sign Language"

1.2. Maori Deaf Population

Based on the 2006 census, the Maori population in New Zealand is estimated to be 663,900.¹⁷¹ The Maori have their own language, Te Reo Maori, one of the three official languages of New Zealand.

According to the New Zealand Office for Disability Issues, Maori Deaf people constitute a large proportion of the Deaf community in New Zealand; some estimates place this number at approximately 110,000 individuals.

The Maori Deaf are also potentially trilingual and tricultural, requiring access to environments where English, Maori, and NZSL are used. When English is the main language spoken, Maori Deaf people can usually communicate effectively using a New Zealand Sign Language/English interpreter. When Maori is the principal language, a trilingual interpreter who can communicate in English, Maori, and NZSL is needed. There are currently few trilingual interpreters; trilingual interpreters are in demand and must be booked four weeks in advance.¹⁷²

2. Legal Background

2.1. Rights of People with Disabilities

New Zealand passed the Human Rights Act of New Zealand in 1993 making it illegal to discriminate against people on the basis of disability. The Government then passed the Public Health and Disability Act of 2000. This Act was significant because it required the development of a New Zealand Disability Strategy, which was adopted in 2001. This Strategy was: “founded on the social model and aims to create a non-disabling society by progressively removing the barriers to participation which confront impaired people.”¹⁷³

During the same period, the United Nations Convention on the Rights of Persons with Disabilities was gaining momentum. By the time New Zealand became a principal signatory of the UN Convention, no new legislation was required for New Zealand to implement the Convention domestically. Implementing the Convention meant that New Zealand would continue to ensure people with disabilities human rights and fundamental freedoms on an equal basis with others and without discrimination on the basis of impairment.

In April 2006, New Zealand became the first country to declare a sign language (NZSL) an official language.

¹⁷¹ www.stats.govt.nz

¹⁷² Office for Disability Issues; Administered by the New Zealand Ministry of Social Development; “A Guide to working with New Zealand Sign Language Interpreters; Maori Deaf People”

¹⁷³ New Zealand Disability Strategy

2.2. Telecommunications Service Obligations

The original New Zealand telecommunications network was created through decades of public funding; the industry was privatized in 1990. In order for New Zealanders to retain some control over future service availability, the Kiwi Share Obligations (KSOs) agreements were made between the private telecommunications company and the Government. These obligations required the only national telecommunications provider to ensure the availability and affordability of basic services to citizens.

The KSO requirements have continued to evolve over time:

- In 1990 - basic service meant residential telephone voice service
- By 2001 - basic service was expanded to include dial-up Internet calls
- By 2007 - basic service included broadband access¹⁷⁴

The original KSOs became part of the *Local Service Telecommunications Service Obligations Deed* (TSO or TSO Deed), which further enforced these principles of basic service access throughout New Zealand.

The TSO framework has two main components that:

- "enables the supply of certain telecommunications services which would otherwise not be made available commercially; and
- enables levying the telecommunications industry to recover the subsidization cost for supply of TSO services"¹⁷⁵ (including MRS).

The Telecommunications Relay Service (TRS or MRS) was created to meet the telecommunications needs of the Deaf and Deafblind as well as people with hearing and speech impairments. It was established in 2004 as a Telecommunications Service Obligation (TSO) under the Telecommunications Act 2001 to be: "the regulatory mechanism which enables services to be made available to supplement the range of services that are commercially available."¹⁷⁶

Since the TRS TRO Deed was signed in 2004, addendums have been added to update the program. These include:

- Addendum One (May 2005): "incorporated the New Zealand Internet Relay Service as a permanent part of the TRS and formally recognized the role of the TRS in the delivery of emergency text calls."

¹⁷⁴ New Zealand Ministry of Economic Development; Telecommunications Service Obligations

¹⁷⁵ New Zealand Ministry of Economic Development; Telecommunications Service Obligations

¹⁷⁶ Ministry of Economic Development

- Addendum Two (September 2006): “added ‘Speech to Speech’ as a permanent core relay service and required the TRS provider to have chargeable minutes for relay calls independently audited.”
- Addendum Three (October 2007): “extended the duration of the TRS Deed for an additional term of two years and adjusted the per minute charge rates for relay calls made during the additional term.”
- Addendum Four (February 2009): “set out an agreement under which Sprint will conduct a five-month VRS trial for Deaf persons who wish to communicate over the Internet.”¹⁷⁷

2.3. Regulatory Funding of MRS/VRS

The current MRS in New Zealand is provided by Sprint through the New Zealand Relay brand, and the government retains the intellectual property rights. Counties Power, an electrical power company, has been subcontracted by Sprint to provide the relay services from its relay call center in Pukekohe.¹⁷⁸

MRS is available at no charge to users nationwide when calling to landline phones within New Zealand. International calls and calls to cell phones are charged using a pre-pay system, which avoids billing and collection costs. Payments for textphone equipment rentals are made by direct debit for the same reason, and users may be eligible for a fully subsidized textphone if their income is below a certain level.¹⁷⁹

User charges were temporarily suspended due to the Christchurch earthquake. According to the NZ Relay website: “We have temporarily removed chargeable call and registration requirements to offer you immediate access so that you can make calls to check on the wellbeing of family and friends. RAs will complete calls without requesting registration and/or pre-paid card information from callers.”¹⁸⁰

According to the New Zealand Ministry of Economic Development: “the rationale for direct government funding is that disability services are part of wider social services provided by taxpayers for social justice reasons.” However, due to a limited funding budget, these services are also paid for by other contributions. Relay services are funded by a combination of contributions from the government, user charges, and the levy of the telecommunications industry. Industry funding for relay services comes from a Universal Service Obligation levy. According to the Ministry: “The clear advantage of relay services funded via this mechanism is that many countries, including New Zealand in the form of the TSO, already have such a mechanism in place to fund basic telecommunications services that governments see as socially important.” The Ministry states that some degree of user funding is likely to

¹⁷⁷ New Zealand Telecommunications Relay Service: Regulatory

¹⁷⁸ www.countiespower.com

¹⁷⁹ Ministry of Economic Development; Funding the TRS and associated services, 11/09 update

¹⁸⁰ www.nzrelay.co.nz

continue to be a part of the funding for MRS/VRS in New Zealand in order to offset the high cost of new technology, the difference in the benefits to users, and the variable nature of individual call costs.¹⁸¹

The government contributes approximately \$1.5 million annually to fund MRS, including:

- Contract administration – \$50,000
- The textphone pool – \$600,000 (for equipment and related services)
- Grants for sign language scholarships – \$100,000¹⁸²

The MRS costs covered by the yearly TSO charge levied on liable telecommunications service providers are paid to the TSO MRS provider (currently Sprint). Yearly payments to the MRS provider are as follows:

| | | |
|-----------------------------|---|----------------------------|
| 15 Nov 2004 to 30 June 2005 | = | \$1,825,117 |
| 1 July 2005 to 30 June 2006 | = | \$2,735,745 |
| 1 July 2006 to 30 June 2007 | = | \$2,516,323 |
| 1 July 2007 to 30 June 2008 | = | \$2,057,086 |
| 1 July 2008 to 30 June 2009 | = | \$2,175,986 |
| 1 July 2009 to 30 June 2010 | = | \$2,295,074 ¹⁸³ |

The formula used to determine the total TSO charge paid to the provider is calculated as the sum of an annual fixed charge and an annual variable charge.¹⁸⁴ The TRS TRO Deed also prescribes a schedule used by the Commission to calculate the annual variable rate charge based on actual call volumes.

VRS cost funding is similar to the funding for all other MRS costs. VRS is currently provided as a permanent service, but at the same limited level of access as when it was a limited trial. The costs of providing a permanent VRS service at a level appropriate to a universal service function would result in higher annual VRS costs and would require additional funding. However, the increased cost of permanent VRS should be partially offset by a decline in usage and costs of traditional MRS. Sprint's 2009 agreement to provide a 5 month service trial of the VRS service cost a little over \$600,000. The Ministry of Economic Development projected increases in TSO charges for MRS services to \$5 million per year if VRS were provided at a universal service level.¹⁸⁵

¹⁸¹ Ministry of Economic Development; Funding the TRS and associated services, 11/09 update

¹⁸² *ibid*

¹⁸³ New Zealand Commerce Commission; Final Cost Calculation Determination for TSO Instrument for Telecommunications Relay Services

¹⁸⁴ Schedule 2 of the Deed

¹⁸⁵ Ministry of Economic Development; Funding the TRS and associated services, 11/09 update

The original launch of the trial began on 2 June 2009 and ran for five months ending on 2 November 2009. The trial was considered a reasonable success and the Government extended trial funding for an additional year, to November 2010. On 9 August 2010, the Cabinet decreed that VRS would become a permanent service offered by the MRS TSO. Since funding for VRS under the TSO decree has not yet been established, a levy has not yet been imposed on telecommunications carriers (the traditional MRS funding method), the Government is supplying the entire annual contribution for VRS; however, funding of VRS is limited to the surplus in current funding for all MRS.¹⁸⁶

3. Relay Services in New Zealand

3.1. Types of User Services Provided

The NRS provides a relay service for TTY and IP Relay users 24 hours a day, 365 days a year:

- Users can make as many calls as they wish
- There is no limit on the length of calls
- There is no limit on the number of follow-on calls

Only VRS and Speech to Speech are *not* offered 24 hours a day.

- Speech to Speech hours:
 - Weekdays: 7:30 AM – 9:00 PM
 - Saturday: 9:00 AM – 5:00 PM
 - Sunday: No service
- VRS hours:
 - Monday through Friday: 9:00 AM – 5:00 PM
 - No service weekends or national public holidays¹⁸⁷

Although VRS became a permanent MRS service offering in November 2010, the hours are still restricted to weekday use only.

New Zealand Relay provides the following services:

- Text to Speech

¹⁸⁶ New Zealand Relay; www.reachnzrelay.co.nz

¹⁸⁷ www.nzrelay.co.nz

- Speech to Text
- HCO
- VCO
- VCO to VCO
- VCO to TTY
- Speech to Speech
- IP Relay (currently used by half of New Zealand MRS users)
- VRS
- VRS Sign Carry Over (enables a VRS user to participate in three-party conference calling via a conference bridge)

The New Zealand Telecommunications Relay Service (TRS) conducted a stakeholder review in 2006 of approximately 1,000 Deaf users. The review showed that the relay service in New Zealand compared well to equivalent services in other countries for service adequacy and quality; the relay service had an 85% satisfaction rating.¹⁸⁸ In addition to showing strong support for the continuation of traditional MRS services, the review recommended that VRS development should be made a priority.¹⁸⁹

3.2. Current VRS Communication Technologies

Users have various options for connecting to VRS:

- Access VRS via computer
 - Requirements:
 - Computer software application from New Zealand Relay
 - 1GB RAM – Minimum memory requirement
 - 64 MB video RAM – Minimum memory requirement
 - 2.4 GHz P4 – Minimum processing speed
 - Webcam with 800 X 600 display resolution
 - DSL, Fiber-optics, or wireless Internet
- Access via video phone

¹⁸⁸ Ministry of Economic Development; Telecommunications Relay Service Stakeholder Review

¹⁸⁹ *ibid*

- D-Link DVC-1000
- Polycomm
- Grandstream
- Other brands are listed at the website¹⁹⁰

The call center platform within the Counties Power facility is a proprietary, custom software platform that uses commercially-available HP Proliant servers for the communications gatekeeper and reporting functions. The user software (supplied by New Zealand Relay) allows two-way calling between users that are both on-line and registered in the closed user group.¹⁹¹

The user community primarily employs videophones or computers to access the service. The option of cell phone access increases mobility, but only recently became available. A Canadian company, CounterPath, offers software (X-Lite) for softphone applications. This software enables users to make point to point calls, but the interoperability of different equipment is still an issue that requires “goodwill and intent of the involved partners.” When asked if they would have wanted anything done differently, a New Zealand consumer group had some negative comments about the NZ Relay software application, stating that it was not “user friendly” and that they would have preferred to “use computer programmes that are readily available and readily accessible. In particular, look at what programmes Deaf people are already using, i.e. Skype.”¹⁹² Note however that New Zealand Relay VRS is now able to provide access to users via a Skype application.¹⁹³

Although calls *to* cellular users via VRS are available for an additional fee using a calling card, there was no VRS availability *from* a cellular phone. NZ Relay has announced that they are in the process of building a platform that will support most H.323 and SIP standards. Demand for such a service is likely to be high, since, as of 2008, the usage of cellular telephones had already reached a saturation point of 106 percent.¹⁹⁴ Counties Power has recently stated that calls are currently available *from* cellular telephones. The ability to offer this service has been expected from all providers bidding on the TSO MRS contract for continuation of VRS services.

3.3. Broadband and Connectivity Infrastructure

According to the Organization for Economic Development and Cooperation (OECD), New Zealand has been steadily increasing its number of broadband subscribers. In the OECD 2008 Annual Report:

¹⁹⁰ www.nzrelay.co.nz; NZ VRS Trial Participants Application Form

¹⁹¹ New Zealand Ministry of Economic Development; Telecommunications Service Obligations; Addendum Four of the TSO Deed For Telecommunications Relay Services, Technology, page 862554 - 9

¹⁹² Mission Consulting New Zealand VRS Consumer Group Questionnaire March 2011 from Deaf Aotearoa.

¹⁹³ Updated information as of 11/15/2011.

¹⁹⁴ Telecommunications Act 2001: Schedule 3 Investigation Into Regulation of Mobile termination, page 14

- New Zealand ranked 19th out of 30 with 20.4% broadband penetration
 - Canada ranked 10th with 27.9% broadband penetration
 - The U.S. ranked 15th with 25% penetration.¹⁹⁵
- In 2009 New Zealand ranked 18th with 23.2% penetration
- In 2010 New Zealand ranked 17th with 24.5% penetration¹⁹⁶

OECD also measures and ranks countries based on restrictions placed on consumer data plans. New Zealand was rated poorly, since: “All New Zealand ISP's put limits on the amount of data that can be downloaded on a monthly plan, with punitive charges or a slow-down to dial-up speed applying to those who bust their cap.” According to the OECD, the three other member countries that have data caps or limits are: Australia, Belgium, and Canada.¹⁹⁷

New Zealand's data market is dominated by DSL service. The New Zealand government has acknowledged that it would like to make fibre-optic available to households, provide higher usage with faster download speeds, and have fewer data caps and limits on plans. In 2009, the Government issued a directive to provide fibre broadband to 75% of inhabitants in 10 years' time. Agreements were made with Ultra-fast Broadband Limited, Northpower Limited, Telecom New Zealand, and Enable Networks for the government's Ultra-Fast Broadband (UFB) Initiative with the goal of speeds of 100 Mbps. The UFB is complemented by the Rural Broadband Initiative (RBI), which is deploying faster Broadband to rural areas.

A total of almost \$250 million investment capital is being dedicated to ultrafast broadband infrastructure in FY 2010/2011. Last year's budget also included an extra \$48 Million for "Broadband Investment-Rural Supply." The government is also anticipating reduced end-user costs as a result of the broadband initiatives and predicts that: “Wholesale household prices will start at \$40 or less per month for an entry level product and \$60 per month for the 100 Megabit product.”¹⁹⁸

4. VRS Usage Volumes

The New Zealand TRS (Telecommunications Relay Service) conducted a review in 2006 that included a survey of usage trends. In this report, Deaf representatives of the New Zealand Advisory Group

¹⁹⁵ www.nbr.co.nz; OECD data published in the New Zealand National Business Review; “NZ leaps up the OECD table”; 10/30/2008

¹⁹⁶ www.computerworld.co.nz/news; OECD data published in Computerworld New Zealand; NZ beats Australia in OECD broadband rankings; May 28, 2011

¹⁹⁷ www.nbr.co.nz; OECD data published in the New Zealand National Business Review; “NZ leaps up the OECD table”; 10/30/2008

¹⁹⁸ www.beehive.govt.nz; The official website of the New Zealand Government; Steven Joyce; “Ultra Fast Broadband deal puts NZ ahead of the pack; May 24th 2011

indicated that only 10% of Deaf people use traditional MRS because many Deaf people are too uncomfortable with their English literacy to use text-based relay services. This was further confirmed by 2008 data indicating that only 1,000 Deaf individuals actively use the relay services; approximately 50% use a TTY and 50% use IP Relay.¹⁹⁹ VRS usage is expected to be adopted at a significantly higher rate since it is based on Sign Language and not written English.

The VRS trial was open to all Deaf individuals. There were approximately 60 users in the first month and 100 in the second month.²⁰⁰ New Zealand Relay indicated that this was a low number compared to the number of potential users, and NZ Relay proposed various explanations for the low number:

- Relatively high degree of computer literacy is required for VRS
- Lack of knowledge about the trial among potential users
- Computer-literate users probably already use services such as: e-mail, Skype, and texting
- Not all potential users own computers and cameras
 - Those without the equipment needed might not want to purchase it for a temporary, trial program that may never be made permanent
- Potential users may not be aware of or willing to use VRS at a Deaf Association Center or local library

Due to the fact that the current MRS/VRS contract is currently undergoing the final stages of a new bidding and procurement cycle, NZ Relay was prohibited from sharing more recent details and updates regarding usage volumes and trends. The VRS volumes that were made public in the December 2009 edition of New Zealand Relay's E-newsletter cannot have exceeded the current call center capacity. NZ Relay has two active VRS stations that operate 4 hours daily; the actual VRS traffic volume at that time was averaging approximately 150 calls/month and 3,500 minutes of use.

NZ Relay was able to share some key points from the VRS trial that have an ongoing implication for the permanent service:

"There is a real demand for the Video Relay Service; some users have told us it is life changing."

"Many members of the Deaf community cannot readily afford the quality of Broadband connection required for the Video Relay Service; of course New Zealand government's fiber optic rollout plans may assist here."

¹⁹⁹ New Zealand Relay; number was derived from known rentals of textphones and the proportion of textphone to Internet relay minutes of use.

²⁰⁰ New Zealand Relay; refers to numbers of registered VRS users and does not take into account multiple-user households.

“The present very small call center doesn’t allow for smoothing of call patterns, meaning waiting times are unduly long.”

“The present restricted hours (3 mornings and 2 afternoons a week) can be frustrating for users.”²⁰¹

The current TSO TRS renewal contract has been delayed due to the Christchurch earthquake in February. Tenders have been delayed and information regarding the award had not yet been announced at the time this research summary was delivered.

The existing VRS Provider, Counties Power, is continuing to provide services under an additional extension of Addendum 4 of the TSO TRS until 30 June 2011. On this date, the new service contract is presently scheduled to take effect. The new contract will increase the hours of availability for VRS to "up to 40 hours a week." Some budgets will be rewritten as a result of the earthquake, and this may constrain the availability of the funds for VRS, regardless of demand. However, the current TSO verbiage requests that, “Proponents shall offer variable charges that are based on the number of Vis on duty up to the point that busy hour traffic can be determined and Vis rostered accordingly to provide the most cost effective service. This model may be used to the point that 5 Vis and 1 Supervisor are required.”²⁰²

5. Fraudulent Call Volumes and Costs

No examples of fraudulent use were indicated in the news media or in the questionnaire responses.

6. Interpreter Resources and Programs

VRS in New Zealand is affected by a shortage of NZSL interpreters able work as a video relay operators or video interpreters (VI). For the VRS trial, the Ministry of Economic Development only required limited staffing levels that were not adjusted during the 18 months of the trial. This service has now been made permanent, but no adjustments were made to the staffing levels: “Two workstations will be permanently manned during the hours of availability (4 hours daily during weekdays only). One lead VI (Video Interpreter) will be available for support. The TRS Provider will recruit VIs using a contestable process that must first be agreed with the Crown.”²⁰³

²⁰¹ New Zealand VRS subcontractor and provider of relay services for Sprint in New Zealand; Counties Power 2011

²⁰² Ministry of Economic Development; Request for Proposal for Telecommunications Relay Services, 1054314 W01/5022 12 RevG Section 9.2 “Video Relay Service (Committed Service), 9.2.2. Annual Variable Charge, p. 47

²⁰³ New Zealand Ministry of Economic Development; Telecommunications Service Obligations; Addendum Four of the TSO Deed For Telecommunications Relay Services, Staffing, page 862554 - 9

The limitation of available VRS staffing is confirmed by the MRS provider's staffing data for all of MRS. For 24 hour service, the total MRS staff (including VRS) for all of New Zealand is 24 relay assistants.²⁰⁴ Furthermore, the national interpreter association for New Zealand lists only 90 interpreters available for NZSL. This shortage is a challenge to the long term provision of VRS in New Zealand.²⁰⁵

As a partial solution to this issue, the Ministry of Economic Development has added scholarships to the TSO spending budgets to fund interpreter training. The scholarships are specific to NZSL interpreter education and are intended to attract candidates to the Relay Interpreting industry. This budget allocation is intended to increase the number of qualified VRS interpreters while preventing any corresponding decrease in the number of NZSL interpreters available for community interpreting services.

According to the Ministry of Economic Development (MED): "The government approved the establishment of twenty scholarships per year (of \$5,000 each and a pool of \$100,000) to grow the pool of interpreters. Scholarships are awarded to qualifying students studying towards the Diploma in Sign Language Interpreting at the Auckland University of Technology (AUT). A funding agreement is in place between the M.E.D. and the AUT with scholarships available from the 2008 academic year through 2012. The scholarships are funded out of a surplus in the textphone monetary budget."²⁰⁶

The Auckland University of Technology gives some additional details and updates in its current Spring 2011 Semester Catalogue:

- The actual amount awarded is \$5,625 (including GST)
 - \$3,750 of this will be paid when the scholarship is awarded
 - The remainder will be paid upon successful completion of the Diploma in Sign Language Interpreting
- The scholarship can only be awarded once to any individual
- The Diploma requires two years of study
- Applicants must demonstrate an appropriate level of NZSL competency
- Recipients must indicate willingness to make reasonable efforts to be employed at the VRS Center for a reasonable period of time following graduation from the SLI Diploma or the BA Major program

²⁰⁴ Counties Power Interview with Mission Consulting March, 2011

²⁰⁵ www.SLIANZ.org.nz

²⁰⁶ Ministry of Economic Development; Funding the TRS and associated services, 11/09 update

- Recipients will agree to allow AUT to deliver progress reports to the Ministry Of Economic Development²⁰⁷

Even with this grant, staffing for efficient VRS service remains inadequate. The user community often cited the limited service availability schedule, caused by a lack of interpreters, as the biggest problem with VRS in New Zealand. Questionnaire responses from Deaf Aotearoa executives included: “The interpreters are good, but it is difficult to access the service due to the limited hours.... Having good skilled interpreters is really important and works well. The limited time slots are restrictive.” Although consumer representatives understand the restriction, they are not willing to give up quality. “Both are critical, however quality has the edge over availability as the interpreter needs to be able to work with a wide range of community members from all over New Zealand.”²⁰⁸

6.1. Trilingual Interpreters

The native Maori population creates an additional consideration when it comes to staffing current and future Relay Services. The large number of Te Reo speakers suggests that the need for trilingual interpreters might be significant. However, most Te Reo speakers in New Zealand can also speak English.

Tania Simon, a movie director in New Zealand, created a documentary about the experiences of the Maori Deaf, *He Maori He Turi: Maori and Deaf – A Journey of Rediscovery*. She describes herself as one of only two trilingual sign language interpreters in New Zealand.²⁰⁹ This statistic was verified in a March 2011 interview with the current VRS provider, Counties Power.

Due to the insufficient number of trilingual interpreters and the fact that most Maori can also speak English, there was no VRS for the Maori Deaf under the current MRS TSO. The 2006 TRS Stakeholder Review concluded that, “Consequently the demand for a relay service in Maori language is expected to be low. Overall, relay in Maori and other languages does not appear to be justified at this time compared with other potential service enhancements. However, further work is required to assess the desirability for introducing such a service in the future.”²¹⁰

7. Access to Emergency Services

New Zealand Relay has limitations on the ability to connect and communicate with local emergency services. MRS has only been available in New Zealand since 2004, and the Deaf rely on FAX and TTY

²⁰⁷ Auckland University of Technology; Applied Humanities; Undergraduate Catalog March 2011; NZSL Scholarship

²⁰⁸ Mission Consulting New Zealand VRS Consumer Group Questionnaire March 2011 received from Deaf Aotearoa.

²⁰⁹ www.throng.co.nz; TVdocumentary; Maori television June 17, 2009

²¹⁰ Ministry of Economic Development 2006 Telecommunications Relay Service Stakeholder Review, Section 3 Relay in Maori Language

Deaf Emergency numbers for emergency access. Although there are Important Alert messages on the main New Zealand Relay websites regarding Emergency Services limitations and instructions, they are difficult to find via the VRS portal. The limitations and instructions are the same for VRS and MRS.

In November 2010, the New Zealand Police, in cooperation with Deaf Aotearoa, the New Zealand Fire Service, St. John, and Wellington Free Ambulance announced a new emergency 1-1-1 text service for the Deaf and hard of hearing in New Zealand. Registration through Deaf Aotearoa is required to use the service. The new service should make it easier for the Deaf to contact emergency police, fire, and medical services. The aim is for a 2-minute response time to texts.²¹¹

8. VRS Education and Outreach Programs

As part of the MRS TSO contract, Sprint agreed to implement the TRS Account Management style of outreach that it has used in the United States. As part of this approach, Sprint hired a member of the local New Zealand Deaf or hard of hearing community to provide outreach and education. This New Zealand Account Manager will locate and hire New Zealanders from each of New Zealand's regions to work directly with people from each local community.

The TSO contract also requires Sprint to provide an annual budget for new service education. Under the terms of the contract, the MRS Provider will arrange for its outreach team to host community meetings across New Zealand in order to educate users and potential users about the trial and will transition to one-on-one support as required to help with video equipment, service issues, and questions. The contract also declares that the MRS Provider's outreach team will also educate users and potential users on:

- "What to expect when using VRS"
- "How to access the service"
- "Technical instructions"
- "Appropriate etiquette for VTS"²¹²

The MRS Provider is also required to host events and create and distribute materials for VRS Trial users. These materials will include:

- "Introduction to VRS"
- "Etiquette"

²¹¹ Ministry of Economic Development; Deaf Community Gets 111 Text Service; www.med.govt.nz

And Deaf Aotearoa; 111 TXT Service Pre-Registration; www.deaf.org.nz

²¹² New Zealand Ministry of Economic Development; Telecommunications Service Obligations; Addendum Four of the TSO Deed For Telecommunications Relay Services, Outreach and Education, page 862554 - 10

- “How to use VRS”
- “Products required”
- “VRS technical support”²¹³

Currently, New Zealand Relay promotes awareness through various outreach activities. Many of these activities are run by New Zealand Relay Service itself. These promotions include:

- Updates on the NZ Relay website pages: www.nzrelay.co.nz
- A VRS E-Newsletter
- News and information published through other associations
 - Such as the December 2010 announcement on the Auckland Deaf Society webpage that: "NZ Relay’s VRS is Now Permanent"²¹⁴
- VRS Demo Days
 - These were hosted last year in various cities throughout New Zealand (See Appendix B)

There is a close and symbiotic relationship between New Zealand VRS and Deaf Aotearoa. Deaf Aotearoa is a Deaf-led, non-profit organization that promotes awareness of, access to, and advancement of NZSL. Deaf Aotearoa Chief Executive Rachel Noble spoke positively of the benefits of VRS for breaking down communication barriers for Deaf New Zealanders. She promotes technological advancement as part of her work and is grateful that the government made this service possible.²¹⁵ “Deaf Aotearoa also works with government agencies and other organizations to provide information and resources on life for Deaf New Zealanders, the Deaf community and NZSL.”²¹⁶ One of Deaf Aotearoa's events is the organization and production of New Zealand’s annual Sign Language Week. This year’s event was held in May 2011 and included promotion of VRS.

The questionnaire response from Deaf Aotearoa indicates a strong desire to improve upon current outreach and educational activities. It stated that, “It is important to have an effective programme in place to model the use of VRS to prospective users, as many are shy and lack confidence around the use of technology. In addition, there have been challenges when people want ‘proof’ that the caller is present (banks, government departments), not wanting to accept the call through an interpreter.”²¹⁷

²¹³ Ibid, page 862554-11

²¹⁴ www.auckland-deaf.org.nz

²¹⁵ Deaf Aotearoa, Rachel Noble, 2011

²¹⁶ www.deaf.org.nz

²¹⁷ Mission Consulting New Zealand VRS Consumer Group Questionnaire March 2011 received from Deaf Aotearoa.

SWEDEN VRS

SUMMARY

1. Overview

| | |
|--------------------------------|---|
| Total Population: | 9,415,570 |
| Deaf Population: | 13,000 |
| Hard of Hearing Population: | 530,000 |
| Use Sign as Primary Language: | 30,000 |
| No. of Qualified Interpreters: | 450 |
| Official Languages: | Swedish |
| Name of Sign Language: | SSL (Svenskt Teckenspråk) |
| VRS Service Schedule: | 1997 |
| VRS Vendor: | Bildtelefoni |
| MRS/VRS Funding Model: | MRS and VRS are fully funded by the federal government through general taxation revenue |

2. Findings

This Phase 4 research summary, *VRS Models in Other Countries – Sweden*, provides a synopsis of the VRS environment in Sweden.

Key Points:

- ❑ Sweden established the world's first publicly regulated VRS
- ❑ Sweden has a high demand for VRS and interpreter services
- ❑ Sweden has a high ratio of sign language users to general population
- ❑ Although Sweden has a relatively high ratio of interpreters to the number of sign language users, it still has constraints on service availability due to a limited interpreter pool
- ❑ Sweden has been at the forefront of VRS development and deployment in terms of technology and deployment history
- ❑ Regulatory obligations to provide MRS services are based on “a right to services”, rather than on avoiding discrimination as in some countries.
- ❑ MRS and VRS services are currently fully funded by the government from general tax revenue.

- In Sweden, the County Councils, labour authorities, and social insurance system procure video telephones and provide them free of charge for people who need them.
- The National Post and Telecom Agency allocates funds for services based on tiered annual usage:
 - A basic allocation of €934,566 EUR for the first 60,000 relayed calls.²¹⁸
 - €11.84 – 13.97 per call for 60,001 – 100,000 relayed calls
 - €10.49 per call over 100,000 calls
- In 2007, annual traffic volume was approximately 100,000 calls
- Preliminary figures for 2011 indicate 100,000 calls placed between January and June
- VRS is available weekdays, 7:00 AM –10:00 PM and weekends and holidays, 9:00 AM –5:00 PM
- Education and outreach programs are in place
 - These programs are insufficient to satisfy demand
- The Sweden interpreter training program currently takes approximately four years to complete
- Sign language is taught in some Universities, including Malmö and Stockholm
- Sign language is also taught at adult education centers (also known as Folk schools) around the country

²¹⁸ One Euro equals approximately 1.4 Canadian dollars.

SWEDEN VRS

RESEARCH

1. Demographics

- Total population: approximately 9,415,570²¹⁹
- 13,000 Deaf
- 530,000 hard of hearing people²²⁰
- Nearly 30,000 people use Swedish Sign Language (SSL—*Svenskt Teckenspråk*) as their primary language for communication²²¹
- There is a high ratio (0.32%) of sign language users compared to the general population
 - A five-fold increase over estimates for the U.S. ratio of 0.06%

2. Legal Background

2.1. Rights of People with Disabilities

The Act concerning Support and Service for Persons with Certain Functional Impairments (LSS), was introduced by the *Riksdag* (Swedish Parliament) in the 1990s. An important feature of this wide-ranging reform program was that it gave people with disabilities the right to personal assistance free of charge. The amount of assistance received depends on the extent of the disability.²²²

One of the goals of Swedish disability policy has been to ensure that people with disabilities have power and influence over their everyday lives. In pursuit of this goal, the focus has shifted from social issues and welfare matters to democracy and human rights.

Unlike in the US, where sign language interpreter services are an obligation stemming from a ban against discrimination, in Sweden each Deaf person has an individual right to sign language interpreter

²¹⁹ Statistics Sweden; www.scb.se

²²⁰ Swedish National Association for the Deaf (Sveriges Dövas Riksförbund)

²²¹ European Union of the Deaf 2011

²²² www.sweden.se

services. The right to request interpreter services, and the obligation to provide such services is included in several regulations:

“Deaf, deaf-blind and hearing impaired people are entitled to request an interpreter from the regional authorities for ‘everyday’ tasks (private situations that do not involve any public authorities, for example family events or encounters with private businesses), pursuant to the Health and Medical Service Act. However, public entities are obliged to provide interpreters when they encounter Deaf, deaf-blind or hearing impaired clients or customers. However, it is not always clear which authority is responsible to pay for the interpreters, and the government has requested a clarification of the sign language interpreting services.”²²³

2.2. Regulatory Framework to Provide Relay Service (including VRS)

The National Post and Telecom Agency (*Post – och Telestyrelsen* or PTS) is the authority that monitors and administers the electronic communications and postal sectors in Sweden. In accordance with governmental regulations, it is the responsibility of PTS to ensure, through procurement, that the special needs of people with disabilities are satisfied. The Government grants an annual allowance for this purpose to PTS. The Swedish model continues to be to procure services with funding from general taxation revenue rather than to put obligations on the telecommunications service providers.

According to the 2003 Electronic Communications Act:

“The National Post and Telecom Agency should have official responsibility under the Electronic Communications Act and be the sectoral authority for the electronic communications area. The National Post and telecom Agency should therefore be responsible for defining the relevant markets, analyzing the competition on these markets, identifying players with SMP (Significant Market Power) on a market and deciding on specific obligations for such players. The National Post and Telecom Agency shall cooperate with and ask the Swedish Competition Authority for its comments regarding competition-related issues. The Swedish Consumer Agency should be responsible for consumer issues within the field of electronic communications, to the extent that such issues are not regulated in the Electronic Communications Act.”²²⁴

These regulations encourage access to new and efficient communications services for all, and through the administration of the Electronics Communications Acts, the Swedish National Post and Telecom Agency made relay service for video telephony available in Sweden in 1997, years before any other European country. Sweden established its video interpreting service a few months before a similar

²²³ Swedish Institute of Assistive Technology; “Provision of Videophones and Video Interpreting for the Deaf and Hard of Hearing”, p. 16

²²⁴ Swedish Ministry of Industry, Employment and Communications; Electronic Communications Act of 2003 pp. 23-24

service was established in Texas, USA; Sweden had the world's first publicly regulated VI service.²²⁵ During the first years of the program, the service was only offered to sign language users via the ISDN Network. Since the ISDN Network was not widespread, the number of users was limited.

There are regional differences in the provision of services. In some regions, there is only one interpreter service agency, while in others there may be many providers allowing for competition. As in other countries, there is a shortage of sign language interpreters. Regardless of regional differences and regulatory rights, users frequently find that there are no sign language interpreters available.

The *Post-och telestyrelsen* (National Post and Telecom Agency) allocates contributions as follows:²²⁶

- Basic contribution of SEK 8,650,200 (€934,566) every year for the first 60,000 relayed calls
- If the number of calls exceeds 60,000 a tier system applies
 - SEK 109.65 – 129.38 (€11.84 – 13.97) / call for 60,001 – 100,000 relayed calls
 - SEK 97.10 (€10.49) / call if more than 100,000 calls are relayed annually

3. Relay Services in Sweden

3.1. Types of User Services Provided

There are three relay services available in Sweden: text, sign and speech-to-speech.

- The text relay service provides traditional text relay (V.21 with VCO and HCO), web based text relay, fax relay, and a limited SMS relay. A number of operators offer V.21 gateways, which allow IP based and mobile packet based terminals to connect to text telephones and to the text relay service.²²⁷
- A sign relay service for video telephony (VRS) is provided by Bildtelesoni under contract to the Örebro County Council. The service provides video relay for SIP videophones, web clients, H.323 videophones, ISDN/H.320, and 3G video calls. A message based text communication is available during the relay calls.

²²⁵ Swedish Institute of Assistive Technology; "Provision of Videophones and Video Interpreting for the Deaf and Hard of Hearing", p. 9

²²⁶ Swedish Institute of Assistive Technology ; "Provision of Videophones and Video Interpreting for the Deaf and Hard of Hearing", p. 35

²²⁷ ETSI TR 102974 V1.1.1.1 Sec. 5.29

- A speech-to-speech relay service, Teletal, is provided by Verbaldigitalius. The service provides speech-to-speech relay for people with speech impairments and general support during the conversation for people with cognitive impairments. Summaries of conversations are available for people that cannot take notes because of their disabilities.²²⁸

3.2. End User equipment

In Sweden, the County Councils, labour authorities, and social insurance system procure video telephones and provide them free of charge for people that need them. The Government requires that relay services be interoperable with all of the products and services offered by these authorities; and relay services may also be interoperable with other types of terminals.²²⁹

Deaf users contact County Councils' centers for assistive technology or local employment offices to receive equipment based on location of use (employment/work related or at home/private). When the most suitable model or videophone solution is assigned, users are also entitled to installation and support from these agencies. In 2010, about 5,000 videophones were distributed to end-users.²³⁰

All videophones recommended by the Swedish Institute of Assistive Technology follow the 'Total Conversation' standard, which allows use of video, speech, and text at the same time. "This principle entails that it is the user of the videophone that decides which modality of communication method(s) to use, and should not be dictated by limitations in the videophone. The videophones eligible for provision through the public authorities must be compatible with other models, to secure interoperability of the different models and brands that are distributed in Sweden. Most of the applicants are granted a locked computer with videophone software (MMX or Allan eC), dedicated videophones like VT8882 or TM-9000 models from Visiontech, or the eCPad from Omnitor."²³¹

²²⁸ ETSI TR 102974 V1.1.1 Sec. 5.29

²²⁹ ETSI TR 102 974 V1.1.1 (2009) p. 17

²³⁰ Mission Consulting meeting with nWISE executives, November 2011

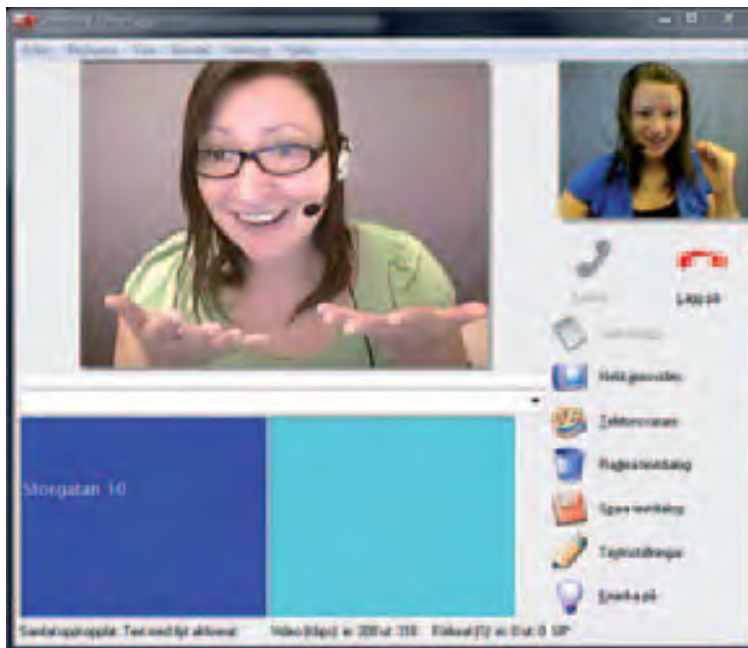
²³¹ Swedish Institute of Assistive Technology; "Provision of Videophones and Video Interpreting for the Deaf and Hard of Hearing", p. 37.

Figure 19: Computer screen displaying MyMMX software



nWise develops and provides a VI platform (MMX) for service providers that is used in several countries (the platform can support text, video, and voice). nWise also develops videophone software for end users (MyMMX).²³²

Figure 20: Computer screen displaying AllaneC videophone software developed by Omnitor AB



²³² www.nwise.se

Omnitor AB also produces and distributes the AllaneCpad videophone and is involved in international standardization work through the International Telecommunication Union (ITU), the European Technology Standardization Institute (ETSI), and EU projects.²³³

Figure 21: VT-8882 Videophone²³⁴



Figure 22: TM-9000 Videophone



²³³ www.omnitor.se

²³⁴ www.tm9000.se

Both the VT-8882 and the TM-9000 videophones are developed and distributed by Visiontech. The development of dedicated videophones is Visiontech's primary focus.

3.3. Current VRS Communication Technologies

VRS has been available in Sweden as a national service since 1997, when it was offered to sign language users via ISDN. In 2004, an Internet portal to the service was introduced. This allowed users to access the service from any computer with Internet access. Originally, incoming calls to the service were handled in different studios within the interpreter center depending on the videophone used to place the call. If a user called from an ISDN video telephone the interpreter would go to the ISDN studio, and if a user called from an IP based video telephone the interpreter would go to the IP studio. This was not an ideal situation and was not scalable.

In February 2006, a new IP platform was deployed, which allowed all video calls to be handled on the same platform and with the same quality measures. Another goal was to make the service accessible through a web client. A user with a computer, webcam, and broadband connection could download software for video telephony. This made users less dependent on any specific videophone.

In 2004, the National Post and Telecom Agency initiated the “pocket interpreter” project for the Deaf. This trial tested distance interpreting and relay of mobile video calls. According to the Swedish National Association of the Deaf (*Sveriges Dövas Riksförbund*) an estimated 4,000 to 6,000 Deaf people use a 3G cell phone, representing approximately half of people born Deaf in Sweden.²³⁵ The conclusion of this trial project was that there was great demand for the service and that there were many potential users that could benefit from the service.

In order to meet this demand, the National Post and Telecom Agency started development in 2005 to merge the 3G mobile video calls onto the new IP platform so that mobile video calls could be treated in the same manner as any other call.

Users can now call the VRS using their 3G cell phones, IP based video phones, web clients, or older ISDN video phones. The service and the users are now less dependent on specific video phones; and the service can continue to become more flexible and efficient in connections to interpreters and end users.

3.4. Broadband and Connectivity Infrastructure

A 2009 survey conducted by the Post and Telecom Agency indicated that nationwide broadband coverage is "excellent." However, the actual speed experienced by end users was inconsistent in different parts of the country and the infrastructure was unable to keep pace with the forecasted increase in demand. Speed and capacity issues were most noticeable for commercial and residential users in the rural areas of Sweden.

²³⁵ Swedish National Association for the Deaf (Sveriges Dövas Riksförbund)

Following the 2009 survey, the "Broadband Strategy for Sweden" was published. The overall objective of this strategy is to have "world-class broadband." "By 2020, 90% of households and businesses are targeted to have access to broadband at a rate of at least 100 Mbps, and ample opportunities to use electronic public services and other services via broadband."²³⁶

Broadband indicators from the 2009 survey include:²³⁷

- Households with Internet access: 86%
- Households with broadband connection: 79%
- Individuals regularly using the Internet: 86%

Sweden has the highest ranking in the EU Broadband Performance Index. This index compares broadband development among EU nations by analyzing speed, price, coverage in remote and rural areas, innovations, and other socio-economic factors.²³⁸

Sweden continues to be one of the leading countries in broadband statistics. In 2010 the European Commission published *Europe's Digital Competitiveness Report*, which stated that Sweden had "almost full" DSL coverage. The report also stated that Sweden "is also a frontrunner in wireless internet technologies, with 14% penetration among individuals for 3G internet use on mobile phones and 29% for wireless internet on laptops outside the home or office."²³⁹ In 2009 there was a large scale rollout of mobile broadband services, which placed Sweden ahead of most European countries in terms of broadband and internet services.

The technological development and rapid growth of fixed and mobile broadband networks has created new possibilities for people with disabilities. The Post and Telecom Agency has recognized two significant trends:

1. More and more services are based on the IP protocol
2. There is increasing demand for mobile services

A recent survey showed that nearly everyone in Sweden has a mobile telephone; senior citizens are the only group where accessibility to mobile phones is less than 90%.²⁴⁰

²³⁶ Swedish Post and Telecom Agency (Post – och Telestyrelsen, PTS); Broadband Strategy for Sweden (Bredbandsstrategi för Sverige)

²³⁷ Swedish Post and Telecom Agency (Post – och Telestyrelsen, PTS); 2009 Survey

²³⁸ Commission of the European Communities; Communication From the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, "Indexing Broadband Performance", page 9

²³⁹ European Commission; Europe's Digital Competitiveness Report; May 17, 2010 page 188

²⁴⁰ Bystedt, Patrik; Swedish Post and Telecom Agency (Post – och Telestyrelsen, PTS); New Remote Services p. 60

Since 2003, Sweden’s National Post and Telecom Agency has initiated two different development projects regarding VRS: the IP access project and the Pocket Interpreter.

- The IP access project will enable Automatic Call Distribution to interpreting resources in various call centers based on a new IP platform that handles calls from IP-based video phones.
- The Pocket Interpreter project will develop methodology and technology for distance interpreting and mediation of mobile video calls (3G) to the IP Platform.

4. VRS Usage Volumes

Under the current Act the Swedish National Post and Telecom Agency has procured three relay services:

- Text Relay Service
- Video Relay Service
- Multiple Media Relay Service (combinations of speech, text, and video)

Under the agreement with PTS, the Örebro County Council runs the national Video Interpreting Service at the Interpreter Centre. Bildtelefoni.net is a subsidiary of the Interpreter Centre, and has six interpreter studios located in Örebro.²⁴¹ Bildtelefoni.net also contracts with subvendors (local sign language interpreter provision agencies) that run five studios in other locations in Sweden. Users only need to call one number to access the service and are automatically distributed among the different studios to the first available interpreter. Interpreters shift between working for Bildtelefoni.net and working on community interpreting assignments.

Although network distributed ACD technology increases the efficiency of VI applications, there are still not enough interpreters to meet demands. “Lately, a number of regional interpreter agencies have considered establishing their own VI studios, mainly to increase the access to interpreter services in cases where VRI may be more efficient than community interpreters. It is not expected that any of these will provide VRS services, however, which still is only provided by Bildtelefoni.net.”²⁴²

VRS Timeline

- 1997
 - VRS trial schedule began
 - 3 VRS stations

²⁴¹ A studio is a VRS workstation or small group of VRS workstations.

²⁴² Swedish Institute of Assistive Technology ; “Provision of Videophones and Video Interpreting for the Deaf and Hard of Hearing”, p. 34.

- VRS offered weekdays, 8 AM – 8 PM
- ≈ 400 calls a month
- 2006
 - Bildtelefoni relayed a few hundred calls every month
- 2006 – 2008
 - The number of unique users grew from 1,318 to 3,046
- 2007
 - Annual traffic of approximately 100,000 calls (See Appendix A)²⁴³
- 2006–2010
 - Number of calls grew monthly
- May 2010
 - More than 12,000 VRS calls were relayed (Tolkcentralen 2010)
- 2011
 - Preliminary figures indicate 100,000 calls were placed between January and June²⁴⁴
 - Average usage is 43 minutes per month per user
 - Until 2010, growth of calls/minutes was 30% per month, in 2011 the increase was less than 10%

VRS traffic is expected to continue to grow since only 30% to 40% of potential users (sign language users) have videophones installed at home or in the workplace, and this figure is growing steadily.²⁴⁵ In addition, there are 3G and other equipment alternatives not necessarily provided by the government councils.

As of 6 September 2010 the operating hours of Bildtelefoni.net have been extended by two hours daily. The hours of operation are now:

- Weekdays: 7:00 AM – 10:00 PM
- Weekends and Holidays: 9:00 AM – 5:00 PM²⁴⁶

²⁴³ Johnny Kristensen, Örebro County Council, Swedish Video Relay Service p. 7.

²⁴⁴ Mission Consulting meeting with nWISE executives, November 2011

²⁴⁵ Swedish Institute of Assistive Technology ; “Provision of Videophones and Video Interpreting for the Deaf and Hard of Hearing”, p. 35

²⁴⁶ www.Bildtelefoni.net

5. Fraudulent Call Volumes and Costs

No examples of fraudulent use were indicated in the news media or in the questionnaire responses.

6. Interpreter Resources and Programs

The number of Swedish sign language interpreters is difficult to establish. Different organizations report very different estimates:

- 150 interpreters
 - The Swedish National Association of the Deaf (*Sveriges Dövas Riksförbund*) in a recent update for the European Union of the Deaf²⁴⁷
- 450 interpreters
 - The Swedish Sign Language Interpreters Association (STTF - *Sveriges Teckenspråkstolkars Förening*)
- 600 or more interpreters
 - European Forum of Sign Language Interpreters (EFSLI)
 - “We really don’t know. There is unfortunately no exact number, as Sweden is lacking a register of any kind stating this number.”²⁴⁸

The Swedish Sign Language Interpreters Association was founded in 1969 by Interpreters that attended the very first interpreter training program in Sweden. In order to broaden recruitment for interpreter training, the Swedish government then started actively promoting instruction of sign language for people who had not learned sign language as a child.²⁴⁹

Since 1986, the *Tolk-och Översättarinstitutet* (Institute for Interpretation and Translation Studies — TÖI) of Stockholm University has been responsible for formal interpreter training in Sweden. Although the Institute regularly organizes academic interpreter training, it is also responsible for distributing government grants and supervising and evaluating interpreter training on the national level. The Swedish interpreter training program currently takes approximately four years to complete. Two years of Sign Language courses are a pre-requisite to enrolling in interpreter training in Sweden.

²⁴⁷ www.eud.eu/Sweden-i-203; Swedish National Association of the Deaf (*Sveriges Dövas Riksförbund*); Country Report; Sweden; Last Updated: 15 March 2011

²⁴⁸ www.efsl.org/efsl/nasli/sweden; European Forum of Sign Language Interpreters; Member Forum; Sweden

²⁴⁹ STTF; Sveriges Teckenspråkstolkars Förening; Swedish Sign Language Interpreters Association; Tolktryckets historia

Sign Language is taught in some universities, including Malmö and Stockholm. It is also taught at seven adult education centers (also known as Folk schools) around the country.²⁵⁰

- Fellingsbro folkhögskola
- Härnösands folkhögskola
- Nordiska folkhögskola
- Strömbäcks folkhögskola
- Södertörns folkhögskola
- Västanviks folkhögskola
- Önnestads folkhögskola

According to Stockholm University, about 200 students study Sign Language every year and an average of 85 students graduate. About 20% of the graduates then enrol in the two-year interpreter training program. The interpreter training focuses on the skills needed to become a professional sign language interpreter and includes 8-16 weeks of practice as an interpreter at an interpreting service agency. This training also includes course studies in civics, social psychology, and Deaf culture.²⁵¹

Another important feature of Interpreter training in Sweden is the focus on the development of the trainers of sign language interpreters. “Training the trainers of Interpreters is necessary both in view of promoting professionalism in the field and for establishing Interpreting as an academic discipline.”²⁵² According to the Stockholm University Institute for Interpretation, many of the Institute Interpreter trainers have substantial teaching experience and are often better prepared, both in linguistic matters and in methodology, than community interpreter trainers. The university recognizes that there is a shortage of these specialized trainers and estimates that there are only 20 qualified trainers in Sweden. As a result, it has launched a special course for Sign Language Interpreter Trainers.

In the Swedish interpreting environment a balance has been achieved on behalf of Sign Language Interpreters; interpreters can easily switch between community interpreting and working for VRS. The Swedish Institute of Assistive Technology reports that: “The Swedish Video Relay Service is organized to secure accessible telecommunication services, and have done so by extending the already well established public interpreter service.”

The County Council manages both VRS and community interpreter needs. “By organizing the Video Relay Service within an established sign language interpreter agency, there are few signs of ‘splitting’ the

²⁵⁰ TÖI, Tolk-och Översättarinstitutet (Institute for Interpretation and Translation Studies); Stockholm University; Interpreter Education; Sign Language and Deaf Blind Interpreter Studies

²⁵¹ Ibid

²⁵² Ibid

Interpreter resources, as is the case in the United States. Providers of Sign Language Interpreter services have larger possibilities to balance the demands for community interpreting and Video Relay Services, and locate resources where they are needed.”²⁵³

The national government has already requested that new legislation that will solidify these relationships between interpreter agencies and video relay services. The potential is to move away from procurement of technology towards a more permanent national infrastructure, both regarding interpreter agencies and technical infrastructure, more in line with the Finland model. Sweden may create a National Interpretation Agency and the Agency will own the infrastructure.

7. Access to Emergency Services

The ‘Total Conversation’ model provides consumers simultaneous voice, video, and text options and is the basis for the *Total Conversation and 112 for all* program.²⁵⁴ It has been the relay communications standard for EU countries and was established in Sweden in the late 1990s. The Swedish Deaf Association partnered with Omnitor and Kalejdo to develop the first Total Conversation compatible consumer devices and standards. This led the Swedish Post and Telecom Agency (PTS) to support the concept and use Total Conversation as a basis for the procurement of relay communication devices.

During 2006–2008, the PTS financed projects with Omnitor to introduce relay call routing based on destination number; this service was mandated by the FCC in the United States in 2009. In both countries, this system allows relay systems to give priority to emergency service calls.²⁵⁵

SOS Alarm (SOS) manages the 1-1-2 emergency number services in Sweden under a contract with the Swedish Ministry of Defence. SOS has shared ownership with 50% interest held by the Swedish Government and 50% by the County Councils. In Sweden, 1-1-2 can be called through any of the relay services. SOS Alarm can also receive emergency calls from:

- “PSTN Textphones;”
- “Fixed line phones where the phone is registered to a calling address;”
- “Mobile phones, available even if the pre-paid phone has run out of call minutes or if the handset is not provisioned with a SIM-card;”
- “SMS, an on-going project to allow Deaf, speech impaired and Hard of Hearing people to access emergency services by text message;”

²⁵³ Hilde Hualand; Hjälpmedelsinstitutet; (Swedish Institute of Assistive Technology) and Fafo Institute for Labour and Social Research; “Provision of Videophones and Video Interpreting for the Deaf and Hard of Hearing”; 2010

²⁵⁴ 1-1-2 is the Swedish equivalent to 9-1-1.

²⁵⁵ Reach 112 Project; Information and Communication Technologies (ICT) Policy Support Programme (PSP); Current Status and Availability of Total Conversation Systems, Version 1.0

- “Satellite phones, which requires dialing a special number to access 112.”²⁵⁶

As one of the leaders in ‘Total Conversation’ and the 1-1-2 Project in the EU, Sweden is currently at the forefront of access to emergency services for the Deaf and hard of hearing.

8. VRS Education and Outreach Programs

Sweden has the oldest national VRS service. However there is little evidence of extensive education and outreach programs on the main internet portals that represent the regulatory agency, the consumer association, or the provider. If there is comprehensive outreach, it may be visible only at the local level. The consumer association indicates that this may need to be established.

The national Post and Telecom Agency provides some information about VRS. However, this information is brief since this agency also regulates telephony in general, the postal services, the internet, and national radio.²⁵⁷

Bildtelefoni.net is currently the only provider of VI services in Sweden. Its marketing and presentation emphasizes information and advice on best practices for getting the most out of their service (e.g.: make sure you have adequate lighting, avoid wearing patterned clothing, etc.). The information is presented in both Swedish Sign language and written Swedish.²⁵⁸

The Örebro County Council (*Örebro läns landsting*) website is more robust in content than the Bildtelefoni site. However, this content is geared mostly toward healthcare and dental care provisions. The site also provides demographic and geographic information about the region including economics, politics, and cultural entertainment. There is little if any mention of the interpreting services provided or VRS.²⁵⁹

Likewise, the website for the Swedish National Association of the Deaf (SDR—*Sveriges Dövas Riksförbund*) has little mention of current VRS services or initiatives. It mentions the importance of interpreting services and the need to achieve sufficient number of sign language interpreters. In the Technical Aids section, VRS is not specifically mentioned. It discusses the work of the County Councils in providing technical aids as directed by the rules and regulations in the Public Health Law, however there is no mention of the Örebro County Council or VRS. In a section titled “IT – undreamt of possibilities for sign language on the net,” no mention is made of VRS and the new accessibility from mobile 3G products. The website does include the following, “For the deaf IT means unthought-of possibilities for signed and visual information on the net. The objective is that the deaf through information and

²⁵⁶ Ibid

²⁵⁷ www.pts.se

²⁵⁸ www.Bildtelefoni.net

²⁵⁹ www.orebroll.se

training have such good knowledge of the significance of IT that they are able to fully take advantage of all its possibilities. Since deaf people are a group treated unfairly when information in their own language is concerned, important information has not reached the target group. *This means that deaf people need knowledge about the fact that the possibilities with IT exist as well as how to go about using them. A network of sponsors for individual IT-users and deaf clubs needs to be built and there is also a need for a signed handbook how to use IT. Through projects supported by society, deaf people can get information about what IT could mean.*"²⁶⁰

²⁶⁰ www.sdrf.se

SWITZERLAND VRS

SUMMARY

1. Overview

| | |
|--------------------------------|---|
| Total Population: | 7,785,900 |
| Deaf Population: | 10,000 |
| Hard of Hearing Population: | 500,000 |
| Use Sign as Primary Language: | 10,000 |
| No. of Qualified Interpreters: | 97 |
| Official Languages: | Swiss German, Swiss French, Swiss Italian, Romansch |
| Name of Sign Languages: | SDGS, SLSF, and SLIS |
| VRS Service Schedule: | 2004 Limited Trial |
| VRS Vendor: | Procom |
| MRS/VRS Funding Model: | MRS is fully funded by the government (OFCOM) as a Universal Service. VRS Trial was funded by a special government credit line as an “equality” measure. In 2018, VRS is expected to become a permanent Universal Service funded the same as MRS. |

2. Findings

This Phase 4 research summary, *VRS Models in Other Countries – Switzerland*, provides a synopsis of the VRS environment in Switzerland.

Key Points:

- Switzerland has four official languages:
 - Swiss German
 - Swiss French
 - Swiss Italian
 - Romansch

- Switzerland has three Sign Languages:
 - Swiss German Sign Language
 - Swiss French Sign Language
 - Swiss Italian Sign Language
- Switzerland has Deaf and hard of hearing population numbers similar to Sweden,
 - Switzerland is far behind Sweden in the deployment of VRS
- MRS services are currently paid for by the government and are available 24 hours a day
- There was a limited VRS trial in 2004
- A new VRS trial is beginning in 2011 and will last until 2018
- Education and outreach programs are being strategically delayed
- Interpreter training is available at two universities

SWITZERLAND VRS

RESEARCH

1. Demographics

Population:

- Estimated total population of 7,785,900.²⁶¹
- According to the Swiss Federation for the Deaf (*Schweizerische Gehörlosenbund—SGB-FSS*):²⁶²
 - 10,000 Deaf
 - 500,000 hard of hearing

Switzerland has four official languages:

- Swiss German
- Swiss French
- Swiss Italian
- Romansch

Switzerland has three sign languages:

- Swiss German Sign Language (SDGS)
- Swiss French Sign Language (SLSF)
- Swiss Italian Sign Language (SLIS)

There are approximately 10,000 sign language users in Switzerland.

- 8,300 Swiss German Sign Language users
- 1,380 Swiss French Sign Language users
- ≈ 320 Swiss Italian Sign Language users

These numbers are significant because they add to the complexity of finding interpreters for VRS.

²⁶¹ Swiss Federal Statistical Office

²⁶² Swiss Federation for the Deaf/ Schweizerische Gehörlosenbund (SGB-FSS)

2. Legal Background

2.1. Rights of People with Disabilities

According to the Federal Chancellery of Switzerland, “The objective of Swiss equality policy is to achieve equal rights for and the integration of people with disabilities.”²⁶³ There are many Swiss laws and cantonal legislations enacted to attain this objective.

The 1874 Constitution contained a limited number of fundamental rights. Over time, additional “unwritten laws” were added based on Swiss Federal Supreme Court decisions, adopted from case law of the European Court of Human Rights, and applied from fundamental rights guaranteed by the European Convention on Human Rights. The new Swiss Constitution of 1999 updated a comprehensive bill of rights contained in Title 2.

As stated in Title 2 Basic, Civil, and Social Rights; Chapter 1 Basic Rights, Article 8 Equality:

“All humans are equal before the law.”

“Nobody may be discriminated against, namely for his or her origin, race, sex, age, language, social position, way of life, religious, philosophical, or political convictions, or because of a corporal or mental disability.”

“Men and women have equal rights...”

“The law provides for measures to eliminate disadvantages of disabled people.”²⁶⁴

Excerpts from the Constitution of the Canton of Zurich affirm and extend these basic principles, especially in relation to the rights of people with disabilities. Article 10 states that: “The provisions of the Federal Constitution relating to the implementation and restriction of fundamental rights also apply to fundamental rights guaranteed by cantonal law.” Article 11 confirms equality based on the Federal Constitution and adds:

“Persons with disabilities have the right to have access to benefits and the facilities, sites and public buildings. Measures necessary for this purpose shall be reasonably provided from an economical point.”

“Measures to help disadvantaged people can be taken to implement the principle of equality.”²⁶⁵

The Federal Act on the Elimination of Discrimination against People with Disabilities was enacted in 2004 to further implement the laws set forth by the Constitution. That same year, the Federal Bureau for the

²⁶³ Schweizerische Eidgenossenschaft

²⁶⁴ Switzerland Constitution; in Title 2 Basic, Civil, and Social Rights; Chapter 1 Basic Rights, Article 8 Equality

²⁶⁵ Constitution of the canton of Zurich; 131,211; Chapter One: Fundamentals; Article 11; Equality

Equality of People with Disabilities (FBED) was created to provide information and advice as well as to implement and support initiatives designed to enable equal access for the disabled. According to the Federal office of Communications (OFCOM), the national regulatory authority for communications, the FBED: “keeps a closer (more detailed knowledge) and wider (not only in the communications sector) overview on the challenges facing the disabled and the solutions to overcome them. In addition, the FBED has the authority to suggest enhancements to the law and create financing solutions whenever appropriate.”²⁶⁶

Regarding language, the Swiss constitution recognizes:

- Four national languages:
 - German
 - French
 - Italian
 - Romansch
- General language freedom:
 - “The freedom of language is guaranteed”²⁶⁷

Switzerland has 29 cantons (equivalent to provinces or states). The cantons, not the federal government, are responsible for healthcare, welfare, law enforcement, and public education. They also have taxation authority.²⁶⁸

The Canton of Zurich passed a 2005 Constitutional document that confirmed the Federal Constitutional rights of equality and non-discrimination. It also included an Article dedicated to Sign Language: “The freedom of language includes the use of Sign Language.”²⁶⁹

2.2. Telecommunications Service Obligations

The Federal office of Communications (OFCOM) is responsible for national and regulatory oversight of the telecommunications sector (including radio and television broadcasting). OFCOM sets strategy and policy for:

²⁶⁶ Swiss Federal Office of Communications (OFCOM); Telecom Services Division; Fixed Network and Universal Services Division; Correspondence with Mission Consulting, April 2011

²⁶⁷ Swiss Federal Constitution; Constitutional Provisions and Title 2; Article 18; Freedom of Language

²⁶⁸ www.admin.ch.ch

²⁶⁹ Canton of Zurich Constitution; 131.211; February 27, 2005; Chapter One: Fundamentals; Article 12; Language Signs

- The Swiss government (the Federal Council)
 - Publishes the Ordinance on Telecommunications Services (OTS)
 - The legislation that provides for Universal Services (including relay services and broadband)
 - Delineates obligations of the Universal Service Provider
 - Provides a framework for the payment of Universal Services
- The Swiss Federal Department for the Environment, Transport, Energy, and Communications (DETEC)
- The Swiss Federal Communications Commission (ComCom)

Article 15 of the Federal Council's Ordinance on Telecommunications Services describes the services that are included as part of the Universal Service obligations: “services for the hearing impaired: provision of a transcription service including emergency calls as well as an SMS relay service which are available round the clock.”²⁷⁰

Article 33 of the Ordinance decrees that these services for the hearing impaired shall be provided at no cost to the customer:

“The services for the hearing or visually impaired and persons with limited mobility must be free of charge, regardless of whether they are provided by providers of services of the universal service themselves or via access to third-party services.”

“The connection charges charged to the hearing or visually impaired and persons with limited mobility within the framework of these services shall not be discriminatory in comparison with the standard tariffs.”²⁷¹

According to direct communication with OFCOM, OFCOM is “regularly in contact with organizations representing impaired persons.” OFCOM further declared that: “Procom is at present initialling a new Trial phase with the aim of acquiring experience at the operative level. This creates the possibility that Video Relay Service will be included in some form in the concept of ‘Universal Service’ for the next license period (after 2018).”²⁷²

²⁷⁰ The Swiss Federal Council; Ordinance on Telecommunications Services; Chapter 3 Universal Service; Article 15 Services of the Universal Service; f. Services for Hearing Impaired

²⁷¹ The Swiss Federal Council; Ordinance on Telecommunications Services; Chapter 4 Obligations Deriving from the Provision of Specific Services; Article 33 Services for the Hearing or Visually Impaired or Persons with Limited Mobility

²⁷² Swiss Federal Office of Communications (OFCOM); Telecom Services Division; Fixed Network and Universal Services Division; Correspondence with Mission Consulting, April 2011; Procom is the Foundation to Aid the Communication for the Deaf (Fondazione di Aiuto alla Comunicazione per Sordi); (Fondation d’Aide á la Communication pour Sourds)

2.3. Regulatory Funding of MRS/VRS

Funding for traditional relay was initially provided by the government as part of the services under the national postal and telecommunications organization (PTT—Post, Telefon, and Telegramm). This changed due to deregulation legislation passed in 1998. Relay Service is still paid for by the government, but is provided by private companies that bid to provide the service as a Universal Service contractor.

OFCOM expects funding for VRS to be provided by the Ordinance on Telecommunications Services as these services become part of the Universal Service contracts during the next licensing period in 2018. The trial funding is being handled separately by special government financing. According to OFCOM: “Before the inclusion of VRS in the Universal Service concept, the trial and implementation of the project intended to build a public VRS will be financed by a special credit line for equality enhancing measures under the control and advice of the Bureau for Equality of people with Disabilities.”²⁷³

3. Relay Services in Switzerland

3.1. Types of User Services Provided

Initially, Deaf relay services were provided by the government through the PTT (Post, Telefon and Telegramm). In 1998, Swiss law de-monopolized telecommunications and opened the market to new companies. At that time, Procom, the largest sign language interpreting company in Switzerland, became the national relay service provider.

According to Procom, relay services are available 24 hours a day for Swiss-German Sign Language, Swiss-French Sign Language, and Swiss-Italian Sign Language. However, since there are only nine Swiss-Italian Interpreters identified in Switzerland who are available for community interpreting assignments, there may be some challenges to the provision of this relay service.²⁷⁴

3.2. Current VRS Communication Technologies

According to contact made by Mission Consulting with the Telecom Services Division of the Swiss Federal Office of Communications (OFCOM), the 2004 trial was very limited in scope in order to gather “initial information regarding the possibility of such a service and the acknowledgement of the systems available at that time” (from a technical perspective).²⁷⁵ Due to the confidential nature surrounding the

²⁷³ Swiss Federal Office of Communications (OFCOM); Telecom Services Division; Fixed Network and Universal Services Division; Correspondence with Mission Consulting, April 2011

²⁷⁴ www.procom-deaf.ch

²⁷⁵ Swiss Federal Office of Communications (OFCOM); Telecom Services Division; Fixed Network and Universal Services Division; Correspondence with Mission Consulting, April 2011

impending announcement and launch of the 2011 Swiss VRS trial, there is no publicly available information regarding VRS technologies in Switzerland.

3.3. Broadband and Connectivity Infrastructure

One of the primary aims of the Swiss Telecommunications Act was to guarantee that broadband access be provided as a Universal Service throughout the country. Switzerland now has one of the highest Internet and broadband penetration rates in the EU.

- The percentage of households with Internet access was 77% in 2008
- The percentage of individuals regularly using the Internet in 2010 was 75%²⁷⁶

Article 15 of the Ordinance on Telecommunications Services (OTS) describes the services as part of the Universal Service obligations, including “data transmission service.”²⁷⁷ Minimum connectivity requirements are listed under Article 16, “Connection.” This Article states that for both residential and commercial premises the Universal Service Provider is obligated to provide “a fixed network termination point which includes a voice channel, a telephone number ...and broadband Internet access with a guaranteed transmission speed of 600/100 Kbit/s; if the connection does not permit the provision of such broadband internet access for technical or economic reasons and no alternative offering is available on the market under comparable conditions, the performance of the connection may be reduced in exceptional cases.”²⁷⁸

OFCOM has stated that these minimum bit rate access values would be increased in the near future, and: “It is expected soon to bring these values to 1Mbps/100kbps and it is very likely that in 2018 (date for the next Universal Service license) the minimal bit rates available on access networks easily allow real time video exchanges.”²⁷⁹

The Ordinance regarding Universal Services decrees that all services, including broadband access, for people with hearing impairments be provided free of charge.

²⁷⁶ Swiss Federal Statistical Office

²⁷⁷ The Swiss Federal Council; Ordinance on Telecommunications Services; Chapter 3 Universal Service; Article 15 Services of the Universal Service; d. data transmission service

²⁷⁸ The Swiss Federal Council; Ordinance on Telecommunications Services; Chapter 3 Universal Service; Article 16; Connection; c. Fixed Network termination Point

²⁷⁹ Swiss Federal Office of Communications (OFCOM); Telecom Services Division; Fixed Network and Universal Services Division; Correspondence with Mission Consulting, April 2011

4. VRS Usage Volumes

There is no information publicly available regarding the volume of usage during the limited VRS trial in 2004. The trial provider is currently competing for a new service contract and declined to provide usage data.

In response to requests for any statistical reports about VRS in Switzerland that would show volumes, performance metrics, historical trends, or comparisons with other forms of relay, OFCOM said: “It is too early to draw conclusions.”²⁸⁰

5. Fraudulent Call Volumes and Costs

No examples of fraudulent use were indicated in the news media or in the questionnaire responses.

6. Interpreter Resources and Programs

Because Switzerland is a multi-lingual country, there are three different associations for sign language interpreters:

- Swiss-German Sign Language Association (*Berufsvereinigung der GebärdensprachdolmetscherInnen der deutschen Schweiz* — BGD)
- Swiss-French Sign Language Association (*Association Romande des Interprètes en Langue des Signes* —ARLIS)
- Swiss-Italian Sign Language Association (*Interpreti della Lingua dei Segni Svizzera Italiana* — ILISSI)

As in most countries, the total number of sign language interpreters is insufficient to meet the current demands of the Deaf community. This shortage may significantly impact the deployment of VRS. The sign language environment in Switzerland is even more difficult due to the lack of interpreters fluent in all possible language combinations in Swiss communications.

According to the Swiss Federation of the Deaf, there are:

- 97 sign language interpreters in Switzerland
 - 58 Swiss-German Sign Language Interpreters (members of the BGD)

²⁸⁰ Swiss Federal Office of Communications (OFCOM); Telecom Services Division; Fixed Network and Universal Services Division; Correspondence with Mission Consulting, April 2011

- 30 Swiss-French Sign Language Interpreters
- 9 Swiss-Italian Sign Language Interpreters

The Zurich University of Applied Science (HfH — *Interkantonale Hochschule für Heilpädagogik*) has developed a 4-year Sign Language training course for Swiss-German Sign language. The training is held 2 days a week for 2,000 lesson hours and offers an additional 300 hours of practical training internships during the semester breaks. A Bachelor of Arts degree in Sign Language Interpreting is awarded upon completion of the program.²⁸¹

The University of Geneva – School of Translation and Interpretation (*Université de Genève - Ecole de traduction et d'interprétation*) has a program that teaches Swiss-French Sign language. It has been offered as a Continuation Certificate program taught part-time over a 2 year period. The current school catalogue for this program with the 2011 details has yet to be updated.²⁸²

7. Access to Emergency Services

The Ordinance on Telecommunications Services specifies additional accommodations so that people with disabilities can communicate with emergency services. These accommodations include a transcription service for emergency calls and an SMS relay service that the Universal Service provider is required to make available at all times and without interruption. The Ordinance also states that these emergency services for the hearing impaired must be provided free of charge, regardless of whether they are accessed via the Universal Service provider or via third-party services.²⁸³

Switzerland is not formally a member of the EU, but the EU standardized emergency call number '1-1-2' can be used throughout Switzerland in case of emergency.

8. VRS Education and Outreach Programs

Currently there is little information publicly available regarding the future of VRS in Switzerland. However, OFCOM stated that: “In the trial initial phase, the existence of the service will not be advertised. The promotion of the service will be made when there will be reasonable evidence of the performance and first clear indication of users’ satisfaction.”²⁸⁴

²⁸¹ www.hfh.ch; Interkantonale Hochschule für Heilpädagogik; Gebärdensprachdolmetschen

²⁸² Université de Genève - Ecole de traduction et d'interprétation

²⁸³ Swiss federal Department of the Interior; General Secretariat SG-DFI; Federal Office of equality for persons with disabilities.

²⁸⁴ Swiss Federal Office of Communications (OFCOM); Telecom Services Division; Fixed Network and Universal Services Division; Correspondence with Mission Consulting, April 2011

UNITED KINGDOM VRS

SUMMARY

1. Overview

| | |
|--------------------------------|--|
| Total Population: | 62,192,000 |
| Deaf Population: | 70,000 |
| Hard of Hearing Population: | 2,300,000 |
| Use Sign as Primary Language: | 30,000 |
| No. of Qualified Interpreters: | 511 |
| Official Language: | English |
| Name of Sign Language: | British Sign Language (BSL) |
| VRS Service Schedule: | 2009 trial; Nov. 2010 permanent |
| VRS Vendor: | Significan't SignVideo |
| MRS/VRS Funding Model: | MRS (without VRS) is funded by profits from Universal Service providers. Limited VRS is funded by the federal government until it becomes a Universal Service. |

2. Findings

This phase 4 research summary, *VRS Models in Other Countries – United Kingdom*, provides a synopsis of the VRS environment in the United Kingdom (UK).

Key Points:

- Although the UK has had a trial and limited VRS since 2004, the UK has no current national public VRS service
- The UK definition of "Universal Service" is limited to Text Relay only and therefore no VRS funding is available
- Regulatory obligations to provide MRS services are similar to those in many other countries
- VRS is available now during a limited service, only for communication to or from a public government office, or for employment purposes through a special program: Access to Work
- SignVideo estimates there were between 75,000 and 100,000 minutes of video relay conversations in 2010

- VRS education and outreach programs do exist
- There is a public relations campaign by Deaf associations and providers to urge the Government to make VRS part of the Universal Service obligations

UNITED KINGDOM VRS

RESEARCH

1. Demographics

According to the Office for National Statistics (ONS), the United Kingdom has an estimated total population of 62,192,000.²⁸⁵ The ONS is the executive office of the UK Statistics Authority, a non-ministerial department that reports directly to Parliament and is the Government's single largest producer of statistics. The population estimate from ONS is based on updates of the April 2001 census for England and Wales. The next official census for the UK took place in March 2011, but the results are not expected to be available before the close of this report.

Estimates of British Sign Language users are imprecise since they were not included in earlier census data. However, the ONS has included an accessibility initiative as part of the 2011 census called "Making the census accessible." It has published an instructional video in British Sign Language (BSL), and the largest Deaf organization in the UK, the British Deaf Association, is helping to distribute the video via its website. This initiative will attempt to collect statistics on the number of people throughout the United Kingdom who use BSL.²⁸⁶

Estimates of the BSL user population vary:

- The Open University in the UK offered a course on Issues in Deafness from 1991 to 1996. In a research report they stated that: "BSL is probably used by at least 50,000 people as their only or preferred language." This estimate is based on three different published sources:
 - *British Sign Language*, M. Deuchar, (London, Routledge and Kegan Paul, 1984)
 - *Deaf Worlds*, S. Sainsbury, (London, Hutchinson Educational, 1986)
 - British Deaf Association report, "BSL: Britain's Fourth Language"²⁸⁷
- The Social Policy Research Unit at York University used data obtained from the Office of Population Censuses and Surveys during a mid-1980s disability survey in the UK. It specifically

²⁸⁵ United Kingdom Office for National Statistics

²⁸⁶ : Recognizing that this population is often reluctant to participate in surveys or to identify themselves as having a disability, participation by consumers is encouraged with comments such as, "Your answers will be turned into statistics about the community and groups within it. Personal census information is kept confidential for 100 years and is not shared with government departments." www.bda.org.uk/news/story/2011/03/18/bda-briefing-census

²⁸⁷ The Open University; Social Sciences; Issues in Deafness; D.251.1.1; "Deaf People in a Hearing World"

identified those who had said that they were not able to use a voice telephone because of deafness, and who said they used sign language for communication. At that time, it estimated the number of BSL users at 21,000.²⁸⁸

- Currently, the British Deaf Association estimates the number of BSL users in the UK to be approximately 30,000.

The UK has approximately 511 Sign Language Interpreters.²⁸⁹

2. Legal Background

2.1. General Regulatory Background

The Office of Communications (Ofcom) is a branch of the national government with regulatory authority over telecommunications, broadcasting, and mail services. Ofcom was initially established by the Office of Communications Act of Parliament 2002, and obtained expanded authority in the [Communications Act 2003](#). Text Message Relay and Video Relay are services under the regulated authority of Ofcom.

2.2. Rights of People with Disabilities

In 1970, the UK passed the Chronically Sick and Disabled Persons Act, establishing specific laws to improve access and support for people with disabilities. This Act was the basis for future legislation. During the development of the Act it became clear that members of this population often did not participate in surveys or identify themselves as having disabilities. Local government agencies were not offering additional services for constituents with disabilities because they did not know who, where, or how numerous these constituents were.²⁹⁰

In 1995, the Disability Discrimination Act (DDA) was passed in the UK making it illegal to discriminate against people with disabilities at work or in the provision of goods and services. It was, “An Act to make it unlawful to discriminate against disabled persons in connection with employment, the provision of goods, facilities and services or the disposal or management of premises; to make provision about the employment of disabled persons; and to establish a National Disability Council.”²⁹¹

The UK Disability Discrimination Act (DDA) is a civil rights law. It applies to all employers and everyone who provides a service to the public except the Armed Forces. The main purpose of the Act is to end

²⁸⁸ City University, London; OFCOM study 2006; ‘Feasibility of Additional Telephone Relay Services’; page 55

²⁸⁹ National Registers of Communication Professionals working with Deaf and Deafblind People (NRCPD), <http://www.nrcpd.org.uk/>

²⁹⁰ Peter White; BBC News Disability Affairs Correspondent; “What Needs to be Done to End Disability Discrimination”; November 28, 2010

²⁹¹ UK National Archives; Legislation; Disability Discrimination Act 1995 Chapter 50; Introduction

“less favourable treatment for a reason related to a person’s disability; and failure to make a ‘reasonable adjustment’.” As stated in the DDA:

“Duty of Employer to make adjustments.

1) *Where –*

- a) *Any arrangements made by or on behalf of an employer, or*
- b) *Any physical feature of premises occupied by the employer, place the disabled person concerned at a substantial disadvantage in comparison with persons who are not disabled, it is the duty of the employer to take such steps as it is reasonable, in all the circumstances of the case, for him to have to take in order to prevent the arrangements or feature having that effect.”²⁹²*

The “reasonable adjustment” clause in this legislation is key. While the Act cites many exceptions to this provision, it does require employers to proactively remedy the work environment. Other legislation enables a person with a disability to seek redress after he or she has been disadvantaged.

The Disability Rights Commission (a predecessor to the National Disability Council) established Codes of Practice, providing additional clarifications and guidelines to assess whether a certain adjustment is reasonable. Guidelines include asking:

- Whether the proposed adjustment would meet the needs of the disabled person
- Whether the adjustment is affordable
- Whether the adjustment would have a serious effect on other people

The UK Disability Rights Commission acknowledges that in certain cases no reasonable adjustment may be made and that, as a result of these circumstances, the person with a disability may be treated less favourably. The Disability Discrimination Act has a stipulation that permits employers and service providers to justify less favourable treatment of (failure to make reasonable adjustments for) persons with disabilities in certain cases.²⁹³

The Disability Laws evolved as more statutes and regulations were passed. Many of these new laws are clarifications or consolidations of previous laws; none have a significant impact on the provision of services for BSL users. For example:

- The Disability Rights Commission Act of 1999 replaced the National Disability Council with the Disability Rights Commission.

²⁹² UK National Archives; Legislation; Disability Discrimination Act 1995 Chapter 50; Section 6; Duty of Employer

²⁹³ UK National Archives; Legislation; Statutory Instruments; Disability Discrimination Act; Disability Rights Commission Codes of Practice

- The Special Educational Needs and Disability Act of 2001 inserted new provisions in the 1995 Disability Discrimination Act to address the same issues in schools and other educational institutions.
- The DDA Amendment regulations of 2003 updated the 1995 Act to be in line with EU employment directives.
- The Disability Discrimination Act of 2005 extended the DDA of 1995 to cover public transport, and introduced a requirement for public offices to promote equality for people with disabilities.
- The Equality Act of 2010 was created primarily to consolidate all previous Acts and Regulations that had been developed to promote equality and anti-discrimination in the UK into a single document.²⁹⁴

British Sign Language was recognized as an official British language in March 2003. However, the British Deaf Association notes that Deaf Sign Language users still do not have full access to vital information and services including education, health, employment and communication access because BSL still does not have any legal protection under the Constitution.

2.3. Telecommunications Service Obligations

The UK created the Universal Service Obligation (USO) program as a basic safety net that ensures that most of the population will have access to affordable telecommunications services. According to Ofcom, “Universal Service ensures that basic fixed line services are available at an affordable price to all citizen-customers across the UK.”²⁹⁵ The relay services in the UK are authorized under the Universal Service Obligation (USO) programs.

Ofcom explicitly states that the provision of USO is not free and that it has costs that must be considered and funded. The program requires a subsidy from other users of the telephone network to pay for services for those who might not be able to afford them and for those who live in the rural areas that are not served by the natural market elements found in large metropolitan areas.

In the UK, Ofcom has incorporated a periodic review process for Telecommunications and the Universal Service Obligation. It views Universal Service as an evolving concept and not a fixed program. When the telecommunications industry was deregulated in 1984, the fundamental services required by the USO were significantly different from what they are today. However, the USO is described as “not being at the forefront” of technological changes and as only taking effect when the lack of an affordable service represents a serious obstacle to full participation in society.²⁹⁶

²⁹⁴ UK National Archives; Legislation; Disability Discrimination Act 1995; Disability Rights Commission Act of 1999; Special Educational Needs and Disability Act of 2001; Disability Discrimination Act of 2005; Equality Act of 2010

²⁹⁵ OFCOM; Office of Communications; Universal Service Obligation: Review

²⁹⁶ OFCOM; Office of Communications; Universal Service Obligation: Review

Ofcom has announced a review of the Universal Services in order to facilitate the incorporation of technological changes into the 2011–2012 Plan, potentially including VRS.²⁹⁷

2.4. Regulatory Funding of MRS/VRS

The current Relay Service in the UK is provided by British Telecom (BT), the one provider designated by Ofcom as a Licensed Universal Provider of Universal Services for the Disabled. The Universal Service Obligations are primarily funded by BT.

Historically BT²⁹⁸ has been able to fund the net costs of providing Universal Services from profits made on other services. As competition increases, however, the profits that supply these services are threatened and diminishing. Ofcom has been preparing for this possibility and recognizes that providing USO may become an undue burden for BT. It is considering alternative funding models, such as:

- “A direct levy on all consumers of certain communications services (for example, a fixed amount that appears directly on the bill);
- An indirect levy on consumers via a levy on communications providers (such as the models used in the U.S. and France);
- Direct Government funding.”²⁹⁹

Although VRS in the UK has not yet been adopted into the Ofcom Universal Service provision, it likely will be in the future. Therefore VRS funding is anticipated to be similar to the funding solutions for all other MRS costs. VRS is currently being provided as a limited service. The costs of providing a permanent VRS service to the entire Deaf and hard of hearing community for use with any calls (not just calls to government officials or in a work setting) would create a higher annual MS cost and require additional annual funding. However the increased cost of permanent VRS should be partially offset by a corresponding decline in the usage and cost of traditional MRS.

3. Relay Services in the United Kingdom

3.1. Types of User Services Provided

Universal Service for the Deaf is primarily text relay, also known in the UK as TypeTalk. This service is provided by the Text Relay division of British Telecom (BT). The TypeTalk service was started in the

²⁹⁷ OFCOM; Office of Communications; Ofcom Relay Services; April 2011

²⁹⁸ With contributions from Kingston, a small telco.

²⁹⁹ OFCOM; Office of Communications; Universal Service Obligation: Provision and funding of Universal Service Arrangements

1980s by Lady Pauline Ashley of the Royal National Institute for Deaf People (RNID). The first telephone relay service in the UK was staffed by two operators working out of the RNID headquarters.

Users can download a dedicated software application known as TalkByText from the RNID site to access the UK relay provider using an Internet-based service from computers and mobile devices. According to the RNID site: “No other equipment is needed - just install the TalkByText program on your PC. TalkByText never uses your telephone service, but instead makes and receives all text calls over your broadband connection. Your telephone line always remains available during text calls.”³⁰⁰

BT Text Relay provides the following services:

- Text to Speech
- Speech to Text
- HCO
- VCO
- VCO to VCO
- VCO to TTY
- Speech to Speech

Although traditional Relay Service in the UK is severely limited in comparison to other countries, Ofcom has been investigating how to improve upon the service by offering new technologies. Since 2003, it has commissioned five or six studies on improved services including researching the feasibility of VRS. Some of these studies also included other services such as: IP-based technology, SMS, e-mail, voice recognition, and captioned telephony.

The most recent review, “will assess whether the current arrangements for the provision of relay services are adequate in delivering equivalence to voice telephone for hearing- and speech-impaired users.”³⁰¹ Ofcom will be using an independent market research company, Opinion Leader, to conduct research into the current needs of the Deaf and hard of hearing community. Several aspects will include how well the current text-relay service is addressing community needs and what community attitudes toward the provision of VRS are.

Ofcom intended to publish the results of the review by the Spring of 2011 and, although the review has not yet been released, a copy was provided for this study. The research data sampling included 94 individuals with disability in Phase I and 323 individuals with disability in Phase II, with only 25% of these being BSL users. Although this group was highly positive about the inclusion of video relay in future Universal Service offerings, this option was overshadowed by requests for faster text relay and

³⁰⁰ www.RNID.org.uk; RNID; TalkByText; Overview

³⁰¹ OFCOM; Office of Communications; Ofcom Relay Services; April 2011

captioned telephony.³⁰² The final published report that became public July 28, 2011, requests additional comments and consultations by October 20, 2011 in order to better implement a video relay service. Ofcom cited high costs of between £12.6 million and £113million and the scarcity of BSL interpreters as too prohibitive to open up unrestricted VRS in the UK. “In light of those considerations, we consider that a requirement to provide an unrestricted VR service would not be appropriate at this time.”³⁰³

VRS is currently available in the UK only for use in certain instances. SignVideo (from Significan’t) is the primary VRS provider under an agreement with BT, the Universal Service provider. In 2007 there were two other fledging VRS operated by RNID and BDA. However, they have since ceased operations due to a lack of sustained funding.³⁰⁴ Therefore, SignVideo remains the sole provider for VRS in the UK.

While VRS exists in the UK, it is neither an official national “Trial” or “Pilot Phase” offering, nor a permanent component of Universal Service or Traditional Relay Service. VRS is available as a government funded or subsidized service under two circumstances. Outside of these circumstances, users may contact a provider independently and request a quote for the service.

The two main applications for Video Relay as a government service are to contact public officials and/or to use VRS for work purposes through the Access to Work Programme.

As stated on the SignVideo website, VRS is available weekdays 8AM to 6PM if you are:

- “Visiting your local authority building that has a videophone and using the service to interpret a conversation you are having with a hearing member of staff there,”
- “Visiting your local authority office that has a videophone and using the service to make a telephone call to the department you wish to speak to and then interpret the call for you,”
- “By connecting to SignVideo from home via your videophone or webcam to make a call to your local authority”
- “If you are working, you may be able to use the ‘Access to Work Programme’. It is now possible to use video-conferencing and a service level agreement with SignVideo to meet your work interpreting needs.”³⁰⁵

3.2. Current VRS Communication Technologies

Users have various options for connecting to VRS and can make video calls through SignVideo, using:

³⁰² Opinion Leader; Ofcom Relay Services; Consultation Review; Executive Summary; February 2011

³⁰³ Ofcom, Review of Relay Services, Consultation Review, July 28, 2011

³⁰⁴ Mission Consulting interview with SignVideo; April 15, 2011

³⁰⁵ www.SignVideo.co.uk; Services

- A webcam with appropriate videoconferencing software
- ISDN2/ISDN6 Calls with an ISDN6 videophone and an ISDN6 connection
- A Corporate videoconferencing unit
- A broadband videophone with a fast broadband Internet connection
- IP Videophones
- HSDPA enabled (post 3G) mobile videophone with an HSPA (post 3G) mobile network connection³⁰⁶

Some requirements listed by SignVideo are:

- A minimum 384 Kbps upload/download speed
- A computer software application (SV²) provided by SignVideo (for users connecting via a PC with webcam)
 - The SV² software is Live Video Plugin application that is downloaded on Microsoft Windows OS for the Explorer internet browser

3.3. Broadband and Connectivity Infrastructure

The UK has various initiatives to ensure that broadband and other telecommunications services are available for commerce and to the general population. One solution is the Race Online 2012 initiative, which is comprised of partners from across the public, private, and non-profit sectors. This initiative is working to help people connect to the Internet. Race Online 2012 stakeholders are driven by concern over the fact that, as recently as 2010, there were over 9 million people in the UK who were unable to access the Internet. This group has created online centers to help users who are at a social, physical, or financial disadvantage since these individuals are at least three times more likely not to have access to the Internet. To promote their objectives, they have installed thousands of online centers across the UK in libraries, community centers, care homes, social housing estates, and many other locations.³⁰⁷

Ofcom does not provide free Broadband to consumers as a Universal Service. According to the current Universal Service Obligation: "Ofcom believes that the case for extending the Universal Service Obligation to Broadband is not currently strong either on the basis of economic efficiency, or on the basis of equity. It is simply too early in the development of the market for the necessary conditions to

³⁰⁶ www.signvideo.co.uk; SignVideo Services; Technology

³⁰⁷ www.ukonlinecenters.com; Policy Context and legal Framework

be met.”³⁰⁸ Based on current plans for service rollout by BT and other market dynamics, Ofcom believes that a majority of the population will soon have access to broadband services and that the remaining shortfall “may best be addressed through public sector infrastructure schemes.”

Section 1.10 of the Universal Service Obligation states: “BT and Kingston are required to provide a connection upon reasonable request and at uniform prices, irrespective of geographical location.”³⁰⁹ This requirement should have the greatest impact in rural areas that otherwise would not be served.

In a recent response to the Ofcom 2011/12 draft Annual Plan, Consumer Focus, an organization known in the UK as the "Statutory Consumer Champion," disagreed with Ofcom’s perspective on broadband, stating: “Despite continuing investment from super-fast Broadband networks in specific areas and in new built-up areas together with £830 Million committed by the UK government, we have concerns that there will remain a large number of households who will not receive basic broadband speeds where there is not an economic reason to do so. We are also concerned that those citizens living in rural parts of England, Wales and Scotland will be left behind.”³¹⁰

Legislation known as the Digital Economy Bill aims at ensuring:

- A minimum speed of 2Mbps to all homes in the UK by 2012
- The delivery of super-fast Broadband to “most of the country” by 2017

In March 2010 Ofcom published a report stating that this goal had been upgraded to provide:

- Super-fast access to “all homes by 2020”

The Ofcom March 2010 report also stated that:

- Super-fast broadband is available in 46% of UK homes
- The UK is ahead of “most large economies where deployments have been funded commercially”³¹¹

Ofcom provided an update on super-fast broadband deployment in its 2011/12 draft Annual Plan, stating, “BT is on track to deploy super-fast broadband to up to 10 million premises by 2012, and has said that it intends to cover 66% of the UK population by 2015.”³¹²

³⁰⁸ OFCOM; Office of Communications; Review of the Universal Service Obligation; Section 3; Scope of Universal Service Arrangements; Broadband obligations

³⁰⁹ OFCOM; Office of Communications; Universal Service Obligation; Section 1.10

³¹⁰ Consumer Focus; Response to Ofcom’s Draft Annual Plan 2011/12; March 2011; promote effective and sustainable competition; page 4

³¹¹ Ofcom; Super-fast Broadband report; March 2010; Context and summary for ofcom’s consultations on the wholesale local access and wholesale Broadband access markets

4. VRS Usage Volumes

RNID's TypeTalk, the UK's first relay service, began in the 1980s with a six week trial and approximately 100 subscribers. In 1991 the UK launched TypeTalk as a full national public service, and it has continued to grow. The TextRelay information site currently states that: "today's text relay service handles a significant number of calls each week." Discussions with RNID related to this report resulted in the more specific estimate of 8 million minutes of text relay usage annually. However, RNID indicated that this volume was decreasing as users migrated to newer technologies such as SMS, e-mail, and IM.³¹³

Discussions with SignVideo resulted in estimates of current VRS traffic volume, although VRS is only provided in a limited program. SignVideo Timeline:

- 2004 – began offering VRS
- 2006 – VRS volume was up to 10,000 minutes of use per year
- April 2011 – 75,000 to 100,000 estimated annual minutes of video relay
- Changes in the Universal Service provisions would be expected to trigger future changes in VRS usage³¹⁴

5. Fraudulent Call Volumes and Costs

No examples of fraudulent use were indicated in the news media or in the questionnaire responses.

6. Interpreter Resources and Programs

The first register for Sign Language Interpreters was founded in 1982 by 112 members of the Deaf Welfare Examining Board (DWEB) who were joined by 9 other interpreters who were certified by the CACDP (Council for the Advancement of Communication with Deaf People). One of the register's initiatives was to require that all interpreters earn the CACDP's highest level examination credential within 5 years in order to remain a member of the organization. This requirement caused a 50% decline in membership, and by 1987 there were only 62 Interpreters in the register.³¹⁵ According to the National Registers of Communication Professionals working with Deaf and Deafblind People (NRCPD), there are currently 511 British Sign Language Interpreters.

The NRCPD administers professional registers for:

³¹² Ofcom Draft Annual Plan 2011/12; March 2011

³¹³ Mission Consulting interview with RNID; April 26, 2011

³¹⁴ Mission Consulting interview with SignVideo; April 15, 2011

³¹⁵ National Registers of Communication Professionals working with Deaf and Deafblind People (NRCPD)

- Sign Language Interpreters (BSL– English)
- Lipspeakers
- Speech to Text Reporters
- LSPs - Deafblind Manual
- Electronic and Manual Notetakers

The low number of qualified BSL Interpreters limits the VRS. SignVideo currently employs only 24 BSL interpreters dedicated to the service. According to SignVideo, all of their interpreters are registered with NRCPD and:

- “Meet the agreed video interpreting standards for BSL/English interpreters;”
- “Meet the required interpreter training qualifications;”
- “Pass the Criminal Records Bureau (CRB) check;”
- “Adhere to the IRP (Independent registration Panel) Professional Code of Conduct;”
- “Have Professional Indemnity Insurance.”³¹⁶

An Interpreter can register with NRCPD in three different categories:

- Fully Accredited Interpreter: requires meeting the National Occupational Standards in Interpreting (NOSI) and being competent in a variety of settings, including legal and mental health interpreting.
- Trainee Interpreter: requires completion of a recognized Interpreter Training Program and a skills assessment by the Approved Assessment Centre at Level 4 NVQ (National Vocational Qualifications) or equivalent.
- Junior Trainee Interpreter: requires completion of or work towards a recognized Interpreter Training Program, as well as Level 3 NVQ assessment.

There are six NVQ assessment Levels; 6 NVQ is the highest level.

7. Access to Emergency Services

The UK has been using 9-9-9 as the Emergency Access number since 1937 and its national emergency communication system is one of the oldest. The UK is also a participant in the EU 1-1-2 emergency number service. All 1-1-2 calls are automatically routed to the 9-9-9 operators, as both services use the same physical network, and neither type of call is given priority over the other.

³¹⁶ www.SignVideo.co.uk; Services; interpreter Standards

In 1998, British Telecom introduced the EISEC (Enhanced Information Service for Emergency Calls) system. With this system, it was no longer necessary for an operator to state the caller's location and phone number to the emergency call taker since the caller's information was automatically forwarded electronically. In 2003, BT upgraded the system to add EISEC functionality for emergency calls made from mobile phones using "map zone" references.

In 2005, the UK Government formed a 9-9-9/1-1-2 Working Group that included Ofcom, RNID, Deaf representatives, and representatives from the telecom and emergency services sectors. The goal was to establish a national SMS emergency service, and in 2009 the Government began a trial for the Deaf and those with disabilities to contact 999 via SMS messages to a relay center.³¹⁷

Users are required to register their mobile devices to begin using this service. Users can then access Emergency services by sending an SMS text that will be delivered via the Text Relay service TypeTalk, and the relay services operator will relay the SMS conversation.

The flow of the UK SMS calls was outlined in an image provided by the Working Group's report:³¹⁸

Figure 23: SMS Relay Call Procedure in the UK



The UK is also a participant in the EU Total Conversation initiatives. In the UK, Total Conversation will enable the Deaf and those with disabilities to communicate via a variety of fixed and mobile devices. This translates into the increased ability to connect to Emergency services using Relay Operators/Interpreters through Text, SignLanguage, and voice. As part of this initiative, the UK is installing Total Conversation terminals in many UK Emergency Services call centers so that Deaf users

³¹⁷ Reach 112 Project; Information and Communication Technologies (ICT) Policy Support programme (PSP); Total Conversation and 112 For All; SMS access to 999/112 in the UK; page 38; August 24, 2010

³¹⁸ Ibid; page 66; August 24, 2010

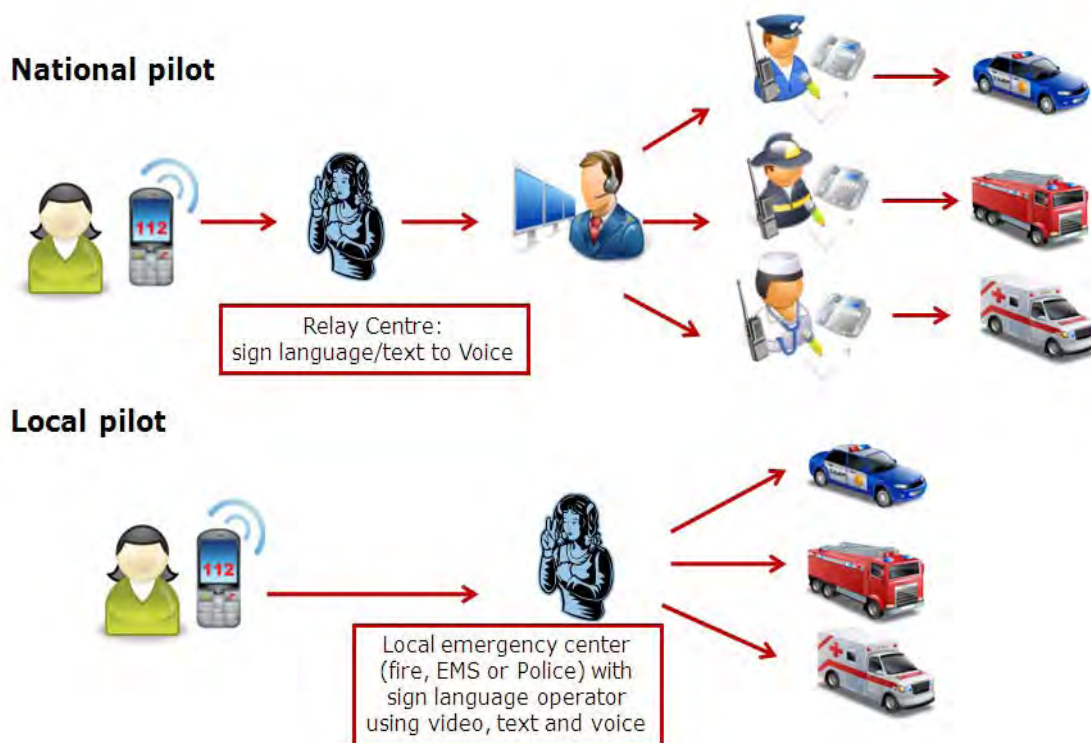
will have direct access to specially trained SignLanguage operators working in these Emergency call centers.³¹⁹

The working group cited two main challenges to these systems in the UK:

- The first is that two regions, AFR (Avon Fire and Rescue) and ASP (Avon and Somerset Police), are not currently connected to a broadband network. The proposed solution for these two emergency services is the installation of a standalone platform that can be connected to the Internet.
- The other primary challenge is the availability of local British Sign Language Interpreters to work at the various Emergency call centers, especially if and when there is a high volume of Total Conversation emergency calls. The solution proposed for this challenge is the use of an external VRS for times when a local center Interpreter is not available (overflow routing).³²⁰

These processes were visually presented by the Working Group, as follows:

Figure 24: Total Conversation Pilot Call Procedure in the UK



³¹⁹ Reach 112 Project; Information and Communication Technologies (ICT) Policy Support programme (PSP); Total Conversation and 112 For All; Emergency Services and Reach 112 in the UK; page 74; August 24, 2010

³²⁰ Ibid; Specific Pilot Challenges and Risk Analysis; UK page 78; August 24, 2010

8. VRS Education and Outreach Programs

One of the unique aspects of VRS education and outreach in the UK is the need to tell users where they can access the service, meaning the physical location of an established VRS facility. This is because the contractual Universal Service subsidized by the Government is limited to communication with government offices or to the employment sector through the "Access to Work" program.

SignVideo, the UK VRS provider, has installed videophone stations in VRS centers for Deaf users who then go to these locations to use the service. On the SignVideo website, a user can find a map of UK counties, informing them where the nearest call center is located. (See Appendix B) The description of the SignVideo web portal "Services" section is dedicated to the process of visiting the local center to use the services.

Another education and outreach issue in the UK is the initiative taken by others to promote VRS (i.e. promotion that is not by Ofcom, the UK Universal Service provider BT, or Significan't SignVideo). In addition to promoting VRS and other services, these independent efforts appear to lobby the government to make VRS a permanent service perhaps with more than one provider, from an equal access perspective, and not limited to the applications associated with employment or contacting government services.

One such group is TAG, a consortium of the major national and regional UK Deaf organizations, including:

- British Deaf Association (BDA)
- Deaf Connections
- Deafness Support Network
- DeafPLUS
- Hearing Concern LINK
- National Association of Deafened People (NADP)
- Royal Association for Deaf People (RAD)
- Royal National Institute for Deaf People (RNID)
- Sense
- Other non-voting organizations

The TAG website includes links to Significan't SignVideo, Scotland's Sign-Now video relay, and Sorenson's VRS Today websites. Sorenson provides the site's explanation of VRS.

The "TAG Relay Campaign" asks the UK Government, Parliament, and Ofcom to ensure that the following be available:

- "Video relay for fixed line, mobile and internet users"
- "Internet access to all relay services"
- "Fair text and video relay tariffs on all mobile networks"
- "Real-time text that is affordable and can be used on mobile IP networks";
- "Captioned relay that costs the same as a normal telephone call"

- “Deaf-aware sales and customer services.”³²¹

The VRS Today site, offered as a link on the TAG website, provides an extensive public relations campaign established by Sorenson Communications, and calls the Deaf community to action, asking the Deaf to petition the Government, Parliament, and regional Ministers to pressure Ofcom into adding VRS as a Universal Service. The site provides pre-written letters to send to the Government as well as links to Petitions and public listings of signatories. (See Appendix C)

³²¹ www.deaftag.org.uk; TAG Relay Campaign; Aims

APPENDIX A

Access to Work Pre-Quote Form



Contact Details

Name: _____
Employer: _____
Job title: _____ Employee: Self-employed:
Address: _____

Post code: _____
Email: _____
Do you use: BSL: SSE: Other Sign Language: _____
Do you have an Access to Work case officer? Yes No

Access to Work Details

Current interpreter hours agreed by ATW:
a) Per week? _____
b) Per month? _____
Please provide your Access to Work's case officer's details:
Name: _____
Address: _____

Post code: _____
Tel: _____
Email: _____

What is your expected use of the SignVideo interpreter?
a) Making phone calls?
b) Receiving phone calls?
c) Short meetings?

© 2008 Significant (UK) Ltd. All rights reserved.

1

Access to Work Pre-Quote Form

- d) Team meetings?
- e) Customer / clients?
- f) Translations
- g) Other? _____

To see what the system look like in real life – please check it out by watching a video at this web link: <http://www.youtube.com/watch?v=LO089bzRyLw>

How often do you expect you will use the videophone?

- a) More than once a day?
- b) Once a day
- c) A couple of times a week
- d) Once a week
- e) Once a month
- f) Less than once a month

If employed (You may need to ask your IT department for this information)

Do you have:

- 1) IP Telephony network in your place of work? Yes No
- 2) Video Conferencing units? (videophones) Yes No

Do you anticipate using:

- 1) your own network (LAN / WAN)? Yes No
- 2) a separate broadband connection to enable you to use a videophone? Yes No

If you are self employed

Do you have broadband? Yes No

Please provide the name of your broadband service: _____

Do you have a videophone? Yes No

Do you have a webcam on your PC/laptop? Yes No

Please return this completed form to:

Significan't UK Ltd, St Agnes House, 6 Cresswell Park, London, SE3 9RD

Our Contact details

Email: enquiries@signvideo.co.uk

Tel: 0800 0242434

Fax: 0208 463 1121

© 2008 Significan't (UK) Ltd. All rights reserved.

APPENDIX B




SignVideo webpage to help users locate the 'local Authority office' from which to make a video relay connection.³²²


³²² www.SignVideo.co.uk; Services; SignVideo UK location map


APPENDIX C



Telecoms equality for the BSL community


Contact Us   

Enter keywords... 

Home What is VRS? **Bringing VRS to the UK** Resources News Events FAQs  Subscribe via RSS

Bringing VRS to the UK – ways you can help

Interested in bringing telecoms equality for the BSL community in the UK? There are several ways you can make a difference in the fight to make universal VRS a reality. Follow the links below for more information.

Petition for Telecoms Equality **Sign Now** 


Write to your MP

Introducing a universal VRS service for BSL users in the UK will require support from Government and the regulator Ofcom. Ask your MP to help make the case for universal VRS to Government by writing to them directly.

Things to remember:

- If you're writing a letter, address it to the MP's name followed by 'MP'. Eg Joe Public MP. Then the letter should start 'Dear Mr Public'.
- Keep it brief, firm and polite
- Focus on your personal experience and the strength of community feeling
- Ask your MP for their opinion on the issue – you have a right to know what they think!
- Ask your MP to contact the Communications Minister, Ed Vaizey MP, with your concerns
- A handwritten letter always has more of an impact, so please write to your MP at the House of Commons **Name of MP, The House of Commons, Westminster, London, SW1A 0AA**
- Alternatively, you could send your message by email. Use the link to find their email address

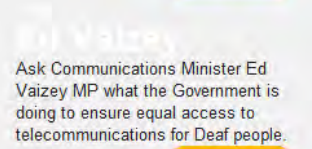
[Download a sample letter](#) [Download a shorter sample letter](#)



Learn How

Tell your family, friends and colleagues to get involved – together we can make a difference and achieve telecoms equality for the BSL community.


Share Now



Ask Communications Minister Ed Vaizey MP what the Government is doing to ensure equal access to telecommunications for Deaf people.

Learn How

Support VRS in the UK

SIGN OUR PETITION 


Latest Tweets

VRS Today! in British Deaf News! <http://on.fb.me/igI24h> about 4 hours ago from TweetDeck

It's Deaf Awareness Week this week - find out what's happening near you. <http://bit.ly/kJxXHP> 09:53:35 AM May 03, 2011 from TweetDeck

91 MPs have signed the Parliamentary motion in support of @VRS Today - equal access to telecoms for #Deaf people <http://bit.ly/fKQleY> 08:09:10 AM April 28, 2011 from TweetDeck

Share



What is VRS?

A Video Relay Service (VRS) allows Deaf individuals to communicate over videophones to hearing people via an interpreter.

VIDEO WALL

[Find out how to create your own video](#)

British Sign Language users do not have equal access to telecommunications



 **Support VRS in the UK**
SIGN OUR PETITION >

Latest Tweets

VRS Today! in British Deaf News! <http://on.fb.me/igI24h> about 4 hours ago from TweetDeck

It's Deaf Awareness Week this week - find out what's happening near you. <http://bit.ly/kJxXHp> 09:53:35 AM May 03, 2011 from TweetDeck

91 MPs have signed the Parliamentary motion in support of @VRS Today - equal access to telecoms for #Deaf people <http://bit.ly/fKQIeY> 08:09:10 AM April 28, 2011 from TweetDeck

VRS Introduction:

British Sign Language (BSL) users do not have equal access to telecommunications in the UK. Existing text-based services are slow and outdated – they force BSL users to communicate in their second language, English.

Video Relay Services (VRS) is a proven technology which creates equal access to telecommunications for sign language users, and for the hearing who wish to communicate with them. VRS has been universally available in the US for many years, provided by several operators.

VRS in the UK is not currently universally available; it will require support from the Government and the regulator Ofcom to make universal VRS a reality for BSL users.

This website provides information on VRS and the steps you can take to help make universal VRS a reality in the UK.

Petition for Telecoms Equality

Sign Now 

APPENDIX D



Video Relay Services: Roadshow

Share this



Coming Soon

Join us on Facebook

Sign Up Create an account or log in to see what friends like.



Deaf Connections Cycle to work Wheel with the Glasgow Bike Club! Click link for more



Team Search - Team in Britain Bike Week

bikeweek.org.uk

people like Deaf Connections.



Facebook social plugin



Deaf person phoning hearing person via online interpreter

Deaf Connections' Involvement in the Campaign for Video Relay Services – VRS Today!

Deaf Connections is involved in a national campaign to inform Deaf people of the benefits of Video Relay Services (VRS) and to lobby the Government for funding.

Our online interpreting service – Sign on Screen, allows Deaf people to communicate with hearing people in British Sign Language rather than English and is an excellent alternative to the current Text Relay service provided by Text Direct.

All that is required is access to a computer with a webcam or a videophone and a broadband connection. This type of service will be available on mobile phones very shortly.



**Your language.
Your right.
Your freedom.**

The campaign is coming to Scotland on the 24th and 25th February and it is important that as many Deaf people as possible come along to learn more about VRS, see it in action and more importantly, sign the petition!

The events are taking place as follows:

- Thursday 24th February: Glasgow 6:30 – 8:00pm Adobe Arthouse 129 Bath Street
- Friday 25th February: Edinburgh 2:00 – 3:30 & 6:30 – 8:00pm Thistle Hotel, Leith Street

<http://www.vrstoday.com/>

Back to Top

UNITED STATES VRS

SUMMARY

1. Overview

| | |
|--------------------------------|--|
| Total Population: | 310,877,000 |
| Deaf Population: | 400,000 |
| Hard of Hearing Population: | 2,000,000 |
| Use Sign as Primary Language: | 200,000 |
| No. of Qualified Interpreters: | 15,500 |
| Official Language: | English |
| Name of Sign Language: | ASL (American Sign Language) |
| VRS Service Schedule: | 1995 – 2002 Trials; 2002 Permanent |
| VRS Vendors: | 9 with FCC certification, 20 others |
| MRS/VRS Funding Model: | VRS funded by levy on all telecommunication service providers for provision as Universal Service |

2. Findings

This research summary, *VRS Models in Other Countries – United States*, provides a synopsis of the VRS environment in the United States.

Key Points:

- Relay services that support individuals with disabilities are supported by law based upon the Americans with Disabilities Act of 1990 (ADA) which established the standard of “functionally equivalent” services equal to a hearing person’s access to telephone service.
- The U.S. was early to adopt MRS and VRS
- The Federal Communication Commission (FCC) and the individual states share in the costs of providing traditional relay services (e.g. TTY, Speech-to-Speech) based on interstate vs. intrastate use
- All Internet Protocol based relay services such as IP-Relay and VRS are the sole responsibility of the FCC

- The FCC pays the interstate and IP service (including VRS) costs from the Interstate TRS Fund, through a contracted Administrator that receives, reviews, and authorizes payment for associated relay service providers
- States have their own contracts with traditional relay providers
 - States pay for intrastate non-IP relay traffic
 - States principally fund these services with surcharges on telecommunications service consumers
- Because each state independently provides traditional MRS, there are many MRS providers in the U.S.
- The FCC does not have contracts with the providers that it reimburses for interstate relay costs; it relies on:
 - Its own rules qualifying providers for reimbursement
 - The submission of relay vendor self-certified monthly invoices and reports
- Federal reimbursement for IP services was authorized before adequate safeguards were in place to protect against misuse and fraud
- By allowing an open market, the FCC encouraged entrepreneurs to enter the highly profitable VRS business, which in turn:
 - Helped to satisfy the dramatic growth in consumer demand
 - Offered choices in service providers
 - Lead to opportunities for fraudulent billing and abuse of the service
- The FCC is establishing additional regulatory restrictions on VRS providers to ensure quality of service and to better control fraud
 - These restrictions include regulations on the use of uncertified subcontractors
- New MRS services such as VRS, IP-Relay, or CapTel show significant growth
 - This reduces the use of traditional TTY relay
- The growth of the new relay services greatly exceeds the reduced use of traditional relay
- The growth of new MRS technologies initially surges (often for many years) until consumer demand is satiated, then services stabilize
- Once new services stop their initial growth, usage volumes become predictable
- Because of the open VRS market, many institutions and organizations train interpreters
- Some institutions, such as Gallaudet University, subcontract with relay providers to generate additional revenue by providing VRS call center services with interpreters

UNITED STATES VRS

RESEARCH

1. Demographics

The United States has an estimated total population of 310,877,000.³²³

The numbers of Deaf and hard of hearing in the population are difficult to estimate accurately. Gallaudet University estimates that in the U.S. there are approximately:

- 400,000 Deaf
- Over 2,000,000 hard of hearing
- 200,000 ASL users³²⁴

2. Legal Background

2.1. General Regulatory Background in the United States

The U.S. Federal Communications Commission (FCC) is responsible for interstate telecommunications, networks, broadband, and broadcasting. MRS is called TRS in the United States (Telecommunications Relay Service), and includes VRS and all other forms of relay. TRS falls under the regulatory authority of the FCC. TRS is a national program to provide functionally equivalent access to public network services by persons who are deaf, hard of hearing, or speech disabled.³²⁵

Each state also has authority to regulate telecommunications within its territory. Therefore, in addition to the federal mandates, each of the fifty states (as well as the District of Columbia, Puerto Rico, and the U.S. Virgin Islands) creates and enforces its own laws pertaining to the provision of intra-state telecommunications, including relay services. For example:

- The State of California has its own relay program, the California Relay Service (CRS)

³²³ United States Census Bureau; 2011 Update; U.S. National Census Data 2010

³²⁴ www.gallaudet.edu; Gallaudet University web site; Gallaudet Research Institute; United States

³²⁵ ; www.fcc.gov/aboutus.html; FCC website; About the FCC; What You Need to Know About TRS

- This program is defined in the California statutes (Public Utilities Code section 2881 as a “dual-party relay system”)
- It is operated under the jurisdiction of the California Public Utilities Commission

By federal law, the states were excluded from regulatory authority over the Internet and all Internet-based (Internet protocol —IP) services, including VRS. These Internet-based services remain the jurisdiction of the FCC.

The FCC established federal minimum service requirements for TRS,³²⁶ and has defined many TRS specifications and requirements including:

- The approved relay service modalities (e.g. TTY, Speech-to-speech, Spanish language relay, etc.)
- The separation of the federal government and the states’ regulatory authority
- IP based service providers’ compensation methodology
- The technical requirements of networks and systems
- The minimum qualifications for relay operators (called “Communications Assistants” or “CAs”)

These FCC requirements were, in some instances, broadly defined. For example, the FCC required that TRS providers achieve an Average Speed of Answer (ASA) of 10 seconds or less for a minimum of 85% of all relay calls, reported daily. This minimum requirement was not defined with enough specific detail to ensure that consumers were receiving reasonable access to the relay service. The lack of specificity in the FCC’s ASA minimum requirements allowed providers to average all relay traffic on a 24-hour basis and blend service modalities (such as English language TTY, Speech-to-speech, and Spanish language TTY) into a single daily reported average, resulting in some modalities receiving significantly disparate access.

The FCC does not contract directly with providers. MRS service contracts are between the providers and the individual states. The individual states can develop relay service standards that exceeded the FCC’s minimum. While not all states have the resources or the desire to create more rigorous or thorough specifications, many states refined their requirements before awarding relay service contracts. For example, higher state standards specified in the contracts include:

- More detailed traffic reporting, such as hourly and daily by modality (e.g. Speech-to-Speech or Spanish language services), abandoned calls, ASA by modality, 9-1-1 calls, etc.
- More specific restrictions on the fraudulent use of relay services (e.g. Speech-to-Speech services by those who may not have a disability)

³²⁶ 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. <http://transition.fcc.gov/cgb/dro/4regs.html>

- Expanded requirements for CA training including:
 - Auditory requirements
 - Educational requirements
 - Typing or ASL skills
 - Training and sensitivity in Deaf culture
 - Studies in disability awareness
- Expanded state auditing authority of providers' sites and services
- Unique state TRS confidentiality statements for both CAs and supervisors
- Clear procedures for identifying, reporting, and correcting service, systems, and network problems.
- Consumer education and outreach

These additional requirements often help states (and providers) to identify and correct shortcomings in consumer service quality such as:

- Excessive wait times during busy hours of the day
- A pattern of unanswered calls for low volume services during the time period of 2 AM – 7 AM

VRS was recognized by the FCC as a transformational technology for its users and, in 2002, became eligible for reimbursement from the Interstate TRS Fund.³²⁷ At the time that VRS was approved for reimbursement by the FCC, the level of specificity in required service standards and reporting was not as detailed as that found in some state TRS contracts.

The FCC regulations have evolved over time; the following abbreviated excerpts are from the FCC's current VRS-specific regulations:³²⁸

§ 64.604 Mandatory minimum standards.

(a) Operational standards — (1) Communications assistant (CA).

(i) TRS providers are responsible for requiring that all CAs be sufficiently trained to effectively meet the specialized communications needs of individuals with hearing and speech disabilities.

³²⁷ Provision of Improved Telecommunications Relay Services and Speech to Speech Services for Individuals with Hearing and speech Disabilities, CC Docket N^o. 98-67, FNPRM 17 FCC Rcd 7779 April 22,2002; 47 C.F.R. § 64.604 © (5) (iii) (TRS Fund)

³²⁸ <http://transition.fcc.gov/cgb/dro/4regs.html>

(iv) TRS providers are responsible for requiring that VRS CAs are qualified interpreters. A “qualified interpreter” is able to interpret effectively, accurately, and impartially, both receptively and expressively, using any necessary specialized vocabulary.

(v) CAs answering and placing a TTY-based TRS or VRS call must stay with the call for a minimum of ten minutes. CAs answering and placing an STS call must stay with the call for a minimum of fifteen minutes.

(vi) TRS providers must make best efforts to accommodate a TRS user's requested CA gender when a call is initiated and, if a transfer occurs, at the time the call is transferred to another CA.

(2) Confidentiality and conversation content.

(i) Except as authorized by section 705 of the Communications Act, 47 U.S.C. 605, CAs are prohibited from disclosing the content of any relayed conversation regardless of content, and with a limited exception for STS CAs, from keeping records of the content of any conversation beyond the duration of a call, even if to do so would be inconsistent with state or local law. STS CAs may retain information from a particular call in order to facilitate the completion of consecutive calls, at the request of the user. The caller may request the STS CA to retain such information, or the CA may ask the caller if he wants the CA to repeat the same information during subsequent calls. The CA may retain the information only for as long as it takes to complete the subsequent calls.

(ii) CAs are prohibited from intentionally altering a relayed conversation and, to the extent that it is not inconsistent with federal, state or local law regarding use of telephone company facilities for illegal purposes, must relay all conversation verbatim unless the relay user specifically requests summarization, or if the user requests interpretation of an ASL call. An STS CA may facilitate the call of an STS user with a speech disability so long as the CA does not interfere with the independence of the user, the user maintains control of the conversation, and the user does not object. Appropriate measures must be taken by relay providers to ensure that confidentiality of VRS users is maintained.

(3) Types of calls.

(i) Consistent with the obligations of telecommunications carrier operators, CAs are prohibited from refusing single or sequential calls or limiting the length of calls utilizing relay services.

(vi) TRS providers are required to provide the following features: (1) Call release functionality; (2) speed dialing functionality; and (3) three-way calling functionality.

(iii) Speed of answer requirements for VRS providers are phased-in as follows: by January 1, 2006, VRS providers must answer 80% of all calls within 180 seconds, measured on a monthly basis; by July 1, 2006, VRS providers must answer 80% of all calls within 150 seconds, measured on a monthly basis; and by January 1, 2007, VRS providers must answer 80% of all calls within 120 seconds, measured on a monthly basis. Abandoned calls shall be included in the VRS speed of answer calculation.

(3) Equal access to interexchange carriers. TRS users shall have access to their chosen interexchange carrier through the TRS, and to all other operator services, to the same extent that such access is provided to voice users.

(4) TRS facilities. (i) TRS shall operate every day, 24 hours a day. Relay services that are not mandated by this Commission need not be provided every day, 24 hours a day, except VRS.

(C) Data collection from TRS providers. TRS providers shall provide the administrator with true and adequate data, and other historical, projected and state rate related information reasonably requested by the administrator, necessary to determine TRS Fund revenue requirements and payments. TRS providers shall provide the administrator with the following: total TRS minutes of use, total interstate TRS minutes of use, total TRS operating expenses and total TRS investment in general accordance with part 32 of this chapter, and other historical or projected information reasonably requested by the administrator for purposes of computing payments and revenue requirements. The administrator and the Commission shall have the authority to examine, verify and audit data received from TRS providers as necessary to assure the accuracy and integrity of TRS Fund payments.

(E) Payments to TRS providers. TRS Fund payments shall be distributed to TRS providers based on formulas approved or modified by the Commission. The administrator shall file schedules of payment formulas with the Commission. Such formulas shall be designed to compensate TRS providers for reasonable costs of providing interstate TRS, and shall be subject to Commission approval. Such formulas shall be based on total monthly interstate TRS minutes of use. TRS minutes of use for purposes of interstate cost recovery under the TRS Fund are defined as the minutes of use for completed interstate TRS calls placed through the TRS center beginning after call set-up and concluding after the last message call unit. In addition to the data required under paragraph (c)(5)(iii)(C) of this section, all TRS providers, including providers who are not interexchange carriers, local exchange carriers, or certified state relay providers, must submit reports of interstate TRS minutes of use to the administrator in order to receive payments. The administrator shall establish procedures to verify payment claims, and may suspend or delay payments to a TRS provider if the TRS provider fails to provide adequate verification of payment upon reasonable request, or if directed by the Commission to do so. The TRS Fund administrator shall make payments only to eligible TRS providers operating pursuant to the mandatory minimum standards as required in §64.604, and after disbursements to the administrator for reasonable expenses incurred by it in connection with TRS Fund administration. TRS providers receiving payments shall file a form prescribed by the administrator. The administrator shall fashion a form that is consistent with parts 32 and 36 procedures reasonably tailored to meet the needs of TRS providers. The Commission shall have authority to audit providers and have access to all data, including carrier specific data, collected by the fund administrator. The fund administrator shall have authority to audit TRS providers reporting data to the administrator. The formulas should appropriately compensate interstate providers for the provision of VRS, whether intrastate or interstate.

(F) TRS providers eligible for receiving payments from the TRS Fund are:

(4) Video Relay Service (VRS) and Internet Protocol (IP) Relay providers certified by the Commission pursuant to §64.606.

As discussed in the *Relay Services* and *Fraudulent Call Volumes and Costs* sections that follow, the FCC stated that there were management issues related to the initial provision of VRS. The FCC has initiated investigations; begun clarifying approved services in their Structure and Practices of the Video Relay Service Program, CG Docket No. 10-51; and has issued and continues to clarify VRS Fraud Orders.³²⁹

In March 2002 VRS was recognized by the FCC as a service that qualified to be reimbursed from the Interstate TRS Fund. A number of abuses of the service followed, and certain individuals and providers distorted the intention of the service for financial gain.³³⁰

To gather consumer and stakeholder feedback on the issues related to the provision of VRS and reports of fraud, the FCC initiated a number of related activities, e.g., Notices of Inquiry, Notices of Proposed Rulemakings, and public workshops.

2.2. Rights of People with Disabilities

The FCC mandated rules for TRS in response to Title IV of the Americans with Disabilities Act of 1990 (ADA) and its impact upon Title 47, U.S. Code, Section 225. The FCC's mandates pertaining to TRS are contained in Title 47, Code of Federal Regulations, Part 64 with the most recent information available on the FCC's website at www.fcc.gov/cgb/dro/trs.html.

The FCC also mandates other national telecommunications standards to ensure access. For example, it requires all states to implement 7-1-1 dialling for access to their TRS provider(s). The significance and impact of this law in the U.S. is described below in *Telecommunications Service Obligations*.

2.3. Telecommunications Service Obligations

Telecommunications Relay Services (TRS) are defined by the FCC as:

Telephone transmission services that provide the ability for an individual who has a hearing or speech disability to engage in communication by wire or radio with a hearing individual in a manner that is functionally equivalent to the ability of an individual who does not have a hearing or speech disability to communicate using voice communication services by wire or radio. Such term includes services that enable two-way communication between an individual who uses a text telephone or other nonvoice terminal device and an individual who does not use such a device, speech-to-speech services, video relay services and non-English relay services. TRS supersedes the terms "dual party relay system," "message relay services," and "TDD Relay."³³¹

³²⁹ Federal Communications Commission; FCC 11-54; Report and Order and Further Notice of Proposed Rulemaking; CG Docket No. 10-51; Released April 6, 2011

³³⁰ See video of that Workshop at http://transition.fcc.gov/live/2009_12_17-workshop.html

³³¹ FCC TRS Rules; § 64.601 Definitions and provisions of general applicability; Section (15)

Unlike the legal or regulatory foundation that supports relay services found in most other countries, the FCC definition of TRS, to satisfy Title IV of the ADA requirement of “functional equivalent,” service is interpreted to mean: services equal to a hearing person’s access to the telephone, with availability 24-hours a day, 7-days a week.³³² For example, the FCC has interpreted “functional equivalency” as access to a relay interpreter (e.g., Communications Assistant —CA) with the same immediacy telephone users have when lifting a handset to access a dial tone.³³³

Each state is independently responsible for acquiring and administrating its own TRS. Typically, TRS is an outsourced service that is contracted and managed by a state agency. For example:

- In California the relay service is known as the California Relay Service (CRS)
 - It is under the management and supervision of the California Public Utilities Commission (CPUC), which has regulatory authority of telecommunications within the state.
 - The CPUC, like similar agencies in other states, has contracted CRS to various providers over the years as a result of a competitively bid Request for Proposals and rigorous vendor selection process.

While traditional TTY relay providers must be certified or contracted by a state in order to receive federal funding for interstate calls, VRS and other forms of IP based relay services need only receive FCC approval as “common carriers” in order to receive federal funds for their services. To facilitate this approval process, the FCC has broadly interpreted its definition of “common carrier” to include IP based relay since the purpose of these services is to provide the functional equivalence of interstate telecommunications service.

2.4. Regulatory Funding of TRS/VRS

Although the law required that the carriers be reimbursed for their costs to provide relay services with only a minimum allowable profit, relay programs evolved into substantially profitable business units for carriers such as AT&T, MCI/WorldCom, and Hamilton Telephone Company. This resulted in significant competition for state relay service contracts (which then also meant additional reimbursement from the federal Interstate TRS Fund for interstate TTY relay traffic.)

At one point, in 2001, there were eight different TRS providers. Services were dominated by Sprint who had contracts with 27 states and MCI who had contracts with 13 states. By percentage of population, these two competitors represented over 77% of the United States. However, as noted below, the consumer preference for IP and video relay services has resulted in dramatic declines in traditional relay traffic, as well as diminished competitive interest in these contracts.

³³² 47 U.S.C. 225(a)(3). See also S. Rep No. 116, 101st Cong., 1st Sess. 77 (1989), discussing the requirement for functional equivalency services.

³³³ While this is the FCC’s interpretation as a goal, it also recognizes the limitations of the ability of TRS providers to achieve parity in all instances. Nevertheless, such interpretation forms the basis for its decisions and regulations.

All states are responsible for reimbursing their TRS Providers monthly for all intrastate calls. States pay rates based on individually bid and awarded contracts with their Providers. Generally speaking, states only contract relay services to a single provider; however, states may have more than one provider, as is the case in California. Each state's relay provider contract is also subject to terms and conditions that may exceed the minimum standards established by the FCC. Unique terms established by the states may include a faster average speed of answer or ASA (e.g., a daily average as low as 3.3 seconds), more detailed reports, or financial commitments for outreach and education. Furthermore, as a condition of their contracts, some states apply liquidated damages or penalties against providers' monthly invoices if the relay services do not satisfy contractual commitments.

The FCC does not contract with providers; it allows certified providers to submit invoices for reimbursement from the TRS Fund based on self reporting, declaring that they have achieved the minimum standards established by the FCC. VRS providers must produce Annual Compliance Reports. These reports typically include:

- Statements certifying current and past compliance with FCC requirements
- Updated status of the provider's adoption and deployment of new VRS requirements
- Signed certification of the report's accuracy by an authorized executive

The FCC authorizes an independent agent to administer the federal Interstate TRS Fund. The Fund Administrator receives invoices from providers that are under contract to the individual states and reimburses them for all interstate and international calls. FCC TRS rates are adjusted annually.

The current TRS federal rates through 30 June are:

- \$2.0256 USD per TTY conversation minute
- \$3.1566 USD per STS conversation minute

The FCC also reimburses, at the appropriate rate:

- 60% of all TTY and STS conversation minutes when the outbound call is to an 800 or 900 number
 - The states pay for the remaining 40% at the individually contracted per minute rates

The Interstate TRS Fund also reimburses providers of VRS at a tiered rate for all VRS calls (intra- and inter-state). The per conversation minute rates for VRS through June 2011 are:³³⁴

| | |
|--|----------|
| Tier I (0 – 50,000 minutes of service during a month) | \$6.2390 |
| Tier II (50,001 – 500,000 minutes of service during a month) | \$6.2334 |

³³⁴ These rates are likely to be extended well past June 30, 2011. See http://transition.fcc.gov/Daily_Releases/Daily_Business/2011/db0415/FCC-11-62A1.txt

Tier III (500,001 or more minutes of service during a month) \$5.0668

The FCC establishes its reimbursement rates annually for VRS based on an average of the costs of operations as reported by the VRS providers (including small allowances for a other factors.³³⁵) This analysis is performed by the Administrative Agent and the resulting rates (or modified rates) are established by the FCC. The FCC does not release actual cost or reimbursement figures for individual providers or their call centers. The FCC's cost and reimbursement methodology for VRS is presently under review, as the FCC has recognized that the current methodology has significant deficiencies.

The FCC Interstate TRS Fund Administrator is responsible for accounting for payments into the fund received from approximately 5,000 telecommunications common carriers, and disbursing payments to relay providers. These relay providers report their interstate minutes monthly for reimbursement.

Each year, the federal TRS Fund Administrator submits proposed compensation rates to the FCC for consideration and approval. On April 30, 2010, the Fund Administrator (at that time it was the National Exchange Carrier Association, Inc. — NECA) submitted proposed compensation rates, demand projections, projected fund size ,and proposed carrier contributions for July 2010 through June 2011. The proposed compensation rates and fund size estimate were based on the rate methodologies adopted by the Commission in its October 26, 2007 Cost Recovery Order.

Each state has its own methodology for generating the TRS reimbursement funds for the intrastate services they will pay for. For example:

- California funds come from a surcharge paid by California telephone ratepayers as codified in California Public Utilities Code section 2881 et seq.
 - The California surcharge has a present statutory limit of one-half of one percent (0.5%) on all intrastate telephone service (excluding one-way radio paging and universal telephone service)
 - The surcharge appears on California ratepayers' telephone bills under "CA Relay Service and Communications Devices Funds" or similar designation

3. Relay Services in the United States

3.1. Types of User Services Provided

The United States was one of the earliest adopters of nation-wide VRS. This was due primarily to the status of disability rights in the U.S. and the adoption of a regulated telecommunications funded VRS model. The

³³⁵ Such as 1.6% for cash working capital, 3.2% for growth in expenses, and \$0.0083 per minute for ongoing E911 and ten-digit numbering costs, and a small percentage for profit.

FCC has imposed rules regarding VRS call types authorized for reimbursement from the TRS Fund; for example:

- 900 or 976 calls are not approved
- International users may not use U.S. VRS calls unless the call originates from or terminates with a U.S. VRS user
- Translation between languages, e.g., ASL to Spanish, are not reimbursed.
- That VRS users be supplied with a unique ten-digit VRS telephone number
- That calls must be answered in the order received, except calls for 9-1-1 services
- That VRS equipment provided by one vendor must be compatible with the technology of other certified VRS providers
- That providers may not offer financial incentives to use their service over another provider's service

The FCC did not mandate that states or businesses provide VRS. However, the FCC has mandated that certified providers offering VRS must provide service 24 hours a day, 7 days a week. It has also specified minimum standards for quality assurance (e.g., VRS providers must answer 80% of all VRS calls within 120 seconds).³³⁶

The FCC requires formal certification for providers to become eligible to receive compensation directly from the Interstate TRS Fund. In addition to providing an Annual Compliance Report, providers must renew Certifications every five years.

Certified VRS providers often have contracts with individual states for other types of relay such as TTY and Speech-to-Speech. The following providers have current FCC VRS certification, and advertise and promote their services to consumers:

- ATT
- American Network
- CAC (Communication Access Center for the Deaf and Hard of Hearing)
- CSDVRS (Communication Service for the Deaf, Inc.)
- Hamilton Relay
- Lifelinks VRS (Healinc Telecom LLC)
- Purple Communications

³³⁶ <http://www.fcc.gov/cgb/consumerfacts/videorelay.html>. This is different than the 85% of calls answered within 10 seconds for TTY relay.

- Snap VRS
- Sorenson
- Sprint
- ZVRS

Additionally, many of the certified providers subcontract their service to other relay vendors. These subcontractors focus on VRS and usually do not provide other relay services. The following is a list of the additional VRS providers (subcontractors) in the United States:

- ACE VRS
- ASL Services Holdings, LLC
- BISVRS (Birnbaum Interpreting Services)
- CallCodaVRS (CODA VRS Corporation)
- CAAG (Communication Access Ability Group)
- Convo Relay (Convo Communications, LLC)
- Deaf Link VRS (Deaf Link, Inc.)
- Gallaudet University
- Gracias VRS
- IW Relay, Inc.
- LDS VRS
- MalkaVRS (Malka Communications Group, Inc.)
- NationWide VRS
- NorthStar Relay, LLC
- OneVRS (ONE Technologies, LLC)
- PAH Relay
- PowerVRS
- PureVRS
- Say-Hey VRS (Say-Hey, Inc.)
- Sign Language Specialists, Inc.
- SkyVRS
- URRelay (NexTalk, Inc.)

- Viable VRS (Viable, Inc.)
- WINVRS (Western Interpreting Network)

The FCC is taking measures to prohibit this subcontracting arrangement and intends to have VRS provided exclusively by certified providers. The FCC planned on implementing this restriction June 1, 2011 but has now extended the implementation of the order to October 1, and then again to November 15, 2011. If not certified by that time, providers must petition the FCC for a temporary waiver or cease providing VRS until they become certified by the FCC.³³⁷

November 15, 2011 Update: As of this date, the following ‘subcontractor’ providers have been granted conditional certification by the FCC (subject to inspection by the FCC):

- Convo Relay (Convo Communications, LLC)
- ASL Services Holdings, LLC (which also included Gracias VRS)
- CAAG (Communication Access Ability Group)

As of November 15, 2011, the following ‘subcontractor’ providers have been denied FCC certification to provide VRS:

- BISVRS (Birnbaum Interpreting Services)
- CallCodaVRS (CODA VRS Corporation)
- Power VRS
- S & L Deaf Communications LLC
- Say-Hey VRS (Say-Hey, Inc.)

All VRS providers are governed by the same rules and regulations as set forth by the FCC. These rules include requirements for:

- 24/7/365 availability
- Emergency call handling
- Interoperability of technology
- No cost to the consumer for the majority of calls
- Fraud handling and avoidance
- A minimum standard of quality for video relay interpreters
 - (Discussed further in the *Interpreter Resources and Programs* section of this report)

³³⁷ Federal Communications Commission; FCC 11-54; Report and Order and Further Notice of Proposed Rulemaking; CG Docket No. 10-51; Released April 6, 2011

3.2. Current VRS Communication Technologies

VRS was authorized by the FCC in 2002 for reimbursement from the Interstate TRS Fund.³³⁸ Significant growth of both VRS and IP Relay followed, with a corresponding decline in TTY use.³³⁹

Most of the initial VRS providers in the United States used proprietary platforms to support their VRS services. Each of these platforms had different connectivity requirements; often they would not support interoperability between end-users' different hardware and software or between different VRS providers. For early adopters of VRS in the U.S. and elsewhere, interoperability was complicated by non-compatible communication technologies, such as ISDN and ADSL. However, with the increase of Internet VoIP and video services, as well as the advances in wireless cellular communication through 3G and 4G technologies, came a more open, cross-compatible approach to VRS.

VRS services are now widely available via:

- Traditional videophone hardware
- Computer videophone software applications ("clients")
- Web browser-based clients
- 3G/4G and Wi-Fi connected mobile devices such as cellular phones and tablet computers

Although many VRS providers still use proprietary internal system platforms, they are moving toward an environment where users can connect to them from almost any broadband or 3G/4G connected device.

VRS users connect to the relay center using many technologies, including:

- Videophones
- Computers with webcams running video chat or proprietary VRS software programs ("clients") that are downloaded and installed on the end users' computers
- Computers with webcams running browser-based chat or VRS software programs (i.e., no software installation required on the end-users' computers)
- Mobile or tablet devices with wireless or cellular Internet connectivity

³³⁸ "The Commission authorizes Internet Protocol relay service as a recognizable TRS service. The Commission finds that IP Relay falls within the statutory definition of TRS and those IP Relay providers are eligible to recover their costs in accordance with Section 225 of the Communications Act of 1934." (www.fcc.gov, TRS history docket) "MRS" is referred to as "TRS" in the United States.

³³⁹ VRS: 1 million minutes 5/2004 grew to 9 million minutes 1/2009; IP Relay: 1 million minutes 9/2002 grew to 7 million minutes 9/2007; TTY: 3 million minutes 1/2002 declined to 500,000 minutes 1/2011. NECA Interstate TRS, Internet, CapTel and VRS Minutes; Actuals January 2002 – August 2010; Projection September 2010 – June 2011 Chart from NECA website; www.NECA.org

Each of these devices and software components has its own minimum hardware and software requirements. Regardless of what type of device or software is used, the user must have a sufficiently fast network connection to successfully transmit video images between the Deaf user and the relay center operator.³⁴⁰

Unlike the proprietary VRS platforms, the nWise MMX VRS platform is available on the open market and is currently deployed in many European Union countries (including: Sweden, Finland, Norway, and Denmark). nWise has a current VRS platform contract with *Say-Hey.tv*, a U.S. based VRS company. The MMX supports connectivity to and from relay users (including video) via a variety of gateways including:

- Textphones (Baudot, V.21, EDT, the ITU standard of V.18)
- Skype video and voice
- H.323
- H.264 M (3G video)
- Standard API for SIP-enabled equipment such as media gateways
- The public switched telephone network (PSTN)

Another commercially available VRS platform is the AuPix APS-50 which is deployed in a variety of VRS applications including Lifelinks, a VRS provider in the U.S. It also has a high level of compatibility with a variety of gateway protocols and follows the European “Total Conversation” standard.³⁴¹ These include most video and audio protocols, such as:

- Video ITU-T H.323
- Video H.264 and H.263
- Audio G.711
- Optionally, G.729

The AuPix APS-50 also conforms to the industry standard SIP protocol to support a wide range of videophones, set-top boxes, soft phones, and SIP handsets. The company says the system is also capable of transcoding between incompatible standards.

A third commercially available VRS platform is provided by IVèS, a French company. It is also compatible with a variety of gateway protocols, conforms to the industry standard SIP protocol and follows the European “Total Conversation” standard.

³⁴⁰ See this VRS Feasibility Study’s phase 5, *Technologies and Their Forecasts*, for details on hardware, software and network requirements for VRS.

³⁴¹ Total Conversation Standard as defined in the EU describes the availability of simultaneous communication via voice, text and video; Reach 112 Project; Information and Communication Technologies (ICT)

In the United States, IW Relay, operating as a subcontractor for Lifelinks VRS is listed as a customer. The IVèS platform is also deployed in France, Switzerland, Belgium and the United Kingdom.

While a majority of public and private VRS providers have developed or re-engineered their own proprietary call center platforms, nWise, IVèS and AuPix are three commercially available VRS platform solutions that have been installed by U.S. relay providers.

4. Broadband and Connectivity Infrastructure

4.1. Broadband in the United States

Although the United States was an early adopter of VRS, the broadband services that are required to support VRS are not as widely available as in other countries, including Canada.

Most countries define “broadband” as an Internet connection with a minimum download speed of 1.5 Mbps. In the United States, the FCC defines “broadband” as an Internet connection with download speeds as low as 200 kbps.³⁴²

Current initiatives to expand access to broadband are re-defining “broadband” to meet a higher standard. The 2010 U.S. National Broadband Plan set a National Broadband Availability Target that by 2020 every household and business in America should have access to affordable broadband services with *actual* (as opposed to “maximum” or “up to”) download speeds of at least 4 Mbps and *actual* upload speeds of at least 1 Mbps.³⁴³

4.2. Current Broadband Availability in the United States

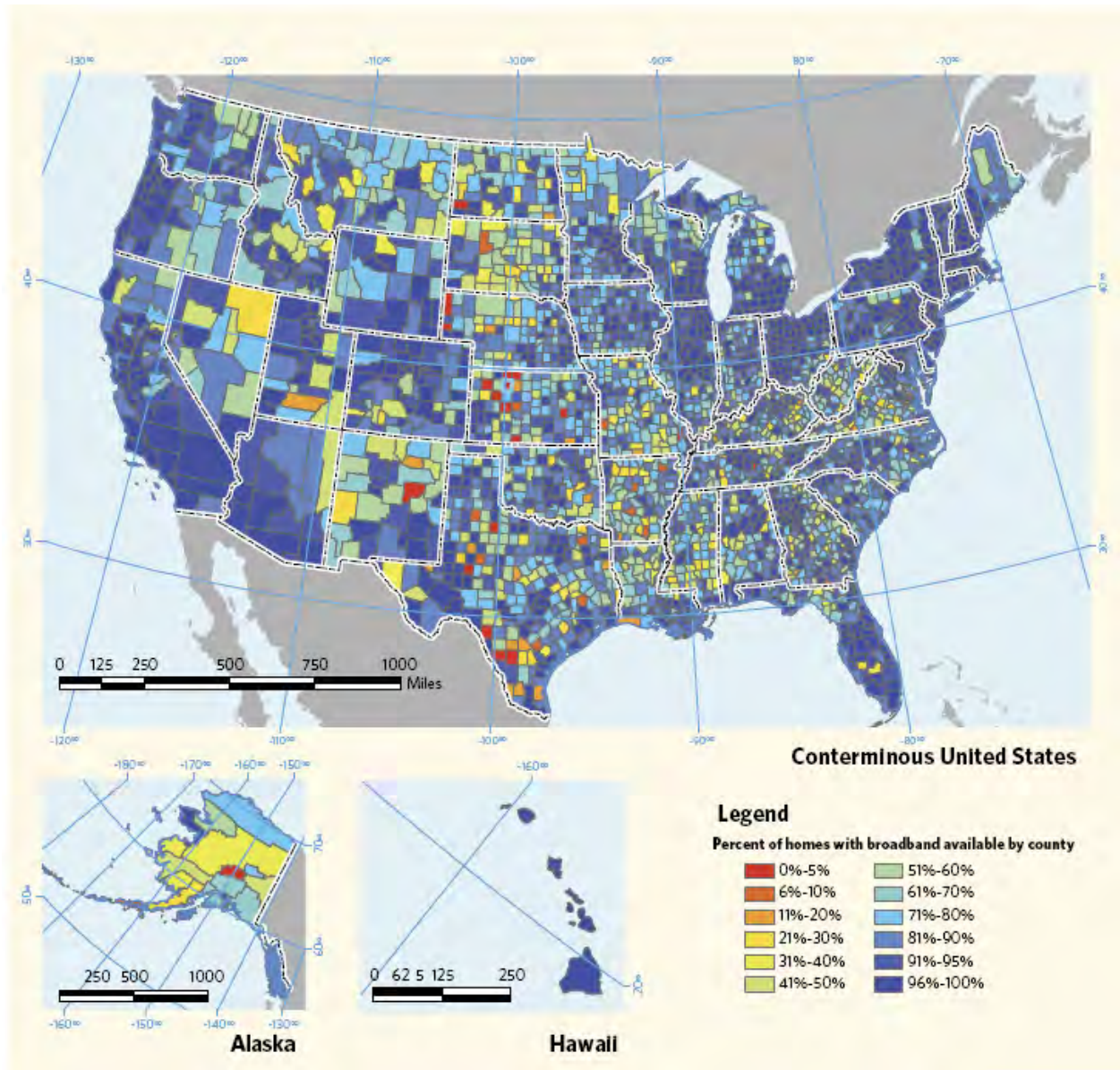
Hardwired/Landline Broadband

The U.S. National Broadband Plan reports that, as of 2009, almost 95% of the U.S. population lives in housing units with access to broadband infrastructure that meets the future target minimum download speed of at least 4 Mbps. However, usage statistics describe much lower broadband adoption rates. The Organisation for Economic Co-Operation and Development (OECD) “Households with Broadband Access” reports that as of 2009, 63.5% of United States households have broadband access (broadband defined as any speed).

³⁴² <http://www.fcc.gov/cgb/consumerfacts/highspeedinternet.html>

³⁴³ United States National Broadband Plan, 2010, Section 8; <http://www.broadband.gov/plan/>

Figure 25: Availability of 4Mbps-Capable Broadband Networks in the U.S. (by County)³⁴⁴



³⁴⁴ United States National Broadband Plan, 2010, Exhibit 3-D; <http://www.broadband.gov/plan/>

Figure 26: US Broadband Availability by Speed, (June 2010) ³⁴⁵

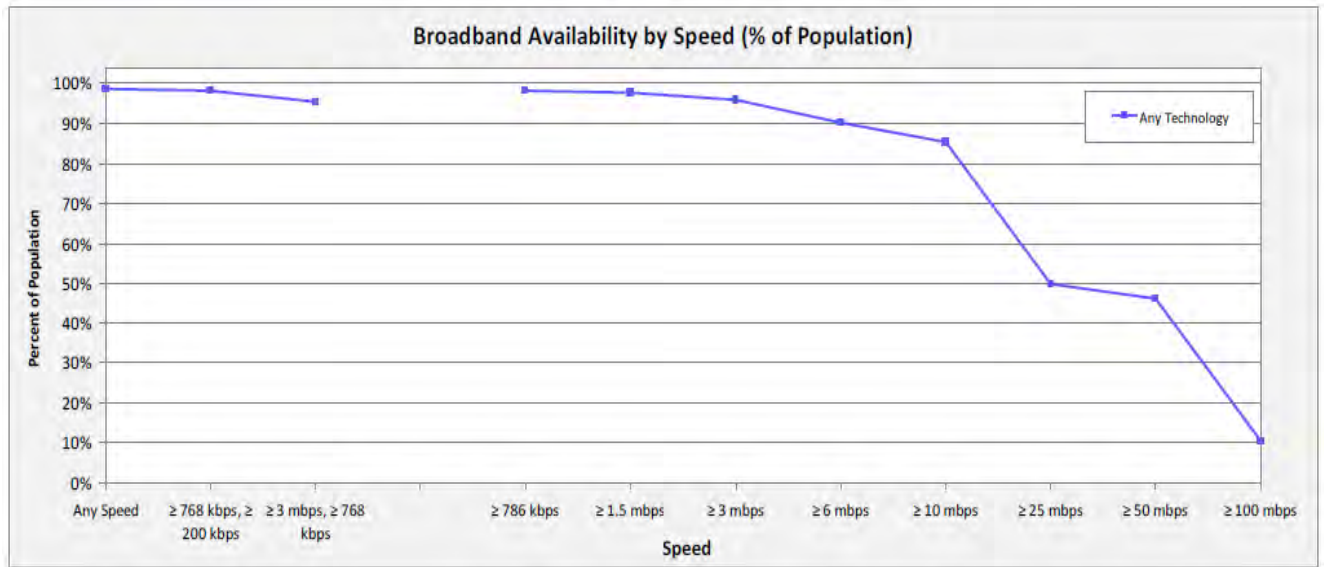
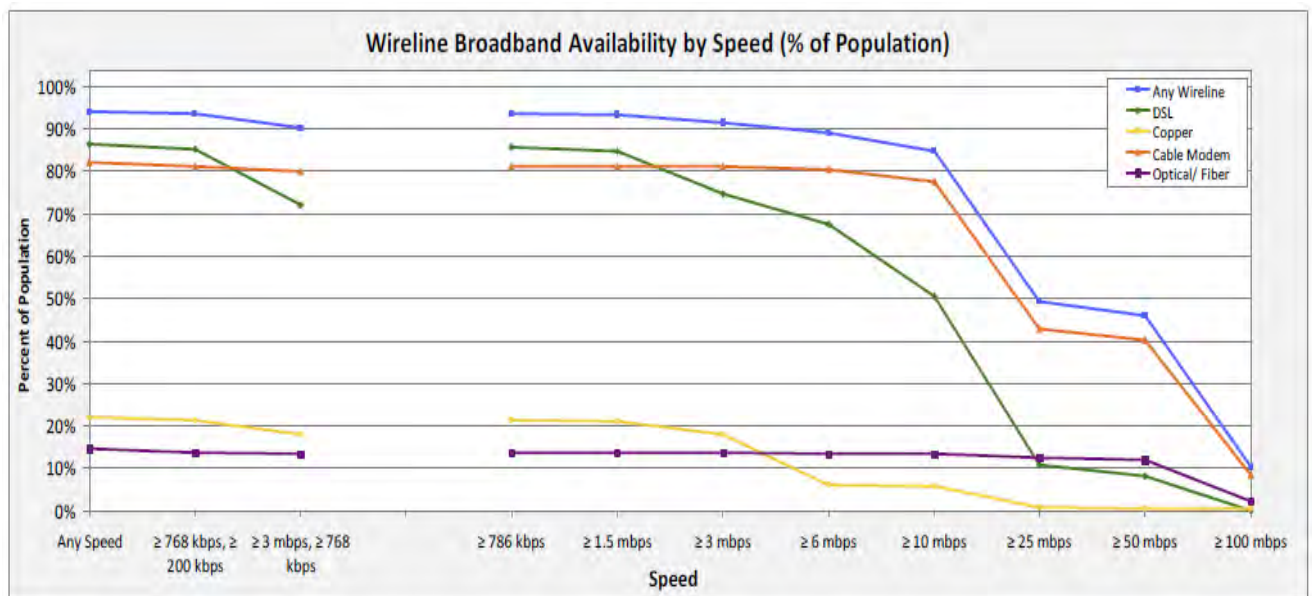


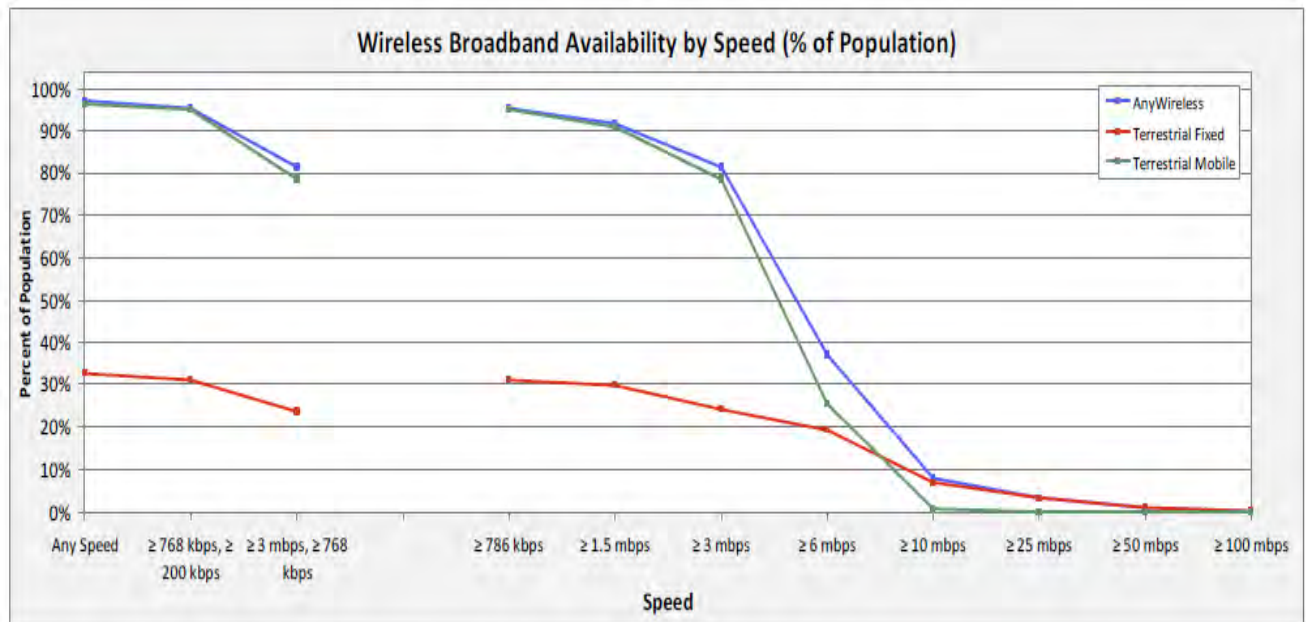
Figure 27: U.S. Wireline Broadband Availability by Speed (June 2010) ³⁴⁶



³⁴⁵ <http://www.broadbandmap.gov/download/reports/national-broadband-map-technology-by-speed.pdf>

³⁴⁶ <http://www.broadbandmap.gov/download/reports/national-broadband-map-technology-by-speed.pdf>

Figure 28: U.S. Wireless Broadband Availability by Speed (June, 2010)³⁴⁷



Cellular/Mobile Broadband Availability

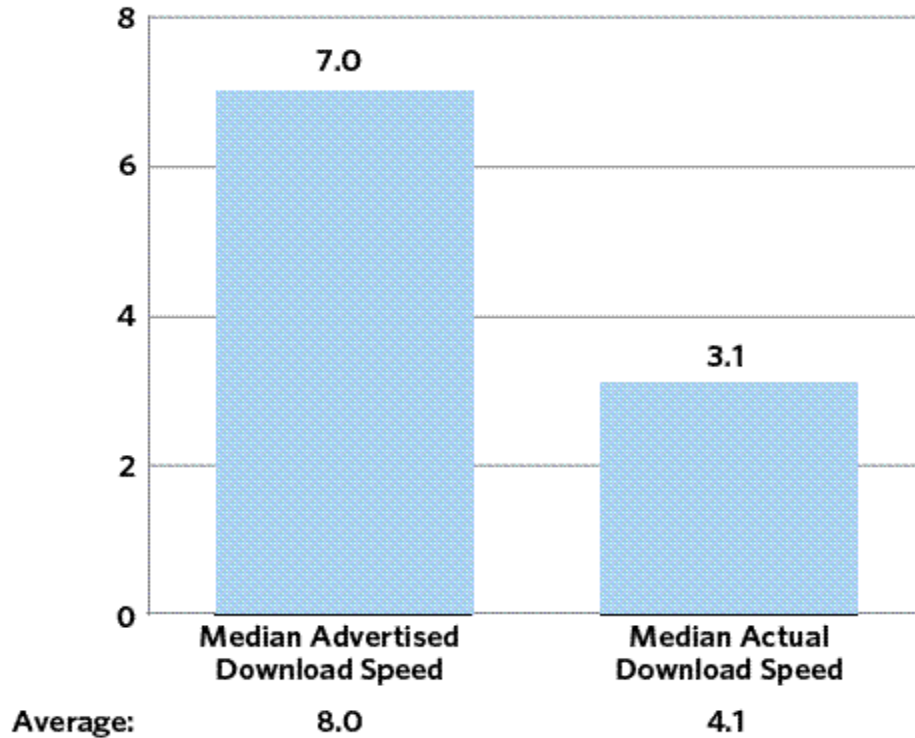
According to American Roamer, a wireless data analytics firm, in November 2009 approximately 60% of the United States was covered by 3G cellular services, however this figure is based on wireless carriers' advertised coverage maps. Actual consumer availability is less than this figure.

Advertised vs. Actual Broadband Speeds

An additional factor in considering broadband availability in the U.S. is the great disparity between advertised and actual broadband speeds:

³⁴⁷ <http://www.broadbandmap.gov/download/reports/national-broadband-map-technology-by-speed.pdf>

Figure 29: Advertised Versus Actual U.S. Fixed Broadband Residential Download Speeds (Mbps)³⁴⁸



5. VRS Usage Volumes

Until 2011, the National Exchange Carrier Association, Inc. (NECA) was the FCC’s administrator for the Interstate TRS Fund. As of July 1, 2011 the new Fund Administrator is Rolka Loube Saltzer Associates, LLC (RLSA). In the past NECA published reports that provided data related to overall usage volumes and specific trends of TRS and VRS usage.

According to a funding estimate published by the FCC, VRS in the United States has:

- A volume of approximately 100 million minutes a year
- Interstate TRS Fund costs of \$562 Million (US) a year or “\$1.123 Billion for 2010 and 2011”³⁴⁹

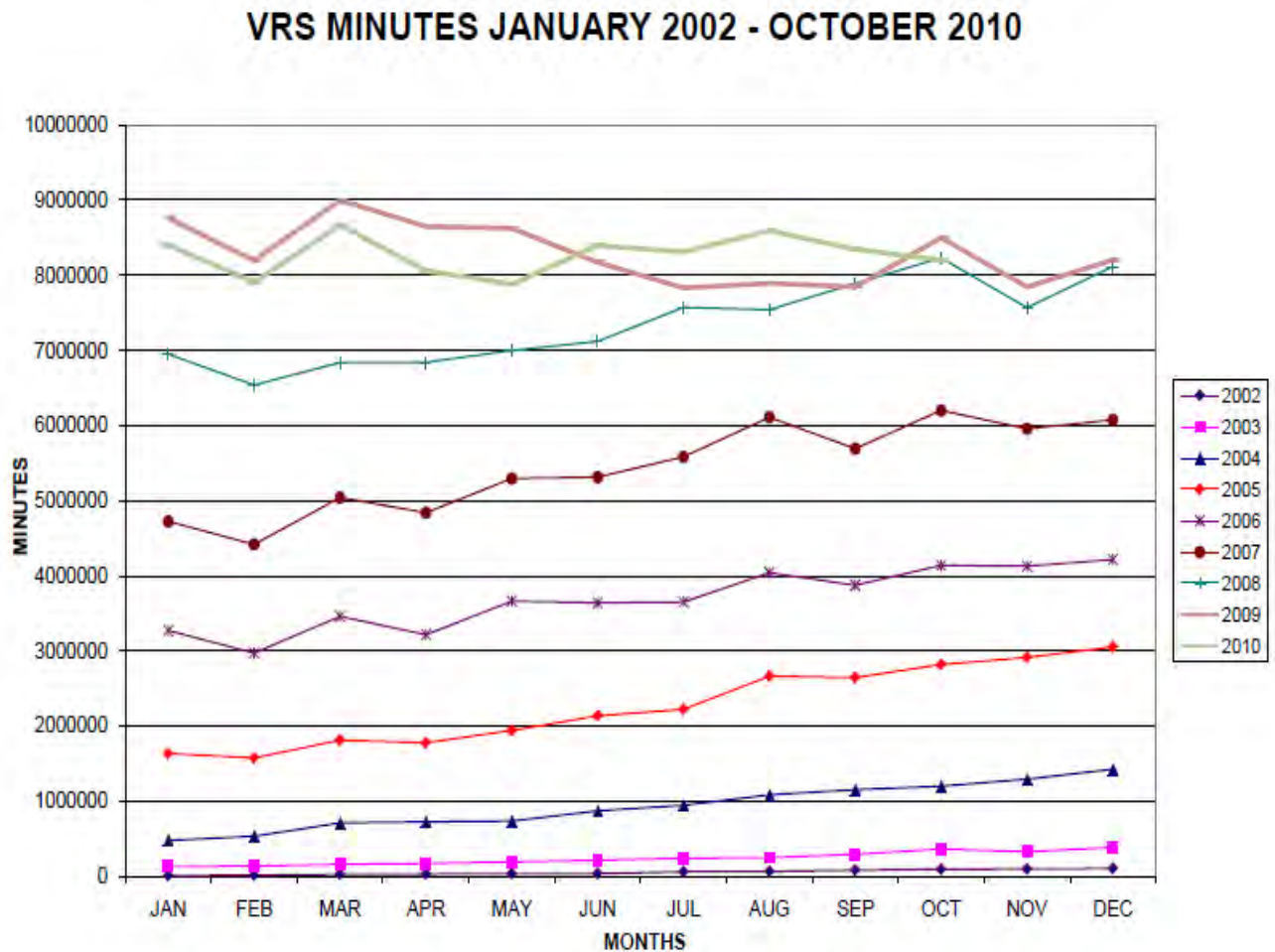
This TRS/VRS traffic is confirmed by Interstate Fund traffic volume reports provided by the NECA. These reports reflect that U.S. VRS traffic volume in 2010 was averaging:

³⁴⁸ United States National Broadband Plan, 2010, Exhibit 3-G; <http://www.broadband.gov/plan/>

³⁴⁹ Federal Communications Commission CG Docket No. 03-123; “Interstate Telecommunications Relay Services Fund Payment formula and Fund Size Estimate”; April 30, 2010

- 2,203,151 calls per month
 - An average of 8,368,705 minutes of use per month³⁵⁰ (See also Appendix A and B)

Figure 30: U.S. VRS Minutes 2002 - 2010



0106 VRS GROWTH.xls Chart3 1/10/2011

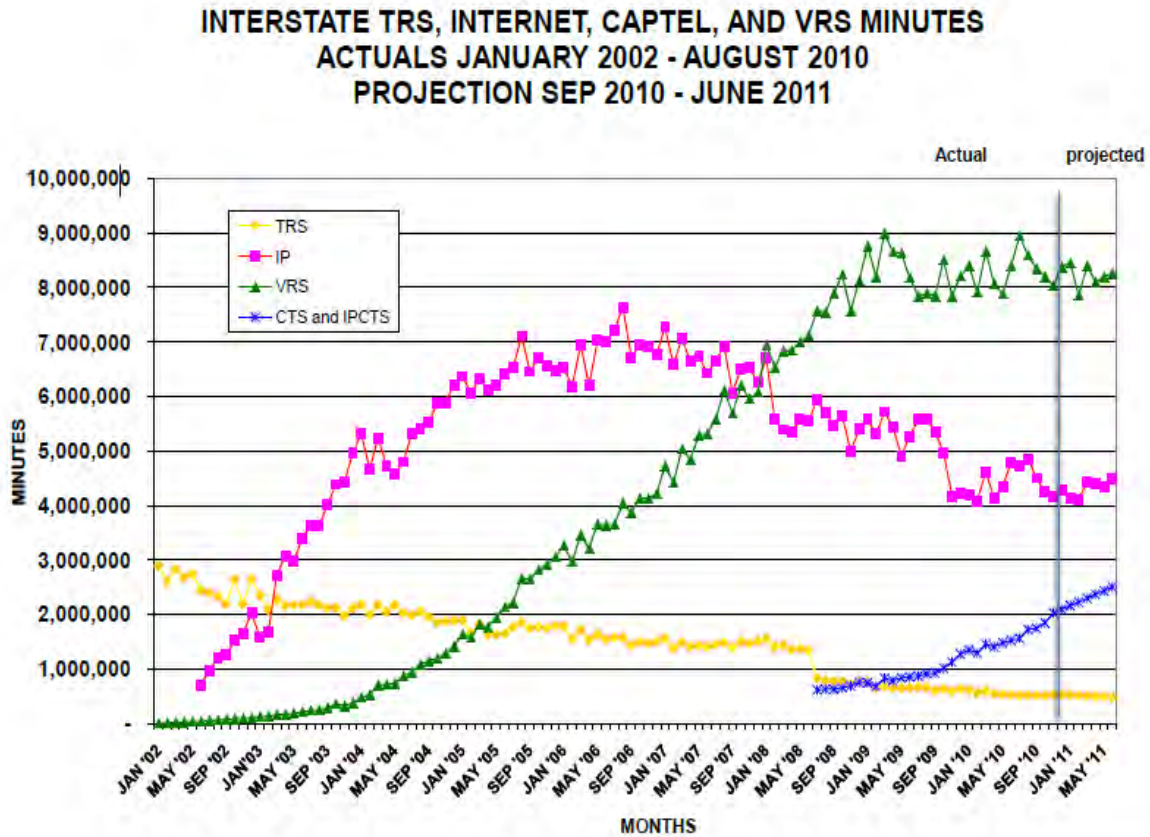
The following charts from the NECA show trends in U.S. VRS traffic.

Comments on figure 30:

³⁵⁰ National Exchange Carriers Association TRS Fund Video Relay Service Terminating Call/Minute Summary 2010

- VRS minutes expanded steadily for the first six years of service
- Monthly totals each year exceeded the same month in the previous year by 1-2 million minutes
- In 2009 and 2010, VRS traffic appears to reach a plateau of approximately 8 million minutes
- The December 2008 level for VRS is similar to December 2009 and 2010

Figure 31: Comparison of Different Modes of Relay, U.S.



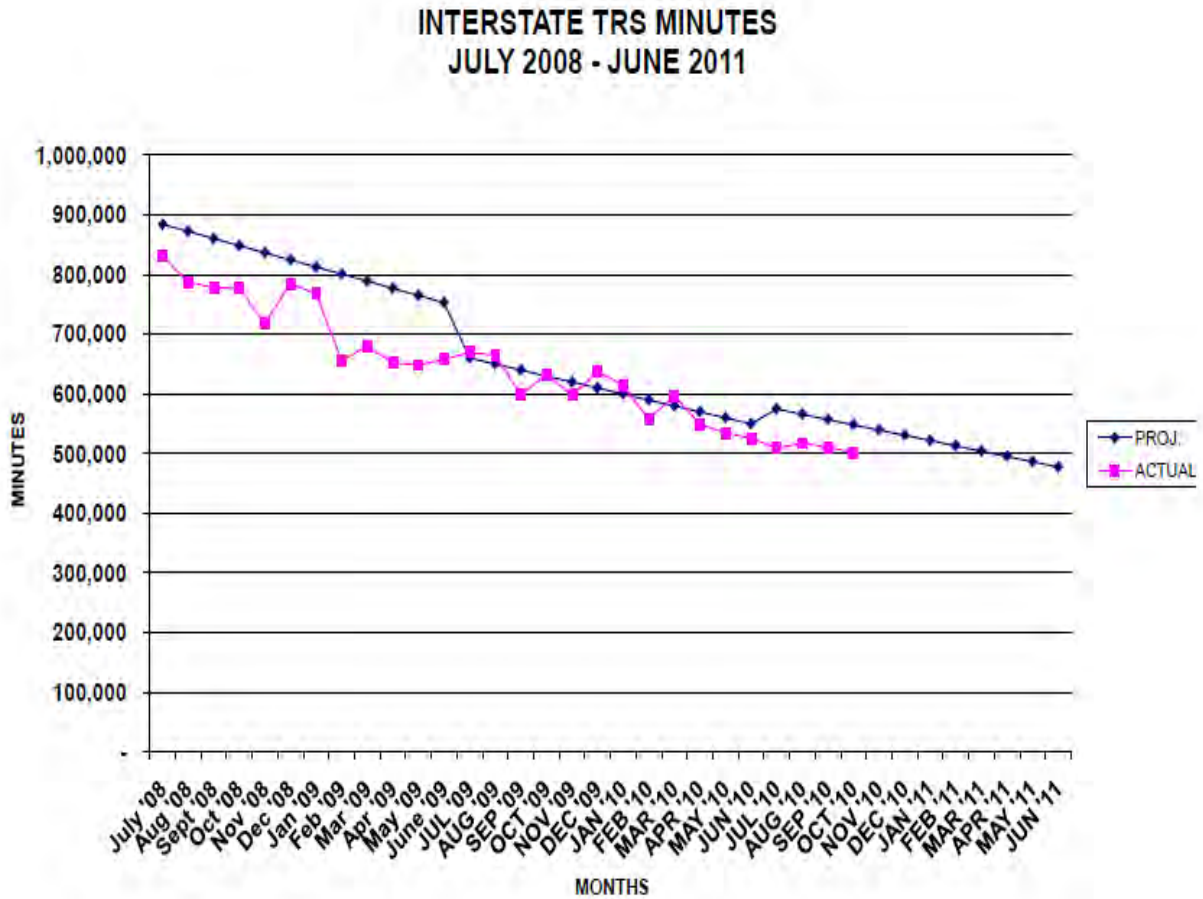
0106 IP GROWTH.xls Chart15 1/10/2011

Comments on figure 31:

- Different technologies have affected the volumes in other sectors as they progress from introduction to maturity
- Traditional TRS volume declines as users migrate to new technologies
- Growth of VRS and IP-Relay far exceed the previous TRS usage or its relative decline
- Both IP relay and VRS use had steep increases in the first few years after introduction and then appeared to level off or decline

- CapTel and IP CapTel (CTS and IPCTS) are the newest service offerings and the only relay service sector that is showing a sharp growth trend

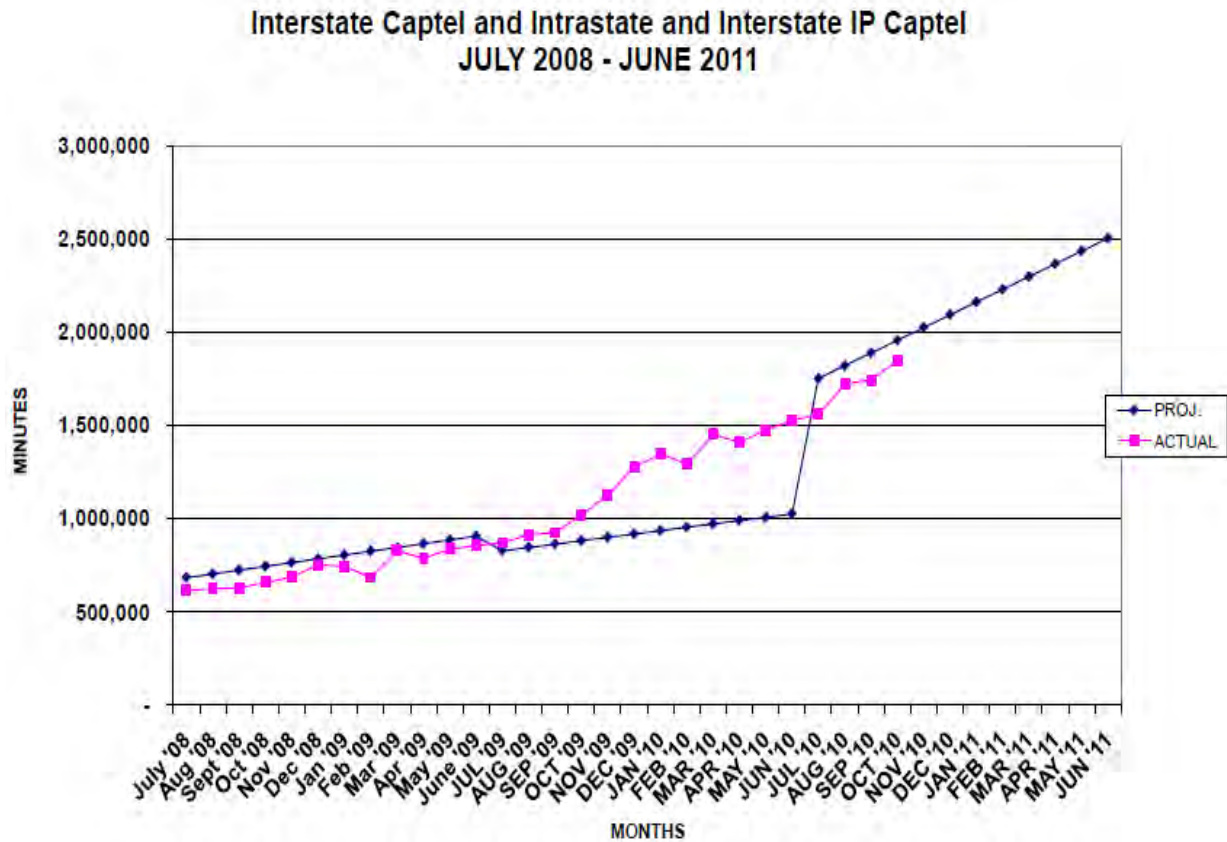
Figure 32: U.S. Interstate TRS Minutes



Comments on figure 32:

- Traditional TRS traffic volumes are declining
- July 2008 demand = 900,000 minutes
- July 2011 projection = 450,000 minutes

Figure 33: Interstate CapTel and IP CapTel Minutes, U.S.



Comments on figure 33:

- This report does not include intrastate CapTel usage as this is paid directly by the individual states that have approved this service
- CapTel and IP CapTel are the newest relay service offerings
- There were 3 years of sustained growth during the introductory period
- July 2008 = 600,000 minutes
- June 2011 = 2,500,000 minutes (projected)

NECA does not report on individual TRS or VRS providers' traffic and, because of the competitive commercial culture of VRS in the US, VRS providers are very reluctant to share operational data or make it public. Most companies provide VRS for profit.

The current VRS market is defined, new users are limited, and the sustained rapid growth of the previous decade is over. Therefore any gains made by one company are at the expense of another. The total revenue in VRS is large but finite and competition is fierce. It is therefore not surprising that none of the VRS providers responded to requests for detailed information and statistics regarding their operations.

6. Fraudulent Call Volumes and Costs

The United States VRS environment has had a high incidence of fraudulent call volumes and costs; other countries have not reported any VRS fraud or misuse. This does not necessarily mean that other countries are exempt from this type of activity; the nature and volume of fraud may be such that they are not being reported or are not triggering changes in regulatory oversight. However, it is likely that the for-profit nature of VRS in the United States, the initial relaxed regulatory environment, and the government's effort to protect the rights of the consumers all combined to create a market conducive to fraud.

When using VRS to commit fraud, offending providers took advantage of privacy rights regulations, knowing that interpreters are not allowed to report the content or particulars of any TRS calls, including VRS. As stated by the FCC in a recent Report and Order: "The (VRS) program's structure has made it vulnerable to fraud and abuse, which have plagued the current program and threatened its long-term sustainability."³⁵¹

Some widely reported methods of abuse by providers include:

- Unlawfully offering financial incentives or rewards to inflate usage volumes and therefore revenue
- Using VRS as an avenue for telemarketing ventures to generate otherwise unnecessary VRS usage
- Finding ways to justify double-recovery of costs for certain business-related calls

One well-publicized case of VRS fraud culminated in the 2009 indictment and arrest of 26 individuals for allegedly manufacturing and billing the VRS Interstate Fund for illegitimate calls. The arrests were made in 9 different states by a joint investigation of FBI, U.S. Postal Service, and FCC Investigative units. Lanny Breuer of the FCC summed up the accusations: "The individuals charged are alleged to have stolen tens of millions of dollars generating fraudulent call minutes by making it appear that Deaf Americans were engaging in legitimate calls with hearing persons."³⁵² The majority of these individuals pleaded guilty or were convicted.

³⁵¹ Federal Communications Commission; FCC 11-54; Report and Order and Further Notice of Proposed Rulemaking; CG Docket No. 10-51; Released April 6, 2011; page 2

³⁵² Lanny A. Breuer; Assistant Attorney General of the FCC Criminal Division; United States Department of Justice; Office of Public Affairs; "Twenty-six Charged in Nationwide Scheme to Defraud the FCC's Video Relay Service Program"; November 19, 2009

The FCC continues to receive allegations of abusive or fraudulent activity conducted by VRS providers or their subcontractors. Some of these allegations include:

- “VRS callers specifically requesting that their calls not be relayed by the VI (Video Interpreter) to the parties that they call;”
- “Calls placed to numbers that do not require any relaying, for example a voice-to-voice call;”
- “Calls initiated from international IP addresses by callers with little or no fluency in ASL where the connection is permitted to ‘run’ (i.e. the line is simply left open without any relaying of the call occurring;”
- “Implementation of ‘double privacy screens’ (i.e. where both users to the video leg of the call block their respective video displays, thus making signed or visual communication impossible);”
- “VRS Vis calling themselves;”
- “VI is connecting videophones/computers and letting them run with no parties participating in the call;”
- “Callers disconnecting from one illegitimate call and immediately calling back to initiate another; and”
- “Callers admitting that they were paid to make TRS calls.”³⁵³

Fraud and abuse aside, the evolving U.S. market was unique; entrepreneurs could easily enter the profitable VRS business, and this resulted in many providers eager to satisfy the rapidly expanding consumer demand for VRS and which, in turn, resulted in many choices for consumers.

As misuse developed, the FCC initially attempted to curb VRS fraud and abuse by admonishing providers about practices that generate VRS calls not typical of consumer use. The FCC also included information on the various schemes that were in violation of the FCC rules, and it released a Declaratory Ruling in which it identified categories of calls and calling practices that were not compensable from the Interstate VRS Fund.

The FCC has become more aggressive in its requirements for and administration of VRS. In a further effort to protect the viability of VRS and the Interstate TRS Fund, the FCC released a new "Report and Order and Further Notice of Proposed Rulemaking" in April 2011. The FCC proposes making changes in the "near future" to the infrastructure of the VRS program to further reduce the incentives for fraud.

Some of the new VRS rules:

“Require that VRS providers submit a statement describing the location and staffing of their call centers twice a year, and a notification at least 30 days prior to any change in the location of such centers;”

³⁵³ Federal Communications Commission; FCC 11-54; Report and Order and Further Notice of Proposed Rulemaking; CG Docket No. 10-51; Released April 6, 2011; pages 6 and 7

“Prohibit VRS communications assistants (CAs)³⁵⁴ from relaying calls from their homes;”

“Prohibit VRS provider arrangements that involve tying minutes or calls processed by a CA to compensation paid or other benefits given to that CA, either individually or as part of a group;”

“Adopt procedures for the resolution of disputed provider payment claims when payment has been suspended;”

“Prohibit compensation for VRS calls that originate from IP addresses that indicate the individual initiating the call is located outside of the United States, with the exception of callers who pre-register with their default provider for a specified time and location of travel;”

“Prohibit VRSR CAs from using visual privacy screens; require VRS CAs to terminate a VRS call, after providing a warning announcement, if either party to the call: (1) enables a privacy screen or similar feature for more than five minutes, unless the call is to 9-1-1 or one of the parties is on hold;”

“Prohibit compensation for VRS calls for remote training when the provider is involved in any way with such training;”

“Require automated recordkeeping of TRS minutes submitted to the Fund;”

“Amend the rules governing data collection from VRS providers to add requirements for the filing of data associated with each VRS call for which a VRS provider is seeking compensation;”

“Require that VRS be offered to the public only in the name of the eligible provider seeking compensation from the Fund, and when sub-brands are used, that these identify such eligible provider;”

“Require that calls to any brand or sub-brand of VRS be routed through a single URL address for that brand or sub-brand;”

“Prohibit revenue sharing agreements for CA or call center functions between entities eligible for compensation from the Fund and non-eligible entities;”

“When an eligible provider has contracts with third parties for non-CA or call center functions, prohibit the third party subcontractor from holding itself out to the public as a VRS provider, and require such contracts to be in writing and made available to the Commission or TRS Fund administrator upon request;”

“Prohibit compensation on a per minute basis for costs related to marketing and outreach costs performed through a subcontractor where such services utilize VRS;”

³⁵⁴ The term “video interpreter,” or “VI” is used to refer to a “communications assistant” (CA) who handles VRS calls. In this list, such individuals are referred to as CAs since the new rules adopted in this *Order* apply to all forms of TRS unless otherwise indicated by the FCC.

“Adopt whistleblower protection rules for current and former employees and contractors of TRS providers;”

“Require that VRS providers submit to audits annually or as deemed appropriate by the Fund administrator or Commission;”

“Require that all Internet-based TRS providers retain all records that support their claims for payment from the Fund for five years; and”

“Make permanent the interim rule requiring the CEO, CFO, or another senior executive of a TRS provider with first-hand knowledge of the accuracy and completeness of the information provided to certify, under penalty of perjury, to the validity of minutes and data submitted to the Fund administrator.”³⁵⁵

The FCC is announcing another major change in this Further Notice of Proposed Rulemaking (FNPR). Currently, there are many VRS providers that independently market and offer VRS, but are not eligible to receive payment from the TRS Fund. These providers have created subcontracting or revenue sharing agreements with eligible, certified providers. Under these arrangements, the eligible provider bills for the calls on behalf of the subcontractor. As of June 1, 2011³⁵⁶ only providers "eligible to receive payment directly from the TRS Fund" may provide VRS in the United States. Under the FCC rules, there are four types of eligible entities:

1. *“a certified state TRS provider or an entity operating relay facilities under contract with a certified state TRS program;”*
2. *“an entity that owns or operates relay facilities under contract with a common carrier providing interstate services;”*
3. *“interstate common carriers offering TRS; and”*
4. *“video relay service and IP relay providers certified by the Commission.”³⁵⁷*

According to the FCC, the primary reason for these changes is that, *“the majority of all the fraud that has been reported to the Commission has been through the use of these ineligible providers, and that all of the individuals indicted to date in the ongoing criminal investigations of fraud in the VRS industry worked for ineligible providers.”³⁵⁸* The large number of ineligible VRS providers effectively renders the FCC’s intended

³⁵⁵ Federal Communications Commission; FCC 11-54; Report and Order and Further Notice of Proposed Rulemaking; CG Docket No. 10-51; Released April 6, 2011; pages 3 and 4

³⁵⁶ Recently extended to Oct 2011.

³⁵⁷ 47 C.F.R. (Code of Federal Regulations); § 64.604©(5)(iii)(F)(1-4)(provider eligibility rules); Telecommunications Relay Services and Speech to Speech Services for Individuals with Hearing and Speech Disabilities, Report and Order and Order on Reconsideration, 20 FCC Rcd 20577 (2005)

³⁵⁸ Federal Communications Commission; FCC 11-54; Report and Order and Further Notice of Proposed Rulemaking; CG Docket No. 10-51; Released April 6, 2011; page 29

eligibility process meaningless, and has further diminished the FCC's ability to monitor and administer the provision of VRS to prevent instances of fraud.

The FCC's new rule has four main components:

1. *"We require that only entities determined to be eligible to receive compensation from the TRS Fund (as outlined above) will be eligible to provide VRS and hold themselves out as providers of VRS to the general public;"*
2. *"We amend our rules to make clear that an eligible provider is prohibited from engaging any third party entity to provide VRS CAs or call center functions (including call distribution, routing, call setup, mapping, call features, billing for compensation from the TRS Fund, and registration), on its behalf, unless that third party entity also is an eligible provider under our rules;"*
3. *"To the extent an eligible provider contracts with or otherwise authorizes a third party to provide any other services or call center functions, that third party entity must not hold itself out to the public as a provider of VRS and must clearly identify the eligible VRS provider to the public;"*
4. *"To provide effective oversight, we require that all third-party contracts or agreements be executed in writing and that copies of these agreements be available to the Commission and the TRS Fund administrator upon request."³⁵⁹*

These changes will represent a significant realignment in VRS operations in the United States. Over 75% of VRS providers currently are not certified by the FCC and, under this ruling, would be ineligible to provide services. Many have already filed for waivers to extend the time required to become eligible, and the FCC has extended the implementation date to October 2011.

Even with these changes, the FCC is still seeking additional ways of curbing VRS fraud.

7. Interpreter Resources and Programs

The Registry of Interpreters for the Deaf (RID) is the national association for professional sign language interpreters in the United States. In addition to working with community and national organizations to represent the field of interpreting, the RID is involved in advocacy and outreach matters that affect interpreters. The RID is also the leading organization in establishing a national standard of quality for American Sign Language interpreters and transliterators.

³⁵⁹ Federal Communications Commission; FCC 11-54; Report and Order and Further Notice of Proposed Rulemaking; CG Docket No. 10-51; Released April 6, 2011; page 30

The issue of VRS interpreter quality is complicated by the fact that the FCC defines VRS interpreters using language that was developed for TRS regulations (for traditional relay without sign language skills).

Both the FCC and the ADA have determined that sign language interpreters working in VRS must be “qualified.” The definition of “qualified interpreter” given by the ADA is, “[one] *who is able to interpret effectively, accurately and impartially both receptively and expressively, using any necessary specialized vocabulary.*”³⁶⁰

This definition is not specific enough to detail how an organization administering VRS would go about quantifying the training and certification required to satisfy the definition. The RID claims that this is a critical point in the set-up and delivery of a successful VRS: “Without the tools or mechanisms to identify who has attained some level of competency, hiring entities are at a loss on how to satisfy the mandates of ADA in locating/providing “qualified” interpreter services.”³⁶¹ The RID has developed the RID National Testing System (NTS), a comprehensive training and education that provides the only means for meeting this requirement for “quality” on a standardized, national level.

The NTS has been evolving since 1970, with national certification available since 1972. The NTS examinations have two components that must be passed before an interpreter is awarded certification: a written test and a performance test. This dual component test was first implemented in 1987. In the meantime, the National Association of the Deaf (NAD) was testing and certifying sign language interpreters under their NAD I through IV certification program. Since then, RID has collaborated with the NAD to combine the certifications from both organizations into a single standardized testing and certification process. This was implemented in 2003 and is still the current test and certification being offered today.

The NTS categorizes the testing and certification of the National Interpreter Certification (NIC) into three different levels. All three levels of the NIC are considered professional level certifications. These levels are:

- NIC: Certified
 - Interpreters at this level have shown basic professional-level interpreting and transliterating skills
- NIC: Advanced
 - Interpreters at this level have scored high on the performance portion of the test and have scored within the standard range on the interview portion
- NIC: Master
 - Interpreters at this level have high scores on both the performance and interview portions of the examination

³⁶⁰ Americans with Disabilities Act Title III § 4.3200

³⁶¹ www.RID.org; Registry of Interpreters for the Deaf website; about RID; State Licensure section; 2011

In addition to the NIC certifications, the RID and the industry providers recognize proficiency certifications awarded by other associations or previous versions of the new NIC standard. These include certifications from:

- The National Association of the Deaf (NAD)
- The American Consortium of Certified Interpreters (ACCI)
- The Educational Interpreter Performance Assessment (EIPA)

To help sign language interpreters stay current in the field and maintain a high skill level, RID requires certified members to earn a specific number of continuing education units (CEUs) every four years. Each CEU is equivalent to 10 hours of training.

- The current requirement is that 8 CEUs (80 hours) must be completed every four years
- 2 CEUs (20 hours) can be earned through general education
- 6 CEUs (60 hours) must be directly related to interpreting and must be categorized as professional studies
- If sign language interpreters do not complete the required number of CEUs, they will lose active RID certification³⁶²

There are many Interpreter Training Programs (ITPs) offered throughout the nation available at the local and regional levels. The U.S. Department of Education, Rehabilitation Services Administration funds many regional training efforts including: classes, workshops, mentorships, and lending libraries. There are also Distance Learning training modules available for interpreters via the Internet. In addition, many colleges and universities throughout the United States have an Interpreter Training Program that prepares individuals for professional certification testing. The RID provides the following example of Interpreter Training Program colleges in California:

³⁶² www.RID.org; Registry of Interpreters for the Deaf website; about RID; State Licensure section; Certification Maintenance Program; 2011

Figure 34: RID Search Web Page³⁶³

Find Interpreter Education Programs

Search

| | | | |
|----------------------|--------------------------------|----------------------|--|
| College Name: | Program Type: | City: | State: |
| <input type="text"/> | <input type="text" value="▼"/> | <input type="text"/> | <input type="text" value="CA"/> <input type="text" value="▼"/> |

Now displaying records 1 to 13 of 13.

| College Name | Program Type | City | State |
|---|-----------------------|------------------|-------|
| American River College | Associate Certificate | Sacramento | CA |
| California State University at Northridge | Bachelor | Northridge | CA |
| California State University Fresno | Bachelor | Fresno | CA |
| El Camino College | | Torrance | CA |
| Glendale Community College | | Glendale | CA |
| Golden West College | Associate Certificate | Huntington Beach | CA |
| Los Angeles Pierce Community College | | Woodland Hills | CA |
| Mount San Antonio College | Associate Certificate | Walnut | CA |
| Ohlone College - Interpreter Preparation Program | | Fremont | CA |
| Oxnard College | Associate Certificate | Oxnard | CA |
| Palomar Community College | Associate Certificate | San Marcos | CA |
| Riverside Community College | Associate Certificate | Riverside | CA |
| San Diego Mesa College - Interpreter Training Program | Associate Certificate | San Diego | CA |

Search for a post-secondary program offering interpreter education. A variety of certificates and degree programs are offered. If you cannot locate one in your area, try searching for programs with distance learning opportunities.

Although the United States has by far the highest number of qualified professional interpreters, 15,500, the demand for their services is so great that there continues to be a need for more trained interpreters to enter the profession.³⁶⁴

The passing of the ADA legislation along with the advent of new services such as VRS have created an environment that continues to expand the need for qualified sign language interpreters. Since VRS (and in most cases VRI) is provided as a profitable service in the United States, providers are able to offer higher wages. This draws experienced sign language interpreters away from other services such as:

- Educational interpreting
 - (Deaf schools, Universities, mainstream academia, etc.)

³⁶³ www.rid.org; RID website Interpreter Education Programs searchable database; June 2011

³⁶⁴ www.RID.org; Registry of Interpreters for the Deaf website; about RID; Interpreters

- Community interpreting
 - (work, social, legal, medical, legislative, business, etc.)

RID states that the issue of inadequate supply that began in the 1990s is still very prevalent in the United States interpreting industry: “This landmark legislation (ADA) transformed the face of professional interpreting and caused the demand for interpreting services to soar to unprecedented heights. The interpreting profession is still faced with an inadequate supply of individuals to meet the growing demand.”³⁶⁵ This is confirmed by the National Association of the Deaf (NAD): “There’s always a demand for skilled interpreters who can sign fluently and read another person’s signing well. The demand for qualified interpreters exists in many settings.”³⁶⁶

8. Access to Emergency Services

As of 2008, the providers of Internet-based relay services (IP relay and VRS) in the United States have been directed by new rules from the FCC governing 9-1-1 emergency calls. These are intended to ensure that the users of IP relay and VRS services receive 9-1-1 emergency call treatment that is comparable to the treatment received by traditional network relay users. The intent is to minimize “public safety risks that would result from an internet-based TRS provider’s failure to complete a 911 call properly, including passing location-identifying information to the applicable emergency services organization.”³⁶⁷

These rules apply to VRS providers regardless of the equipment or software used by consumers of Internet-based relay services. According to the FCC: “whether a consumer is placing a 9-1-1 emergency call via Internet-based TRS using customized equipment and software provided by a VRS provider, off-the-shelf hardware and software that might be purchased or acquired from a source other than the VRS provider, or some combination thereof, Internet-based TRS (VRS) providers must fully comply. ... VRS providers that are not in compliance will be ineligible for compensation from the interstate relay fund and may also be subjected to “severe penalties, including substantial monetary forfeitures.”³⁶⁸

Some of the 9-1-1 emergency call handling requirements for VRS providers under these rules include:

³⁶⁵ www.RID.org; Registry of Interpreters for the Deaf website; about RID; State Licensure section; 2011

³⁶⁶ www.nad.org/issues/american-sign-language-interpreting; National Association of the Deaf website; Interpreting American Sign Language section

³⁶⁷ Federal Communications Commission; Telecommunications Relay services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; E911 Requirements for IP-Enabled Service Providers; Report and Order and further Notice of Proposed Rulemaking, 23 FCC Rcd 11591 (2008)

³⁶⁸ Federal Communications Commission; FCC Enforcement Advisory No. 2011-05, DA 11-304; Enforcement Bureau Reminds Internet-Based telecommunications Relay Service Providers of Emergency Calling Requirements

“VRS providers must transmit all 9-1-1 calls – as well as automatic number identification (ANI, generally the caller’s 10-digit number), the caller’s registered location,³⁶⁹ the name of the VRS provider, and the communication assistant’s (CA’s) identification number for each call – to the public safety answering point (PSAP), or other appropriate local emergency authority that serves the caller’s registered location;”

“VRS providers must answer incoming emergency calls before any non-emergency call, i.e., prioritize the emergency calls and move them to the top of the queue;”

“VRS providers must route all 9-1-1 calls through the use of ANI, and, if necessary, pseudo-ANI, via the dedicated wireline E9-1-1 network to the PSAP, or appropriate local emergency authority that serves the caller’s registered location;”

“If the video relay service is capable of being used from more than one location, the VRS provider must offer the consumer one or more methods of updating his or her registered location at will and in a timely manner. At least one of those methods must allow the user to update his or her registered location from the equipment he or she uses to access VRS;”

“In the event that one or both legs of the emergency call (i.e., either between the VRS user and the CA or between the CA and the PSAP/other emergency authority) is disconnected, the VRS provider must immediately re-establish contact with the VRS user and/or the appropriate PSAP or other emergency authority.”³⁷⁰

9. VRS Education and Outreach Programs

The implementation of VRS in any country must be accompanied by public education and outreach. Some goals of these education programs are to inform consumers on how to access the services, educate consumers about the rules of service, and assist consumers in navigating the technologies.

Education and outreach are also necessary for the hearing parties involved in a VRS session, since they are often the most unfamiliar and tend to reject relay calls from Deaf people due to lack of knowledge about the service.

The FCC provides information on its website explaining what VRS is and including pertinent information regarding some of the regulatory aspects of the service as well as information on complaint filing procedures.³⁷¹

³⁶⁹ Video Relay service providers must obtain from their users the physical location at which the service will first be used when the user registers for a 10-digit number, and must provide an easy way for users to update their information if it changes. 47 C.F.R. § 64.605(a)(4)

³⁷⁰ Federal Communications Commission; Telecommunications Relay services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; E911 Requirements for IP-Enabled Service Providers; Report and Order and further Notice of Proposed Rulemaking, 23 FCC Rcd 11591 (2008)

³⁷¹ <http://transition.fcc.gov/cgb/consumerfacts/videorelay.pdf>

In the U.S., the competitive model of VRS has created a marketplace in which many VRS providers, both large and small, compete for market share. Most providers offer extensive resources on their websites including technical information, Frequently Asked Questions (FAQ), and information on how to use and access their services.

The most successful form of consumer education was initiated by Sorenson, which provided free video phone equipment, personally delivered and set up by a Deaf installer who also provided personalized instruction on how to use the Sorenson system – all via ASL. This sustained approach garnered Sorenson market dominance, estimated by some to be between 75 -85 percent.

Many providers also conduct marketing and outreach at regional Deaf events. For example, VRS providers will set up booths at Deaf events (e.g. Deaf Expo, Deaf Awareness Day Events, etc.). They also make use of social networking sites such as Facebook and Deaf video blog websites to promote their services. Some VRS providers have a history of significant financial contributions and sponsorships to Deaf organizations who in turn make the providers services known to their members.

This type of outreach is usually marketing based and attempts to familiarize consumers with a particular company. Due to the competitive nature of the U.S. VRS market, most public education and outreach conducted by a provider will focus mainly on that particular company and will be designed to promote its services. For example, one smaller provider markets itself as a service that uses interpreters who have Deaf family members; this is done to attract consumers who prefer and value cultural mediation in their interpretations.³⁷² Other companies promote themselves as Deaf-run VRS services to promote Deaf equality in the business world.

Due to this focus on competitive marketing, many regional advocacy groups also provide public education and outreach in order to provide unbiased information related to VRS. This information includes:³⁷³

- Cultural differences between etiquettes of hearing and Deaf individuals
- Information about telephone technologies (e.g. phone menu systems)
- Strategies to ensure acceptance of calls (e.g. how to introduce the call, stating the main point, etc.)
- Options and variations among particular VRS vendors
- Legal information and American with Disabilities Act (ADA) rights in regard to VRS

In addition, many of these advocacy centers offer access to a videophone to make VRS calls for individuals who cannot afford or do not have access to the service. A national organization, the Video Relay Services Consumer Association (VRSCA), established a communication forum website to share information regarding the regulatory aspects of VRS and to encourage consumers to get involved in the rule making aspects of the FCC.

³⁷² <http://www.callcodavrs.net/>

³⁷³ <http://www.norcalcenter.org/commedu>

Lastly, as is common in the Deaf community, education often occurs through collective networking and information sharing throughout the community.

APPENDIX A

| VIDEO RELAY SERVICE TERMINATING CALL/MINUTE SUMMARY | | | | | | | | | | | | |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------|----------|
| MONTH: | JUL 2010 | | AUG 2010 | | SEPT 2010 | | OCT 2010 | | NOV 2010 | | DEC 2010 | |
| STATE/CATEGORY | TERM CALLS | TERM MIN | TERM CALLS | TERM MIN | TERM CALLS | TERM MIN | TERM CALLS | TERM MIN | TERM CALLS | TERM MIN | TERM CALLS | TERM MIN |
| ALABAMA | 28,426 | 73,711 | 27,553 | 75,218 | 25,995 | 71,276 | 25,456 | 67,685 | 24,848 | 67,232 | | |
| ALASKA | 2,481 | 8,298 | 2,510 | 8,748 | 2,705 | 8,915 | 2,718 | 8,600 | 2,487 | 8,877 | | |
| AMERICAN SAMOA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| ARIZONA | 38,129 | 136,174 | 43,124 | 149,107 | 40,747 | 140,925 | 40,401 | 137,959 | 40,318 | 137,993 | | |
| ARKANSAS | 12,884 | 38,893 | 12,943 | 39,023 | 12,985 | 38,993 | 13,128 | 37,843 | 13,412 | 38,708 | | |
| CALIFORNIA | 185,295 | 599,508 | 206,282 | 633,911 | 198,288 | 618,893 | 197,635 | 615,271 | 183,228 | 600,688 | | |
| COLORADO | 27,417 | 91,468 | 29,363 | 100,632 | 28,680 | 94,193 | 27,335 | 90,483 | 27,217 | 92,559 | | |
| CONNECTICUT | 18,385 | 58,508 | 18,921 | 59,360 | 19,079 | 59,244 | 20,489 | 62,482 | 20,381 | 63,359 | | |
| DELAWARE | 5,804 | 15,790 | 5,506 | 16,341 | 4,883 | 14,399 | 5,415 | 16,078 | 5,616 | 17,940 | | |
| DISTRICT OF COLUMBIA | 14,108 | 53,145 | 15,817 | 56,009 | 16,332 | 56,289 | 16,820 | 56,356 | 16,435 | 54,792 | | |
| FLORIDA | 141,685 | 446,248 | 149,275 | 462,787 | 142,817 | 456,515 | 140,187 | 436,350 | 138,013 | 435,505 | | |
| GEORGIA | 41,505 | 126,044 | 43,378 | 135,665 | 40,827 | 125,837 | 41,412 | 128,887 | 38,568 | 125,081 | | |
| HAWAII | 76 | 262 | 82 | 382 | 56 | 292 | 53 | 225 | 82 | 178 | | |
| IDAHO | 3,339 | 10,528 | 3,895 | 12,119 | 3,854 | 12,199 | 3,751 | 11,732 | 3,896 | 12,782 | | |
| ILLINOIS | 6,366 | 21,067 | 6,407 | 20,709 | 6,271 | 19,916 | 6,505 | 20,820 | 6,483 | 22,886 | | |
| INDIANA | 66,294 | 209,502 | 69,672 | 220,892 | 67,680 | 213,126 | 67,568 | 215,011 | 67,028 | 215,282 | | |
| IOWA | 42,710 | 131,931 | 44,892 | 141,775 | 42,049 | 132,584 | 40,347 | 128,447 | 41,006 | 130,900 | | |
| KANSAS | 13,031 | 46,187 | 14,008 | 51,801 | 13,618 | 48,368 | 13,907 | 48,719 | 12,533 | 46,123 | | |
| KENTUCKY | 14,968 | 50,338 | 15,781 | 53,091 | 14,452 | 48,497 | 14,400 | 48,095 | 14,405 | 50,433 | | |
| KENTUCKY | 25,979 | 77,772 | 27,318 | 83,860 | 26,736 | 83,524 | 26,185 | 78,783 | 25,229 | 76,632 | | |
| LOUISIANA | 28,927 | 78,051 | 26,541 | 77,188 | 25,462 | 78,021 | 23,519 | 66,612 | 23,863 | 71,797 | | |
| MAINE | 5,880 | 18,595 | 6,714 | 22,294 | 6,971 | 22,853 | 6,933 | 21,915 | 7,110 | 23,391 | | |
| MARYLAND | 51,194 | 167,255 | 54,287 | 175,760 | 50,543 | 162,042 | 50,895 | 165,677 | 50,841 | 167,739 | | |
| MASSACHUSETTS | 37,410 | 114,324 | 39,820 | 123,999 | 39,860 | 125,361 | 41,232 | 128,402 | 39,282 | 120,993 | | |
| MICHIGAN | 49,790 | 145,041 | 49,871 | 143,286 | 48,916 | 145,022 | 50,322 | 148,842 | 49,098 | 144,786 | | |
| MINNESOTA | 28,803 | 97,805 | 29,054 | 101,259 | 28,455 | 97,156 | 28,443 | 104,834 | 28,655 | 108,610 | | |
| MISSISSIPPI | 11,188 | 32,184 | 11,423 | 33,721 | 10,760 | 31,457 | 10,216 | 29,621 | 10,591 | 30,168 | | |
| MISSOURI | 29,705 | 92,719 | 31,834 | 102,701 | 29,278 | 91,229 | 28,941 | 88,582 | 28,142 | 89,567 | | |
| MONTANA | 3,488 | 11,253 | 3,531 | 11,232 | 2,895 | 8,928 | 2,918 | 9,512 | 3,278 | 10,750 | | |
| NEBRASKA | 11,357 | 32,857 | 11,930 | 35,518 | 11,527 | 34,813 | 10,379 | 32,809 | 10,541 | 34,062 | | |
| NEVADA | 16,391 | 67,193 | 13,597 | 48,549 | 13,383 | 50,857 | 13,181 | 46,596 | 13,113 | 48,486 | | |
| NEW HAMPSHIRE | 4,707 | 13,750 | 4,948 | 14,877 | 4,740 | 14,003 | 5,246 | 14,448 | 5,637 | 15,313 | | |
| NEW JERSEY | 44,354 | 132,349 | 45,623 | 134,039 | 42,390 | 130,368 | 43,254 | 131,798 | 41,783 | 123,635 | | |
| NEW MEXICO | 9,305 | 29,373 | 10,913 | 34,692 | 10,632 | 33,731 | 10,419 | 32,601 | 10,455 | 34,132 | | |
| NEW YORK | 122,298 | 365,520 | 124,862 | 376,289 | 124,065 | 378,766 | 127,317 | 382,945 | 123,770 | 378,839 | | |
| NORTH CAROLINA | 52,848 | 160,848 | 55,703 | 172,755 | 53,526 | 163,906 | 51,745 | 154,925 | 52,774 | 156,682 | | |
| NORTH DAKOTA | 1,885 | 5,843 | 2,063 | 6,323 | 2,063 | 6,659 | 2,227 | 7,176 | 2,012 | 6,086 | | |
| Northern Mariana Islands | 4 | 45 | 1 | 11 | 2 | 15 | 0 | 0 | 5 | 37 | | |
| OHIO | 68,169 | 208,580 | 69,132 | 216,618 | 67,689 | 214,934 | 68,010 | 212,527 | 66,834 | 208,325 | | |
| OKLAHOMA | 19,400 | 58,698 | 20,378 | 62,572 | 19,360 | 62,389 | 19,143 | 60,635 | 18,583 | 57,840 | | |
| OREGON | 20,221 | 67,030 | 21,894 | 71,883 | 19,570 | 68,711 | 20,719 | 69,361 | 20,852 | 71,686 | | |
| PENNSYLVANIA | 87,511 | 269,504 | 87,502 | 269,760 | 84,753 | 263,993 | 86,636 | 212,232 | 85,225 | 268,321 | | |
| PUERTO RICO | 14,188 | 41,453 | 16,085 | 45,866 | 14,153 | 40,239 | 15,308 | 42,183 | 14,478 | 40,488 | | |
| RHODE ISLAND | 5,847 | 15,275 | 5,844 | 15,727 | 5,859 | 14,909 | 5,472 | 13,310 | 5,127 | 14,114 | | |
| SOUTH CAROLINA | 21,393 | 62,183 | 20,265 | 60,228 | 19,478 | 61,687 | 19,009 | 60,149 | 19,317 | 57,618 | | |
| SOUTH DAKOTA | 4,308 | 13,634 | 4,480 | 15,199 | 3,967 | 12,857 | 4,353 | 15,947 | 4,803 | 17,231 | | |
| TENNESSEE | 29,886 | 91,234 | 32,758 | 106,061 | 29,195 | 94,124 | 28,699 | 92,902 | 28,952 | 99,854 | | |
| TEXAS | 139,819 | 441,325 | 145,811 | 469,040 | 137,985 | 448,294 | 138,183 | 438,814 | 134,802 | 436,100 | | |
| UTAH | 17,388 | 59,639 | 18,174 | 63,508 | 16,873 | 68,811 | 15,181 | 52,602 | 15,800 | 54,779 | | |
| VERMONT | 4,263 | 12,938 | 4,445 | 13,295 | 3,877 | 12,554 | 4,364 | 14,296 | 4,600 | 14,951 | | |
| VIRGIN ISLANDS | 1,132 | 4,970 | 599 | 2,341 | 618 | 2,385 | 683 | 2,404 | 710 | 2,204 | | |
| VIRGINIA | 38,105 | 128,007 | 38,191 | 130,759 | 37,715 | 127,335 | 38,032 | 123,058 | 37,239 | 124,680 | | |
| WASHINGTON | 33,238 | 110,310 | 34,738 | 113,038 | 34,549 | 117,712 | 32,833 | 111,038 | 33,872 | 111,912 | | |
| WEST VIRGINIA | 8,517 | 28,516 | 8,054 | 26,080 | 7,260 | 24,939 | 7,631 | 27,048 | 7,677 | 27,193 | | |
| WISCONSIN | 33,098 | 99,804 | 33,875 | 106,886 | 32,009 | 103,070 | 31,441 | 99,723 | 33,871 | 109,579 | | |
| WYOMING | 1,181 | 3,992 | 1,357 | 4,081 | 1,033 | 3,398 | 1,001 | 2,881 | 977 | 3,719 | | |
| SUB-TOTAL | 1,730,752 | 5,402,145 | 1,804,308 | 5,669,141 | 1,729,263 | 5,497,465 | 1,726,537 | 5,431,005 | 1,707,304 | 5,429,537 | 0 | 0 |
| INTERNATIONAL | 34,507 | 184,948 | 33,740 | 178,898 | 34,192 | 177,737 | 34,006 | 179,467 | 32,608 | 176,812 | | |
| TOLL FREE NUMBERS | 278,968 | 2,599,781 | 282,943 | 2,641,027 | 275,339 | 2,561,780 | 269,992 | 2,485,756 | 275,919 | 2,552,254 | | |
| 900 NUMBERS | 6 | 1 | 1 | 0 | 9 | 2 | 7 | 2 | 5 | 1 | | |
| OTHERS | 149,613 | 138,903 | 157,472 | 142,981 | 154,752 | 143,610 | 152,851 | 137,759 | 150,665 | 132,938 | | |
| SUB-TOTAL | 463,094 | 2,923,633 | 474,156 | 2,962,706 | 464,292 | 2,883,109 | 456,856 | 2,782,983 | 459,195 | 2,861,805 | 0 | 0 |
| TOTAL | 2,193,846 | 8,325,779 | 2,278,464 | 8,631,847 | 2,193,555 | 8,380,574 | 2,183,393 | 8,213,988 | 2,166,499 | 8,291,341 | 0 | 0 |
| Avg. call length | 4 | | 4 | | 4 | | 4 | | 4 | | #DIV/0! | |
| Providers Reporting | 8 | | 9 | | 9 | | 9 | | 9 | | 9 | |

2010 Nov VRSTERM CALL Summary.xls

APPENDIX B

| VIDEO RELAY SERVICE TERMINATING CALL/MINUTE SUMMARY | | | | | | | | | | | | | TOTAL | | STATE/CATEGORY |
|---|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|------------|--------------------------|----------------|
| JAN 2011 | | FEB 2011 | | MAR 2011 | | APR 2011 | | MAY 2011 | | JUN 2011 | | TERM CALLS | TERM MIN | | |
| TERM CALLS | TERM MIN | TERM CALLS | TERM MIN | TERM CALLS | TERM MIN | TERM CALLS | TERM MIN | TERM CALLS | TERM MIN | TERM CALLS | TERM MIN | TERM CALLS | TERM MIN | | |
| | | | | | | | | | | | | 130,278 | 355,120 | ALABAMA | |
| | | | | | | | | | | | | 12,901 | 43,436 | ALASKA | |
| | | | | | | | | | | | | 0 | 0 | AMERICAN SAMOA | |
| | | | | | | | | | | | | 202,719 | 701,160 | ARIZONA | |
| | | | | | | | | | | | | 66,352 | 191,248 | ARKANSAS | |
| | | | | | | | | | | | | 990,726 | 3,056,242 | CALIFORNIA | |
| | | | | | | | | | | | | 140,012 | 469,313 | COLORADO | |
| | | | | | | | | | | | | 99,255 | 300,953 | CONNECTICUT | |
| | | | | | | | | | | | | 27,224 | 50,549 | DELAWARE | |
| | | | | | | | | | | | | 79,512 | 278,591 | DISTRICT OF COLUMBIA | |
| | | | | | | | | | | | | 711,857 | 2,240,405 | FLORIDA | |
| | | | | | | | | | | | | 205,488 | 641,518 | GEORGIA | |
| | | | | | | | | | | | | 329 | 1,340 | GUAM | |
| | | | | | | | | | | | | 18,705 | 59,340 | HAWAII | |
| | | | | | | | | | | | | 32,034 | 105,399 | IDAHO | |
| | | | | | | | | | | | | 337,122 | 1,073,813 | ILLINOIS | |
| | | | | | | | | | | | | 210,804 | 665,631 | INDIANA | |
| | | | | | | | | | | | | 87,187 | 241,178 | IOWA | |
| | | | | | | | | | | | | 74,004 | 250,451 | KANSAS | |
| | | | | | | | | | | | | 131,425 | 400,802 | KENTUCKY | |
| | | | | | | | | | | | | 126,312 | 374,668 | LOUISIANA | |
| | | | | | | | | | | | | 33,608 | 109,049 | MAINE | |
| | | | | | | | | | | | | 267,760 | 838,373 | MARYLAND | |
| | | | | | | | | | | | | 167,604 | 612,148 | MASSACHUSETTS | |
| | | | | | | | | | | | | 247,787 | 728,971 | MICHIGAN | |
| | | | | | | | | | | | | 145,470 | 559,765 | MINNESOTA | |
| | | | | | | | | | | | | 54,175 | 157,151 | MISSISSIPPI | |
| | | | | | | | | | | | | 147,900 | 464,789 | MISSOURI | |
| | | | | | | | | | | | | 18,110 | 51,674 | MONTANA | |
| | | | | | | | | | | | | 55,734 | 170,056 | NEBRASKA | |
| | | | | | | | | | | | | 69,665 | 261,682 | NEVADA | |
| | | | | | | | | | | | | 25,278 | 72,391 | NEW HAMPSHIRE | |
| | | | | | | | | | | | | 217,404 | 652,189 | NEW JERSEY | |
| | | | | | | | | | | | | 51,724 | 164,330 | NEW MEXICO | |
| | | | | | | | | | | | | 822,310 | 1,883,658 | NEW YORK | |
| | | | | | | | | | | | | 266,564 | 810,887 | NORTH CAROLINA | |
| | | | | | | | | | | | | 10,260 | 32,087 | NORTH DAKOTA | |
| | | | | | | | | | | | | 12 | 109 | Northern Mariana Islands | |
| | | | | | | | | | | | | 339,834 | 1,062,983 | OHIO | |
| | | | | | | | | | | | | 96,862 | 302,134 | OKLAHOMA | |
| | | | | | | | | | | | | 103,055 | 348,472 | OREGON | |
| | | | | | | | | | | | | 331,627 | 1,043,303 | PENNSYLVANIA | |
| | | | | | | | | | | | | 74,212 | 210,028 | PUERTO RICO | |
| | | | | | | | | | | | | 28,049 | 73,334 | RHODE ISLAND | |
| | | | | | | | | | | | | 99,462 | 301,865 | SOUTH CAROLINA | |
| | | | | | | | | | | | | 21,911 | 74,868 | SOUTH DAKOTA | |
| | | | | | | | | | | | | 150,360 | 484,194 | TENNESSEE | |
| | | | | | | | | | | | | 694,600 | 2,233,574 | TEXAS | |
| | | | | | | | | | | | | 83,394 | 299,339 | UTAH | |
| | | | | | | | | | | | | 21,549 | 68,032 | VERMONT | |
| | | | | | | | | | | | | 3,742 | 14,303 | VIRGIN ISLANDS | |
| | | | | | | | | | | | | 190,282 | 631,850 | VIRGINIA | |
| | | | | | | | | | | | | 169,028 | 564,019 | WASHINGTON | |
| | | | | | | | | | | | | 39,139 | 133,778 | WEST VIRGINIA | |
| | | | | | | | | | | | | 193,894 | 618,862 | WISCONSIN | |
| | | | | | | | | | | | | 5,549 | 17,771 | WYOMING | |
| | | | | | | | | | | | | 8,698,164 | 27,429,293 | SUB-TOTAL | |
| | | | | | | | | | | | | 162,051 | 897,462 | INTERNATIONAL | |
| | | | | | | | | | | | | 1,383,161 | 12,820,576 | TOLL-FREE NUMBERS | |
| | | | | | | | | | | | | 28 | 5 | 800 NUMBERS | |
| | | | | | | | | | | | | 765,353 | 696,191 | OTHERS | |
| | | | | | | | | | | | | 2,317,593 | 14,414,281 | SUB-TOTAL | |
| | | | | | | | | | | | | 11,015,757 | 41,843,336 | TOTAL | |
| #DIV/0! | | #DIV/0! | | #DIV/0! | | #DIV/0! | | #DIV/0! | | #DIV/0! | | | 4 | | |

2010 Nov VRSTERMCALLSummary.xls