

Videotelephony and Video Relay Service Policies Affecting U.S. Federal Employees with Communication Disabilities: An Analysis

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Overview: Over the past few years, video communications have offered a vast improvement over text-based telephone communication services for people who use signed languages. Direct video communications transmitted over the Internet allow individuals who use a signed language to communicate with one another in their native or most comfortable language. In addition, video relay services (VRS) provide an indirect means of enabling people to use a signed language (in the U.S. case, American Sign Language, or ASL) to communicate with other individuals through interpreters who act as communication assistants. Video communications can also be useful for people who lipread, and people with speech disabilities who would benefit by having others see their gestures, although these functions have not yet been put to much use in the United States (U.S.). Whether direct or indirect, video communications allow individuals to converse naturally, convey emotional context, and generally share other non-verbal cues and information that are harder to share by typing. The spectacular growth of direct video communications and VRS over the past few years demonstrates the extraordinary capabilities of this technology. This paper discusses U.S. policies that apply to video communications and potential barriers that need to be addressed to ensure the availability of these services to people who rely on this form communication.

I. Federal Laws Requiring Accessibility

There are two principal statutes that require the U.S. federal government to make video communications available for both federal employees and members of the public who need these services for telephone communications: several sections of the Rehabilitation Act of 1973 and the Telecommunications Enhancement Accessibility Act of 1988.

A. Rehabilitation Act of 1973

The Rehabilitation Act of 1973, as amended, contains various provisions requiring federal agencies and contractors to provide telephone access to people with disabilities as part

of their overall obligation make their employment, programs, services, and activities accessible to people with disabilities, where doing so would not create an undue burden (or, in the case of Section 501, undue hardship) for the agency or contractor. In order to determine whether a particular accommodation would constitute an undue burden, the agency must balance the cost and nature of the requested accommodation with the resources available to the agency.

The following are sections of the Rehabilitation Act that may require the provision of video communication. In the discussion below, note that an individual must generally request an accommodation from entities covered under Sections 501, 503, and 504. However, an agency's Section 508 solutions must be made available to anyone who needs them.

Section 501. Under Section 501, federal employees must be able to communicate by telephone if such communication is needed to fulfill their essential job responsibilities.¹ Regulations implementing this section explain that reasonable accommodations to achieve this goal should include the acquisition or modification of equipment or devices, such as TTYs (text telephones) or the provision of services, such as telecommunication relay services.² In other words, if direct video communications or VRS are needed for a federal employee to fulfill the essential functions of his or her employment, that employee has a right to this type of communication (both the service and equipment), so long as providing such accommodation does not cause an undue hardship for the employee's agency.

Section 503. Entities with federal contracts or subcontracts that exceed \$10,000 are required to make adjustments or modifications in their work environments to enable employees with disabilities to perform the essential functions of their jobs.³ This includes the provision of reasonable accommodations such as effective telephone communication, and consequently would again require the provision of video communications, so long as this did not impose an undue burden on the federal contractor.

Section 504. Federal agencies must provide telephone access to and from the federal government for beneficiaries and participants of federally funded programs and activities.⁴ Examples of such programs are Social Security and federal health benefit programs, public libraries, and schools financed with federal assistance. Under this section, federal agencies administering these programs must enable video communication to and from beneficiaries and participants of these public programs.

¹ 29 U.S.C. §791.

² 29 C.F.R. §1614.203.

³ 29 U.S.C. §793.

⁴ 29 U.S.C. §794, as amended by the Rehabilitation Act Amendments of 1974, Pub. L. 93-516, 88 Stat. 1617, the Rehabilitation, Comprehensive Services, and Developmental Disabilities Amendments of 1978, Pub. L. 95-602, 92 Stat. 2955, and the Rehabilitation Act Amendments of 1986, §103(d), Pub. L. 99-506, 100 Stat. 1810. Regulations implementing this section are at 45 C.F.R. Part 84.

Section 508. Section 508 was added to the Rehabilitation Act in 1986 to make sure that the federal government's electronic and information service systems, including its telecommunications services, are accessible to both federal employees and members of the public wishing to access or seeking information from the federal government.⁵ In 1998, the Workforce Investment Act revised Section 508, to impose stricter mandates on federal agencies to develop, procure, maintain, and use accessible electronic, telecommunications and information technology. Among other things, this means that federal agencies must use accessibility as a selection criterion for their information and communication technology acquisitions.

Current rules implementing Section 508's telecommunications provisions focus only on TTY and hearing aid compatibility access; they do not address video communications.⁶ However, in 2007, the Architectural and Transportation Barriers Compliance Board (Access Board) convened a federal advisory committee, called the Telecommunications and Electronic and Information Technology Advisory Committee (TEITAC), to refresh the Section 508 standards in light of new technologies and current trends.⁷ TEITAC'S 41 committee members included representatives of federal agencies, the telecommunications, electronics and information technology industries, consumer organizations representing people with disabilities, and international standards organizations. In April 2008, TEITAC issued formal recommendations to update the Section 508 guidelines, which, for the first time, addressed federal agency support for video communications. If adopted, these rules would specifically direct federal agencies to "ensure the availability of communication access via point to point real-time video communications and video relay services for incoming and outgoing calls for individuals who need such access."⁸ The recommendations go on to explain that if an agency has security concerns, video communication "may be achieved by measures that prevent an individual's video communications from intermingling with packets of the general government network, for example, through the installation of a separate line to an isolated communications terminal."⁹ In other words, a federal agency may use a private, encrypted network that does not allow video communications to intermingle with the public Internet.

In, addition, TEITAC's recommendations clarify that video communications provided by the federal government must have the following features:

⁵ 29 U.S.C. §794d, as amended by the Rehabilitation Act Amendments of 1998, Pub. L. 105-220 §408(b) (part of the Workforce Investment Act of 1998).

⁶ 36 C.F.R. §1194.23.

⁷ The advisory body was also tasked with updating the standards for Section 255 of the Communications Act.

⁸ Telecommunications and Electronic and Information Technology Advisory Committee (TEITAC). Report to the Access Board: Refreshed Accessibility Standards and Guidelines in Telecommunications and Electronic and Information Technology, Section 2B (1) (April 2007).

⁹ *Id.*

- Ability to send and receive video mail, to the same extent that voice callers can send and receive voice mail;
- A non-auditory means of alerting users of incoming calls (either built in or external);¹⁰
- Interoperability, to permit communication between and among users of end user devices provided by different manufacturers and service providers; and
- Support at least 15 frames per second, QCIF resolution, and a latency of less than 400 milliseconds, in order to provide sufficient quality and fluency for sign language used in the communications.¹¹

Since last spring, the Access Board has been reviewing the TEITAC recommendations and, to date, has not released these for public comment.¹²

B. Telecommunications Accessibility Enhancement Act (TAEA)¹³

In 1988, Congress passed the Telecommunications Accessibility Enhancement Act, whose stated purpose was to “improve access to the Federal Government for hearing-impaired and speech-impaired individuals and reduce the barriers facing Federal employees who are hearing-and speech impaired.”¹⁴ To this end, the Act directed two actions. First, it required the General Services Administration (GSA) to establish a comprehensive Federal Relay System (FRS) for relay calls to, from, and within the federal government.¹⁵ Since its inception, governance of FRS has mirrored the Federal Communication Commission’s (FCC’s) mandatory minimum standards for telecommunications relay services. Accordingly, FRS has kept pace with new relay technologies, and now offers its users a choice of relay services, including traditional TTY-based, captioned telephone, IP-based, and to a certain extent, VRS.

The TAEA also directed GSA to take a proactive approach in making sure that the federal government’s telecommunications systems were accessible to people with disabilities. To achieve this, the Administrator of GSA was instructed to take actions, in consultation with

¹⁰ A note added to the proposed guidelines indicates that such non-auditory methods may include flashes, vibrations and sound and that the person using the device will best determine the preferred method.

¹¹ A note added to the proposed guidelines recommends 20 frames per second for lipreading and fingerspelling.

¹² The full set of TEITAC recommendations on video communications are attached as Appendix I.

¹³ P.L. 100-542, 102 Stat. 2721(1988), codified at 40 U.S.C. §762a-d (1988).

¹⁴ S. Rep. No. 880, 100th Cong., 2d Sess. at 2 (1988).

¹⁵ Prior to this Act, there had been a skeletal version of a federal relay system run by the Access Board. The TAEA transferred the operations of FRS from the Access Board to GSA and significantly expanded this program.

the Access Board, the FCC, the Interagency Committee on Computer Support of Handicapped Employees, and affected federal agencies, that were needed to make the federal telecommunications system fully accessible to individuals with hearing and speech disabilities.¹⁶ In accordance with this directive, in January 1991, a Federal Information Resources Management Regulation (FIRMR) Bulletin directed agencies to identify the computer and telecommunications accessibility needs of federal employees with disabilities, and to address these requirements by developing access specifications in solicitation documents and when acquiring telecommunications services.¹⁷ Unfortunately, after issuing this directive, there is no indication that GSA did much to enforce agency compliance with this obligation. Despite GSA's lack of attention, there is no doubt of Congress's intent under this law to ensure a fully accessible federal telecommunications system for people with hearing loss. Among other things, this requires that the federal government undertake efforts to ensure access to video communications – both direct and via relay services – by all deaf, hard of hearing, and speech disabled Americans who need it.

II. Barriers to the Provision of Video Communication in U.S. Federal Agencies

Although the above laws clearly mandate the provision of VRS and direct video communications within the federal government, most federal workers continue to be denied access to these services. There appear to be two reasons for this: first, the high costs of making these services – especially VRS – available, and second, the fear of Internet security breaches. While some federal agencies are piloting secure VRS solutions to traverse, or work around firewall barriers, much needs to be done to make video communication services ubiquitous throughout the federal government.

A. The Cost Barrier to VRS

From the inception of FRS until December 2007, funding for FRS was provided centrally for the government through GSA and supported by a limited number of contributing agencies. However, starting on or around January 1, 2008, each agency – or their various subdivisions and offices – began having to assume responsibility for the costs of providing all types of relay services for calls handed by their agencies. While this signaled a negligible increase in department budgets for more traditional forms of text-based TRS, agencies began to worry about the higher costs of adding video relay services to their individual budgets. Resistance to assuming these costs began to grow and still exists throughout many federal agencies.

One way of alleviating agency concerns about having to “pick up the tab” for FRS calls is to allow VRS users who communicate to, from, or within the federal government to use VRS providers outside the FRS system. Since 1993, Title IV of the ADA – enacted by

¹⁶ In 1984, GSA had established the Interagency Committee to promote the management and use of information technologies that could improve the productivity of federal employees with disabilities.

¹⁷ FIRMR Bulletin C-10 (January 30, 1991).

Congress in 1990 – has required TRS throughout the United States,¹⁸ and since March of 2000, the FCC has authorized the provision of VRS as one form of TRS.¹⁹ While the FRS has remained the primary service for federal relay calls, nothing in the TAEA, its legislative history, or its implementing federal guidelines has ever limited individuals to *only* using the FRS when making calls within or to the federal government. Rather, since the inception of relay services, federal employees and individuals contacting federal agencies always have been permitted to, and have regularly chosen, other relay services generally required under the ADA for such communications.

Publicly available (non-FRS) video relay services are not funded by federal agencies. Rather, they are considered interstate relay services and are supported by a small percentage of the annual revenues that interstate common carriers (telephone companies) and VoIP companies collect from their subscribers. The revenues go into an “Interstate TRS Fund” that is administered by the National Exchange Carriers Administration (NECA), overseen by the FCC. Payments are then made to VRS and other interstate relay providers for the relay minutes that they handle.²⁰ A federal agency that uses an “outside” VRS provider does not need to bill the FCC or anyone else for its incoming and outgoing calls. Rather, the cost of such VRS calls will be reimbursed to the provider handling those calls directly from the NECA Interstate TRS Fund, the same way that all other TRS calls that are not connected to the federal government are reimbursed.

B. The Security Barrier to Interoperability

While using an outside VRS provider to transport both direct and relayed video communications may resolve an agency’s cost barrier to providing these communications, it may trigger new concerns about the security of that provider’s network. Agencies are concerned with keeping their information private and secure from Internet hackers. Achieving tight security through a single relay provider would likely be both doable and cost-efficient. However, some have raised concerns about whether restricting users to a single provider comes into conflict with federal policy set by the FCC requiring a choice of providers.

¹⁸ P.L. 101-336, 104 Stat. 327, codified at 47 U.S.C. §225.

¹⁹ Although VRS was initially approved in March of 2000, providers did not actually begin providing this service nationally until a few years later. *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Report and Order and Further Notice of Proposed Rulemaking, CC Dkt. 98-67, FCC 00-56, 15 FCC Rcd 5140 (March 6, 2000).

²⁰ Unlike the services provided through FRS, which are now financed by federal appropriations given to individual agencies, funding for ADA-based relay services is divided into state and federal jurisdictions, depending on whether the calls are made within a state or between the states. Calls made within a state are reimbursed via an internal state mechanism, typically through surcharges set by the state’s public utility commission, which are collected from the telephone subscribers via their local telephone bills. As noted above, interstate calls (calls made between states), including all VRS, are reimbursed through an Interstate TRS Fund to which all telephone and VoIP companies must contribute a small percentage of their annual revenues.

Specifically, in 2006, the FCC issued a Report and Order that prohibits any VRS provider from configuring its end user equipment or network in a way that prevents its users from accessing other VRS providers.²¹ In that ruling, the FCC declared that every user has a right to have “unfettered access” to any provider of their choosing and that taking away this right would be inconsistent with the public interest.²² Thus, for example, individuals in the general public who have received a video device from one VRS provider (e.g., Sorenson) must be able to place calls through other American VRS providers (e.g., CSDVRS, SNAP VRS, etc.).

In the context of *federal* relay calls, however, such provider interoperability poses problems. Agencies like the Internal Revenue Service, Defense Department, Social Security Administration, and the FBI are concerned about the confidentiality of VRS calls traveling over the Internet, and may, therefore, prefer to have encrypted communication over a separate circuit provided by a VRS provider.²³ They typically have erected firewalls to protect communications relating to agency business and have proposed getting around those firewalls with direct pipes to individual VRS providers. If providing VRS interoperability means replicating the pipe for multiple VRS providers, this may be cost prohibitive, especially in agencies with large numbers of deaf employees or social service agencies that have large numbers of beneficiaries who are video communication users, such as the U.S. Department of Health and Human Services.

It is important to note that presently, there is no U.S. legal obligation for federal agencies to give their employees and public participants a choice of VRS providers. Rather, the FCC’s interoperability obligation is placed on *VRS providers only*. Thus, no VRS provider may configure its network or any equipment it might distribute to a federal agency in a manner that intentionally blocks VRS users from selecting their provider of choice. But while VRS providers contracting with the federal government must abide by this interoperability obligation, the agency itself may want to insist – for security purposes – that the only way it can provide video communication is through a pipe leading to a single provider. In this instance, even though the *provider* may be willing to provide access to other VRS providers, the *federal agency* may not. And because the FCC does not have jurisdiction over other federal agencies, it cannot force that agency to offer users their VRS provider of choice.

Unfortunately, there are consequences to giving consumers who are deaf and hard of hearing access to only a single VRS provider, which need to be explored and resolved. Current FCC minimum guidelines still allow VRS providers up to an average of two minutes

²¹ *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Declaratory Ruling and Further Notice Of Proposed Rulemaking, CG Dkt No. 03-123, FCC 06-57 (May 9, 2006).

²² *Id.* at ¶34.

²³ Note that communication assistants and video interpreters are subject to strict FCC confidentiality guidelines that prohibit them from revealing the contents of any relayed conversation or keeping records of that conversation beyond the length of the call. At issue here, however, is access to Internet conversations by outside parties who, the agencies fear, could hack their way into these calls.

to respond to individuals wishing to place VRS calls. Because this is only an *average* answer speed, at any given time, a provider might have to keep VRS consumers waiting even longer. One of the main purposes of the interoperability requirement was to ensure that a caller could simply switch to another VRS provider if it was taking too long for the first provider to assign a video interpreter to the call. But if the federally-chosen VRS provider has a long wait time, and that is the *only* provider that an agency has, VRS users of that agency will not have this option. In a mass emergency, the consequences of not being able to make calls through alternate providers could be disastrous. Although VRS providers must give priority to emergency calls (by putting them ahead of the queue of outgoing calls), if the emergency involves large geographical areas, providers could find themselves overrun with calls that they cannot handle on their own. If this occurs, there is a real question as to whether federal employees limited to a single provider will be afforded telephone service that is functionally equivalent to voice telephone services.²⁴ If these individuals are not provided with such comparable access, then the agencies in question could be in violation of Section 508 of the Rehabilitation Act and the TAEA.

To the extent that security concerns would make using multiple providers unduly burdensome for federal agencies at the present time, it may be necessary to move ahead with single providers that can meet the communications needs of each agency at the earliest opportunity. But it would seem that every agency should undertake continued efforts to eventually allow employee access to multiple VRS providers.

C. Point-to-Point Communications

The issues raised above become even more complicated when VRS is taken out of the picture, and direct video communications between and among federal employees, their family members and their peers come into play. Point-to-point video calls originating from or to federal agencies potentially could be made to and from tens of thousands of individuals through video transmissions and with equipment that do not provide for encryption. At present, VRS providers handle such calls for people who are deaf and hard of hearing through the numbering system that has been set up by the FCC. However, this may not always be the case.

One thing is certain: The ability to make point-to-point calls using video communications is required by various federal nondiscrimination laws requiring equal telecommunications access. Just as a hearing federal employee is able to call a family member to let them know what time he or she is coming home or to check up on a sick child, so too must people who rely on signed communication have this capability. Additionally, such individuals should be able to use Internet-based video communications to converse directly with others who can communicate in a signed language to the extent that this will facilitate their work assignments. For example, a deaf Social Security employee who is assigned the case files of deaf beneficiaries would most likely achieve greater efficiencies if

²⁴ Similarly, consumers who do not like the interpreting services of the federally selected provider may want to use the services of another provider, but would not be able to without provider choice.

able to communicate directly with such individuals in ASL. As the federal government moves forward in developing solutions for video communications, it must recognize the need for solutions to allow such point-to-point communications to achieve full telecommunications equality.

III. Call Confidentiality

To the extent that federal agencies have concerns about the confidentiality of VRS calls, these agencies should be aware of the tight prohibitions contained in Title IV of the ADA preventing “relay operators from disclosing the content of any related conversation and from keeping records of the content of any such conversation beyond the duration of the call.”²⁵ The FCC has strictly interpreted these requirements, declaring that relay users are entitled to the same degree of privacy and assurance that their conversations would have were they not carried over a relay service. More specifically, the FCC has stated, on numerous occasions, that the goal of achieving functional equivalency unambiguously requires common carriers to maintain strict confidentiality of all relay calls. The reason for this is that relay operators are considered to be mere substitutes for telephone wires, that is, they are performing the role of a “transparent conduit relaying conversations without censorship or monitoring functions.”²⁶ Indeed, FCC rules even go so far as to preempt state statutes that previously required relay operators with knowledge of child, spousal or elderly abuse to disclose that information to law enforcement authorities. Such affirmative disclosure statutes, the FCC said, conflicted with the ADA’s confidentiality mandate. While these confidentiality rules do not address Internet security breaches, the requirement for relay providers to handle all calls without disclosing their content should provide some level of comfort to agencies charged with the handling of sensitive information.

IV. U.S. 10-Digit Numbering Requirement

In 2008, the FCC promulgated rules requiring all video relay service providers to provide users of their services with 10-digit telephone numbers tied to the North American Numbering Plan.²⁷ The new numbering system will make it easier for hearing people to place calls to VRS users, allow video communication users to call each other directly without having to worry about the IP address or video equipment they are using, and facilitate calls to 9-1-1 emergency services. The latter will be achieved by having each relay user register his or her geographical location when they get assigned a number by their chosen, or “default”

²⁵ 47 U.S.C. §225(d)(1)(F).

²⁶ *Telecommunications Services for Individuals with Hearing and Speech Disabilities, and the Americans with Disabilities Act*, Report and Order and Request for Comments, CC Dkt. No. 90-571, FCC 91-213 (July 26, 1991), ¶13.

²⁷ *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Report and Order and Further Notice of Proposed Rulemaking, CG Dkt. No. 03-123, WC Dkt No. 05-196, FCC 08-151, 23 FCC Rcd 11591 (2008); *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Report and Order and Further Notice of Proposed Rulemaking, CG Dkt. No. 03-123, WC Dkt No. 05-196, FCC 08-275 (December 19, 2008).

provider. This information will automatically be passed along to a public safety answering point when a relay user places a 9-1-1 call, allowing the emergency personnel to quickly dispatch assistance to the correct location. In addition, if the call is unintentionally dropped or disconnected, the 9-1-1 center will have the caller's 10-digit number if needed to immediately call back that individual.

There are various issues in need of resolution with respect to 10-digit numbering for VRS users employed by the U.S. federal government. First, agencies need to figure out how federal employees can participate in this numbering scheme. The ability to easily make *and receive* calls – whether relay or direct – is paramount to being able to effectively perform the functions of one's job, as is required by Section 501 of the Rehabilitation Act. Additionally, federal employees who rely on video communication should be able to benefit from the ease with which they can receive emergency assistance through 10-digit numbering. As the federal government devises its plans for providing accessible video communications, it must consider how these plans can best incorporate the new numbering system to achieve these goals.

A numbering-related issue that the FCC has yet to address concerns the way that a consumer's proprietary network information (CPNI) will be protected. Generally, CPNI is information that relates to the quantity, type, destination, and location of calls made by users of communications services. Under Section 222 of the Communications Act and the FCC's implementing regulations, wireline, wireless and interconnected VoIP carriers are permitted to use a customer's CPNI only under limited conditions.²⁸ For example, restrictions apply to the extent to which providers may provide or market new service offerings and track consumer calls. In a pending notice of proposed rulemaking in the FCC's 10-digit numbering proceeding, the Commission has asked whether its CPNI rules should apply to relay providers covered by the new numbering system. Providers and consumers who responded generally agreed that the limitations placed by the CPNI rules should apply to all relay providers with respect to both relay and direct video calls that they may handle.²⁹ Because the new

²⁸ These rules were updated in April 2007, to apply to interconnected VoIP providers. *Implementation of the Telecommunications Act of 1996: Telecommunications Carriers' Use of Customer Proprietary Network Information and Other Customer Information, IP-Enabled Services*, Report and Order and Further Notice of Proposed Rulemaking, CC Dkt. No. 96-115, WC 04-36, FCC 07-22 (April 7, 2007) (CPNI Order), codified at 47 C.F.R. §64.2001 *et. seq.*

²⁹ Before applying the CPNI rules to relay providers for relay and point-to-point calls, the FCC must first find sufficient authority within the Communications Act. Parties commenting on the FCC proceeding argued that the FCC does in fact have such authority both generally and under section 225 of that Act. Individuals who use VRS and point-to-point video communication rely on these forms of communications as their primary mode of communication and therefore have the same expectation that the providers of these services will protect the privacy of their calls as they have when making TTY calls over the PSTN. Because this expectation is the same, it is appropriate for the FCC to extend the CPNI rules to both of these forms of communication. Indeed, relay services, as required by the ADA, were originally intended by Congress to be a mere (although accessible) substitute for PSTN-based telephone services. The FCC used similar reasoning to apply the CPNI rules to interconnected VoIP services, which the Commission found "virtually indistinguishable," from the perspective of a customer making a telephone call. CPNI Order at ¶56. Specifically, the Commission

numbering system treats these users very much like voice telephone subscribers, they argued, individuals using the IP-based numbering system should have the same right to privacy of their customer information that subscribers of voice telephone services have.

The extent to which the CPNI rules will apply to federal employees – if such rules are indeed adopted for video communications – remains to be seen. The CPNI rules place the obligation to guarantee privacy on the telecommunications carrier, which must fulfill this obligation through a promise to its customers. To the extent that the federal government chooses the providers that will handle its video calls, the CPNI rules may have little or no application, because in this case, the customer would be the federal government and not the actual employee who is making the calls. In other words, the federal employees would not have any relationship with the provider bound by these privacy obligations – i.e., they will not have chosen it as their default VRS provider. On the other hand, calls made to, from, or within the federal government through VRS vendors that are chosen by individuals making those calls would likely fall under the CPNI restrictions if these restrictions are eventually adopted by the FCC.

V. Conclusion and Recommendation

Federal agencies have a clear obligation under the Rehabilitation Act and the Telecommunications Accessibility Enhancement Act to provide their deaf, hard of hearing and speech disabled employees and members of the public wishing to contact them with the ability to make both point-to-point video calls and VRS calls. The obstacles to fulfilling this responsibility appear to hinge on agency concerns with cost and security. While technical solutions appear to be available to make such access a reality, policy considerations need to be resolved concerning how these services will be provided and to what extent they will be able to achieve functional equivalency. It is recommended that the U.S. General Services Administration, as the agency charged with achieving a federal telecommunications system that is fully accessible to individuals with disabilities, assume a leadership role in tackling this challenge. In coordination with the FCC, GSA should establish standards and protocols by which video communications (both point-to-point and via relay services) can be made available throughout the federal government's programs and offices. Among other things, such standards should address matters of (1) security; (2) call confidentiality; (3) video equipment interoperability and (4) a migration path to SIP and successor technologies.

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concluded that it would not be able to fulfill the Communications Act's directive to ensure that the nation's wire and radio communication service promoted the safety of life and property if it failed to protect a consumer's private information. *Id.* at ¶58.

Appendix I: TEITAC Recommendations

Subpart C

6-E: Video Support

Communication products or systems that are used to transmit video communications in real-time between and among individuals must:

1. Support interoperability to permit communication between and among users of terminals from different manufacturers and service providers;
2. Have a built-in non auditory alerting system or provide compatibility with an external non-auditory alerting system that is capable of alerting users of incoming calls; and
3. At a minimum, support 15 frames per second, QCIF resolution, and a latency of less than 400 milliseconds, in order to provide sufficient quality and fluency that will support real time video communication in which one or more parties are using sign language or is talking in the picture.

Note 1: Twenty frames per second or better is recommended to facilitate lip reading and fingerspelling in the video communications provided under this section.

Note 2: Explanatory information concerning sign language and lip-reading real-time conversation using low bit rate video communication can be found in ITU-T H-Series Supplement 1.

Note 3: Non-auditory alerting for incoming video communications can be achieved via flashes, vibrations and sound; the preferred method will depend on the needs of the individual using the product.

Subpart D

2-B: Video Support

(This provision is not relevant to the Section 255 guidelines, because it creates obligations for federal agencies.)

1. Each agency must ensure the availability of communication access via point to point real-time video communications and video relay services for incoming and outgoing calls for individuals who need such access. This includes the requirement to provide a non-auditory means of alerting users of incoming calls.
2. Where security concerns are present, this subpart remains in effect, but may be achieved by measures that prevent an individual's video communications from intermingling with packets of the general government network, for example, through the installation of a separate line to an isolated communications terminal.

Note: The requirement to permit video communications in real-time includes the ability to send and receive video mail, much in the same way that voice telephone users are able to send and receive voice mail.