

**INNOVATION AND INCLUSION: THE AMERICANS  
WITH DISABILITIES ACT AT 20**

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**HEARING**

BEFORE THE

SUBCOMMITTEE ON COMMUNICATIONS,  
TECHNOLOGY, AND THE INTERNET

OF THE

COMMITTEE ON COMMERCE,  
SCIENCE, AND TRANSPORTATION

UNITED STATES SENATE

ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

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MAY 26, 2010  
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ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

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# INNOVATION AND INCLUSION: THE AMERICANS WITH DISABILITIES ACT AT 20

WEDNESDAY, May 26, 2010

U.S. SENATE,  
SUBCOMMITTEE ON COMMUNICATIONS, TECHNOLOGY, AND  
THE INTERNET,  
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,  
*Washington, DC.*

The Subcommittee met, pursuant to notice, at 2:35 p.m., in room SR-253, Russell Senate Office Building, Hon. John F. Kerry, Chairman of the Subcommittee, presiding.

## OPENING STATEMENT OF HON. JOHN F. KERRY, U.S. SENATOR FROM MASSACHUSETTS

Senator KERRY. Hearing will come to order.

Thank you all very much for being here today. I particularly want to thank my colleague and friend, Congressman Ed Markey, for being here and for his work in this area.

We're meeting today to discuss two very important matters: one, promoting innovation and modern communications, and, two, making sure that people with disabilities are included in the economic and social revolution that comes with modern communications.

Twenty years after the passage of ADA, it is time—for those listening that don't know what that is, it's the Americans with Disabilities Act. It is time to recommit ourselves to making sure that all Americans, those with disabilities, are not left behind, online or off.

Earlier this week, Chairman Rockefeller and I, along with counterparts in the House, called for initiating a process to update whatever laws we need to in order to make sure that they're in synch with the modern communications market today.

So much more information is available, so many opportunities are available through these modern means of communication that life itself has changed in our country. We need to make sure that it has changed for everybody in a positive way.

How stakeholders approach the debate over increasing access to modern communications with peoples with disabilities, I think, will serve as an interesting case study to how they're going to approach the broader effort to update our laws in this field.

We still have to see whether or not providing people with disabilities access to the wires, devices, and the services that connect us to the Internet—and, over time, the services on the Internet itself—will bring people of goodwill together in order to negotiate in good faith in this effort or, as we often see around here, whether

or not folks will resist and special interests will rear their heads up to somehow shift responsibility to other people and then even gain the rules and try to prevent the entry of new competitors into this market or, as they sometimes do, try to say that any effort by the Federal Government to set the rules is somehow an overreach. And I think we're going to make it clear, that it is not.

I want to say how pleased I am that Senator Pryor and his staff have worked so closely with ours. We have benefitted from the terrific participation of advocates for the disabled and various industry players and experts at the FCC in helping to lead up to this hearing. And I also want to recognize that the preparation for this has been largely organized around the introduction of legislation modeled on what Congressman Markey has achieved over in the House.

And I think we ought to try—and I know the Congressman feels this way—to get this bill to the President's desk this year for signature.

The goal is very clear: to ensure that Americans with disabilities have the opportunity to access and use communications services and infrastructure just like the rest of us. And doing so is really critical to making good on our commitment to an open and inclusive society.

I was privileged when I first came to the United States Senate to work—back in 1985—with Senator Lowell Weicker, and I was serving briefly on the Health and Human Services Committee, and, at that point, he was Chairman of something that was still then called the Handicapped Subcommittee. That shows you the distance we've traveled.

But one of the things that we did was put in place major technology grants that assisted in the development of assistive technology devices. And, today, there are people with terrible diseases—usually nervous-system disorders, muscular disorders—who are able to communicate exclusively because they can use these assisted devices in a bed or in a chair, as the case may be. It changed life for people to be able to communicate, and it came about because we were able to address this in balance and excite that kind of research and development.

So, what we need to do now is recognize that too many of the applications that a lot of us just take for granted, too many of the applications transmitted over the existing devices and facilities are inaccessible to people with disabilities. And that means a huge part of life in America is inaccessible, and that's unacceptable.

The huge companies that own the pipes coming into homes or who design and sell the services that make access possible today don't necessarily have to make those devices or services available to people with disabilities.

So, working with my friend, Congressman Markey, as well as Senator Pryor and others in the Senate, we intend to change that. We need the industry to cooperate with us.

Our bill aims to require several things, that beginning with the largest firms that control access and entry onto the Internet, and eventually spreading to all communications providers over the Internet, they, at minimum, make a good-faith effort at accessi-

bility, and, also, where technology is available, make the product or the service available.

Some people may say, What are you talking about, Senator? What do you mean here?

Well, for instance, it is not right that a deaf actor, who has all the talent in the world, doesn't have the opportunity to learn the craft or develop important skills that come from watching other actors perform simply because he or she can't access what those actors are saying. That can be cured.

It is wrong that a soldier blinded in combat can come home and, because of the absence of video devices, not being able to fully access some of what is on the television, including emergency information. It's unacceptable that because a child is born deaf, he or she can't use a video-conferencing service that would allow that person to sign a conversation with friends who are not disabled or who have a different disability.

All of these things are doable, and one of our central responsibilities as policymakers is to write rules and regulations to provide access for essential service where the market won't, by its own volition, automatically do that.

And fulfilling that responsibility is actually what made electricity and phone service available almost everywhere. It's that kind of commitment that led us to mandate closed captioning for television, so that deaf folks could get their news in a crisis, just like the rest of us.

It's also what led Congress to pass the Americans with Disabilities Act two decades ago. And we believe that, today, access to the Internet and the ability to communicate over smartphones and computers is an essential service of the 21st Century.

We try to strike a balance in our proposed legislation between the industry's ability to innovate freely and onerous regulation, but also making sure that the needs of people with disabilities are considered and addressed in the delivery of Internet service.

And we're going to continue to work with everyone who is interested in this, in order to try to make sure that we do it in a reasonable and a thoughtful way. But we're not going to accept a communications structure that refuses, simply out of stubbornness, to include people with disabilities.

The time to solve the problem, in our judgment, is now. And I'm very, very happy to welcome a long-time advocate on these issues, probably one of the most knowledgeable people in communications in the entire Congress and the Dean of the Massachusetts delegation, Congressman Ed Markey.

**STATEMENT OF HON. EDWARD MARKEY,  
U.S. REPRESENTATIVE FROM MASSACHUSETTS,  
SEVENTH DISTRICT**

Mr. MARKEY. Thank you, Senator Kerry, very much, and thank you for inviting me over here this afternoon.

And I want to congratulate you, Senator Pryor, and Senator Rockefeller, on the leadership which you are showing on this very important issue of affordable, universal access for all Americans to the latest technologies of the 21st century.

As you said, on July 26, 2010, we will celebrate the 20th anniversary of the signing of the Americans with Disabilities Act. When President Bush signed the ADA into law, he famously said, “Let the shameful walls of exclusion finally come tumbling down.”

The ADA was an historic victory, but, now, two decades later, we must take action again to ensure that new walls are not erected, that new barriers to inclusion may be virtual, wireless, composed of zeros and ones, a result of devices and services designed without accessibility in mind.

Regardless of their origin, these 21st century walls are just as exclusionary as the physical barriers that were the focus of the ADA 20 years ago or the analog-era communications hurdles that we had to overcome in the ADA Act and in the Telecommunications Act of 1996, to do away with that old era, which is why there is no more important hearing that is taking place in Washington today than this issue. This is the time to break down the walls of exclusion of the digital era.

The requirement for the FCC to further a National Broadband Plan, which I successfully included in the Stimulus Bill of 2009 to create the broadband plan for the 21st Century in America, was designed to produce a roadmap to a broadband future open to all Americans. The plan was released in March and contains some sobering data on barriers to broadband adoption amongst Americans with disabilities. For example, the broadband plan reported that 39 percent of all non-broadband adopters have a disability, much higher than the 24 percent of overall survey respondents who have a disability.

Impediments that people with disabilities face include devices that are often not designed to be accessible for people with disabilities; assistive technologies that are expensive—Braille displays, for example, can cost between \$3,500 and \$15,000—services, including emergency services that are not accessible; web pages and new media applications that cannot be accessed by a person using a screen reader; and Internet-based video programming does not have captions or video descriptions offering an account of what is on the screen.

This is important given the rapid rise of online video options like Hulu and other new services that will exclude those that do not have the capacity to be able to participate.

Historically, it has taken years, even decades, for Americans with disabilities to have something close to equal access to telecommunications. The FCC reported that it took over 100 years for telephone systems to become accessible for people with speech and hearing disabilities, over 50 years for television to become accessible for deaf people, and 10 years for people who used hearing aids to be able to use digital wireless phones.

Now, we were able to pass laws that changed all that over the last 20 years, but Americans with disabilities should have access to the new telecommunications technologies of the 21st Century as well, and delay is unacceptable.

The guiding principles of the 21st Century Communications and Video Accessibility Act that I have introduced in the House—similar to the legislation that you have introduced over in the Senate—is to bring existing federal laws requiring communications and



video programming accessibility up to date to fill in any accessibility gap and to ensure the full inclusion of Americans with disabilities in all aspects of daily living through accessible, affordable and useable communication and video programming technologies.

Since the ADA was signed into law, we have seen a revolution in the way Americans interact, learn and conduct business. However, the wizardry of the wires and the sophistication of the software programs do little for those who cannot affordably access or effectively use them.

The fact is that the new technologies and services are neither intrinsically good, nor are they bad. There is a Dickensian quality to each of these technologies. They are the best of wires and the worst of wires simultaneously. They can enable and ennoble, or they can degrade and debase.

These new technologies are only as good as the animation with human values that we ascribe to them. And as our population ages, there will be more of us who will inevitably benefit from these new features.

And, finally, I must note that many of the arguments raised against elements of our accessibility legislation are eerily similar to arguments made against hearing-aid compatibility and closed captioning in 1990.

In that debate, we were told that mandating closed captioning on all television sets would cost \$20 per TV set. It would crush the industry. It would take a lifetime and a fortune to caption all of the television shows and movies. It would just be too expensive for the industry. It would be overly burdensome. Notwithstanding these objections, we passed and the President signed into law the closed-captioning legislation that I had championed.

Now, what is the result? Well, interestingly, when people turn on their TV set and they go to closed captioning, yes, for those who need it, they can watch it, but some other interesting things happened as well. The immigrant community can now turn on the closed captioning and their children can actually read along with the words as they sit there in the living room, learning our language.

In addition, in barrooms all over America now, guys can actually watch the game at the same time with the closed captioning. That was impossible before the 1990 Telecommunications Act. So all of this——

Senator KERRY. Is that admissibility?

[Laughter.]

Mr. MARKEY. It allows guys to multitask in bars. Okay? You know, that was an unintended consequence of a technology revolution, where others actually benefit from it as well.

And what else happened? Very funny thing happened. The whole cost dropped down to \$1 per television set from the \$20 per television set that had been predicted. And all of these incredible benefits then began to flow to people.

So the best way for us to increase the productivity of the American people, to unleash all of the great God-given abilities that everyone has been given, is to give them access to the way in which we communicate in the 21st century. And those 10 million or 20 million people out there, they'll be able to plug in and make con-

tributions that will help not only themselves and their families, but help America as well, because they'll be able to fully contribute according to their own God-given abilities.

And so I thank you, Senator Pryor. I praise you in absentia, and I'll do it in person, and you, Chairman Kerry, for your tremendous leadership on this bill.

I think we can get this done this year. I think it's important for us to get it done. These people have waited too long. Thank you.

[The prepared statement of Mr. Markey follows:]

PREPARED STATEMENT OF HON. EDWARD MARKEY,  
U.S. REPRESENTATIVE FROM MASSACHUSETTS, SEVENTH DISTRICT

Thank you, Chairman Kerry, for holding this important hearing today and for inviting me to testify this afternoon. You and Senator Pryor have shown tremendous leadership on the important issue of affordable, universal access for all Americans to the latest technologies of the 21st century.

On July 26, we will celebrate the 20th anniversary of the signing of the Americans with Disabilities Act. When President Bush signed the ADA into law, he famously said "*Let the shameful walls of exclusion finally come tumbling down.*"

The ADA was an historic victory; but now, two decades later, we must take action again to ensure that new walls are not erected—the new barriers to inclusion may be virtual, wireless, composed of zeroes and ones, or a result of devices and services designed without accessibility in mind. Regardless of their origin, these 21st century walls are just as exclusionary as the physical barriers that were the focus of the ADA 20 years ago or the analog-era communications hurdles we had to overcome.

Now is the time to break down these walls of exclusion of the Digital Era.

The requirement for the FCC to develop a National Broadband Plan that I successfully added to the Recovery Act was designed to produce a roadmap to a broadband future open to all Americans.

The Plan was released in March and contained some sobering data on barriers to broadband adoption among Americans with disabilities. For example, The Plan reported that:

- Some 39 percent of all non-broadband adopters have a disability, much higher than the 24 percent of overall survey respondents who have a disability.
- Impediments that people with disabilities face include:
  - Devices that often are not designed to be accessible for people with disabilities.
  - Assistive technologies that are expensive (Braille displays, for example, can cost between \$3,500 and \$15,000).
  - Services, including emergency services, that are not accessible.
  - Web pages and new media applications that cannot be accessed by a person using a screen reader.
  - And Internet-based video programming does not have captions or video descriptions offering an account of what is on the screen. This is important given the rapid rise of online video options such as Hulu.

Historically, it has taken years—even decades—for Americans with disabilities to have anything close to equal access to communications. The FCC has reported that it took:

- Over 100 years for telephone systems to become accessible for people with speech and hearing disabilities;
- Over 50 years for television to become accessible for deaf people; and
- 10 years for people who used hearing aids to be able to use digital wireless phones.

Americans with disabilities should have access to the communications technologies of 21st century, and delays are unacceptable.

The guiding principle of the Twenty-first Century Communications and Video Accessibility Act that I have introduced in the House and the related legislation we are considering today is to bring existing Federal laws requiring communications and video programming accessibility up to date, to fill in any accessibility gaps, and to ensure the full inclusion of Americans with disabilities in all aspects of daily liv-

ing through accessible, affordable and usable communication and video programming technologies. Since the ADA was signed into law, we have seen a revolution in the way Americans interact, learn and conduct business. However, the wizardry of the wires and the sophistication of software programs do little for those who cannot affordably access or effectively use them.

The fact is that the new technologies and services are neither intrinsically good nor bad. They're only good when we animate them with the human values that reflect the best of what we are as a society. And as our population ages, there will be more of us who will inevitably benefit from these features.

Finally, I must note that many of the arguments raised against elements of our accessibility legislation are eerily similar to arguments made against hearing aide compatibility and closed captioning in 1990. In that debate, we were told mandating closed captioning would add \$20 to the cost of a TV. It would crush the industry. It would take a lifetime and a fortune to caption all the television shows and movies. It would be overly burdensome. Notwithstanding these objections, we passed and the president signed into law closed captioning legislation that I had championed.

Then a funny thing happened—uses emerged for closed captioning that had not been anticipated—captions now are used in immigrant households to learn English and watched in sports bars and on treadmills across our country. Moreover the mandate didn't cost nearly \$20—it cost about \$1 per TV set.

Even though technologies may change, the values we seek to instill in those technologies are immutable—accessibility, affordability, opportunity.

There is no better way to honor the 20th anniversary of the ADA than to move this bill forward. Mr. Chairman, I am looking forward to partnering with you and Senator Pryor and our colleagues in the House and Senate in this vitally important effort.

Thank you.

Senator KERRY. Well, thank you, Congressman. Very, very helpful testimony, and I agree with you. I think we can get it done this year.

Senator Pryor, do you want to make any statement at this point before I ask questions?

**STATEMENT OF HON. MARK PRYOR,  
U.S. SENATOR FROM ARKANSAS**

Senator PRYOR. I don't, Mr. Chairman, other than I want to thank Congressman Markey for being here and thank you for your leadership on this, as well as you, Mr. Chairman. You guys are the dynamic duo when it comes to this, and we just really appreciate you. And I have a statement for the record I'll just introduce. Thank you.

Senator KERRY. Without objection, the full statement will be placed in the record.

[The prepared statement of Senator Pryor follows:]

PREPARED STATEMENT OF HON. MARK PRYOR, U.S. SENATOR FROM ARKANSAS

Thank you, Senator Kerry, for holding this important hearing today on innovation and inclusion in light of the upcoming 20th anniversary of the Americans with Disabilities Act.

The focus of today's hearing is to evaluate whether the current marketplace and legal framework have ensured that people with hearing and vision disabilities have equal access to 21st century communications.

In 1990, Congress passed the ADA, in part, so that individuals who used wheelchairs could attend schools, pursue jobs, enjoy access to businesses like banks or restaurants. In 1996, Congress passed the Telecommunications Act, recognizing that Americans with disabilities have a right to expect equal access to communications.

However, these laws do not apply to one of our greatest technological innovations—the Internet. As we all know, the Internet is no longer a luxury, it is a necessity to learn, interact, and conduct business.

That is why I, along with my colleagues Senators Kerry, Conrad, and Dorgan introduced S. 3304, the Equal Access to 21st Century Communications Act.

Our goal is to ensure that the wonders of today's (and tomorrow's) innovations are available to all Americans, regardless of their geographic location or their personal circumstances.

Expanding access to the Internet has been one of my top priorities here in the Senate. I've worked to promote rural broadband and connect new areas to the wonders of the World Wide Web. In the land of opportunity, we need to be sure that everyone can fully participate and compete in the 21st century marketplace.

However, I also understand the need to balance reasonable accommodations with the fast changing world of new media communications.

I value the input of the technology community. That is why I am committed to working with all interested parties moving forward on this legislation. I would particularly like to thank the Coalition of Organizations for Accessible Technology, the U.S. Telecom Association, CTIA—the Wireless Association, the National Cable and Telecommunications Association, the Consumer Electronics Association, the National Association of Broadcasters, and the Telecommunications Industry Association for working with me and my staff on these issues.

I thank the witnesses here today for their testimony and having the opportunity to ask questions.

Senator KERRY. Congressman, I know you've got to get back over to the House and we really appreciate you coming over very, very much.

Mr. MARKEY. Thank you.

Senator KERRY. Thank you. Thanks for your leadership.

Mr. MARKEY. Thank you. Thank you for your great leadership. Thank you all so much.

Senator KERRY. We have a very distinguished and capable second panel.

I'd like to ask Sergeant Brian Pearce—he's a retired Iraq War veteran who suffered traumatic brain injury and lost his sight in an IED blast—if he would come to the table; Thomas Wlodkowski, the Accessibility Director at AOL; Bobbie Beth Scoggins, the President of the National Association of the Deaf; Russell Harvard, an acclaimed film actor, who performed in the Oscar-winning film, *There Will Be Blood*, and the TV show, *CSI: New York*; and Walter McCormick, the President and CEO of the U.S. Telecom Association. If you could all take your spots there.

I think each of you will have a five-minute time period to summarize, if you would. Your full statements will be placed in the record as if read in full. And there'll be a little red light there that will also be accompanied by a beep sound that you'll hear that'll give you a sense of when you're at the five minutes. And we won't cut you off immediately, but try to adhere to it.

Senator PRYOR. Mr. Chairman.

Senator KERRY. Yes.

Senator PRYOR. As they're getting situated, Marlee Matlin, a well-known advocate for the deaf community and Oscar-winning actress, was unable to be here today, but she did send some testimony and I would ask that it be included in the record.

Senator KERRY. Absolutely.

Senator PRYOR. Thank you.

Senator KERRY. We'd be delighted to put that in the record and we welcome her testimony. I've had a chance to meet her a few times and she's a wonderful person and great advocate.

[The prepared statement of Marlee Matlin follows:]

PREPARED STATEMENT OF MARLEE MATLIN, ACTRESS,  
ON BEHALF OF THE NATIONAL ASSOCIATION OF THE DEAF

Chairman Kerry, Ranking Member Ensign, and members of the Senate Subcommittee on Communications, Technology, and the Internet, my name is Marlee Matlin. Let me first say I am honored to have the opportunity to submit this testimony for you today as a spokesperson for accessible broadband services and Internet media for the National Association of the Deaf. If I could have delivered this personally, I would have. Access to advanced communication and video programming—regardless of their mode or method of distribution, but particularly over the Internet—is near and dear to my heart and the hearts of millions of Americans.

Though many of you may know me by the many acting roles I have played—from “Children of a Lesser God” to my various TV appearances on shows like “Desperate Housewives,” “Law and Order SVU,” the “West Wing,” and most recently as the crazy lady who asked America to “read my hips” on ABC’s “Dancing with the Stars,” I am also a consumer and member of a very vibrant and rich cultural community. I am deaf and one of 36 million Americans who are deaf or hard-of-hearing.

When I was 7 years old, my mother took me to the International Center on Deafness and the Arts in suburban Chicago to help unlock my inner actress. Despite becoming deaf at 18 months old, my parents were determined to treat me as any child should be treated: with love and respect. And despite what doctors had predicted for me, in my parents’ minds nothing would ever be denied me. So when it became evident that their little girl wanted to be an actress (I was born a ham) they took me to the Center where I found my true love—acting. On the day of my first visit, I discovered they were putting on a production of the “Wizard of Oz.” No sooner had I walked in that I insisted there was only one role for me: “I’m Dorothy,” I declared. That’s how much confidence and freedom my parents encouraged in me. Needless to say, I got the lead role!

By the time I was 13, I had been acting in plays in sign and song throughout the Midwest. One day at the Center, I was told that the most famous person in America—no, not President Carter—but the actor Henry Winkler, known worldwide as the Fonz on “Happy Days,” was paying a visit. With that Matlin determination and independence in me, I went right up to him and I said, “Hi, I’m Marlee and I want to be an actor just like you in Hollywood.” With equal determination, cultivated by Henry’s own experience with barriers growing up with dyslexia, Henry looked me straight in the eye and said in his coolest, most Fonzie-like voice, “Marlee, sweetheart, you can be whatever you want to be. Just follow your heart and your dreams will come true.”

Eight years later, I was standing on a stage in Hollywood accepting an Academy Award for Best Actress for my very first film. But the moment that should have been victorious was actually bittersweet. The morning after I had won the Oscar, a very famous film critic proclaimed that my victory the night before was the result of a pity vote. And he went on to say, because I was a deaf person in a deaf role, lent doubts to whether I was really acting. In other words, I didn’t deserve the Oscar. Never in my life did I feel so limited, so “handicapped.”

Fortunately, it was Henry Winkler who helped me get back on the right path encouraging me with the same words he told me when I was 13—no one or nothing should ever stand in the way of my dreams. But this time he also said I had an Academy Award in my hand to prove it.

Two years later, with that determination to stand equally with my peers in the entertainment field in my heart, I lobbied and succeeded in getting the film which inspired me to become an actress, the “Wizard of Oz,” closed captioned for the first time. The following year, in 1990, I took it one step further and I worked with the National Center for Law and the Deaf to come to Capitol Hill to lobby on behalf of legislation that required all televisions with screens 13” or larger to be equipped with closed captioning technology. Like the critics who doubted my ability as an actor who was deaf, placing me on a level below my hearing peers, the TV manufacturers and programmers resisted providing equal access for millions of Americans who were deaf and hard-of-hearing. But with hard work and determination, we were successful in getting the caption decoder bill passed. Six years later, legislation was passed to require broadcast television be fully closed captioned. For 36 million Americans, who for so long were left out of the mainstream when it came to broadcast TV, we were finally able to get the words hearing people all take for granted for our world.

Last year, the “Wizard of Oz” celebrated a magnificent milestone—its 70th anniversary. For the first time in broadcast history, the film was being streamed live by Netflix to every single American who had access to a computer—for free. I was eager to share the film with my children, particularly my five-year-old daughter in

whose eyes I saw the same wonderment and excitement as I had when I was seven, watching the story of the young girl from Kansas who had dreams that took her over the rainbow. But when I opened up my laptop and hit the play button, I was horrified to find that the film I had successfully lobbied to get closed captioned 20 years ago was being shown without captions. I was told the technology was “coming” and that I had to be “patient and wait.”

Well as you’ve heard from my brief history, I don’t take things lying down and I did some investigating. First, I made noise on Twitter to the nearly 28,000 followers I had and then I made sure my friends, like Ashton Kutcher, who has over three million followers on Twitter, did as well. Eventually I found out that there was actually no problem in the technology. In fact, the technology exists to stream content with closed captions. What it came down to was the same issue I encountered 20 years ago—a lack of understanding and a lack of will and desire by broadcasters, content providers and equipment manufacturers to provide full access by passing through closed captions for programming already captioned.

Today, if I open any computer and go to websites like Hulu, iTunes, or anyone that broadcasts content that has previously been broadcast on television with closed captions, I and millions of Americans like me would find that the captions are not often not there. I couldn’t even watch myself on “Dancing with the Stars” being re-broadcast on *ABC.com* until very recently! The same would be true for Emmy award winning shows like “30 Rock” and “Mad Men.” Even more distressing is not being able to get captions on emergency and live events that are shown on TV with captions but streamed on the Internet without captions. Nowhere was this more glaring than during the unveiling ceremony of the Helen Keller statue in the Capitol rotunda, which was streamed live on CNN. For that event, there was not one closed caption to be found. The fact that it was an event to honor Helen Keller made it all the more painful for me. Here was a woman who fought for equality and access nearly 100 years ago and whom I looked up to as a role model, and yet I was unable to share in the celebration of her life. It was simply unacceptable.

So what can we do—together—to change this? Just as I did 20 years ago, I am here again on Capitol Hill, as a spokesperson for accessible broadband services and Internet media for the National Association of the Deaf. The “Equal Access to 21st Century Communications (S. 3304) will help to ensure that the legislation we won for access to telecommunications two decades ago is maintained. It is simply a matter of making sure that access reflects the changing landscape, which today includes broadband, the Internet, and wireless telephones and devices, like iPhones, iPads, Blackberries, and other smart phones. This is imperative because these technologies did not exist back then when we won our hard earned victory.

In the end, it’s not really rocket science. It’s simply about making sure that millions upon millions of Americans who are deaf, hard-of-hearing, or otherwise differently abled are not shut out because advanced communications and video programming is not accessible. As I said earlier, for whatever reason, it seems that all the hard work that we did 20 years ago has virtually disappeared when it comes to updating access requirements for new technologies. Imagine Neal Armstrong watching a re-broadcast 20 years later, in 1989, of his first steps on the moon, only to find his words which echoed across the globe, “one small step for man, one giant leap for mankind,” were no longer there—erased, as if he had never been to the moon. That’s how taking closed captions out of broadcast content now being shown on the Internet feels to millions of people like myself.

I’ve always maintained that though I may be deaf, silence is the last thing the world will ever hear from me. I’ll be making noise every day, whether it’s on TV, in films or on social media sites like Twitter.

In the end, I hope you will listen with your hearts. Remember that the real handicap of deafness does not lie in the ear; it lies in the mind. Please help us ensure that the minds of those who choose not to provide closed captions do not handicap us. Please help us ensure that they listen.

Finally, please help us ensure that the hard fought victory we won so many years ago can move forward into the 21st century.

Thank you so very much for allowing me to present this testimony and thank you for your time and interest.

Senator KERRY. So if we could start. Sergeant, we’ll begin with you, and we’ll work down the table, each of you in succession, and we look forward to your testimony. Thanks so much for being here with us today, Sergeant.

**STATEMENT OF SSG BRIAN K. PEARCE  
(RETIRED COMBAT-WOUNDED VETERAN)**

Sergeant PEARCE. Chairman Kerry and Senator Pryor, Ranking Member Ensign and other members of the Senate Committee, I thank you for this opportunity to testify before you today regarding my military service and my war injury in Iraq and adjustment to blindness and hearing loss and my traumatic brain injury, TBI, along with my concerns, along with other disabled Americans, over access to new communications and technology devices.

Written full testimony has more details on my military service that occurred to me by an IED blast and my long recovery, but, briefly, I am a 16-year Army veteran, who entered service in 1992.

In 2005, I was stationed at Fort Wainwright, Alaska, with the 172nd Stryker Brigade Combat Team. When we deployed into Iraq from August 2005 until August 2006, my unit first went to Mosul, Iraq. When we were extended, we went to the Sunni Triangle.

On October 20, 2006, I was hit by an IED and I suffered a severe penetrating head injury, and that caused my blindness, and it also caused partial hearing loss. And that's where I'll stop as far as my military history goes. You have my full testimony and I'll let you read that at your convenience, in the interest of time.

But, today, I'm here to talk to you and tell you that at home in Richmond, I've found the evolving world on new technology devices to be frustrating and sometimes difficult to use. Something as easy as trying to use cable television and find channels and make programming decisions is a huge challenge without having audio feedback.

One big fear when I'm home alone with my children, when I hear the emergency tones go off, whenever we have tornado warnings or storm warnings, whenever they show the tiny maps, whenever they have the storm warnings, it's really hard for me to see those tiny maps, and whenever they do the scrolling across for the storm warnings, those are really hard to see.

And I've written some letters and those have yet to be addressed. But that's one of the things that I hope we can address here today.

The other thing is cell phones. Cell phone and communication carriers seem to be at odds with creating barriers for combined services for the blind and deaf need. While there are probably 200 different phones on the market, finding one that is not hugely expensive and offers easy keypad functions and programs, that is a forever constant search.

If someone is blind and buys a phone and the service contract but then has problems with its utilization, it is next to impossible and expensive to get a replacement, let alone to change a service contract without being caught in a web of penalties.

Video descriptions are nearly impossible. Video descriptions, accessible interfaces and devices, emergency audio information and needs to use program wireless devices and Internet access information, to the average American today may not seem that important. For those with sensory loss, these problems add to frustrations of daily living, from trying to complete an education or enter the workforce.

I have to wonder today if one of the factors contributing to unemployment problems for disabled is also some of the technology communications challenges along with other things.

Today, I want to thank Congressman Markey for his introduction of H.R. 3101, and especially Senator Pryor and Chairman Kerry for holding this hearing and for the introduction of Senate Bill 3304.

Technology must incorporate adaptive changes for the disabled, and federal agencies need to develop the new regulations or policies to guide the industry along towards these changes.

I am today a proud veteran who served his country and would like to ensure that everyone has a chance to equally be as independent as possible. I do not pretend to be an expert on technology or the laws, just someone who wants to be able to do the things that any family would.

Thank you again and I will answer any of your questions now.  
[The prepared statement of Sergeant Pearce follows:]

PREPARED STATEMENT OF SSG BRIAN K. PEARCE (RETIRED COMBAT-WOUNDED VETERAN) AND ANGELA M. PEARCE OF MECHANICSVILLE, VIRGINIA

Chairman Senator Kerry, members of the Senate Subcommittee on Commerce for Communications and Technology, thank you for the opportunity to speak to you today regarding our experiences following my injuries in Iraq and my own experiences with adjusting to blindness and trying to use technology today.

#### **Military History**

I joined the U.S. Army in June 1992 and served until March of 2000, joining the WVARNG. After a 3 year service break I returned to Active Duty in January of 2004. My new duty station was the 172nd Stryker Brigade Combat Team out of Ft. Wainwright, Alaska. There I was assigned to 4-11th FA as the Brigades Survey/Targeting Acquisition Chief. After an intense training period, we deployed in July of 2005. My SBCT spent August 2005 through August 2006, the first year of our deployment, operating in the Mosul area. As the Brigade prepared to re-deploy home to Ft. Wainwright in July, we were extended for 120 days and assigned to area of responsibility in the Sunni Triangle.

#### **Injury Iraq**

On October 20, 2006, I was severely injured by an IED blast that caused shrapnel to penetrate the right occipital lobe of the skull. Once the blast zone had been secured I was air evacuated to the field hospital in Ballad, Iraq. There, I underwent an emergency craniotomy of the right occipital and posterior fossa with duraplasty retaining foreign body, and a ventriculostomy. This blast, in turn, caused me to suffer from a severe TBI and cortical blindness. Later, we learned it was the cause for more complex visual impairments, PTSD, hearing loss, pulmonary embolism, seizure and REM sleep disorders.

During this time my wife was contacted in Alaska and was told that I had been involved in an IED blast and was in stable condition complaining only of neck injury. Roughly 3 hours later she was contacted by my commander who was with me in Iraq. He then told her that I had come through the brain surgery fine and was listed as very critical and once they could get me stable enough I would be air-lifted to Landstuhl, Germany. Once she was able to talk to my doctor at Ballad one of the first questions she asked him about was vision loss. My wife was told then my diagnosis was cortical blindness and a very severe TBI. Some time on the 21 October, I was air-evacuated to Landstuhl, Germany. There I underwent a re-exploration surgery before being transported on to the U.S. mainland then on 24 October I was admitted to Bethesda Naval Hospital. Late on the evening of 25 October I was transferred to WRAMC's ICU. There I remained in a coma-like state for 47 days.

#### **Rehabilitation from Traumatic Brain Injury**

I was then sent to Poly Trauma VA Center in Richmond, VA, for rehabilitation for over a year. In January of 2007, I was discharged from inpatient care at Richmond where I had spent approximately one month. My inpatient care consisted of extensive and long program with variety of specialists KT, PT, RT, OT, mental health, speech, and vision sessions. After my discharge I began constant out patient



therapies in February consisting of KT, PT, RT, OT, speech, vision and mental health.

I went to the VA Blind Center in West Haven, CT, for 8 weeks in October 2007, and received training for blindness with the VA providing me with adaptive technology computer devices and training. The VA Eastern Blind Rehabilitative Center was excellent helping me go through extensive and thorough training in living skills, manual skills, orientation and mobility training, and computer training. I spent approximately 8 weeks going through extensive care and therapy to help me cope with everyday living with visual impairments and my TBI complications. I also found out how complex my visual impairments are and how to deal with them. What is difficult for most people to include my general doctors, and other providers is they don't understand the fact that my vision damage actually has nothing to do with my eyes themselves but stems from the damage to visual pathways impacting the parts of the brain that process my vision. My eyes are actually very healthy and were not directly damaged from the blast and it is my brain that will not allow my eyes to function appropriately. I have been left with no peripheral vision and about 8 degrees central core vision. The VA Blind Center was great help for me and my wife in the training they provided.

### **Technology and Communications Today for Disabled**

But today I come before the Senate Committee because over the past 2 years it has become clear that there are big problems for disabled who suffer from blindness, deafness, or other problems in accessing the world in which we all live and work in now. Communication technology is advancing at rapid pace for all aspects of daily living, but those technologies are generally frustrating for many of us trying to use them.

While I was not a telecommunications technology expert before my injury, the frustrating thing about recovery has been the things everyone else takes for granted or depend upon for every day use are giant challenge to use for the sensory disabled. I would quote what the National Council on Disability (NCD) Chairman in early 2009 wrote as further evidence that should help explain the problems before us today.

### **21st Century Access to Technology Issues**

"The claim by some today has been made in recent times that emerging technology has made access to employment and independent living for the disabled easier than ever before." According to NCD Chairperson John R. Vaughn, "The United States already has in place a string of Federal laws and regulations designed to guarantee various levels of access to telecommunications products and services." He states further "That such service nevertheless leaves gaps in coverage and are rapidly becoming outdated as the analog technologies upon which they were premised are being substituted with technologies that are digitally and Internet-based." As Congress, the Federal Communications Commission (FCC), and other Federal or state agencies take on the daunting task of defining regulatory measures that will govern the deployment of these next generation communication technologies. Further he states "The problems include inaccessible user interfaces on consumer equipment, lack of interoperable and reliable text transmissions, and obstacles to video and web programming all threaten the ability of individuals with functional limitations to gain equal access to these products and services. We stress that new communications technology that some take for granted as improving our lives can add more frustration and new barriers for those with sensory disability impairments."

Since my injury, using the television in my home has become an adventure at times. None of the on-screen menus are accessible to people like me, who are blind or visually impaired. I can't access the electronic program guide in order to see what shows are currently on or will be shown later in the evening. I am paying for this service and want to have access to it.

Likewise and a big fear for the blind is I have to rely on my wife to tell me what the emergency crawls are saying when it flashes on TV screen. This is a very basic but vitally important information service that I should also have access to through a text to speech platform because in natural disasters a blind person at home may have no other warning system to avoid danger from storm or hurricane.

Finally, the most difficult challenge that I have faced with technology has been identifying a cell phone that is accessible. I haven't been able to find a phone that suits my needs and is accessible. Not every person who is blind or visually impaired needs or wants to own a PDA. Blind Americans, like me, want to have options as consumers so that we can identify the most appropriate phone for our needs. Having accessible PDA's is important but also ensuring full accessibility to a wide spectrum of different phones is also vital.

I want to sincerely thank both Representative Ed Markey (D-MA-7) who introduced H.R. 3101 and especially today Senator Pryor and Senator Kerry today for trying to help individuals with sensory disabilities deal with the problems of access to new technology with the hearing today on Senate bill S. 3304. Technology must be accessible for those who are disabled and Federal agencies must be able to develop policy or regulations to ensure that these changes are included in new technology development before we are left even further behind.

I sincerely appreciate the chance to testify before your committee today and hope that I have helped put this into the perspective of just one blinded veteran and like thousands of other Americans with sensory impairments who want to be as fully independent as possible and I will take any questions you might have now.

Senator KERRY. Thank you very much, sergeant. Thank you for your service and thank you for your statement today, which is very important and very helpful. We'll come back to you afterwards.

Mr. Wlodkowski.

**STATEMENT OF THOMAS WLODKOWSKI,  
DIRECTOR OF ACCESSIBILITY, AOL INC.**

Mr. WLODKOWSKI. Senator Kerry, Senator Pryor, Ranking Member Ensign and members of the Committee, thank you so much for taking the time to focus on this important topic of innovation and inclusion.

My name is Tom Wlodkowski, and I am the Director of Accessibility at AOL.

AOL is a leading global web-services company with an extensive suite of brands and a substantial worldwide audience. Our business spans online content, products and services targeted to consumers, content publishers and advertisers.

Today, I will share some observations on the state of accessible technology, including the progress being made through collaboration between industry, government and consumers with disabilities. I will offer some thoughts on the importance of interoperability between information technology and assistance technology and how that can help us get products to market quickly.

And, finally, I'll have some thoughts on how I believe government can help immediately to encourage innovation and drive down costs, which we all understand cost of assistive technology today is prohibitive, in many cases.

I approach today's topic from a fairly unique perspective, or at least I like to think I do. As a blind citizen and avid user of information technology and assistive technology, I fully appreciate the impact that accessible, mainstream technology has on the lives of people with disabilities. I benefit from it every day.

I also experience the frustration that was mentioned earlier when I try to use the Internet and technology that is not accessible.

On the other hand, in my role at AOL, I experience the challenges facing industry to produce accessible products, and I understand the importance of flexibility to deliver an inclusive user experience. If we don't take anything else away from my testimony, I think the biggest piece would be ensuring flexibility in how accessibility is delivered I believe is a critical factor. There's a delicate balance between developing accessible products and bringing products to market quickly.

And, finally, my perspective is also shaped from being in the WGBH Media Access Group up in Boston where I managed federal

grants, largely from the U.S. Department of Education and National Science Foundation, to research solutions to advance accessibility of digital media technologies.

I'd like to begin by speaking about the industry progress. Putting accessible technology into the hands of consumers requires navigation of a complex technical ecosystem with many interdependencies.

For example, in order for AOL to produce a web page and make it accessible to someone who's blind, we rely on several layers of technology to work.

First, the user's screen reader, regardless of whether it's built into a device or installed third-party software on a desktop computer, has to interoperate with a commonly-used web browser like Internet Explorer or Safari, and these technologies communicate back and forth, the screen reader and the web browser, through accessibility frameworks in the operating system.

So to ensure greater interoperability, we formed the Accessibility Interoperability Alliance, which is a coalition of industry, information technology, and assistive technology, working together to ensure those frameworks are in place and continue to develop.

Another example of collaboration through industry is ongoing work in the Society of Motion Picture and Television Engineers, SMPTE, to develop an industry standard to enable captioned video distributed over broadband Internet networks.

Now, this work came out of a voluntary effort where AOL, Yahoo!, Google and Microsoft came together to fund the Internet Caption Forum. And once we realized we needed a broader group of stakeholders, we realized that the SMPTE group were content producers and broadcasters would be available to us was the best place to take up this work.

Version 1.0 will be available later this year.

Government helps. I encourage the Committee to take a look at the TEITAC Report—Telecommunications, Electronic and Information Technology Advisory Committee. That is a group from the Access Board—industry, international policymakers, state, local governments, Federal Government—coming together to figure out how to develop standards for Section 508 and guidelines associated with the Telecommunications Act.

And, in closing, I believe that the best way we can move forward here is to forge stronger partnerships between corporations, industry, researchers and consumers with disabilities.

And I thank you for your time, and I look forward to further questions.

[The prepared statement of Mr. Wlodkowski follows:]

PREPARED STATEMENT OF THOMAS WLODKOWSKI,  
DIRECTOR OF ACCESSIBILITY, AOL INC.

### **Introduction**

Mr. Chairman, and members of the Senate Commerce Subcommittee on Communications, Technology, and the Internet, thank you for taking the time to focus on this important topic of innovation and inclusion. My name is Thomas Wlodkowski, and I am the Director of Accessibility for AOL Inc. AOL is a leading global Web services company with an extensive suite of brands and offerings and a substantial worldwide audience. AOL's business spans online content, products and services that the company offers to consumers, publishers and advertisers. In addition, AOL

operates one of the largest Internet subscription access services in the United States. I appreciate the opportunity to testify before this Subcommittee on the importance of innovation and accessible technologies to people with disabilities.

Today I will share observations on the state of accessible technology, including the important progress being made through collaboration between industry, consumers and government. I will also offer some thoughts on the importance of interoperability between information technology (“IT”) and assistive technology (“AT”). I will highlight a critical barrier to access, specifically, the cost of assistive technology today. Finally, I will point out areas where I believe government can have an immediate impact, such as heightening awareness of solutions that exist today, preserving consumer choice and encouraging innovation.

I approach today’s subject matter from a unique perspective. As a blind citizen and avid user of both information technology and assistive technology, I fully appreciate the positive impact accessible mainstream technology has on the lives of people with disabilities. As an avid user of the Internet using mobile devices and desktop computers running a variety of software, I have experienced the frustration when these technologies are not accessible. In my role at AOL, I experience the challenges facing industry to produce accessible products and understand the importance of flexibility in enabling technology companies to deliver an inclusive user experience. I am well-versed in the delicate balance between developing accessible technologies and bringing products to market quickly. Last, my perspective is also shaped by my experience prior to joining AOL in 2002 when I was employed by the WGBH Media Access Group and I managed Federal grant projects to advance accessibility of digital media technologies. So, when tackling the important issue of innovation and inclusion through accessible technologies, I come at it from all angles.

### **Industry Progress**

I would like to speak first about the progress industry has made in the area of accessible technology. On July 26 of this year, America will celebrate the 20th anniversary of the Americans with Disabilities Act. While significant progress has been made in terms of providing access to employment, transportation, parks and public buildings, I think we can all agree there is still more work to do. The same holds true in the technology arena. When I joined AOL, very few technology companies had personnel dedicated to disability access and the practice of web accessibility was fairly young. Today, most major Internet companies employ people who focus on accessibility and design techniques for building accessible products continue to evolve. This increased focus is evident in the list of companies—representing a cross-section of the information and communications technology (“ICT”) industry—that attended the California State University (“CSUN”) International Technology and Persons with Disabilities conference in March of this year. For reference, CSUN is to the disability community what the annual Consumer Electronics show is to the mass market. AOL, Adobe, Apple, AT&T, Google, IBM, Microsoft, Research in Motion and Verizon, all participated alongside assistive technology vendors and accessibility researchers and demonstrated new and innovative technologies.

Putting a broad array of accessible products and services into the hands of consumers with disabilities requires navigation of a complex technical ecosystem. There are many interdependencies. For example, for AOL to deliver an accessible web page to a blind consumer, we have to rely on several layers of technology. First, the user’s screen reader technology, regardless of whether it is built into a device or is administered through software provided by a third party, must interoperate with a web browser such as Firefox, Internet Explorer, Opera or Safari. The web browser and the screen reader must be able to pass information back and forth. This information transfer is most effectively achieved by leveraging an accessibility framework supported by the operating system on which the web browser and screen reader software run. Second, AOL needs to add specific tags into our web content that the web browser and screen reader can utilize to enable efficient interaction by the blind consumer. Similar scenarios can be found across all segments of the ICT industry.

To improve interoperability models, information technology companies and assistive technology manufacturers have formed an industry-funded, voluntary collaborative effort to address this important goal. The Accessibility Interoperability Alliance (“AIA”) is a coalition of IT and AT companies working to enable developers to more easily create accessible software, hardware, and web products. At the same time, a working group of the International Organization of Standards, ISO/IEC JTC1/SC35/WG6, is seeking to promote broader awareness of open accessibility application programming interfaces (“APIs”) provided by computer operating systems that allow AT vendors to build hardware and software products that interoperate with mainstream products. Improving interoperability, making it easier to create accessible products and promoting use of APIs should bring down the cost of accessible

and assistive technologies and provide faster access to mainstream technology products for people with disabilities.

Often, to address longstanding accessibility shortcomings, key stakeholders will gather to form a standards organization. A good example of this collaboration is ongoing work by the Society of Motion Picture and Television Engineers (“SMPTE”) to develop an industry standard for captioning video content distributed over broadband Internet networks. Version 1 of this standard is expected to be released later this year. In this case, a broad group of private sector stakeholders including content providers, broadcasters, caption and subtitling solution providers, professional equipment manufacturers and consumer electronics manufacturers have come together to define the best way forward. This SMPTE activity is a direct result of AOL, Google, Microsoft and Yahoo! voluntarily joining together with the WGBH Media Access Group to form the Internet Caption Forum (ICF) in 2007. Once it became clear that a broader group of stakeholders was required to achieve meaningful progress, the work of the ICF was picked up by SMPTE.

Government often helps facilitate the dialogue between the IT industry, academics, consumers, the assistive technology industry and international stakeholders. Illustrative of this is the U.S. Access Board’s activity with regard to developing technical standards for Section 508 of the Rehabilitation Act. The Telecommunications, Electronic and Information Technology Advisory Committee (“TEITAC”) brought together representatives from industry, Federal and state governments, the disability community and international policymakers to provide recommendations to the Access Board for updating the Section 508 standards, which were developed as a result of 1998 amendments to the Rehabilitation Act, and the guidelines associated with Section 255 of the Telecommunications Act. AOL was a member of TEITAC. While not directly affected by Section 508, AOL and other consumer-facing technology companies directly benefit from its outcome. The resulting Advanced Notice of Proposed Rule Making, released by the Access Board in March, covers topics included in legislation introduced by this subcommittee, such as real-time text, video closed captions and interoperability. I encourage this Subcommittee to review the findings of the TEITAC report and the eleven minority reports that were submitted in April 2008, and to consult with the Access Board as their rule-making process progresses to avoid potential conflicts. By leveraging the competitive market place and, where necessary, establishing clear goals and guidelines without favoring one technology over another, government can help drive the creativity and innovation of the technology industry to provide the best and most accessible technology products that meet consumer needs.

#### **Innovation through Collaboration**

Innovation, both by assistive technology vendors and developers of mainstream information and communications technology, is critical for disability access. It is important to note that mainstream products that offer built-in accessibility often adopt techniques originally developed by assistive technology vendors to differentiate their offerings from similar products. For example, when I interact with a web page on my mobile device that has a built-in screen reader, I can limit my view of a web page to a list of available links, form controls requiring input and to other page elements. Without these navigation techniques, reading a web page would be extremely slow because screen readers read left to right, top to bottom. In order to provide consumers a high degree of choice in selecting the options that meet their unique needs, products and services need to be offered in a manner that is technologically compatible with the greatest number of devices and applications, not restricted based on one set of standards. Restrictive standards could result in increased costs, driving up consumer prices, which could in turn limit the number of people who actually benefit from the “innovation.” Thus, innovation is most likely to flourish where companies are able to approach the issue with great flexibility and are incentivized to do so, which in turn is likely to yield optimal choices for everyone.

By collaborating with industry and disability groups, AOL has been able to deliver leading-edge features, innovative solutions and best practices, which bring the power of the Internet to many. For instance, AOL worked in tandem with Freedom Scientific, developer of the JAWS screen reader and a vendor that employs people with disabilities for support with product testing to ensure compatibility of the AOL Instant Messenger service (“AIM”) with the JAWS screen reader software. As a result, many people who are blind enjoy easy access to chat with their friends on AIM and other interoperable services. Relay service providers leverage the popularity of AIM in the deaf community and its wide availability on mobile devices, the web and on desktop computers to enable consumers to place and receive text and video relay calls. AOL also offers a fully-accessible web mail and calendar user interface that was lauded by the National Federation of the Blind and other leading disability or-

ganizations. This interface mirrors keyboard shortcuts used in popular desktop e-mail applications.

#### **Awareness**

I would now like to shift gears and talk about an issue that is as important as building accessible technology—consumer awareness. In its National Broadband Plan (“NBP”), the Federal Communications Commission (“FCC”) recognized that one problem that consumers with disabilities face is that they are unable to find accessible communications technologies and assistive technologies, even when those technologies are available. In addition, the FCC found that consumers often do not have the training and support they need to use these products. The Commission recently announced that in July, it will launch a clearinghouse—an online space where consumers can find links to accessible products and product information provided by companies and vendors themselves. I agree with the Commission that lack of awareness of what exists today is one of the key issues to be solved. In addition to the online clearinghouse, I encourage consideration of other disability access components included in the plan. For example, leveraging the Universal Service Fund (“USF”) to subsidize the cost of assistive technology is a proposal that I believe warrants serious consideration.

#### **Government Funded Activities**

In closing, I want to briefly discuss an area where government involvement could help drive technology access forward. Stronger partnerships between accessibility researchers and the ICT industry are necessary in order to speed the transfer of technology from the research lab to the marketplace. I would like to encourage this Subcommittee to examine the feasibility of implementing a grant model similar to the European Commission’s “FP7” program. AOL is currently a corporate participant in the “Open Accessibility Everywhere: Groundwork, Infrastructure and Standards” project (commonly referred to as “AEGIS”), which is funded under the “FP7” program. This project is a matching grant program, which brings together industry, research institutions and the disability community to prioritize, develop and test a range of open accessibility solutions. AOL’s role in AEGIS is to integrate an accessibility framework into jQuery, an open source toolkit used by AOL and developers around the world to build dynamic web applications. When complete, accessible jQuery components will be available to the developer community at large.

#### **Conclusion**

Collaboration, awareness and flexibility drive innovation in a way that will benefit consumers and allow industry to continue to offer new and exciting solutions. Collaborative efforts allow businesses to work directly with assistive technology vendors to include accessibility solutions at the ground floor, as the products are developed. Awareness is vital if these new technologies are to be adopted by the communities that need them most. And flexibility is imperative if industry is to develop solutions that actually meet consumers’ needs.

As the Director of Accessibility for AOL, I look forward to continuing efforts to bring accessible products to market for people with disabilities. As a member of industry, I look forward to continuing the rich set of dialogues, participating in advisory committees, and working to solve some of the problems that will make technology more available and affordable for people with disabilities. And as a consumer, I look forward to using those technologies in my daily life.

Thank you for your attention and the opportunity to provide testimony on this important issue.

Senator KERRY. Thank you very much, Mr. Wlodkowski.

Ms. Scoggins. Scoggins or Scoggins?

Ms. SCOGGINS [through interpreter]. Scoggins.

Senator KERRY. Thank you.

#### **STATEMENT OF BOBBIE BETH SCOGGINS, ON BEHALF OF THE NATIONAL ASSOCIATION OF THE DEAF AND THE COALITION OF ORGANIZATIONS FOR ACCESSIBLE TECHNOLOGY**

Ms. SCOGGINS. Good afternoon, Mr. Chairman, Ranking Member Ensign and members of the Senate Subcommittee on Communications, Technology, and the Internet.

My name is Bobbie Beth Scoggins. I didn't know how to pronounce that myself, but my parents did teach me to say Scoggins on that.

I am currently the President of the National Association of the Deaf, which co-founded the Coalition of Organizations for Accessible Technology, along with Communication Service for the Deaf, the American Association of People with Disabilities, the American Council of the Blind and the American Foundation for the Blind.

I am honored to be here today to talk about the innovation and inclusion 20 years after the Americans with Disabilities Act became law.

The passage of the ADA has helped us move forward toward a more level playing field, especially by making communication accessible. Communication access enables the right to education, employment and to participate in the fullness of American civic life. Today, more than ever before, communication with everyone is the cornerstone of a wide open world.

During the 1980s and 1990s, Congress took major steps to improve telecommunication access for people with disabilities, requiring relay services, hearing-aid compatibility, closed captioning and access to telecommunication services and equipment.

All of this has opened up opportunities for deaf and hard-of-hearing people to become lawyers, doctors, performing artists—such as my colleague, Russell, here—and so much more. But many newer innovations, especially technologies that use the Internet, are not covered by existing federal accessibility laws.

Technology companies design their products and services for certain markets, often young people who are willing and able to try new things, but these products and services are often not accessible.

That is why I'm here today to ask you to make the "Equal Access to 21st Century Communications Act," S. 3304, the strongest possible legislation that will ensure that Americans with disabilities have access to the Internet and digital communication tools that are needed to enable them to maintain and increase their independence and productivity.

When you tell all companies to make advanced communication services and equipment accessible, all companies will be affected equally. More importantly, building accessibility into new products and services is more cost efficient and effective than retrofitting.

These are the principles of universal design contained in Section 255 of the Communications Act, and they are the principles that should be followed when this new bill is enacted.

We are particularly pleased that S. 3304 includes provisions that require caption decoder circuitry or display capability in all video programming devices, extends closed captioning obligations to video programming distributed over the Internet, and requires easy access to closed captions via remote control and on-screen menus.

S. 3304 will also require easy access to television controls and on-screen menus by people who are blind, restore video description rules and require access to televised emergency programming for people who are blind or have low vision.

We are committed to continuing to work with you and others to ensure that S. 3304 achieves the greatest possible increase in com-

munications access. For example, we advocate for defining covered advanced communications the same as H.R. 3101, to ensure that people who are blind have equal access to SMS text messaging, electronic mail and instant messaging and adoption of the undue-burden compliance standard for prospective obligations.

This is vital for the deaf and hard-of-hearing community and for our friends in the blindness and visual-impairment community to ensure true equal access.

I want to highlight a few other provisions in S. 3304. When I was growing up, I communicated with friends and relatives using TTYs. The TTYs use very old technology that is slow, outdated and doesn't work well over the Internet. Although we now have text messaging and instant messaging, these systems send texts in bursts of phrases or lines. They do not transmit letters as they are typed.

This bill will establish a uniform and reliable real-time text standard to make sure that deaf and hard-of-hearing people can continue communicating in real-time over the Internet, which is especially important in emergency situations.

In addition, many deaf and hard-of-hearing people regularly communicate using Internet forms of relay services. These relay services provide far more effective ways to communicate, but many cannot afford broadband services. This bill would allow income-qualified people with disabilities to use their Lifeline or Link-Up subsidies for broadband services.

The bill also authorizes \$10 million annually from the Universal Service Fund for specialized telecommunications devices needed by people who are both deaf and blind. The equipment they need, which often provides communication in Braille, costs thousands of dollars per unit. Though the bill asks for only a small amount of money, it will make a huge difference in the lives of these individuals.

S. 3304 will also require the creation of a clearinghouse of information on accessible telephone-like products and services used for communication over the Internet. This clearinghouse, along with greater outreach and education by the FCC, will help educate consumers about products and services they can use.

The bill will also ensure greater access by hearing-aid users, relay users and others, provisions that are described in more detail in my written testimony.

Mr. Chairman, this concludes my testimony, and I hope this has given you more insight into why this bill is important for people who are deaf and hard-of-hearing, including the rapidly-growing aging population. We must ensure access to communication, the gateway to the world.

[The prepared statement of Ms. Scoggins follows:]

PREPARED STATEMENT OF BOBBIE BETH SCOGGINS, ON BEHALF OF THE NATIONAL ASSOCIATION OF THE DEAF AND THE COALITION OF ORGANIZATIONS FOR ACCESSIBLE TECHNOLOGY

Good afternoon, Chairman Kerry, Ranking Member Ensign, and members of the Senate Subcommittee on Communications, Technology, and the Internet. My name is Bobbie Beth Scoggins and I am honored to have this opportunity to speak to you about innovation and inclusion 20 years after the Americans with Disabilities Act (ADA) became law and the importance of ensuring communications access to the



millions of Americans who are deaf, hard-of-hearing, late-deafened, deaf-blind, blind, or who have low vision.

I am the President of the National Association of the Deaf (NAD). The NAD was established in 1880 by deaf leaders who believed in the right of the American deaf community to use sign language, to congregate on issues important to them, and to have its interests represented at the national level. These beliefs remain true to this day, with American Sign Language (ASL) as a core value. As a nonprofit national federation of affiliated organizations and individual members, the mission of the NAD is to preserve, protect, and promote the civil, human and linguistic rights of deaf and hard-of-hearing individuals in the United States of America.

I am privileged to present this testimony on behalf of the Coalition of Organizations for Accessible Technology (COAT), which the NAD co-founded in 2007. COAT is a coalition of over 300 national, state, and community-based organizations dedicated to making sure that as our Nation migrates from legacy telecommunications to more versatile and innovative digital communication technologies, people with disabilities will not be left behind.<sup>1</sup> This coalition's rapid growth and attraction to organizations across the Nation demonstrates the urgency of the issues being discussed at this hearing. COAT works on behalf of over 36 million individuals who are deaf or hard-of-hearing, more than 25 million individuals who are blind or who have vision loss, over 70,000 persons who are both deaf and blind, and millions of individuals with other disabilities who need accessible communications.

At the advent of 20th anniversary of the Americans with Disabilities Act (ADA), it is amazing to have witnessed and participated in the changes in accessibility for people with disabilities, and for us, individuals who are deaf or hard-of-hearing. The passage of ADA has helped us move toward a more even playing field. For people who are deaf and hard-of-hearing, communication access enables the right to education, employment, and to participate in fullness of American civic life and society. All of this is possible as a result of advancements in technology and the implementation of provisions of the ADA. Today, more than ever before, *communication* with everyone is the cornerstone of a wide open world!

The last two decades have revealed the initiation of many changes, including the passage of the ADA, designed to improve the quality of life for individuals who are deaf and hard-of-hearing. The passage of the ADA has created a series of new moral and legal laws with ramifications for people with disabilities in economic, social, attitudinal, and cultural aspects.

So what does this mean for deaf and hard-of-hearing individuals? Technological advancements, first through text-based communications and relay services, then evolving into video-based and captioned relay services and equipment have enabled greater independence and greater freedom than we have ever known. Wireless pagers, e-mail, and text messaging have also enabled us to be more independent and self-reliant. It was amazing to see how everyone has jumped on the bandwagon, trying to keep up as technology changed from the TTY, to text pagers, to iPhones, and to ever-changing products and services. It has become clear to deaf and hard-of-hearing consumers that advancements in technology and quality of services are bringing us closer to functionally equivalent communications.

All of this has opened up so many doors and opportunities for deaf and hard-of-hearing people, moving into areas where they have never gone before, becoming lawyers, doctors, university professors, performing artists, and so much more. The sky is the limit with the ADA as the backbone to protect and promote our civil rights.

### **Introduction and Background**

During the 1980s and 1990s, Congress took major steps to improve telecommunications access for people with disabilities. In fact, as you know, this Subcommittee was responsible for helping to pass several pieces of legislation requiring relay services, hearing aid compatibility, closed captioning, and access to telecommunications services and equipment.

Nowadays, new communications technologies are changing even more the way our society stays in touch and does business. Now there are all kinds of new opportunities to communicate with anyone, anywhere, at any time, from any place.

But many newer innovations, especially technologies that use the Internet, are no longer covered by the Federal accessibility laws that now exist. What this means is that millions of Americans who, like me, cannot hear, may not be able to use these new technologies. That is why I am here today: to ask you to make the Equal Access to 21st Century Act (S. 3304) the strongest possible legislation that will ensure that I and other Americans who are deaf or hard-of-hearing have access to the

<sup>1</sup>Information about COAT and a list of COAT affiliates is available at <http://www.coataccess.org>.

Internet and digital communications tools that are needed to enable them to maintain and increase their independence, productivity, and privacy.

We all know that technology companies design their products and services for certain markets—most of the time, these are American markets that are youthful and able-bodied—they have more money, and they are willing and able to try out new, fancy devices. But often these products or services are not built for people who have some difficulty hearing, seeing or speaking. Why don't companies include access when they develop services and products for the general public? I believe there are several reasons. Some companies are simply unaware of the needs of people with disabilities. Other companies don't want to use their resources to create accessible products if their competitors aren't doing the same thing. I understand that it is hard for people with disabilities to create enough market pressure to influence companies to design accessible products—especially when companies believe their money is better spent on trendy electronic features that appeal to a wider public.

This is why we have come to you. If you direct all companies to make new Internet-based and digital innovations used for communication accessible, all companies will be affected equally and no one company will have an advantage over another. Even more importantly, if companies ensure that accessibility features are built into Internet services and products now, while they are still being developed, the costs of including these features will be a small fraction of the overall costs of producing these products. But if these companies wait until later, after their products are already on the market, retrofitting will cost a lot more and the resulting access is not likely to be as effective. These are the principles of universal design contained in Section 255 of the 1996 amendments to the Communications Act, and they are the principles that should be followed when this new bill is enacted.

People with disabilities do not want to be relegated to obsolete technologies, or have to buy “specialized” equipment that is often hard to find and more expensive. They want an equal opportunity to benefit from the full range of mainstream Internet products that they see being used by their friends, relatives and colleagues. The “Equal Access to 21st Century Communications Act” (S. 3304) will help to accomplish these goals. Not only will it direct accessibility solutions for Internet-enabled and digital communication-based technologies, it will also require the creation of a clearinghouse of information on accessible telephone-like products and services used for communication over the Internet. This clearinghouse, along with greater outreach and education by the Federal Communications Commission (FCC) will help educate consumers about accessibility solutions and how to find products and services that they can use.

We are particularly pleased that S. 3304 includes provisions that require caption decoder circuitry or display capability in all video programming devices; extends closed captioning obligations to video programming distributed over the Internet; and requires easy access to closed captions via remote control and on-screen menus. S. 3304 will also require easy access to television controls and on-screen menus by people who are blind; restore video description rules; and require access to televised emergency programming for people who are blind or have low vision.

We are committed to continuing to work with you and others to ensure that S. 3304 achieves the greatest possible increase in communications access. We advocate for defining covered advanced communications to include non-interconnected as well as interconnected VoIP, video conferencing, and electronic messaging (to ensure access to SMS text messaging, electronic mail, and instant messaging); adoption of the well-established and appropriate undue burden compliance standard for prospective obligations; extending relay service obligations to non-interconnected VoIP providers; and timely action by the delegated authority. Addressing these concerns would benefit the deaf and hard-of-hearing community and our friends in the blindness and visual impairment community for whom these provisions are so vital to ensure truly equal access.

### **Real-Time Text in an Internet-Based World**

One of the most important things that S. 3304 does is that it guarantees deaf and hard-of-hearing people who rely on text (rather than voice) the ability to continue having conversations in real-time, as communications move to digital and Internet-based technologies. When I was growing up, I communicated with friends and relatives using TTYs. But TTYs use very old technology (“Baudot”). These devices are also very slow (transmitting a maximum of 60 words per minute), work only in one direction at a time (you have to wait until one party finishes typing before you can respond), and generally are not reliable over Internet networks. Their many drawbacks have caused me and many other deaf people to turn to text messaging and instant messaging as our principal means of text communication. But the problem is that these newer methods do not transmit letters as they are typed (as TTYs did).

Instead, with these data-based devices, individuals type and then send text in bursts of phrases, lines, or sentence-by-sentence, rather than sending each character as it is typed.

For millions of people who are deaf or hard-of-hearing, particularly people who do not communicate in American Sign Language, communicating by text is functionally equivalent to communicating by voice. Just like there are times when hearing people need to have a conversation in real-time (as compared to sending text messages on cell phones or instant messages over a computer), there are times that people who cannot hear need to have their message received as it is being sent. For example, in emergencies it is very important to be able to convey and receive every piece of information as quickly as possible and at the exact time that it is happening.<sup>2</sup> S. 3304 will ensure that there is a uniform and reliable real-time text standard so that people who are deaf, hard-of-hearing or who have a speech disability can communicate in a manner that is more functionally equivalent to communication between people who can use their voices.

### **Universal Service**

In addition to enjoying text-messaging through hand-held devices, a great number of deaf people now use Internet-based forms of relay services, and in particular Internet Protocol text and captioned telephone services, and video relay services (VRS). The reason is simple: these forms of relay service offer far more effective ways to communicate than traditional text-based relay services. Internet-based text and captioned telephone relay services allow the transmission of text at much faster speeds than TTYs, and enables conversations to travel simultaneously in both directions. VRS allows individuals who use American Sign Language to have conversations that flow more naturally, quickly, and transparently between the parties, achieving a telephone experience that more closely parallels the experience of people without hearing disabilities. Approximately one million deaf individuals who sign can benefit from VRS as well as from being able to have direct video conversations with other people who sign. In addition, millions more people who are hard-of-hearing can benefit from using Internet-based video connections to see people's faces as they speak and lip read conversations. Likewise, more than 2.5 million people whose speech is difficult to understand may benefit from video communication because their gestures and facial expressions can be seen by the parties to the call.

Unfortunately, not every person can afford to pay for the high speed broadband Internet service that is needed to support Internet-based text, captioned, or video communication. Some of these individuals meet the income criteria to be eligible for Lifeline/Link-Up phone service subsidies, but they cannot use these discounts toward the cost of broadband services. Because the Lifeline and Link-Up programs are tied to telephone network-based services, these programs offer no financial assistance for low income individuals with disabilities who want to replace their TTYs with improved, Internet-based forms of communication. Under S. 3304, individuals with disabilities who need the Internet to communicate over distances would be able to choose whether to use their Lifeline or Link-Up subsidies for telephone network-based services or high speed broadband services.

A second universal service provision addressed by S. 3304 will greatly impact people who are both deaf and blind. Although the universal service provisions enacted by Congress in 1996 were designed to make sure that everyone in America has access to telephone services, one group of Americans—deaf-blind Americans—continue to be denied this promise. Although a few states have programs that distribute specialized customer premises telephone equipment, the vast majority of these programs do not provide telecommunications equipment that is accessible to deaf-blind people. One reason is that typically this equipment (such as communication devices with refreshable Braille key pads) costs thousands of dollars per unit. The result is that of all people with disabilities, deaf-blind individuals are the least able to access current telecommunications systems.

It is for this reason that we are asking for a very small portion of the Universal Service Fund (USF)—\$10 million annually—to be set aside each year to fund the distribution of specialized telecommunications devices needed by approximately 100,000 Americans who are deaf-blind. The small size of this targeted amount will not be overly burdensome for the USF, but will make a huge difference in the lives

<sup>2</sup>AOL began offering real-time text communication in 2008. Their press release explained: "The new real-time IM feature within AIM enhances instant message conversations by enabling users to see each letter that a buddy types rather than waiting for a friend to press the send button to view and read a message. This enables deaf users to respond and react to words as they are typed just as hearing people would do as words are spoken in a voice conversation." AOL Press Release, "AOL Launches Real-Time Instant Messaging Targeted to Deaf and Hard of Hearing Users" (January 15, 2008).

of people who are deaf-blind, which remains one of the most underserved populations in telecommunications history. Allocating these funds will also inform the world that, as the United States moves to upgrade its telecommunications systems, it is not leaving behind this previously unserved population of individuals.

#### **Hearing Aid Compatibility and Relay Services**

Another important provision in the bill will ensure that millions of people who use hearing aids, cochlear implants, and other assistive hearing devices, will be able to use these devices with telephones that connect via the Internet. Federal law has required wireline, cordless, and many wireless telephones to be hearing aid compatible since 1988. However, new smart phones entering the marketplace are not working for hearing aid users, and their coverage under this law has come under question. As an aging nation, we simply cannot go forward without ensuring that these Internet-enabled phones are also hearing aid compatible.

Also important is a provision in S. 3304 to allow users of one type of relay service, such as VRS, to call a user of another form of relay service, for example, a text relay service. The FCC has been interpreting the Communications Act to mean that relay services can only be used to provide telephone services between a person with a hearing or speech disability and a person without a disability. The result has been that people with speech and hearing disabilities who use different technologies, equipment, and relay services have not been able to call each other. This surely could not have been Congress's intent back in 1990 when it directed the creation of a nationwide system of telecommunications relay services to integrate people with hearing and speech disabilities into the public telecommunications network!

#### **Conclusion**

Mr. Chairman, this concludes my testimony. We call upon Congress to ensure that people with disabilities—including the rapidly growing population of senior citizens who experience reduced hearing with increasing frequency and our veterans returning with hearing loss—are not left behind as communication technologies move to the Internet and new digital technologies. Thank you for the opportunity to speak before you and members of the Senate Subcommittee on Communications, Technology, and the Internet. I hope my testimony has given you more insight into why this bill is important for people who are deaf and hard-of-hearing. I also hope my testimony has encouraged you to support making S. 3304 the strongest legislation possible to ensure that people with disabilities have access to communication—the gateway to the world.

Senator KERRY. Thank you very much, Ms. Scoggins. It has indeed given us terrific insight, and I appreciate it.

Mr. Harvard.

#### **STATEMENT OF RUSSELL HARVARD, ON BEHALF OF THE NATIONAL ASSOCIATION OF THE DEAF AND THE COALITION OF ORGANIZATIONS FOR ACCESSIBLE TECHNOLOGY**

Mr. HARVARD [through interpreter]. Good afternoon, Mr. Chairman, Ranking Member Ensign and members of the Senate Subcommittee on Communications, Technology, and the Internet. Thank you for giving me the opportunity to appear before you today. I'm honored to have this opportunity to testify, and I'm here on behalf of the National Association of the Deaf and the Coalition of Organizations for Accessible Technology.

Like many consumers, I'm a big fan of technology. Technology empowers me to access the information I need to be successful. Unfortunately, all too often, I, and other people like me, have been left behind as technology has advanced.

Like the Americans with Disabilities Act did 20 years ago, the "Equal Access to 21st Century Communications Act," S. 3304, is a major step forward towards ensuring equal access and equal opportunity for people with disabilities.

Today, I will address the provisions that concern access to video programming by people who are deaf or hard-of-hearing.

For example, back in the 1980s, our family paid \$200 for a caption decoder box. When the decoder box got too hot, the captions would flicker, making them impossible to read. I remember my stepmom would not let me watch TV an hour before All My Children started just so the decoder box would be cool enough for her favorite program.

[Laughter.]

Finally, Congress passed a law to require all TVs with screens larger than 13 inches to have decoder chips to display closed captions. That was a great law.

But times and technology have changed. Now, my friends can watch their favorite shows on wireless TVs, MP3s and other devices. Hardly any of these smaller devices display closed captions. Once again, I and others who are deaf or hard-of-hearing are left out of this whirlwind of technological change.

So we are coming back to you 17 years after the Decoder Act was passed. The limitation of the 13-inch screens has worn out its welcome. Now, all devices that receive or display video programming should be required to display captions.

We also need to make sure that we can actually figure out how to turn on the captions. Under the FCC rules, I am supposed to be able to control the font, size and color of closed captions, but the new digital TVs and set-top boxes are so complicated to use that few people have figured out how to access these features.

S. 3304 will fix this. It will enable viewers to control captioning features on the top tier of the on-screen menu. It will also require video devices with remote controls to have a caption button. Caption control to us is what volume control is to you.

This brings me to my final concern. We also need to make sure that the programs received by those devices actually contain captions. As of now, only a handful of TV shows on the Internet have captions. This is true even for programs that had captions when they were shown on TV.

I remember not having access to many regular TV programs. Like when South Park first came out, everyone said it had inappropriate language. Naturally, this made me want to see the show even more. But the show wasn't captioned, and I could not lip read the itty-bitty mouths of the cartoon characters.

[Laughter.]

Mr. HARVARD [through interpreter]. As a young adult, keeping up with the cultural experiences of my peers was very important. Whenever access was denied to me, I felt—and was—left behind.

In 1996, thanks to your work, Congress fixed all this by passing a new law requiring nearly all TVs to have captions. This had a huge impact on me. Captions allow me to be in touch with what is going on in the world.

But now that everything is moving to the Internet, I am again falling behind, just like generations of my family before me. Imagine, if you will, hearing the collective groans of millions of people who are deaf or hard-of-hearing expressing their frustration as they see history repeating itself all over again.

In conclusion, on behalf of millions of people who are deaf and hard-of-hearing, I urge Congress not to leave us behind as new Internet and digital-video programming technologies become avail-

able to the general public. I ask you to pass legislation that will continue protecting our ability to access these emerging video technologies. Thank you.

[The prepared statement of Mr. Harvard follows:]

PREPARED STATEMENT OF RUSSELL HARVARD, ON BEHALF OF THE NATIONAL ASSOCIATION OF THE DEAF AND THE COALITION OF ORGANIZATIONS FOR ACCESSIBLE TECHNOLOGY

Chairman Kerry, Ranking Member Ensign, and members of the Senate Subcommittee on Communications, Technology, and the Internet, thank you for giving me the opportunity to appear before you today to discuss innovation and inclusion 20 years after the Americans with Disabilities Act became law. My name is Russell Harvard and I am an actor, recently sprouted in the film business and looking forward to growing in my field. I am proud to say I performed the role of Daniel Day Lewis's son in the double-Oscar winning film, *There Will Be Blood*, and had the privilege of playing the villain in *CSI: New York* with my friend, Marlee Matlin. I also perform a strong thread of songs in American Sign Language. I am deaf, the third generation of deaf individuals in my family.

I am honored to offer my testimony today on behalf of the National Association of the Deaf and the Coalition of Organizations for Accessible Technology (COAT). COAT is a coalition of over 300 national, state, and community-based organizations dedicated to making sure that as our Nation migrates from legacy telecommunications to more versatile and innovative digital communication technologies, people with disabilities will not be left behind.<sup>1</sup> This coalition's rapid growth and attraction to organizations across the Nation demonstrates the urgency of the issues being discussed at this hearing. COAT works on behalf of over 36 million individuals who are deaf or hard-of-hearing, more than 25 million individuals who are blind or who have vision loss, over 70,000 persons who are both deaf and blind, and millions of individuals with other disabilities who need accessible communications.

I join all COAT affiliates in being excited about the promises of new Internet Protocol and digital technologies. Like all consumers, we look forward to the benefits of technological advances. Unfortunately, history has shown that, all too often, people with disabilities have been left out or left behind as these advances have taken place. Typically, it has taken acts of Congress to put us on a level playing field with our hearing and sighted peers. For example, I can remember when our family needed a separate decoder box to receive and display captions on our television sets. Without a requirement for television sets to decode captions, television set manufacturers did not include this feature on their own. When our decoder box got too hot, the captions would flicker, making them hard to read. As a consequence, the family member who got to use the decoder box first was the only one who could really enjoy—and understand—his or her television program. What really sticks out in my mind is not being able to watch any programs shown just before *All My Children*. My step-mom kept me from watching any television for an hour before that show, so the decoder box would be cool enough to display steady captions for her favorite program!

I'm grateful that in 1990, Congress took care of this problem. In that year, not only did you enact the Americans with Disabilities Act, you also enacted the Television Decoder Circuitry Act, which required all televisions with screens at least 13 inches in size, to receive and display closed captions. The Decoder Act made video programming technology *more* accessible for people who are deaf or hard-of-hearing. Now we need to take another step forward and make it *equally* accessible.

At the outset, I want to say that, like the "Twenty-first Century Communications and Video Accessibility Act" (H.R. 3101), the "Equal Access to 21st Century Communications Act" (S. 3304) is a major step forward toward expanding communications protections for people with disabilities. Today I will address the various provisions that concern access to video programming by people who are deaf or hard-of-hearing. I understand that my colleagues on this panel will address other provisions.

#### **Ensuring Accessible Television Programming over the Internet**

This Subcommittee is all too aware that our television environment moved recently from analog to digital technology. I know that you went to great lengths to make sure that all Americans were aware of this major change in the way we watch television. This move has changed the viewing experience of many Americans. Not

<sup>1</sup>Information about COAT and a list of COAT affiliates is available at <http://www.coataccess.org>.

only is the digital picture clearer and—I am told—its sound crisper, but more and more, television programming is no longer tethered to what we have come to know as a “television set.” Internet-based video programming services that offer television programs, movies, and live video streaming are proliferating at lightning speed. In fact, it seems like every time I watch a television show on my old fashioned television set, an announcer at the end of the show tells me that I can watch the show many more times with enhanced features, such as deleted scenes and interviews with actors, on the Internet. But for me, these promises of a wondrous new world of video programming are largely empty.

You see, only a handful of television shows available on the Internet have closed captioning. This is true, even when these very same programs were previously shown on television with captions. The result is that I, along with millions of other people who are deaf or hard-of-hearing, am denied access to thousands of hours of video programming.

It was not that long ago that I and others who are deaf or hard-of-hearing did not have access to many TV programs on regular television channels. For example, I remember when *South Park* came out and lots of talk circulated about the “inappropriate” language used in that program. Of course, this piqued my interest. My curiosity could not be satisfied, however, because *South Park* was not captioned and lipreading the animated characters with their itty-bitty nonsensical mouths was impossible. The only way I could know what was going on was to ask some of my hearing friends what the show was about.

Being able to understand *South Park* cartoon characters may sound trivial to some people, but, as a young adult, keeping up with the cultural and social experiences of one’s peers is very important. Whenever access is denied to me, I feel—and am—left behind. Another example of inaccessible programming in the past was MTV music videos, which were very popular during my pre-teen years. These, too, were rarely captioned. Although my step-sister was nice enough to write down or sign the lyrics, this did not afford me the independence that everyone else had, and I surely desired. Just imagine not being able to watch TV on your own, and having to ask a family member or friend to tell you what is being said.

But my generation is also lucky. Thanks to the work of this Subcommittee and others in Congress, in 1996, you passed a law requiring nearly all television shows to have captioning. That law went into full effect for new programs in January 2006 and, since January 2008, has required 75 percent of older television shows (shows first shown or exhibited prior to 1998) to have captions. Closed captioning has made a huge impact on the lives of every deaf or hard-of-hearing person, including me. Captions allow me to be in sync with what is going on in the world. They let me watch television with my family and friends. They enable me to get the information I need to develop and share my views on political campaigns. They let me keep pace with current trends and maintain my independence and my sense of dignity.

But, it seems like just as soon as we finally have access to nearly all of the news, information, and entertainment on television, we now find that when we turn to that video programming on the Internet, we are again left behind, unable to understand what is going on. Because captioning of television shows on the Internet is not yet required by law, hardly any of these programs are captioned. Like the deaf generations of my family that came before me, I am again confronted with having to guess at what is being said.

Additionally, for me, not having the ability to watch video programming on the Internet is far more than just an annoyance; it affects my ability to compete in my profession. As an actor, it is a significant hardship not to be able to have access to all mediums of video programming. I am always looking to improve my skills: being able to re-watch the work of other actors is something that can help me immensely in my work. Not being able to do so makes technology regress for me as it progresses for everyone else. I am not alone in my frustration. When something as popular and important as Internet programming is not accessible to us, the reaction from the deaf and hard-of-hearing community is very strong. Imagine, if you will, hearing the collective groan of millions of people expressing their frustration as they see history repeating itself all over again.

To ensure equal access, we ask Congress to make clear that the captioning obligations that were passed in 1996 and apply to video programming distributors also apply to their programming distributed over the Internet.<sup>2</sup> Specifically, we want leg-

<sup>2</sup>A video programming distributor is defined in the FCC’s rules as “[a]ny television broadcast station licensed by the Commission and any multichannel video programming distributor as defined in §76.1000(e) of [Chapter 47], and any other distributor of video programming for residential reception that delivers such programming directly to the home and is subject to the ju-

isolation to make sure that captions are available for the following types of Internet programming:

- Pre-produced video programming that was previously captioned for television viewing in compliance with Section 713 of the Communications Act.
- Live programming that must be captioned for television viewing in compliance with Section 713 of the Communications Act.
- New web-based video programming provided by, or generally considered comparable to programming provided by, a television broadcast station that is distributed and exhibited over the Internet for residential use. This category is not intended to cover user-generated content uploaded by private citizens, but rather to capture the same type of programming that video programming distributors would otherwise exhibit on television channels.

Some of you may have questions about the extent to which captioning of Internet-based videos is technologically feasible. While I am no expert on this issue, I know that this is already being done today on a few Internet sites, such as the NBC/Fox Hulu and ABC.com video websites, and in a number of movies available from Apple's iTunes. In addition, I am told that there are a number of ways that content providers and distributors can convert their traditional television captions into captions for Internet-based distribution, or create and display original captions for online media.

#### **Accessible Video Programming Equipment**

Expanding the captioning laws to the Internet will solve part of the problem being confronted by people with disabilities who want access to video programming, but there is still more work to do. It used to be that the majority of televisions ranged from 19 to 32 inches. So when Congress enacted the Decoder Circuitry Act of 1990, requiring all television sets with screens larger than 13 inches to include decoder chips that could display captions, it was confident that the overwhelming majority (approximately 96 percent) of all television sets would be covered by the new law.<sup>3</sup>

But times and technology have changed—dramatically! Now my friends and colleagues are able to watch their favorite shows on their cell phones. They can download and playback sporting events on their MP3 players. They can store movies on their compact laptops. And phone companies and satellite radio services are now in the business of providing television programming! Once again, I and others who cannot hear are finding ourselves left out of this whirlwind of technological change. Although we can watch captioned television shows when we are in our own homes, when we are on the go, we are typically out of luck.

So we come to you, 17 years after the Television Decoder Circuitry Act was enacted. Again, we thank you for passing this wonderful law, a law that truly changed my life, as well as the lives of millions of deaf and hard-of-hearing people who would otherwise not have had access to television programming for the last decade and a half. We ask that you now take this law to its next level. The 13-inch screen limitation has worn out its welcome. We are now able to display television programming on screens of all sizes. We urge you to get rid of that 13-inch restriction and extend the requirement to enable the display of captions to *all* video devices that receive or display video programming, including devices that can receive or display video programming carried over the Internet. In this modern digital era, we all know that devices that receive video programming can be as large as a living room wall or as small as a handheld MP3 player. All of these devices need to have the capacity to display closed captioning.

#### **Accessible User Interfaces**

The last point I want to make has to do with my ability—or should I say my inability—to figure out how to activate captions on television sets, even when captions are provided. In this regard, I ask the members of this Subcommittee to try some-

jurisdiction of the Commission.” 47 CFR §79.1(a)(2). A “multichannel video programming distributor” is defined as “an entity engaged in the business of making available for purchase, by subscribers or customers, multiple channels of video programming. Such entities include, but are not limited to, a cable operator, a BRS/EBS provider, a direct broadcast satellite service, a television receive-only satellite program distributor, and a satellite master antenna television system operator, as well as buying groups or agents of all such entities.” 47 CFR §79.1000(e).

<sup>3</sup>In 1989, TV Digest reported that 96 percent of new televisions had screens that were 13 inches or larger, 12 TV Digest (Elec. Indus. Ass’n, September 11, 1989); See also DuBow, “The Television Decoder Circuitry Act—TV For All,” *Temple Law Review* 64, No. 2 (1991) and Strauss, *A New Civil Right, Telecommunications Equality for Deaf and Hard of Hearing American* (Washington, D.C.: Gallaudet Press, 2006), p. 230, for more on the 13-inch screen size minimum.



thing out. The next time you are in a hotel and, after a long day, sit back to watch the news or enjoy a movie on a brand new digital television, try to turn on the captions. The first thing you will probably do is look at the remote control. If you are lucky, there will be a caption control button there, and that will end your search. More likely, what you will find are buttons for volume control, buttons for channel selection, and buttons to perform a host of other functions that may or may not make any sense to you. Chances are that you will not find a caption control button.

Your next strategy may be to turn on the television's on-screen menu and try to find the captions that way. I wish you the best of luck as you try to navigate the maze of complicated choices. If this attempt fails as well (which it has for me on many occasions), your third option will be to call the front desk and have them send up the hotel engineer. You can then laugh to yourself as you watch him go through the same steps you did. I cannot begin to tell you how often this scene is repeated across America. In the past, the problem of not being able to access closed captions was largely limited to televisions located outside the home. People generally were able to figure out how to turn on captions on televisions that they purchased because they had the manuals to do so. But now, even finding the captioning features on digital and HDTVs purchased for use inside the home or on the set-top boxes provided by their TV subscription services has become a considerable chore, and sometimes a virtual impossibility.

The shame of it is that, in the year 2000, the FCC issued wonderful rules requiring enhanced captions on all digital televisions. Unlike captioning on analog television sets, which only appear as white letters on a black background, digital televisions must provide viewers with the ability to control caption fonts, sizes, colors and backgrounds. The FCC created these rules so that people who can not hear can reap some of the fantastic benefits that digital television has to offer. But as I have explained, figuring out a way to get access to these captioning features is not so easy—in fact, it is typically quite difficult. My guess is that most deaf and hard-of-hearing people don't even know that these captioning options exist for them.

The proposed legislation will fix this. It will require devices that display video programming to provide a conspicuous means of accessing closed captioning (along with video description for people who are blind or have vision loss). This can be achieved by adding a button for captioning on the remote controls of video programming devices and by enabling viewers to control captioning features on the top tier of the equipment's on-screen menu. Captions enable us to understand the content of a program, the same way that the sound track enables people who can hear to follow a program's plot. It should be as easy for people who are deaf and hard-of-hearing to find and control captions as it is for hearing people to control the volume and other audio features on a TV set.

### **Conclusion**

In conclusion, on behalf of millions of Americans who are deaf, hard-of-hearing, late-deafened, deaf-blind, blind, or have low vision, we call upon Congress not to leave us behind as new Internet and digital video programming technologies become available to the general public. I am a big fan of technology: it empowers me to do things I otherwise could not do and allows me to access the information I need to be successful—both in my profession and as a citizen who actively participates in our Nation's civic affairs. On behalf of the National Association of the Deaf and the Coalition of Organizations for Accessible Technology, I thank the Subcommittee for this opportunity to share our concerns and urge you to make this legislation as strong as it can be to safeguard continued access to emerging communications and video programming technologies.

Senator KERRY. Thank you, Mr. Harvard. Terrific testimony. We appreciate it.

Mr. McCormick.

### **STATEMENT OF WALTER B. McCORMICK, JR., PRESIDENT AND CEO, UNITED STATES TELECOM ASSOCIATION**

Mr. McCORMICK. Mr. Chairman, Senator Pryor, thank you for the opportunity to appear before you today. I can say that it is—it's humbling. It is a great honor for me to have the opportunity to share in the testimony of this compelling and poignant and very important hearing.

As you know, I'm Walter McCormick. I'm the President and CEO of U.S. Telecom, the broadband association. And we're an organization whose member companies are united by a determination to deliver advanced communication services to all Americans, an objective that we know this subcommittee shares.

I'm proud to say that our industry has had a long history of supporting access for people with disabilities. Indeed, Dr. Alexander Graham Bell was a teacher of the deaf, and his invention of the telephone in 1876 grew out of his efforts to devise a hearing-assistance device.

Our industry pioneered the development of the first hearing aids and artificial larynxes. And as we approach the 20th anniversary of the Americans with Disabilities Act, I would note that Title IV, mandating the establishment of a nationwide telecommunications relay service, was one of the first completed and least controversial portions of that landmark legislation.

Similarly, during the 1990s, our industry worked closely with the disability community to develop what is now Section 255 of the Communications Act, which requires that telecommunications services and equipment be made accessible by people with disabilities.

So, Mr. Chairman, two years ago, when your colleague from Massachusetts, Representative Markey, urged that we commence discussions with COAT, we went to work.

Those discussions were comprehensive and productive. They spanned more than 15 months, and, in the end, they were illuminating. Together, we more precisely identified the needs of the disabled. We gained an understanding of how current procedures at the FCC frustrate the disability community.

Our joint effort to address this concern is largely reflected in H.R. 3101, the Twenty-First Century Communications and Video Accessibility Act, which Mr. Markey introduced last June.

And, as a result, we really appreciate the Senate's attention to this important initiative. We are grateful for Senator Pryor's introduction earlier this month of S. 3304, and for your co-sponsorship, Mr. Chairman, together with Senators Dorgan and Conrad. This is an important step in updating the Nation's communications accessibility laws.

Moving forward, however, we hope the Committee will address two key provisions in ways that we believe will improve your bill and better reflect the aspirations of both the disabled community and our industry.

First, S. 3304 inadvertently, but unjustifiably, distinguishes between competing technologies that offer the same or similar services, leaving entirely to the FCC's discretion the question of whether it is necessary for a wide variety of applications and services to be made accessible.

So, for example, whereas the e-mail services offered by my member companies may be automatically covered by the bill, other identical services, such as Gmail and Hotmail, are only covered if the FCC determines that it's necessary to do so. We don't believe the FCC should have the discretion to decide whether applications or services are necessary for Americans who are disabled.

We urge you to adopt the clear definition of advanced communications found in the House bill.

So, Mr. Chairman, we would urge you to instead adopt the clearer definition of advanced communications that's found in the House bill, a definition on which the National Broadband Plan also relied in recommending the Congress modernize accessibility laws.

Second, S. 3304 instructs the FCC to apply new accessibility requirements to Internet-based services and equipment where doing so is achievable. But the bill provides little insight into what the word "achievable" means, and there's no regulatory precedent to fill the gap.

The inevitable consequence of this ambiguity will be regulatory jockeying and litigation. Americans with disabilities should not have to wait for those legal battles to play out. Prior to the passage of the ADA, Americans with disabilities justifiably grew impatient with claims that making public accommodations accessible just couldn't be done at reasonable cost.

What our industry has found in the course of the last 25 years is that both we and the disabled community benefit from the certainty that sound and sensible directives provide. We believe that with such directives, talented engineers and business people across the Internet landscape will respond in good faith.

Again, thank you for your invitation to appear today, and we pledge our support for making the many opportunities afforded by broadband accessible to all Americans.

[The prepared statement of Mr. McCormick follows:]

PREPARED STATEMENT OF WALTER B. MCCORMICK, JR., PRESIDENT AND CEO,  
UNITED STATES TELECOM ASSOCIATION

Chairman Kerry, Ranking Member Ensign, and members of the Subcommittee:

Thank you for the opportunity to appear before you today to discuss modernizing the laws providing accessibility to communications for disabled Americans by covering new and developing Internet Protocol-based and video programming technologies.

I am Walter McCormick, President and CEO of the USTelecom Association. USTelecom represents innovative companies ranging from some of the smallest rural telecoms in the Nation to some of the largest companies in the U.S. economy. Our members offer a wide range of services across the communications landscape, including voice, video, and data over local exchange, long distance, Internet, and cable networks. What unites our diverse membership is our shared determination to deliver those services to *all* Americans—a commitment we know this Subcommittee shares.

Our industry has a long history of supporting communications access for people with disabilities. In fact, it reaches back to the very foundations of our business. People often forget that Dr. Alexander Graham Bell was himself a teacher of the deaf and that Bell's invention of the telephone in 1876 grew out of his efforts to devise a hearing assistance device. The primary financial backers of Bell's electrical experiments were the grateful parents of some of his students.

But our industry's commitment to the disabilities community did not stop there. Bell Labs and Western Electric were pioneers in the development of the first hearing aids and artificial larynxes. We later participated in the establishment and deployment of telecommunications relay services. Both AT&T and Verizon offer mobile devices that not only provide text-to-speech access to phone features, but to web pages as well. Many of our members provide specialized offerings, such as free directory assistance, or text- and data-only plans, so that people who are deaf or have hearing loss will not pay for voice communications services they are unable to use.

Our commitment to bringing the benefits of telecommunications to all Americans, including those with disabilities, is also mirrored by our work in the legislative arena. As we approach the 20th anniversary of the Americans with Disabilities Act this July, I would note that one of the first completed, and least controversial, sections of that landmark legislation was Title IV, which mandated the establishment of a nationwide telecommunications relay service by 1993. In 1994 and 1995, we continued our efforts in this area, working with the disability community to develop

and support what is now section 255 of the Communications Act. That section requires providers to ensure that telecommunications services and equipment are accessible to and usable by people with disabilities. I am also pleased to note the bulk of those provisions were developed in this Committee.

In 2008, Mr. Chairman, your colleague from Massachusetts, Representative Ed Markey, raised the question of whether it was time to update section 255 of the Communications Act to reflect the reality of our industry's shift to IP-based communications and the advent of new video programming technologies. Representative Markey encouraged us to work with the disability community and taking a page from the history of section 255's development, we began a series of discussions with the disability community, represented by the Coalition of Organizations for Accessible Technology (COAT).

Our discussions with COAT would take over 15 months and more than 40 legislative drafts to complete. While time consuming, these discussions were also illuminating. We were able to identify more precisely the needs of the disability community and to target the bill to address those needs. We also gained an understanding of their frustrations with how the current processes and procedures at the Federal Communications Commission work to delay and inhibit their ability to bridge the communications gap for their members. Our joint work is largely reflected in Representative Markey's introduction in June 2009 of H.R. 3101, the 21st Century Communications and Video Accessibility Act.

The FCC's consideration and development of the National Broadband Plan in late 2009 and early 2010 gave us yet another opportunity to work with the disabilities community to ensure recognition of their needs as we enter an era in which IP-based technologies will provide the basis for most if not all electronic communication. We were particularly delighted by the inclusion of Recommendation 9.10 in the National Broadband Plan, which states that "Congress, the FCC and the Department of Justice should modernize accessibility laws, rules and related subsidy programs." We are also pleased the Commission has already begun to implement Recommendation 9.9 to establish an Accessibility and Innovation Forum, the first meeting of which is scheduled in July. We believe our experience working closely with COAT, replicated on a broader scale and on a more systematic basis, will hasten the advancement of broadband accessibility.

We also appreciate Senator Pryor's introduction earlier this month of S. 3304, the "Equal Access to 21st Century Communications Act," and its co-sponsorship by you, Chairman Kerry, and Senators Dorgan and Conrad. It is the next important step in the process of updating the Nation's laws governing access to advanced communications technology for people with disabilities. In general, S. 3304 is designed to extend disability access provisions applicable to legacy telecommunications and video services to IP-enabled services and equipment and to new video programming technologies. The legislation also acknowledges that section 255 of the Act, with its limitation to telecommunications services and equipment, does not encompass many of the services that people routinely use today. Thus, the bill appropriately places the treatment of advanced communications for these purposes under Title VII of the Communications Act.

Among the bill's most helpful additions to current law are enforcement procedures that will put remedies for noncompliance on a fast track, something sorely lacking today; Lifeline and Linkup support for Internet access services and advanced communications for those who meet those programs' eligibility requirements; and the establishment of an Advisory Committee on Emergency Access and Real Time Text to provide recommendations to the FCC and to the Senate and House Commerce Committees regarding the actions necessary to ensure interoperable real-time text communications as part of the migration to a national IP-enabled network, a critical public safety need for disabled Americans in the 21st century.

The legislation would also achieve what the FCC was unable to do in 2000: ensure that video description capability is made widely available, not just for television broadcasts but also for certain video programming distributed over the Internet, the place where more and more Americans are watching video today. Methods to improve the conveyance of emergency information by means of video will also be required under S. 3304, and closed captioning will be similarly advanced to include Internet distribution. Equipment that receives and plays back video programming will be required to have closed captioning, video description, and accessible emergency information capability.

In all the respects cited above, the legislation reflects our discussions with COAT. But we do have some concerns about the Senate version of the legislation, as compared to H.R. 3101, and moving forward we would like to work with the Committee to amend the bill in at least two respects.

First, H.R. 3101 defines “advanced communications” as an “interconnected VoIP service, non-interconnected VoIP service, electronic messaging, and video conferencing.” The FCC’s National Broadband Plan adopted H.R. 3101’s definition of “advanced communications,” in its recommendations related to accessibility for Americans with disabilities. S. 3304, by contrast, covers a bundled package that transmits IP based voice, video conferencing and text communications, but leaves entirely to the FCC the determination of whether coverage of any other “application or service accessed over the Internet that provides for voice, video conferencing or text communications” is, in its sole judgment, “necessary.”

The consequence of that approach is that the bill inadvertently but unjustifiably distinguishes between technologies that deliver the same or similar services. So, for example, the e-mail services offered by my member companies or by cable companies, which also serve as network providers, may be automatically covered by S. 3304. However, other identical services such as Gmail and Hotmail are only covered if the Commission determines it is “necessary” to do so. Similarly, Internet Protocol phones are now commonplace, as are other Internet applications that substitute for the telecommunications services and corresponding equipment that were dominant in 1996 when section 255 was enacted. Yet while the Senate bill would leave in place the mandatory provisions of section 255 as they apply to traditional telecommunications and customer premises equipment, and would extend that mandatory treatment to bundled services provided by my members—appropriately, I hasten to add—similar coverage for other newer and potentially more common devices and services would be left to the FCC’s discretion. I have attached a chart to my testimony that highlights other examples of similar technological disparities that would be created by this definition.

Such an approach runs counter to the generally acknowledged view that broadband has created a convergence of services for which the “stove-piped” regulatory framework currently found in the Communications Act is not well-suited. Surely, the ability of disabled Americans to communicate in the 21st century should not be dependent on old legal categories that pre-date the development of devices, services, and applications that may not have even been contemplated when those categories were first created. We don’t believe the Commission should determine which specific IP applications or services are “necessary” for the purpose of ensuring accessibility to Americans who are deaf, blind, or deaf-blind. All of them are necessary to some or all of that disabled community. And that determination certainly should not be based on factors such as market share or popularity among the population at large.

Prior to passage of the ADA, Americans with disabilities grew justifiably impatient with claims that making public accommodations, public transportation, and communications services and equipment accessible “just couldn’t be done,” or couldn’t be done at reasonable cost. Over and over again, many of those claims were proven wrong. When an industry starts out with the attitude that providing accessibility is too hard, it’s not surprising that not much gets done. What our industry has found in the course of the last 25 years is that both we and the disabled community benefit from the certainty and focus that a sound and sensible legal roadmap for achieving accessibility provides. We believe that with such a roadmap, talented engineers and business people across the Internet landscape will respond in good faith to the challenge.

Second, in contrast to the House bill’s reliance on well-established, defined, and interpreted terms in disability law such as “readily achievable” and “undue burden,” the Senate bill instructs the Commission to apply new accessibility requirements to Internet-based services and equipment where doing so is “achievable.” However, S. 3304 provides scant definition of what “achievable” alone is supposed to mean, and there is no other legal guidance we’re aware of in this area on which we can rely. The inevitable consequence of this ambiguity will be extended regulatory jockeying and litigation, in which those who would prefer not to undertake the actions required by the FCC, or those who are required to undertake them while their competitors are not, do battle over the meaning of this new and undefined term. Americans with disabilities should not have to wait for those legal battles to play out.

Mr. Chairman, in closing, let me reiterate our commitment to your effort. We hope the Committee process will produce a final bill that maximizes disabled consumers’ access to advanced services across all platforms and technologies. Americans are more reliant than ever on communications devices and networks in their daily lives, but Americans with disabilities can derive particular benefits from these technologies. As these exciting new technologies evolve, that population could become increasingly disadvantaged if they are denied access to them.

We thank you for your invitation to appear today. USTelecom and its member companies look forward to working with the Subcommittee and this Congress to

achieve our shared objective of making the use of broadband as ubiquitous today as electricity, water, and telephone service. Broadband is an essential building block of every modern American community. We pledge our support for making its many opportunities accessible to all Americans. Thank you.

#### Comparison of House and Senate Bills

Service or Application	H.R. 3101	S. 3304
Advanced Communications	The term “advanced communications” means interconnected VoIP service; non-interconnected VoIP service; electronic messaging; and video conferencing.	The term “advanced communications” means devices and services that transmit a bundle of IP-enabled voice, video conferencing and text communications and any application or service accessed over the Internet that provides voice, video conferencing or text communications as determined necessary by the FCC.
User Interface for Internet Access Service	Yes	Yes
Interconnected VoIP (e.g., Vonage)	Yes	Yes
Video Conferencing	Yes	Only if bundled with IP voice and IP based text communications; otherwise, only if FCC finds “necessary” (e.g., Skype video conferencing)
IP-Based Text Messaging	Yes	Only if bundled with IP-based video conferencing and IP voice; otherwise, only if FCC finds “necessary” (e.g., instant messaging by MSN, Yahoo!, or AOL, or IP-based text messaging such as Skype SMS)
E-mail	Yes	Only if bundled with IP-based video conferencing and IP voice; otherwise only if FCC finds “necessary” (e.g., Gmail, Yahoo! Mail, Hotmail)
Unbundled Non-IP-Based SMS text messaging (e.g., AT&T, Verizon, Sprint)	Yes	No
Other Unbundled Voice Applications (e.g., Google Voice)	No	If the FCC determines necessary

Senator KERRY. Well, thank you very much, Mr. McCormick. I think we had a pretty stark example of how communication ends there momentarily where there was no caption, and people can imagine, therefore, for all those devices on which there is no caption, there is no communication. So it was not planned, but helpful.

Mr. McCormick, let me ask you quickly—first of all, we appreciate your testimony. Thank you, and thank you for being here and thank you for working with folks.

Can we anticipate that those issues that you raised, which I think are legitimate. Can we work those through in short order and try to see if we can’t move this legislation—with unanimous support, hopefully—very quickly?

Mr. MCCORMICK. Well, we would hope so, Mr. Chairman. We think that the intention there is to cover everyone and to really move us into the 21st Century. So we’d be happy to work with the Committee on that.

Senator KERRY. What do you think the key ingredients will be? Is there a particular sector of the industry that may be more complicated than another?

Mr. MCCORMICK. I think, Mr. Chairman, that because of the enormous amount of effort that went into this bill over the course of the last year-and-a-half that the concerns have been pretty well laid out. And I think everybody sort of understands what the scope

of the legislation would do. So, I think it could be worked out in pretty short order.

Senator KERRY. Well, it would be terrific if we could, and I know there are a lot of advocates here who would be very excited if you can do that.

Mr. Wlodkowski, can you share with me a little description of the device that you've been working while you were testifying?

Mr. WLODKOWSKI. This is actually called a Braille Light. It's not the most current technology by any means. In fact, friends of mine, Senator, who are here from the blind community, were telling me that I should get up with the times. But I do work for a leading web-services company.

So this is what we would call a refreshable Braille display, and it's a 20-character Braille display. It allows me to navigate and read notes and take notes in meetings, and, certainly, the more recent state-of-the-art devices even have much more capability than that.

Senator KERRY. I was fascinated by it, how fast you're moving your finger across it. And as you're doing that, you're reading each of the Braille letters and notes to yourself?

Mr. WLODKOWSKI. Right. So the 20 characters are driven up by plastic pins and little motors inside each of these little cells, and they make the different configurations, the Braille cells, for the letters and contractions that make up Braille.

Senator KERRY. That's very interesting and fascinating the way it works. I was intrigued. You were the only witness who was on time. Maybe we should all use them.

[Laughter.]

Mr. WLODKOWSKI. If I might, I'd like to just mention the piece that I cut out when I was looking—

[Laughter.]

Senator KERRY. Well, I saw you did get a little cue from somebody—

[Laughter.]

Senator KERRY.—but I admire it nevertheless.

Share with us what technologies or what advances you think would make the most difference to you and to your friends, members of your community. How can we make the most difference here in technology, and what services and/or devices do you think could be made accessible that aren't that would make the greatest difference?

Mr. WLODKOWSKI. Sure. Mr. Chair, I'd be happy.

I think that the biggest thing that we really need to look at is interoperability, the accessibility frameworks that are what facilitate the communication between the mainstream information technology and the assistive technologies like screen readers and voice-recognition programs, alternative keyboard devices. Those frameworks really need to be top notch and continually improved, and that's where the Accessibility Interoperability Alliance is coming in.

I think the biggest piece here is that we need to realize that built-in accessibility versus compatibility to achieve accessibility is an interesting debate that we need to make sure that we're all clear on as to how we move forward with a common definition.

So built-in accessibility to say something like a Smartphone, for me, you could build in a screen reader that would—and there are Smartphones that have built-in screen readers and I can use the touch screen, and innovation has occurred there.

That same approach would not work for someone who's deaf-blind. They would require the refreshable Braille display and some communication protocols to allow the communication between the Smartphone and the Braille display.

So I think those are the types of things, and leveraging the innovation and the innovation of mainstream IT companies, and making sure that we don't lose the innovation by accessibility experts who develop the screen readers and the refreshable Braille displays to bring them altogether in stronger partnerships between corporations, researchers and government.

And I think a unique model that, Mr. Chair, your committee might want to take a look at is a project that AOL is involved with in Europe under the European Commission's FP7 Research Program. It brings together consumers, researchers, and disability advocates to prioritize and then develop open accessibility solutions that are available to developers all over the world.

I'd really like to see if the government here could take some of the Federal grant dollars that are targeted toward accessibility research and find ways to facilitate those stronger private-public partnerships.

Senator KERRY. That's a good idea and we'll certainly take a look at it.

Sergeant, let me again say how grateful we are for your service. I know you've been through a hell of a period of time here. I did read your testimony in full, and I read your long journey from injury to where you are now, and we certainly salute your courage and tenacity.

Share with us, if you would, quickly, what kinds of things, right now, do you think would make the most difference to you, at this point, in terms of device or service?

Sergeant PEARCE. First, let me say there's really—there's no need to thank me for my service. I did it because I wanted to. I would do it again. I would do it again in a heartbeat.

Senator KERRY. Well, good for you, but we still need to say thank you.

Sergeant PEARCE. Thank you. I thank you for your service.

And as far as a device, I mean, I really don't know. I've looked. And I talked with you yesterday, Senator Pryor, about cell phones—

Senator KERRY. That's tough.

Sergeant PEARCE. Yes, it is. It really is. It really is tough to find a user-friendly cell phone for a blind person or for a nearly-blind person.

And the VA has been very, very helpful. I've been to the VA blind center up to West Haven, Connecticut, twice. And they've given me a couple of computer programs for my computer to allow me to access my e-mails, and that has helped me immensely, but I—



Senator KERRY. It shouldn't be that complicated. I would think, with a little bit of focus, attention and effort, we can design everything else. We ought to be able to help you meet your needs.

Sergeant PEARCE. Yes.

Senator KERRY. I will pledge to you this: I'm sure Senator Pryor and I will work with some folks in the industry, and maybe they ought to sit down with you and some of your friends and kind of work through what's needed and how to do this. And I—

Sergeant PEARCE. Yes. I'm really looking forward to this bill, whenever it comes to fruition, to see how it comes to.

Senator KERRY. Yes. Well, we'd love you to be here and celebrate it when we pass it.

Sergeant PEARCE. Thank you.

Senator KERRY. We'd like that.

Sergeant PEARCE. And thanks for having me today.

Senator KERRY. Thanks for coming.

Both Ms. Scoggins and Mr. Harvard, I have to tell you, I am in awe of the speed with which you communicate signing the amount that you somehow compress into each sign.

And, Mr. Harvard, maybe it's your acting ability, but the expressions which accompany frustration and anger and—you know—are worth it.

[Laughter.]

Senator KERRY. We appreciate what you've conveyed to us today. I really mean that. Very, very compelling testimony, both of you.

Would you both share with us, quickly, the ways in which you think devices, services or accessibility would make the most difference?

And, particularly, Mr. Harvard, as an Actor, I assume there are many things that you feel would be enormously helpful to you in your trade that aren't accessible that could be, and perhaps you could share that with us a little bit.

Mr. HARVARD. I'd be happy to. I think that all that I've mentioned in my testimony needs to be focused on. I don't think that there is a single issue that is of particular concern. I think they all need to be given equal weight and all need to be given equal attention.

Most of my frustration with regards to smaller devices is that I cannot receive closed captioning on. I own three iPods, and none of them display captions. So, I would say most of my frustration has to do with those small-screen mobile devices.

Senator KERRY. Can I interrupt you quickly? Would those devices have to have a larger screen, larger print or would you be able to read the captions on the screen as it is?

Mr. HARVARD. No, I think as long as they can give us a screen, I should be able to read it. Doesn't matter how small or how large the screen is, I think that it is possible to read captions on those devices.

Senator KERRY. Ms. Scoggins, yes.

Ms. SCOGGINS. Yes, and if I may, I'd like to tailor onto that as well. I feel very similar to Russell about that. The products and services that are out there—they unfortunately don't meet our needs.

So we would like to really strongly encourage the Committee to think about a broader definition in terms of accessibility and not limit us to saying a specific product or a specific service is tailored to our needs.

What we would like to see are products and services out there that would allow any of us to be able to have all of the things that we would need, that there isn't just one phone.

And, unfortunately, right now, there isn't even that one phone or one technology that meets our needs, like we don't have something that will do voice, video and text all at the same time, which is what we'd like to have happen. Europe's got it, but we haven't received that yet here in the states.

And I think I can speak for both of us on that when I say that video technology with the captions, with the text and with the voice-to-text or speech-to-text and all of those different interfaces for communication would provide all of us with the amount of freedom that we could use in an amazing way.

I mean, it would allow our colleagues across disabilities to have the same access and services that we would like if we were able to use the multiple platforms for communication and transmission of information in one static device, that we have a webcam, that we have a video phone, that we have whatever type of device is acceptable that would address that.

Right now, we're all operating with multiple lines, multiple sources. We have tons of different technologies, and it doesn't meet our needs.

Senator KERRY. Well, we're certainly going to—I'm confident that we can get that done. I think that is achievable. I'm confident Mr. McCormick believes so, and I appreciate his willingness to work with us. We're going to try and get this done as rapidly as we can.

And I'm enormously grateful to you for your eloquent testimonies here today.

Senator Pryor.

Senator PRYOR. Thank you, Mr. Chairman, and I want to thank you and also really thank the panel for being here today and helping this subcommittee and, by virtue of helping the Subcommittee, helping the entire Senate understand the lay of the land right now.

Ms. Scoggins, let me start with you, if I may, and that is one time I had a conversation with Marlee Matlin that I'll probably never forget, because she told me her favorite movie growing up was the Wizard of Oz, and she noticed on the Internet that a website was going to be playing the Wizard of Oz for free.

And she was excited and she got her kids and they popped the popcorn and they sat down in front of the computer screen and were just going to have a fun night, and when it came on, it wasn't closed caption. And my question for you is, have you had similar experiences to that?

Ms. SCOGGINS. Oh, yes. Right now, you know, they produce a lot of Blu-ray technologies, and I thought that was an excellent thing.

My mother had actually bought me one of the very recent movies that came out, and I thought it would be great. And I'm deaf. My mother's deaf. We thought it would be fabulous. We put the DVD in and it just wouldn't work. It was incompatible.

So we figured we'd go and try it with the Blu-ray. We thought this is great. We have the technology. We have our popcorn. It's ready to go. And, lo-and-behold, it wasn't captioned, again.

It just doesn't seem to matter what the standards are or what the industry is supposed to be doing. And we have to have these legal standards in order to make them accept the concept that each newly-produced movie should have it as a standard expectation that captions are included.

Marlee Matlin's experience is very similar to what I would say most of us in the community have experienced.

Senator PRYOR. And, Mr. Harvard, have you had those same types of experiences?

Mr. HARVARD. Well, I would be in a spot if I had to tell you someone who didn't. We've all had that experience. I don't think you could find a single deaf or hard-of-hearing person who would be able to tell you that they have never had that type of frustrating experience.

Senator PRYOR. And, Mr. Harvard, let me ask you, one of the other witnesses talked about emergency information with, say, storm warnings and things of that nature, what is your experience in trying to get emergency information about storms and other things you need to be aware of?

Mr. HARVARD. In my personal experience, I haven't had a problem with that because I can see the text that's scrolling on the screen when those types of warnings are coming across, but I am concerned for other folks who are blind that don't have access to that. So I would encourage you all to focus on that as well, to make sure that they have equal access.

Ms. SCOGGINS. And if I may, mostly I would say that the emergency services, the notifications that come across the system, it certainly isn't a perfect system. There are many times and occasions when deaf people don't hear those beeps and alarms. So some kind of emergency system or a notification system—

It would really, unfortunately, require us to actually be able to look at the TV set, which we aren't always doing. So if it was available on the Internet as well and it did not have those significant time delays as we often experience, that would be the best solution.

Because, right now, like if somebody has a heart attack, for example, the old technology that we used to have to use to make an emergency phone call—I-A-M-H-A-V-I-N-G—spelling out each individual letter to get to the point that they're having a heart attack, and then having to wait for the etiquette rules to say go ahead for the other person to take their turn makes it completely inefficient when an emergency occurs.

So if we have the ability to call emergency services. So it's not so much the notification as it is our ability to interface with the emergency services and get their attention in a timely fashion, because it's just not a perfect system right now.

Senator PRYOR. Thank you for that.

And, Sergeant Pearce, you've really been on both sides of this, because, until you were deployed with your military service—and, again, we all appreciate that, but until you did that, you were totally fine in your vision. And, now, I believe the other day you told

me that it's almost like looking through a straw, that's how much vision you have now.

You've been on both sides of this equation then. So, what are some of the biggest challenges you've had, when it comes to technology and modern communication, since you've had your traumatic brain injury?

Sergeant PEARCE. The biggest problem that I've encountered is really the stubbornness of change.

Like, I go in to a retail store and try to explain my problems to them and tell them what my problems are, and they don't understand where I'm coming from as a non-sighted and partially-hearing-loss person. And they're having a hard time solving my problems. So—

Senator PRYOR. So like, for example, you might, say, buy a cell phone or something like that and it's not working to your satisfaction, when you go back to the retail store and try to explain the situation, you have difficulty there?

Sergeant PEARCE. Right.

Senator PRYOR. And have you also dealt with retail stores and the manufacturers and the service providers when it comes to wireless phones?

Sergeant PEARCE. Yes.

Senator PRYOR. And how has that been resolved for you?

Sergeant PEARCE. I've been through several phones.

[Laughter.]

Senator PEARCE. Mr. Chairman, thank you.

Senator KERRY. Thanks a lot, Senator Pryor.

Senator Klobuchar.

**STATEMENT OF HON. AMY KLOBUCHAR,  
U.S. SENATOR FROM MINNESOTA**

Senator KLOBUCHAR. Thank you very much, Senator Kerry. Thank you for holding this hearing.

I know that, Sergeant Pearce, you'd be interested in my cell-phone bill of rights—

[Laughter.]

Senator KLOBUCHAR.—that we want to get passed. I think everyone feels those frustrations, and you more than others. And, again, thank you for your service.

As I listened to this, I was thinking about all these advancements in technologies, and, I'll be honest, until the Chairman held this hearing, I hadn't thought about how the potential for good for all of you, but, also, the potential that you could be left behind if the new technologies that we develop don't keep up in serving people with disabilities. And just as technology and software is upgraded, our laws have to be upgraded as well.

And I was glad to see in the National Broadband Plan that the FCC addressed modernizing equitability laws, rules and related subsidy programs, but I think it all has to be done in a way that we put your needs first, and that that has to be a major part as we go along.

And I've thought about this, and I'm head of the 911 Caucus, and so, there again, we also see new ways to communicate emergencies

and new great potential of using and harnessing the technology that we have.

So, first, I wanted to ask you, Mr. Wlodkowski, about the Internet Caption Forum and Society of Motion Pictures that is supposed to be developing an industry standard for captioning online video content. Do you know how far along these standards are? How close are they to becoming a reality?

Mr. WLODKOWSKI. Thank you, Senator. The Internet Caption Forum was a voluntary effort founded by AOL, Google, Yahoo!, and Microsoft, back in 2007, to try and look at the barriers.

AOL enjoys a very, very loyal audience within the deaf community, very appreciative of that audience, and that was developed because of our pioneering of instant messaging, which really revolutionized one-on-one communication.

We wanted to look at, with the Internet Caption Forum, getting everybody together—industry in particular—to say how could we make this happen on a scalable level. We were looking at how to repurpose television content for distribution over broadband networks.

Each media player had its own text format, so we realized that we really needed to bring the content providers and producers together with the broadcasters and other key stakeholder groups—consumer electronics and captioning and subtitling production companies. And we discovered that that work would be better done in the Society for Motion Picture and Television Engineers working group.

And Version 1.0 of that standard is expected later this year. That should help us really move down the path. And I believe that's the big issue that I see in all of this is that there's a lot of ongoing activity. There's the TEITAC Report, which addresses real-time text and closed captioning and interoperability. That's the report that the access board is looking at for their rulemaking for Section 508 and Section 255.

There's the SMPTE Working Group that's developing the captioning standards for online video. There's the Accessibility Interoperability Alliance and other facilitated dialogue happening.

And so, as we move forward, it's really important that we take a look at where all of these activities are and how we bring them together and make sure that flexibility is at the top of all of that, so that when we create these standards, as technology evolves, that we can evolve with it.

Senator KLOBUCHAR. Very good. And in your testimony you talked about all the layers of technology that are required to make a web page accessible. And could you just briefly tell me how you do that? Does it cost a lot? And how does a blind individual access a website?

Mr. WLODKOWSKI. Sure. So the web page has to have some tags that we put into our content. So if we're going to put an image on a page, we put in what they call an Alt Tag, and that is a piece of text that describes the image. That helps accessibility and it helps search engines crawl our sites. So it's an universal benefit to all of the industry and to all users.

But to really make the page interactive with the blind consumer, the screen-reader software—which replaces the mouse by adding

additional keyboard commands and also by either speaking what's on the screen or by sending that information to a refreshable Braille display—that software, the screen reader, and the web browser that we all use—whether it be Firefox, Internet Explorer, Opera, or Safari—they need to communicate with each other.

So as the web browser comes to the AOL page, it sees all of the web tags that we've put in to make accessibility more efficient. It has to pass that back to the screen reader and the screen reader has to be able to interact with it. So that's where you get into the layers.

And it's the same thing with mobile devices and other products where there's the operating system—which is essentially the engine, you know, that device that the end-user has in their hand that they're interacting with—and then the content or the application that they're trying to use. And it's a chain and there are many interdependencies along the way.

So, as we look at this, when we look at standards or any of this, we want to make sure that we're not too prescriptive in how implementation is done, because there are lots of components that need to work together.

Senator KLOBUCHAR. Thank you very much.

You mind if I ask a few more questions, Mr. Chairman?

Senator KERRY. No, please—

Senator KLOBUCHAR. I love that little beep when your time is up. It's good for our hearing, but maybe others will want to use it in the future against the Senators. This could be a good way of ending our speeches. It was—

[Laughter.]

Mr. WLODKOWSKI. Universal design.

Senator KLOBUCHAR.—until today, I didn't know we had.

Ms. Scoggins, moving on from continuing on this discussion with broadband, as we approach a major plan in the broadband area, what percentage of deaf individuals would you say are using broadband as their primary means of communication? And should broadband be eligible for Lifeline/Link-Up subsidies to facilitate the access?

Ms. SCOGGINS. So, first, for the broadband plan that is currently being promoted, I find it very vital to the deaf and hard-of-hearing community that they are a part of that process, because it's the hope that within the next couple of years that broadband will be all inclusive.

The percentage of how many deaf and hard-of-hearing users actually have access to that service is—it is significant. Thirty-nine percent of people who have disabilities responded as being broadband users. And that is a nationwide-access level. So there's a definite priority in that particular arena.

But it's just like with hearing users. There are still a significant number of users who are deaf and hard-of-hearing who have no access, for a variety of reasons, to broadband in any way, shape or form.

Of course, on the East and West Coasts, we have the larger cities, and in those larger cities we have the larger populations of deaf and hard-of-hearing individuals, and we do see a certain amount of saturation in those markets.

But, unfortunately, the technology itself doesn't always meet our needs. And the needs themselves are that we need to have a certain percentage of upload and download speed capability for the visual images to be rendered appropriately to show the language.

We do see that a higher level of deaf and hard-of-hearing people are unemployed, as compared to the population at large, because there's the simple fact that they cannot financially afford the services. For those folks that are out there who have no jobs, they are de facto not going to be able to afford paying out the extreme costs for broadband services.

You mentioned the link-in, link-out Lifeline systems. A lot of folks don't have access to those because, unfortunately, they don't have a great clearinghouse for information to try and share some of the massive outreach that these actually occur, because people aren't aware of the services.

This bill is probably going to help us address a lot of those situations. It's going to provide for more education. It's going to provide for more awareness for how people who have lower income levels can gain access to broadband services. And so I would say there are a whole host of issues that are at work here related to whether or not people have access to the services.

Senator KLOBUCHAR. Thank you.

And then one last question, Mr. McCormick—you're down there quiet at the end—in my role as Co-Chair of the 911 Caucus, I've heard a great deal about the next generation 911 technologies.

We have a bipartisan bill we've put together. And I can actually imagine a system that can give text-message alerts or video messages on cell phones announcing an emergency. And how far away is real-time text for 911 purposes? And what other new technologies are out there that will be able to distribute emergency messages quicker and more conveniently?

Mr. MCCORMICK. Senator, I'd be happy to provide that information for the record, but I will say this: We're here today in support of these aspirations because our industry has one core business, which is to use technology to help improve people's ability to communicate.

And our interest in this bill is in working to get it passed and working to make sure that it meets the aspirations of the individuals at this table, so that people with disabilities, when they need to go to a 911 service, when they access e-mail, when they go to the Internet that they have the same reasonable expectations that the abled population has.

Senator KLOBUCHAR. Thank you very much.

Senator KERRY. Thank you, Senator Klobuchar.

Thank you, Mr. McCormick. I want to just try to guarantee that we can, hopefully in the next few days, get to really tie up the concerns you had and the loose ends, and then, hopefully, we can really try to move this thing through the House and Senate as rapidly as we can. I think it's to everybody's benefit to try to do that.

Is there anything any of the witnesses would like to say that they haven't had a chance to say or that you think grows out of any of the questions that have been asked thus far? Everything covered?

Yes, Ms. Scoggins.

Ms. SCOGGINS. I just wanted to make one final point, which is primarily to thank Mr. McCormick and for those providers out there who have been working together with us. The work has been quite laborious, and he has done the yeoman's effort thus far, and just to emphasize that this bill will really help move things forward in terms of inclusion, interoperability and all of those other principles that we strive for in making technology accessible to us. H.R. 3101 really showed that, and I'm interested to see how fast this moves.

And I really want to thank you, Chairman Kerry—and Senator Pryor, as well—for your efforts on this.

Senator KERRY. Well, thank you very much. I want this hearing to be the departure point which you all remember as having really kicked it into final gear.

As Mr. McCormick said earlier, there has been a lot of work done, a lot of groundwork laid over the last year-and-a-half, et cetera. I think we're poised to move.

I think your testimonies today have all been incredibly helpful, very, very eloquent, very important. And I hope you'll be able to look back with pride and say that—when this gets done—you helped to make these services and devices and all of these possibilities available to everybody. Thank you all very, very much.

We stand adjourned. Thank you.

[Whereupon, at 3:59 p.m., the hearing was adjourned.]

