



IP Telephony

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Services

OVERVIEW

Avaya Accessible Communication Solutions

Enabling People Who Have Disabilities



In a democracy, people have a fundamental right to access information and exchange it freely. Laws such as the Americans with Disabilities Act of 1990, Sections 251 and 255 of the Telecommunication Act of 1996, and Section 508 of the Workforce Investment Act of 1998 guarantee that right to people with disabilities. And so it is that organizations must provide equivalent communications access to employees and customers who have disabilities that affect their ability to use telecommunications systems.

The federal government has estimated that 54 million Americans have a disability. According to the U.S. Census Bureau, after age 55 the proportion of Americans who have a sensory disability doubles (as a percentage of the total number of people with disabilities). In addition, Americans with a disability have an estimated combined annual disposable income of \$175 billion.

It is clear that even if it weren't a legal requirement, providing equal access through communications is a smart idea — making available a large, loyal, and talented labor pool and an untapped customer base. Avaya offers a large portfolio of telecommunication solutions designed to provide equal access to

communications for people with disabilities. These solutions enable you to offer a wider range of jobs to people who have disabilities, as well as to serve the needs of a wider range of customers.

Messaging That Works For TTY Users

People who are deaf or hard of hearing commonly use special text terminals known as TTYs to communicate over telephone lines. Keeping in mind that over half of the telephone calls to a typical organization's employees are forwarded to an automatic messaging system, what happens if the messaging system is unable to prompt callers in a TTY-compatible format?

What happens if the system cannot record a TTY message? Under these conditions, the organization would be denying the TTY caller equal access to communication — not to mention losing a potential customer.

In response to this need, Avaya messaging applications permit callers to select prompts in voice or TTY format. If a caller wants to leave a TTY-format message, the message will be recorded by the system and then stored in the same mailbox that holds the called party's voice mail.

Avaya messaging support for TTY users does not end with call-answer capabilities. TTY users have access to nearly all of the same mailbox functions that are provided to voice users via the telephone user interface, such as the ability to generate, receive, and forward messages, do directory look-ups, and return phone calls automatically.

Note that not all people who use TTYs rely on them for both transmitting and receiving. Many TTY users are hard of hearing but still able to speak clearly. These individuals often prefer receive text on their TTYs and then speak in response — a process commonly referred to as Voice Carry Over (VCO). Avaya messaging applications support VCO operations by allowing users to record voice messages even after TTY prompting has been selected. Indeed, should they desire to do so, people may leave messages that contain both voice and TTY.

Supporting TTY Users With Avaya Interactive Response

Interactive Voice Response systems provide an automated, telephone-based way to conduct a wide variety of transactions. A good example of an IVR application is the banking service that allows customers to access account information and transfer funds by phone.



Avaya Model 8840 TTY

In all cases, IVR systems allow users to make menu selections or enter data by pressing the touch-tone keys on their telephones. Some systems also permit users to make selections or enter data by voice. But what about people who use TTYs?

It is commonly assumed — mistakenly — that the only additional capability that an IVR system must support in order to satisfy the needs of TTY users is the ability to prompt the users in TTY format (rather than by voice). The expectation is that the TTY users will respond with touch-tones. The problem is that many TTY devices are able to generate touch-tones only when dialing a phone number. After they have finished dialing, these devices switch automatically to TTY mode, which leaves their users unable to make menu selections or send data to a typical IVR system.

In response to this need, Avaya Interactive Response permits users to make menu selections and enter data with their TTYs. This capability is in addition to the ability to prompt users in TTY format, and to accept both touch-tone and voice responses from the user.

Enabling Telephones For People Who Are Visually Impaired

Consider for a moment all of the information that sighted users can obtain by looking at a typical business telephone: caller ID (name and number), whether there is a new message waiting, whether the phone is forwarded, which lines are available and which are on hold, whether a party on hold has disconnected, and so on. In fact, on some Avaya telephones the status of more than 200 different functions can be discerned visually.

For people who are visually impaired, the inability to access the same telephony information as sighted people can be a significant inconvenience. More importantly, it can be an insurmountable barrier to communication-centric jobs, like contact center agent, that might otherwise be ideal for people with disabilities.

In response to this need, Avaya developed Universal Access Phone Status software. This software is provided for free by Avaya, and is usable with standard, unmodified Avaya telephones.* The software itself is loaded onto the user's desktop PC; the status of the telephone is then monitored via a connection to an

Avaya Media Server running Avaya Communication Manager. Information of the sort typically conveyed to sighted users by LEDs (Light Emitting Diodes) is presented automatically by voice through the PC's speakers, for example "Line three is on hold," "You have new voicemail," and "Line three has disconnected." Text information on the telephone's display, such as the caller ID information, is voiced out only when the user requests it, thereby helping to protect the privacy of the caller and of the user.

In addition to supporting standard telephony functions, Universal Access Phone Status can be used for many specialized applications. For example, when used in a contact center, it can voice-out the special information required by agents, such as the number of calls in queue and the mean waiting time.

Finally, for users who may have trouble hearing their telephone ringing, Universal Access Phone Status can provide a highly animated screen pop on a user's PC to alert them when they have incoming calls.

* The Avaya telephones that are presently supported are the Models 4610, 4612, 4620, 4624, and 6416D. Other models will be supported in the future. Please consult your Avaya representative.

Increasing Access With Advanced Speech Processing

The capabilities of telephone-access automatic speech recognition systems have improved tremendously in recent years. For many people with disabilities, the availability of speech recognition technology like Avaya provides can be very helpful – in some cases allowing easy access to functions that might otherwise be hard to use or inaccessible. Speech recognition user interfaces are supported on a wide range of Avaya business communication applications, such as Avaya Interactive Response, Avaya Communication Manager, and Avaya Modular Messaging applications.

Unfortunately, some people with disabilities still cannot benefit fully from the current generation of speech recognition products – notably, people who cannot speak in a clear, consistent manner. For this reason, the Avaya platforms that support speech recognition also allow non-speech access to the functions, for example via touch-tone responses from the user.



Avaya 6416D and 4620 Telephones

The Avaya Commitment

Avaya has a rich history of creating solutions that help individuals with disabilities participate more fully in life. Our corporate heritage and commitment predate by decades the laws that require such products. For example, our first TTY software for messaging systems was developed more than 12 years ago; our attendant console that provides many of the capabilities of our Universal Access Phone Status software was developed more than 20 years ago.

Many of the engineers who developed these systems are still with Avaya and working on products that demonstrate our continued commitment to the principles of equal access. The products described here are just a small sample of Avaya Accessible Solutions. With a breadth of experience, tools and technologies, Avaya Global Services delivers planning, design, implementation, integration, maintenance and management support you can trust anywhere in the world. For more information, please contact your Avaya Client Executive or authorized Avaya BusinessPartner, or visit us at avaya.com.

About Avaya

Avaya enables businesses to achieve superior results by designing, building and managing their communications infrastructure and solutions. For over one million businesses worldwide, including more than 90 percent of the FORTUNE 500®, Avaya's embedded solutions help businesses enhance value, improve productivity and create competitive advantage by allowing people to be more productive and create more intelligent processes that satisfy customers.

For businesses large and small, Avaya is a world leader in secure, reliable IP telephony systems, communications applications and full life-cycle services. Driving the convergence of embedded voice and data communications with business applications, Avaya is distinguished by its combination of comprehensive, world-class products and services. Avaya helps customers across the globe leverage existing and new networks to achieve superior business results.

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