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THE DIGITAL FUTURE OF THE UNITED STATES

HEARINGS

BEFORE THE

SUBCOMMITTEE ON TELECOMMUNICATIONS AND THE INTERNET

OF THE

COMMITTEE ON ENERGY AND COMMERCE
HOUSE OF REPRESENTATIVES

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

MARCH 1, 7, APRIL 19, 24,
MAY 10, OCTOBER 2, 2007

Serial No. 110–10

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THE DIGITAL FUTURE OF THE UNITED STATES

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THE DIGITAL FUTURE OF THE UNITED STATES

THE FUTURE OF THE WORLD WIDE WEB

THURSDAY, MARCH 1, 2007

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON TELECOMMUNICATIONS
AND THE INTERNET,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to other business, at 10:41 a.m., in room 2123 of the Rayburn House Office Building, Hon. Edward J. Markey (chairman) presiding.

Members present: Representatives Doyle, Harman, Hill, Eshoo, Green, Capps, Dingell, Upton, Hastert, Stearns, Pickering, Fossella, Bono, Walden, and Barton.

OPENING STATEMENT OF HON. EDWARD J. MARKEY, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF MASSACUSETTS

Mr. MARKEY. The subcommittee will come to order. I will give everybody a couple of seconds here to get settled in.

Twelve years ago when my chairmanship of this subcommittee was rudely interrupted, I think it is important for us to look at the digital future of the United States. And this series of oversight hearings focuses on the different segments of the telecommunications marketplace and public policy. As we proceed, we will have hearings on voice, video, data markets, competition, innovation, localism, diversity, and universal service.

My goal is that this series of educational hearings brings to the subcommittee the information and insight we will need to make sound policy judgments in the months ahead. This morning's hearing focuses upon the future of the World Wide Web. The World Wide Web has become indispensable to companies large and small, and regardless of whether their commercial aspirations are locally oriented or are of global proportions, it has become a resource that the Government depends upon and that nurtures communities, both real and virtual, around the planet.

The Web has grown into a communications medium unto itself where citizens can communicate and entrepreneurs can innovate. The Web is evolving from its initial publishing model existence into a more interactive, sophisticated medium, and observers have begun to talk about Web 2.0 and Web 3.0 applications and services. The Web is a precious commodity, and today we have a chance not

only to better understand its current nature but to glimpse into its future. Because of its importance to our national economic security, to global communications, free speech, and to myriad applications addressing health care, educational and cultural and civic themes, I believe it is vital for us to understand what we can do as policymakers to safeguard the Web's special role and to foster its further growth and innovation.

In 1999, Time magazine published a list of the 100 greatest people of the 20th century. In the category of most influential scientists and thinkers the list included Einstein, the Wright brothers, Dr. Jonas Salk, Sigmund Freud, Rachel Carson, Enrico Fermi, Alexander Fleming, but it included in that rarified list our guest witness this morning, Sir Timothy Berners-Lee. After all, who better to inform us about how we should approach the task of understanding the World Wide Web and its future than its inventor.

We are delighted that he has agreed to be with us this morning, and I think that it is a good way of kicking off this next 2 years of the Telecommunications and Internet Subcommittee. I would like to now turn to recognize the ranking member of the subcommittee, a man with whom I have worked for years in partnership in a bipartisan fashion seeking to frame these issues in a way that reflects the essential non-partisan way in which technology issues should be viewed, my good friend, the gentleman from Michigan, Mr. Upton.

OPENING STATEMENT OF HON. FRED UPTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. UPTON. Well, thank you, Mr. Chairman. It is a pleasure to be here. I appreciate you convening today's hearing. We have had a unique and wonderful opportunity to have an in-depth, philosophical discussion on the future of the World Wide Web, and I would just note as you lament your 12 years in minority, but in Never Never Land perhaps, it has been a pretty productive 12 years in terms of advancement in the technology field, probably not 12 years that we have seen ever in the history of mankind so we look forward to that continuing and certainly seriously our very good relationship on a whole host of issues.

There is no question that the Web with great thanks to Mr. Berners-Lee has indeed transformed our daily lives. Technologies that were not even dreamed of several years ago are now standard, and who knows what the future will hold. And I look forward to that perspective as we listen to your testimony and engage in questions. I also look forward to having a candid discussion on how we can better protect our citizens, what steps can policymakers and industry folks take to further protect our identities, what can be done to stifle the explosion of child Internet sex predators. While the Web had revolutionized the everyday world it has also opened up a new world of criminals abound. From petty thieves to pedophiles, a broad range of criminals now have the ability to prowl the Internet in a virtual cloak of anonymity.

And with a continuing abundance of cyber criminals, we must ensure that the World Wide Web continues to stand for exactly that, not the wild, wild west. We also must ensure that as we continue to foster an environment of economic growth and techno-

logical advancement, we need to ask the question who knows what tomorrow's Web will bring, but I am hopeful that this morning's discussion might be able to shed a little light on what the future might hold. I appreciate you coming all this way to share your thoughts and experiences, and I yield back my time.

Mr. MARKEY. Thank the gentleman. The gentlelady from Silicon Valley, Ms. Eshoo.

OPENING STATEMENT OF HON. ANNA G. ESHOO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Ms. ESHOO. Thank you, Mr. Chairman, and it is wonderful to see you in the chairman's seat. And welcome, Sir Berners-Lee. It is really a pleasure and an honor to have you here at our committee today. The World Wide Web, which you brought to us in 1989, is now such a ubiquitous part of our lives that I think we take it for granted. Its role in virtually all aspects of our economy, our politics, our entertainment is incontrovertible and it continues to grow. One of the obvious influences the Web has had is in the political spectrum, and it has had a tremendous impact on the American political system.

During the last presidential election political parties, candidates, and independent groups utilized the Internet to organize and to raise money in new and innovative ways, and these activities were only accelerated in the campaign last year and it is undeniable that a video posted on YouTube is responsible for the democratic majority in the United States Senate, so it has had a huge impact. The Internet has also completely changed the manner in which political campaigns and politics in general are covered in the mainstream media. The impact of blogs and independent Web sites on traditional news organizations is perhaps the most important phenomenon of the 21st century culture so far.

This nearly limitless diversity of content and views is a revolutionary change in public discourse. It really is the voices of many speaking to many. It is impossible to overestimate the powerful dynamic that technology and the Internet will have in promoting democracy in our own society and our institutions and ultimately the world. No longer will an individual be limited by geography, wealth or disability to have access to this global repository of literature, science, information, and entertainment. I am concerned that the diversity of voices on the Internet is under threat and that the power to control access to information and content is becoming increasingly concentrated in a handful of large media and telecommunications companies.

It is this issue that development of gatekeepers to content and information on the Internet that really is at the heart of an issue that has been intensely debated in this subcommittee and the last Congress called net neutrality. I think the future of the World Wide Web is in large part dependent on how we resolve this issue, and I think it is incumbent on Congress to ensure that the voices of the many can continue to speak to the many whether or not they have permission from Verizon or AT&T. So I along with all the members of this important subcommittee look forward to your testimony and salute you for what you have accomplished and what

you have given to the world. It is nothing short of remarkable. Thank you, Mr. Chairman.

Mr. MARKEY. I thank the gentlelady. The gentleman from Texas, Mr. Barton.

OPENING STATEMENT OF HON. JOE BARTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. BARTON. Thank you, Mr. Chairman. I am one of those ones that was pleased that your chairmanship was rudely interrupted 12 years ago, but we are always in a personal way glad to see people get ahead in the world and certainly glad to see you back in the chair that you think you should be in all the time. We are looking forward to that. I am going to put my statement in the record. Let me simply say this. Since we have a friend from over the ocean our great Nation, the United States, was founded on the principle and the Declaration of Independence that all men are created equal and that they are endowed with their creator with certain inalienable rights, and among these are life, liberty, and the pursuit of happiness, and from that we believe that every person makes a difference.

It is very rare that we see one of those people before us that has made such a difference as you have, sir. Truly, the world is a different and better place, much better place, because of your—the story says your noodling when you were at CERN. My stepchildren, my children, and even my grandchildren now are old enough to use the Internet and do things and go places and get information that I could have only imagined when I was growing up. You are going to get to see one of these odd things called a congressional subcommittee hearing, and maybe you can think about that and noodle a little bit and tell us how to improve this very archaic, imprecise, inefficient mechanism of democracy.

But we do salute you. You truly have made a difference. It is an honor to be in the same room with you, and I look forward to hearing your thoughts about the issue before us today. And with that, I yield back.

[The prepared statement of Mr. Barton follows:]

PREPARED STATEMENT OF HON. JOE BARTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

We have a tremendous opportunity today. With the World Wide Web, Tim Berners-Lee created perhaps one of the most useful and accessible applications on the Internet. The platform he designed has already enabled many other pioneers to create countless other innovations. I am excited to discuss with him what he believes is on the horizon. My hope is that we use our time wisely. Let us take advantage of this chance to hear what specific insights Mr. Berners-Lee has on how the Web can address specific needs and problems in our society.

In particular, I'd like to hear Mr. Berners-Lee's thoughts on how the Web can help address some of the issues we confront in this Committee. For example, how can it help reduce health care costs? How can it help public safety officials communicate with us and each other in times of disaster? As an engineer by training, I'm also interested in how the Web can be used to improve scientific research.

Lastly, I'd like to hear how he would tackle some of the problems that are popping up on the Web. How can we better protect our privacy on-line? How can we better protect our kids from content, and people, we don't think they should be exposed to?

We have come to hear Mr. Berners-Lee's insights, so I will end my statement there. I yield back my time.

Mr. MARKEY. I thank the gentleman. The gentleman from Pennsylvania, the vice chairman of the Telecommunications Subcommittee.

Mr. DINGELL. Mr. Chairman.

Mr. MARKEY. I didn't see you. I am sorry, Mr. Dingell.

Mr. DINGELL. Don't be troubled. I just snuck in.

Mr. MARKEY. Let me recognize the gentleman, the chairman of the full committee, the gentleman from Michigan, Mr. Dingell.

OPENING STATEMENT OF HON. JOHN D. DINGELL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. DINGELL. Mr. Chairman, first of all, thank you for holding this hearing. I commend you. This is an important matter. And I want to thank the members of the committee for their interest in this matter. I thank you for bringing before us Sir Timothy Berners-Lee, who is the man who invented the World Wide Web, and who has made what most people call the Internet not only pervasive but also as important as it is today. I have seen my share of disruptive technologies over the years. Indeed, I am someone who vividly recalls the days when you could deliver a message with the digits of your hand. Nowadays our thumbs have to type the tiniest keys on the BlackBerry or some similar device.

Of these disruptive technologies the power of the World Wide Web to revolutionize our society is like no other. America is the birthplace of the Internet, and there is serious concern that our ranking in the global information economy is less than it should be. Consumers in other countries enjoy broadband connections that are faster, cheaper, and offered by more providers. Our committee intends to do its part in a national broadband strategy deserving of this great Nation. And again I want to commend you for your leadership in this matter, and I want you to know that your labors on this matter and this subcommittee will be very, very important indeed.

We will begin by hearing Sir Berners-Lee's evaluation of where the Web stands today and where it will be headed in the future. I am particularly interested in the answers to these questions. First, what are the key lessons to be learned from the popularity and growth of the World Wide Web? What principles can be gleaned from your experience? Second, how do you see the Web of the future evolving? What steps must be taken to ensure that the Web continues to meet the desires and needs of future generations? I understand that the World Wide Web Consortium is developing what is called the Semantic Web or the next generation of data integration on the Web. And you have mobile Web initiative to make access for mobile devices as simple, easy, and convenient as it is from desktop computers around the world that we are now compelled to stir up, I think, unfortunately for hours on end.

Third, we addressed the question of how we ensure that the digital future of the Internet is a robust one enjoyed by all people. I support the consortium schools, the true World Wide Web whose benefits are available to all people regardless of language, culture, location, network infrastructure, physical or mental ability. Providing all Americans access to the best telecommunications network

and services has been a driving principle of the telecommunications policy since enactment of the Telecommunications Act in 1934. It will remain so, and I know that you, Mr. Chairman, this committee and this subcommittee, will be working very hard on that matter to see to it that those thoughts are realized.

Once again, I thank you, Mr. Chairman, for having this hearing. We are honored to have this distinguished witness before us today, and I look forward to his testimony. And I thank you again.

Mr. MARKEY. I thank the gentleman. The gentleman from Oregon, Mr. Walden.

Mr. WALDEN. Thank you, Mr. Chairman. I am going to waive an opening statement and just extend greetings to our witness and look forward to questions.

Mr. MARKEY. The gentleman from Pennsylvania, Mr. Doyle.

OPENING STATEMENT OF HON. MIKE DOYLE, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF PENNSYLVANIA

Mr. DOYLE. Thank you, Mr. Chairman. I also am pleased to have Sir Berners-Lee here today. The Internet and the Web in particular is the pet cause or scapegoat of practically everyone who comes before our subcommittee these days. I think it is a great idea to have our committee go to the father of the Web and hear what he has to say before we get too much deeper into these issues. I believe that the Internet has the potential to give everyone an equal platform to report about and opine on the goings on around them. An open and free Internet could be considered the first truly accessible tool to make the spirit of the first amendment come alive for everyone in the country, but without an Internet available to all that guarantees fast speeds to anyone's content that potential is just a promise.

The reality of the Internet today for most Americans is not really comparable to its potential. The reality that the FCC considers 200 kilobits as broadband, a speed so inadequate that even video optimized for slower connections like that provided by YouTube requires 500 kilobits, 150 percent faster than 200 kilobits to run in real time. The reality is that broadband isn't available even at those low speeds to tens of millions of Americans. The Web is a valuable, perhaps essential tool, for expanding and enriching public debate in our country. It has already greatly enhanced the Nation's discourse on public affairs. But until it is as pervasive as broadcast media and newspapers, and until new Web sites truly compete with those traditional media outlets and the Web sites they control the Web's existence should not be used to justify media consolidation, nor should it be held up as the gold standard of openness by the same people who want to restrict information and act as gatekeepers.

I am interested in what Sir Berners-Lee has to say about these issues, but I would also appreciate hearing the view on the Internet and Web policy matters from 30,000 feet up, a broader view of what we might otherwise drill down to in the subcommittee. Mr. Chairman, I thank you for holding this hearing today, and I yield back the balance of my time.

Mr. MARKEY. I thank the gentleman. The gentleman from Florida, Mr. Stearns.

OPENING STATEMENT OF HON. CLIFF STEARNS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Mr. STEARNS. Mr. Chairman, thank you very much. I am delighted to be here. When you read the Time magazine article about him and you realize not only was he a great discoverer of this new technology but he was almost altruistic in his desire because he wasn't a person that ran out and tried to make a lot of money, and he worked for a not-for-profit organization and was behind the scenes, and in many ways represents this philanthropic way that he wanted to help the world, and he did so indeed.

According to a December 2006 survey by the Pew Internet in American Life Project, my colleagues, 70 percent of American adults use the Internet. That currently represents just under 150 million people. Of those, 91 percent send or read e-mail, 80 percent look for health or medical information, 71 percent use the Internet to buy a product, 67 percent went online to get news, and now almost 45 percent use it for online banking. When you look at the statistics back from the March, 2000 from the same organization, you see how far we have come.

And I guess the question all of us want to ask him, what does he see for the future? What does he see for the future in health care? How could the Internet help us there? Education, scientific research, public safety, protection of children, there is probably a host of new areas that he could provide for us. Like in my State there is online health records. Take the Mayo Clinic in Jacksonville, Florida. Thanks to online health records my constituents in Florida can see any of the 310 physicians and benefit from a Mayo wide electronic record. All providers all have access to the same comprehensive and current medical history, lab results, pharmacy records and radiology images.

Errors and wasteful duplication are avoided and quality obviously is enhanced. Now this is just one example of how the future of the Internet will improve our lives, and so it is clear today that this individual can give us remarkable insight from his perspective for what we can do for health care, education, as I mentioned, and others. I want to thank you, Mr. Chairman, for holding this hearing. I think it is a delight for all of us to see this individual because we have heard so much about him, so I compliment you for bringing him to start this session in the 110th Congress, and welcome to our witness.

Mr. MARKEY. I thank the gentleman very much. The gentlelady from California, Ms. Harman.

OPENING STATEMENT OF HON. JANE HARMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Ms. HARMAN. Thank you, Mr. Chairman. Congratulations on resuming the chairmanship. I am delighted to be a member of this subcommittee. Fifty years ago a computer filled an entire room, and processors performed at less than 1/1000ths of the speed they do today. Our witness, with a twinkle in his mother's eye or a very little boy, and the information technology society of the 21st cen-

tury was not even the subject of scientists' wildest speculations. We have come an amazingly long way. But the information technology revolution is not over. Fifty years from now our world and our society will likely look radically different.

We have been bad predictors of technological change. In 1899, Charles Doole, the Commissioner of the U.S. Patent Office, reportedly said everything that can be invented has been invented. How wrong he was, and I have no doubt that today in a classroom somewhere in America a young, female IT genius is discovering the secrets of the computer that will lead to inconceivable inventions. Our challenge as policymakers is to try to assure that the innovation that now defines the American economy is available to as many people as possible world wide, something that many of the speakers earlier this morning have addressed, but also that it improves lives and helps us solve the world's most intractable problems.

One big problem yet to be solved is the need for public safety and intelligence agencies to benefit from the information technology advances we enjoy as private citizens. The 9/11 Commission reported that before the World Trade Center and Pentagon attacks, the FBI's outdated and outmoded computer system prevented agents from finding and communicating information about the hijackers. Today, first responders do not have voice and data communication systems to coordinate emergency responses. These are grave technological liabilities unfitting of our information culture and something that this subcommittee must help resolve.

But there is also a flip side to this. Not only do we need to get information to those who would keep us safe, but we also need to think about how to prevent information from getting to people who are radicalized by it and who learn to make bombs and become terrorists from surfing the Web. So it is a very, very tough problem, one this committee will have to think about and no witness so far as I know is more imaginative and more qualified to give us a basis for proceeding than the witness before us today. So I look forward to the testimony. And, again, Mr. Chairman, I am very proud to serve under your leadership. I yield back.

Mr. MARKEY. I thank the gentlelady very much. It was 20 years ago this month that I became chairman of the subcommittee for the first time so it is ancient history. The gentlelady from California, Mrs. Bono.

Mrs. BONO. Thank you, Mr. Chairman. I'm happy to be here also. I will waive on my opening statement and just welcome our panelist. Thank you.

Mr. MARKEY. The gentleman from Texas, Mr. Green.

Mr. GREEN. Thank you, Mr. Chairman. I would ask that my full statement be placed in the record.

Mr. MARKEY. Without objection. The gentleman from Texas.

OPENING STATEMENT OF HON. GENE GREEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. GREEN. I would like to welcome Sir Berners-Lee because of the success—I come from an area in Houston, and it is an underserved area and so my interest has always been more expansion of the World Wide Web including the eRate program and limiting the

risk of problems on the Internet like spam, identity theft and fraud. But I have to admit most of my staffers in my office cannot imagine 10 or 15 years ago doing what we do today without the Internet and the research capabilities that we have, congressional research service that instead of going to the library and pick up a book now it is all right at the desk, and it is amazing.

Like my colleague from California, I know somebody much younger than you and I are probably developing something, and we will be surprised 10, 15, or 20 years from now. So welcome, and I am glad you are here.

Mr. MARKEY. The gentleman from Indiana, Mr. Hill.

OPENING STATEMENT OF HON. BARON P. HILL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF INDIANA

Mr. HILL. Thank you, Mr. Chairman. I feel like I am back in high school again in my German class for the first day. I am a new member of the committee and anxious to learn all the intricacies of telecommunications, in particular the World Wide Web. And, Mr. Chairman, I would echo all the remarks that have already been afforded to you. It is a privilege and a pleasure for me to be on this committee and you, as the subcommittee chairman. Mr. Chairman, I appreciate you scheduling this hearing. And, Sir Berners-Lee, I appreciate you taking the time to appear before us today.

Technology has changed all of our lives. In some ways it has made it easier to stay in touch through cell phones, wireless calendars and e-mail. In other ways, technology has made life more difficult through cell phones, wireless calendars, and e-mail. And, Sir Berners-Lee, you are to blame for all of it. Conducting research, being able to test drive music, and most importantly stay in touch with loved ones are all examples of how our lives have improved through technology. However, one of the most important aspects of technology is not what is available but who has access to the latest innovations. The only way the World Wide Web and all of the innovations that have stemmed from its invention has been able to succeed is through consumer access and use.

It is important to remember that we have to concentrate on serving all consumers including those in rural America, and I live in rural America in southern Indiana with all these wonderful services. Thank you, Mr. Chairman, for holding this hearing, which I know is only the first in a comprehensive series of hearings that will fully investigate these issues. I yield back the remainder of my time.

Mr. MARKEY. I thank the gentleman. I don't see any other Members at this time so any other statements will be included in the record at this time.

[The prepared statement of Mr. Towns follows:]

PREPARED STATEMENT OF HON. EDOLPHUS TOWNS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Thank you, Mr. Chairman. I am very pleased that the subcommittee is holding this hearing. It is always interesting to try to understand how science fiction becomes reality. I would also like to thank you for inviting Sir Berners-Lee. I am heartened that he has chosen to help us all reap the benefits of what he creates, and I am interested to see if he can illuminate some of the pitfalls we can avoid.

I applaud the goals of his new effort, the World Wide Web Consortium. Their ideas for standards, guidelines, development, and education will be invaluable as we

move on to new and better technologies and continue to see the Web grow. In addition, I hope his dedication inspires more of our children to go into academia.

Finally, I hope he can show us how we can make sure all our constituents benefit as we move into the digital future. They want to know that they can still keep some of their information private, that they can protect their children, that the Web will be available to everyone, and that their lives will be easier and more productive than ever. We still have a long way to go here in the United States and I am grateful that Sir Berners-Lee has come to help us.

Thank you and I yield back the balance of my time.

Mr. MARKEY. We will turn to our witness, Sir Timothy Berners-Lee, who coined the term World Wide Web, wrote the first World Wide Web server, authored the first version of the hypertext markup language which evolved into the primary publishing format for the Web. In 1994, Sir Tim founded the World Wide Web Consortium, and in 2004 he was made a Knight Commander of the Order of the British Empire by Queen Elizabeth II, but in fact he has been a Knight for the world in providing this incredible ability to communicate. It is an honor to have you with us today. Please when you feel comfortable begin your testimony.

STATEMENT OF SIR TIMOTHY BERNERS-LEE, MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Mr. BERNERS-LEE. Chairman Markey, Ranking Member Upton, members of the committee, the honor is truly mine to be here. I am very honored to be invited, and I will do what I can to answer some of these questions at least to set the ground work to put before us what the things are I feel most important about the Web on which we should base its future. So I am here as an engineer. Engineers define the protocols by which computers talk to each other. You are legislators. Legislators can define laws, protocols, constraints on the way human beings communicate.

The Web is not just an engineering construction. The Web is really a web of people. When something happens on the Web like something new takes off what happens is a very intricate connection between the little piece of new technology like blog software and a whole social phenomenon of interacting people. So really the Web as a whole is humanity connected as connected by the Internet, and so it is very important that the constraints imposed by the technology and the constraints imposed by the legislation work together harmoniously to provide the very best we can possibly do. So it is in that spirit that I come here.

I must say that although I have various hats, I wear none of them. I do not speak for the World Wide Web Consortium or any of its members or for MIT. Anything I express here is purely my own personal viewpoint. I would also like to point out that although I did invent the Web, I had the benefit of doing that and building on the benefit of the Internet, which had been invented some 20 years earlier, and in fact the e-mail, when you get e-mail on your BlackBerry, you have other people to blame for that.

So what I will attempt to do then is explain what I think is most important, explain, if you like, what is essential about the Web which makes it work which gives it the properties which allow all these exciting things to happen, and which therefore are those things which we should take away and make sure that we preserve

as we develop the Web. So then I will go into a few specific directions in which I hope that the Web will progress. I don't as a rule try to predict the future. I do, however, express my hopes about the things which I think will happen. It is amazing how all the creative people out there will then take hopes and turn them into reality.

I will conclude by going back to some of the basic principles upon which we must depend as we go on and create new things like the Web and new things built on top of the Web. So what is essential about the Web? I built the Web personally out of frustration. It wasn't my job to build the Web. I had another job to do but I needed the Web. I was working in a very large European physics lab, CERN. There were a lot of systems which contained information, documentation systems. They were all different. You had to go to different computers. You had to use different software programs to get different pieces of information. Often you had to talk to different experts. The whole thing was very frustrating.

Wouldn't it have been nice if all those pieces of information were in the same system? Now I had seen a lot of people decide that and build the big system to end all systems, and all these attempts, certainly the ones I watched at CERN, were failures. They failed to include everybody and they failed to include everybody because they insisted on something. They insisted sometimes that you would use a particular computer. Sometimes you would use a particular software by a particular company or you would store your documents in a particular format. You would use a Mac or a PC other than a Mac to prepare your data. Everything you did had to be done in English when in fact people at the lab came from all over the world and spoke all kinds of different languages.

So it was clear to me, first of all, that in fact we could keep all these systems working but surely we could invent some imaginary system. The Web, if you like, is an imaginary program. We were imagining that all these things are in one program but in fact we are keeping them in all different ones. If you like, the Web is a white sheet that we are holding up and all these different systems are projected onto it.

What was clear was the sheet had to be perfectly white, not have any particular structure. The Web itself could not insist that people organize their data in a particular fashion in a tree or in a table, it couldn't insist they use particular technology. It had to work with people using any sort of computer systems. So the most important principle of the Web is this universality, the universality of dependence of hardware and software and dependence of what culture somebody comes from as well as what language they speak. One of the nice things that has come out of the Web is one of the technologies really where people with disabilities have more power than any other technology because information can be presented in lots of different ways depending on the abilities of the person who is perceiving it.

So there is excitement there about that dimension of universality so it is a universal space. The important thing is that anything should be able to link to anything. Compared to a lot of transportation systems, mail systems, telephone systems where you can telephone across the world all these things make the world a smaller place, but the hypertext link, the thing that you click on that

takes you from one document to another, has this very interesting property. Every document, every piece of information has what we call URI, the thing that starts http normally. That http, whatever it is, may be long and complicated and horrible looking but it identifies globally without any other context precisely a piece of information.

And when I am creating a hypertext document, for example, if I am writing a Web blog, I can make a link. When I put that link and I put a URI, and it can be a link to anywhere that you or I can be to anything. So that allows me to point out a relationship between two things where no previous relationship had been anticipated. That is a really important thing to happen when resolving problems, to spot those relationships and to be able to represent things, those relationships. Anything can connect to anything. Anybody can publish a Web page. It is very, very cheap to do so. When they do so, they obviously are bound by the laws of the jurisdiction in which they live but they should not be bound by the technology. The technology should not force them to write in a particular style, to write with a particular policy in a particular language, and so on. So the World Wide Web is universal. It is an enabler. It is not there to constrain.

So that is the most important part of it is universality. In practice the reason that it has actually taken off, the reason that so many things have been developed on top of it the whole part of that is the fact that the standards, the open standards on which it is based, the standards which dictate how computers talk to each other when you click on a link and your computer goes off to get a piece of information from a Web server somewhere, those standards which the person who wrote those parameters to determine how the computers talked to each other are royalty free. That has been very important. It was a given and is relevant to the Internet.

The people who came before me and developed things like the file transfer protocol and the e-mail protocols never dreamt of trying to patent them and charge fees for them. When the Web came and this explosion occurred and at the same time change in acceptable use allowed commercial use of the net. We have seen from the amount of spam that you probably get in your own mailboxes there are huge commercial incentives out there. When there are those huge commercial incentives there is a lot of money around there is a temptation for people to say let us see if we can get some money out of the infrastructure. Now the Web took off in all its glory with all the diversity of things out there which have happened because there was a royalty free infrastructure. There was another system called the Gopher from Minnesota, that came from the University of Minnesota. The rumor went around that it might not be, might not be royalty free in the long run. The people that were developing it in their garage dropped the whole system like a hot potato because they didn't want to work for the University of Minnesota for free on the weekends.

People working for large companies were told by their lawyers not to read a single part of the code or the specs, don't go near it. At that point people came to me and said what is the story with the Web so I managed to get a declaration by CERN that CERN would not ask for royalties for the technology, and all the compa-

nies and individuals that come together on the World Wide Web Consortium through the World Wide Consortium's patent policy agree, progressively agree, to put their cards on the table and to agree that when we have produced the standard nobody will be charging royalties for it. That is very important basis, something that is important because the World Wide Web is not important for itself. It is important for what is built on top of it.

That brings me to another important principle. That is the separation of the layers. When I designed the World Wide Web, I wrote two programs. I wrote a program to be the browser and a program to be the server, and I distributed them over the Internet. Now these programs wherever somebody installed them would just talk to each other across the Internet. The Internet itself is a communication medium which allows two programs to talk to each other. It doesn't require anything of what those programs are about or trying to do. It is as universal itself as possible so the provision of the Internet service is sometimes represented as an hourglass. Above the neck of the hourglass are all the things which use the facility of communication which is provided by the Internet, and one of those is the World Wide Web, another is e-mail, and underneath are all kinds of ways in which technology is supporting the transfer of information, and these connect to the very simple interface, just a stream of 1s and zeros, which that is the service that is provided.

So I have had the luxury of developing the World Wide Web really without having to worry very much about how those are sent, and during the time that this has happened I have gone from using a 300 board connection on one of those telephone couplers to a 3 million board connection, so that is a 10,000 factor. So the technology underneath this has tremendously increased in terms of speed and functionality, and the Web technology had happened on top. So the Web technology is also designed just to be a foundation. Foundation technology is something which tries to be very clean, very general purpose. It tries to get out of the way and allow other people because what is the most important thing about the future of the Web, what is the most important application that is going to be developed on the Web. It is something which has been developed by somebody, yes, quite likely some woman who is dreaming about something or frustrated with something, somebody somewhere, and they will develop this thing as a set of Web sites, as a new protocol, and they will develop it using the Web infrastructure, and they won't have to come to me to ask me whether we can solve the World Wide Web construction mode to change the Web architecture. They will just be able to use it, and we will use the Internet architecture, and all these things will evolve independently.

So the separation of layers really has been a key to the growth. This growth would not have happened if one laboratory had been responsible for developing the whole thing top to bottom. Okay. So the future, which directions are we going? And there are lots, and I can only mention a few. One of them is date integration. The documents on a typical computer, you can think of some of them as data and some of them as documents. The documents, the messages you can put on the Web and people can read. The data, the

spreadsheets, the calendars, and so on, you can see perhaps documents representing them on the Web but you can't get at the data in such a way that you can put it into a spreadsheet. You can pull out all the information about the weather, about health care information, and combine it together and manipulate it. So there is a serious, if you like, whole half of the Web, of the goal of the Web, was this data.

We succeeded with the documents. We want to do it with data, and some of the goals that we have include, for example, all the applications on my desktop I should be able to connect things together. I should be able to take my photographs and drop them onto my calendar and see where in time they happened and do the same thing with my bank statements. Very importantly, in the enterprise all the applications and the enterprise tend to be stove piped at the moment and it is a great impediment to the management of an enterprise that you don't have a degradation between these different applications. But more globally applications like disaster management I think would very much be enabled by this web of data, the thing that we call the Semantic Web, which will allow what data is available as it becomes available no matter what sudden disaster occurs, no matter what new eventuality, what new disease arrives, what new earthquake or tsunami occurs, what data we have should be available so that it can be re-used, so it can be linked together. A lot of people see the Semantic Web as being a great boon for health care. They see it being a great boon for drug discovery. The drug discovery business is very much driven by huge amounts of very complex data, and we have of course very dire needs to find out things like drugs for cancer, drugs for AIDS. There is a huge amount of information. Some of it is genomics, some of it is proteomics, some of it is clinical trials. All these at the moment are stove pipes. To be functional as a human race and solving these problems, we need the Semantic Web technology to allow all these things to be connected together.

So data integration is one area in which we expect the Web to explode. Another area which is exploding is the diversity of devices. You have noticed all these little things. Actually you might find that it is quite difficult to access the Web on these little devices, but we have the mobile initiative and consortium, which is trying to make that much easier to try to show there are ways of getting the same information in a way that could be accessed with a huge screen or with a small device. Also, one of the hopes there is that as these small devices come in very much cheaper forms, these might be forms that you have, they are coming out very much cheaper, cell phones with screens that can be used for browsing the Web so the hope is that this will increase the penetration of Web access for things like health care, for example, in poorer areas and also in the developing world.

As the development of devices continues I am absolutely certain that everything hasn't been invented. Everything that could be invented has not been invented. We can imagine very soon—have you noticed how things are being covered with pixels, covered with displays. It hasn't happened to this room yet but if you go to Times Square everything is covered with digital displays you can place up on the sign. Things will be covered to a very long extent with this

place, if I don't have a large display on this phone, if my phone can communicate with a display that I am next to as I walk into my hotel room then I will be able to continue doing what I was doing on the phone except with this very large display. That is what we are calling ubiquitous where it points to a time where really what we are doing, our address book is a virtual thing, something which is out there on the Web, and we use different devices to see it but it isn't something which we think is connected with a physical device anymore. Just as the information is now in this space then the Web will be a space which contains the things which we now associate with physical devices. Does that indicate that I should stop?

Mr. MARKEY. Not at all. We go by bells, a system of bells here, in the Congress and those bells which are ringing right now are telling us that there is a roll call on the House floor that we will have to be there in 15 minutes, but you can continue to proceed. When it rings the second time, it means that there is more than one roll call on the floor which we will have to recess at some point.

Mr. BERNERS-LEE. As it happens, I have reached my conclusion. One of the amazing things about the Web is that things happen which we didn't predict. When somebody creates a new phenomenon like a blog, like Wikipedia, they don't know absolutely that it will take off and become a world wide phenomenon. Many, many things don't, of course, and we don't hear about them. Many Web sites start, fizzle out, and just don't become popular. Some do. So when people design things, they design something in a small, those things which are successful have this large effect. They produce a large hopefully beneficial effect. How are we going to produce new Web technology and make sure these are beneficial? There are two ways. One is I think we actually have to be aware of this difference between the microscopic rules that govern people and govern computers, this relationship between the microscopic and the macroscopic phenomenon, so we are calling it Web science. This awareness of the fact that the Web is now a huge thing. There are more Web pages than people. The world is a large place. It contains many people. The brain is a complicated thing. It contains many neurons. We study those as complex things, and they are complex things. They do things which you couldn't imagine by looking at the individual elements of them.

The Web does things which you can't imagine by just looking at the individual elements unless you study it as a Web science. So we are calling that Web science—one of the things that we do then is we try to get people together across disciplines because this is not just computers. It is people. They are governed by laws. They are governed by psychology and incentives. They are governed by economics. There are a lot of different ways and different fields which need to look at this, as well as computer science and network engineering. So that we call Web science. We are not done. We are just starting. We really, I think, will not see a slowing down now that we have succeeded on the Web. We will see a speeding up. I am afraid it is going to continue. It is not going to get any easier to keep up.

What is the second way that we make sure that we do things right? Well, we use these core values, I guess just as you do creating laws. You base them on core values. You have a rule of thumb

that if we stick to certain core values on a microscopic scale good things will happen on a macroscopic scale. If we stick to the Golden Rule everybody should be happy. So what we have seen some of these principles for the Web are those of universality, keeping the Web universal independent of hardware, independent of software, independent of who happens to be your Internet service provider at the moment, the present instance in time, independent of language, independent of culture, independent of disabilities, so the universality is a very important thing.

We have seen the layering, keeping—the development of the Internet is a transport of bits, 1s and 0s, independent of things which are built like the Web, like e-mail, like now some things like Second Life all built on top of the Internet and making sure that the Web in turn itself is the blank sheet, the blank canvas, something which does not constrain the innovation which is just around the corner which somebody is itching to do somewhere. And I suppose most importantly we realize that this thing does not belong to anybody now. It was based on some ideas that I had. I threw them out and they were taken up by hundreds, thousands and millions of people.

It started in the United States. The Internet was started mainly with funding but it spread and it is all over the world. The Internet and the Web, these two layers are now fundamental infrastructure for the global society. It is very important as we develop them we make sure that they don't become controlled by any one company or for that matter for any one country. Chairman Markey, Ranking Member Upton, members of the committee, that is the most important thing I suppose I have to say. I am very anxious to hear any questions you might have and to help you in any way in understanding and helping manage working together to manage this in the future. I am very grateful for the honor bestowed on me by being invited.

[The prepared statement of Mr. Berners-Lee appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you. Let me announce to the Members that after the 15-minute vote followed by a 5-minute vote, we are going to come back and continue the hearing for as long as Members do have questions of this great man. Let me recognize the gentleman from Michigan right now for any questions you might have. We can stay here for another 5 minutes or so. So, Fred, if you would like to ask some questions.

Mr. UPTON. Thank you. I enjoyed the testimony, and we all have our personal experiences of how this has impacted us and for the most part it has been very, very positive. As we look back at history for me, for example, I visit a grade school or a school virtually every week and I can remember 10, 12 years ago I would ask how many people used the Internet and even among a second or third grade class and just a few kids maybe. Now of course every hand is up. And I often follow up with another question how many of you have seen something that is probably inappropriate, particularly for these youngsters, and again every hand including mine goes up as well.

And I guess the question that I have, we have a little bit of a double-edged sword. There is dangers and there is great advan-

tages in many, many ways, families being able to communicate with their sons and daughters serving overseas, all different things. I have the world's largest appliance manufacturer headquartered in my district, Whirlpool, and when I go through their lab and I see their new devices in terms of tracking food that is in there, recipes, turning on ovens, and then all these different things that are quite revolutionary from where we were 5 or 6 years ago, but what are some of the things that we should be looking at as we look at the future in terms of privacy, in terms of things that you might want someone not to be able to connect to in terms of pornography or other issues? How do we handle some of those issues as we look to the future?

Mr. BERNERS-LEE. Well, this is obviously a huge topic, and we could talk for hours about it, but I suppose fundamentally the thing to remember is that every powerful tool can be used for good or evil and it can be used by people who are doing good things and people who are doing bad things. And to first order the job of the Web is to be that wide slate, and of course everybody who does illegal things, fraudulent things, for example, on the Internet is sitting there in a chair in some jurisdiction where they are subject to laws and they are breaking those laws, and those laws apply whether things happen over the Internet or not.

There are things like child pornography which are illegal, always have been illegal and will continue to be illegal.

Mr. UPTON. And the trouble is that even though we have some pretty tough laws here in this country and the UK and other places often these relocate some place else where you don't have that—they are international and we don't have the same type of law enforcement or standards, whatever you want to call it, where they are able to skirt those laws.

Mr. BERNERS-LEE. Indeed, of course I hope that the committee will always be aware of the fact that there are other committees in other parts of the world and in fact the countries working together in general to solve things such as spam, for example, is very important. So the Web Consortium is an international group of people. The Internet task force is an international group of people. And there is a lot of discussion between governments about this but clearly when you have a difference between jurisdictions there are issues.

There are some important things which technology can help with. I suppose one of the general rules is technology should help make it easy to do the right thing so, for example, when looking at copyright legislation, if you find a picture out there on the Web and you want to do the right thing, you would like to use it in a report but you are not sure whether you can, one of the important things that is happening now is data about whether what the licensing terms are on that picture is more and more being put into the picture itself or put into the surrounding documents, automatic tools. Systems like the creative licenses allowing people to do the right thing so before trying to create systems which prevent people from doing bad things, which often is very, very difficult, putting systems up there which allow people to do the right thing in large part is very important.

An awareness of privacy, of course, is very important. There is a huge amount of information out there on the global Internet. What a lot of people didn't realize early on was behind firewalls it is very properly guarded. And, in fact, a lot of the most important data, the most valuable data for companies or for Government agencies is the stuff which is kept most secret. Some of the things which I hope to see in the future include systems which are aware of the policies which relate to the data and the information so that as the data is moved around it can be—the machines can be aware of who is supposed to be looking at getting it and also perhaps who is supposed to be using it for what purpose. So as you track it, for example, through a Government agency the system will be able to keep track of which data came from where.

Mr. MARKEY. Thank you, Sir Tim. We are now going to take a break for about I would say 20 minutes when the Members will be reassembling here. But we will start again in approximately 20 minutes so the committee will take a brief recess.

[Recess.]

Mr. MARKEY. The committee will reconvene. I would ask Mr. Berners-Lee if he could come back to the witness table and welcome to a typical day in the United States Congress. People say what is a typical day and of course it is a day where you cannot predict anything which is going to occur, not unlike the chaotic nature of the World Wide Web itself. Let me turn and recognize the gentlelady from California, Mrs. Bono.

Mrs. BONO. Thank you, Mr. Chairman. And again I thank the witness for being here and your testimony was great to hear. I wish you would have had about 20 minutes longer to continue on. As my colleague Fred Upton was asking, I think you closed with basically what was a definition in my mind of DRM. My big question is of course property rights, intellectual property, on the Internet and how we protect it. You even cite in your testimony Steve Jobs talking about DRM and the need to do away with DRM, how it is a closed platform. We have seen podcasts increase but the sale of music decrease. I was wondering if you could elaborate a little bit further on this because in my mind, I salute you and all you have done and the exchange of ideas, but when somebody has a copyrighted piece of work whether it is a song or a movie that translation into the Web and the future to me is uncharted territory. Could you elaborate a little bit further on where you see the world going and how creators of content will be compensated in a world free of DRM?

Mr. BERNERS-LEE. Well, first of all, what I said then was allowing people to do the right thing is important. You can allow people to do the right thing without DRM. You can write down what the copyright situation is. You can make software which will track whether or not you own this. And it won't stop you but it will let you know that if you are playing music which you shouldn't listen to or because you backed up somebody else's machine and so you got access to it it will make it clear—it will turn pink. If we promote technologies for the method data for information about information, putting on the licensing information, putting on the information about who has got rights to it. If you go back to that Steve Jobs article he points out a lot of issues with DRM, and I think

some people haven't thought about the problem of what happens when 20 years on they are using totally different technologies, but I want to go back and see my old LPs and some of my old LPs are vinyl, and I can buy myself some sort of laser vinyl record player. Some of them are CDs, which are completely, of course, DRM free. So if you want to know what Steve points out the DRM free world is a world of vinyl LPs or CDs.

Mrs. BONO. But is that not the equivalent of having a speed limit but no enforcement of the speed limit? You could put speed warning signs for the people and it is the same thing with DRM. You can always tell people the right thing to do is to not download this for free but without the enforcement mechanism they still will.

Mr. BERNERS-LEE. What is the enforcement for a speed limit? The speed limit enforcement mechanism is not that the car grinds to a halt, right? It is not that you put your foot down and suddenly your car refuses to move.

Mrs. BONO. It might be a great thing actually for my teenager right now.

Mr. BERNERS-LEE. No. The enforcement for speeding is probably—everybody knows that they are supposed to do. Under some circumstances people will push the bounds. Other times people will stay even further within the bounds.

But occasionally the cost of getting caught is sufficiently great in the long term because the software leads you to do the right thing and so it is not natural to do the wrong thing because really the only thing which is going to seriously affect the economy of people producing music is when things happen on a large scale, and when things happen on a large scale they are easy to be caught. Then it might be the disincentive of punishment is sufficient. That sort of thing I must say I am inclined to try to make software that allows you to do the right thing first. I don't know, we haven't tried the experiment of having something which is like the situation with CDs and vinyl, which is DRM free, downloadable music. We don't know how the public has reacted. We haven't seen what the software looks like. We haven't seen what the user interface looks like. We haven't seen what the record company profits would look like, and so I think this is the sort of thing which needs a lot of—I don't have myself a firm opinion as to whether in fact we will be able to do it completely without some form of DRM or not but I think we should try to make a system which avoids, for example, encrypting things in ways that they won't be able to be read in a few years time.

Mrs. BONO. I agree. That cross platform problem is a huge problem for all of us. You have an iPod and now you can only use iTunes and you can't move it over to your other devices is a problem for me too. But my biggest fear too is in this new business model what we are going to change is the content creator now has to become a commercial agent that in order to be paid for your song or your movie your song is now a ditty. It is promoting a commercial product. And movies as we are seeing anymore anyway are already doing that. So that is my concern in the new world is how do we prevent that from happening.

And Steve, with great respect to Steve Jobs, he is trying to sell hardware first and foremost and not the content, and I wonder if

he would feel the same way about his patents being on the Internet free of patent protection so that is my huge concern. And I really appreciate what you have done and your thoughts here and look forward to this beautiful future of the World Wide Web, and I know it is going to be a great place for content providers as well as hardware device makers in the world, so thank you very much for being here.

Mr. MARKEY. The gentlelady's time has expired. The gentlelady from California, Ms. Eshoo.

Ms. ESHOO. Thank you, Mr. Chairman, again for having this hearing, and thank you for your magnificent testimony. I hope what I ask hasn't already been asked. One of the myths that the big telecom firms like to perpetuate is that the Internet has always been free from regulation and that net neutrality legislation would be unprecedented regulation of the Internet. It has really taken the whole issue of neutrality and kind of twisted it into a pretzel. It is very curious to me. Now no one knows better than you that from the inception of the Internet until very recently the Internet was protected under FCC non-discrimination rules which require telecommunication carriers to take a hands-off approach to the Internet.

So my question is would you describe for us how these rules impacted the evolution of the Web? I think that you more than touched on it in your opening statement and how an absence of non-discrimination rules going forward would impact the development of the Web. That is my first question. And my second question is that I am fascinated by your Semantic Web that you spoke about in your testimony, and all of the descriptions and where we need to arrive and what we don't have now and the blending of information. My question is how will an automated Semantic Web be able to distinguish between legitimate and fraudulent or inaccurate and accurate content and sources? So those are my two questions.

Mr. BERNERS-LEE. Both good questions. The first one, I can only answer to a limited extent because I am not a legislator. I haven't studied all the various possible types of legislation, and so I can't talk about those in detail. I can say that I feel that non-discriminatory Internet provision is very important for society based on the World Wide Web. I think that is very important. I think that the communication medium is so important to society that we have to give it a special treatment. We have in lots of other ways.

When I was growing up, I learned to understand that interfering with Her Majesty's mail was an extremely serious offense. Why? Because, well, the mails are what actually allows the country to function as a country, it allows the state to function as a state. And here there is protection of the fourth estate—there is the protection of the freedom of speech. Because we are only a society inasmuch as we are human beings communicating, communication has always been held with a special respect, and I think that is very important as the Internet starts to becoming a dominating medium. So if there were a choice, if there were a possibility that maybe a compromise of these principles would maybe deliver a world in which perhaps the markets, open markets, would still function and perhaps open democracy would still function but it wasn't absolutely clear, I would always be in favor of erring on the side of

keeping the medium to be the blank sheet of allowing me to connect if I connect to the Internet to connect to whoever I want, so I think that is very, very important. That was the first question.

The Semantic Web, it is a good question how would you decide what data on the Semantic Web to trust. How do you decide what information on the Web to trust as it is? The answer is in practice that you use other people as judges. When you read a blog, you read one person's blog because you got appointed from another person's blog. And every morning if you log on and you have a set of blogs that you read that is a set which you carefully nurture. You carefully nurture your bookmarks because they are things which you trust and which take you to places that you trust. The links provide this function.

On the Semantic Web it is the same even though there is data published by many places. All Semantic Web agents out there, all the semantic programs that help people, all the Semantic Web programs which try to look for disasters and alarm situations will be taking data. Some of them will be taking data only from fixed places. They will only be monitoring the tsunami early warning indicators or they will only be looking at the NASDAQ. They will be hooked up to specific feeds. Others will roam around looking for data in general, then they will come to tentative conclusions, and then they will present those conclusions with as an appendix, by the way, this is where it came from. So we are doing a lot of research on that. And the lab at MIT is trying to make systems more sophisticated, trying to show how transparent can you make a system, to what extent can you make it policy aware. This, if you like, is an extension of the solution that generally we found for things like pornography on the Web. We found in general the solution to this sort of thing is to allow people to label things, to allow people to method data, information about information.

You asked about something taking data from the Semantic Web. Well, somebody that has a child sitting at a terminal and wants to protect that child can install software which will filter the information coming to that child. There are all kinds of commercial systems that you have a choice of them, you have a choice of different white lists and black lists, so it is demonstrated that information about information is very powerful, allows us to provide where we need it a quality stream of information, information with known quality properties. And I think very parallel things will happen with the Semantic Web but probably more sophisticated.

Ms. ESHOO. Thank you. Thank you, Mr. Chairman.

Mr. MARKEY. Thank you. The gentlelady's time has expired.

On net neutrality, the gentlelady has asked a question about net neutrality, and we very much appreciate your views on the subject. Just so that everyone on the committee can know before the end of the year we are going to hear from all sides on that issue so that everyone's perspective is heard and the committee before it deliberates will have had access to it. Let me now turn and recognize the gentleman from Florida, Mr. Stearns.

Mr. STEARNS. Thank you, Mr. Chairman. In your opening statement, I was intrigued by some of the things you talked about the future and you mentioned that digital displays will be on the present, ubiquitous, I think is the word you used. And I think what

you are saying when you looked around this room you said there will probably be some day——

Mr. BERNERS-LEE. I didn't say anything about this room.

Mr. STEARNS. OK. I had the feeling that you would say that in a home or in a work environment you would have, are you talking about digitized high definition videos or are you talking—give me your idea in the future what these digital displays, you said they will cover large display areas and so maybe you might just expand on that future concept.

Mr. BERNERS-LEE. I am sure the committee might have noticed as I said in Times Square, when you go to Times Square it is no longer covered in just neon signs. Neon signs are in a minority. It is covered with digital displays like that, different technologies, but these are getting cheaper, and so I am a little concerned that perhaps there should be a protection of neon signs for Times Square. But seriously there will be the ability to put displays so that all of the taxi cab instead of just the top becomes a moving digital display. So the question I would send back perhaps just supposing that when you walk into your office the walls are all capable of displaying information and the desktop is all capable of displaying information because it is not very expensive to do that.

Mr. STEARNS. The entire desk.

Mr. BERNERS-LEE. Suppose the entire desk could turn into a virtual——

Mr. STEARNS. And you would just touch your desk and——

Mr. BERNERS-LEE. Then what would you find most powerful? What would you really want to be able to do? How could you use that? How would the desk know what to display? How would the wall know what to display? Your phone happens to be in the middle, for example, of going through a rather tedious exercise of trying to book a return flight from Washington, DC, and the phone, for example, imagine that the phone, it connects with radio technology such as Blue Tooth to the desk and suppose it determines that it is your desk, determines that it can trust it with information and you are in a position that you can see it, and instead of having to communicate on that little screen it then will communicate by putting a map of the flight that it is proposing, some pictures of the restaurants where it is suggesting you are going to eat, and other related information about your travel in a much larger format on the desk, on the wall.

To do that, for that to happen, the flight that you are booking has to break out of the phone device. It has to really be in the abstract medium just as things are on the Web. It has to be able to have—to the user it has to be able to have independent existence. Lots of problems have to be solved in between because you don't want the phone to put details of your private condo up on the subway.

Mr. STEARNS. So the machine would have to think in this case and determine whether I have access or not.

Mr. BERNERS-LEE. Well, it turns out, yes, the machine has to be aware of policies for information, what information could be used.

Mr. STEARNS. Now you sort of indicated that these devices like this, there is a diversity of devices coming too.

Mr. BERNERS-LEE. Pretty much, yes.

Mr. STEARNS. And what in your mind is diverse? I mean like in this Treo I can get the Web, I can get my mail, I can get telephone calls, I can get games, I can do all kinds of things. Diversity of devices beyond this, is there something that you imagine beyond this in terms of diverse devices?

Mr. BERNERS-LEE. Well, there are devices which, for example, which are all screen and any interaction is gestural and the future may be with cameras you will be able to simply gesture without even touching.

Mr. STEARNS. OK. So either voice activated or gesture or your facial contact.

Mr. BERNERS-LEE. Maybe there will be wrist watch size screens, maybe there will be—I like to have a 17-inch screen in my backpack because I like to be able to really read stuff when I sit down to read. People have different personal tastes for what they want to carry around and how they want to use it. You can see tablets of various sizes coming out so I think there will be large diversity of devices of this sort of genre, and also there will be new genres of devices that we haven't thought of yet. Perhaps something you wear on your tie which will project onto the person's seat in front of you in the plane whether or not their aircraft was provided with a screen, just hang up your handkerchief and project onto it from your tie. I am just speculating.

Mr. STEARNS. One thing you also mentioned the manipulation of data in the future to take data from a software program and throw it into an Excel sheet and things like that. I mean under the Macintosh G4 you can take any photographs and put them on greeting cards, you can put them on calendars, you can do all kind of things. Is that the type of thing you were talking about in terms of manipulation from software to software? Is that what you meant? I wasn't clear on that.

Mr. BERNERS-LEE. The Semantic Web is about——

Mr. STEARNS. How do you spell semantic?

Mr. BERNERS-LEE. S-e-m-a-n-t-i-c. I am sorry about the name for it. It is not a very well-chosen word. I think World Wide Web seemed to work but Semantic Web really hasn't, but that is what we are calling it.

Mr. STEARNS. OK.

Mr. BERNERS-LEE. It is about being able to connect through from one application to another so for example, imagine that there I am doing my taxes and I am looking at a bank statement, and I do not know why I spent a few hundred dollars for that point, is this an allowable expense. Now the bank statement software only provides me with a traditional financial analysis. However, there is a date there. The date actually would fit on my calendar. If I take that data and try to drop it on my calendar it just doesn't work. Suppose it did. Suppose I would drop it on the calendar and so now the bank statements are all up here in some form on my calendar. I still don't know what I was doing on the 26th of March. So I take my roll of film for my photos and I drop that and now I see $400 and then I have all the pictures of these kids going around on the——

Mr. STEARNS. Disney World.

Mr. BERNERS-LEE. Disney World, right.

Mr. STEARNS. So you know.

Mr. BERNERS-LEE. And now, OK, that is not an allowable expense.

Mr. STEARNS. I see. OK.

Mr. BERNERS-LEE. So what I have done is I have gone from the world of the financial world through the time dimension into personal world of photographs in order to answer a question, not to mention a scientist trying to figure out where a new virus has come from.

Mr. STEARNS. And, Mr. Chairman, a machine could probably do that in the future, analyze, and said this is what you spent on this day at this time because you throw all that information together into that one application and it will tell you, and that is what he is talking about in the future. Thank you.

Mr. MARKEY. The gentleman's time is expired. The gentleman from Indiana, Mr. Hill.

Mr. HILL. Thank you, Mr. Chairman. In the last campaign that we all had, and especially in my district, the issue of health care came up every single day. I could tell you a thousand stories about the problems people were having with the cost of their health care. The one story I will recite is from a jewelry store owner in Salem, Indiana. He is paying $1,000 a month for his health insurance, he said, "Baron, you know, if it goes up any more, I have to drop my coverage." And I said, "I get those kind of comments every single day of the campaign."

I don't know if you can answer this question or not but do you see any World Wide Web supporting applications for health care? We are grappling with this problem in Congress, and we are trying to come up with solutions. And you are the inventor of the World Wide Web. Is there some relief here that we can provide customers or tell them about that you can creatively come up with in your mind?

Mr. BERNERS-LEE. I would like to hope so but I think the health care problem, I agree, is really important and very difficult as well. I was discussing with people last week so you ask whether there could be contribution from the Web to this. Well, I must say to a certain extent there has been one of the more gratifying stories from the early days of the Web was from an ex-colleague from Europe took me out to lunch because his son had been suffering from a very difficult to diagnose condition. He had been given all kinds of treatments by all kinds of doctors and different drugs which really worsened this, and he ended up dropping out of school. And then somebody had mentioned, oh, maybe he has hypoglycemia and so he had gone to the Web and he found a Web page which says hypoglycemia, the disease that doctors tend not to diagnose.

And he read all about it and he gave his son a test personally, and he cured him by changing his diet within three days. So in that case—so a lot of people are going to the Web for health care information. This brings up of course the question of whether how you know what information to trust, how the public knows how to do that. I know there is a lot of use of the Web for that. There are also a lot more ways in which I think Web technology could be used. The patient care record is very important. That has been outstanding in computing for years. Colleagues of mine at MIT have

been working on the idea of the patient health care record for years since before the Web. The complexity of it is of course it involves a lot of policies, very important policies to who gets to see what information under what circumstances, carrying information around in a standard format which is what the Semantic Web provides so that anybody can potentially read it not being impeded by the fact that they have got their own software.

Meanwhile, if you take down the barriers from the different types of software which exist currently with patient records so that if you have something, if you are wearing something which contains your patient record and you have an accident in some part of the country, some strange part of the country that any EMT can then pick up that information and find out your blood type and so on. As you break down those barriers then you have to erect artificial careful barriers of privacy, confidentiality, of course. And so doing that is very important work. I think it is work we have to do. I think it is possible so I think it is possible to make the patient care system more sophisticated.

I think the problem of dividing up a doctor's time between patients is something which personal one on one time with doctors is not something which the Web will necessarily solve so to use the technology where the technology is appropriate to use it for the mechanical things to make sure the computer can do the things which it can do and people like doctors and nurses are doing the things that only doctors and nurses can do.

Mr. HILL. You don't see any applications that might be available to people to try to acquire some kind of health care. I understand that there is all kinds of technologies in place on the Web that people can refer to for treatment, but this whole issue of the cost of health care is becoming a problem. Do you see any applications that the World Wide Web would be able to offer to give people some relief?

Mr. BERNERS-LEE. Well, to cut down on the cost of health care, for example, technology has been used for remote presence and generally when a remote expert, a consultant is called in, obviously it cuts down the cost if the doctor doesn't have to travel. It cuts down on the doctor's time if the doctor can be presented with all the information about the patient including perhaps videos of previous consultants videos and pictures from operations, and so on. So giving the doctor access to all the data which they legally have about the patient and all the relevant data also from the sum of medical knowledge about some other cases giving the doctor that quickly and easily and intuitively is obviously something which is going to make health care much more efficient. We have to make it more efficient if we are going to make it affordable for people and also pay doctors a living wage.

Mr. MARKEY. The gentleman's time has expired. The gentleman from Oregon, Mr. Walden.

Mr. WALDEN. Thank you, Mr. Chairman. Sir, I really enjoyed your testimony this morning and have been looking forward to asking a few questions. This issue of the Semantic Web is intriguing to me and what potential is out there for it. We were just talking here briefly that we sort of do that with dogs now. You plant a chip in an ISO standard at least for identification purposes, and it

seems to me that it wouldn't be that hard if we can do that for our dogs and our pets to figure out how we could not necessarily implant a chip but certainly carry those data with us as we go around and yet have privacy so I am intrigued by that.

I want to ask you a question. I know this will come across probably as weird but do you see a potential being an MIT engineer and a great thinker and visionary where you can ever move not just data but matter?

Mr. BERNERS-LEE. No. That is for somebody else to see. I don't know how to do that.

Mr. WALDEN. I just wondered. You know, these things we chuckle about now, I bet 50 years ago if somebody had said you will carry a phone in your pocket and everything will be connected and we would have said never.

Mr. MARKEY. Actually Dick Tracy had that two way wrist radio.

Mr. WALDEN. He did, and we laughed about it. Well, I was too young. Of course you would have laughed about it. What are you working on now?

Mr. BERNERS-LEE. In the consortium two hats. The consortium is working on the mobile Web, making the Web so that it can work on mobile devices and as part of that hopefully cheaper devices which can be used in developing countries and poor areas. The Semantic Web clearly. We are also still working on HTML. HTML still needs work. There are things that need to be in there that our Web site developers feel that there are a few things that need to be done there, and every now and again we look at even http. So there are new graphic formats and so on. There are other languages for user interface, which are always interesting.

So the Web Consortium is in some cases pushing for the bounds, the Web surfaces technology, for example, which allows enterprise distributor systems to be built and companies to communicate with each other and export services, information services. We are active in lots of different sorts of areas in some cases really leading, having a vision, seeing that it could be different and pushing and then leading—getting the standards out there, put out there by a few other people who see the vision and get the twinkle in their eye and are prepared to invest up front because they realize what it could be like when everybody does it.

Other times there is a market need for something like the privacy technology which allows—to allow people to set their browser up to test the privacy policy of a Web site just because, if you like, a hygiene issue because people want to go shopping. They don't want to have to worry about privacy and so on. That is really developed in a very different spirit. We have lots of different activities in the consortium. MIT then looking particularly at the Semantic Web, looking at user interfaces at the Semantic Web. If there is all this data out there and you have somebody whether it is a scientist or a government agent or a person at home, how do you give them the best access to all this. What is the equivalent of a spreadsheet or whatever it is that you need to browse through all this data and analyze it and connect things which you never connected before.

And as I mentioned before, the policy aware Web building systems which are aware of the policy around data and software

which is responsible, software which allows people to be responsible.

Mr. WALDEN. That leads to an issue we have dealt with a lot in this subcommittee and in the full committee, things like spyware and popup ads and those sorts of things, and how as a consumer I can have more control over what comes into my computer, and it seems like every time we build a firewall or do something to get at that the smarter people figure out how to get around whatever was created to stop it. Do you look at those issues as well or are those just sort of left to the private sector to figure out?

Mr. BERNERS-LEE. Well, I have to admit that the World Wide Web Consortium felt for a long time that most of that was e-mail and where http were not—SMTP is the mail protocol. Other people, the Internet engineering task force does that, the e-mail. But then when you look at the way a lot of the fishing attacks occurs because the e-mail which is an HTML mail and what the e-mail does is it pretends to be a link to one place when the user hovers over it. Now they don't hover long enough to realize that actually it is not to the bank, it is linked to bank of dot—something in Nigeria, so the fact that it is HTML and the fact that it has a link is part of the security problem there. So now the Web Consortium has an activity for specifically looking at security of browsers.

I have always felt this should be a tactical problem. It may be when we send e-mail we won't be so anonymous but the e-mail system was put together, it was designed originally for an environment where everybody was friends talking to each other, very academic environment in which messages were forwarded from one machine to another for the public good without worrying really about who was going to pay for it because the costs were so small compared with the benefit. So it was designed—it wasn't designed for the current situation. That doesn't mean it is impossible. It is fairly straightforward to add things. It is such a very large system so there are various technologies which I think can be rated against spam.

I know personally at the World Wide Web Consortium we have a lot of mailing lists and so we put the best technologies we can find to work on those, and I know that our engineers are talking with other people at other sites about implementing those. So I think that in the long term it may be more difficult for you to send me an e-mail. You may have to show that you are related to an institution like this but it will be easy for you to do that, and there will be software which helps you to do that.

Mr. WALDEN. What do you see as the top one or two policy issues that we should address and what are the top one or two threats to the World Wide Web that we should be aware of? What should we be thinking about especially long term?

Mr. BERNERS-LEE. I think—well, I hope the net neutrality thing is a short-term thing. I think in most of the world people regard neutrality as such an obvious requirement that I hope it will be short term. An interesting long-term question is the patent one. Both in the States and Europe opinions are changing about how and when it is appropriate to take patents, and I think we are moving to a situation where large companies which you think as being the big companies which used to just make money from the

patent pool have now had an understanding at the senior level that when there is an open foundation technology like the Internet, like the Web, like the foundation technologies to come that those standards have to be royalty free, and that understanding is necessary to protect all the new markets which come in the future.

So I think that understanding has come to American industry in the majority over the last few years but yet we have to find out where that settles down and also across all the jurisdictions.

Mr. WALDEN. My time has expired. Thank you, Mr. Chairman. Thank you for what you have done for the world and thank you for coming today to share your thoughts with us.

Mr. MARKEY. The gentleman's time has expired. The gentlelady from California, Mrs. Capps.

Mrs. CAPPS. Thank you, Chairman Markey. It is a distinct pleasure to be serving on this subcommittee with you and with Ranking Member Upton and the other distinguished members. Sir Tim, thank you for taking the time today to speak with us about the future of the World Wide Web and the Internet. I think it is entirely fitting that the creator of the Web is here to talk about the direction the Web may be going in the future. And I particularly appreciated in your opening statement your listing of some core values. The phrases I wrote down were universality, independence, blank canvas, no ownership, global society, and I am going to remember those.

One of the things that you have written that has caught my attention, Sir Tim, is that some countries have done a better job than others, including the United States, in making sure that the Internet continues to be a neutral communications medium. That is a quote, your words. On the other hand, China, for example, has sharply restricted its citizens' access for the Web. My question is to direct you to perhaps talk about some of the policies that these countries have adopted, the ones we could be learning from and what are the lessons that we as U.S. policymakers could be taking away from their experiences.

Mr. BERNERS-LEE. Well, of course chronologically and historically the U.S. was the place where the Internet was forged and the protocols were produced and it spread across—the Internet spread across the world, and in fact I was lucky that when I was developing the Web more or less I was at the point where I was at the leading edge of that explosion. It was just becoming politically acceptable in Europe to talk about using the Internet instead of using the previously preferred ISO standard protocols. So in many ways the U.S. has led. My impression is that in other countries that net neutrality is very much the assumption as opposed to something which is questioned.

Mrs. CAPPS. So it is assumed in other countries?

Mr. BERNERS-LEE. Yes. When I, in fact, give a talk in other countries, I tend not to mention it. If I do mention it, people tend to ask what it is. It isn't an issue, and I hope that continues to be the same. Now you asked about China. Some countries have restricted policies, some countries try to restrain what people can read, what people can publish. I feel very at home in the United States as appreciating free speech and the openness of communication. We talk at some of these debates about policy and very much

about the commercial aspects but remember that communication is not just for commercial reasons. Commercial bias is not the only bias. Political bias, of course, is if anything a more fundamental one but without a good political forum in which can be open debate and accountability then one cannot really set up the commercial economy, the market economy, which needs the commercial openness and fairness.

I think it is a pity that there are places where the open Internet connection isn't allowed. I can see those countries making a change from a very restricted free Internet society to a more open society is not something which is easy so I wouldn't expect——

Mrs. CAPPS. So if you go down a certain road then it is harder to get back again than to stay open——

Mr. BERNERS-LEE. I am an optimist. I feel that the Internet, that it is very difficult actually to engineer, give great censorship in the Internet, and that in general the truth will win out and information will flow, and those countries will have to move with time one way or another. It is just a question of how they transition.

Mrs. CAPPS. Let me see if I can follow up. As you know, and you mentioned the business aspect, many of the most successful Internet businesses have been based in the United States. What might be the implications for some of these businesses and consumers if we don't take some of the steps that you have mentioned, for example, to enshrine that neutrality into law, could the U.S. lose its international competitiveness in this area?

Mr. BERNERS-LEE. If we had a situation in which the U.S. did not have serious flaws in net neutrality, but, for example, Europe did have net neutrality. I must say if I was going to start a company, then I would be very tempted to move, yes.

Mrs. CAPPS. Good answer. Thank you. Thank you very much.

Mr. MARKEY. I thank the gentlelady. I have not asked my questions so I think I will take this opportunity at this time, but if anyone else has any question which they would like to pose to Sir Tim, I think we can accommodate that. You state in your testimony that when you invented the Web and launched it, you didn't need to ask anyone's permission first and you talked about the universality of the Web. Tell us what that means in terms of future innovation for the next Sir Tim.

Mr. BERNERS-LEE. This is the separation of the layers, I suppose. It is the fact that one layer of the technology and the social conventions which go around which complete that technology form or blank slate. The Internet technology would allow me to write a program which would communicate with another program. One program signs up for a port number. They agree on a port number. Then that port number distinguishes the traffic between those two programs from traffic between other programs, and the Internet passes that information across.

Now it is true that when we start to go to the extreme bandwidth requirements of video that is not just simply the passage of data but it is the passage of data with a certain quality of service which is important. And there has always, of course, been quality of service issues that some people would have slow connections and some would have fast connections. Early Web browsers came in at various places that you could get Web browsers which were better

or better configured for running over slow connections. But the essential thing is that the Internet technology was designed so that anybody could go out and invent whatever they could imagine to run on top of it just as the computer for my parents——

Mr. MARKEY. So you don't need anyone's permission and as a result entrepreneurial activity can flourish.

Mr. BERNERS-LEE. Yes. I would like to be able to download—I have on this phone a Web browser which didn't come with it. I downloaded it from the Internet. I ran it on the phone. So when anything is an open platform then that means it is open to innovation. The Web is an example of innovation built on the Internet. We have seen a huge number of examples of innovation built on the Web, eBay, Flickr, the list is well known.

Mr. MARKEY. So you travel the world. You see broadband speeds all around the globe. How would the United States compare in terms of deployment and affordability? What is your impression as to how the United States is doing in terms of speed that we are providing to the American people?

Mr. BERNERS-LEE. I shouldn't attempt to give you a good answer there because there are people who analyze this and I am sure that there must be analysts who have tabulated these things. My impression is that in Europe, for example, that Europe is very competitive and some Internet service providers offer very high bandwidth with a very inclusive international phone service for very competitive rates so one point maybe a year or two ago I remember there was a claim that the French situation was the French were actually beating the Americans when it came to the downward price curve, but I think really the same spirits of making a faster and cheaper connection is fairly pervasive, but I can't give you accurate figures.

Mr. MARKEY. Thank you. Now you say that the World Wide Web Consortium will only standardize new protocols and technologies if they can be implemented on a royalty-free basis. Could you elaborate on that?

Mr. BERNERS-LEE. The things which have been built up on the Web have been built because there was not—were enabled largely because there was no fee payable. There are lots of systems which have been less successful. In fact, when you look on the Internet even when you look at streaming video you find that you have to download different players to play the information from different places. There are competing standards which are not royalty-free. You find it is unlikely that you can get an open source copy of these. There are only a very limited number of the players for these things. There is a continual frustration to users and information providers alike that they have to make a choice as to which players that they will use. And as an example of what can happen when there is a——

Mr. MARKEY. You could have made a lot of money if you charged for all the work that you did and do and that the World Wide Consortium——

Mr. BERNERS-LEE. Chairman Markey, let me assure you that if I had charged from the word go, per click, the World Wide Web would not have taken off at all, and we would not be here talking

about it and you would not be getting all that information from the Web browser on your BlackBerry.

Mr. MARKEY. I think it is important for the committee to hear that sentence uttered.

Mr. BERNERS-LEE. Had there been a fee, there would have been no investment. The investment people made on the Web was made by volunteers in their garages late at night. It was made by people, system managers, who when their work day was done decided that they needed to install something like a Web browser. And when it was done by companies allowing me—I, myself, was allowed by my boss to do it in spare time. People did it in their 10 percent time. If there had been any form of fee, they wouldn't have gone anywhere near it.

Mr. MARKEY. Let me ask you a final question, which is that I would like you to talk about the international nature of the World Wide Web Consortium and the importance of building consensus across continents on standards, protocols, guidelines, recommendations, everything that is necessary to maintain this incredible invention.

Mr. BERNERS-LEE. Well, from the word go when I put out the specs for the first browser and server on the Net, the contributions came in from across the planet, from Hawaii, from India, from Israel, so the Web development community has always been international. So from very early days internationalization of the technology has been very important. And when we meet together, we try to make sure that we are very fair about different cultures and different languages and that we use the best—input the best volunteer resources that we can get from across the globe, and I think that this makes the standards very much higher quality.

Mr. MARKEY. Let me ask you one final question. Give us the one message you would like us to remember as we deliberate over the next couple of years on all of the issues that could impact on the World Wide Web. Could you give us just one kind of summary message view that you want us to keep with us as we move forward?

Mr. BERNERS-LEE. I suppose the fact that communication between people is what makes us a society, what makes the human race the human race, instead of disconnected people behind politics, and commerce, and education, and romance, and personal diaries, and all the things that makes our society our society, and some of those things are very crucial to us. So we have learned over the generations that protecting the means of communication is really important. For the World Wide Web there are certain values which we must maintain such as particularly its universality, and separation of the layers.

If there is one thing that you should take away is that the World Wide Web is together technology and society. It is computers and people. It is really a big Web of people. So while I will do my bit as an engineer it is very, very important that you as members of the committee should do your bit as legislators.

Mr. MARKEY. Thank you, sir. Any of the other members have any questions for Sir Tim? Yes.

Mrs. BONO. I am sorry because that was such a beautiful end to this hearing, but I do have one thing I would love for you to clarify. And that is in your testimony and what you just said to the chair-

man in the testimony you write the lesson from the proliferation of new applications and services on top of the Web infrastructure is that innovation will happen provided it has a platform of open technical standards, flexible, scaleable architecture, and access to these standards under royalty-free terms. You have said that repeatedly. But can you please just differentiate that you do not mean royalty-free content, because I think some people will confuse the two, royalty-free platform, the architecture of the World Wide Web, and it would help, I think, if you could clarify that you do not mean royalty-free content.

Mr. BERNERS-LEE. No, I do not mean, no—when I talk about the infrastructure this is like the roadway. It is not the goods carried in the trucks. So, yes, we are talking about being able to use the Web technology itself without having to pay a fee for the underlying infrastructure, nothing to do with the royalties which we quite properly pay on music and so on.

Mrs. BONO. Thank you very much. Thank you, Mr. Chairman.

Mr. MARKEY. Thank you for asking that question. I think that was very helpful to us. Sir Tim, you don't know what an honor it was for the subcommittee to have you testify before us. I can promise you that but for all those roll calls this morning that you would have had full attendance the whole time. People are commenting, as Congresswoman Bono did, that they wished that you could have just gone on at much greater length, and all of the members have made that comment to me. So we thank you, and if possible we would like to be able to continue to consult with you over the years to get your advice as to which is the wisest course in any one of these areas that our country and the world should pursue. Thank you. This hearing is adjourned.

[Whereupon, at 12:56 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

Testimony of Sir Timothy Berners-Lee
CSAIL Decentralized Information Group
Massachusetts Institute of Technology

Before the
United States House of Representatives
Committee on Energy and Commerce
Subcommittee on Telecommunications and the Internet

Hearing on the "Digital Future of the United States: Part I -- The Future of the World Wide Web"

This document on the Web [http://dig.csail.mit.edu/2007/03/01-ushouse-future-of-the-web] [PDF]

Chairman Markey, Ranking Member Upton, and Members of the Committee. It is my honor to appear before you today to discuss the future of the World Wide Web. I would like to offer some of my experience of having designed the original foundations of the Web, what I've learned from watching it grow, and some of the exciting and challenging developments I see in the future of the Web. Though I was privileged to lead the effort that gave rise to the Web in the mid-1990s, it has long passed the point of being something designed by a single person or even a single organization. It has become a public resource upon which many individuals, communities, companies and governments depend. And, from its beginning, it is a medium that has been created and sustained by the cooperative efforts of people all over the world.

To introduce myself, I should mention that I studied Physics at Oxford, but on graduating discovered the new world of microprocessors, and joined the electronics and computer science industry for several years. In 1980, I worked on a contract at CERN, the European Particle Physics Laboratory, and wrote for my own benefit a simple program for tracking the various parts of the project using linked note cards. In 1984 I returned to CERN for ten years, during which time I found the need for a universal information system, and developed the World Wide Web as a side project in 1990. In 1994, the need for coordination of the Web became paramount, and I left to come to the MIT, which became the first of now three international host institutes for the World Wide Consortium (W3C). I have directed W3C since that time. I hold the 3Com Founders chair at MIT where I pursue research on advanced Web technologies with the MIT Decentralized Information Group. The testimony I offer here today is purely my own opinion and does not reflect the views of the World Wide Web Consortium or any of its Members.

The special care the we extend to the World Wide Web comes from a long tradition that democracies have of protecting their vital communications channels. We nurture and protect our information networks because they stand at the core of our economies, our democracies, and our cultural and personal lives. Of course, the imperative to assure the free flow of information has

only grown given the global nature of the Internet and Web. As a Federal Judge said in defense of freedom of expression on the Internet:

> The Internet is a far more speech-enhancing medium than print, the village green, or the mails.... The Internet may fairly be regarded as a never-ending worldwide conversation.[1]

Therefore it is incumbent on all of us to understand what our role is in fostering continued growth, innovation, and vitality of the World Wide Web. I am gratified that the United States and many other democracies around the world have taken up this challenge. My hope today is to help you to explore the role this committee and this Congress has in building upon the great advances that are in store for the Web.

I. Foundations of the World Wide Web

The success of the World Wide Web, itself built on the open Internet, has depended on three critical factors: 1) unlimited links from any part of the Web to any other; 2) open technical standards as the basis for continued growth of innovation applications, and; 3) separation of network layers, enabling independent innovation for network transport, routing and information applications. Today these characteristics of the Web are easily overlooked as obvious, self-maintaining, or just unimportant. All who use the Web to publish or access information take it for granted that any Web page on the planet will be accessible to anyone who has an Internet connection, regardless whether it is over a dialup modem or a high speed multi-megabit per second digital access line. The last decade has seen so many new ecommerce startups, some of which have formed the foundations of the new economy, that we now expect that the next blockbuster Web site or the new homepage for your kid's local soccer team will just appear on the Web without any difficulty.

Today I will speak primarily about the World Wide Web. I hesitate to point out that the Web is just one of the many applications that run on top of the Internet. As with other Internet applications such as email, instant messaging, and voice over IP, the Web would have been impossible to create without the Internet itself operating as an open platform. [2]

A. Universal linking: Anyone can connect to anyone, any page can link to any page

How did the Web grow from nothing to the scale it is at today? From a technical perspective, the Web is a large collection of Web pages (written in the standard HTML format), linked to other pages (with the linked documents named using the URI standard), and accessed over the Internet (using the HTTP network protocol). In simple terms, the Web has grown because it's easy to write a Web page and easy to link to other pages. The story of the growth of the World Wide Web can be measured by the number of Web pages that are published and the number of links between pages. Starting with one page and one site just about 15 years ago, there are now over 100,000,000 web sites[3] with an estimated over 8 billion publicly accessible pages as of 2005. What makes it easy to create links from one page to another is that there is no limit to the

number of pages or number of links possible on the Web. Adding a Web page requires no coordination with any central authority, and has an extremely low, often zero, additional cost. What's more, the protocol that allows us to follow these links (HTTP) is a non-discriminatory protocol. It allows us to follow any link at all, regardless of content or ownership. So, because its so easy to write a Web page, link to another page, and follow these links around, people have done a lot of this. Adding a page provides content, but adding a link provide the organization, structure and endorsement to information on the Web which turn the content as a whole into something of great value.

A current example of the low barriers to reading, writing and linking on the Web is the world of blogs. Blogs hardly existed five years ago, but have become an enormously popular means of expression for everything from politics to local news, to art and science. The low barriers to publishing pages and abundance of linking ability have come together, most recently with blogs, to create an open platform for expression and exchange of all kinds.[4] The promise of being able to reach anyone over a communications system that will carry virtually anything (any type of information) is somewhat like other infrastructures we depend upon: the mail system, the road system, and the telephone system. It stands in contrast to more closed systems such as the broadcast or cable television networks. Those closed systems perform valuable functions as well, but their impact in society is different and less pervasive.

The universality and flexibility of the Web's linking architecture has a unique capacity to break down boundaries of distance, language, and domains of knowledge. These traditional barriers fall away because the cost and complexity of a link is unaffected by most boundaries that divide other media. It's as easy to link from information about commercial law in the United States to commercial law in China, as it is to make the same link from Massachusetts' Commercial Code to that of Michigan. These links work even though they have to traverse boundaries of distance, network operators, computer operating systems, and a host of other technical details that previously served to divide information. The Web's ability to allow people to forge links is why we refer to it as an abstract information space, rather than simply a network. Other open systems such as the mails, the roads or the telephones come to perform a function in society that transcends their simple technical characteristics. In these systems, phone calls from the wireline networks travel seamlessly to wireless providers. Mails from one country traverse borders with minimal friction, and the cars we by work on any roads we can find. Open infrastructures become general purpose infrastructure on top of which large scale social systems are built. The Web takes this openness one step further and enables a continually evolving set of new services that combine information at a global scale previously not possible. This universality has been the key enabler of innovation on the Web and will continue to be so in the future.

B. Open Foundation for Information-driven Innovation

The Web has not only been a venue for the free exchange of ideas, but also it has been a platform for the creation of a wide and unanticipated variety of new services. Commercial applications including eBay, Google, Yahoo, Amazon.com are but a few examples of the extraordinary innovation that is possible because of the open, standards-based, royalty-free

technology that makes up the Web. Whether developing an auction site, a search engine, or a new way of selling consumer goods, e-commerce entrepreneurs have been able develop new services with confidence that they will be available for use by anyone with an Internet connection and a Web browser, regardless of operating system, computer hardware, or the ISP chosen by that user.[5] Innovation in the non-commercial and government domains has been equally robust. Early Web sites such as Thomas have lead the way in efforts to make the legislative process more open and transparent, and non-commercial sites such as the Wikipedia have pioneered new collaborate styles of information sharing. The flexibility and openness inherent in Web standards also make this medium a powerful foundation on which to build services and applications that are truly accessible for people with disabilities, as well as people who need to transform content for purposes other than that which it was originally intended.

The lesson from the proliferation of new applications and services on top of the Web infrastructure is that innovation will happen provided it has a platform of open technical standards, a flexible, scalable architecture, and access to these standards on royalty-free ($0 fee patent licenses) terms. At the World Wide Web Consortium, we will only standardize technology if it can be implemented on a royalty free basis. So, all who contribute to the development of technical standards at the W3C are required to agree to provide royalty-free licenses to any patents they may hold if those patents would block compliance with the standard. [6] Consider as a comparison the very successful Apple iTunes+iPod music distribution environment. This integration of hardware, software, Web service shows an intriguing mix of proprietary technology and open standards. The iTunes environment consists of two parts: sales of music and videos, and distribution of podcasts. The sale of music is managed by a proprietary platform run by Apple with the aim of preventing copyright infringement. However, because Apple uses closed, non-standard technology for its copy protection (known as Digital Rights Management), the growth is seen as limited. In fact, Apple CEO Steve Jobs recently wrote that the market for online music sales is being limited by the lack of open access to DRM technology.[7] By contrast, the podcast component of iTunes is growing quite dramatically, providing a means for many small and large audio and video distributors to share or sell their wares on the Web. Unlike the music and video sales, podcasts are based on open standards, assuring that it's easy to create, edit and distribute the podcast content.

C. Separation of Layers

When, seventeen years ago, I designed the Web, I did not have to ask anyone's permission. The Web, as a new application, rolled out over the existing Internet without any changes to the Internet itself. This is the genius of the design of the Internet, for which I take no credit. Applying the age old wisdom of design with interchangeable parts and separation of concerns, each component of the Internet and the applications that run on top of it are able develop and improve independently. This separation of layers allows simultaneous but autonomous innovation to occur at many levels all at once. One team of engineers can concentrate on developing the best possible wireless data service, while another can learn how to squeeze more and more bits through fiber optic cable. At the same time, application developers such as myself can develop new protocols and services such as voice over IP, instant messaging, and peer-to-

peer networks. Because of the open nature of the Internet's design, all of these continue to work well together even as each one is improving itself.

II. Looking forward

Having described how the Web got to where it is, let us shift to the question of where it might go from here. I hope that I've already persuaded you that the evolution of the Web is not in the hands of any one person, me or anyone else. But I'd like to highlight three areas in which I expect exciting developments in the near future. First, the Web will get better and better at helping us to manage, integrate and analyze data. Today, the Web is quite effective at helping us to publish and discover documents, but the individual information elements within those documents (whether it be the date of any event, the price of a item on a catalog page, or a mathematical formula) cannot be handled directly as data. Today you can see the data with your browser, but can't get other computer programs to manipulate or analyze it without going through a lot of manual effort yourself. As this problem is solved, we can expect that Web as a whole to look more like a large database or spreadsheet, rather than just a set of linked documents. Second, the Web be accessible from growing diversity of networks (wireless, wireline, satellite, etc.) and will be available on a ever increasing number of different types of devices. Finally, in a related trend, Web applications will become a more and more ubiquitous throughout our human environment, with walls, automobile dashboards, refrigerator doors all serving as displays giving us a window onto the Web.

A. Data Integration

Digital information about nearly every aspect of our lives is beginning created at an astonishing rate. Locked within all of this data is the key to knowledge about how to cure diseases, make more money, and govern our world more effectively. The good news is that a number of technical innovations (RDF which is to data what HTML is to documents, and the Web Ontology Language (OWL) which allows us to express how data sources connect together) along with more openness in information sharing practices are moving the World Wide Web toward what we call the Semantic Web. Progress toward better data integration will happen through use of the key piece of technology that made the World Wide Web so successful: the link. The power of the Web today, including the ability to find the pages we're looking for, derives from the fact that documents are put on the Web in standard form, and then linked together. The Semantic Web will enable better data integration by allowing everyone who puts individual items of data on the Web to link them with other pieces of data using standard formats.

To appreciate the need for better data integration, compare the enormous volume of experimental data produced in commercial and academic drug discovery laboratories around the world, as against the stagnant pace of drug discovery. While market and regulatory factors play a role here, life science researchers are coming to the conclusion that in many cases no single lab, no single library, no single genomic data repository contains the information necessary to discover new drugs. Rather, the information necessary to understand the complex interactions

between diseases, biological processes in the human body, and the vast array of chemical agents is spread out across the world in a myriad of databases, spreadsheets, and documents.

Scientists are not the only ones who need better data integration. Consider the investment and finance sector, a marketplace in which profit is generated, in large part, from having the right information, at the right time, and reaching correct conclusions based on analysis and insight drawn from that information. Successful investment strategies are based on finding patterns and trends in an increasingly diverse set of information sources (news, market data, historical trends, commodity prices, etc.). Leading edge financial information providers are now developing services that allow users to easily integrate the data they have, about their own portfolios or internal market models, with the information delivered by the information service. The unique value creation is in the integration services, not in the raw data itself or even in the software tools, most of which will be built on open source components.

New data integration capabilities, when directed at personal information, pose substantial privacy challenges which are hardly addressed by today's privacy laws. The technology of today's Web already helps reveal far more about individuals, their behavior, their reading interest, political views, personal associations, group affiliations, and even health and financial status. In some cases, this personal information is revealed by clever integration of individual pieces of data on the Web that provide clues to otherwise unavailable information. In other cases, people actually reveal a lot about themselves, but with the intent that it only used in certain contexts by certain people. These shifts in the way we relate to personal information require serious consideration in many aspects of our social and legal lives. While we are only just beginning to see these shifts, now is the time to examine a range of legal and technical options that will preserve our fundamental privacy values for the future without unduly stifling beneficial new information processing and sharing capabilities. Our research group at MIT is investigating new technologies to make the most of the Semantic Web, as well as both technical and public policy models that will help bring increased transparency and accountability to the World Wide Web and other large scale information systems.[8] Our belief is that in order to protect privacy and other public policy values, we need to research and develop new technical mechanisms that provide great transparency into the ways in which information in the system are used, and provide accountability for those uses with respect to what ever are the prevailing rules.

B. Network Diversity and Device Independence

The Web has always been accessible from a variety of devices over a variety of networks. From early on, one could browse the Web from a Macintosh, a Windows PC or a Linux-based computer. However, for a long time the dominant mode of using the Web was from a some desktop or laptop computer with a reasonably large display. Increasingly, people will use non-PC devices that have either much smaller or much larger displays, and will reach the Internet through a growing diversity of networks. At one end of this spectrum, the devices will seem more like cell phones. At the other end, they will seem more like large screen TVs. There are, of course, technical challenges associated with squeezing a Web page designed for a 17 inch screen into the two to four inch display available on a mobile phone or PDA. Some of these will be

solved through common standards and some through innovative new interface techniques. All of this means more convenience for users and more opportunity for new Web services that are tailored to people who are somewhere other than their desks.

Growth in access networks and Web-enabled applications presents a number of important opportunities. For example, more robust, redundant network services together with innovative uses of community-based social networks on the Web are coming to play an increasing role in areas such as emergency planning and notification.[9] Reports about ad hoc communication networks supporting disaster relief efforts are just one illustration of the benefit of the openness, flexibility and accessible of the Internet and Web. This one area is a microcosm of many of the issues that we are discussing today, because in order to work well it requires seamless integration of diverse types of data; repurposing that data instantly into valid formats for a myriad of different Web devices; and including appropriate captions, descriptions and other necessary accessibility information. I would encourage all web sites designers to ensure that their material conforms not only to W3C standards, but also to guidelines for accessibility for people with disabilities, and for mobile access.

C. Ubiquitous Web Applications

In the future, the Web will seem like its everywhere, not just our desktop or mobile device. As LCD technology becomes cheaper, walls of rooms, and even walls of buildings, will become display surfaces for information from the Web. Much of the information that we receive today through a specialized application such as a database or a spreadsheet will come directly from the Web. Pervasive and ubiquitous web applications hold much opportunity for innovation and social enrichment. They also pose significant public policy challenges. Nearly all of the information displayed is speech but is being done in public, possibly in a manner accessible to children. Some of this information is bound to be personal, raising privacy questions. Finally, inasmuch as this new ubiquitous face of the Web is public, it will shape the nature of the public spaces we work, shop, do politics and socialize in.

D. The Web is Not Complete

Progress in the evolution of the Web to date has been quite gratifying to me. But, the Web is by no means finished.

The Web, and everything which happens on it, rest on two things: technological protocols, and social conventions. The technological protocols, like HTTP and HTML, determine how computers interact. Social conventions, such as the incentive to make links to valuable resources, or the rules of engagement in a social networking web site, are about how people like to, and are allowed to, interact.

As the Web passes through its first decade of widespread use, we still know surprisingly little about these complex technical and social mechanisms. We have only scratched the surface of what could be realized with deeper scientific investigation into its design, operation and impact

on society. Robust technical design, innovative business decisions, and sounds public policy judgment all require that we are aware of the complex interactions between technology and society We call this awareness Web Science: the science and engineering of this massive system for the common good.[10] In order to galvanize Web Science research and education efforts, MIT and the University of Southampton in the United Kingdom have created the Web Science Research Initiative. In concert with an international Scientific Advisory Council of distinguished computer scientists, social scientists, and legal scholars, WSRI will help create an intellectual foundations, educational atmosphere and resource base to will allow researchers to take the Web seriously as an object of scientific enquiry and engineering innovation.

III. Conclusion

So how do we plan for a better future, better for society?

We ensure that that both technological protocols and social conventions respect basic values. That Web remains a universal platform: independent of any specific hardware device, software platform, language, culture, or disability. That the Web does not become controlled by a single company -- or a single country.

By adherence to these principles we can ensure that Web technology, like the Internet, continues to serve as a foundation for bigger things to come. It is my hope, Chairman Markey, members of the committee, that an understanding of the nature of the Web will guide you in your future work, and that the public at large can count on you to hold these values to the best of your ability. I am grateful for the opportunity to appear before you and am ready to help your efforts in future.

Notes

[1] American Civil Liberties Union v. Reno, 929 F. Supp. 824, 844 (E.D. Pa. 1996) (Dalzell, J.)

[2] Kapor, M. and Weitzner, D. "Social and Industrial Policy for Public Networks: Visions for the Future". Harasim and Walls, eds. Global Networks: Computers and International Communication. Oxford University Press. Oxford. (1994)

[3] Netcraft February 2007 Web Server Survey. http://news.netcraft.com/archives/web_server_survey.html

[4] Weinberger, D., Small Pieces Loosely Joined: A Unified Theory of the Web. Perseus Books. (2002)

[5] Note that due to failure by some browser vendors to comply full with standards, web site developers sometimes have to go to extra trouble to make it so that their sites actually work properly on all browsers.

[6] Overview and Summary of the W3C Patent Policy, http://www.w3.org/2004/02/05-patentsummary.html. W3C Patent Policy. D. Weitzner, Standards, Patents and the Dynamics of Innovation on the World Wide Web. http://www.w3.org/2004/10/patents-standards-innovation.html

[7] Jobs wrote on the Apple Web site: "Imagine a world where every online store sells DRM-free music encoded in open licensable formats. In such a world, any player can play music purchased from any store, and any store can sell music which is playable on all players. This is clearly the best alternative for consumers, and Apple would embrace it in a heartbeat. If the big four music companies would license Apple their music without the requirement that it be protected with a DRM, we would switch to selling only DRM-free music on our iTunes store. Every iPod ever made will play this DRM-free music," Steve Jobs, Thoughts on Music (February 6, 2007), http://www.apple.com/hotnews/thoughtsonmusic/

[8] Weitzner, Abelson, Berners-Lee, Hanson, Hendler, Kagal, McGuinness, Sussman, Waterman, Transparent Accountable Data Mining: New Strategies for Privacy Protection,; MIT CSAIL Technical Report MIT-CSAIL-TR-2006-007 (27 January 2006).

[9] B. Shneiderman, and J. Preece, PUBLIC HEALTH: 911.gov, Science 315 (5814), 944 (16 February 2007)

[10] "Creating a Science of the Web" Tim Berners-Lee, Wendy Hall, James Hendler, Nigel Shadbolt, Daniel J. Weitzner. Science 313, 11 August 2006. And see the Web Science Research Initiative, http://www.webscience.org/

THE DIGITAL FUTURE OF THE UNITED STATES

THE FUTURE OF RADIO

WEDNESDAY, MARCH 7, 2007

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON TELECOMMUNICATIONS
AND THE INTERNET,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 2:35 p.m., in room 2123 of the Rayburn House Office Building, Hon. Edward J. Markey (chairman of the subcommittee) presiding.

Members present: Representatives Doyle, Harman, Inslee, Boucher, Towns, Eshoo, Stupak, Engel, Green, Dingell, Upton, Hastert, Stearns, Deal, Shimkus, Pickering, Radanovich, Walden, Terry, Ferguson, and Barton.

OPENING STATEMENT OF HON. ED MARKEY, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEATLH OF MASSASCHUSETTS

Mr. MARKEY. Good afternoon, ladies and gentlemen. This is the second in a series of oversight hearings on the digital future of the United States that began with testimony last week from the inventor of the World Wide Web, Sir Timothy Berners-Lee. Today we examine the radio industry and assess its power and its promise. And we have a diverse panel of witnesses before us to illuminate many of the issues in the radio field. Radio has a long history of democratizing access to information. It is a medium that reaches virtually every area of the country, and radio stations are powerful communications, assets for the communities that they serve.

Noncommercial low-power and full-power radio in particular help reach underserved areas, air niche programming formats, and provide local information of value to diverse community segments. I hope that we can continue to protect and enhance the role of noncommercial voices through low-power radio.

Moreover, as the FCC prepares to open an application window for new full-power noncommercial stations, it is vital to ensure that adequate notice is given to the public about opportunities to obtain licenses to ensure that aspirants for such licenses may broadly represent the great diversity and richness of the country. In the area of commercial, over-the-air radio, more than 1,000 radio stations are already broadcasting digital content. Digital technologies allow free over-the-air radio broadcasters to provide upgraded audio qual-

ity, as well as the ability to multicast their signal into multiple feeds. These multiple audio feeds may permit, for example, a radio broadcaster to air news, sports, weather, traffic, and talk on one feed while two others simultaneously broadcast music from distinct musical genres.

As we move towards the digital era, we must also assess the public interest obligations of broadcasters and the effects of marketplace consolidation. The commission is in the midst of reviewing its media ownership rules, and this review will analyze the effect of this consolidation on competition, localism, and diversity of viewpoints among many issues.

In addition, I am concerned about the abysmal lack of broadcast licenses that are held by minority-owned and women-owned businesses. While many licenses were obviously given out to original licensees decades ago, it is important to remember that half the country is women and approximately 35 percent is minorities. Yet women and minorities today reportedly hold less than 4 percent of FCC broadcast licenses. This is something that this Congress and the FCC should find creative ways to remedy, and the commission can take an important first step by developing accurate data on current minority and women-ownership levels, which today is not readily available information to the public.

I also want to note the recent decision by the Copyright Royalty Board to hike royalty rates. Previously small Internet radio providers were able to pay a percentage of revenues to cover royalty payments. The decision by the Copyright Royalty Board, which now sets rates on a per-song, per-listener basis effective retroactively to 2006. This represents a body blow to many nascent Internet radio broadcasters and further exacerbates the marketplace imbalance between what different industries pay. It makes little sense to me for the smallest players to pay proportionately the largest royalty fee. This decision runs the risk of hurting not only fledging entrepreneurs, but also the online radio services of public broadcasters and smaller commercial stations.

And finally, I want to briefly address the satellite radio industry. Obviously XM and Sirius Radio have stated their desire to merge. This merger raises several public interest issues that this hearing will help to illuminate. Among these issues are the merger's potential effect on consumer prices and consumer equipment, its effect on content and content providers, its effect on localism and the ability of listeners to both pay and free radio services to obtain information that is local in nature, and its impact on competition broadly. The merger may also impact telecommunications policy goals related to spectrum efficiency and the prospects for new competitive entry and innovation.

I want to thank all of our witnesses on this star-studded panel today for their willingness to testify. Let me now turn and recognize the gentleman from Michigan, the ranking member of the subcommittee, Mr. Upton.

OPENING STATEMENT OF HON. FRED UPTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. UPTON. Well, thank you, Mr. Chairman, for holding today's hearing. We all know that radio does play a very important role in

our lives, and I commend all those dedicated folks in the industry for enriching those lives. The numbers of radio stations in America has roughly doubled since 1970, with approximately 13,500 stations in operation today. And satellite radio now serves nearly 15 million customers nationwide.

When we discuss the future of radio, we must also have a concurrent discussion regarding the future of broadcast radio ownership rules. And while there has been tremendous growth and advances that have been made in the world of radio, not to mention the overall media world over the years, the unfortunate reality is that our nation's media ownership laws do not reflect or even acknowledge such great advancement. Current ownership laws are especially destructive to the ability of broadcasters to compete because they freeze growth. They stifle experimentation and innovation and perversely diminish diversity of viewpoints. Common sense tells us that the recent explosion of media sources should eliminate any concern over a lack of diversity of views in the marketplace and competition, which have been the principle justifications for the rule. This growth remains unabated and more than makes the case for regulatory relief in the broadcast sector.

Let us take a closer look at the local broadcast radio ownership rules. In a market of 45 stations, the most that a single company can own is eight. In a market with 145 stations, a single company can own also only eight stations. Where is the logic? Even setting aside for just a moment the competition from other media, especially satellite radio, there is absolutely no public good enough to justify the same local radio ownership cap for Cincinnati as it is for New York, Chicago, or Los Angeles.

And let us remember that ownership diversity is only a proxy for viewpoint diversity. The largest markets in the country tend to have more diverse populations, and thus they demand more diverse program formats. Yet the maximum number of formats any one owner can deliver is eight because that cap ownership is maintained by the FCC. Increasing the number of stations that any one entity could own would translate into an increase in the number of formats that can be broadcast into that market.

The result would be to increase the quality of free terrestrial radio services to consumers and increase the availability of foreign-language programming to them. Moreover, the economies of scale that are obtained when commonly owned stations are clustered in a market make it possible to take risks on new formats that would not otherwise be feasible. The result will be that owners will experiment with new and different formats, and consumers will be the beneficiaries. The public will likewise benefit from a healthy radio industry.

While the FCC's current regulations recognize that AM and FM stations compete against each other, they fail to recognize the other competitors in today's marketplace, foremost among them obviously is satellite radio. For the time being, the two satellite radio licenses can reach approximately 150 channels in every market in the country, compared to the current limit of only eight stations that restrict the terrestrial radio industry. Moreover, licensed radio stations obviously compete against new devices, whether they be

iPods, Internet radio, which will soon be broadcast to cars, using the YBas networks.

The upshot is that terrestrial radio is engaged in an extremely competitive marketplace and one that is becoming more competitive virtually every day. Against that type of competition, I believe that it is worthwhile to lighten the regulatory restrictions on ownership that limit the ability of free terrestrial radio to grow in the largest markets in the country. I continue to firmly believe that in markets with 60 or more radio outlets, a modest increase in the number of stations that one entity can own or control will confer significant public interest benefits. Modest increase would not result in undue concentration. It would allow a single entity to control 10 stations, would mean that no one entity would be able to control more than 17 percent of that market.

So I look forward to our testimony today from our witnesses, looking at a number of different issues, and I appreciate the chairman's hearing this afternoon.

Mr. MARKEY. Thank you. I thank the gentleman. The Chair recognizes the Chairman of the full committee, gentleman from Michigan, Mr. Dingell.

OPENING STATEMENT OF HON. JOHN D. DINGELL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. DINGELL. Mr. Chairman, thank you. I commend you for holding this hearing today. I also thank our witnesses for appearing before the subcommittee. I want to especially welcome Mr. Peter Smyth of Greater Media, whose company owns three Detroit radio stations and which does an outstanding job of serving our community. Welcome.

This is the second hearing in the committee's examination of the Nation's digital future, and it is in an important one. Decisions may soon be made that will affect this structure of the broadcast marketplace and the level and quality of discourse in our democratic society. Since the formation of commercial broadcasting, Congress has acted deliberately to preserve localism, promote diversity, and ensure competition in the broadcast media. Rather than establish a national broadcast system, the Congress oversaw the creation of thousands of local stations throughout the Nation that are required to respond to the needs of their local communities.

So then what is the state of radio today? Many claim that the consolidation of the radio industry over the past decade has adversely affected diversity on the public airwaves and the service broadcasters provide to their local communities. I must observe that there is reason to believe that there is truth in these statements. These concerns then must be taken seriously. Yet we now find that Clear Channel, the largest group owner, is spinning off several hundred radio stations. This offers a ray of hope that the trend of declining media ownership can be reversed. The last count on this matter shows that minorities own a dismal 4 percent of radio stations nationwide. And there is reason to believe that this may be in a downward trend.

I would note that it has been the Congress's policy for a long time, longer than I have served in the Congress, that we should

have full representation of minority broadcasting and that the Federal law should and the Federal regulatory agencies should encourage that situation to go forward. The FCC now then must speed up its efforts to spread licenses among entities that better reflect the diversity of people across our Nation.

The transition to local digital provides an opportunity to reinvigorate local broadcasting. With near CD-quality sound and multicasting capability, digital radio allows broadcasters to improve service and to remain a vibrant and important part of the local media landscape. With any luck, we might even see a resurgence of classical music on the dial, something which would bring me great personal pleasure. Broadcasters are also joining a variety of entities using the Internet to serve a worldwide audience. Listeners now have a broad range of radio entertainment options, including satellite radio, Internet radio, mobile phone services, and recording devices such as iPods.

Earlier this week, the Copyright Royalty Review Board set a new music royalty rate for commercial and noncommercial Webcasters. I think this committee should look carefully at the implementation and the implications of that decision, which I think at this time are not properly understood. The average music consumers are embracing podcasts and interactive modes of delivering your information. I have found that my own podcasts enable me to better communicate with my constituents.

Now, what can consumers expect to hear in the future? Will the new operations and the new opportunities translate into more local and more compelling and more diverse content? Even in this new world, radio remains an important fabric of our local communities. We must remember the deliberate vision of a free and local system of commercial and noncommercial broadcasting spread among the urban and rural communities that make up our Nation. We must continue to promote new uses of the spectrum, such as low-power radio, while protecting existing licenses from interference. Even today, a healthy free broadcasting service remains an important and vital source of local news, culture, and most importantly, emergency information. Our national policies must continue to promote localism, diversity, and competition in the media marketplace.

Those with the privilege of using public airwaves, whether local or national, should provide a public service. That is the law. That was the intention of the Congress when we passed the Radio Act in 1927 and has remained so to this day. The FCC has been far too laggard in overseeing public interest responsibilities of digital and satellite radio providers. We must never forget that industries that distribute information have a greater responsibility to our society, and consolidation among them poses a far more serious concern than, for example, those who distribute toothbrushes or toasters. Today's hearing begins with an exploration of the merger of XM and Sirius. I look forward to learning more about this matter as the FCC and others begin what I expect will be a thorough, objective, competent, and fully transparent review of the transaction and its effect on consumers and the public interest. Mr. Chairman, I thank you for your courtesy. I give back the balance of my time.

Mr. MARKEY. I thank the gentleman. Chair recognizes the ranking member of the Energy and Commerce Committee, the gentleman from Texas, Mr. Barton.

OPENING STATEMENT OF HON. JOE BARTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. BARTON. Thank you, Mr. Chairman. I think this is an important hearing, and I appreciate you calling it today. This is the second hearing in your series on the digital future of the United States telecommunications market. I think it is good to investigate the opportunity about whether changes in the radio marketplace require us to rethink our approach to regulating audio services in this country. Radio has not been immune to the same revolution that is making the voice, video, and data markets so competitive. We can get music, baseball, talk, the news, and even other types of entertainment now over these satellites. We can get what we want not only over the air from radio stations, but from the satellite, from the Internet streamers, yes, Podcasters and even cell phones.

The broadcasters themselves are going through a mini-transformation. There is more than 1,000 stations have already embraced digital transmissions. This shift should enable broadcasters to improve their sound quality and increase the number of channels that each station can provide. Thankfully, the broadcasters have not needed additional spectrum to do so, making their transition to high definition radio considerably simpler than it is for digital television.

Changes in the voice, video, and data markets have led us to question legacy regulations, some of which were written when people were sitting around living rooms listening to Little Orphan Annie over the radio. This hearing presents the opportunity to investigate whether changes in the audio market suggest that radio regulation also needs reforming. To see the importance of matching regulations reality, we need to look no further than the FCC's inability to justify either of its last two rounds of media ownership restrictions to the satisfaction of the courts.

Judges have decided that strict regulations wouldn't do, and neither would loose ones because no one could show how either set of rules actually promoted content diversity and localism in the real world. At some point, we need to figure out who is on first, us or the innovators. I wonder if technology and competition won't do a better job of serving radio listeners than politicians tinkering with outmoded regulations in a constant game of catch-up.

Indeed, one issue we will address today, the proposed merger between XM and Sirius, suggests that technological advances make even defining the relevant market a complex task. This is an important hearing because it impacts the future, the digital revolution in radio. And I am looking forward to hearing our witnesses and in hearing of the questions too that shows where this committee tends to move its legislation.

With that, Mr. Chairman, thank you again for holding this hearing.

Mr. MARKEY. The Chair recognizes the gentleman from Pennsylvania, Mr. Doyle.

OPENING STATEMENT OF HON. MIKE DOYLE, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF PENNSYLVANIA

Mr. DOYLE. Thank you, Mr. Chairman, and welcome to our witnesses. Mr. Chairman, I want to tell you a little story of a local guy done good. His name is Greg Gillis, and by day, he is a biomedical engineer in Pittsburgh. At night, he deejays under the name Girl Talk. His latest mash-up record made the top albums of 2006 list from Rolling Stone, Pitchfork, and Spin Magazine amongst others. His shtick, as the Chicago Tribune wrote about him, is "based on the notion that some sampling of copyrighted material, especially when manipulated and recontextualized into a new art form, is legit and deserves to be heard."

In one example, Mr. Chairman, he blended Elton John, Notorious BIG, and Destiny's Child all in the span of 30 seconds. And while the legal indy music download site, *Emusic.com*, took his stuff down for possible copyright violations, he's now flying all over the world to open concerts and remix for artists like Beck.

The same cannot be said, however, for Atlanta-based hip-hop mix tape king DJ Drama. Mix tapes, actually made on CDs, are sold at Best Buy and local record shops across the country. And they are seen as crucial to make or break new acts in hip-hop. But even though artists on major labels are paying DJ Drama and others to get their next mix tape, the major record labels are leading raids and sending people like him to jail.

I hope that everyone involved will take a step back and ask themselves if mashups and mix tapes are really different, or if it is the same as Paul McCartney admitting that he nicked a Chuck Berry base riff and used it on the Beatles' hit "I Saw Her Standing There." Maybe it is, and maybe Drama violated some clear, bright lines. Or maybe mix tapes are a powerful promotional tool, and maybe mashups are transformative new art that expands the listener's experience and doesn't compete with artists as made available on iTunes or at a CD store. And I don't think Sir Paul asked permission to borrow that baseline, but every time I listen to that song, I am a little better off for him having done so.

Until our questions about the future of music get answered, we first have to look at the future of radio. I want to look at whether Webcasters saddled with new royalty fees, whether just one satellite radio company, whether low-power FM radio stations can really help artists break through the clutter and be heard by enough people to be successful.

And I want to look at how consumers experience music and how radio shapes that. I look forward to the witnesses talking about these issues and more. And, Mr. Chairman, with that, I yield back my time.

Mr. MARKEY. I thank the gentleman very much. The Chair now recognizes former Speaker of the House of Representatives, Dennis Hastert.

Mr. HASTERT. Mr. Chairman, I yield back.

Mr. MARKEY. The Chair recognizes the gentleman from Illinois, Mr. Shimkus.

OPENING STATEMENT OF HON. JOHN SHIMKUS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. SHIMKUS. Thank you, Mr. Chairman. I was just trying to figure out half the words that Mike Doyle just mentioned. I am clueless, but I think you will help me later on. I will be brief. I am all about multiple pipes for competition. The more pipes, the better. And that helps consumer choose, and it stirs innovation. But it is very schizophrenic in this new era as things change. There is a local service requirement for local broadcasters that I think is very, very important that we preserve for safety. However, then you talk about a Katrina event, when towers go down, satellite may be able to provide a venue by which public safety information can get delivered.

So the world doesn't stay the same. It changes, and that is why I appreciate the chairman calling this. I love industries that modernize and technology advance quicker than we can regulate. That is what I like because then it continues to inspire new services, and we may be there in this industry. In some sectors right now, there are schizophrenic tendencies, based upon the ability of the local service requirements, based upon new technologies, it is appropriate that we address them. And I am glad to be here. Mr. Chairman, I yield back.

Mr. MARKEY. The gentleman's time has expired. The gentlelady from California, Ms. Harman.

OPENING STATEMENT OF HON. JANE HARMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Ms. HARMAN. Thank you, Mr. Chairman. I would observe that it took one person to educate us about the World Wide Web, and clearly it takes at least five to help us with radio, which has been around a much longer time. From FDR to NPR, a radio has remained a primary source of information for millions of Americans, but obviously changes in radio today parallel the great strides in Internet, television, and other telecommunication services which we are learning about in our digital future series of hearings. Maybe, Mr. Chairman, we should have a digital future series of hearings about Congress some day too. Digital future, if any, series of hearings.

At any rate, radio is a source of entertainment too. Digital, high-quality entertainment. In fact, today high definition radio stations broadcast CD quality sound over free airwaves. Wal-Mart is now selling high definition audio receivers. And in a short time, free digital quality music will be the standard in every city and town in America.

But digital radio, whether satellite, Internet, or over the air, is an example of technology outpacing legal protections for intellectual property. I know that the Judiciary Committee will take a long look at this issue. But, as you have said, it is an important one for this committee too.

Competition in the radio market depends on a level playing field for radio outlets and on fair treatment for musicians, songwriters, and record labels whose work they broadcast every day. I hope our look at competition and fairness in the marketplace won't overlook the people who make free music in our cars, homes, and office pos-

sible. Many of them, I would observe, come from Los Angeles where my congressional district is located. I think, Mr. Chairman, this hearing is timely, and our careful focus is needed. And I confess it is impressive to learn that Chairman Dingell knows about Podcasts and that my friend and colleague Mike Doyle is so hip. I yield back.

Mr. MARKEY. Gentleman from Oregon, Mr. Walden.

OPENING STATEMENT OF HON. GREG WALDEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON

Mr. WALDEN. Thank you very much, Mr. Chairman. Of course, I am very interested in this hearing. I think, I believe, I am the only licensee on the committee and in the Congress that actually owns and operates radio stations, at least for a few more months. We are in the process of selling them after nearly 21 years in the business. So I first always disclaim that so nobody accuses me of a conflict of interest that I haven't at least acknowledged. But I have a great passion and interest in radio. My father was in it for 38 years. I grew up obviously around the tower and the transmitter. Based on my receding hairline, you can tell that. And so I am interested in these issues.

And, Mr. Chairman, I would point out that of your statistics on 4 percent of the licenses are owned by women or minorities, my wife and I actually share the stock in our company. So it is 50/50, so we represent, in terms of licensees, probably at least half of one of those 4 percent in ownership because we have run it and owned it together. And I have great passion for the industry.

I have great concern about its future. I think in many markets, consolidation has been very healthy and helpful to enhancing program content, especially in smaller markets were many stations were on the border of going broke. In our own situation, we started with two, acquired two others that weren't in the best of shape and put another one on the air. So we have actually brought new programming to the marketplace, and one of our stations actually won a Marconi, an AM station.

And so there is a lot of really good local programming going on in America in radio, and we hear this talk of the effect of consolidation. And yet I think Clear Channel is the largest owner of radio stations, owns less than 10 percent of the total number of stations out there and is selling 400 of those 1,200, just to pick a number out of the air.

This Congress has also, with the FCC, authorized low-power FM broadcasters to fill a need in the communities for great diversity, and virtually anyone who is not in the commercial radio business can go out and get a LPFM license. And there are hundreds and hundreds of them on the air, including in the markets that we are in. And so I think there is enormous diversity. At the end of the day though, broadcasters are there when there is an emergency.

In our own situation, we have gone commercial-free and programming cancelled in cases of emergency to provide full-time information. I am not alone in that effort. Many of my colleagues have done that. And as you mentioned, in Katrina, in other crises around the country, that is just what we do. And we are there. We are there when the snow piles up on the road and the school buses can't run. It is not other forms that are telling you that. It is your

local broadcasters, and so sure we can always do better, but I think we got a great record, and I look forward to the panel today and hearing from them and where we go with the future on over the air free broadcasting as well as mergers and consolidations and alternatives for America's listeners. Thank you.

Mr. MARKEY. The gentlelady from California, Ms. Eshoo.

OPENING STATEMENT OF HON. ANNA G. ESHOO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Ms. ESHOO. Thank you, Mr. Chairman, for holding this hearing, and I expect it is going to be another enlightening one. Just as the Internet and digitization of content has revolutionized commerce, digital audio has transformed the way we listen to music, to news, to sports, and other sources of information and entertainment today. I think that is indisputable. It has changed. It has changed rapidly. It is exciting. A lot of people are enjoying it, and it really, I think, is a mark of the 21st century.

Now, whether delivered by satellite, wi-fi, wireless phone, cable modem, DSL, digital audio has greatly enhanced choices for consumers, for innovators, and for the competition that exists in our country. Until very recently, when I think of it, the only music that I could listen to was from my local radio station from my home or my car stereo, and really not all that long ago, from my Walkman when I was on the treadmill. And that seems really almost humorous to think that that was not all that long ago. It seems as if it is really in the distant past.

Now, our choices are no longer limited by our local broadcast radio stations or by our personal CD collection. In fact, the choices are almost limitless. Satellite radio delivers hundreds of channels to cars or portable devices. IPods carry thousands of songs in the palms of our hands, and the Internet delivers really any song we have ever heard of or a radio signal from across the globe to any connected device.

But unlike other Internet content, these innovations are threatened by dominant broadband providers who have the ability and the incentive to limit consumers' access to the content of their choice. I think it is essential that access to Internet radio and content distribution services remain unimpeded and outside the control of broadband gatekeepers. Without net neutrality, it is possible, I think it is likely that the broad consolidation in terrestrial and satellite radio ownership and limited consumer choice will be duplicated in the online environment as broadband providers steer users to their own services or their partners' offerings.

Net neutrality is critical to ensure that Internet radio and other emerging online music and information distribution services have a chance to compete with incumbent providers.

So welcome to the witnesses. I think that you are also eager to discuss the potential merger of two of America's satellite radio providers, and I look forward to you answering my questions. Thank you, Mr. Chairman.

Mr. MARKEY. The gentleman from Nebraska, Mr. Terry.

OPENING STATEMENT OF HON. LEE TERRY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEBRASKA

Mr. TERRY. Thank you, Mr. Chairman, for having this important hearing. Of course, we had the digital television hearing and the Internet hearing, and now the radio or aural, not O but AU, part of the digital transition. And for consumers, what an exciting time. You look at all the consumer products where we can get our music or talk radio or podcasting. I just wonder what it is going to be like as we have the digital breakthroughs that are occurring right now, what it is going to look like 10 or 20 years from now.

I am probably an example of the consumer that we are going to talk about or should be the focal point of today's hearing, of how best to empower the consumer in this changing environment so that they have access to whatever mechanisms necessary so they can get the programming that they want.

I have my video iPod. All my kids have their iPods. Even the 6-year-old has to have his own. My wife's Christmas present was Sirius for the car and in the house; although; I will have to admit we had a discussion about whether to get Sirius because of one of their programs, Howard Stern, on there. And my wife and I said well, they will probably break Sirius at some point anyway. True discussion.

Maybe we will get the answer to that or not, but certainly having Mr. Karmazin here today prompts the discussion of whether to ask a decency question about satellite. I think I will pass on the decency question, but I think we will have a healthy discussion about whether a merger or creating within the satellite environment a monopoly is appropriate from the consumer's standpoint.

The question that I want to ask our panelists today is how would we define the market today? Certainly if I bought my music from a record store some time ago, we would not have defined that as competition; although, I guess in a way it is. But yes, while there is free over the air, we now have for-pay satellite. We have all these other mechanisms. Do we throw anything that makes noise into the world of competition so that we don't define this merger as a monopoly?

I think that is one of the questions that should be answered today. I am certainly skeptical of these two companies coming together as one. I think on the surface that is anti-consumer. We will ferret that out today. I want to thank all of our panelists for being here to aid us in our policy decisions, and I yield back.

Mr. MARKEY. Next to the gentleman from Texas, Mr. Green.

OPENING STATEMENT OF HON. GENE GREEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. GREEN. Thank you, Mr. Chairman, for holding the hearing on the future of radio. The future of radio is quickly transforming with many recent changes in the way consumers can assess programming. The emergence of HD radio, which has become more affordable and accessible is providing new and additional programming to consumers.

On the other hand, the proposed Sirius and XM merger raises serious questions the implications would have on localism and consumers even if safeguards are put in place remains unclear at best.

Next week, we will hear from the FCC commissioners in front of this panel. I am sure they will be a prominent topic in both testimony and questioning after today's New York Times article about Chairman Martin's concerns over the merger. It is hard to see how prices for satellite radio will come down when a big part of the reason for the merger is to make it profitable.

A related issue, which greatly concerns me, is the attempt by satellite radio to offer local radio programming. I have worked with Mr. Pickering to introduce legislation on this issue, and it sounds a bit strange. But the FCC intended satellite radio to be a national service in order to protect local service.

But the remarks we will hear today from Mr. Karmazin, remarks that call for restrictions on local content were ironic, but I respectfully respond that maybe it is backwards. What is ironic is if national radio, satellite radio, offered local content, it would actually decrease localism and local news coverage and local emergency coverage.

Under its national license, satellite radio is not obligated to provide public interest services, such as Amber Alerts, coverage and debate of local issues, important emergency broadcasts during natural disasters, civil disturbances, or terrorist attacks. More importantly, under their infrastructure, satellite radio cannot generate local content. They can only aggregate it and retransmit it. There are no boots on the ground, so to speak, to generate their own local news, community fairs, or emergency coverage.

As evidence, satellite radio only intends to offer and can only offer the low-cost profitable local service like traffic, weather, and local ads. And while they are offering local traffic and weather on national channels for a handful of large cities, they do not hire local meteorologists for local weather coverage or put traffic reporters in helicopters for traffic coverage.

In contrast, local broadcasters spend huge sums of money to generate that unique local content, as opposed to just retransmitting basic local information gathered from somewhere else. If satellite radio is allowed to cherry pick cheap local content and sell local ad revenue, local broadcasters would be forced to reduce their expensive local content like news and public affairs.

The threat is more serious for local news stations, which are a major source of local traffic and weather information. If satellite radio is allowed to pull listeners from these stations, we will see fewer local news radio stations in this country. In fact, I have that problem in my Houston area. Our local news station is now mostly a talk station, and coming from our side of the aisle, the folks they have on the talk is not one of my favorite people.

Making matters worse when you reduce the investments that local broadcasters make in the local day-to-day traffic, weather, news coverage, you reduce the assets available for broadcasters to use during local emergencies. The result could be catastrophic in tragedy, since local broadcasters are the only ones that have again their boots on the ground during emergencies like hurricanes and terrorist attacks.

The legislation Mr. Pickering and I have introduced, H.R. 983, the Local Emergency Radio Protection Act, clarifies satellite radio

is not allowed to use their repeater network or their receivers to selectively offer low-cost, local programming and to cut localism.

Mr. Chairman, I want to thank you for holding the hearing, and I look forward to today's hearing and next week and also our consideration of Mr. Pickering and my bill.

Mr. MARKEY. I thank the gentleman. The gentleman from Florida, Mr. Stearns.

OPENING STATEMENT OF HON. CLIFF STEARNS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Mr. STEARNS. Thank you, Mr. Chairman, and let me also say that this is an important, timely hearing. We are glad to have these distinguished, competent individuals who pay taxes before us.

When I was looking at this, I am not sure that Congress really has a distinct role in whether these two radio stations should be merged or not. Perhaps our responsibility is more into looking at whether this merger will provide greater localism and diversity on a combined service or not, and whether this local differentiated programming undermines free, over the air radio.

I think all of us ought to agree though that the merger of these two is not going to create a monopoly of any sense because there is a lot of competition out there with the broadcast and the Internet and the wireless and iPod, as others have mentioned. So in the end, I think that we just have to see whether competition is going to be there and whether this merger is going to upset what I feel is the larger issue, which is diversity and provide localism.

I notice that Chairman Martin of the FCC had a question about the increased cost for this, and Mr. Karmazin indicated that he thought the price would not go up. I think he said that in recent congressional testimony, that subscribers would pay the same monthly rate and receive significantly more programming. But then, I think, Mr. Martin went on to say well, I think it's going to go above the $12.95. And then in response, Mr. Karmazin then said that he meant two things. Subscribers wanting to keep their existing service would not face a price increase, and listeners who wanted the best of both services would pay less than the combined rate of $25.90.

But the long-term outlook on this is that whether they merge or don't merge, the price of this will be decided by competition. So even if they do merge, they are going to have to compete pretty strongly in the marketplace. They have to offer a better product, a better price. They must prosper, and the free market will decide in the end what is going to happen here and perhaps not so much as this congressional hearing. And I thank you, Mr. Chairman.

Mr. MARKEY. Gentleman's time has expired. The gentleman from Michigan, Mr. Stupak.

OPENING STATEMENT OF HON. BART STUPAK, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. STUPAK. Thank you, Mr. Chairman, and thank you for holding today's hearing on the future of radio in the digital age. I want the record to reflect that my good friend, Congressman Mike Doyle, gave up alcohol for Lent. But after his opening statement, I believe

it would be better if he would go back on it. I am sorry he is not here for the comment.

But the witnesses will provide a snapshot of the radio market today and instruct us as to what the market will look like in the future. I think we will find that the market is not easy to define. Does the real market only consist of AM and FM? How much of a competitor is satellite radio to AM and FM? In what way is my iPod a competitor to AM and FM? And in what ways will my iPod or even my BlackBerry be a competitor to AM and FM radio tomorrow?

Understanding the market is key to Congress legislating and the Federal Government regulating in this area. For example, how the Department of Justice defines a radio market will largely affect whether the Department of Justice approves the proposed merger between XM and Sirius Satellite Radio. I am pleased we have Mr. Karmazin of Sirius Radio with us here today to speak about the proposed merger and his view of the radio market. I would also like to welcome the other witnesses testifying.

While I hope we discuss other issues such as access to content, royalties, new platforms, and technologies, I think it is important that the committee look closely at the proposed satellite radio merger. I look at this proposed merger through the eyes, or should I say the ears, of my rural constituents.

Rural Americans depend on local, terrestrial programming for crop updates, storm warnings, local news, and sports. Whether I am out hunting, boating, or driving hundreds of miles meeting my constituents, radio is my lifeline to the world. I always have access to the radio. I don't always have access through my cell phone. Local radio warns me of when another winter storm is rolling in, and it provides me with play-by-play action of the current Delpino High School hockey playoff run. I am not sure what my constituents would say is the more important service.

Satellite radio has also taken off in rural America. My constituents have embraced this new option for content they may not otherwise have access to. The success of satellite radio in rural America is similar to the success of satellite television. I believe it is beneficial for my constituents to have a choice of providers of both satellite television and satellite radio markets. Just as DirectTV and EchoStar's Dish Network competing head to head benefits my consumers, so does head-to-head competition between XM and Sirius Radio. In both markets, competition has kept prices down, increased innovation, and strengthened consumer service. Ultimately, I believe a competing satellite provider may be a better check than a local broadcaster.

In that vein, I'm concerned approving this merger could start us down a slippery slope of approving mergers between EchoStar and DirectTV and other providers. That is not something my constituents want. When EchoStar stopped providing distant signals last year, I heard from many of my constituents upset that they were effectively left with only one option for satellite television.

I urge the Department of Justice and the Federal Communications Commission to look at this merger with a critical eye and protect the best interest of the public airwaves, not corporations.

And with that, I yield back, Mr. Chairman.

Mr. MARKEY. OK. The gentleman's time has expired. The gentleman from New Jersey, Mr. Ferguson.

OPENING STATEMENT OF HON. MIKE FERGUSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. FERGUSON. Thank you, Mr. Chairman and Mr. Upton for holding this hearing. This subcommittee can play a key role not only in highlighting the promise of digital technology and content for the American consumer, but also highlighting some potential problems.

Perhaps more important than that is determining whether a true problem exists at all. There are more options available in the marketplace than ever before. Apple's iPod is a stunning success story. Digital audio can now be heard across multiple platforms from Internet radio, Web casts, and wireless, to HD and satellite radio. In just a few short years, there are more options available to our constituents than ever before. I think it is safe to say that members of this panel want to ensure that the digital marketplace remains robust and competitive.

In turn, it is important that there remains a maximum choice for consumers and that the marketplace is a welcome place that encourages innovation. These are indeed exciting times for American consumers, particularly with regard to the audio industries. And that is one of the reasons why at this point, I am inclined to be supportive of this proposed merger of XM and Sirius. However, my support is primarily contingent on there being a satisfactory resolution of the issue of adequate protection for content creators.

Last Congress, I introduced the Audio Broadcast Flag Licensing Act. It urged that both satellite companies and broadcasters come to the table with content creators to work out fair royalties in the private marketplace. The goal of my legislation was not only to ensure that intellectual property rights are respected and that content creators are treated fairly, but that consumers continue to have access to new content.

I have long said that my preference is to see the issue of digital content protection resolved between the respective parties in the private sector. Sirius, under Mr. Karmizan's stewardship, set a standard by negotiating with record labels and illustrating that the marketplace can work. XM followed a different route, choosing to litigate the issue in the courts. I am eager to learn today how a newly merged company might address this particular issue.

Thank you, Mr. Chairman, again for holding this hearing. Radio in the digital age not only holds an exciting array of products for our constituents, it also raises many questions for this panel to consider. And as we strive to ensure that those options not only remain but continue to grow. And I look forward to hearing from our witnesses. I welcome all of you here today. Thank you, Mr. Chairman. I yield back.

Mr. MARKEY. Thank you, gentleman. The gentleman from New York, Mr. Towns.

OPENING STATEMENT OF HON. EDOLPHUS TOWNS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. TOWNS. Thank you very much, Mr. Chairman, for holding this hearing today. Let me welcome the chief executive officer, Mr. Karmazin from Sirius, a great New Yorker. Thank you for coming and also the other panelists. Good to see you because we are looking forward to learning a lot from you.

We need to understand how to maintain a competitive marketplace that gives choices and low prices to consumers and created value for shareholders. I also look forward to learning how more minorities and women can get into this booming business and how these companies plan to operate responsibly and in the public interest, using the new options offered to them by digital technologies.

I agree with some comments coming from my colleagues that we must first view this satellite radio merger from the perspective of the consumer and whether or not the combination of these two companies will benefit our Nation's audio users both in terms of price and content.

It is clear that the audio market has changed drastically between 1997 and today, when the FCC greenlighted the emergence of XM and Sirius. And now 10 years ago, when there weren't nearly as many audio options as there are today, pitting these two companies against each other was more logical in terms of diversified consumer choice. Now, however, with iPods in every gym and Internet radio on every computer, the audio landscape is a bountiful place.

Therefore we must ask ourselves if this merger will continue to provide consumers with great content, a wide array of choices, and low prices. And I emphasize low prices. I am eager to hear from our witnesses on these crucial considerations, and I thank them for taking the time to appear before us today so we can learn as much as we can and move forward.

Thank you very much, Mr. Chairman, and on that note, I yield back.

Mr. MARKEY. I thank the gentleman. The gentleman from Georgia, Mr. Deal.

OPENING STATEMENT OF HON. NATHAN DEAL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF GEORGIA

Mr. DEAL. Thank you, Mr. Chairman. Thanks for the hearing and thanks to the witnesses for being here. I think it is certainly an appropriate time, in light of the proposed merger of the satellite radio stations. I am interested to learn more about both the positives and the negatives and how the merger, if it is completed, will affect rural districts such as mine and not only the constituency but also existing radio station operators.

I understand there are a number of ways, of course, for customers to access programming: iPods, HD radio, over the air broadcast radio. However, I also know that there are many of my constituents who are concerned about what is going to happen if there is only one satellite radio provider in the marketplace.

One question that I would like to see answered is how we can be assured that this merger will not result in rising prices to con-

sumers. Will there continue to be an active and competitive radio marketplace? What will happen to exclusivity deals and their effects on consumers? Will there continue to be innovation and ingenuity? These are very real concerns for millions of Americans.

I would like to end with one final observation. As I have listened to the various parties commenting on this merger, I have been struck by one particular aspect of the debate. Behind the reality of whether there is competition and parity among the various industries involved, I am struck by this one bit of irony. The broadcasters, when talking about their television programming, seem to have a different message than the one I am hearing from their radio interests. When it comes to television programming, they have been very vocal in asserting their right to negotiate compensation for their product and have asserted their power to withhold their product from anyone not willing to meet their conditions for payment.

However, when it comes to broadcasting artists' music, the NAB is lobbying Congress that they should not be asked to negotiate or pay for another content owner's product, even though satellite radio companies and Webcasters do negotiate payment. I find this a highly contradictory position. When they control the content, they demand payment. When they use someone else's content, they don't want to provide payment.

Mr. Chairman, as we consider the merger before us today and debate whether there is parity among the various services, I would suggest that we should also consider whether there is parity across the telecommunications sector on how we treat content owners and whether it is fair and reasonable. Thank you.

Mr. MARKEY. The Chair recognizes the gentleman from Virginia, Mr. Boucher.

OPENING STATEMENT OF HON. RICK BOUCHER, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF VIRGINIA

Mr. BOUCHER. Well, thank you very much, Mr. Chairman. I just have a few thoughts about the XM/Sirius proposed merger that I will share with members and others this afternoon. I think there are pro-consumer benefits, which suggest that the merger is in the public interest. Both companies maintain separate entertainment offerings at the present time. The merger would extend to consumers larger choices from among program offerings, including the possibility of a la carte availability to select the channels from a larger total inventory that each consumer would desire.

The extra bandwidth which the elimination of duplication would produce could also result in the offering of a broader array of public interest programming than either company is offering at the present time. And there appears to be, in my view, no valid reason to disapprove this merger. It is clear to me that the relevant market for competition purposes is the entire marketplace for audio entertainment. That market includes all of terrestrial radio as evidenced by the repeated statements of some of the major terrestrial broadcasting companies that they are in competition with satellite radio. I think the opposition of the National Association of Broad-

casters to the merger lends credence to the fact that terrestrial and satellite radio are indeed in competition.

The relevant market also includes Internet radio and both Internet-based streams and downloads to computers and to portable devices. And in that large, highly competitive market, satellite radio is really a small player. Arbitron's recent survey that was released last week shows that satellite radio listening accounts for only 3.4 percent of all radio listening.

That same survey shows that satellite radio listeners are also avid listeners to terrestrial radio. In fact, satellite radio listeners are listening to XM or Sirius for 10 hours, 45 minutes per week. But those satellite subscribers are mostly listening to terrestrial radio for an average of 14 hours weekly. They listen to Internet radio 8 hours, 15 minutes weekly. These figures clearly show that satellite radio is in competition with terrestrial radio and Internet radio and that satellite radio listeners are listening to the combination of terrestrial and Internet radio more than twice as much as they are listening either to XM or to Sirius.

There are public benefits to be derived from the merger and in the market where satellite radio competes. The companies do not have market power. In fact, combined, they represent a mere 3.4 percent of that market. So, Mr. Chairman, in my view, the public interest requires approval of this merger. Thank you, and I yield back.

Mr. MARKEY. The gentleman from California, Mr. Radanovich.

Mr. RADANOVICH. Thank you, Mr. Chairman. I will pass on an opening statement.

Mr. MARKEY. The gentleman from Mississippi, Mr. Pickering.

Mr. PICKERING. Mr. Chairman, thank you. I too shall pass.

Mr. MARKEY. We are going for the triple. The gentleman from Washington State, Mr. Inslee.

Mr. INSLEE. I'll pass.

Mr. MARKEY. There you go. Going to Yankee Stadium here and Mr. Engel. Let's see if we can go for the cycle here.

Mr. ENGEL. Well, I am afraid I am going to have to ruin it, Mr. Chairman. And I will tell you what I will do for you. I won't read my speech. I am just going to speak from the heart a little bit, and I will try to not take the full time.

OPENING STATEMENT OF HON. ELIOT L. ENGEL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. ENGEL. I want to say, and I have listened to a number of my colleagues, that I certainly have an open mind about this. I don't think that we should automatically assume that the merger is a bad thing or a bad idea. Like all of us, we represent constituents, and the bottom line is what is best for the constituents. I think we know that. I think there are differences of opinion about that. I think we should listen to all sides and come to a conclusion.

I do know one thing. I do know that my kids run around with iPods and all kinds of things I don't have time for. And I know that when we look at the total issue, we cannot, I believe, just look at the issue of radio standing by itself. I think we have to look at the totality of the kinds of entertainment people are looking for.

So I would say that the onus is on these gentlemen to explain why this would be good to consumers. I think we should give them the chance. They should deserve the chance to plead their case, and there is a thing that I have learned in the 10 or so years I have been on this committee.

Things are rapidly changing in telecommunications, and the genie is really out of the bottle. I am not sure that government can or should attempt to put the genie back in the bottle. I think sometimes we might be better off letting the marketplace decide that as well.

But again I have an open mind, and I am going to listen to the testimony, and I think that this committee has a lot of discussion. And I welcome the people who are here to testify, and I thank you, Mr. Chairman, for your indulgence.

Mr. MARKEY. I thank the gentleman. All time for opening statements by members of the subcommittee has expired.

I would like to inform our witnesses that you have just been an eyewitness to history. This is the largest number of members of any subcommittee that has ever showed up at 3 p.m to make opening statements on any subject at any time in my 30 years in Congress.

I know that you probably are wondering what has been going on, and history has been made this afternoon. So we welcome you. We thank you for your patience, and you are the main event obviously. And we are looking forward to your testimony.

We will begin by hearing from Geoffrey Blackwell, who is testifying on behalf of the Native Public Media, and the National Federation of Community Broadcasters. Mr. Blackwell is currently the director of Strategic Relations and Minority Business Development of the Chickasaw Nation Industries. He is a member of the Native Public Media Board of the Tribal Advisors, and he is also the chairperson of the National Congress of American Indian Telecommunications Subcommittee. Mr. Blackwell, you have 5 minutes, as does have each one of the other witnesses, at which point we will go to questions from the subcommittee members of the witnesses. Please begin, Mr. Blackwell.

STATEMENT OF GEOFFREY BLACKWELL, DIRECTOR, STRATEGIC RELATIONS AND MINORITY BUSINESS DEVELOPMENT OF THE CHICKASAW NATION INDUSTRIES

Mr. BLACKWELL. Mr. Chairman and members of the committee, my name is Geoffrey Blackwell, and I am honored to represent Native Public Media and the National Federation of Community Broadcasters at today's important hearing on the future of radio. Native Public Media represents 33 Native Public radio stations in the United States. Native Public Media's primary focus is strengthening existing American Indian and Alaska Native stations and promoting ownership for more native communities by serving as an advocate, national coordinator and resource center.

These stations serve as critical platforms for education and language preservation, public affairs, and cultural dialog. They meaningfully inform the understanding of localism. Their abiding commitment is to serve the diversity in their communities. For example, on the Hopi reservations, remote mesas in northeastern Ari-

zona, KUYI broadcasts a children's program called Shooting Stars every morning during the bus ride to school. Produced at the request of the students, the program engages community members and elders to read stories in both the Hopi and English languages.

The Tohono Od'ham Nation, which is responsible for almost 100 miles of our critical international border with Mexico relies on KOHN to keep its citizens informed of the local news, national threat levels, and Homeland Security activities. With these experiences, we have recommendations for Congress and the relevant agencies to improve the status of non-commercial radio, particularly Native radio.

The first priority must be to increase Federal funding and explore other avenues for supporting Native public radio stations, including full support for the Corporation for Public Broadcasting and the Public Telecommunications Facilities program and additional funding for community stations on needs-based criteria. In this regard, KILI, the Lakota radio station, went dark last year after being struck by lightning. Native Public Media provided KILI with proposal writing expertise that helped the station secure emergency funding from the PTFP program and CPB to repair and resume operations. We learned that even small grants can make a big difference.

Second, support Native Public Media's Blueprint Initiative, which envisions a complete inventory of how Native communities access and relate to media, both traditional and new advanced telecommunication services. The Blueprint Initiative will find the critical information on which new solutions can be premised.

Third, ensure that there is adequate public notice in advance of the FCC's upcoming application window for full-power, noncommercial, educational licenses.

Fourth, pass legislation to lift the prohibition on the FCC's issuance of certain low-power FM licenses.

Fifth, protect the basic ability to stream content or post podcasts at affordable rates without receiving prior consent from major telecom providers. In addition, access should be increased for Native programming on satellite radio services. The FCC should hold an official hearing on media ownership issues related to Indian country as they continue in their review of the existing rules. We need an in-depth examination of these issues.

And finally, Congress should provide customized tools to the FCC in the form of new, legal authorities and directions based on basic recognition of Federal Indian law and policy to work directly with Native nations, open new proceedings, and create new rules to address barriers to entry and streamline regulatory processes. The vast majority of Native Americans have no access or only limited access to media that represents their voices and interests. Native-owned radio stations account for less than 0.3 percent of the over 13,000 radio stations in the United States. There are more than 562 federally recognized tribes, yet we only have those 33 licenses for Native public radio stations. For Native people across the country, it is not about having access to big media. It is about having access to any media.

Profound changes are taking place in the way Americans use media, and Native Public Media is focused on helping Native com-

munities leverage new digital and wireless platforms that will help make it possible to close the existing media divide. Critical to our efforts is ensuring the policymakers understand the impact of their actions on Native communities.

In closing, Native nations face several challenges in deploying critical emerging information in telecommunications technologies while they work to develop sustainable economies. As you address the appropriate legal framework in a world of technological convergence, Native nations and organizations remain ready to consult with you.

Mr. Chairman, members of the committee, on behalf of Native Public Media, thank you again for the opportunity to testify today. I look forward to answering any questions you may have.

[The prepared statement of Mr. Blackwell appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you very much, Mr. Blackwell. Our next witness is Peter Smyth, who is the president and chief executive officer of Greater Media Incorporated. He is here today representing the National Association of Broadcasters. Since March 2002, he has been the president and CEO of Greater Media, the parent company of 19 AM and FM radio stations in Boston, Detroit, Philadelphia, and New Jersey. We welcome you, Mr. Smyth. We thank you for your willingness to testify today. Whenever you are ready, please begin.

PETER SMYTH, PRESIDENT AND CEO, GREATER MEDIA, INC.

Mr. SMYTH. Thank you. Good afternoon, Chairman Markey, Ranking Member Upton, and subcommittee members. My name is Peter Smyth. I am the president and CEO of Greater Media, which owns and operates 20 local AM and FM stations in Boston, Detroit, Philadelphia, and New Jersey and 13 community newspapers in central New Jersey. I am testifying today on behalf of Greater Media and the National Associations of Broadcasters. I am here to voice NAB's opposition to the proposed merger of the country's only two satellite radio companies, XM and Sirius.

But first, I want to make several important points about the future of terrestrial radio. As the CEO of Greater Media, a company that just celebrated its 50th anniversary in radio, I am optimistic about radio's future. I have learned from working for a family-owned company that a radio license is not a right, but a great privilege.

And we need to treat that accordingly, respecting listeners and delivering quality content to serve their needs. As part of this obligation, we are transitioning to the digital technology, HD radio, to provide the quality sound and additional data that digital service offers. We are also focusing on compelling local content that creates the emotional bond between listeners and their communities.

My colleagues understand that localism is our franchise and ours alone and that we must retain that unique connection to listeners that no other medium can provide, which brings me to the satellite radio and the proposed XM/Sirius merger. As I see it, there are a multitude of reasons for the Government to reject this monopoly.

First, satellite radio is a national service that provides very similar programming to each listener across the country. There are

only two such services, and they compete ferociously against each other in the marketplace. The undeniable fact is that Mr. Parsons and Mr. Karmazin want government permission to take two highly competitive companies and turn them into one.

Second, XM and Sirius are two companies with a track record of misrepresenting their intentions and not following through on the rules that have been established and failing to correct those past transgressions. For example, XM and Sirius for years have operated terrestrial repeaters in blatant violation of FCC rules. XM operated more than 142 repeaters at unauthorized locations. And not to be outdone, Sirius constructed at least 11 repeaters at locations different from the city they told the FCC, including one in Michigan built 67 miles from the authorized location. 67 miles.

Moreover, both XM and Sirius promised the FCC nearly a decade ago that they would have a receiver that receives both XM and Sirius. That receiver does not exist today. And now, many local radio companies have complained to the FCC that explicit X-rated programming from satellite radio bleeds through to their local stations without warning. Viewed against this pattern of behavior, why would the Government trust these two companies to form a monopoly?

Third, if the Government-sanctioned monopoly is approved, consumers will be the loser. Subscription prices will rise because there will be no competition to restrain a monopoly. Jobs will be eliminated. Innovation will suffer at a crucial time in our evolution. Neither listener nor advertiser will benefit. Put simply, private, corporate interests will benefit. The public will suffer.

Fourth, XM and Sirius, by their own admission, are not failing companies. Their current highly leveraged position is due to extraordinary fees paid for marketing on-air talent, $83 million in stock that Sirius awarded to Howard Stern, and on top of the $220 million bonus. But even with these costs, XM and Sirius have made clear they can succeed without a merger. Let us remember that when the FCC allocated spectrum to Sirius and XM in 1997, it specifically ruled against a single monopoly provider.

I have heard these companies claim the monopoly should be granted because local radio competes with XM and Sirius. Let me be very clear here. Local radio does not compete against satellite radio in their national market. Local broadcasters' signals are not nationwide and are not subscription-based. We are not a substitute for satellite radio.

Five years ago, the only two nationwide DBS satellite licenses, EchoStar and DirectTV, tried to blaze a remarkable similar trail when they proposed to merge. It failed. Indeed, the FCC decided unanimously the merger was not in the public interest. For these reasons and others, I respectfully ask that this Government-sanctioned monopoly be rejected.

I thank you, and I look forward to your questions.

[The prepared statement of Mr. Smyth appears at the conclusion of the hearing.]

Mr. MARKEY. I thank you, Mr. Smyth, very much. Our next witness is Robert Kimball who is the senior vice president for RealNetworks Incorporated. He serves also as general counsel. We welcome you here today, sir.

ROBERT KIMBALL, SENIOR VICE PRESIDENT, REALNETWORKS, INC.

Mr. KIMBALL. Thank you, Chairman Markey, Ranking Member Upton, and members of the subcommittee. Thank you for having me today to talk about Internet radio. RealNetworks, the company I work for, invented streaming media back in 1995, and last year we used that technology to deliver over 1 billion song plays to our customers, and we did pay royalties to the musicians for the use of that music.

I am here on behalf of both RealNetworks and the Digital Media Association, a group of leading Internet media companies, including Apple, Microsoft, AOL, Yahoo, and several small Webcasters.

I have good news and bad about the future of Internet radio. First, the good news. Internet radio provides a rich and diverse music experience that listeners love, and as a result, they buy more music. This is great for us and for the music industry.

Now, the bad news. Internet radio suffers from serious statutory bias that undermines our competitive opportunity because we are forced to pay higher copyright royalties than our competitors, and our innovation opportunities are severely restricted. This anti-Internet bias is bad for consumers and competition, and it reduces our industry's ability to address your media consolidation concerns. Today, Internet competes, at least in part, with terrestrial and satellite radio. Speaking for RealNetworks, we believe that the XM/Sirius merger should be put on hold until Congress creates a level playing field to enable us to fairly compete with the larger consolidated company. Without fair competition, further consolidation in a favored industry is just bad policy. Internet radio is simply radio programming transmitted over the Internet. Several thousand Web-based radio services offer literally hundreds of thousands of Internet radio channels to satisfy every conceivable musical taste.

Our unlimited supply of diverse channels and features ensures that every artist can find a fan, and every fan can find a station. Internet radio enables consumers to choose a station by more than its call letters or number on the dial. With Internet radio, listeners can identify genres, time periods, artists, and moods, and the service can provide them a relevant station.

Internet radio enables independent musicians, who never get airplay on big radio, to find an audience. We enable the small town listener to have access to music and information that local radio simply cannot provide. And while listening to our stations, our audience can read music reviews, learn more about the artists and buy concert tickets. We are good for local musicians and local economies. We also provide simple "buy now" buttons to sell the music on the spot if you like the song you are listening to. Every one of these features benefits recording artists, especially those who get no airplay on big radio or even on satellite radio. So with all this opportunity, what is stopping us from competing fairly against satellite and broadcast radio?

First, the Copyright Act establishes a tiered royalty structure that requires Internet radio to pay the highest royalties by far while exempting broadcast radio from any sound recording royalties. Just last Friday, the copyright royalty board imposed a new minimum of $500 per channel, a charge that is likely to kill the

very diversity that makes Internet radio so compelling. If this fee is not overturned, one can easily imagine Web radio looking more and more homogenized, like homogenized mass market radio.

Second, the Copyright Act does not regulate broadcast radio programming. It only lightly regulates satellite programming, but it greatly inhibits the programming flexibility for Internet radio companies.

Third, the Copyright Act allows satellite radio and terrestrial radio companies to offer recording devices and portable radio services and allows them to encourage recording of their radio stations. Meanwhile, the Copyright Act punitively regulates personalized Internet radio, which essentially eliminates our most compelling features.

And finally, while broadcast radio has no copyright litigation exposure, Internet and satellite radio have massive exposure that is a powerful deterrent to innovation. If we guess wrong about a Copyright Act provision, the penalty is $150,000 for every song performed. I have personally had to kill several innovative projects due to legal uncertainty and the potential financial catastrophe that could result from statutory damages.

As Tim Berners-Lee testified in this subcommittee just last week, the Internet has become a more mobile and wireless environment. In the next several years, WiMax and other technologies will strengthen mobile broadband capability, and the Web and Internet radio will always be on. And it will always be portable.

In the future, a mobile phone, just like this one, is going to have three radio services available: broadcast, satellite, and Internet. We will compete even more directly against one another, especially in a world where terrestrial radio is moving to digital HD broadcasts. Why should we pay three different royalties and have three different sets of programming regulations for radio delivered to the exact same device?

The current state of Internet radio is dominated by two facts. We pay higher royalties than our competition, and we are subject to more restrictions on our ability to innovate. The future of Internet radio and perhaps all digital radio competition may largely be dictated by whether there is a level playing field. Thank you.

[The prepared statement of Mr. Kimball appears at the conclusion of the hearing.]

Mr. MARKEY. I thank the gentleman very much. Our next witness, Mel Karmazin, is the CEO of Sirius Satellite Radio. Mr. Karmazin has had several top jobs in the broadcasting industry. He founded Infinity Broadcasting, one of the largest owners and operators of radio stations in the United States. Working his way up, he eventually became the president and chief operating officer of Viacom. Mr. Karmazin joined Sirius in November 2004 as chief executive officer. We welcome you, Mr. Karmazin. You may begin your testimony.

MEL KARMAZIN, CEO, SIRIUS SATELLITE RADIO

Mr. KARMAZIN. Thank you very much, Chairman Markey, Congressman Upton, Congressman Barton, Congressman Dingell. I really appreciate the opportunity to be here today.

I assumed that when Chairman Markey invited me to attend this hearing, it was because he wanted to take advantage of my 40 years in radio on this important subject. But in judging by the comments that have been made by the members, I think that rather than getting into talking about the health of the radio business, that I spend some time talking about the Sirius/XM merger, since it seems to be on everyone's mind.

So let me begin by saying that before we decided to attempt to do this merger, both Sirius and XM obviously consulted its boards and had advisors in. We talked about whether or not we believed that this merger could be approved. There would certainly be no advantage to either company of announcing a merger if, in fact, it wouldn't be approved. And what the advisors told us and what we have been operating under from the time we have announced it is that there are two standards that we really need to do.

One standard is that we need to make sure that this merger is not anti-competitive, and the Department of Justice and the FCC will take a look at whether or not this is anti-competitive or not. I think that you all have heard from all of these people talking about the competition that exists in satellite radio, and we are absolutely convinced that this is not about two companies becoming one or a duopoly becoming monopoly. It is absolutely ludicrous for anybody to think that we are not competing with all of these technologies that have been talked about.

I also heard that the NAB has a new point, which apparently is very different than its members, about whether satellite radio competes with them, because if, in fact, the CEOs of all of these publicly traded radio companies from Clear Channel to CBS to Entercom to Cox, in their SEC filing that the CEOs have all signed off on, they all said that they compete with satellite radio so it seems a little bit disingenuous to talk about the fact that satellite radio is not competing with them.

So, No. 1, we have to make sure it is not anti-competitive. No. 2, we have to make sure that this merger would be in the public's best interest. And that is what we are prepared to say. And when we go through the process at DOJ and the FCC, if in fact it is in the public's best interest, it will get approved. And if in fact it is not in the public interest, it won't get approved, and we will move on.

There is some confusion here about what we have said about pricing, so I welcome the opportunity to talk a little bit about that to clarify it if there is any confusion. So the first thing that we said is that because we compete with free, that the marketplace dictates it. But we can talk a little bit about how you can hold us accountable for everything that we are saying. And that is that this deal with not result in higher prices. Test us, and you can come up with a way of holding our feet to the fire. We will also provide more choices.

So in the specifics, if you are a Sirius Satellite Radio subscriber, you pay $12.95. You will not pay more than $12.95 for that service after the merger. As a matter of fact, we will give you an opportunity to pay a lower price, because today the cheapest price you could pay is $12.95. But if you don't want all the choices we give

you, we will give you an opportunity to have less. So that will be the first time, and the same thing is true with XM.

And, by the way, Sirius started at $12.95, and 5 years later, we are still at $12.95. We have also said that if in fact you like the idea of having some content from Sirius and some content from XM, where today what you have to do is buy two radios, pay $12.95 each, that comes to $25.90, that we will make an offering available for less price. So if consumer choice and lower prices equal public interest, we think that we pass the test.

We have also heard some things that are just also not relevant. From a point of view of serving the rural markets, we are proud of our track record on how we serve rural markets. And we think that we are really an asset when you compare us with the choices that we offer to people in smaller markets that they don't have a choice.

There was also a point about how we received our licenses and we paid for that license, to use our spectrum, 10 years ago. And what we also think is very strange is that if in fact you would use 1997 policy to deal with what is going on in a 2007 marketplace, but again we will let the FCC decide on that.

So I know my time is up. I don't want to go over, but I really, really hope you ask me a lot of questions.

[The prepared statement of Mr. Karmazin appears at the conclusion of the hearing.]

Mr. MARKEY. Yes, I think you won't be disappointed, Mr. Karmazin. Mr. Gene Kimmelman is vice president of Federal and International Affairs for the Consumers Union. He is an expert on telecommunications policy. He has appeared before this committee many times in the past. We welcome you today.

GENE KIMMELMAN, VICE PRESIDENT, CONSUMERS UNION

Mr. KIMMELMAN. Thank you, Mr. Chairman, Mr. Upton, members of the subcommittee. On behalf of the Consumers Union, the print and online publisher of "Consumer Reports Magazine" we appreciate the opportunity to testify this afternoon. The new technologies that have created this explosion of digital opportunities in radio, in content, create enormous greater potential for consumers to have all kinds of services.

And it is an exciting time, and for the Congress, we appreciate you looking into this because, as you look at this burgeoning marketplace of audio availability, there are a number of clouds hanging out there that we hope you will begin to address immediately. First off, you heard talk of low-power FM and recent findings that there is not the interference that people had worried about before. We totally endorse Mr. Blackwell's idea that there ought to be more availability of low-power FM across the country.

There are many, many groups. You have a submission from the Prometheus Radio Project for this hearing today, indicating those who want to offer the service. Consumers want to receive it. We hope that you will help open this market to new diversity and opportunities.

The other major cloud you heard about earlier is in this enormous marketplace, the few minority, the few women owners of media properties from radio across broadcast and on. Why is that

the case? There clearly is marketplace impediments that are limiting diverse ownership. We hope the committee will move immediately to address those issues. Diversity of owners is very different than programming that is targeted to audiences but is controlled by few entrepreneurs who do not reflect the attitudes, the backgrounds of those diverse audiences.

This is an important issue to address, and as you look to what the marketplace could do, we believe the greatest danger to consumers are many of the proposals to allow broad consolidation of media properties that concentrate power in the hands of a few owners. The great technologies will not serve the public interest if too few people control these technologies.

So this afternoon, I'd like to just address the immediate proposed merger before you to evaluate from a consumer perspective what this means, the Sirius/XM proposed merger. Many things have already been said about market definition. Mr. Terry, I certainly hope that this is not the marketplace of noise. But looking carefully at what consumers need and what they use, there is a very distinct difference here between a mobile, audio, digital service that local broadcasters do not offer and cannot offer, that for immediate sports programming, NFL, NBA, Major League Baseball, you can't get on your iPod or other devices. There are some very unique elements to the services that XM and Sirius are offering.

And so you can say that a bike and a plane and a train and a car all compete on some level, but for the importance of defining a relevant market for competition that keeps prices down for consumers and options open, that wouldn't make sense. And we believe in this case this merger suffers from very severe anti-competitive limitations. And unless Mr. Karmazin, who is extremely gifted, can show us how there are other facts not available right now, we don't believe it is in the best interest of consumers to allow this merger to go through, either from the limitations of the licenses of the FCC or antitrust review.

I will just speak for a moment about the price promise. I very much appreciate Mr. Karmazin clarifying what we could get for $12.95 and the fact that there will be dual offerings for less than $25. And he indicates there will be more choices from this, but I would like you to step back as policymakers, not to review the merger, but as policymakers to think about if there were one satellite radio offering, what would you want to do to lock in that, if that is the appropriate deal that you would be getting? Do you just trust it in the marketplace that there is no other mobile satellite radio provider? Or what conditions, what regulations would you need? And let me ask you this: Do you think you need two licenses in the hands of one company to offer that service?

Is it possible that what we are really hearing is if there are benefits of combining these, we could free up some of the spectrum from satellite radio for mobile digital television, for more broadband possibilities? Is there a policy option here that is really being presented to you that would create more opportunities for consumers?

We urge you to look at those issues in the context of what is being proposed in the marketplace. And please help us in driving more innovation and diversity, and please be skeptical about consolidation. Thank you.

[The prepared statement of Mr. Kimmelman appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, Mr. Kimmelman, very much.

Mr. Karmazin, will you permit consumers to buy channels a la carte?

Mr. KARMAZIN. No, at this point, we don't have the set-top box such as what exists in your home. What we will do is offer more choices, and we might be able to get to a la carte-like services. But the idea of having somebody pay for two channels, if they only want two channels, is not something that is a financially viable alternative in satellite radio.

Mr. MARKEY. So will prices for consumers stay the same, increase, and how will anything that you say be binding upon your company?

Mr. KARMAZIN. Sir, we are certainly willing to have discussions with this committee or with the FCC or any appropriate agency on crafting a timeframe. But I will make it very clear in answering that question. No, prices will not go up. Again, if you are a subscriber to one service, it is $12.95, it will not go up. The only increase in pricing would be if you were taking content from both companies. And there, the price comparison is $25.95, and the prices will drop significantly from that.

Mr. MARKEY. What is significant? So that if one of them has the NFL, the other one has Major League Baseball. Now, if someone wants to get what the company that they now subscribe to doesn't provide, will they have to pay the full $12.95 in order to get it, or will there be a discount for that person as they are now subscribing to the other channel? And how big is a significant discount? Is that $10 off or only $2 off?

Mr. KARMAZIN. There will be a significant discount. Without getting into any specifics, Congressman, because we are not prepared to come up with a specific number. But I will tell you that it looks closer to $10 than to $2.

Mr. MARKEY. Now, on the issue of local content, such as news, weather, sports, et cetera, not just national content, there is some concern by the local broadcasters that this merger will make it more possible for you to provide more local content which will cut into the local radio stations' revenue. Could you answer that question in terms of the threat to the local broadcasting?

Mr. KARMAZIN. Sure, Mr. Chairman. Our business model does not provide for us to really do local advertising and local content. I have heard from different people in the course of the last 2 weeks where some people would like to see us do more local programming. And others are looking for assurance that we are going to do less or no local programming. So we are happy to work with our regulators. We are happy to work with this committee in getting a sense as to what it is we are being asked for. Sometimes we are being asked to do more in the way of local services, and some people have advanced that. And other people have advanced doing less. So we don't currently plan on getting into the local advertising——

Mr. MARKEY. Do you believe that you are a threat to local broadcasters?

Mr. KARMAZIN. Yes, I believe there is a fact that when we compete with local broadcast, there is no question—and if what you mean by threat, are they going to be out of business? Absolutely not. There is an AM/FM button right next door to every satellite radio subscriber. We are not replacing local radio. So I don't know what you mean by threat. Do we compete with them? Absolutely. They compete with us? Absolutely.

Mr. MARKEY. All right, let us go to Mr. Smyth then. Mr. Smyth, how do you respond to Mr. Karmazin?

Mr. SMYTH. My response to Mr. Karmazin is first of all, I am a local business. He is a national business. I do not compete with him on a national business because my signals in Boston, MA cannot be heard in Lansing, MI or Detroit, MI. If this merger is put together, he can bring 288 signals into Boston, MA, where I currently have five radio stations. CBS would have five. Entercom would have four. I think that there is a disadvantage in that. Do I compete with him in a national arena? No, I don't. No. 2, my question is with this terrestrial repeater, when you start to get into exclusive programming, there are some concerns there that you can start to see them come into the local markets. Mr. Karmazin just said that it has been going both ways. Some people want him in. Some people do not want him in. From my colleagues, they do not want him in the local markets. I have never heard anybody say we want you to come in.

Mr. MARKEY. Let me get a quick comment from Mr. Kimmelman. Then my time is expired.

Mr. KIMMELMAN. Mr. Chairman, I think it is quite clear that this is a national service that does something unique. It combines national programming, all Major League Baseball, all NFL, all NBA, with the potential for local programming. Mr. Karmazin says he is not really in that business, but he can offer it. He would offer it on some level. So I can understand why local broadcasters would fear that this could cherry pick some of what they offer.

Mr. MARKEY. And what are the consequences of that, Mr. Kimmelman, quite quickly?

Mr. KIMMELMAN. Well, I think that this is something local broadcasters are going to have to address, whether there is a merger or not. It is just a greater problem if there is a merger to them.

Mr. MARKEY. OK, my time has expired. I recognize the gentleman from Michigan, Mr. Upton.

Mr. UPTON. Thank you, Mr. Chairman. I have got a number of questions as it relates to the merger request as well. And I just want to thank publicly both the NAB and Mr. Karmazin for actually spending a little time with us in addition to the 5 minutes that we are allotted today and down the road too.

Mr. Karmazin, are you able to succeed as Sirius or XM, either one able to succeed if the merger does not come through?

Mr. KARMAZIN. Yes, I believe so.

Mr. UPTON. And let me go into one of Mr. Markey's questions to clarify. One of the things that you indicated was that you would perhaps look at lowering prices if you looked at perhaps a smaller service field or a smaller number of stations, not exactly a la carte, as we would like to imagine, but perhaps a couple of fewer stations. And the question that I have as we relate is one has NFL, the

other one has baseball. I don't know what the subscription time period is. When someone signs up for the service, are they billed monthly? Are they billed yearly? Do you have a choice?

Mr. KARMAZIN. Yes, sir. As a matter of fact, you can sign up for a lifetime subscription for $495. It is done, and you don't have to pay any increase ever.

Mr. UPTON. The question I was going to ask though, can you do a 6 month/6 month so in essence you could sign up for NFL in the winter and then maybe in March, with the change of Daylight Savings Time, be able to move to the spring games and get baseball through September, October?

Mr. KARMAZIN. Currently, you need a separate radio. So in the case today of both services, you have to buy a separate radio. But there is no minimum required. I would say the vast majority of our subscribers do an annual plan or more, but you can subscribe on a monthly basis. And if you wanted to, to pay for a month, disconnect, and go to another service, you can do that.

Mr. UPTON. Now, I am co-chair of the auto caucus with Mr. Kilby, an important venture in Michigan for sure. So if I buy a new Ford, and I signed up with—is that Sirius or XM?

Mr. KARMAZIN. That is Sirius.

Mr. UPTON. What happens if I buy this new Ford, and all of a sudden, I decide that I want the NFL and MLB to be part of that? What do I do as that relates to the receiver that I have in my vehicle?

Mr. KARMAZIN. If the merger goes through,what we would hope to offer you, as a Ford customer, is the ability to get both services on your same radio.

Mr. UPTON. You will be able to do that without changing the receiver or the device that I would have or not?

Mr. KARMAZIN. That is correct, and that is where we made the analogy of saying that today you would have to buy the second receiver to attach to it and pay a second subscription, $25.90. And going forward, there would be a substantial reduction, and you will be able to get it both on the same receiver.

Mr. UPTON. Mr. Smyth, you are shaking your head.

Mr. SMYTH. If I understand the question properly, sir, you asked if you had a Sirius radio in a Mustang, and the merger came together today, you would have to have another radio in that car. You could not receive both XM and Sirius on a Ford radio today. It is inoperable. It would cost the consumer more to do that, and Mr. Karmazin was saying that. I mean he is far wiser than I, but I was somewhat of a doubting Thomas to see how did that——

Mr. UPTON. My question is who is going to pay for this receiver that I am going to get?

Mr. SMYTH. The consumer.

Mr. UPTON. And what is the cost going to be?

Mr. KARMAZIN. Congressman, what we are saying is that every single receiver that exists today is not going to be obsolete. And in order for the consumer who has that Ford vehicle today, if the companies merge, you don't need a second receiver. That we will be able to provide you with content to your existing receiver without a new receiver and at a lower price than you currently have the choice today.

Mr. SMYTH. You are saying that the same chip will receive the same two signals from XM and Sirius?

Mr. KARMAZIN. Is that a question you want me to answer?

Mr. UPTON. Yes.

Mr. KARMAZIN. We didn't say it is the same chip. What we said is that we would feed that content via the satellite into that respective service. So we would take XM's contents. It is not very complicated. You have been in the broadcast business a long time. We would take the baseball content, if we got permission, and feed that on the Sirius system into the Ford vehicle.

Mr. UPTON. My time has expired. Thank you.

Mr. MARKEY. We are going to have a series of roll calls on the House floor that will require all of the Members to leave here in approximately 5 minutes. We will then recess for about 15 minutes and come back and reconvene for perhaps only 15 minutes then, at which point, there will be another couple of votes on the House floor, after which we will have to make a game time decision as to what we do. But at this point, I will recognize——

Ms. ESHOO. Mr. Chairman.

Mr. MARKEY. Yes?

Ms. ESHOO. Mr. Chairman, can I have a unanimous consent request that members be able to put questions in writing to the witnesses?

Mr. MARKEY. Without objection.

Ms. ESHOO. Thank you.

Mr. MARKEY. I thank the gentlelady. Let me say this, with the indulgence of the witnesses, I would like to keep the subcommittee hearing going even after the second set of roll calls. There are bathrooms easily accessible to everyone here that perhaps during the break we can take advantage of. I turn now to recognize the vice chairman of the Telecommunications Subcommittee, the gentleman from Pennsylvania, Mr. Doyle, and ask him at the conclusion of his questions to just gavel the committee into recess.

Mr. DOYLE. Thank you, Mr. Chairman. Mr. Chairman, I want to set the record straight. My colleague and friend Mr. Stupak had said I had given up alcohol for Lent, and I want you to know that is not true. I gave up brussels sprouts.

Mr. MARKEY. You are Irish, after all.

Mr. DOYLE. I want that on record, yes.

Mr. Karmazin, you have acknowledged that both XM and Sirius have limited channel capacity. So if you have to cut XM stations to make space for popular Sirius content like Howard Stern and NFL, for those who want to pay extra to get that, aren't the people who just want XM and want to pay $12.95, aren't they going to end up paying the same price for fewer stations than they get right now?

Mr. KARMAZIN. Congressman, there has been tremendous technology advancements including where you are able to squeeze more channels into the same bandwidth. Compression technologies that enable you to use the same bandwidth that you have but to be able to make more choices. We compete with free radio, and if we don't satisfy these subscribers for $12.95, we don't have a very good business model. So to your point about whether or not we are going to be able to accommodate a number of additional channels on top of

the core channels that we have today, we believe that we will technically do it with no disadvantage to the Sirius or XM subscriber.

Mr. DOYLE. Excellent. So for that XM subscriber that says I like what I have, I just want to pay $12.95, he is going to get what he asks?

Mr. KARMAZIN. He is going to get pretty much. I can't tell you exactly what because we constantly make changes. So as an example right now, we are not using all of our channel capacity today. So we have the ability today to put more channels into our existing service than we are using right now.

Mr. DOYLE. Mr. Kimmelman, when Dish Network tried to purchase DirectTV in 2002, a merger that would have combined the only two satellite TV providers, you told the Senate Judiciary Committee, and I quote "that the merger could offer consumers some significant benefits." So what is different about the satellite radio market that instead of seeking conditions, you seem to outright oppose the merger?

Mr. KIMMELMAN. With cable rates going up three times the rate of inflation, we were looking to satellite to try to do something to bring down prices for consumers. The last time I looked, free over the air radio is not going up in price. So there is a huge difference here into who the adjacent market is.

Second, the merger of DirectTV and EchoStar that was proposed included a significant offer of spectrum divestiture, at that point, to Cablevision systems which sought to offer a new competing video service. If something like that were on the table today, that would be a very interesting addition to the other kind of promises Mr. Karmazin has made.

Mr. DOYLE. Mr. Karmazin, in response to that last comment by Mr. Kimmelman, what is the possibility of that?

Mr. KARMAZIN. Yes, if you take a look at the way people get free over the air television, well over 90 percent of the people get it from a pay service. So when you take a look at the market, you are looking at a cable and two satellite companies. So therefore, I think that merger didn't happen because there were three companies becoming two. When we talk about today, the vast majority of all the people are getting satellite radio in addition to their free radio. 216 million cars have free radio. So the market is very different between satellite radio and the situation with DirectTV and EchoStar. So we really don't see it as analogous at all. We see that they didn't have free as something to hold their pricing back. And it is just economics. I don't know if there is anybody who sort of follows it a little bit. But when you are trying to get subscribers and you are charging $12.95, you are more apt to get a subscriber than if you are going to charge $14.95. So if the option is free, why on Earth would there be higher prices? But we said, you know what? Forget whether you buy into that argument, OK. If you don't believe the economics, then we believe that we should be held accountable to everything we are saying. And we are prepared to be accountable for everything that we are saying.

Mr. DOYLE. Thank you. I want to ask Mr. Kimball my final question. Mr. Kimball, I have gotten a lot of calls from constituents about the Copyright Board's recent decision to increase the royalty fees, which I personally think is outrageous that Webcasters pay

for music right now. If the Webcasters die off because they can't afford the new fees, doesn't that cut into the argument that they are going to be able to compete with satellite radio?

Mr. KIMBALL. I think that is exactly right. I think the problem we have today is that the entire Internet radio system is at a disadvantage with satellite radio. We pay a higher royalty than the satellite system pays, and we are under a different standard to set that royalty than satellite pays. And I think until we have a level playing field, the Internet will not be able to compete fairly with satellite. And that is why I think that this merger should certainly be reviewed very carefully and, I think, put on hold until we have a legislative framework that is fair. The Internet should not be disadvantaged.

Mr. DOYLE. Thank you. This hearing is now adjourned until after the next vote. Thank you. In recess, not adjourned. In recess. Stay put.

[Recess.]

Mr. MARKEY. Mr. Kimball, what is your reaction to the Copyright Royalty Board's decision on Internet radio royalty rates, which rejected all of the arguments made by Webcasters and instead adopted a per-play rate proposal and made this proposal retroactive through 2006?

Mr. KIMBALL. Well, to say we are disappointed would be, I think, a bit of an understatement. I think we are very concerned that the Copyright Royalty Board procedure is still lacking a fundamental understanding of how the Internet works, what the economics are on the Internet, how small Webcasters will be affected by this kind of a ruling, which for companies like RealNetworks that are in the subscription business is not as significant as for the small Webcasters, some of whom are going to have to pay multiples of their total revenue in back royalties. And how they handle that is really a complete mystery to them. Companies that are small mom and pop organizations that could have $100,000-plus back royalty obligations is absolutely disastrous. And what is more is the $500 per channel minimum really has a significant impact on the diversity of programming offered on the Internet. That is truly one of the best things about Internet radio, that we can provide so many different channels to satisfy so many different interests. And with a $500 per channel minimum, companies like Live through 65 and Pandora and RealNetworks that provide tens of thousands of channels of content, that of every possible conceivable genre and configuration, whether you like classical music and rockabilly, we can put those two together, if that is what you happen to like. That is all going away with a $500 per channel minimum.

Mr. MARKEY. OK, thank you, Mr. Kimball. Mr. Blackwell, do you think the FCC should separately allocate non-commercial radio licenses for tribal lands or other rural areas where spectrum is abundant, rather than allocating all non-commercial licenses simultaneously? Tell us how important low-power radio is to your people in your community.

Mr. BLACKWELL. Well, Chairman Markey, I suspect that you asked me that question perhaps because I am the only man at this table that wasn't afraid to wear a necklace to this hearing. Perhaps I am here because localism and diversity are one of the most im-

portant elements of this dialog of this inquiry. In Indian country, oh that we had the ability to compete with some of the entities that are sitting at this table. We are among the most underserved areas in the United States. We would welcome a particularized inquiry by the Federal Communications Commission as to new services in Indian country, specific to Indian country.

Mr. MARKEY. OK, great. Mr. Kimmelman, can you address that issue briefly?

Mr. KIMMELMAN. I think it would be a tremendous service to the unique local community needs to separately allocate spectrum to ensure that we really take care of the needs of the tribes. And it would in no way harm any of the other competitive concerns about spectrum allocation the FCC needs to address.

Mr. MARKEY. Mr. Karmazin, Mr. Kimmelman noted earlier that the FCC only had 25 megahertz of spectrum to auction for satellite radio services. It subsequently allocated all of the available spectrum, 12.5 megahertz each, to Sirius and to XM. You noted that compression technology allows greater efficiency. So given the efficiencies generated by the merger, can Sirius and XM operate together on a single allocation of 12.5 megahertz?

Mr. KARMAZIN. Mr. Chairman, what we want to do is make sure that this is not in any way, shape, or form disruptive to the American public. So if you have a Ford vehicle, as was talked about earlier, for at least the next 10, 15 years, we are going to have to provide service into that Ford vehicle. And the only way we can provide that service into the Ford vehicle is through our network. And the same thing would be true for XM. So we are going to put up three more satellites over the next 3 to 5 years, each one costing about $300 million, and each one having a life term of about 10 to 12 years. So the first time that we would be able to consider something like that would be somewhere in the 2017, 2018 where we would be able to have the ability to use one platform. And again, if in fact, there was some interest in that area in that timeframe, of course, like anything else, we would be open to it. We are not spectrum hogs. We bought our spectrum. We paid for it, and if, in fact, at any time that we have excess spectrum, we would certainly be open to hear any suggestions in that regard.

Mr. MARKEY. OK, so, Mr. Kimmelman, could you comment on that?

Mr. KIMMELMAN. Well, I am just curious, Mr. Chairman, that if we can compress a lot more and get the same current base in a lot less capacity, at least consider as a matter of policy, I don't know if it makes sense in the merger context, but certainly as a matter of policy, what could the Government get for 12.5 megahertz through an auction? And as we have done with the digital television transformation and progression, consider holding consumers harmless, making sure that monies are used to take care of the person with the Ford, the person with embedded base radio equipment that would need a new receiver. I would just be curious to know whether there is a way to actually get more of a benefit by having the spectrum made available for other purposes, broadband, mobile, digital, holding consumers harmless. And if it is believed that it would be better to have one satellite radio company rather than two, cover all these bases.

Mr. MARKEY. So let me understand, Mr. Karmazin. When you swap out the equipment for one half of your subscribers and then would you continue to operate both systems simultaneously?

Mr. KARMAZIN. No.

Mr. MARKEY. And for how long, if that is your choice, would you operate both systems?

Mr. KARMAZIN. Mr. Chairman, what we have said is that we do not want the consumers to be disadvantaged because of this merger and we don't want their existing receivers to be made obsolete and that we are going to continue to have to operate on these two networks for——

Mr. MARKEY. For how long?

Mr. KARMAZIN. I think I mentioned to you somewhere in the 2016, 2017 area because there will still be consumers out there who will have a General Motors vehicle that would only be able to take content from the XM satellite so the Sirius—in other words, we can do some compression technology and shoehorn a few more channels into our 12.5 megahertz. But we can't feed their satellites into our vehicles. And that is why when we are asked a question about the Ford and getting both content, what we would do is take the content and put it into our network and vice versa. What we would need to do if the time came that the technology was such that we wouldn't need it, we would certainly be open to it. But that is not for the foreseeable future.

Mr. MARKEY. OK, so that's 2016?

Mr. KARMAZIN. I am making up a year.

Mr. MARKEY. I understand.

Mr. KARMAZIN. But it is somewhere in that area.

Mr. MARKEY. About 2016; and 10 years ago, the FCC had a rule for interoperable receivers. And I know that because obviously I was a part here of a big discussion at that time. And we are only beginning to see them now, 10 years later.

Mr.KARMAZIN. But, Mr. Chairman, both companies have spent $25 million on developing an interoperable receiver and we have developed an interoperable receiver. And if there was any equipment manufacturer who wanted to make it, we would absolutely give them our intellectual property so they could make it. The issue on it is, sir, is that we will not subsidize it today, and the reason we will not subsidize it today because it is possible that Sirius would subsidize an interoperable radio, which would result in XM getting a subscription. It doesn't make any sense for us to subsidize a radio where we don't get a subscription. Post-merger we are prepared to subsidize that radio. We have developed it. We have lived up to our license. There is not a question. Nobody is going to find something in that license that said anything other than that we would develop it. There was never a requirement that said that we would subsidize it and bring it to the market. We are prepared to do that in a post merger.

Mr. MARKEY. Yes, let me go to you, Mr. Smyth. Any comments in that area?

Mr. SMYTH. I would have two comments on that. I think that if you said 10 years ago that you were going to build an interoperability capability, then don't say what you can't deliver. What concerns me today, when you put two companies together, what hap-

pens is innovation is taken out of the equation. No. 2, I think there is something that I had mentioned to Mr. Karmazin, and he is far wiser about this than I. That if you have the Ford car that we used earlier and the Ford car is the one receiving Sirius programming and you want to shoehorn in additional channels and their content, that is going to come in at a lower bit rate. And that audio quality is going to be depreciated, and therefore if the consumer is going to be paying more money eventually for that, they are going to be getting a lower quality at a higher price.

So my question would be if you are waiting until 2016—and I know that that is a hypothetical date, that is not a fixed date, but still those are questions that would go through my mind. Again, the whole digital revolution is about quality of sound and the ability to use this at its best rates. And I just think that when you start to get into cutting these bit rates, there is only so much you can cut them.

Mr. MARKEY. So, Mr. Smyth, let me ask you this. The threat that is posed by satellite theoretically to terrestrial broadcasting is that it lowers the value as well of terrestrial AM/FM radio stations.

Can you just give me a little bit of a sense of what is happening in the radio market? As I said, in terms of resale value of radio stations, what has been the impact of the first 14 or 15 million people subscribing to XM and Sirius in terms of the values of local radio broadcast stations?

Mr. SMYTH. I think in the major markets, the values for radio stations held a bouquet. I think there is a lot of different issues. There has been no growth in the overall radio advertising market over the past 4 to 5 years. I think zero to negative growth, and I think that that has definitely hurt the economic viability of it. The issue about satellite really comes down to when you look at—not on a national basis, I don't compete with Mr. Karmazin on a national basis, not at all, I compete with him on the local basis that he would have—if you combined these companies, you would have 288 signals to my five. And under current regulations, I am allowed to have five FMs and two AMs, and that's it.

Mr. MARKEY. All right, so I got that. Let me go back to Mr. Karmazin. How do you respond to that?

Mr. KARMAZIN. I will do anything you want me to, Mr. Chairman, if this is a debate. So first of all, if HD radio has the ability of having an improved sound or multiplexing a whole bunch more channels in it, they clearly are using that spectrum to shoehorn more stations in there. Second, there is clearly on, I believe, Greater Media Stations, though I don't follow them a great deal—they are carrying programs like Sean Hannity and Rush Limbaugh, which, I guess, aren't local programs. I am saying it is fine. I don't object to anything that they are doing. If they want to carry national programming in their local market, certainly we have no objection to it. I think I can give you a good answer on how terrestrial radio is doing, 14 million subscribers with satellite radio, is Clear Channel is about to do an LBO, which is one of the largest LBOs in this history of business, so I don't see any signs where they have poverty. If you take the $21.5 billion of revenue that is represented by what terrestrial radio is doing, our local advertising, so they do

$21.5 billion of advertising revenue. Our combined companies do $60 million of advertising, $60 million of $21 billion.

Mr. MARKEY. I'll give Mr. Smyth the final word on this round.

Mr. SMYTH. Thank you, Mr. Chairman. First of all, I am a local broadcaster, the most successful radio—I ran Magic in Boston for many years. The reason Magic was successful was because it was grounded in the community and it is local. Greater Media does not carry Sean Hannity and the other individual that he mentioned. I believe that if you look at national syndication for radio personalities, there is probably two or three who have ever made it, and that is it. So successful radio in America is local.

Mr. MARKEY. Should there be additional public interest obligations placed upon the radio industry, given that they will have this new digital service capability?

Mr. KIMMELMAN. Well, Mr. Chairman, we have had a hard time having the radio industry and the broadcast television industry live up to the previous public interest obligations that they have had.

Mr. MARKEY. What new ones would you impose? What makes sense to you as we get into this?

Mr. KIMMELMAN. I believe Congress ought to look at a different model for how we approach public interest obligations. As you do the compression and the multiplexing that Mr. Karmazin is talking about in the digital era, there is an enormous capacity for radio and for broadcast television. I believe they should be asked to share that with the public, make it available to the public and not try to regulate the content on those stations but share what has been given to them for free. And in that way, I think we can have more public access available on all of these platforms that will be generated by the community and by consumers rather than by broadcasters.

Mr. MARKEY. This is what I would like to continue the conversation looking at. Back when we did the Cable Act in 1992 and we were looking at what the new public interest standards should be for the direct broadcast era, for the satellite era, this committee determined that 4 to 7 percent of the transponder capacity should be for non-commercial educational programming from alternative sources. Just briefly, Mr. Smyth, does that make any sense to you? What do you think about additional public interest obligations for the local?

Mr. SMYTH. Well, I can speak for my own company. I mean we just introduced a program in Boston where we had the new Governor, Deval Patrick, has a show every first Thursday of every month.

Mr. MARKEY. No, I don't mean program, but I mean a generic set of rules that are on the books in terms of the public interest responsibilities.

Mr. SMYTH. I think that the broadcaster has the responsibility to be reflective of what is going on in his community.

Mr. MARKEY. So should we put that in the rules as we move into the digital era, more specifically that is?

Mr. SMYTH. I think we have to have more time to discuss because I think it is very hard to make a generic rule because each market has different issues and things that need to be addressed.

I think that country radio, in general, has done an incredible job in helping St. Jude's.

Mr. MARKEY. No, I understand that. Now, Mr. Karmazin, very briefly, would you support a 4 to 7 percent set aside?

Mr. KARMAZIN. Yes, I don't have a horse in that race, and I will leave it to the terrestrial broadcasters to decide what is in the public interest.

Mr. MARKEY. How about in your service?

Mr. KARMAZIN. Yes, in our service, if, in fact, that is something that you are asking us to consider what we have said is that we would be open to considering things in connection with the merger.

Mr. MARKEY. I appreciate that. I have to again recess the committee for about another 10 minutes, and then the committee members will be coming back. Thank you.

[Recess.]

Mr. MARKEY. With apologies again to the witnesses, I think that our attention is now focused exclusively upon you. The roll calls on the House floor, I think, are pretty much over for the rest of the evening. So let me turn now and recognize the gentleman from New Jersey, Mr. Ferguson.

Mr. FERGUSON. Thank you, Mr. Chairman. Mr. Karmazin, I mentioned in my opening statement, of which we had many, last year I introduced legislation, which I did so because I was concerned about new, portable devices turning satellite radio or performance services into distribution services. The new devices have enabled consumers to cherry pick songs or create an unlicensed music library without necessarily paying artists that, frankly, help make radio so compelling.

I am concerned about the same thing happening when HD radio rolls out. Your company, as I mentioned before, had reached an accommodation that compensates artists and their record labels for distributions that are made possible by the S50 and the stiletto devices. Last week, Congressman Berman mentioned as he commended your leadership for taking this action, and you had mentioned that you tend not to like to use the courts to achieve your goals but to use the marketplace. I said in my statement that I obviously agree with you on that and I commend you for that.

But I want to ask about this proposed new company, a merged company. What is going to be your policy going forward on this particular issue? And are you going to essentially adhere to this perspective with the new merged company?

Mr. KARMAZIN. Congressman, thank you. I think you know what my viewpoint is because we are implementing my viewpoint at Sirius to where we have obviously made an accommodation with the various labels to compensate them for this service. So that will give you a sense as to what I believe should be done. After the merger, I will be the CEO of the combined company, and all I can say is that you know my viewpoint on the subject. But there is obviously a court action that is taking place as we speak. I have no idea if, in fact, before the merger is approved hopefully that there will be a result of that either through a negotiation or what. My hope is that we can continue to have a terrific partnership with the music industry because their content is very valuable to us. And we are paying for it.

Mr. FERGUSON. I want to pick up also on something that Mr. Boucher had referenced earlier, this recent Arbritron survey, showing that satellite radio currently, I guess, accounts for 3.5 percent of all radio listening in the fall of 2006. The survey also found that satellite subscribers actually spend more time listening to traditional radio than to satellite radio, which I think is interesting, at the very least. Given these findings, can you reply, I guess, or address NAB's concerns or the suggestions that this is going to create a monopoly? Is that an accurate characterization of the market right now?

Mr. KARMAZIN. Congressman, first of all, my comment on that 3.4 percent is that I am sad about it because I certainly would like it to be higher.

I think that it is really very disingenuous. We play music. Terrestrial radio plays music. We play sports. Terrestrial radio has sports. We have talk. They have talk. It is hard to see how they are not, in fact, competing in fact and we are competing with them. I just don't even begin to see it, and I have to believe that the fact that they are here today must be for some reason. They are not at the global warming conferences that took place today. They are at the satellite merger today. So they must have a greater interest in satellite radio, and if they don't compete with it, I don't know how they should be worried about that. They should be worried about global warming, and they weren't at that hearing.

Mr. MARKEY. I was at both hearings.

Mr. FERGUSON. We were trying to keep things light here, but now we have gotten very—you piqued the chairman. I appreciate that. Mr. Chairman, that is all the questions I have right now.

Mr. MARKEY. The gentleman from Texas, Mr. Green.

Mr. GREEN. Thank you, Mr. Chairman, and I wasn't at the global warming conference. I surely wouldn't want Congressman Markey not to think I am really concerned about global warming. Mr. Karmazin, you know my concern. You heard my opening statement about satellite radio cherry picking a low cost, and I think they do compete. I think satellite radio and my terrestrial radio, my over the air competes. And my concern is about picking low-cost radio services without the high-cost services. You are doing your job as a salesman today in being real flexible about whatever conditions. But if DOJ and the FCC determines the merger is in the public interest, I would expect numerous conditions to be applied to protect localism and consumers. My concern is with the past history though of satellite operators over the years about repeaters, receivers, and the attempts to evade the commitment of the national service, can you give us some assurance of our fear of that?

Mr. KARMAZIN. Sure, Congressman. I don't think it is proper for any company to violate any FCC rules. I have been a licensee of the FCC for the better part of 40 years, and you should play by the rules. And the FM modulator issue and the repeater issue are things that should not have happened. So that is clear. But those things don't challenge the character of us as a licensee or our ability to do this merger. And just as an example, this week a very large number of broadcasters were fined for payola rules. And a number of companies have paid fines dealing with political advertising and indecency, and we are not suggesting that Clear Chan-

nel shouldn't be allowed to do their multi, multi-billion dollar transaction because they have violated various rules in the 30 or so years that they have done it. So, yes, we believe in following the rules. I apologize even though I wasn't here at the time, but it took place in our company, and we should be playing by the rules. And I assure you that we will continue to play by the rules, and if we make a mistake, then there should be a penalty, just like there was on payola, or just like there was where Univision just paid a $24 million fine for violating children's programming rules on television. I don't see those two related, other than that we should be a good corporate citizen, and I believe we are.

Mr. GREEN. Well, I don't know about comparing Univision with decency because I know there has been some discussion about requiring satellite radio to also match the decency requirements that, for example, Univision or some of our over the air radio has to compete with.

Mr. KARMAZIN. And I think the answer on that, sir, is the fact that one of the great interests on indecency was protecting children, and there was no mechanism at the time, and I still believe today, to where you can have a radio that gets the Boston radio stations and you can block out that station from coming through that clock radio or that car radio. We are a subscription service. You need to pay $12.95 in order to get that service. If you don't want any of our content, we have the ability to block it from that receiver. You have the ability to block it. We broadcast the Catholic Church channel. There are some people in our subscription service that don't want that channel. You can block it, and it never comes into your home, and you have paid for it. So therefore, we think that it is a very different model than the free over the air model where children have access to all of these radios. So I think it is different.

Mr. GREEN. Well, I also understand because I was waiting for Congressman Upton or Congressman Dingell because I bought a Chevy Tahoe, and I have, what, 90 days of satellite radio. And there are things, I was hoping to have the Astros, because up here in DC, even the Washington Post doesn't cover them. But there are things that I could see how you would compete. And again, the concern I have is that the things that I listen to, that Amber Alert. Congress was involved a few years ago to make sure that my local TV and radio stations would have Amber Alerts and things like that.

Mr. KARMAZIN. And we would like to do it, Congressman. In other words, we are hearing sort of little conflicting things. So in some ways, people are saying we don't want to give the consumer that much choice by allowing satellite radio to do some of this content. And what we are saying is: do you want us to do Amber Alerts? Because we are. But if you are saying we shouldn't do local things like Amber Alerts, then someone needs to tell us. We are hearing again conflicting things.

Mr. GREEN. No, I am not saying you should do it. If you are going to compete with over the air terrestrial radio, then you ought to have the same hoops they jump through, which would include decency requirements, even though you have a subscription service. And that is the concern because again I can see why people would

both want a subscription but also with taking away local ad revenue, we could end up with many, many fewer stations. If Congressman Walden is trying to sell his, I am sure the value of them would go down very quickly.

Mr. KARMAZIN. Yes, I know there are differences. Again we paid for our spectrum, and terrestrial radio broadcasters have not paid for their spectrum. We pay royalties to performers, and terrestrial radios don't. So I think that there are a number of areas where we are different and again coexist. In other words, we are not trying to say that terrestrial radio is not doing a good job.

Mr. GREEN. I think that shows I have run out of my time.

Mr. MARKEY. The gentleman's time has expired. The gentleman from Illinois, Mr. Shimkus.

Mr. SHIMKUS. Thank you, Mr. Chairman. And just to follow up, Mr. Karmazin, that is kind of the schizophrenia that I was mentioning in the opening statement because I really do support my local broadcasters because of local interest. But the reality is, in the post-Katrina world, there may be some benefits in the digital carriage, and we just can't dismiss that. But if we say do it on the one hand and don't do it on another. So it is good public policy concern, and I don't have any answers. But I readily admit the schizophrenia that you observed is what we are observing also.

Mr. Kimball, Internet radio clearly reaches across states, not to mention countries. But can Internet radio promote localism?

Mr. KIMBALL. Absolutely. One of the great things about Internet radio is that it is very simple and very inexpensive for anybody to set up a channel from anywhere. So it doesn't require that you have the kind of capital to put up a satellite for $300 million or buy a radio tower. You can get free, open-source software in your own media room connected to the Internet and be broadcasting your own Internet radio channel with local information. I have that in my small hometown. We have local guys who love the weather and put up all the information about the weather. It is the same thing for radio. You could put together a channel that is about local bands, the local music scene, local concerts, local information and put that up on the Web. And it would be extremely inexpensive to do that, but for the CRB minimums and some of the royalties that you would have to pay, which frankly the broadcasters don't have to pay at all, and which the satellite companies pay less, we would just like a level playing field for those small, local broadcasters to flourish.

Mr. SHIMKUS. Thank you. Mr. Blackwell, you indicate in your testimony that the Internet streaming and satellite transmission of radio is helping Native American audiences. Can you elaborate on that?

Mr. BLACKWELL. Thank you very much for that question. I do believe that every platform that is represented at this table is utilized to one level or another in Indian country. And one of the challenges, however, is for Internet service. We like broadband service in Indian country. While telephone service nationwide is about 95 percent, telephone service in Indian country is somewhere just south of 70 percent. There is no reliable data for broadband development, for the deployment of broadband services. One hears rumors that it is 5 percent or 8 percent. Those are just rumors. What

we need are better metrics to be able to answer that question accurately. But it does certainly have great possibility, as each of these services does in Indian country.

Mr. SHIMKUS. Thank you. Mr. Smyth, can you talk about the transition to digital, and how is it going, and what benefits do you see from that?

Mr. SMYTH. I would be glad to, Congressman. Thank you for asking. I think it is a gradual evolution. Today we have about 1,100 stations that are broadcasting in HD quality on their primary channel. I can tell you that in Detroit, for example, we own a station, WRIF, and RIF–2 has become a station that is really targeted towards kids between the ages of 12 and probably 18. It has given access to local bands in the community. It is programmed by a programmer who is probably 21 years of age. It has got the buzz of Detroit, MI today, and what it does is it gives them great access and affordability where normally they wouldn't find those in other venues.

So I also think that the HD–2 channels will have a multitude of different effects as we move forward. I think in terms of the community, that they will be able to offer literacy channels. I think they will be able to work on Head Start. I think they will be able to do a lot of other different things that people really haven't thought about today, and I think that those will have community and economic benefits to the people that own those. I know, and as I said earlier, you know, we are doing an Irish channel in Boston, kind of obvious. But I do think that the limitations are only in the creative people's minds, and I think that what you have to do when you move into the digital world is try to take back as many of these barriers to success as possible and open the floodgates to creative license.

So I feel pretty good with what we are doing, but we have got a long road to go. I think Congresswoman Harman said it earlier. Wal-Mart has just racked the product, and we are starting to get some good retail distribution. And I think we will just get some good distribution in Detroit very shortly.

Mr. SHIMKUS. Well, since the chairman found that chair, I am going to move the previous question. No.

Mr. GREEN [presiding]. Whatever you would like, sir.

Mr. SHIMKUS. That is right. No, I will end by saying Mr. Karmazin, I was in another hearing this morning on global warming, and I talked about being the Neanderthal because I am a Creationist. And that is probably not politically correct, but I do have concerns on the decency issue, and I have been on that side of saying it is going over the airwaves. We should have standards. So I just want to put that on public record and hope that we can help clean up the airwaves a little bit. And with that, I yield to Mr. Green, yield back my time.

Mr. GREEN. Do you believe Eddie Markey gave me the gavel?

Mr. SHIMKUS. Take a chair. That is what I would do.

Mr. GREEN. The Chair recognizes Congressman Walden.

Mr. WALDEN. Hey, Mr. Chairman, did you want to get into global warming now? Well, you have the gavel.

Mr. GREEN. I am just glad my colleague from Illinois didn't call me a Neanderthal on global warming.

Mr. WALDEN. Again, I appreciate having this hearing today, and you have heard a lot about indecency and all. I think, Mr. Karmazin, you were here when we had the discussion on the wardrobe failure, I think, during the Viacom era and CBS, and so you have been here before us. And we have dealt with those issues. Now, I want to ask a couple of questions. Mr. Karmazin, you have said repeatedly, and so have your counterparts at XM, you bought your spectrum, in a sense, from the FCC. You paid for your spectrum, right, your license?

Mr. KARMAZIN. Yes, that is factually correct.

Mr. WALDEN. And was that in an auction?

Mr. KARMAZIN. I was not there at the time.

Mr. WALDEN. Sirius, though.

Mr. KARMAZIN. Yes, Sirius paid $80 some odd million, and XM paid $80 some odd million for that spectrum.

Mr. WALDEN. Right.

Mr. KARMAZIN. I assume that there was an auction. I assume it had other people bidding for that spectrum.

Mr. WALDEN. So, Mr. Smyth, don't broadcasters occasionally show up bidding in an auction for spectrum today?

Mr. SMYTH. I would say that——

Mr. WALDEN. The answer is yes.

Mr. SMYTH. Yes, they do.

Mr. WALDEN. Let me assure you the answer is yes.

Mr. SMYTH. Yes, they do.

Mr. WALDEN. If going to an auction and getting the allocation of the frequency, why is that different between him and you then in terms of how you are managed? It is different because of the legacy rules that are in place, right?

Mr. SMYTH. Correct.

Mr. WALDEN. Now, I think Mr. Karmazin made an interesting reference to the fact that the rules under which you all operate date back to 1997.

Mr. SMYTH. We were granted the license in 1997, and I think what I responded to was a question where a statement was made about the two companies owning it. That's correct.

Mr. WALDEN. The monopoly issue.

Mr. SMYTH. Yes.

Mr. WALDEN. And the rules at that time, as I understand it—I have not gone back and read them—said two companies won't be merged. Two separate, so we have a competing environment out there in this particular product line of delivering national satellite audio.

Mr. SMYTH. Yes.

Mr. WALDEN. That was the theory.

Mr. SMYTH. Yes, I know I am in the minority by not being a lawyer.

Mr. WALDEN. That will be two of us.

Mr. SMYTH. I do not believe it is a law. I mean it is not as a rule. I don't believe it is a rule. I think it was a policy statement that was made at the time the license was given, but I don't believe that if you were to go into the rulebook of the FCC there is such a rule.

Mr. WALDEN. I try to avoid that book if possible.

Mr. SMYTH. It doesn't mean that that is still not the belief, but that is just the fact.

Mr. WALDEN. Because I was going to say that we operate, as broadcasters, under the 1927 rules, the 1934 rules, the 1996 Act. And so I think that we see this industry evolving. The thing that is troubling to me, whether or not the merger makes sense, and then that will get argued out somewhere else, it is the issue of this hearing, which is the future of radio. And as I see it, the over the air free broadcasters in the communities are providing a service at no charge. So anybody in America basically can turn on a radio. They get the entertainment or information. They can push a button if they don't like a channel. Somebody is indecent, they can turn it off or they can't do exactly what you do. And they can't do subscription service. All they can do is advertising, and the only thing that drives advertising rates is audience. And so I know you would like to get your Arbitron ratings up, and I understand if I were in your shoes, I would too. But for this committee and for public policy for the country, you say what happens to those who can't afford $12.95 or whatever your combined fee might be a month? What happens to them down the road if commercial broadcasters, who are not only licensed by the Federal Government, but required to do public interest obligations, public commentary? What happens to that service down the road if you and a combined effort become a market force and take a huge chunk of the audience away?

Mr. KARMAZIN. Sir, I have been a broadcaster for an awful long time and I could tell you that the first radio station went on the air in 1926, KBKA in Pittsburgh. It was a Westinghouse station. It is still one of the top two radio stations.

Mr. WALDEN. How old is satellite?

Mr. KARMAZIN. Five years. From the point at which we got our first subscriber. I can assure you that local radio is very important to the consumer. Free radio will always coexist with satellite radio, no matter how successful satellite radio is. And I can give you an analogy, sir. If you take a look at cable and the local broadcasters, so that the local TV stations, local ABC and NBC and CBS affiliates, absolutely are vital today but so is HBO and so is ESPN.

Mr. WALDEN. Do your local translators, the repeaters, are they mechanically electronically set up so that you could insert local programming?

Mr. KARMAZIN. Yes, I can't tell you whether or not they are rigged that way, but I can assure you that we have no interest in using the local repeaters for local advertising or local programming. That is not our business model. Whether or not they are rigged that way or they aren't rigged that way is academic because we have no plans to use them that way. And again remember what I said earlier, I am sure everything I said you could figure out a way to hold me accountable.

Mr. WALDEN. Thank you.

Mr. DOYLE [presiding]. Mr. Pickering from Mississippi.

Mr. PICKERING. Thank you, Mr. Chairman. I just have a few questions and again having not taken any position on the merger but wanting to understand how we can make sure from a policy point of view that whatever happens is pro-competitive. And so I just have a few questions, and I know that you have had a discus-

sion with the chairman, Mr. Markey, as it relates to the policy at the time your licenses were granted, and there is a requirement of the policy that there should be two. If the merger goes forward, my question relates to the spectrum, the combined spectrum of both companies. Would there be any gained efficiencies between the merger of the two in such a way that there could be, as part of the merger condition, divestment of some of that spectrum so that if there were in the future a new entrant or a possibility of a new entrant, are you going to use that spectrum so that you could maintain the policy as you strengthen the financial standing of your two companies? Do you understand my question?

Mr. KARMAZIN. I do, sir, and it is possible that that kind of technology could be worked out so that the consumer is not deprived of the service on their receivers today, but it would probably be somewhere in the 10-year timeframe. And I know, as you look at things, that may not be that long, because of when these spectrum things. But we don't see how before 2016, 2017 that that could be done. But it is possible that it could be done with our next generation of satellites that we can do to make the receivers, and the way it would work is that we would design the satellites and the repeater network so that they could feed either of the radios that currently exist today as a way of not making those radios obsolete. So it is a possibility down the road.

Mr. PICKERING. What would have to be done to make that?

Mr. KARMAZIN. I think what would need to be done is that you would need to get the new satellite configuration to be able to feed both companies' receivers and terrestrial repeater networks.

Mr. PICKERING. And is there a way to accelerate that timetable?

Mr. KARMAZIN. Well, we are going to be launching our next generation, we mentioned earlier, Congressman, that we have two more satellites, each one for $300 million that we are going to be launching over the next 3 or 4 years. Those things have been committed to. Those things will not be able to handle this, and we haven't gotten the merger approved. And we are going to be launching one in 2008. So the idea would be that it would have to be the next generation of satellites after this generation.

Mr. PICKERING. Well, let me ask a hypothetical question. If, as part of the merger approval by the FCC, they required an acceleration of that timetable, an upgrading of your investment, so that it could be possible to give back or divest some of the spectrum in a more rapid time period so that you could have a pro-competitive possibility within your market segment, is that something that would make the merger impossible, unattractive?

Mr. KARMAZIN. Yes, I don't think it is possible for us to be able to do it, but again, I am not an expert on satellites. If I am going to give you an answer, I just need to make sure that my answer is right. So without being an expert on satellites, I don't believe it would be possible for us to accelerate that timeframe without spending hundreds of millions of dollars for satellites. And the reason we are fighting so hard for this merger is that we feel it is justified, but there is also about $300 million or so that the analysts have said that are available in synergy. If in fact, we have said, on pricing, we are going to give the consumer some of that advantage on synergy, and if, in fact, we are going to use all of the other

synergy for the ability of spending more money on an infrastructure that we don't really feel serves any purpose, then it really defeats any of the purpose of the merger. And it just may not make sense to do the merger.

Mr. PICKERING. Mr. Smyth, do you have any comments?

Mr. SMYTH. Yes, I do. Thank you, Congressman. First of all, some of the statements that Mr. Karmazin made earlier about all the bills in radio, I would remind him that he did run CBS Radio also. So I wouldn't forget that. And No. 2, I think important to note here is—that the question that keeps running through my mind as you were talking, Congressman, is if these two companies, these individuals have said they could run their two companies by themselves, they would survive, and Mel just basically said that if you can reach some of these different terms you talked about. Why would we put these two companies together, form one company, and lose all that innovation? Why would we take that innovation out of the marketplace when the digital era is just starting to come into its own? And we are going to take these two companies together, and we are going to stop that. And again it is about 288 signals going into your market, your market, your market, where the local broadcaster in your market can own a maximum of seven signals or eight. And you are going to have 288 signals. Why? If these companies are doing well, what you are doing is stopping innovation.

Mr. PICKERING. Mr. Karmazin.

Mr. KARMAZIN. So, first of all, you have that today. I don't really know what he is talking about. I mean we are talking about the fact that XM has these channels and Sirius does today. So that is not new information that there are these channels in the market. No. 2, the innovation would not be hampered, and the reason that you would, if the merger is approved, is because you believe that it is in the consumer's best interest because they get lower prices and more choice. At the end of the day, the reason for the merger would be that. If you don't believe you are going to get more innovation, more choice, and lower price, then you wouldn't approve it.

Mr. PICKERING. But this is my concern. We are going from two companies to one, and it is a little bit counterintuitive to say that is more choice. Having said that, I do see some legitimacy in your argument that there are multiple platforms, Internet, iPod, radio, traditional as well as satellite. And your financial health and condition does not appear to be very strong at this point. So is it a matter of surviving as one or losing both?

Mr. KARMAZIN. No, I don't think so. I mean I know it is an easy argument to make that we have lost $3.8 billion so far since we have started. We have not made a dime. Probably a low-power radio station has made more money than we have made to date. Also the idea is that this last 12 months, we have lost a billion dollars. We believe that we have a high fixed-cost business. We have launched the satellites, and when we get more subscribers, our profitability will improve. So we are not making a failing company argument. We believe both companies, if in fact it is decided that this merger is not allowed to go forward, that XM and Sirius—I believe both will be OK, but I can speak for Sirius—will be a very

healthy company. So this is not about survival. This is only about whether you believe the consumer is better off or not.

Mr. PICKERING. I appreciate your comments and your answers. I am concerned that if you draw up the drawbridge and there is the impossibility of a new entrant, as you go from two to one, is that pro-competitive or not? And so I just want to see if over time we can have additional investment, additional entry, and the innovation that will come from that, the competition that comes from that, and the choice that comes from that. And so, Mr. Chairman, I yield back my time.

Mr. ENGEL [presiding]. Thank you. The gentleman's time has expired. I yield myself 5 minutes.

Mr. Kimball, in your testimony before, you were talking a great deal about Internet radio, and I took some notes before on how Internet radio is the same and is different from over the air radio, and you were talking about it. Don't you approve of Mr. Karmazin's point that when we are talking about choices, we cannot just look at radio, paid-for radio in a box, but that people can have many choices? They can turn on their AM/FM radio, or they can go to the Internet or use an iPod. Aren't you actually making that case?

Mr. KIMBALL. I actually think the market definition questions that Mel is going to have to deal with, as part of getting this merger approved, are fantastically complicated, and I won't begin to pretend I am an economist who can solve how you slice that market. It is complex. I do believe that there are areas in which we compete with satellite radio, particularly when somebody is in their office or somewhere where they have an existing broadband connection in their home. We don't currently compete with satellite radio somewhere like the car, and how an economist is going to slice that market and make a decision about where you get market power is very difficult to say. But I will say that if satellite had a 10-year running start to build all the radios in all the cars over 10 years, it would be very difficult for a new market entrant to step in there and win back that car business. And I think the car is a pivotal place for the use of music.

Mr. ENGEL. Mr. Karmazin, I again made notes, and you will excuse me. I don't remember who said it, but it wasn't you, said that the merger should not go forward, and they compared it to the EchoStar and DirectTV merger. I would suspect that you would disagree with that, that you would say that it is not a parallel. I would like you to explain why it wouldn't be a parallel.

Mr. KARMAZIN. While you were out of the room at a vote, I mentioned it, but if you will allow me to repeat myself. That in the case of EchoStar and DirectTV, virtually every consumer gets their television through a cable or satellite. There are very few people who are getting it with the rabbit ears. There is probably about 10 percent of the population on a national level that gets it with the rabbit ears. So in the case of EchoStar and DirectTV, there were three companies: a cable company and two satellite television companies, all pay services that were competing. That was going down to two. In our scenario—and I have had conversations with this gentleman's boss about Internet radio and getting into the car and things that they have planned to do with WiMAX and things like that, not only are we competing with free, which is very different than

EchoStar and DirectTV, but we are also competing with Internet radio. We are competing with jacks that are now inserted into vehicles so you could plug your iPod into it. We also are competing with cell phones that have content because 802.11 and BlueTooth, you are able to put your cell phone in your vehicle and be able to get through your speaker system, through your radio, so you are able to get whatever content that you have on your cell phone. And there is an awful lot of talk content. There is a lot of sports content. There is a lot of music that is on the cell phone. So, unlike EchoStar and DirectTV, we are competing with all of these options, and therefore that is what will encourage competition. And that is why this one is not eliminating a competitor.

Mr. ENGEL. I have read a lot of the editorials, both pro and con, and the editorials that say the merger should continue basically what Mr. Karmazin said and what I had said in my opening remarks. That when we look at people's entertainment, we have to look at the whole situation. Mr. Kimmelman, why is that not the case? Can we really go back to the way things were 10 years ago and pretend that we can put everything in neat little packages?

Mr. KIMMELMAN. Absolutely not, Mr. Engel. But the point here is what segment of consumers is desiring what form of radio entertainment. You have it at home. You have it in the office, but there is a unique segment in the car. And it is not just any car. It is people who drive maybe more than 25 miles can't get over the air broadcast signals to keep going across that distance. People who want to hear National League baseball games from outside their own community or the NFL or the NBA. There is a unique product that has been developed. I congratulate Mr. Karmazin's company for doing it well and XM. More than 14 million people buy it. About 50 percent increase in subscribership last year, almost 60 percent increase in revenue last year from subscribers. Yes, I hear all the crying about the red ink, but they are growing like gangbusters because a lot of people want this. But that is different from what you maybe want to do at home, different from the people who don't drive more than 25 miles. So I would suggest for competition policy, that is a unique segment of the public that wants choice, wants competition. And I believe that is a somewhat unique service. Just like cars and airplanes and trains are all forms of transportation, on many levels they don't really compete for people, and I would suggest that that is the same here. It is not going back 10 years. It is just realizing the reality. Maybe Internet radio will become that. Maybe cell phones ultimately will have some of this, but today they don't compete for that segment of the public.

Mr. ENGEL. But if I buy a car, and I am locked into XM or Sirius, and I cannot get the things that I might want to listen to, why am I not better served if I can get a car and can get the best of both? Why is that somehow hurting me as a consumer? It would seem to me that if I have to choose between the NFL or Major League Baseball, and I get a car and maybe it is already in and I can only get Major League Baseball, am I not better served by being able to get both?

Mr. KIMMELMAN. Well, I think it would be wonderful to get both, and I wish that we had the interoperable radio so that people could choose between the one or the other, and it was promised many

years ago. It is now like the consumer, as you are describing, is held hostage. That we don't have the interoperable radio so is the only solution to merge? I would suggest there are other ways in order to get the maximum choices for consumers at the lowest prices. And if the merger is not the best way, Mr. Karmazin is offering some concessions. I think if you get to the point of looking at that, you should look carefully as to whether you can really oversee those kind of concessions and still get the maximum consumer benefits.

Mr. ENGEL. Mr. Karmazin, I would like to give you the chance to rebut, and then I see our chairman has come.

Mr. KARMAZIN. I think what we have asked for is that we get a fair opportunity to present our case, and it is amazing how people have formulated these opinions without any facts. So we have yet to file our Hart-Scott-Rodino filing, which we will do next week. We have yet to make our public interest argument with the FCC, which we will do shortly after it. But I think that everyone has already, without the facts, formulated an opinion. And all we have asked for is that we be allowed to go through the process. And that if, in fact, our merger is deemed to be in the public interest, it be approved. And if it is not, we understand. But to have experts making comments without knowing what the facts are is a little bit troubling for me.

Mr. ENGEL. OK, thank you. I am way over my time. I see our chairman has arrived, so I will vacate the seat.

Mr. MARKEY[presiding]. I thank the gentleman from New York for chairing, and that completes the time for questions from the members. What I am going to ask is each one of you to give us a 1-minute summation of what it is that you want the committee members to remember as we are going forward in terms of all the issues that we were discussing today. What is the core, one-minute message you want to give to us? We will begin with you, Mr. Blackwell.

Mr. BLACKWELL. The first priority would have to be increased Federal funding, and Federal funding that works in Indian country, in economically distressed communities. Second, we need better metrics in Indian country. The Blueprint Initiative is aimed at getting the information that you can act on appropriately. Indian country can measure itself well in this regard. And finally, you should provide customized tools for the FCC to open up new regulations, to create new procedures that deal with the challenges, particular challenges in Indian country.

Mr. MARKEY. Thank you, Mr. Blackwell. Mr. Smyth.

Mr. SMYTH. Thank you, Mr. Chairman, for having us here today. I applaud your efforts in what you are doing. I think if I had to leave one impression on this committee, I think that I would say that we are in the midst of a great digital revolution, and I think that we should do everything to encourage that. No. 2, I think that we should recognize that what we are looking at here today are two companies that can sustain themselves on their own efforts. Putting them together for what reason, I don't understand. I think it inhibits innovation, and I think it causes too much consolidation in the national radio market. I think that you have to look at this is that I am a local broadcaster. I compete with Mel in Boston, MA.

I do not compete with him on a national basis. For him to have 288 signals in Boston, MA and Paducah, KY with a repeater network sitting out there, I think is something that everybody should reflect upon. And they should also make sure that the most successful thing radio has today is its commitment to public service in the communities that it operates in. And I hope that we will in that vein. Thank you for inviting me here today.

Mr. MARKEY. Thank you, Mr. Smyth, very much. Mr. Kimball.

Mr. KIMBALL. Thank you, Mr. Chairman. We completely agree that there is a digital revolution underway, and we ask that the Internet be allowed to participate in that revolution without one hand tied behind our backs. There is a clear statutory bias against the Internet in this space. It should not matter what method of transmission you use to send your radio station to this device. In the future, it simply should not matter, and I think that Congress should do something to level the playing field before it allows consolidation.

Mr. MARKEY. Thank you, Mr. Kimball. Mr. Karmazin.

Mr. KARMAZIN. In my one minute, I would like to say that I believe that we ought to be thinking in terms of what is in the consumer best interest and whether or not a combination of these two companies are going to give the consumer better pricing and more choice. And if that is the case, there is a public interest standard in doing it, and there clearly is a public interest standard from a regulatory point of view that this merger is not anti-competitive because you have heard all of these people talking about how we compete with each other. So I think we would like to have a fair hearing. We would like to go through the process, and we will deal with what the regulations think should happen.

Mr. MARKEY. Thank you, and, Mr. Kimmelman.

Mr. KIMMELMAN. Thank you, Mr. Chairman. I think we all know that technology has great promise, but it really means nothing for us. It cannot deliver us competition. It cannot promote our democracy unless we have diverse owners of the media, the means of using that technology to deliver diversity of entertainment, news, information from radio across all media. And we hope that Congress will continue to ensure that consumers get those benefits as the technology progresses.

Mr. MARKEY. Thank you. We apologize to the witnesses for the inconveniences of this afternoon. You have greatly enlightened our committee. We thank you. We wish, if possible, to work with you over the next several weeks and months as we are developing policies in these areas. And without objection, Members will be permitted to ask post-hearing questions of the witnesses. And the witnesses may also, if they wish, supplement any comments which they have made or answers to the questions which they have given here today. Without objection, that will be so ordered. And with that and the thanks of the committee, this hearing is adjourned.

[Whereupon, at 6:15 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

Testimony of Mr. Geoffrey Blackwell
Member of Advisory Council for Native Public Media
"Digital Future of the United States Part II: The Future of Radio"
March 7, 2007

Mr. Chairman and Members of the Committee, my name is Geoffrey Blackwell and I am honored to represent Native Public Media and the National Federation of Community Broadcasters at today's important hearing on the Future of Radio. I serve on the Advisory Council of Native Public Media which is a project of the National Federation of Community Broadcasters.

I work as the Director of Strategic Relations and Minority Business Development for Chickasaw Nation Industries. Beyond my role with Native Public Media, I serve Indian Country as the Chairperson of the National Congress of American Indians Telecommunications Subcommittee. For almost six years, from January 2000 to October 2005, I also served as a Senior Attorney and Liaison to Tribal Governments at the Federal Communications Commission.

I am honored because the issues we are discussing today are so critical to Indian Country, and also because of my own personal experiences. I was born in Indian Country, raised to respect the cultural diversity, sovereignty and self-determination of American Indian Tribes and Alaska Native Village communities, and I know first hand the importance of access to media and other basic and advanced communications tools for Native peoples.

Mr. Chairman, Native Public Media represents the interests of 33 public radio stations serving Native Nations and communities throughout the United States. Native Public Media's primary focus has been strengthening existing Native American and Alaska Native public radio stations and promoting ownership for more Native communities by serving as an advocate, national coordinator, and resource center. These stations serve as critical platforms for

education, dialogue, public affairs and culture. They play a strong role in language preservation and community building.

Native Public Media recognizes that profound changes are taking place in the way Americans use media, and is therefore focused not only on the needs of Native radio stations, but also on helping Native communities leverage new digital and wireless platforms that will make it possible to close the existing media divide. Ensuring that policymakers understand the impact of their actions on Native communities is critical to Native Public Media's efforts. Toward that end, Native Public Media respectfully submits these comments.

Radio is, at its essence, a communications tool. It's the most democratic of media, a technology that reaches virtually all of the American public. The distinction between commercial and non-commercial radio is stark. With few exceptions, commercial radio is, in this era of consolidation, fundamentally about trying to amass the largest possible audience within a specific target demographic in an effort to maximize advertising revenue. Non-commercial radio is essentially a platform for conversation. This conversation can range from a wide diversity of music to features on local political issues, high school sports to a pow wow.

The common thread is that non-commercial radio stations create programming not out of a need to make a profit, but rather as a means to communicate something meaningful to their audience. This is true of community stations across the country, and is especially true of the 33 stations that are part of Native Public Media. Their abiding commitment is to serving the diverse interests that make up their local communities, for example:

- On the Hopi Reservation in Northeastern Arizona, KUYI broadcasts a children's program every morning while the children are riding the bus to school. *Shooting Stars* was

produced at the request of these students and engages community members, including elders, to read children's stories in both the Hopi and English languages.

- Many Native Nations are on the front line of the war on illegal drugs, immigrant smuggling and terrorism. The Tohono Od'ham Nation which is located right on the United States-Mexico border relies on KOHN to keep its citizens informed of the latest national threat levels and local and Federal homeland security activities.

We come to you today with a series of reflections and recommendations about things the US Congress and relevant agencies can do to improve the status of non-commercial radio, particularly Native Radio.

First, Native Public Media would not exist without the critical early support of the Corporation for Public Broadcasting, which recognized the importance of the potential collaboration between Native stations. Native Public Media, formerly known as the Center for Native American Public Radio, was created with seed funding from CPB. CPB should be applauded for supporting this initiative, and deserves full funding from the US Congress.

Similarly, the Department of Commerce's Public Telecommunications Facilities Program (PTFP) is an extremely effective and important program that provides resources for public television and radio stations throughout the country to invest in equipment, upkeep and upgrades. Many native stations have been able to access these PTFP funds, with the help of Native Public Media.

Even small grants can make a big difference. For example, KILI, the Lakota radio station went dark last year after being struck by lightning. Native

Public Media provided KILI with proposal writing expertise that helped the station secure emergency funding from PTFP and CPB so that it could continue operating. Additional support was provided by the State of South Dakota.

CPB and PTFP are both important programs, and they deserve as much support as possible. It is important to note that some Native stations find themselves in a catch-22: much of their importance to their community is a direct outgrowth of the economic hardships facing their audience. These stations become even more important to listeners who do not have access to other sources of communications. Because of the economic and rural challenges associated with these audiences, however, developing a fundraising base similar to what we see with many leading public radio or television stations is simply not feasible. Therefore, coming up with the matching levels required to fully access CPB or PTFP funds is a significant challenge. Congress should consider creating additional pools of money set aside for stations such as these on need-based criteria.

One lesson we have learned in the past two years is that there is a significant data gap related to how Indian Country, and Native Americans in general, access and control media. There are many agencies in the Federal government that have a piece of the answer, but no one has the comprehensive story. Therefore, we propose the "Native Public Media Blueprint." By working with Native Nations and organizations like the National Congress of American Indians, Native Public Media will conduct a complete inventory of how Native communities access and relate to media – both traditional media (like radio and television) and new advanced telecommunications services. This project will include a very specific list of recommendations on how to solve some of the communications issues facing Indian Country – a blueprint policymakers can use to significantly improve this situation.

In advance of executing the "Blueprint" we look forward to the FCC opening up a filing window for Full Power non-commercial licenses. We have identified at least 35 tribes who are interested in starting their own radio stations, and are continuing our outreach to many more. According to data compiled by the National Federation of Community Broadcasters, Native-owned radio stations account for less than .3% of the more than 13,000 radio stations in the United States. Of 562 federally-recognized Native Nations, only 33 hold licenses for public radio stations. What's more, non-Native media outlets – even those that exist in markets with large Native populations or adjacent to reservations – typically ignore the needs of Native Nations. The vast majority of Native Americans have no access – or only limited access – to media that represents their voices, lives, interests and needs. For Native people across the country, media is not about having access to Big Media – it's about having access to *any* media.

The FCC is currently preparing to lift the freeze on new noncommercial stations that has been in effect for seven years. While we eagerly await the window, it is crucial that there is adequate public notice to ensure that potential applicants have a reasonable amount of time to prepare their filing and take care of issues ranging from management structure to a fundraising plan. It is troubling that this opportunity to start a full power station is so rare, especially in the parts of Indian Country where spectrum is available and local radio non-existent. This upcoming filing window has been described as a "once in a generation" opportunity – it does not make sense to artificially limit the ability for Nations to create their own radio stations in those locations where the need is great and spectrum available. The FCC should implement policies to encourage, not discourage, successful non-commercial stations, especially where local outlets are lacking.

In one area the FCC has been limited by Congress in its efforts to extend non-commercial radio: Low Power FM. Seven years ago, Congress passed

legislation barring the FCC from implementing LPFM in urban markets pending further technical study. A third-party study submitted to Congress several years ago convincingly demonstrated that LPFM will not cause undue interference to existing stations. The FCC is eager to expand LPFM into urban markets, but Congress has yet to act on the findings of this study. So, while hundreds of new LPFM stations have been licensed in the rural parts of the country, including several Native stations, we are unable to reach the most concentrated populations because of Congress' failure to act. 2007 must be the year that Congress finally ends this unfair and counterproductive prohibition.

As other witnesses have discussed, technological innovation is changing the way that radio is created and delivered. Radio is evolving from a unique technology to a type of communication delivered by a variety of technological platforms. Native Public Media embraces this evolution, with streaming and satellite services reaching listeners across the world. Native servicemen serving overseas have written us to explain how moving it is to listen to live music and news from their home radio stations streamed on the Web. Congress must protect our basic ability to stream content or post podcasts at affordable rates without receiving prior consent from the major telecommunications providers.

HD radio holds the promise of providing new program channels but that promise will become a reality only if the FCC encourages broadcasters to use spectrum to serve the public interest. We also believe that having increased access to satellite services, irrespective of whether the XM and Sirius merger is approved, is an excellent way to reach the 60% of Native Americans who live in urban areas.

Finally, we want to reiterate the request made in our formal comments on ownership issues that the FCC hold an official hearing on media ownership issues related to Indian Country as they continue in their review of existing media ownership rules. It has been eight years since the FCC first held official hearings

looking into the state of telecommunications and broadcast issues in Indian Country. In that time the Commission has undertaken multiple efforts to work with Native Nations, and has won awards for its efforts to honorably effectuate consultation with Tribes to deploy critical services. However, it is time for a renewed look at the landscape, and in the context of the several media ownership hearings, it is appropriate to have a media ownership hearing that focuses directly on Native America as well.

Native Public Media has provided comment on the Commission's recent Media Ownership proceeding. We have also coordinated extensively with the FCC on outreach to Native broadcasters and Native Nations. Through its initiatives recognizing its special responsibilities and legal relationship to Tribal Nations, the Commission has held nine national and regional conferences, and workshop roundtables. At Native Public Media we look forward to a time when an FCC Regional Workshop and Roundtable can focus directly on Tribal broadcasting issues as well. However, we also recognize that it is time that these initiatives now seven years old receive a concrete commitment in the telecommunications and broadcast laws.

To effectuate the next level of technological change in Native America, Congress should provide customized tools to the FCC -- in the form of new legal authorities and directions based on basic recognitions -- to work directly with Native Nations, open new proceedings and create new rules to address barriers to entry and streamline regulatory processes. As Congress moves forward to address the legal framework in a world of technological convergence, we in Indian Country stand ready to provide you with workable solutions and meaningful processes to shift the paradigm productively and stimulate new services and subscriber levels in Native communities.

In considering solutions specific to Native broadcast ownership, the Committee must not lose sight of the fact that Native Nations are not simply part

of the minority community, but distinct legal, cultural, and political entities. Native Nations, as sovereign governments engaged in the exercise of modern self-determination, are responsible for the health, safety, education and welfare of their citizens. They are responsible for policing and securing the homeland within their borders, maintaining and sustaining their histories, languages, and traditions; and establishing and fostering healthy economies.

In closing, it has been a personal honor for me to be here today because of a promise I made almost four years ago to a social programs manager from the Fort Peck Assiniboine and Sioux Tribes, Ms. Patricia McGeshick, whom I came in contact with while I was at the FCC. Ms. McGeshick wanted to learn how the Fort Peck Tribes could start a radio station. She painfully explained to me how her Tribal community had lost multiple teenage Tribal members to suicide. The Tribe held an emergency session to discuss the root causes for the tragedies and to determine what the community could do to protect and provide for their youth. It was decided a stronger sense of community awareness, a stronger sense of pride in cultural heritage, was needed. One way to effectuate this was through a local Tribal radio station.

I promised Ms. McGeshick I would help her. A lack of licensing windows, funding resources, and potential partnerships committed solely to Tribal community-related content, conspired to deny the Tribes the ability to start a station. It is ironic that only two weeks ago while at a Tribal finance conference, I sat with leadership of the Fort Peck Tribes and we discussed yet again the potential of a radio station.

Too often this is the case in Indian Country. Our communities are not simply rural, but among the most remote areas of the nation. Lagging far behind national averages in telephone penetration rates, and distantly behind in broadband penetration, many areas of Indian Country have not been involved in the digital revolution. We intend to be.

With the goals of creating sustainable knowledge based economies, we face the several challenges in building capacities, deploying robust infrastructures and integrating critical emerging information and communications technologies. As this Committee and our federal government moves forward to examine additional critical telecommunications and broadcast issues, such as universal service and spectrum management and efficiency, we welcome you to call upon Native Nations.

Mr. Chairman, on behalf of Native Public Media, thank you again for the opportunity to testify today. I look forward to answering any questions you may have.

Statement of

Peter H. Smyth

President and CEO

Greater Media, Inc.

Hearing on the
"Digital Future of the United States: Part II-
The Future of Radio"

United States House of Representatives
Committee on Energy and Commerce
Subcommittee on Telecommunications and the Internet

March 7, 2007

Statement of Peter H. Smyth
President and Chief Executive Officer
Greater Media, Inc.
On behalf of the National Association of Broadcasters

Hearing before the House of Representatives Committee on Energy and Commerce
Subcommittee on Telecommunications and the Internet

March 7, 2007

Good morning Chairman Markey, Ranking Member Upton and Subcommittee Members, my name is Peter H. Smyth. I am the President and Chief Executive Officer of Greater Media, Inc., which owns and operates 20 local AM and FM radio stations in Boston, Detroit, Philadelphia and New Jersey. I am testifying today on behalf of the National Association of Broadcasters (NAB). NAB is a trade association that advocates on behalf of more than 8,300 free, diverse local radio and television stations and broadcast networks before Congress, the Federal Communications Commission and other federal agencies, and the Courts.

Free over-the-air radio is embracing the future. Like television broadcasters, the radio industry is currently investing substantial time, effort and financial capital to complete its own transition to digital broadcasting. The local radio stations that today keep their communities – and your constituents – informed and connected intend to remain a vibrant part of the media landscape in the 21st century. Innovations such as digital broadcasting will enhance broadcasters' competitiveness and ability to serve local communities and listeners in myriad ways. All local stations ask for is the opportunity to compete in today's marketplace on a level playing field. To maintain a competitively fair marketplace, a government sanctioned monopoly in satellite radio must be rejected.

The Digital Radio Roll-Out Is Well Underway

Today I can report that local radio broadcasters are fully engaged in an exciting transition to digital audio broadcasting (DAB). Why are radio broadcasters embracing high definition (HD) digital radio? In short, because the radio industry sees HD radio as our future – it will enable us to better serve our local listeners and communities and to remain competitive in today's ever-changing digital media marketplace. But we face many challenges as we work toward a successful and timely transition to digital radio.

First, the radio industry – and that means thousands of stations across the country in markets of all sizes – must make the investment in digital technology and begin broadcasting digital transmissions. This effort is well underway, as 1183 digital radio stations are already on the air.

But beyond thousands of stations converting to digital, the HD radio revolution also involves the consumer electronics industry, the automobile industry and, most importantly, consumers. For consumers to be able to reap the benefits of the digital conversion, the consumer electronics industry must produce and consumers will need to purchase all-new digital radio receivers. New digital radio receivers for both the car and the home have been launched in the marketplace across a range of product and price categories. Just last month, retailers began selling several new HD radio add-on tuners that transform almost any existing car radio into an HD digital radio. A variety of national, regional and online retailers now offer HD radio products, and receivers are currently being manufactured by at least 18 companies. Predictably, as these products have become more widely available from a number of competing sources, prices of HD radio products have fallen significantly, with several receivers now below $200.

The HD radio roll-out is also underway in the automotive sector. BMW has become the first automotive company to offer a factory-installed digital HD radio receiver as an option across its entire 2007 product line. Nine additional automotive brands, representing 49 different vehicle models, are committed to launch the technology within the next few years.

Finally, just as with the digital television transition, consumers must be informed about digital radio. To educate consumers and accelerate the successful roll-out, a consortium of top U.S. radio companies, including Greater Media, created the HD Digital Radio Alliance in 2005. On the Alliance's one-year anniversary in late 2006, the consortium announced an even greater commitment to informing the public, pledging an additional $250 million for a new advertising campaign to increase the public's awareness of this exciting technology and its many benefits. Hopefully, many of you have heard the announcements promoting digital radio on stations in this market.

HD Radio Enables The Development Of Valuable New Services, Including The Multicasting Of More Diverse Programming, To Better Serve Local Listeners

HD radio not only offers crystal-clear audio; it also permits the broadcasting of multiple free, over-the-air program streams to bring additional content, including much more local content, to the public within stations' current spectrum. It further allows other services, including wireless data enabling text information, such as song titles and artists or weather and traffic alerts. Even more innovative features are under development, such as program menus giving listeners instant access to a favorite drive time show, news and information, and special music programming. Features available in the future could also include real-time traffic reports broadcast by local stations and visually displayed on a

vehicle's navigation system. In sum, digital radio will allow broadcasters to improve service to their listeners and to remain a vital and vibrant part of the media landscape of the future.

I want to stress the diversity of programming that local radio stations already offer to their communities and the opportunities for even greater diversity that digital radio provides. One often misunderstood fact is that, across all radio markets since 1996, the number of general and specific programming formats has increased by 16% and 36.4%, respectively.[1] This growth in programming diversity has included an expansion in the number of stations focusing on news, talk or other informational programming and in the number of stations offering programming specifically designed to appeal to diverse minority and ethnic groups. For example, between 2000 and 2006, the number of news/talk stations increased by nearly 21 percent, and the number of Spanish-language stations grew from 547 to 796, an increase of 45.5 percent. *See BIA Radio Service Study* at 9, 13. As a result, nearly 71 percent of the total population in Arbitron metro areas can access at least four news/talk stations in their markets, with 55.5 percent having access to at least six such stations over-the-air. Over half (50.4 percent) of the Hispanic population in Arbitron markets have over-the-air access to ten or more Spanish-language stations, with more than three-quarters (79.5 percent) having access to six or more Spanish language stations.

The advent of HD radio permits local broadcasters to provide even more diverse services through multicasting additional programming streams. At the end of January 2007, radio stations in 85 markets reaching 80% of the U.S. population had commenced

[1] Mark R. Fratrik, Ph.D., *Over-the-Air Service to Diverse Audiences*, BIA Financial Network (Oct. 23, 2006) (*BIA Radio Service Study*).

the airing of HD2 multicast programming. There are now more than 600 radio stations on the air with HD2 programming that is unique and diverse.[2] For example, in Minneapolis, the HD multicast channels of local radio stations offer a broad range of programming, including classical, classic country, new or young country, blues, alternative, dance, smooth jazz and 80s hits.[3] Five Seattle HD radio stations launched last August, offering roots and blues, world music, all-comedy, live rock and urban adult contemporary.[4] Here in Washington, D.C., multicast channels are airing gospel, classic country, new rock, bluegrass, adult alternative, oldies 50s and 60s, and other program formats. Obviously, radio broadcasters are currently using the multicast capabilities of HD radio to better serve the diverse audiences in their local communities with specialized and niche programming, and this effort will only increase in the future.

My own company, Greater Media, has strongly embraced multicasting. In Boston, for example, all five of our stations have HD2 channels, which offer an eclectic range of formats, including Nothin' But The 70s, Classic Country, Smooth Jazz, and The Over Easy Café, featuring primarily acoustic adult alternative rock. Particularly appropriate for the Boston market, our FM talk station WTKK offers an Irish Channel on its HD2 channel, featuring traditional Irish artists, classic Irish rock legends and more contemporary Irish artists. Similarly, in Detroit our three stations have HD2 channels, offering Deep Trax, More Magic (an adult contemporary format featuring a mix of the 70s and 80s, plus standards and Broadway hits), and Riff2, the second channel of

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[2] Press Release, *HD Digital Radio Alliance Names Next 17 Markets for HD2 Multicasts* (Jan. 22, 2007).

[3] Tony Sanders, *Twin Cities Has Two HD3s on Air*, Billboard Radio Monitor (July 14, 2006).

[4] *Five More Seattle HD Radio Stations Launched*, Puget Sound Business Journal (Aug. 22, 2006).

Detroit's heritage rock station focusing on local music. As an example of its commitment to local music, Riff2 featured an all White Stripes Weekend to celebrate the band's series of hometown concerts. Last month, Riff2 spotlighted the Detroit band The Sirens in conjunction with the release of their new CD.

Without doubt, the radio industry's commitment to multicasting has increased the diversity of programming available to listeners in a wide variety of markets. But beyond digital audio broadcasting, radio stations are utilizing other technologies, particularly the Internet, to improve the quality and variety of the services they offer to consumers. For instance, approximately 2700 radio stations stream their programming on the Internet, enabling listeners to access a different distribution mechanism to obtain the same programming offered over-the-air. According to Bridge Ratings, Internet radio listenership has grown by 26 percent in the past year, and is up to 72 million people monthly, from 45 million at the end of 2005.[5]

Many radio stations, including Greater Media's, utilize Internet-related technologies to offer more programming, information and viewpoints to consumers. For instance, podcasts allow listeners to download selected audio programs to their computers or MP3 players so they can listen when and where they want. Our stations offer a variety of podcasts, including sports interviews, artist and band interviews, and podcast versions of our on-air talk and informational programs, with additional behind-the-scenes interviews. Greater Media's radio stations and their on-air personalities also host blogs, where listeners can interact with station personnel and express their opinions about an almost unlimited variety of topics.

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[5] FMQB, *Internet Radio Listenership Up 26 Percent* (Feb. 22, 2007).

In sum, it is clear that new technologies, especially digital audio broadcasting, offer local radio stations extensive opportunities for better serving their listeners and communities. Embracing these technologies is also a necessity, if traditional radio broadcasters are to remain competitive in a digital, multichannel media environment.

The Imposition of Performance Rights in Sound Recordings for Digital Broadcasts is Not Justified and Would Impede the Roll Out of Digital Radio

There has been some suggestion that fees for performance rights in sound recordings should be imposed when radio broadcasts in digital. Such fees would be without justification and would seriously impede the roll out of digital radio. At the outset, the Subcommittee should know that radio stations already pay hundreds of millions of dollars annually to the composers and publishers of the music they broadcast. With respect to sound recordings and performance artists, NAB urges the Subcommittee to recognize that artists and labels receive invaluable compensation in terms of airtime and exposure and that a new performance rights tax on broadcasters is unnecessary. Certainly members of this committee do not have to be reminded how very valuable airtime is to getting your message out to the public.

Throughout the history of the debate over sound recording copyrights, Congress has consistently recognized that recording companies reap very significant promotional benefits from the exposure given their recordings by radio stations and that placing burdensome restrictions on performances could alter that relationship, to the detriment of both industries. For that reason, in the 1920s and for five decades following, Congress regularly considered proposals to grant copyright rights in sound recordings, but repeatedly rejected such proposals.

When Congress first afforded limited copyright protection to sound recordings in 1971, it prohibited only unauthorized reproduction and distribution of records, but did not create a sound recording performance right. During the comprehensive revision of the Copyright Act in 1976, Congress again considered, but rejected, granting a sound recording performance right. Congress continued to refuse to provide any sound recording performance right for another twenty years. During that time, the recording industry thrived, due in large measure to the promotional value of radio performances of their records.[6]

It was not until the Digital Performance Rights in Sound Recordings Act of 1995 (the "DPRA") that even a limited performance right in sound recordings was created. In granting this limited right, Congress stated it "should do nothing to change or jeopardize the mutually beneficial economic relationship between the recording and traditional broadcasting industries."[7] As explained in the Senate Report accompanying the DPRA, "The underlying rationale for creation of this limited right is grounded in the way the market for prerecorded music has developed, and the potential impact on that market posed by subscriptions and interactive services – but not by broadcasting and related transmissions."[8]

Consistent with Congress' intent, the DPRA expressly exempted from sound recording performance right liability non-subscription, non-interactive transmissions, including "non-subscription broadcast transmission[s]" – transmission[s] made by FCC

[6] *See, e.g.*, S. Rep. No. 93-983, at 225-26 (1974) ("The financial success of recording companies and artists who contract with these companies is directly related to the volume of record sales, which, in turn, depends in great measure on the promotion efforts of broadcasters.").
[7] S. Rep. No. 104-129, at 15 ("1995 Senate Report"); *accord, id.* at 13 (Congress sought to ensure that extensions of copyright protection in favor of the recording industry did not "upset[] the long-standing business relationships among record producers and performers, music composers and publishers and broadcasters that have served all of these industries well for decades.").
[8] *Id.* at 17.

licensed radio broadcasters.[9] Congress made clear that the purpose of this broadcast exemption was to preserve the historical, mutually beneficial relationship between recording companies and radio stations:

> The Committee, in reviewing the record before it and the goals of this legislation, recognizes that the sale of many sound recordings and careers of many performers have benefited considerably from airplay and other promotional activities provided by both noncommercial and advertiser-supported, free over-the-air broadcasting. The Committee also recognizes that the radio industry has grown and prospered with the availability and use of prerecorded music. This legislation should do nothing to change or jeopardize the mutually beneficial economic relationship between the recording and traditional broadcasting industries.[10]

The Senate Report similarly confirmed that "[i]t is the Committee's intent to provide copyright holders of sound recordings with the ability to control the distribution of their product by digital transmissions, without hampering the arrival of new technologies, and without imposing new and unreasonable burdens on radio and television broadcasters, which often promote, and appear to pose no threat to, the distribution of sound recordings."[11] In sum, the transition of traditional local radio stations from analog to digital presents no basis to alter fundamentally the long-standing mutually beneficial relationship between the recording and broadcasting industries by imposing a new performance right in digital broadcasts, when one does not exist in analog.

NAB further stresses that this discussion is not intended to minimize legitimate concerns the recording industry may have about the need for copy protection. Rather, it is intended to assist the Subcommittee in understanding why a performance right for sound recordings is irrelevant to those concerns.

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[9] 17 U.S.C. §114(d)(1)(A).
[10] 1995 Senate Report, at 15.
[11] *Id.*

Local Radio Stations Must Be Able to Compete on a Level Playing Field with Satellite Radio to Remain Competitively Viable To Serve Their Listeners And Communities

As radio broadcasters have demonstrated on many occasions, local stations serve the public interest by airing local and national news and public affairs programming and a variety of other locally produced programming that serves the needs and interests of their audiences, including sports, religious and other-community-oriented programming.[12] No other radio service provides this amazing level of service to communities across the county. For us to continue to provide these valuable services, XM and Sirius should not be granted a government sanctioned monopoly that will allow them to engage in unfair business practices without recourse.

Before the 2006 elections, radio stations in markets across the country hosted candidate debates and forums for federal, state and local candidates and offered free airtime and other access to political candidates.[13] Radio broadcasters also provide a wealth of emergency information to their local communities. Through live coverage and the Emergency Alert System (EAS), broadcasters have invested in state-of-the-art equipment to ensure that their local communities have timely access to critical, and often life-saving,

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[12] *See, e.g.*, FCC Broadcast Localism Hearing, Rapid City, SD, Statement of Alan Harris at 2 (May 26, 2004) (three Wyoming radio stations broadcast 72 local newscasts every week, about 40 sportscasts, and a daily public affairs interview program); FCC Broadcast Localism Hearing, Monterey, CA, Statement of Chuck Tweedle at 3 (July 21, 2004) (three Bonneville radio stations in Bay area broadcast more than four hours of locally produced newscasts every week); FCC Broadcast Localism Hearing, San Antonio, TX, Statement of Jerry Hanszen at 2-3 (Jan. 28, 2004) (on a typical day, two small market Texas radio stations broadcast five local newscasts).

[13] *See, e.g.*, NAB, *At Your Service*, Vol. 9, Issue 5 (Aug./Sept. 2006); NAB, *Free Air Times* (Oct. 2006); NAB, *Free Air Times* (Oct. 30, 2006), available at www.nab.org/AM/Template.cfm?Section=Newsletters3&Template=TaggedPage/TaggedPageDisplay.cfm&TPLID=42&ContentID=2607.

information. For example, during Hurricane Katrina broadcasters made extraordinary efforts to air live news coverage and disseminate relief supplies in affected areas, even as the waters rose and station facilities were deluged. Though many stations suffered major damage, through the pooling of resources, planning and pre-positioning of key supplies, stations were able to resume broadcasting as quickly as possible to serve the public. Radio stations aired critical news, weather updates and shelter information, as well as on-air counseling services.[14] Broadcasters have also supported many of the FCC's initiatives to improve EAS, including extending EAS requirements to digital radio and television.

Broadcasters additionally pioneered the *AMBER PLAN: America's Missing: Broadcast Emergency Response*. Named after nine-year-old Amber Hagerman, who was kidnapped and murdered in Arlington, Texas, it was created in 1996 by the Association of Radio Managers with the assistance of law enforcement agencies across the Dallas/Ft. Worth area. Today, with 120 state, local and regional plans, approximately 325 children have been rescued.

Radio broadcasters' commitment to public service and their local communities can be further measured by their tangible community services. In calendar year 2005, the average radio station ran 169 public service announcements (PSAs) per week. This is the equivalent of $486,187 in donated airtime per radio station per year, or a total for all radio stations of $5.05 billion.[15] Sixty-one percent of the PSAs aired by the average radio

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[14] *See, e.g.*, Oral Testimony of Steve Davis, Senior Vice President Engineering, Clear Channel Radio, Inc., Before the FCC's Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks, Tr. at 76-86 (Jan. 30, 2006); Scott Fybush, *Call 'em crazy, call 'em heroes – they kept radio going during Hurricane Katrina*, Inside Radio (Aug. 30, 2005).

[15] National Association of Broadcasters, *National Report on Broadcasters' Community Service* (June 2006) (Online available at http://www.nab.org/publicservice) (*2006 Broadcast Community Service Report*).

station during 2005 were about local issues, and 71 percent of radio stations aired local public affairs programs of at least 30 minutes in length every week during the year. *2006 Broadcast Community Service Report* at 5.

Moreover, about 19 out of 20 radio stations reported helping charities and needy individuals, and supported disaster relief efforts in 2005. Radio stations across the country raised approximately $959 million for charity and additional sums for disaster relief. *Id.* Awareness campaigns organized and promoted by local broadcasters covered the full range of issues confronting American communities today, including alcohol abuse, education and literacy, violence prevention, women's health, drug abuse, and hunger, poverty and homelessness. Local stations further supported and organized community evens such as blood drives, charity walks and relays, community cleanups, town hall meetings, health fairs and many others. *Id.* For example, our own JJ & Lynne at Detroit's WCSX have raised over $2.2 million for the Children's Leukemia Fund of Michigan through their "Stone Soup Project," which combines a radiothon fundraiser with a raffle to buy a souped-up classic car. In just one day last month, Dick Purtan, the morning host of WOMC-FM in Detroit, raised a stunning $2,398,783 in his annual radiothon for funds for the homeless and hungry via the Salvation Army's Bed and Bread Program.[16]

Additionally, broadcasters provide a unique community service – when a broadcast station partners with a charitable or community organization, the station not only provides dollars (like other corporate partners), but also a public voice for those organizations. A broadcaster can help an organization make its case directly to local

[16] John Smyntek, *Purtan/Salvation Army Radiothon Passes $2 Million Mark in Spite of Tough Economy*, Detroit Free Press (Feb. 23, 2007).

citizens, to raise its public profile and to cement connections with in local communities. As a trusted source, a broadcaster can help an organization better leverage its fund raising resources and expertise, its public awareness and its educational efforts.

Maintaining this high level of local programming and other services, however, requires radio stations to be economically sound. Only competitively viable broadcast stations sustained by adequate advertising revenues can serve the public interest effectively and provide a significant local presence. As the FCC concluded 15 years ago, the radio "industry's ability to function in the 'public interest, convenience and necessity' is fundamentally premised on its economic viability."[17] Any one concerned about the service of radio stations to their local communities and listeners must necessarily be concerned about these station's abilities to maintain their economic vibrancy in the face of multichannel and other competitors.

To Maintain A Fair And Level Competitive Playing Field, A State-Sanctioned Monopoly In Satellite Radio Must Be Rejected

Simply put, XM and Sirius are asking for a government sanctioned monopoly. But public policy should never allow one entity to acquire state-sanctioned, monopoly control over the entire 25 MHz of spectrum allocated to satellite radio service. If nothing else, the lessons of the original AT&T demonstrate that regulating a monopoly in terms of price and other conditions is no substitute for the competitive marketplace. Here, a merged satellite radio entity would control almost three hundred channels of radio programming accessible in every local market in this country without any realistic check

[17] *Report and Order*, 7 FCC Rcd 2755, 2760 (1992).

on its ability to assert market power, notwithstanding attempts to impose federal conditions.

XM/Sirius claim that they are not a monopoly but just one more competitor to provide audio service. They would have government officials ignore the fact that a merged XM/Sirius would be the sole licensee of satellite spectrum, ignore the fact that no other entity can enter the satellite radio market and ignore the fact that they would be able to use their stature as the sole national provider to hurt local radio stations who must sell advertising based on the numbers of listeners that they attract.

Local stations do not compete in the national market for multichannel mobile audio services. Broadcasters' signals are not nationwide, do not move from one community to another, and are not available only by subscription. We are not a substitute for satellite radio service. As the FCC recognized when authorizing satellite digital audio radio service (DARS) in 1997, satellite radio offers "services that local radio inherently cannot provide."[18] For example, satellite radio can provide continuous service to consumers traveling long distances in their cars and to persons living in remote areas. Unlike even the most powerful terrestrial radio stations, which can still only reach a small fraction of American consumers over-the-air, satellite radio can reach every listener across the country, and with vastly more channels than any single terrestrial broadcaster. Other media industry observers have agreed that "[s]atellite radio is a national platform," thereby clearly differing from locally-licensed and locally-oriented terrestrial broadcast

[18] *Establishment of Rules and Policies for the Digital Audio Radio Satellite Service*, 12 FCC Rcd 5754, 5760-61 (1997) (*Satellite DARS Report & Order*).

stations.[19] Simply put, only XM and Sirius compete in this national, multichannel mobile radio market, and they are proposing to form a state-sanctioned monopoly in that market.

As explained in detail below, a XM/Sirius merger would violate FCC rules and precedent and congressional policy; would result in significant competitive harms without any corresponding public interest benefits; and would reward companies with a history of breaking the rules by granting them a monopoly in the market for nationwide, multichannel mobile audio services.

The Proposed Merger Violates FCC Rules And Precedent And Congressional Policy

The FCC specifically refused to sanction a monopoly when it originally allocated spectrum for satellite radio service in 1997. It chose not to permit a monopoly satellite radio service because "licensing at least two service providers will help ensure that subscription rates are competitive as well as provide for a diversity of programming voices." *Satellite DARS Report & Order*, 12 FCC Rcd at 5786. And, I note, the agency was assuming at that time that each provider would control around 50 channels, not the 282 channels that a united XM/Sirius would have today.

Importantly, the FCC in part based its decision to require multiple satellite radio providers on arguments presented by Sirius. During the FCC's consideration of how many different satellite radio providers it should authorize, Sirius (then called CD Radio) argued strenuously that multiple providers were necessary to "assure intra-service competition," including price competition, and to guarantee a diversity of program offerings.[20] Given these competitive concerns, Sirius explicitly stated that no satellite

[19] Katy Bachman, *Buyers: Size Not Enough for Sirius/XM Merger*, Media Week (Feb. 26, 2007) (quoting Matt Feinberg, Senior Vice President of Zenith Media).
[20] CD Radio Comments in IB Docket No. 95-91, at 17.

radio provider should ever be permitted to combine with another provider. *See* CD Radio Comments at 18. Now, only a few years later, Sirius has completely reversed course and professes to see no problem with allowing the satellite radio market to become monopolized by a single provider with control over the entire national market.

But in fact it would be entirely inconsistent with the pro-competitive satellite radio licensing scheme created by the Commission to now allow XM and Sirius to combine into a monopoly enterprise. At the urging of the parties, including Sirius, the Commission in 1997 explicitly prohibited any such future merger by determining that, "after DARS licenses are granted, one licensee will not be permitted to acquire control of the other remaining satellite DARS license." *Satellite DARS Report & Order*, 12 FCC Rcd at 5823. There is no basis for reversing that decision now.

In a parallel circumstance, the Commission refused in 2002 to permit a merger of the only two nationwide Direct Broadcast Satellite (DBS) licensees, EchoStar and DirecTV. In rejecting this proposed merger, the Commission found in a unanimous vote that the combination would undermine its goals of increased and fair competition in the provision of satellite television service. The agency also found that the claimed benefits of efficient spectrum use were outweighed by substantial potential public interest harms that might result from the transaction, including reduced innovation, impaired service quality and higher subscription prices. The Commission further stressed that the merger would eliminate a current viable competitor from every market in the country and would result in one entity holding the entire available spectrum allocated to the DBS service.[21]

[21] *See EchoStar Communications Corp.*, 17 FCC Rcd 20559, 20562, 20626, 20661-62 (2002) (*EchoStar/DirecTV Merger Order*).

For precisely the same reasons, XM and Sirius should not be permitted to create a monopoly that would eliminate a viable competitor from every market across the country and that would control all the spectrum allocated to a nationwide satellite service. Such a merger would likely "increase the incentive and ability" of the parties "to engage in anticompetitive conduct." *EchoStar/DirecTV Merger Order*, 17 FCC Rcd at 20662.

Beyond violating FCC rules and precedent, such a government-sanctioned monopoly would clearly also be inconsistent with congressional policy favoring competition over monopoly, as expressed in the 1996 Telecommunications Act, and with long-standing enforcement of the antitrust laws. Indeed, the courts have held that even mergers to *duopoly* are, on their face, anticompetitive and contrary to the federal antitrust laws.[22] Without question, a merger to *monopoly* would be anticompetitive, inconsistent with antitrust precepts and contrary to judicial decisions.

XM and Sirius Will Be Able To Exercise Virtually Unlimited Market Power In The National Radio Market, To The Detriment Of Consumers

The harms that would result from this proposed merger would be numerous and obvious. Having monopoly status would enable the united XM and Sirius to stop agreeing to pay high talent salaries and to exert greater pressure on programming suppliers. Eliminating competition in the national mobile radio market would also greatly reduce incentives for the combined XM and Sirius to innovate. In fact, when declining to approve the EchoStar/DirecTV merger, the FCC specifically found that the satellite television merger "would likely reduce innovation and service quality." *EchoStar/DirecTV Merger Order,* 17 FCC Rcd at 20626.

Perhaps most obviously, enjoying monopoly status would permit a merged

[22] *See, e.g., FTC v. H.J. Heinz Co.*, 246 F.3d 708 (D.C. Cir. 2001).

XM/Sirius to raise subscription prices to the detriment of consumers. For example, the FCC recently determined that cable television rates have increased by 93% since enactment of the 1996 Telecommunications Act.[23] The agency has attributed this tremendous increase to the lack of competition from a second cable operator in most communities. The analogy to the XM/Sirius merger is unmistakable. Without the presence of a direct competitor, a satellite radio monopolist could raise rates freely. Indeed, the courts have enjoined mergers to monopoly on the grounds that such mergers would allow the combined company "to increase prices or otherwise maintain prices at an anti-competitive level."[24]

Beyond resulting in rate increases for consumers, an XM/Sirius monopoly would also likely reduce program diversity. As explained by the Commission when authorizing XM and Sirius, competing satellite radio providers would each have incentives to diversify their own program formats, thus providing valuable niche programming. *See Satellite DARS Report & Order*, 12 FCC Rcd at 5762. Without such competition, program diversity would likely be adversely affected, with consumers losing music and talk formats, especially niche ones. There is also the very real risk that a combined XM/Sirius will use its market power to force content providers, including sports programmers, networks, and other talent, to deal only with them. In sum, in a monopoly environment, satellite radio subscribers would pay higher prices for less diverse and less innovative programming.

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[23] *See Report on Cable Industry Prices*, MM Docket No. 92-266 (rel. Dec. 27, 2006).

[24] *FTC v. Staples*, 970 F. Supp. 1066, 1082 (D.D.C. 1997).

XM and Sirius Have A Long Track Record Of Breaking The Rules

The government cannot and should not rely on any promises that a united XM and Sirius, as a government sanctioned monopoly, will not cause harm to consumers. Their past behavior in a number of instances shows otherwise.

First, both companies have violated an FCC rule on receiver interoperability, designed to promote competition by enhancing consumers' ability to switch between DARS providers. *Satellite DARS Report & Order*, 12 FCC Rcd at 5796. Despite a clear FCC directive that their satellite radio systems must include "a receiver that will permit end users to access all licensed satellite DARS systems that are operational or under construction,"[25] neither XM nor Sirius markets such a consumer-friendly device. And, while both companies certified nearly 10 years ago that they would comply with this pro-competition, pro-consumer requirement, they have not done so.

Second, both XM and Sirius have violated FCC rules governing the production and distribution of their receiver equipment,[26] which are designed to ensure that these types of devices do not interfere with broadcast radio stations or other licensed spectrum users. As a result of XM and Sirius producing and distributing receiver equipment that violates – and in a number of cases very greatly exceeds – FCC limits on the power levels for such equipment, many listeners to terrestrial radio stations experience "bleedthrough" and receive the XM or Sirius signal without warning through their radios. As has been widely reported, the FCC has received many complaints from both commercial and non-

[25] 47 C.F.R. § 25.144(a)(3)(ii).

[26] 47 C.F.R. Part 15.

commercial listeners who suddenly hear uncensored and unwelcome satellite radio programming on their car radios.[27]

Third, both XM and Sirius have routinely and regularly violated FCC technical rules in connection with their special temporary authority to use terrestrial repeaters. For years XM operated more than 142 repeaters (or 18 percent of all its repeaters) at unauthorized locations and at least 19 of its repeaters without any FCC authorization at all. Even after confessing and seeking the agency's forgiveness for its violations, XM to our knowledge currently continues to operate at least four of its repeaters without any FCC authorization. Also troubling is XM's confession that for years it has operated more than 221 terrestrial repeaters (or 28 percent of all its repeaters) at unlawful power levels. In mid-February, the FCC issued a letter of inquiry to XM about its unlawful repeater network. Sirius has engaged in comparable and other technical violations in connection with its terrestrial repeaters, constructing at least 11 of its repeaters at locations different from what they reported to the FCC, including one in Michigan that is 67 miles away from its reported and authorized location.

Against this backdrop of rule violations, allowing XM and Sirius to create a monopoly in violation of the FCC's anti-merger decision and decades of communications policy could simply embolden them to pay even less attention to the rules of the road in pursuit of monopolistic profits.

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[27] *See, e.g., A Mystery Heard on Radio: It's Stern's Show, No Charge*, New York Times, January 26, 2007 at A17.

No Marketplace Or Business Conditions Or Any Public Interest Benefits Justify The Risk Of Monopoly

There is no need to risk all these harms by creating this monopoly. Satellite radio is still in its early stages of development. And neither XM nor Sirius is a failing company. XM does not believe that either itself or Sirius will go out of business if the merger does not occur. In a recent filing with the Securities and Exchange Commission, XM disclosed a set of questions-and-answers regarding the merger prepared for and distributed to its employees. I quote: "Can Sirius and XM succeed as stand-alone companies if the merger is not approved by regulators? – **YES**. That said, we believe a merger is the **preferred** option for Sirius and XM, our shareholders and customers . . . ." Of course Sirius and XM would prefer not to compete with one another, and would prefer to reap the benefits afforded by monopoly status. What company wouldn't? That's why the United Stated has and enforces antitrust laws.

Claims that XM and Sirius are weak or failing businesses based on their levels of debt and expenses must be viewed skeptically. It is true that XM and Sirius have had some extraordinary expenses - like the nearly $83 million in stock that Sirius awarded to Howard Stern in January, on his first anniversary on satellite radio. Indeed, the high costs of locking-up national and regional programming, especially sports programming, on an exclusive basis accounts for a great deal of the cost overhead. But, should companies expect a government bailout for questionable business decisions?

Changes in the audio marketplace do not justify the merger. These changes have, as discussed above, encouraged local radio stations to enhance their competitiveness by converting to DAB. But the introduction of new audio products had not prompted

terrestrial radio broadcasters to ask for an unjustified government licensed and sanctioned monopoly. For all the reasons described above, monopolies are inherently bad.

Beyond harming consumers, a satellite radio monopoly would have the incentive and the opportunity to engage in unfair competition and anticompetitive practices against other audio service providers, especially local radio broadcasters. For example, after a satellite monopoly restructures (unbundles) its program offerings, as promised, we can expect, based on press reports, that the monopoly will attempt to accelerate the acquisition of new subscribers by offering them a lower-cost point of entry -- likely a basic advertiser-supported tier offered for less than the current $12.99 per month. On its face, such a plan may not sound bad, but of course no introductory price would be locked in and a monopoly provider would have the power to raise this price at a later time to increase profits at the expense of consumers.

Furthermore, the merger parties' announced intention to go after advertising revenue is plainly problematic when one considers the monopoly status of the merged satellite radio operator. Using monopoly rents from subscription service, the satellite radio monopoly would have the incentive and ability to cross subsidize its advertiser-supported channel offerings, likely resulting in unfair competition in the form of predatory, cut-throat pricing in national advertising markets. In addition, the satellite radio monopoly could not be expected to stop at national advertising. The combined terrestrial repeater networks of Sirius and XM under common control would offer substantial opportunities for entry into the local advertising markets by a satellite radio monopoly. The rates for local advertising could be set artificially low with cross-subsidization from monopoly prices. The valuable free, over-the-air service provided by

local radio stations – which is entirely advertiser-supported – would be jeopardized by these developments.

The Proposed XM/Sirius Merger Should Be Summarily Rejected

As the FCC explained in declining to approve the comparable EchoStar/DirecTV merger: Where "a merger is likely to result in a significant reduction in the number of competitors and a substantial increase in concentration, antitrust authorities generally require the parties to demonstrate that there exist countervailing, *extraordinarily large*, cognizable, and non-speculative efficiencies that are likely to result from the merger." *EchoStar/DirecTV Merger Order*, 17 FCC Rcd at 20604 (emphasis added). The courts have similarly stressed that proof of extraordinary efficiencies is required to rebut the presumption that a merger in a concentrated market (such as the current duopoly market for nationwide, multichannel mobile radio service) will be anticompetitive. *See, e.g., FTC v. Heinz*, 246 F.3d at 720-21.

Clearly, XM and Sirius cannot meet this heavy burden. Rather than producing "extraordinarily large," beneficial efficiencies, the proposed merger, if approved, would seriously impair marketplace competition and cause cognizable harms to consumers. There is no reason to approve a merger that would violate FCC rules and precedent, as well as congressional policy, and would grant a state sanctioned monopoly to non-failing companies with a long track record of breaking the rules.

Local broadcasters fully support competition on a level playing field. When all the factors are considered, the proposed merger of Sirius and XM is simply anticompetitive. It is a monopoly in violation of the antitrust laws. Congress should clearly and expeditiously express its opposition to this merger to both the Department of

Justice and the FCC.

Conclusion

Free, over-the-air local radio stations are embracing the future by transitioning to digital broadcasting. A successful and timely transition to HD radio will help ensure that local radio continues to be competitive and financially viable, and able to serve their listeners and communities with high quality national and local programming, vital emergency information and other services. Congress should assure the maintenance of a level playing field in the audio marketplace by expressing its opposition to a satellite radio monopoly, which would impair the ability of other audio service providers to compete and to serve consumers.

Testimony of Mr. Mel Karmazin

Chief Executive Officer

Sirius Satellite Radio

Before the House Energy and Commerce Committee's Subcommittee on Telecommunications and the Internet

Regarding The Digital Future of the United States: The Future of Radio

March 7, 2007

Mr. Chairman,

Good afternoon. Thank you, Chairman Markey, Ranking Member Upton, and members of the Telecommunications and Internet Subcommittee for the invitation to talk with you about the future of radio, and how our merger with XM Satellite Radio will strengthen that future.

I'm Mel Karmazin, the CEO of SIRIUS Satellite Radio. Before I came to SIRIUS in 2004, I was president of Viacom, and before that, president of CBS. I've spent almost 40 years in radio, and just about my entire working life in the broadcast industry.

With me here today is Gary Parsons, the chairman of XM. Gary is a veteran of the communications business, a real leader in the world of satellite radio. Gary and I are both looking forward to working together to create an exciting new company.

Gary's leadership and talent are crucial to the future of radio. Gary, together with XM's CEO Hugh Panero, built XM into the success it is today. I should point out that XM has the largest digital radio facility of its kind in the country, and is headquartered right here in Washington where the combined company will continue to have a significant presence.

As this hearing and this panel demonstrate, audio entertainment in the United States is a very competitive and rapidly evolving market. The AM/FM radio broadcasting industry is highly competitive with respect to listeners and advertising revenues. Radio comes as a standard feature in every vehicle manufactured without an additional cost to the consumer. Some radio

stations have begun reducing the number of commercials per hour, expanding the range of music played on the air and experimenting with new formats in order to compete with other stations and satellite radio. Several major radio companies have launched advertising campaigns designed to assert the benefits of traditional local AM/FM radio.

While most traditional AM/FM radio stations broadcast by means of analog signals, the radio industry has made significant strides in rolling out advanced digital transmission technology. Digital broadcasting offers higher sound quality than traditional analog signals and the multicast of as many as five stations per frequency, significantly increasing the quality and quantity of content available to consumers. Digital radio broadcast services have been expanding, and an increasing number of radio stations in the U.S. have begun digital broadcasting or are in the process of converting to digital broadcasting. I understand that over 1,150 radio stations in the United States currently broadcast digitally. Like with traditional radio, digital radio is offered to consumers for free. BMW recently became the first automaker to offer factory-installed HD digital radio receivers as an option across all of its 2007 model year vehicles, and retail HD digital radios are available nationwide at many large retailers, including the nation's largest retailer, Wal-Mart, which announced this week it will begin to sell HD radios.

A number of leading radio broadcasters have joined together to form the HD Digital Radio Alliance to accelerate the successful rollout of digital radio. The HD Digital Radio Alliance has announced a $250 million on-air advertising campaign to spur the adoption of digital radio.

Internet radio is also becoming a growing force in the market. A 2006 Arbitron study found that weekly listeners increased 50% in just the past year, and now approaches one in five Americans among key demographic segments. Internet radio broadcasts have no geographic limitations and can provide listeners with radio programming from around the country and the world. Improvements from higher bandwidths, faster modems and wider programming selections will make Internet radio an even more significant competitor for listening in the home and office. Technologies like WiMax will also make internet radio more pervasive. In addition to the many free Internet streams, subscription Internet music services offer unlimited and fully-customizable play lists for a small fixed fee per month.

Several of the largest wireless providers currently offer radio-like services music to cellular phones, and a number of phones now contain FM radio receivers. For example, Sprint Nextel currently offers streaming music from a variety of providers plus a music store for purchase; Verizon Wireless offers the V CAST music service that can be played directly on a phone; and AT&T offers a variety of streaming content and has also partnered with Apple to offer the upcoming iPhone. Further, next generation wireless protocols will offer unprecedented broadband coverage and broadcast capabilities.

Lastly, a number of other entities have announced plans to deliver entertainment and media content through cell phones and other wireless devices, including: MediaFLO USA, a subsidiary of QUALCOMM; Modeo LLC, a subsidiary of Crown Castle International Corp.;

HiWire, an affiliate of Aloha Partners; and a joint venture of Sprint Nextel, Comcast, Time Warner Cable, Cox Communications and Advance/Newhouse Communications.

In addition, radio faces competition from numerous recorded media, including CDs, MP3 players and iPods. In fact, a large percentage of the new vehicles produced today come with an auxiliary jack in the radio solely to make MP3 players and iPods easier to use.

Contrast all of this amazing innovation with the market back in 1997, when the FCC granted licenses to SIRIUS and XM. Ten years may not seem long ago, but it was a different era in the evolution of audio entertainment. In 1997 there were no MP3 players, there was no HD radio, there was no Internet radio and no streamed music to cell phones. Satellite radio was in its infancy, and had yet to even launch its satellites or service. The 1997 market is not relevant to business decisions today, and it should not guide policy decisions in 2007. Indeed, if we have learned anything over the last 10 years about technology-driven transformation, it is that the only thing certain about audio entertainment is that it will continue to change rapidly in the years ahead.

So in this fast changing environment, how will the merger of SIRIUS and XM benefit consumers?

- First, it will increase consumer choice. Today, consumers have many choices in the audio market, but for those who choose satellite radio services, there really are only forced choices: You can get great music plus the NFL, NASCAR and Martha

Stewart on SIRIUS; or, Major League Baseball, PGA Golf, Oprah and great music on XM. But if you want all of this, or the best of both, you need to subscribe to two services, buy two radios, and pay two monthly fees. Not surprisingly, only a small number of consumers make this choice. But if our merger is approved, we will offer consumers a much more attractive choice: the best of each service on one radio at a price well below the cost of the two services today.

- Second, we will not raise prices. In fact, we expect to use savings from the synergies of the merger to lower the costs to consumers. In other words, subscribers who want to stay with their current SIRIUS or XM service will be able to do so, and they will not pay any more after the merger. Those who want to take advantage of new services, like the best of both program line-ups, will be able to do so for less than this would cost today – all with their current radio.

I want to emphasize that we view better prices for consumers as a win-win: something that would save consumers money and would strengthen our merged business at the same time. After all, we compete today with free terrestrial radio. About 14 million people have signed up as subscribers for either SIRIUS or XM and now pay $12.95 per month. The key to getting more subscribers for our merged company is not to widen the price gap between free and $12.95. Instead, it is to offer consumers a better value – meaning, more quality programming at better prices.

- Third, no radio will become obsolete. After the merger, subscribers will be able to continue receiving either their present or expanded services using the radios they have today. At the same time, we fully expect that the merger will stimulate innovation by concentrating engineering talent and resources and accelerating the development of highly portable, low-cost, easy-to-use, multi-functional devices.

- Fourth, in the long-term the merger will help increase programming diversity. Both SIRIUS and XM already broadcast a wide range of commercial-free music channels, exclusive and non-exclusive sports coverage, news, talk, entertainment and religious programming, channels in Spanish, Korean and French, as well as weather and traffic information for many cities. In the long run, the merger synergies will make it possible to use our channel capacity to enhance this diversity; and

- Fifth, we believe that the merger strengthens competition in the audio entertainment marketplace. Proud as we are of what we have accomplished in 10 years, the fact is that our combined 14 million subscribers translate into about 3.4% of national radio listeners, according to the Fall 2006 Arbitron Survey. Interestingly, Arbitron found that satellite radio listeners are heavy listeners to radio in general, and spend even more time listening to AM/FM radio than they do satellite programming. Compare that to 237 million vehicles with AM/FM radios, 223 million weekly AM and FM listeners, or even the 230 million PCs that can access Internet delivered programming. XM and SIRIUS are relatively small players in a highly competitive and rapidly evolving audio entertainment marketplace: welterweights in an arena of

heavyweights. The merger will make satellite radio a competitor with more choices and better prices, and consumers will be major beneficiaries of these changes.

These commitments to provide more choice, better prices, and utilize today's radio are more than just words. We are prepared at the appropriate time to discuss each of these issues with regulators and to guarantee these benefits as a condition of our merger approval. From our standpoint, these guarantees are not only good for consumers, they also are essential to the long term success of the combined company.

From our inception, satellite radio has been a subscriber-based business dependent on meeting consumer expectations on both price and programming. The dynamic growth in audio technology over the past 10 years has given consumers and impressive array of new and additional choices.

It has only been 10 years since satellite radio was licensed. Could we have predicted 10 years ago that the audio entertainment marketplace would look the way it does now? One reason for all the new technological advancements is that competition in the audio entertainment market is robust. We are seeing new entrants on a regular basis as the market continues to meet the needs of the consumer.

Given the expansive market – within which satellite radio is only one of many alternatives – we are certain that an accelerating level of competition will exist post-merger. There is little doubt that satellite radio faces stiff competition from many of the technologies and

entertainment platforms that I have already described. In fact, I would like to note for the Committee that in the SEC filings of traditional radio companies, they readily acknowledge that they compete with satellite radio in a larger market for audio entertainment:

- From *Clear Channel Communications* 2005 Form 10-K; page 24: **"Our broadcasting businesses face increasing competition from new broadcast technologies, such as broadband wireless and satellite television and radio, and new consumer products, such as portable digital audio players and personal digital video recorders."**

- From *COX Broadcasting / COX RADIO* 2005 Form 10-K; page 8-9: **"In addition, the radio broadcasting industry is subject to competition from new technologies and services that are being developed or introduced, such as the delivery of audio programming by cable television systems, by satellite digital audio radio service and by digital audio broadcasting. Digital audio broadcasting and satellite digital audio radio service provide for the delivery by terrestrial or satellite means of multiple new audio programming formats with compact disc quality sound to local and national audiences."**

Clearly, we are in the middle of a rapid evolution of the audio entertainment industry marked by continuing innovation and expanding choice. It is not surprising in such a competitive and changing environment that some competitors would seek to use government to prevent others from gaining any ground. But it is ironic that many who raise questions about our

proposed merger are working overtime themselves to consolidate their own positions in the audio entertainment market.

We are also pleased that the announcement of our merger already has resulted in some welcome harmony. There are few – if any – issues where you'll find the LOS ANGELES TIMES, the WALL STREET JOURNAL, USA TODAY, and the CHICAGO TRIBUNE in agreement. All four newspapers found that our merger is meritorious. The LA TIMES concluded that the audio entertainment market "is very competitive, particularly among the national players." USA Today wrote: "the merged entity would represent a more potent competitor to entrenched broadcast interests, one that would offer its customers a more enticing and complete product."

Chairman Markey, Ranking Member Upton, and members of the Committee, the audio entertainment market today is vibrant, competitive, and innovative, and every indication is that it will be even more so in the future. We believe that the combination of SIRIUS and XM will be good for consumers as it will intensify this competition, expand the choices for consumers and accelerate the pace of innovation in the market. We appreciate this opportunity to share our views with you, and look forward to answering any questions you may have.

Thank you.

U.S House of Representatives
Subcommittee on Telecommunications and the Internet
Hearing on
"Digital Future of the United States: Part II – The Future of Radio"

Testimony of Robert Kimball
Senior Vice President, Legal and Business Affairs
RealNetworks, Inc.

On behalf of the
Digital Media Association

Chairman Markey, Mr. Upton and Members of the Subcommittee:

My name is Bob Kimball. I am the Senior Vice President of Legal and Business Affairs for RealNetworks. RealNetworks is a leading provider of Internet media delivery software and services, and is widely known for the creation of the RealPlayer, a pioneering media player that introduced streaming media and radio over the Internet in 1995. RealNetworks offers music to users through a number of free and subscription-based services that provide consumers with on-demand access to millions of tracks through our award-winning Rhapsody service along with rich Internet radio services. In addition to our music services, RealNetworks offers online games, is the leading provider of ring-back tone services for mobile carriers and provides other digital media services and tools to enable businesses, governments and educational institutions to broadcast over the Internet. RealNetworks is a founding board member of the Digital Media Association.

On behalf of RealNetworks and the Digital Media Association ("DiMA"), I am pleased to speak with you today about the radio industry, and particularly about Internet radio's

current business and our opportunity to develop innovative new radio services that would benefit consumers, musicians and copyright owners, and advertisers.

I will also discuss significant impediments to realizing this opportunity, notably the provisions of the Copyright Act that disadvantage Internet radio in comparison to our competitors. These disparities were starkly highlighted last Friday, when the U.S. Copyright Royalty Board determined that royalties paid to record companies by Internet radio services will increase 30% retroactively, and then 30% again in each of the next three years through 2009. The CRB then went on to impose a $500 minimum fee per station, which threatens to destroy the vast diversity of multi-channel programming that exists only on Internet radio. These minimum fees do not apply to terrestrial or satellite radio.

I. Internet Radio Basics

Internet or online radio is simply radio programming transmitted over the Internet instead of the terrestrial airwaves, satellite signals or cable. Several hundred terrestrial radio stations simulcast their primary programming online; additionally, several thousand web-based "stations" offer Internet-only original programming. For example, RealNetworks offers several Internet-only radio stations for every conceivable musical tasete.

Internet radio is not confined by radio spectrum limitations. Thousands of services can webcast at any one time, and these services are constantly creating new stations and new audiences for their content. This ability to offer an unlimited number of stations enables Internet radio to provide a much more diverse and rich experience. Internet radio enables people to find a range of content that is far broader than what is available on terrestrial or satellite radio. For example, while a traditional radio station may have only 30 songs regularly rotated through its playlist to ensure that listeners hear one of a handful of songs during a short car ride, our corresponding station might have over 650 songs, including many more independent artists.

Just like the broadcasters and satellite services represented on this panel, Internet radio services are supported either by advertisements or subscription fees. In the subscription radio model, subscribers typically do not hear advertisements and are able to access significantly broader programming choices. There are two major types of Internet radio music programming:

- Pre-programmed stations, which are typically genre-specific, e.g., jazz, rock, Top 40 and country. Many Internet radio services offer dozens or even several hundred pre-programmed genre-based stations, so they can be focused on more specific musical niches. For example, there are stations devoted to Southern Rock, the Motown Years, Disco, and even something called "Psychobilly".

- Consumer-influenced programming, which permits a listener to identify genres, songs, time periods, artists or albums he or she enjoys allow the radio programmer to choose the station best suited to the listener. For example, a user who enjoys U2, Coldplay and Dave Matthews would be provided a station that blends these artists' songs with those of less-known acts that the user has never heard of, but is likely to enjoy. This content discovery is one of the most powerful features of Internet radio and leads directly to more purchased music.

In addition to music, most Internet radio stations will provide users with links to related content, like album art, artist biographies, editorial reviews and music videos. This provides users additional opportunities to explore the music more deeply and enables artists to connect more directly to their fans.

Significantly, most Internet radio stations also offer listeners a click-to-purchase-music opportunity, which benefits listeners, as well as artists, labels and songwriters.

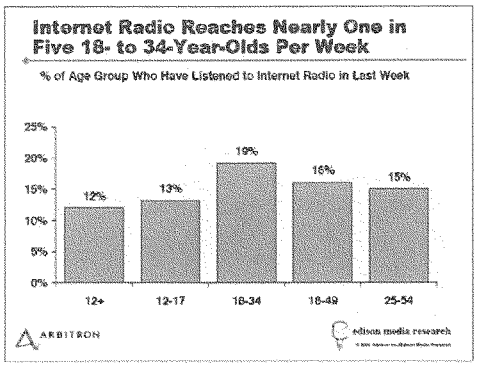
Many Internet radio stations offer consumers the ability to use their radio station in new and interesting ways, including:

- "Skip Ahead" – if a user does not like a song she can skip to the next song;
- "Pause" – a listener can pause the station and return to it later;
- Personalized recommendations and listener input, including rating songs, albums and artist and requests for related artists, based on what the listener is hearing on the radio.

The Internet Radio Audience

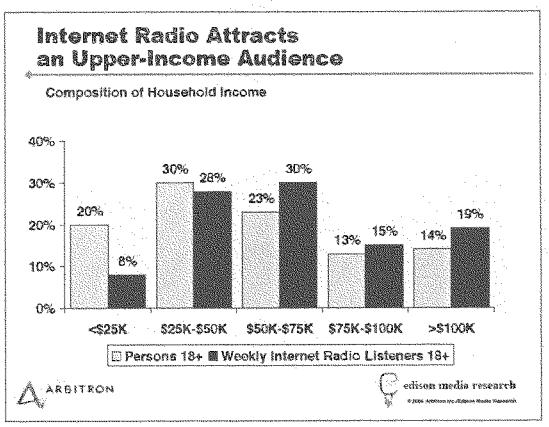
Audience Size and Demographics

- Internet radio is a mainstream activity that is becoming increasingly popular. Studies by Arbitron and Bridge Ratings conclude that between 50 and 70 million Americans listen to Internet radio monthly, and about 20 percent of 18-34 year olds listen to Internet radio weekly.



- Internet radio is primarily a workday/office-based activity, with 75% of listening occurring at work. At-home listening is growing quickly, however, as home networking has taken off and people connect their home audio systems to the Internet. In the past year home listening increased 79% according to one recent study.

- Fortunately for advertisers, musicians and copyright owners, Internet radio attracts upper-income, tech-savvy early adopters. Internet Radio listeners are 36 percent more likely to live in a household with an annual income of $100,000 or higher, when compared to the general U.S. population of 18 and older:



Audience Growth: Internet radio has enjoyed steep growth in listenership.

- In the last year regular Internet radio listening jumped dramatically, from 45 million listeners per month to 72 million listeners each month. Weekly listenership also jumped, increasing 26% to 57 million listeners.

- Remarkably, not only did Internet radio attract significantly more listeners, those listeners spent much more time tuned in to Internet radio:

Hours per week listening (Bridge Ratings)

Age	2006	2005
12+	9:06	7:00
13-21	11:40	9:20
22-35	9:54	7:36
36+	6:35	4:40

- A significant number of Internet radio listeners (38%) report they expect to be listening to more Internet radio a year from now, and one study concludes that the Internet radio audience will double by 2010 and grow to nearly 200 million monthly listeners by 2020 (Bridge Ratings).

The Business of Internet Radio

Internet radio services enjoy two revenue streams: advertising, just like broadcasters, and consumer subscriptions, just like satellite radio. As Internet radio audiences continue to grow, our ability to monetize our audience will also develop further and our businesses will become as successful as our programming. Today, however, our industry's revenue is relatively small.

On the advertising side, Internet radio stations run the same 15, 30 and 60-second commercials as broadcast radio. Additionally, Internet radio services run "gateway" or "pre-roll" advertisements when a consumer first tunes in a station. After consulting within the industry and with advertising sales experts, DiMA's best guess is that around $100 million was spent on Internet radio advertising in 2006. This contrasts with more than $20 billion spent on broadcast radio advertising.

Many Internet radio consumers pay a subscription fee to enjoy 'premium' Internet radio – stations without commercials or stations that permit users to have more influence over the programming they enjoy (e.g. skipping songs, requesting artists or genres, etc.) A

recently published report estimated Internet radio subscription revenues at $45 million for 2006. By comparison, XM and Sirius recently announced $1.5 billion in subscription revenues for 2006.

II: The Benefits of Internet Radio to Consumers, the Music Industry and Advertisers

Internet radio's growth has been driven by the medium's ability to use technology and consumer input to create a better experience for listeners, copyright owners and advertisers.

Greater Variety of Music Benefits Listeners, Music Creators and Advertisers

As the Subcommittee is aware, AM-FM radio music programming is generally limited to repetitive hit-driven playlists, which makes it hard for new artists to find an audience and for consumers to discover new music that they enjoy. Even XM and Sirius are limited in the number of channels they offer and the diversity and creativity of their playlists. Internet radio reverses the hit-driven equation favored by traditional terrestrial radio stations. The flexibility and diversity enabled by the Internet provides significant benefits to both artists and consumers:

- One DiMA radio service reports that its listeners enjoy the music of more than 30,000 artists each week, 48 percent of whom are not signed by major labels. This alone demonstrates the value of Internet radio to artists challenged by the short playlists of terrestrial radio and even the limitations of satellite radio.

- A second DiMA service reports that its average station has a playlist of between 500 and 700 songs, which compares dramatically to KROQ, one of the biggest music broadcasters on the West Coast which has 31 songs in heavy rotation.

By offering a wide variety of programming, Internet radio services virtually guarantee that everyone will find a station they enjoy. This makes listeners more likely to continue

listening through commercials rather than flipping channels, and to stick around for the next song. By offering consumer-influenced programming, Internet radio services learn more about what types of music and the combinations of music consumers enjoy, which enables services to provide eclectic unpredictable song mixes that enable music discovery by consumers. This music discovery feature is critical to help smaller bands find an audience for their music which otherwise would be ignored by "big radio."

The evidence is convincing – Internet radio listeners of all ages enjoy more radio, discover more music and buy more music. According to a recent DiMA survey, more than 85 percent of Internet radio listeners have discovered new artists they enjoy. Here are some authentic listener testimonials:

> *I'm 77 years old and the music I like and grew up with just isn't played much any more. Sometimes tears come to my eyes when I hear certain songs. They bring back so many memories. I don't think I have heard any songs I haven't liked. Thank you from the bottom of my heart. – Lorraine S*
>
> *[My Internet radio service is] absolutely fantastic . . . It calculates music recommendations based on the attributes of music I enjoy and then delivers its recommendations as radio. I've discovered so much great new music during the short period of time I've been listening. – Jarno*
>
> *I have been "out of the [music] loop" for a long time now, and was searching for a new source of music to (legally) explore new musicians without the expense of purchasing random CDs, which was my former method of musical exploration. Your personalized Internet radio station is the perfect solution for people like me, who love to experiment with up-and-coming artists in order to expand and enhance our understanding of the creative possibilities in music. – Miles*
>
> *Internet radio has rescued me from the doldrums of bubble gum pop and the same rotation of CDs I've owned for ten years. I searched for music based on the band*

Nine Inch Nails to see what would happen. Wow! Not only have I found new music, but I'm discovering bands I haven't encountered before. This is a tremendous gift. – Emilie

Radio that Affirmatively Promotes Recording Artists

Although broadcast radio has traditionally been viewed by record labels as one of the most important tools for promoting new artists and generating CD sales and concert tickets, Internet radio serves the same promotional purposes more efficiently:

- Internet radio makes it easy for listeners to buy the music they hear, because Internet services provide listeners with the name of every song performed, the name of the recording artist and the album name, and often provide a link to buy the song or album that is playing, or to buy a concert ticket when the band is performing nearby.

- Utilizing the input provided by listeners, consumer-influenced Internet radio has more success performing new music for targeted consumers they know are likely to enjoy it. And this success equals dollars for record labels and artists:

    - Listeners to consumer-influenced radio stations in RealNetworks' Rhapsody service purchased materially more music than listeners to regular genre-based stations.

    - 86% of Internet radio users say that through the service they have discovered new musical artists that they now enjoy, with nearly 25% saying that they have discovered many of new artists. Nearly 70% of Internet radio users say that through the service they have expanded their habits to enjoy new music genres.

- More listener testimonials:

  My first day listening to this station I ended up ordering 75 dollars worth of albums from Amazon. They arrived Friday and I've listened to them all weekend, and will probably be buying more albums. – Steve

  I have found myself listening to your station on a daily basis and enjoying it a lot. I have also discovered new [music] and bought many CDs because of your station. – Sylvia

  I am just fascinated and amazed by the selection of music the site is providing to me and the easy access to information about each artist and album. This is the coolest web site I have seen since Google Earth... and it is more useful! The downside is that I may go broke discovering all this new music and buying new CDs! But, I'll order them from your sponsors and try to support your site. – Ian

  At 52 I am out of the music loop. I've already found a lot of new artists using your service. I hope Amazon is paying you for all the music CD's they will be selling because of you. I decided to sign up for their $79 a year free 2nd day shipping plan because of you. – Loyd

Radio That Works for Advertisers

The same targeted Internet radio audiences that make it easier for record companies to promote artists also make it easier for advertisers to reach their target consumer demographics.

For most advertisers, Internet radio is just like radio – but even better.

- Internet radio listeners are at their desks or at home and can easily take action online or by phone in response to an advertisement, something that is harder to do while driving.

- Internet radio listeners represent a very desirable demographic to advertisers: a recent report found that Internet radio listeners are 36% more likely to live in a household with an annual income of $100,000 or higher, compared to the general U.S. population.

- Advertisers can micro-target Internet radio consumers for increased effectiveness. For example, an advertiser targeting women can buy time on an Adult Contemporary broadcast stations knowing that about 55% of the listeners are women, or can buy time on Internet radio stations that are have significantly higher percentages of women. This dynamic holds true for many desirable target audiences.

III. Competition Among Radio Platforms – Does it Exist? Can it Improve?

As described previously in this testimony, all evidence points to competition existing among broadcast, satellite and Internet radio – for listeners, paying subscribers and advertisers. The interesting question for this Committee – particularly when XM and Sirius are proposing to merge and are citing Internet radio as viable competition – is whether Internet radio today competes fairly and effectively against satellite and broadcast radio, and whether we ever can compete fairly and effectively when we are hobbled by extraordinary bias in the Copyright Act that imposes far higher royalties on Internet radio. Not only are we forced to pay higher royalties than our competitors, the Copyright Act also limits our programming and innovation opportunities.

Internet radio is prejudiced by the Copyright Act in several significant ways:

- Sound recording royalties: The Act establishes a tiered royalty structure based on a service's delivery technology that
    - exempts broadcast radio from paying royalties to record companies and performers;
    - imposes a modest 7% of revenue royalty on XM and Sirius; and

- imposes a much higher royalty on Internet radio that for many small webcasters will exceed 100% of their revenue.

- Programming limitations: The Copyright Act leaves broadcasters' programming unregulated, regulates satellite companies' lightly, and inhibits greatly the programming flexibility of Internet radio companies.
    - In combination with the new $500 minimum royalty per station, these restrictions ensure that Internet radio's rich programming diversity will likely end.

- Technological limitations: The Copyright Act prohibits only Internet radio from offering recording devices and portable radio services, and punitively regulates personalized radio so as to essentially eliminate the most compelling features of Internet commerce.

- Litigation Risk: Broadcast radio is exempt from almost all copyright royalties and restrictions, and therefore has virtually no copyright litigation exposure. Internet and satellite radio, as innovators, suffer needlessly as a result of vague Copyright Act provisions that do not reflect business or technological reality. And if we guess wrong about the meaning of one of these laws, the penalty is $150,000 for each and every song performed. This is a very powerful deterrent to innovation. I have personally been forced to kill several innovative projects simply due to the legal uncertainty and the catastrophic effects of making the wrong interpretation of ambiguous language.

Speaking for RealNetworks only, and not for DiMA, I suggest to you that any XM-Sirius merger that relies upon Internet radio as the justifying competition should be rejected until Congress corrects the Copyright Act's bias against the Internet. Before XM and Sirius and are allowed to merge, Congress must ensure that there is a level playing field that no longer penalizes those of us who use the Internet to deliver music. I know that the Copyright Act is not in this Committee's jurisdiction, nor in the jurisdiction of the

Department of Justice, the FTC or the FCC. But if you care about the Internet and innovation and competition and consumers, then I urge you to focus on ensuring a fair and balanced Copyright Act.

The Copyright Act's Royalty Rate Structure Discriminates Against Internet Radio

Congress' creation of a sound recording right for digital radio explicitly exempted broadcast radio. Equally frustrating is that Internet radio is also disadvantaged in comparison to satellite radio. Satellite radio also pays royalties to record labels and recording artists, but our royalties are calculated using different economic and legal standards, and as a result, Internet radio royalties are much more costly than satellite radio royalties. Satellite radio services reportedly pay about 7 percent of their revenue to record companies and recording artists. Until Friday the Internet radio services thought we were paying at least 50 percent higher royalties, though for some services the royalties were significantly higher.

As a result of Friday's Copyright Royalty Board decision, I can confidently say that this disparity has grown far worse, and that Internet radio royalties will now cost many multiples of satellite radio royalties. For example:

- Loudcity, a small webcaster in Boston with two full-time employees, had been paying about 10% of its gross revenue to record labels under the previous rate structure. This equates to about $2,000 per month (out of $20,000 a month in revenue). Under the new rate structure, Loudcity royalties to record labels will now cost more than $60,000 each month, or 300% of its gross revenue.

- Accuradio in Chicago paid $48,000 in royalties in 2006 based on revenues of $400,000. Friday's decision will retroactively increase its 2006 royalties to $600,000, requiring an immediate payment of $552,000 just to stay in business for one more day.

Internet radio competes directly against terrestrial radio for a limited universe of listeners and advertisers, and competes directly against cable and satellite radio for an even

smaller universe of subscribers and advertisers. Paying higher royalties requires Internet radio to reduce programming or performance quality, or increase advertising prices or frequency, in ways that unfairly harm Internet radio's competitive opportunity.

From the vantage point of this Subcommittee and this hearing, there should be no telecommunications or Internet policy reason for discriminating against Internet-delivered digital media services. Law and policy must be neutral with respect to underlying technologies.

If you support the broadcast industry's royalty exemption on the basis that radio performances promote sales of sound recordings, then you should support a similar exemption for Internet radio, as our listeners are more intense music fans, are more easily able to connect their music purchases to music listening, and we promote a far greater variety of music than terrestrial radio. If you care about competition, consumer welfare and innovation, or if you wish to ensure that America's music genius finds its largest audience, I urge you to correct this competitive disparity. In the meantime, many Internet radio services large and small are considering whether to wait for you to act, or whether they should just shut down in light of the CRB's decision to impose dramatically higher royalties.

The Copyright Act's Music Programming Restrictions are Overly Rigid, and Prevent Internet Radio from Engaging in Traditional Broadcast-Style Practices.

Another disparity between broadcast radio and Internet radio is created by the programming controls imposed by the Copyright Act, namely, the prohibition against advance announcements of songs to be performed and the "sound recording performance complement", which regulates how many times an Internet radio service can perform songs of a single artist or band, or songs from a single album. While intended by Congress to limit the digital public performance license to traditional radio-like activities, these provisions actually prevent Internet radio from engaging in many broadcast radio practices that have proved, over decades of experience, to promote rather than harm the interests of the record labels and performing artists.

For example, radio stations typically announce specific songs that are going to be performed either next or at an unspecified time in the near future, as an inducement to keep listeners tuned to their stations; Internet webcasters are forbidden to do this. Or, when a famous artist such as Ray Charles passes away, radio stations have complete latitude to pay tribute by playing extended blocks of the artist's work. In contrast, the sound recording performance complement limits the ability of Internet radio to honor the artist – never can we play more than two songs consecutively and four songs total over a three-hour period. There is no evidence, however, that the broadcasters' practices have harmed the record industry, or that webcasters' adoption of these practices would be harmful. Given the clear promotional benefits of webcasting to the recording industry and performing artists, there is no reason why webcasting should not also be permitted this additional programming latitude to better attract and maintain its audience against broadcast competition.

The Copyright Act Inhibits Radio Innovation That Has Proven Beneficial for Consumers and Recording Artists.

Internet radio offers programming focused on listeners' favorite artists and music genres, or can even provide a station just by keying off a favorite song. These consumer-influenced stations are proven to be more enjoyable than pre-programmed radio, to be more capable of successfully introducing new artists and songs to a listener, and to generate more sales of music to listeners. Nevertheless, the Copyright Act governs the level of engagement that listeners can enjoy with their Internet radio service, and this set of rules has proven vague and ambiguous, and has resulted in more litigation and less innovation

By limiting how "interactive" an Internet radio service can be, Congress sought to ensure that Internet radio services are not "on-demand" jukebox services that replace CD sales. Unfortunately the record industry has used this vague definition to attack Internet technologies they deem overly "interactive", and after several years of court cases and Copyright Office proceedings the law remains unclear and innovation in Internet radio

has essentially ceased. In this instance, the Copyright Act undermines a core value of the Internet that is often the most compelling opportunity in e-commerce – personalization.

Future Innovation Will Demonstrate the Absurd Anticompetitive Environment.
For most of its existence, the Internet has been a "connected" or "wired" network. Recently, however, as Tim Berners-Lee testified in this Subcommittee last week, the Internet has become a more mobile and wireless environment. And in the last several years mobile broadband capability will increase substantially when WiMax and other technologies are introduced.

Next generation technologies will deliver stable broadband access to the car, which means that Internet radio will compete directly and quite effectively against our satellite and broadcast industry colleagues. These advances will make Internet radio even more effective for discovering new music, satisfying consumer needs, and ultimately, and promoting creativity by delivering additional revenue for artists, songwriters, and record companies. It highlights the problem, however, because in the future your automobile's multi-band radio that delivers broadcast, satellite and Internet radio will pay three different amounts of royalties and have three different regulatory environments for delivering the same music to the same consumer over the same device.

* * * *

The current state of Internet radio is dominated by two facts: we pay dramatically higher royalties than our competition, and we are subject to far more restrictions on our ability to innovate. The future of Internet radio will be largely dictated by whether this bias is corrected. In a mobile world, every radio receiver will receive "over-the-air" broadcasts, and whether these broadcasts are FM, satellite, or WiFI should be entirely irrelevant under the law.

Thank you.

STATEMENT
of

GENE KIMMELMAN
VICE PRESIDENT, FEDERAL AND INTERNATIONAL AFFAIRS

on behalf of

CONSUMERS UNION
THE CONSUMER FEDERATION OF AMERICA
FREE PRESS

on

DIGITAL FUTURE OF THE UNITED STATES: THE FUTURE OF MUSIC

before the

HOUSE SUBCOMMITTEE ON TELECOMMUNICATIONS AND THE INTERNET

MARCH 7, 2007

Consumers Union (CU),[1] Consumer Federation of America (CFA),[2] and Free Press (FP)[3] believe it is time for Congress to reinvigorate the goals of promoting more competition, high quality/diverse local content, and to expand minority ownership in radio and all other important media that serves the needs of consumers and citizenship in our nation. It is time to take advantage of digital technological breakthroughs and devise incentives to expand local and minority ownership opportunities in radio and other media and to hold the line against the greatest threat to a competitive and diverse media: mergers that concentrate ownership in too few hands.

Today we highlight the most recent wrong-minded radio merger and identify key policy areas for Congress to immediately address in order to promote a radio market that better meets consumers' and citizens' needs.

XM/Sirius Proposed Merger

The proposed merger of the only two satellite subscription radio companies — XM and Sirius Radio — should raise a red flag for both antitrust officials and communications regulators whose job is to promote competition and consumer choice in the marketplace. Not

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[1] Consumers Union is a nonprofit membership organization chartered in 1936 under the laws of the state of New York to Provide consumers with information, education and counsel about good, services, health and personal finance, and to initiate and cooperate with individual and group efforts to maintain and enhance the quality of life for consumers. Consumers Union's income is solely derived from the sale of *Consumer Reports*, its other publications and from noncommercial contributions, grants and fees. In addition to reports on Consumers Union's own product testing, *Consumer Reports* with more than 5 million paid circulation, regularly, carries articles on health, product safety, marketplace economics and legislative, judicial and regulatory actions which affect consumer welfare. Consumers Union's publications carry no advertising and receive no commercial support.

[2] The Consumer Federation of America is the nation's largest consumer advocacy group, composed of over 280 state and local affiliates representing consumer, senior, citizen, low-income, labor, farm, public power an cooperative organizations, with more than 50 million individual members.

[3] Free Press is a national, nonpartisan organization with over 350,000 members working to increase informed public participation in crucial media and communications policy debates.

only were XM and Sirius prohibited from merging as a condition of getting their licenses to use the public airwaves to deliver their services, the enormous growth of satellite subscription radio service at very substantial monthly charges and consumer equipment costs over just a few years demonstrates that this service is, in fact, a distinct product and could develop into a vibrant competitive market. CFA and CU believe the companies who seek to merge so soon after they began competing and offering consumers innovative new services; so soon after they demonstrated that subscription radio is attractive to consumers and could be much more so with consumer-friendly pricing; and in total disregard of the licensing conditions they accepted in order to use pubic resources, carry an enormous burden to demonstrate why public officials should abandon all normal rules associated with competitive markets and spectrum licensing to allow this merger.

CFA, CU, and Free Press have seen no evidence to support such a showing and therefore believe the Department of Justice (DOJ) and Federal Communications Commission (FCC) should reject this merger unless and until XM and Sirius present clear-cut facts demonstrating how consumers will benefit from less satellite radio competition.

This merger raises the most fundamental issues in antitrust law and poses a substantial threat to consumers and competition. In order to exercise their responsibility under the competition laws, the federal agencies must start from the assumption that the XM-Sirius merger is a merger to monopoly — a merger between the only two firms in the market for national subscription radio service. The product and geographic market characteristics of satellite radio are easily identifiable and quite distinct from other mobile and stationary audio products. It is national, mobile, programmed radio entertainment. The two services deliver and require consumers to purchase huge bundles of well over 100 channels. There are two,

and only two, entities providing such a service. The alternatives the companies suggest are substitutes do not possess this set of characteristics and, therefore, cannot be said to compete directly with the service. Entry into this market is restricted by the need to have a license to broadcast at frequencies that enable the service to be provided nationwide. Consumer switching costs are substantial. The original licenses were issued under strict conditions that the two entities are not allowed to merge. There is no circumstance more disturbing from the point of view of the antitrust laws and the Communications Act than a merger within a distinct product market that takes the number of competitors from two to one. Merger to monopoly is antithetical to the competition laws, perhaps the worst offense against the basic principle that competition is the consumer's best friend.

XM and Sirius offer a number of arguments in support of their proposed merger that have not been supported by reliable evidence. We remain unconvinced by the excuses we have heard offered to justify the merger.

They claim that national subscription radio service competes, indirectly, with a variety of partial substitutes. While AM/FM radio, iPods and other music recording and listening devices can offer similar prepackaged music or local signals similar to what satellite radio offers, none of them can offer immediate national programming, including live professional sports games from across the country to listeners across the nation. The track record of intermodal competition disciplining anticompetitive abuse is poor at best. "Bank shot competition" — the claim that partial or poor substitutes that are fundamentally different than the target product serve as competitors — has failed to protect consumers in similar situations. The result of relying on such competition in both merger and regulatory reviews has been rising prices and stagnation.

A perfect example is cable television. In the 1980s, federal policymakers claimed that cable TV competed with over-the-air broadcasting. Based on that understanding, the FCC deregulated cable systems in communities with three or more broadcast signals. Cable rates subsequently skyrocketed. By the late 1980s, the failure of this intermodal competition to discipline cable pricing was so obvious that the FCC proposed to increase the number of over-the-air stations necessary to represent effective competition to six. Seeing the results of this failed policy, Congress re-regulated cable in the early 1990s, and intervened in the market to help DBS satellite compete against cable (another form of intermodal competition).

In the decade after the Telecommunications Act of 1996, which largely deregulated cable rates, intermodal competition between cable and satellite failed to discipline cable rate increases. Average monthly cable bills have doubled since the 1996 Act. In short, intermodal competition from neither over-the-air TV nor from digital satellite distribution disciplined cable rates. The former had more limited channel capacity; the later had greater channel capacity. It did not matter. The empirical evidence from the cable market is clear. Only head-to-head competition delivers clear relief from anti-consumer, anticompetitive pricing.

In the satellite radio service product space, we face a similar configuration of products. Traditional broadcast radio, digital Internet distribution and mobile handheld devices, like iPods, that allow consumers to store and play music from their own collections or from online music sites, are touted as the intermodal competitors that will discipline prices. Yet there are distinct differences in product quality, listener experiences and mode of delivery. The touted competitors are not national, not mobile or not programmed. The growth in subscribership and revenues for Sirius and XM, based on their SEC 10-5 filings, reinforce the uniqueness of satellite radio's product offerings. Between 2005 and 2006, satellite radio subscribership rose

from 9.3 million to 13.7 million — a nearly 50 percent increase. And combined revenue grew by nearly 100 percent. These data are not consistent with a market that competes with the growing market for digital listening devices. Experience and careful analysis suggests that the effort to position satellite radio as merely one product option in a broader product market should be rejected.

Consumers in the satellite radio space are afflicted by the very same pricing practices that afflict consumers in the cable space. Not only are prices high, but also the consumer is offered only large bundles of channels over which they have no choice. Consumer choice and consumer sovereignty are denied. In a product market where the marginal production cost of adding subscribers is almost zero, the bundling strategy is largely anti-consumer.[4] This merger promises to make matters worse, with large capacity systems joining to create larger consumer bundles at higher prices. The merging parties have suggested they may provide consumers greater choice over the channels they pay for if the merger is approved. However, it is unclear whether their willingness to hold prices near current levels does anything more than freeze pricing for yesterday's services. It appears that merging parties' promises not to raise prices above the current $12.95/month price for a period of time does not apply to new packages that include the combined services of the two companies – like channel packages that could include Major League Baseball with live NBA basketball and NFL football games. In fact, it is very likely that the "merger benefits" of combining these offerings will require consumers to pay much more than $12.95/month. And it is not clear why prices should not

[4] The marginal production costs are certainly every low, if not zero, but we are told that the marginal transaction costs (i.e. customer acquisition costs) are high. However, it appears that this problem is a function of the bundling strategy. Having set such a high threshold price, the companies are forced to market aggressively to much narrower market segment.

fall far below $12.95/month for existing services if both companies continued to compete against each other and attempted to expand their base of customers.

The suggestion that free, over-the-air radio will discipline pricing abuses after the satellite radio firms merge to monopoly, even though it did not restrain their pricing practices up to now is difficult to take seriously. Claims that existing or emerging distribution systems, like cell phone or Internet radio, will discipline the satellite radio monopolists pricing practices are equally suspect. The iPod has been around for a while, and phenomenally successful, but it sells a very different service and its existence has not disciplined satellite radio pricing practices. There is no reason to believe that it will do a better job if a satellite radio monopoly is allowed to come into existence.

Although the specific product — satellite radio — is new, having been made possible by recent technological advancement, it has achieved a size that establishes it as a distinct product and makes it worthy of public policy attention. Annual revenues exceed $1 billion per year. Abuse of market power in this space could impose a substantial cost on consumers.

Perhaps the most outlandish of all the claims being circulated by the merging parties is the argument that consumers will be better off with a benevolent monopolist than they would be with two competitors. In this ultra-short term view, competition is defined as wasteful, since redundant facilities lie unutilized. The monopolist can serve everyone while using less resources and the monopolist promises not to abuse the market power that would result. Without the stick of competition, however, the cost savings simply will not be passed through to the consumer. Indeed, the increase in market power will allow the post-merger monopoly to raise, rather than lower prices.

The promise of benevolent monopoly is not worth the paper it is written on. The merging parties suggest the merger will increase consumer choice by giving consumers more than the 130 to 170 channels now available to them by consolidating their offerings, omitting the duplicative offerings while retaining highly demanded and niche channels — these are options that consumers can only have to date by subscribing to both services and buying two radios. Yet there is little discussion of the fact that it is the parties' own practices that have denied consumers choice in the past. Despite requirements by the FCC and the terms of their own patent dispute settlement to develop and provide interoperable radios that would have allowed consumers to switch providers without switching equipment, the companies have failed to meet that commitment. Now, we're told dual platform radios are on the cusp of development and will allow consumers to receive both signals simultaneously, easing technological challenges of the merger. But technology that allows consumers to switch services or subscribe to both if they choose should have been available independent of a merger. Yet instead of promoting consumer choice, the merging parties have forced consumers to invest in equipment that works with just one service, and once so invested, are stuck with that choice.

Greater enthusiasm by the merging parties for interoperable and dual platform radios prior to the merger would have facilitated the very choice they now purport to offer consumers under the merger but *without* the necessity of a merger. It's important to point out that in their discussion of consumer choice, the merging parties fail to consider the loss of choice between the two providers as a meaningful one. The two parties have not, as a matter of business practice, offered consumers the most fundamental choice – which channels to pay

for. They stuck to a high-priced, high volume bundle, which is anti-competitive and anti-consumer.

Moreover, under the scant details released to date, it remains unclear what additional equipment costs will be imposed on consumers as a result of the merger and whether, if consumers fail to invest in additional equipment, they will enjoy benefits the parties purport to provide to their subscribers. For policymakers inclined to accept the notion that consumers are better off with one rather than two satellite radio providers, we recommend, that the spectrum occupied by one of the current licenses be divested and made available for other consumer services. If all we need is one satellite radio company, why not auction half of the XM/Sirius spectrum for other commercial uses? Surely a free-market auction would enrich the Federal Treasury with plenty of money to compensate satellite radio subscribers for any sunk equipment costs, offer consumers new broadband or other wireless services, and still enable Sirius and XM to combine their best offerings with substantial channel capacity.

Because this is a unique product market, once the competition is eliminated, prices will rise over time. More importantly, the primary driver of innovation and progress in both programming and technology – competition in the market – will be eliminated. Innovation will slow to the pace preferred by the monopolist and consumers will be much worse off in the long run. This is a Faustian bargain that America rejected over a century ago when we affirmed our commitment to competition by enacting the Sherman Act and later the 1934 Communications Act. The short-term benefit of a monopolist who is subject to political oversight is simply not worth the long-term costs of abandoning the competitive engine of economic progress.

Offers of conditions on the mergers should also be taken with a grain of salt. The recent track record of conditions has been abysmal and the satellite radio industry has already proven that it cannot be trusted to live up to conditions imposed on it. The satellite radio licenses were issued subject to the condition that the licensees never merge. Yet here they are asking to be excused from that condition. The licensees promised to offer the public interoperable radios that would work with both systems. Yet, ten years have passed and there is no such interoperability. We are told interoperable radios have been developed but are too costly and thus manufacturers will not install them. Yet we have no ability to verify whether the lack of commercial availability of interoperable radios is due to cost, is the result of technical barriers, or instead is a strategic decision to impose barriers to prevent consumers from switching services. In short, from day one they have failed to meet the conditions of their licenses and the public has suffered as a result.

A satellite radio merger to monopoly is about an avalanche of mergers. There was a key moment a decade ago when the Department of Justice decided that a large monopolist is no worse then two smaller monopolists and allowed the Bell Atlantic-NYNEX merger to go forward. That decision opened the door to a wave of mergers that doomed head-to-head competition in telecommunications. The old telephone monopoly was recreated as two huge geographically distinct monopolies that rarely, if ever, compete.

A satellite radio merger to monopoly will perform a similar bellwether function. If the agencies with oversight adopt a loose definition of products and markets and allow a merger to monopoly on the basis of intermodal competition, then a tsunami of mergers could ripple through the digital space at the worst possible moment. The firms that have declared their undying hostility to the open flow of products in the digital economy (broadcasters,

telephone/cellular companies, cable companies), will be empowered to capture and stifle the alternatives, under the premise that every media and telecommunications product competes with all others and that new technologies and services will come along to protect the consumer in any case. That relief, however, will be slow and insufficient because the competitive core of the digital economy will have been damaged and the critical terrain of the digital economy will be controlled by entities that have the same anti-competitive anti-consumer objectives as the merging parties in this case.

Minority Ownership of Radio Stations

As regulators and antitrust authorities are being asked to approve the XM-Sirius merger to monopoly that may give a single licensee greater ability to erect insurmountable barriers to minority and other independent programmers, the FCC has fallen far short of its own mandate to promote diversity in broadcast ownership. The Commission's failings are easily demonstrated by just a brief review of the Commission's recent history in promoting, or failing to promote, diversity of broadcast ownership, and a consideration of the inadequate data on which the Commission bases its diversity policy. Indeed, the FCC has abdicated its responsibility to monitor and foster increased minority and female broadcast ownership. In fact, the Commission cannot account for the actual state of female and minority radio station ownership.

Historically, women and minorities have been under-represented in broadcast ownership due to a host of factors — including the unfortunate fact that some of these licenses were originally awarded decades ago when the nation lived under a segregationist

regime. The FCC, beginning with its 1978 Statement of Policy on Minority Ownership of Broadcasting Facilities, has repeatedly pledged to remedy this sorry history.

Congress also has recognized the poor state of female and minority ownership. The Telecommunications Act of 1996 contains specific language aimed at increasing female and minority ownership of broadcast licenses and other important communications mediums. The Act requires the FCC to eliminate "market entry barriers for entrepreneurs and other small businesses" and to do so by "favoring diversity of media voices." The Act also directs the Commission when awarding licenses to avoid "excessive concentration of licenses" by "disseminating licenses among a wide variety of applicants, including small businesses... and businesses owned by members of minority groups and women."

The FCC initially appeared to take this mandate seriously. In 1997, the Commission completed a proceeding, as required by Section 257 of the 1996 Act, which identified barriers to entry for small businesses (which has been interpreted to include minority- and female-owned entities) and set forth the agency's plan for eliminating these barriers. Unfortunately, subsequent triennial reports have lacked substance.

In 1998, the Commission further demonstrated its seriousness by taking a crucial first step to determine the actual state of female and minority ownership of broadcast radio and television stations. That year, the FCC began requiring all licensees of full-power commercial stations to report the gender and race/ethnicity of all owners with an attributable interest in the license. In the Form 323 Report and Order, the Commission stated:

> *Our revised Annual Ownership Report form will provide us with annual information on the state and progress of minority and female ownership and enable both Congress and the Commission to assess the need for, and success of, programs to foster opportunities for minorities and females to own broadcast facilities.*

Other than this monitoring effort, the FCC has done very little to promote female and minority broadcast ownership (and the follow-up on this monitoring has been abysmal). In its 1999 Order that allowed television duopolies, the Commission paid lip-service to concerns about the policy change's effect on minority and female ownership, but still went forward with rule changes that allowed increased market concentration. In 2004, the Commission sought input into how it could better implement Section 257 of the 1996 Act. But this proceeding remains open, and the Commission has shown no sign of interest in completing this important matter.

Now, the 2006 Further Notice seeks public comment on the issue of minority and female ownership. But before considering the potential effects of policy changes on female/minority ownership, we must first know the current state of ownership and evaluate the effects of previous policy changes. No one should be in a better position to answer these questions than the Commission itself. The FCC possesses gender and race/ethnicity information on every single broadcast entity and knows exactly when licenses changed hands.

In reality, the FCC has no accurate picture of the current state of female and minority ownership, and shows no sign of taking the matter seriously. Though the Commission has gathered gender/race/ethnicity data for the past seven years, it has shown little interest in the responsible dissemination of the information contained within the Form 323 filings.

This lack of interest or concern is underscored by the FCC's own Form 323 summary reports. Station owners began reporting gender/race/ethnicity information in 1999, and the FCC released its first "summary report" in January 2003 (for reporting in 2001). A second summary followed in 2004 (for reporting in 2003). The most recent report was issued in June

2006 (for the 2004-2005 period). However, calling these publications "summary reports" is somewhat misleading, as they are merely a listing of each minority or female-owned station's Form 323 response and not aggregated in any manner. No information on the stations that are not owned by women or minorities is given.

A 2006 examination by Derek Turner, Research Director at Free Press, revealed significant problems in FCC's minority ownership data collection and reporting.[5] Some station owners listed in the 2003 summary are missing from the 2004 report but reappear in the 2006 summary, despite the fact that ownership had not changed during the interim period. Certain stations have ownership interests that add up to greater than 100 percent. In some instances, the type of station facility (AM, FM or TV) is not specified. In addition, some stations known to be minority owned are not listed in the report. For example, not a single station owned by Radio One is listed, even though the company is the largest minority-owned radio broadcaster in the United States. Stations owned by Granite Broadcasting, the largest minority-owned television broadcaster, are also missing from the FCC's summary reports.

Turner found little FCC oversight of Form 323 filings and the summary reports produced from them. This lack of concern is made evident not only by the poor quality of the summary reports, but by the significant number of improperly filed forms. Station owners who listed themselves as one race in a certain year are listed as a completely different race in later years; race and gender information is left blank; names are misspelled; attribution of ownership in other stations is not listed as required; and some stations fail to file every two years as required by law.

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[5] S. Derek Turner, *Out of the Picture: Minority & Female TV Station Ownership in the United States*, Free Press, Consumers Union, Consumer Federation of America, October, 2006.

In response to a recent FOIA request from Georgetown University, the FCC released additional ownership studies it conducted but chose not to release. Two of these studies looked at the issue of female and minority ownership, but just like the public released Form 323 Summaries, these reports are also badly flawed, missing many minority-owned stations. This once again demonstrates that the Commission has no grasp over its own data.

As inadequate as the data are for television station ownership, the situation is worse for radio where the Commission is obligated to monitor some 11,000 radio stations — ten times the number of television stations. Indeed, some radio station owners simply do not file the required forms and face no retribution from the Commission for not doing so.

As a result, the Commission has almost no basis on which to evaluate the state of minority and female ownership in radio, the degree to which it is meeting its diversity mandate, and how allowing further consolidation under the pending ownership proceeding and through the XM-Sirius merger will impede its ability to remedy under-representation by women and minority owners. Before Congress signs off on a resolution of either issue, it should require the FCC to collect, analyze and report methodologically sound data on the state of minority ownership of all broadcast licensees and develop a cohesive plan to foster greater minority ownership. And Congress must also consider and pass legislation that will foster greater diversity of station ownership through consideration of legislative initiatives such as tax credits and tools to enhance minority access to capital as well as through improvements to FCC's spectrum auction processes.

Low-power FM Radio

Consumers not only benefit from competition in satellite radio, they benefit when there are many diverse sources of local news and information available. Satellite radio does not now, nor can it by law, offer local news and information. And radio consolidation, brought about after the 1996 Telecommunications Act's elimination of national radio ownership caps and effective elimination of meaningful local market caps, has disserved the public by homogenizing listening formats, reducing opportunities for independent artists to be heard and eliminating virtually all meaningful local news and information coverage from the radio airwaves. As the now public 2003 FCC radio ownership study demonstrates, between 1996 and 2003, the number of radio owners declined by 35 percent due to mergers between existing owners.[6] During that time period, the largest radio conglomerates grew even larger: Clear Channel increased its national holdings from 65 to more than 1,200 stations while Cumulus Broadcasting grew its properties from 65 to more than 250.[7] Though the potential sale of some Clear Channel properties may change that picture somewhat, the damage to diversity of content and ownership has been done.

As the FCC has largely abdicated its responsibilities to monitor and report on minority ownership, it has taken steps to expand diversity in radio through low power FM radio. The Commission's actions are laudable, but Congress must now finish the job. Low power FM (LPFM) radio stations broadcast at 100 watts or less, serving neighborhoods and towns over 5 to 15 miles. Licensed to nonprofits such as churches and schools, these stations provide local content long missing from the radio dial in a badly consolidated and homogenized market.

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[6] Review of the Radio Industry, Federal Communications Commission, 2003, available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-267479A1.pdf.

[7] Id.

There are nearly 800 LPFM stations on the air today, serving communities across the country. They provide critical local news and information service that larger broadcasters have largely abandoned. LPFM stations cover the school board and city council meetings, host debates with political candidates and broadcast in diverse languages. They air music that listeners can't hear on the national formats of the commercial giants. They air local musicians and cover other local arts.

As highlighted in testimony submitted by the Prometheus Radio Project for this hearing and in a subcommittee hearing last year, a low power station in Bay St. Louis, Mississippi filled the local disaster and emergency coverage gap during Hurricane Katrina, left open by radio stations serving larger markets. Less dramatic but equally important examples of the contributions LPFM stations make to local communities abound. For example, the FCC learned about the important service of many low power FM radio stations when Lucas Benitez, as well as dozens of other low power FM broadcasters and supporters, spoke to all five commissioners on the 5th anniversary of low power FM radio, at the FCC, on February 8th, 2005.[8] Benitez, a founder of Radio Consciencia, or WCTI-LP-107.9 FM, is a pioneer of a low power FM radio station licensed to the farmworkers of the Coalition of Immokalee Workers in Southwest Florida. The farmworkers of this area often speak Spanish, which makes passing on emergency information a challenge for the full power broadcasters of the area during hurricane season. Radio Consciencia broadcasts regularly a two-hour weekend show in Mam and Q'anjob'al, the indigenous languages of the communities' thousands of farmworkers. Benitez described the unique service low power FM was prepared

[8] Statement of Lucas Benitez, Broadcaster, WCIW-LP, Immokalee, FL, Interfaith Action of Southwest Florida, Inc... before the Federal Communications Commission's Low Power FM Forum, February 8, 2005

to provide for diverse and non-English speaking communities during hurricane season to the Palm Beach Post in June of 2005.

Despite the powerful advantages of LPFM, when it was first starting up, the National Association of Broadcasters — making an argument now familiar to anyone seeking to make better public use of the abundant spectrum lying fallow in broadcast bands — claimed that LPFM stations might interfere with full power radio stations. In November 2000, Congress told the FCC to go forward with LPFM licenses in only rural areas, and to hire an outside contractor to test the incumbent broadcasters' interference hypothesis once and for all. The July 2003 results of that study, conducted by the MITRE Corporation, proved that there was plenty of room for thousands more LPFM radio stations on America's airwaves.

On February 20, 2004, after examining the study, the FCC recommended that Congress restore the Commission's authority so that it could give out more LPFM licenses. In response to those findings, several bills were introduced in the 109th Congress that would have facilitated greater LPFM licensing authority — S. 312, the Local Community Radio Act of 2005 introduced by Senators McCain, Cantwell and Leahy and H.R. 3731, the Enhance and Protect Local Community Radio Act, introduced by Congresswoman Slaughter. Demonstrating the strong support for LPFM, S.312 was included as an amendment to Senate omnibus telecommunications legislation last year by a 14-7 vote. Unfortunately, past Congresses have not brought the bill to a vote before either chamber.

It is time for Congress to act. Local, terrestrial radio is vital to American communities and with consolidation brought to the public by the 1996 Telecommunications Act, commercial radio no longer serves the public as it should. When FCC Chairman Martin spoke at the Commission's recent media ownership hearing in Harrisburg, Pennsylvania, he noted

that LPFM is a "lower cost opportunity for more new voices to get into the local radio market."[9] Now, as Congress, the FCC and antitrust authorities consider the implications of consolidation in satellite and terrestrial radio, it must ensure that LPFM radio has the opportunity to expand its ability to serve the public.

The American people trust the government with the management and licensing of the airwaves the public owns. And government — both Congress and the FCC — has an obligation to meet that public trust by ensuring that localism forms the cornerstone of all of its actions regarding the public airwaves. Expanding the availability of low power FM is a critical component in serving the public interest. It is a long overdue and powerful tool to mitigate some of the damage done by media consolidation.

Conclusion

The XM-Sirius merger simply cannot be considered in a vacuum, independent of the deplorable state of competition in radio, the needs of radio listeners and communities for sources of diverse local news and information, and the significant barriers facing independent artists and commentators and would-be minority station owners. Congress should put a halt to the pending FCC media ownership proceeding until significant questions about the Commission's action or lack thereof to assess the state of, and promote greater, minority ownership are answered and until Congress evaluates the impacts of its own wrong-headed policy to allow greater radio consolidation. Congress should also tell the FCC and antitrust authorities to put the brakes on the proposed XM-Sirius merger unless and until significant

[9] Statement of Kevin Martin, Chairman, Federal Communications Commission, before Official Media Ownership Hearing, February 23, 2007, available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-270765A1.doc.

questions on competition and consumer impacts are fully addressed and satisfactorily answered. And, in the meantime, Congress should act to create new opportunities for LPFM radio to fill the yawning gaps in the local, diverse news and information it created when it allowed unprecedented consolidation in radio ownership. Only through a reinvigorated commitment to the goals of promoting more competition, high quality and diverse local content, and expansion of minority ownership in radio can Congress serve the needs of consumers and the public. It is time to take advantage of digital technological breakthroughs and devise incentives to expand local and minority ownership opportunities in radio and other media and to hold the line against the greatest threat to a competitive and diverse media: mergers that concentrate ownership in too few hands.

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Native Public Media

Strengthening and Expanding the Voice of Native America

March 30, 2007

The Honorable Edward J. Markey
Chairman
Subcommittee on Telecommunications and the Internet
U.S. House of Representatives
Washington, D.C. 20515

Dear Chairman Markey:

On behalf of our Advisory Council and our thirty-three (33) member Native Radio stations, we would like to thank you for the opportunity to have Native Public Media appear before the Subcommittee as part of the recent hearing, "Digital Future of the United States Part II: The Future of Radio."

Native Public Media was honored to be represented by Geoffrey Blackwell, who is a member of our Advisory Council and serves as Chairperson of the National Congress of American Indians (NCAI) Telecommunications Subcommittee. Since Native Public Media's founding, we have worked collaboratively with NCAI to advocate for increased media and telecommunications access and ownership opportunities in Indian Country.

During the March 7th hearing, several questions were asked by you and members of the Subcommittee as a result of Native Public Media's testimony. In response, Native Public Media would like to supplement the hearing record with the following information:

The FCC Should Adopt Policies that Promote Greater Access to Spectrum for Tribal Applicants

Native Public Media would strongly support and encourage an FCC effort to establish special windows and adopt other policies that would result in potential tribal applicants gaining access to available spectrum. Indeed, Native Public Media would view this as an essential component to any FCC attempt to begin to level the playing field for Tribes when it comes to spectrum access. For too long, Tribes have been left behind in the

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FCC's licensing efforts due to a lack of available spectrum and/or the high cost of entry. As a result, for the vast majority of Tribes, obtaining spectrum for broadcast television and radio services, or wireless applications such as commercial mobile radio services, is a brand new endeavor in which they find themselves playing catch-up to a regulatory system that bypassed Indian Country decades ago.[1]

Since the founding of the United States, the federal government has maintained a unique government-to-government and trust relationship with federally-recognized Native Nations, a relationship acknowledged by the FCC's *Tribal Policy Statement*.[2] Significantly, the FCC's policy recognizes "the rights of Indian Tribal governments to set their own communications priorities and goals for the welfare of their membership."[3] A majority of Tribal nations, and national Tribal inter-governmental organizations such as NCAI and the Affiliated Tribes of Northwest Indians, advocate for federal policies and processes that would return spectrum to Tribal ownership and control.

Native Public Media feels that the important role Tribes can play in the regulation, management and critically efficient use of spectrum to protect and provide for the health, safety and welfare of the residents of Tribal lands is beyond question. Until such time as Tribes have direct control over spectrum, however, the FCC should take steps to expand Tribal access to spectrum. Such steps would be consistent with the government-to-government relationship between Tribes and the federal government and the FCC's own *Tribal Policy Statement*, and would promote the public interest. Indeed, there is no greater public interest need than to bring local radio news, weather, public safety, and cultural information and programming for the first time to a Tribal community where there is none. Therefore, Congress should urge the FCC to eliminate the spectrum gap by creating special windows that target those underserved Tribal communities where spectrum is plentiful, and by establishing primacy for Tribal applicants in the noncommercial (NCE) station application filing window. Immediate action is needed now from the licensing perspective, and Tribal ownership opportunities should be examined as well with longer term solutions in mind.

As highlighted in our testimony, Native Public Media views the NCE window as a "once in a generation" opportunity for Tribal communities to create their own full-power radio stations. Toward that end, Native Public Media has a campaign underway to alert Tribal communities about the upcoming filing window and has tools to help interested Tribes pinpoint their coverage areas. Now that the Commission has directed its Media Bureau

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[1] Reply Comments of Native Public Media in MB Docket No. 06-121, *2006 Quadrennial Regulatory Review – Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996* (filed January 16, 2007) (attached hereto as Attachment B).

[2] *Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes*, 16 FCC Rcd 4078, 4081 (2000).

[3] *Id.*

to open an NCE filing window in October 2007,[4] there is plenty of time for the FCC to consider measures that would expand Tribal access to NCE licenses. The establishment of a special window associated with the upcoming NCE window and the revision of FCC rules to provide a point for Tribal applicants in the NCE selection process would be ideal first steps towards ensuring greater Tribal access to spectrum.[5] Congress also should urge the FCC to consider limiting the number of NCE applications that one entity can file in order to create more opportunities for Native Nations.[6] Such proposals to advance Tribal ownership of media outlets are presently before the FCC in its media ownership proceeding.

The Impact of LPFM for Native Radio

While Low Power FM (LPFM) should not be regarded as a panacea for the many different varieties of broadcasting challenges and needs on Tribal lands, Native Public Media regards LPFM radio as another essential building-block in the movement to close the media and spectrum gap in Indian Country, both on and off-reservation. As stated in our testimony, LPFM has been an important solution in rural areas, including several Tribal communities, but now the FCC is eager to expand LPFM into urban markets. Native Public Media supports this expansion for the following reasons. First, a large portion of the Native American population lives and works in or near an urban center. With the scarcity of spectrum in urban areas, LPFM may be the only viable solution for a small, non-profit organization, such as the American Indian center in Minneapolis or Denver, to meet the unique information needs of urban Indians living in the center's service area. For a college or high school that has a large Native attendance or a particular emphasis on educating Native students, LPFM could play a very important role in the education and diversification of the campus.

Second, many Tribes that are located near major cities are struggling to obtain full-power spectrum. For example, the Salt River Pima-Maricopa Indian Community, a federally recognized Tribe located in Arizona, whose reservation is contiguous to the City of Phoenix, cannot find an available full-power frequency in its coverage area. Native Public Media believes that LPFM was created to specifically address such situations and would allow the Salt River Pima Tribe to finally access a piece of the nation's airwaves for the benefit of its members. Native Public Media's testimony encourages Congress to end the prohibition on the FCC licensing LPFM stations on 3rd adjacent channels by

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[4] *See In the Matter of Comparative Consideration of 76 Groups of Mutually Exclusive Applications for Permits to Construct New or Modified Noncommercial Educational FM Stations*, FCC 07-40 (rel. Mar. 27, 2007).

[5] *See* Reply Comments of Native Public Media in MB Docket No. 06-121, *2006 Quadrennial Regulatory Review – Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996* (filed January 16, 2007) at 10, n. 14 ("Before it accepts applications for a future NCE window, the Commission should request public comment on and evaluate whether to amend Section 73.7003 of its rules, 47 C.F.R. § 73.7003, to include the award of one point for applicants that are federally recognized tribes.").

[6] *Id.*

acting on the findings of the Mitre study that was submitted to Congress several years ago.

In addition to advocating for more LPFM opportunities, Native Public Media has asked the FCC to consider establishing heightened interference protection for LPFM stations owned by Native Nations and translators that are vulnerable to being knocked off the air by nearby full power stations.

The Role of Streaming and Podcasting as a Tool to Reach Urban and Distant Audiences

As stated in our testimony, Native Public Media embraces the innovation that is taking place and allowing radio to be delivered over a variety of technological platforms, such as the Internet and satellite. Some of Native Public Media's member stations have made the technological leap, using streaming and podcasting to reach Tribal members in new ways, particularly those living off-reservation and in urban areas, as well as our Native servicemen, who find comfort in listening to their home radio stations on the web.

Native Public Media is concerned, however, that most Tribes and Native stations are locked in a digital divide that prevents the promise of new technologies, such as streaming and podcasting, from becoming a reality. While the rest of America surges ahead in terms of broadband access, Indian Country still lags behind the nation with an average household telephone penetration rate of only 68% and broadband penetration rate of less than 10%, according to optimistic accounts. Native Public Media urges the Subcommittee to:

- Support the efforts of the FCC, through its Indian Telecommunications Initiative, to close the dial tone and broadband divide.
- Engage Tribes and national inter-tribal organizations, such as NCAI, to discuss new laws, that would create new policies and incentives for greater broadband deployment in Indian Country.
- Support the FCC to ensure that mainstream broadcasters use their new digital channels to better serve the public interest needs of Native Americans in their service areas.
- Support funding for the Corporation for Public Broadcasting which provides critical operational funding to the Native radio stations and to Native Public Media.
- Support of the National Telecommunications and Information Administration's (NTIA) Public Telecommunications Facilities Program which, since the 1970's, has served the planning, construction and now digital equipment funding needs of Tribal communities in dire need of new or updated Native Radio stations.
- Support our request that the NTIA bring broadband to Indian country through focused policy and funding initiatives.
- Support the Farm Bill that authorizes USDA broadband programs such as *Community Connect*.

As highlighted by our testimony and the above information, new steps must be taken at the Federal policymaking and regulatory levels to ensure that all Native Americans, in rural and urban areas, fully enjoy the benefits of radio and new digital platforms. To assist this process, Native Public Media has asked the FCC to dedicate a media ownership hearing that focuses directly on the needs of Indian Country and to create an official duly authorized, staffed and funded Office of Tribal telecommunications and broadcast policy at the FCC that would work to ensure that the agency upholds the government-to-government relationship and generates, among other things, proposals to promote broadcasting and spectrum licensing and ownership on Native lands.[7]

Native Public Media welcomes your and the Subcommittee's active interest and oversight of these critical issues at the FCC, as well as policies and programs at NTIA and USDA that can help promote Tribal connectivity and access to spectrum.

Critical Needs for Broadcasting in Indian Country

As a last question, you asked for a summary of the critical elements of the testimony. Critical to the ability to take new actions in favor of increased radio services in Indian Country is the need to obtain and rely upon meaningful data. Native Public Media's "Blueprint" Project is designed to bridge the challenges between the types of data that are needed to take meaningful actions and the unfortunate inability of the questionnaires of the Bureau of the Census and the reports of the FCC to accurately and adequately capture how Indian Country, and Native Americans in general, access and control media.

By working with American Indian Tribes, Alaska Native Villages, Native Hawaiians and organizations like NCAI, Native Public Media will conduct a complete inventory of how Native communities access and relate to media – both traditional media, such as radio and television, and new advanced telecommunications services. We will include a very specific list of recommendations on how to solve some of the communications issues facing Indian Country, providing a blueprint policymakers can use to significantly improve this situation. While Native Public Media searches for the funding for this project, a unique opportunity for public partnership and policy based entrepreneurial input exists.

Again, thank you for the opportunity to be part of the March 7th hearing. Please do not hesitate to let us know if Native Public Media can be of any assistance as you and the Subcommittee pursue these important matters.

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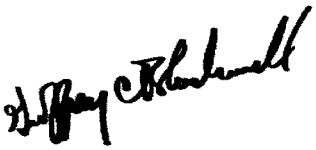
[7] *See* Reply Comments of Native Public Media in MB Docket No. 06-121, *2006 Quadrennial Regulatory Review – Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996* (filed January 16, 2007) at 10, n. 14

Sincerely,



Loris Ann Taylor
Executive Director
Native Public Media

Geoffrey Blackwell
Native Public Media
Advisory Council Member &
NCAI Telecommunications
Subcommittee Chair

cc: Members, House Subcommittee on Telecommunications and the Internet
Native Public Media Advisory Council

Attachments: A. List of Native Public Media Member Radio Stations
B. Native Public Media Comments to the FCC on Media Ownership

Attachment A

List of Native Public Media Member Radio Stations

KABR(AM), Alamo Community, NM, The Alamo Navajo School Board
KABU(FM), Fort Totten, ND, Dakota Circle Tipi, Inc.
KBRW(AM), Barrow, AK, Silakkuagvik Communications, Inc.
KCIE(FM), Dulce, NM, Jicarilla Apache Tribe
KCUK(FM), Chevak, AK, Kashunamiut School District
KCUW-LP, Pendleton, OR, Confederated Tribes of the Umatilla Indian Reservation
KEYA(FM), Belcourt, ND, KEYA, Inc.
KGHR(FM), Tuba City, AZ, Tuba City High School Board, Inc.
KGVA(FM), Fort Belknap, Agency, MT, Fort Belknap College
KIDE(FM), Hoopa, CA, Hoopa Valley Tribe
KILI(FM), Porcupine, SD, Lakota Communications, Inc.
KIYU(AM), Galena, AK, Big River Public Broadcasting Corp.
KLND(FM), Little Eagle, SD, Seventh Generation Media Services, Inc.
KMHA(FM), Four Bears, ND, Fort Berthold Communications Enterprises
KNBA(FM), Anchorage, AK, Koahnic Broadcast Corporation
KNNB(FM), Whiteriver, AZ, Apache Radio Broadcasting Corporation
KNSA(AM), Unalakleet, AK, Unalakleet Broadcasting, Inc.
KOHN(FM), Sells, AZ, Tohono O'ohdam Nation
KOTZ(AM), Kotzebue, AK, Kotzebue Broadcasting, Inc.
KPYT-LP, Tucson, AZ, Pascua Yaqui Tribe, a Federally Recognized Indian Tribe
KRMH(FM), Red Mesa, AZ, Red Mesa Unified School District No. 27
KSDP(AM), Sand Point, AK, Aleutian Peninsula Broadcasting, Inc.
KSHI(FM), Zuni, NM, Zuni Communications Authority
KTDB(FM), Ramah, NM, Ramah Navajo School Board, Inc.
KUHB-FM, St. Paul, AK, Pribilof School District Board of Education
KUTE(FM), Ignacio, CO, KUTE, Inc.
KUYI(FM), Hotevilla, AZ, The Hopi Foundation
KWRR(FM), Ethete, WY, Business Council of the Northern Arapaho Tribe
KWSO(FM), Warm Springs, OR, Confederated Tribes Warm Springs Reservation
KYNR(AM), Toppenish, WA, Confederated Tribes and Bands of the Yakima Nation
KYUK(AM), Bethel, AK, Bethel Broadcasting, Inc.
KZPA(AM), Fort Yukon, AK, Gwandak Public Broadcasting, Inc.
WOJB(FM), Reserve, WI, Lac Courte Oreilles Ojibwa Public

Attachment B

Native Public Media Media Ownership Reply Comments

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
2006 Quadrennial Regulatory Review – Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996	)	MB Docket No. 06-121
	)	
2002 Biennial Regulatory Review – Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996	)	MB Docket No. 02-277
	)	
Cross-Ownership of Broadcast Stations and Newspapers	)	MM Docket No. 01-235
	)	
Rules and Policies Concerning Multiple Ownership of Radio Broadcast Stations in Local Markets	)	MM Docket No. 01-317
	)	
Definition of Radio Markets		MM Docket No. 00-244

To: The Commission

REPLY COMMENTS OF NATIVE PUBLIC MEDIA

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P.O. Box 3955
Flagstaff, AZ 86003
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January 16, 2007

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EXECUTIVE SUMMARY

Native Public Media ("NPM"), which represents the interests of 33 public radio stations serving Native Nations and communities throughout the United States, respectfully submits these reply comments in support of the Initial Comments of the Diversity and Competition Supporters ("DCS") and the twenty-one minority ownership proposals the Minority Media and Telecommunications Council ("MMTC") has advanced in this proceeding. NPM further urges the Commission to take the following steps to begin to level the playing field for Native Nations, to promote localism, and to increase the diversity of the Nation's airwaves:

- Retain existing limits on the number of stations that one entity can own to increase localism and diversity in television and radio broadcasting.
- Ensure that the unique needs of Native Nations are considered in any studies performed as part of this proceeding and consider performing a targeted study of Native Nation broadcast issues.
- Adopt the proposals of MMTC and DCS to promote diversity of ownership in commercial broadcasting.
- Create an "Indian Desk" that will: generate proposals to promote broadcasting on Native lands; propose ways for the Commission to set aside spectrum to meet the needs of Native Nations; help Native Nations hold mainstream broadcasters accountable; study Native station ownership; identify ways that the transition to digital technology can serve un-served Native American populations; and assist Native Nations and Native communities in securing new media opportunities.
- Expand education and outreach regarding regulatory requirements through publications and seminars during ITI events.
- Adopt NPM's proposals for Native NCE station applicants and low power interference protection.

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
2006 Quadrennial Regulatory Review – Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996	)	MB Docket No. 06-121
	)	
2002 Biennial Regulatory Review – Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996	)	MB Docket No. 02-277
	)	
Cross-Ownership of Broadcast Stations and Newspapers	)	MM Docket No. 01-235
	)	
Rules and Policies Concerning Multiple Ownership of Radio Broadcast Stations in Local Markets	)	MM Docket No. 01-317
Definition of Radio Markets		MM Docket No. 00-244

To: The Commission

REPLY COMMENTS OF NATIVE PUBLIC MEDIA

Native Public Media ("NPM") respectfully submits these reply comments in support of the Initial Comments of the Diversity and Competition Supporters ("DCS") and the twenty-one minority ownership proposals the Minority Media and Telecommunications Council ("MMTC")

has advanced in this proceeding.[1] NPM urges the Federal Communications Commission ("FCC" or "Commission") to retain its existing media ownership rules in order to ensure adequate levels of competition, diversity, and localism in the media marketplace. In addition, NPM further urges the Commission to adopt the specific proposals set forth herein to increase Native ownership and operation of media outlets.

I. BACKGROUND

NPM represents the interests of 33 public radio stations serving Native Nations and communities throughout the United States.[2] Since its launch in 2004, NPM's primary focus has been strengthening existing Native American public radio stations and promoting ownership for more Native communities by serving as an advocate, national coordinator, and resource center. NPM recognizes that profound changes are taking place in the way Americans consume media, and is therefore focused not only on the needs of Native American radio stations, but also on helping Native America leverage new digital and wireless platforms that will make it possible to close the existing media divide. Ensuring that policymakers understand the impact of their

[1] *See 2006 Quadrennial Regulatory Review—Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996; 2002 Biennial Regulatory Review—Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996; Cross-Ownership of Broadcast Stations and Newspapers; Rules and Policies Concerning Multiple Ownership of Radio Broadcast Stations in Local Markets; Definition of Radio Markets*, Further Notice of Proposed Rulemaking, 21 FCC Rcd 8834 (2006) ("*FNPRM*"); *see also* Comments of Diversity and Competition Supporters in MB Docket 06-121 (filed Oct. 23, 2006).

[2] NPM, formerly known as the "Center for Native American Public Radio," was created as a center under the National Federation of Community Broadcasters with seed funding from the Corporation for Public Broadcasting ("CPB"). A list of the NPM member stations can be found at Appendix A, attached hereto.

actions on Indian Country is critical to NPM's efforts.[3] Toward that end, NPM respectfully submits these comments.

Media ownership is a relatively new issue of concern to Native Nations because the urgent need for telecommunications infrastructure took first priority. Today, however, Native Nations are working to identify new ways to tell their own stories and counterbalance the negative and often misleading perceptions about Native Americans perpetuated by mainstream media. For many Native Nations interested in broadcast ownership, it is already too late – frequencies are no longer available in their communities. Unlike the problem of the digital divide in Indian Country, the problem of the media divide is not very well documented. Although further study is warranted and should be conducted by the Commission as part of this proceeding, available numbers tell a disheartening story.[4] Of the 562 federally-recognized Native Nations, only 33 hold licenses for Native American public radio stations, a discouragingly low number.[5] At last count, only three commercial broadcast stations were owned by Native Nations or individual Native Americans.[6]

NPM recognizes that the problem of station under-representation in Indian Country did not occur overnight, but is instead a symptom of the long history of neglect by the federal

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[3] NPM was honored to serve as a co-host of the Commission's Indian Telecommunications Initiative ("ITI") Regional Workshop and Roundtable held this summer in San Diego, which, for the first time, included a broadcast component. NPM appreciates the efforts of FCC Commissioners and staff who participated in and coordinated the event.

[4] The Commission should ensure that the unique needs of Native Nations are considered in any studies performed as part of this proceeding and consider performing a targeted study of Native Nation broadcast issues. Although telecommunications on tribal lands was recently studied, Native media ownership has been overlooked. *See* Government Accountability Office, *Challenges to Assessing and Improving Telecommunications for Native Americans on Tribal Lands*, GAO 06-189 (Jan. 2006).

[5] *See* Appendix A (all of the public radio stations licensed to Native Nations are members of NPM).

[6] *See* National Telecommunications and Information Administration, *Changes, Challenges and Charting New Courses: Minority Commercial Broadcast Ownership in the United States* (2001) (reporting that Native Americans owned only three full power commercial radio stations and no full power television stations).

government toward Native Nations – a problem compounded by a lack of resources and the knowledge necessary to capitalize on the opportunity for spectrum acquisition. NPM is working to help Native Nations catch up, but it is a slow process impeded by fast-shrinking spectrum availability. In short, NPM needs time and resources to address this problem, but a remedy will not be possible if all of the public spectrum in Indian Country is allocated and licensed for commercial use. NPM firmly believes that any efforts to further relax the media ownership rules will only exacerbate the lack of Native station ownership by making it more difficult for Native Nations to enter the market, hold existing media owners accountable to their needs, and have Native American voices heard. Therefore, NPM urges the Commission to retain the existing media ownership limits. NPM also urges the FCC to use this and other relevant proceedings to fully understand the media situation in Indian Country; take appropriate actions to increase Native Nation and individual Native American access to and ownership of media; find ways to strengthen and grow the family of Native American Radio stations; and, because of the lack of spectrum or prohibitive cost of entry, work to ensure that Indian Country is able to take full advantage of the many promising benefits of new digital and wireless platforms.

II. PROMOTING NATIVE STATION OWNERSHIP IS ESSENTIAL TO LOCALISM, DIVERSITY, AND COMPETITION IN BROADCASTING

A. Local Content Focusing on Indian Country is Generated Primarily by Native American Owned and Operated Stations

An important goal of this proceeding is to determine the impact of media concentration on localism and diversity of viewpoint. NPM urges the FCC to consider that while most Americans live in markets with multiple media outlets, this is very uncommon in Indian Country. There are a number of tribal newspapers, but broadcast stations and cable channels focused on the interests and needs of the local Native American community are few and far between.

Compounding this problem is that, for decades, mainstream media outlets in neighboring towns and cities often ignore the needs of Native Nations, viewing these communities as too remote, too small, or too unimportant to cover.[7]

It was in response to this situation that Native American radio was born. It is also why NPM is concerned about any attempts by the FCC to further relax media ownership rules as well as why the FCC must ensure that Native Nations have full access to new digital and wireless platforms that pose the best opportunity for giving a "voice" to Indian Country.

As we move into the digital future and increase Native community access to new technologies, NPM would like the FCC to remember the vital role played by Native American radio. NPM member stations epitomize the FCC's goal of localism by providing a robust voice for the communities they serve. Every day, these stations play a unique role in Native American life. On one level, they are lifelines transmitting vital information about health, public safety, and community events across Indian reservations, scattered rural and bush communities, and fishing vessels off the Alaska coast. On another level, they are an essential part of Native Nation efforts to rebuild their communities, revitalize their cultures, and reassert control over their affairs.

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[7] Native Nation representatives testifying at the May 2004 localism hearing provided several examples of how non-Indian broadcasters often ignore their communities' need for local news, political discussion, and diverse programming. *See, e.g.*, Testimony of Thomas Short Bull, President, Oglala Lakota College, *FCC Broadcast Localism Hearing*, Rapid City, South Dakota, May 24, 2004; Testimony of Harvey White Woman, Executive Director, Wawokiye Business Institute, Pine Ridge Reservation, *FCC Broadcast Localism Hearing*, Rapid City, South Dakota, May 24, 2004; Testimony of Dennis King, Vice Chairman of the Oglala Sioux Tribe, *FCC Broadcast Localism Hearing*, Rapid City, South Dakota, May 24, 2004; Testimony of Carole Anne Heart, Executive Director of the Aberdeen Area Tribal Chairmen's Health Board, *FCC Broadcast Localism Hearing*, Rapid City, South Dakota, May 24, 2004. By contrast, there were refreshing reports of local offerings relevant to Indian Country offered by Native public radio stations. *See, e.g.*, Testimony of Tom Casey, Program Director, Station KILI, *FCC Broadcast Localism Hearing*, Rapid City, South Dakota, May 24, 2004 (NPM member station KILI "celebrates the Lakota culture each day through language, music, stories and history of the Lakota people" and regularly broadcasts tribal council meetings and other programs devoted to the Oglala Sioux Nation's governance).

Often the only clear signal that listeners receive, Native American radio reflects the daily needs of the community by covering tribal council meetings, sustaining Native languages, music and cultures, and creating a sense of community among widely dispersed populations. Through audio streaming, many of NPM's member stations help those living away from the reservation – including our men and women serving in Iraq, Afghanistan, and around the globe – stay connected to their communities. These stations also connect listeners to Native experts discussing issues rarely covered by mainstream media through national programming, such as *Native America Calling*.

Anotber critical role played by Native American radio stations is helping Native Nations in their efforts to police and secure their remote reservation homelands. As part of the Emergency Alert System, our member stations keep citizens informed of news and information about disasters, both natural and man-made. Each year, many of our communities suffer from severe weather, such as floods, tornados, and wildfires. Sometimes the difference between life and death can turn on the availability of public safety alerts broadcast over local radio.[8] Without Native American public radio, Native Nations would lack a vital tool for providing citizens with local emergency news and information, in their own language.

NPM believes that to maintain and promote diversity and localism, the FCC should take steps to support and strengthen existing Native American public radio stations while finding ways to increase media access and ownership opportunities in Indian Country. As made clear by the above examples, Native Nations are in the best position to determine how to serve and

[8] This summer, for example, the Hopi Reservation was forced to declare a state of emergency due to severe flooding. The Tribe turned to KUYI–Hopi Radio to help save lives by alerting citizens of evacuation procedures for those living in dangerous flashflood areas. Many Native Nations also are on the front line of the war on illegal drugs, immigrant smuggling, and terrorism. The Tohono O'odham Nation, for example, whose reservation is roughly the size of Connecticut, relies on KOHN to keep citizens informed of the latest national threat levels and local and Federal homeland security activities.

advance the information and communications needs of their communities. For the many places where station ownership may not be feasible, NPM also urges the Commission to hold mainstream media owners accountable to their obligation to meet the needs of their communities of license—including the Native Nations they serve.

B. To Address Barriers Created By Communications Policies of the Past, the Commission Must Begin to Level the Broadcast Playing Field for Native Nations

While many Native Nations may already be locked out of broadcast station ownership due to the lack of available spectrum and/or the high cost of entry, it does not mean that they do not have a stake in the broader media landscape. NPM believes that the promise of digital television and radio means that existing broadcasters can and should find ways to serve Native American populations more effectively.[9] With increased broadband penetration on Native lands, NPM member stations can use their web sites to usher in a new wave of Native American voices and images through listener blogging, chatting, and downloading and uploading audio and video streams.[10] With existing and emerging technologies, NPM's member stations are poised to become even greater hubs of communication in their communities by complementing their local and national on-air offerings with on-demand and interactive news, information, and programming.

[9] For example, in Phoenix, Arizona, public radio station KJZZ is working with the Hispanic community to develop a digital channel dedicated to the community's programming needs. This is an important model for how broadcasters in the digital age can promote localism and reverse the harmful effects of media consolidation by giving voice to Native Nations and other communities representing diverse viewpoints. *See KJZZ creates Latino Affairs Desk*, LATINO PERSPECTIVES MAGAZINE, October 2006, available at: http://www.latinoperspectivesmagazine.com/articles.asp?ad=592.

[10] NPM supports the FCC's recent action to enable new low power devices to operate on "white space" spectrum as well as efforts of the public interest community to open up these airwaves, so that they can be shared by multiple users on an unlicensed basis. *See Unlicensed Operation in the TV Broadcast Bands*, FCC 06-156 (rel. Oct. 18, 2006). Such policies can bring broadband and wireless innovation to rural and Native American communities. By increasing broadband opportunities in Indian Country, the FCC also will strengthen the future of Native American radio stations, which can begin to use new technologies, such as podcasting and mobile video, to enhance community service, engage new audiences, and extend their reach far beyond the immediate coverage areas.

Although NPM is excited about the prospect of increasing Native Nation participation in the larger media landscape through new technologies, NPM recognizes that, like most Americans today and in the foreseeable future, Native Americans receive most of their news and information over the public airwaves. Therefore, a significant priority for NPM is stabilizing and sustaining the operations of existing Native American public radio stations and helping Native Nations understand how to enter the public broadcasting field, wherever possible.

Unfortunately, despite the vital role that they play in their communities, Native-owned stations face a constant struggle to remain on air. Most NPM stations are located in economically distressed communities, making it difficult to depend upon listener support and the traditional "pledge drive" funding model. Many of our stations limp through the broadcast day with 20 to 30-year-old-equipment and are hamstrung by limited budgets and a lack of technical expertise.[11] As a result, these stations find it difficult or impossible to navigate the funding process necessary to upgrade and replace outdated equipment.

Native-owned stations also face the constant challenge of building the management, finance, engineering, and programming capacities of their staffs. As a result, stations struggle to meet the numerous regulatory and reporting requirements. Prior to the formation of NPM, a combination of distance and limited resources dictated that each station solve its own problems in its own way without the assistance of a central group to help stations share expertise and

[11] NPM member stations also depend upon Federal support that is not always predictable or sufficient. The primary Federal funding source used to acquire equipment – the Public Telecommunications Facilities Program administered by the National Telecommunications and Information Administration ("NTIA") – is under-funded, highly competitive, and constantly threatened with elimination. It also requires 25-50% funding matches, which are difficult for NPM stations to meet. NPM is constantly helping to guard against cuts to its member stations' primary Federal funding source for programming support and digital equipment, the Corporation for Public Broadcasting.

collaborate to solve problems. Today, NPM is working to build each member station's internal capacity and to provide support during emergency situations.[12]

While incremental and important progress is being made, NPM believes that there still is a long way to go before the entire Native American radio system is fully stabilized. Until there is greater financial support and stability for these stations, the Commission should make the survival of these stations a high priority because of their significant contribution to the goals of localism and diversity of viewpoint. Toward this end, the Commission should take steps to better educate station personnel about regulatory obligations and provide modest regulatory relief where appropriate. For example, the Commission could publish handbooks on regulatory guidelines, offer seminars on regulatory requirements in conjunction with future ITI events, and, in response to a request with an appropriate public interest showing, waive electronic filing requirements for NPM stations that lack Internet access. Such steps would ensure that Native public radio stations meet necessary regulatory and reporting requirements without hindering the growth of these fledgling stations.

As stated above, NPM also helps Native Nations seeking to enter the broadcast marketplace. For the vast majority of Native Nations, broadcasting represents a brand new endeavor and many are just beginning to learn how the process works. The reality is that most are in the difficult position of playing catch-up to a regulatory system that bypassed Indian

[12] For example, this summer, KILI was forced off the air by a lightning strike. NPM provided KILI with proposal writing expertise that helped the station secure emergency funding from NTIA and CPB so that it could continue operating. Additional support was provided by the State of South Dakota. The station is back on the air, much to the relief of its listeners. *See* FCC File No. BSTA-20060703ADE (granting KILI special temporary authority ("STA") to operate at reduced power using a standby antenna); FCC File NO. 20061017ACS (pending application to extend STA).

Country decades ago. When Native Nations attempt to identify broadcast ownership opportunities, they often find that they already are locked out of the market.[13]

Given the spectrum limitations on tribal lands, one of the few remaining opportunities for Native Nations to enter broadcasting is the next noncommercial educational ("NCE") license application window. NPM is concerned that this may be the last chance for Native Nations to obtain public radio broadcast spectrum and urges the FCC to use this opportunity to remedy past policy inequities. Specifically, the Commission should consider establishing primacy for Native Nation applicants in the upcoming NCE application window,[14] and should limit the number of NCE applications that one entity can file in order to create more opportunities for Native Nations. Without such FCC action, many Native Nations will remain locked out of broadcast ownership. The Commission also should consider establishing heightened interference protection for Native low power FM stations and translators that are vulnerable to being knocked off the air by nearby full power stations.

C. The Unique Status and Communications Needs of Native Nations Necessitates Greater Consultation Between the Commission and Native Nations on Communications Policy Matters

In the FNPRM, the Commission seeks comment on proposals to foster minority ownership advanced by MMTC in its filings in the 2002 biennial review proceeding.[15] The Commission also urges commenters to explain the effects, if any, that their ownership rule proposals will have on ownership of broadcast outlets by minorities, women, and small

[13] This is particularly true for Native Nations located near urban markets such as Phoenix, Albuquerque, San Diego, and Los Angeles, whose only option is to buy an existing station, which can be prohibitive in terms of cost or distance from the reservation.

[14] Before it accepts applications for a future NCE window, the Commission should request public comment on and evaluate whether to amend Section 73.7003 of its rules, 47 C.F.R. § 73.7003, to include the award of one point for applicants that are federally recognized tribes.

[15] *See FNPRM* ¶ 5.

businesses.[16] NPM applauds the Commission's focus on these issues, and supports the adoption of the MMTC and other proposals discussed in DCS's comments in this proceeding.[17] In considering solutions specific to Native broadcast ownership, however, the Commission must not lose sight of the fact that Native Nations are not simply part of the minority community, but are distinct legal, cultural, and political entities. As sovereign governments, they face needs and issues uncommon to the minority community. Enhancing the dialogue between the Commission and Native Nations on matters of communications policy would be facilitated by the establishment of an "Indian Desk" within the Commission.

Since the founding of the United States, the federal government has maintained a unique government-to-government and trust relationship with federally-recognized Native Nations, a relationship acknowledged by the FCC's *Tribal Policy Statement.*[18] Significantly, the FCC's policy recognizes "the rights of Indian Tribal governments to set their own communications priorities and goals for the welfare of their membership."[19] NPM firmly believes that the ability to broadcast within their own communities greatly supports the self-government, economic development, and nation-building objectives of Native Nations. Native Nations, as sovereign governments engaged in the exercise of modern self-determination, are responsible for the health, safety, and welfare of their citizens. They are responsible for policing and securing the homeland within their borders, including several regions spanning international borders;

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[16] *See FNPRM* ¶ 6.

[17] *See* Comments of Diversity and Competition Supporters in MB Docket 06-121 (filed Oct. 23, 2006). Based on NPM's experience and observations in Indian Country, programming is significantly more responsive to the needs of the community when there is diversity in station ownership and management.

[18] *Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes*, 16 FCC Rcd 4078, 4081 (2000).

[19] *Id.*

maintaining and sustaining their sacred histories, languages, and traditions; and establishing and fostering healthy economies.

In spite of the importance of communications to Native Nation building, most communities remain unserved and underserved in both the media and telecommunications areas.[20] NCAI has stated that, in order to remedy unacceptable conditions and fill gaps left by statutes, tribal leaders are increasingly engaging in communications policymaking.[21] The question of how to expand broadcast ownership opportunities for Native Nations and individuals also raises one of the most critical and challenging policy and legal issues in U.S. – tribal government relations: the desire of Native Nations to regulate spectrum on their lands. NCAI President Joe Garcia has stated:

> "...federal spectrum management policies have not acknowledged tribal sovereignty, self-determination, or the federal trust responsibility. As a result, very few tribes have been able to access licensed spectrum for public safety, telephony, community broadband or broadcast media. Instead, the telecommunications industry has purchased spectrum licenses throughout Indian Country with very little benefit to the public interest of tribes, Native American consumers, or non-tribal citizens living on tribal lands."[22]

NPM supports NCAI's call for greater consultation with Native Nations to ensure full access to the valuable and scarce spectrum resource. Native Nations—not the federal government or the communications industry—are in the best position to determine how to manage the spectrum on their lands for the benefit of their communities. Although the

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[20] As stated above, just 33 of 562 Native Nations have public radio stations. Moreover, only 68% of households on tribal lands have a telephone; only eight tribes own and operate telephone companies; and broadband penetration on Indian lands is less than 10%. *See* Hearing Testimony of NCAI President Joe Garcia before the Senate Committee on Commerce, Science, and Transportation, March 7, 2006 at 1-2 ("*NCAI Testimony*").

[21] *See NCAI Testimony* at 1 (the failure of the Communications Act of 1934, as amended, to address tribal roles, needs and abilities is "one of the root causes why our lands lag far behind the rest of the nation in virtually every measure of communications connectivity.")

[22] *Id.* at 4.

Commission has a history of appointing very effective tribal liaisons,[23] increased consultation with Native Nations would be best facilitated by the creation of a FCC Indian Desk to provide effective assistance to and support for Native Nations as they pursue their communication priorities over new or existing platforms. The increasing interest of Native Nations in spectrum ownership, the provision of media and other communications services, and in regulating communications services on their lands, amply justifies the creation of such an office.

While an Indian Desk should address a broad range of communications policy issues,[24] it could perform the following functions relating to ownership of media outlets:

1. In consultation with Native Nations, generate proposals to remove and/or create rules, policies, and initiatives that will promote broadcasting on their lands.
2. In consultation with Native Nations, propose ways that the Commission can set aside spectrum to meet the current and future broadcast (and other communications) needs of Native Nations.
3. Help Native Nations hold mainstream broadcasters serving tribal lands accountable (*i.e.*, consult with Native Nations during the license renewal process to determine whether mainstream stations are responsive to the needs of Native audiences; identify and encourage replication of positive models for Native Nation-broadcaster collaboration).
4. Track, compile, and publish accurate data on the number of commercial and non-commercial broadcast licenses held by Native Nations, tribal organizations, and individual Native Americans.
5. Identify that the transition to digital technology can benefit unserved and/or underserved Native American populations.
6. Assist Native Nations and Native communities in securing opportunities to access and control new media outlets including competition in emerging services, and access to wireless content and technologies.

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[23] NPM appreciates the expertise and hard work of current tribal liaison Shana Barehand, as well as that of former tribal liaison Geoffrey Blackwell.

[24] For example, the Indian Desk also should ensure that Native Nation emergency communications needs are reflected in Federal, state, and local plans and programs, including the search for public safety spectrum.

NPM believes the Indian Desk should be located within the Office of the FCC Chairman, so that it can have a comprehensive view of, and full authority to engage in, all FCC issues, policies and initiatives that impact Native Nations and their citizens. Alternatively, if the Commission does not deem it appropriate to establish such a desk or office at this time, NPM urges the Commission to undertake the above steps as part of this proceeding.

III. CONCLUSION

In summary, NPM urges the FCC to take the following steps to begin to level the playing field for Native Nations, to promote localism, and to increase the diversity of the Nation's airwaves:

- Retain existing limits on the number of stations that one entity can own to increase localism and diversity in television and radio broadcasting.
- Ensure that the unique needs of Native Nations are considered in any studies performed as part of this proceeding and consider performing a targeted study of Native Nation broadcast issues.
- Adopt the proposals of MMTC and DCS to promote diversity of ownership in commercial broadcasting.
- Create an "Indian Desk" that will: generate proposals to promote broadcasting on Native lands; propose ways for the Commission to set aside spectrum to meet the needs of Native Nations; help Native Nations hold mainstream broadcasters accountable; study Native station ownership; identify ways that the transition to digital technology can serve un-served Native American populations; and assist Native Nations and Native communities in securing new media opportunities.
- Expand education and outreach regarding regulatory requirements through publications and seminars during ITI events.
- Adopt NPM's proposals for Native NCE station applicants and low power interference protection.

NPM applauds the Commission's past efforts and urges the Commission to continue to consult with Native Nations on rules and policies that will significantly or uniquely affect their

ability to enter or remain in the broadcasting arena. NPM stands ready to assist, in any way that it can, to help the FCC uphold its trust responsibility to Native Nations in the area of broadcasting as well as new technologies and platforms, and to strengthen and expand the family of Native American Radio stations in the United States.

Respectfully submitted,

NATIVE PUBLIC MEDIA

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January 16, 2007

Appendix A

List of Native Public Media Member Radio Stations

KABR(AM), Alamo Community, NM, The Alamo Navajo School Board
KABU(FM), Fort Totten, ND, Dakota Circle Tipi, Inc.
KBRW(AM), Barrow, AK, Silakkuagvik Communications, Inc.
KCIE(FM), Dulce, NM, Jicarilla Apache Tribe
KCUK(FM), Chevak, AK, Kashunamiut School District
KCUW-LP, Pendleton, OR, Confederated Tribes of the Umatilla Indian Reservation
KEYA(FM), Belcourt, ND, KEYA, Inc.
KGHR(FM), Tuba City, AZ, Tuba City High School Board, Inc.
KGVA(FM), Fort Belknap, Agency, MT, Fort Belknap College
KIDE(FM), Hoopa, CA, Hoopa Valley Tribe
KILI(FM), Porcupine, SD, Lakota Communications, Inc.
KIYU(AM), Galena, AK, Big River Public Broadcasting Corp.
KLND(FM), Little Eagle, SD, Seventh Generation Media Services, Inc.
KMHA(FM), Four Bears, ND, Fort Berthold Communications Enterprises
KNBA(FM), Anchorage, AK, Koahnic Broadcast Corporation
KNNB(FM), Whiteriver, AZ, Apache Radio Broadcasting Corporation
KNSA(AM), Unalakleet, AK, Unalakleet Broadcasting, Inc.
KOHN(FM), Sells, AZ, Tohono O'ohdam Nation
KOTZ(AM), Kotzebue, AK, Kotzebue Broadcasting, Inc.
KPYT-LP, Tucson, AZ, Pascua Yaqui Tribe, a Federally Recognized Indian Tribe
KRMH(FM), Red Mesa, AZ, Red Mesa Unified School District No. 27
KSDP(AM), Sand Point, AK, Aleutian Peninsula Broadcasting, Inc.
KSHI(FM), Zuni, NM, Zuni Communications Authority
KTDB(FM), Ramah, NM, Ramah Navajo School Board, Inc.
KUHB-FM, St. Paul, AK, Pribilof School District Board of Education
KUTE(FM), Ignacio, CO, KUTE, Inc.
KUYI(FM), Hotevilla, AZ, The Hopi Foundation
KWRR(FM), Ethete, WY, Business Council of the Northern Arapaho Tribe
KWSO(FM), Warm Springs, OR, Confederated Tribes Warm Springs Reservation
KYNR(AM), Toppenish, WA, Confederated Tribes and Bands of the Yakima Nation
KYUK(AM), Bethel, AK, Bethel Broadcasting, Inc.
KZPA(AM), Fort Yukon, AK, Gwandak Public Broadcasting, Inc.
WOJB(FM), Reserve, WI, Lac Courte Oreilles Ojibwa Public

DIGITAL FUTURE OF THE UNITED STATES

SPECTRUM OPPORTUNITIES AND THE FUTURE OF WIRELESS

THURSDAY, APRIL 19, 2007

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON TELECOMMUNICATIONS
AND THE INTERNET,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:00 a.m., in room 2123 of the Rayburn House Office Building, Hon. Edward J. Markey (chairman of the subcommittee) presiding.

Members present: Representatives Doyle, Harman, Gonzalez, Inslee, Hill, Towns, Eshoo, Stupak, Green, Capps, Solis, Dingell, Upton, Hastert, Stearns, Shimkus, Pickering, Fossella, Radanovich, Bono, Terry, Barton.

Also present: Representative Blackburn.

Staff present: Johanna Shelton, Colin Crowell, Mark Seifert, Tim Powderly, David Vogel, and Jesse Levine.

OPENING STATEMENT OF HON. EDWARD J. MARKEY, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF MASSACHUSETTS

Mr. MARKEY. Good morning. Today we have another in the series of hearings that we began with Sir Timothy Berners-Lee on the future of the World Wide Web.

We have sought oversight hearings on the FCC, the NTIA, digital television, public safety interoperability, and the radio industry. Today, we look at wireless services.

As television broadcasters move out of TV channels 52 to 69 as part of the digital TV transition, a significant and valuable amount of spectrum will become available for other purposes in 2009. Congress stipulated that 24 megahertz of this spectrum, the area today occupied by TV channels 63, 64, 68, and 69, should be allocated for public safety use. And last year's budget bill required the auction of another 60 megahertz of this spectrum, an option which must begin by January 28, 2008. This upcoming auction presents a huge opportunity to achieve important public policy objectives, including addressing public safety needs.

So what should guide the development of the FCC's auction rules and the band plan for those frequencies over the next few weeks? The answer is the policy objectives Congress mandated the Commission to promote in the underlying auction. In general, the law specifies that the Commission should seek to achieve the following:

No. 1, the development and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas, without administrative or judicial delays.

No. 2, promoting economic opportunity and competition and ensuring that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women.

No. 3, using auctions as a way to obtain, for the public, a portion of the value of the frequencies made available while avoiding unjust enrichment when using such options.

No. 4, the efficient and intensive use of the spectrum.

No. 5, ensuring that, in the scheduling of any auction, that interested parties have sufficient time to develop business plans, assess market conditions, and evaluate the availability of equipment for the relevant service.

These objectives underscore that Congress knew that simply throwing more spectrum into the marketplace by selling it to the highest bidder does not, in itself, create the greatest value for consumers. Moreover, absent sufficient competition, the sale of more licenses for additional spectrum does not, in itself, mean innovative new services and gadgets will necessarily arrive for all consumers in all neighborhoods or arrive in a timely fashion.

While it is alluring to budget policy types to raise billions of dollars, literally, out of thin air, telecommunications policymakers know that the taxpayers are also consumers, and the consuming public will get more in the form of lower prices, innovative new services, increased service quality, and job creation if the auctions are done the way Congress intended than any benefit a short-term injection of cash provides to the Treasury from this, or any, auction. For this reason, the subcommittee will be watching the FCC's implementation of the auction law, with respect to these auctions, very closely over the next several weeks.

Today's panel will also allow us to look at issues beyond the upcoming auction, including how to get service to rural markets, how smaller companies can participate, the level of competition and the policies needed to ensure wireless competition in the future, how business plans that encompass a wholesale or open-access model might reach the market, and how we can best advance public safety interests. Today's panel will also allow the subcommittee to analyze how the Commission addresses, in an efficient and equitable manner, requests to utilize spectrum that is otherwise not being used. With a market segment as broad as the wireless industry, it is obvious we could have several hearings. And we may well return to the wireless area to look at some other important issues in the coming weeks, such as the so-called wireless policy, use of unlicensed spectrum, or white spaces, consumer protection issues, State preemption, public interest obligations, municipal wireless issues, and others.

I want to thank the witnesses for their willingness to participate in today's very important hearing.

Let me now turn and recognize the ranking member of the subcommittee, the gentleman from Michigan, Mr. Upton.

OPENING STATEMENT OF HON. FRED UPTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. UPTON. Thank you, Mr. Chairman. Good morning.

I want to also thank the witnesses for testifying today on this very important issue, and I commend you for holding this important hearing.

The topic of our hearing today is spectrum opportunities and the future of wireless, and I think that we would all agree that the explosion of wireless services and devices is nothing short of amazing, and the wireless industry has revolutionized the way that we communicate. I also believe that Congress has taken some critically-important strides in spectrum policy, which will help fuel the continued explosion, not to mention greatly advance the cause of public safety communications.

As a Member coming from a diverse district, I understand the incredible opportunity that the 700-megahertz auction presents. The technical properties of the 700-megahertz spectrum makes it particularly valuable when it comes to serving rural areas. Carriers can use this technology to cover large geographic areas in a more economic way, enabling them to serve regions like southwest Michigan, where customers may be spread out over a large geographic area.

Between those benefits and the benefits that will come from the 24 megahertz and $1 billion for public safety, we cannot allow other factors to delay or sideline that auction or transition.

The horrible tragedy that occurred just earlier this week at Virginia Tech further demonstrates the important role that wireless technology can play in times of crisis. Heartbreaking tragedy has given us yet another reason and another example for why we must make this spectrum auction a success.

There are lessons to be learned from the tragedy this week, and some of them speak directly to our hearing today. I would like our witnesses to address in their testimony, and I will ask, how they think we can better use wireless services to directly, and swiftly, notify students or other large populations about threats to their safety. Technology currently exists for as little as $2 per year per student for a text message-based emergency warning system.

During a disaster, there are many important lifelines of communications, all of which are instrumental in relaying important information and, hopefully, saving lives. One lifeline comes from the communication between first responders. Another lifeline comes from our local broadcasters delivering important public safety messages over the radio or TV. And the third lifeline comes from direct communications, often by cell phone, e-mail, text messages, between the people on the scene and their friends, family, and loved ones. And it is so important. And in a disaster, all three of those lifelines can be used simultaneously as redundant layers.

I am aware that proposals have been made to combine the first responders network with the commercial broadband network. And while I remain open-minded and look forward to hearing this testimony, I am highly skeptical of proposals to rig the auction for par-

ticular parties. The proposals are very complex, and the odds that the Government finds the right balance in advance in such a tight timeframe is not necessarily good.

After 10 years of legislation, plannings, hearings, roundtables, negotiations, which culminated in the passage of the DTV Act, I am very concerned about the 11th-hour calls for 700-megahertz rules that may significantly lower the value of the spectrum in the eyes of potential bidders, thereby depressing interest in the bidding and jeopardizing auction proceeds for the billion-dollar Public Safety Interoperability Grant Program, and the $1.5-billion set-top box program.

While the proposals may have the best intentions and promise to give first responders preferred access in times of need, the better course may be to let public safety negotiate with the winners of the auction, or any other spectrum holder, for construction of a public safety network in exchange for sharing of the public safety program. It is not clear why the Government should be hard-wiring, particularly, business models into the auction rules at the onset.

Again, I thank you all for being here this morning, and I yield back the balance of my time.

Mr. MARKEY. The gentleman's time has expired.

The Chair recognizes the gentlelady from California, Ms. Harman.

OPENING STATEMENT OF HON. JANE HARMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Ms. HARMAN. I thank the chairman for yielding and welcome our witnesses.

Though we are here to discuss the long-term future of wireless services, we cannot ignore its short-term future, which is specifically the 700-megahertz spectrum to be auctioned in coming months.

I listened to the last speaker's comments, and I think I disagree, to some extent, and here is why. It seems to me that we are in the process of building out a lot of operable emergency networks throughout our country. And we are going to share $1 billion, and maybe $4 billion if money is added in the conference report on the 9/11 bill. But I am not for a national collection of operable networks. What I am for is a national interoperable network. That is the only way that we will keep our communities safe in the future if we have another terrorist attack or another natural disaster on the scale of Katrina.

So I do think, in this case, and I may disagree with Mr. Upton, that the FCC is right to try to chart a course here that will give clear direction to the auction that we have set up for much of this spectrum. And I am watching carefully to see both what the FCC rule, which will come out shortly, says and what our witnesses have to say about the best way to get this done. We, obviously, have talented people here. We have an enormously innovative private sector, and I think through innovation, like the M2Z idea and some of the other ideas we are going to hear, will come the right answer, which is to have this innovation create a space for emergency communications, which will then pull all these operable networks into true interoperability. I do not think it will happen if we

leave law enforcement alone. I think we will waste a lot of money and actually move backwards. I think it will only happen if we couple law enforcement with our innovative private sector.

And I think that the FCC is the key to do this and clear and focused oversight by this subcommittee to keep everybody on course.

Thank you, Mr. Chairman. I yield back.

Mr. MARKEY. The gentlelady's time has expired.

The gentleman from Illinois, Mr. Shimkus, is recognized.

Mr. SHIMKUS. Thank you, Mr. Chairman. I will waive.

Mr. MARKEY. The gentleman from Mississippi, Mr. Pickering, is recognized.

OPENING STATEMENT OF HON. CHARLES W. "CHIP" PICKERING, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MISSISSIPPI

Mr. PICKERING. Mr. Chairman, thank you for having this hearing. It is of critical importance that we get this right. The 700 megahertz is the best, and I believe the last, opportunity for us to have the broadband services in rural areas across the country. The specific, distinct and unique characteristics of 700 megahertz for its propagation in rural areas, being able to cover large geographic territory very efficiently and with broadband capability is why, for my State and many States like mine, getting this right with the market sizes, with the build-out requirements, and for the public safety, I think, is vitally important.

So I am glad to have this hearing. I look forward to the witnesses today.

As it relates to public safety, the proposal by a number of different advocates is worthy of our consideration. I happen to think that it is more dangerous not to have an interoperable network than it is to worry about the complexities of the particular auction proposal.

As we have learned from 9/11 and from Katrina and the tragedy at Virginia Tech, it is time that we have not only an interoperable system that is compatible with devices, but it is critically important that we have a network that serves the entire Nation, the public safety community and can advance and advocate very important, pro-competitive principles.

And so I am looking forward to the testimony on that.

I do want to share some concerns of the purported recommendations or proposal on the 700 megahertz. Even though this is uniquely and distinctly suited for rural areas, I am afraid the current proposals are more suited for urban areas, high density populated areas, and for the larger companies. It is not as balanced as I would like to see as far as small markets, mid-sized markets, and having the geographic build-outs that I think can be effective in keeping the very valuable spectrum from being squatted, squandered, or speculated in a way that does not bring us service into rural areas.

And so, I am looking forward to the hearing today and seeing if we can find the right balance. I believe the AWS model, the most recently concluded auction, was extremely successful, and it is a model that we should look to and build upon as we go forward in this auction, because it did look at the balance between small, me-

dium, and large, and it is a balance that I think we should replicate in the upcoming auction.

Mr. Chairman, thank you for this hearing. I look forward to the testimony from the panel.

Mr. MARKEY. I thank the gentleman. The gentlelady from California, Ms. Eshoo.

OPENING STATEMENT OF HON. ANNA G. ESHOO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Ms. ESHOO. Thank you for recognizing me, Mr. Chairman, and welcome to all of our witnesses.

I would particularly like to welcome John Muleta, whose company, M2Z Networks, is based in my congressional district, and he has made a very exciting new company, one of the most exciting, I think, in recent decades. And M2Z is emerging from Sand Hill Road in Menlo Park, an address that many people from outside my district recognize.

When we embarked on this series of hearings last month, the chairman of our committee began the series with one of the most distinguished individuals in the world, Sir Tim Berners-Lee, inventor of the World Wide Web. And he told us that wireless connectivity and mobile broadband services will likely be the most important development in our digital future. That is quite a statement that he laid down. So it is important that we examine the wireless industry and our Nation's spectrum policy very, very carefully and thoroughly.

It is particularly crucial that we conduct oversight related to the distribution of the valuable 108 megahertz of the communication spectrum that will be relinquished by television broadcasters as part of the digital TV transition. This spectrum and the 700-megahertz band is considered, I call it "beachfront property" by telecommunications carriers, because wireless signals, at this frequency range, pass easily through buildings, trees, and other interference, so it's highly, highly valuable. You can tell by how many people are in the room today, I think.

I believe the DTV spectrum offers a historic opportunity to provide the equivalent of a third wire into the home, an alternative to telephone or cable broadband access, and that is why I have supported the efforts in this committee to ensure a swift completion of the DTV transition. I am very pleased that we were able to enact a hard date of February 17, 2009 and that the DTV spectrum auctions are scheduled to occur by January of next year. I have been waiting for a long time, in fact, since I came onto this committee in January 1995.

I am encouraged that the FCC is steadily moving forward with the auction process, but I am concerned that there hasn't been sufficient attention paid to the auction rules and the policies that underlie the distribution of spectrum. Without incentives for new entrants and innovative services to participate in these auctions, this, what I call "beachfront" spectrum property, could become, what I call, the "new wing of the mega hotels" that already dominate the shoreline.

So if the bulk of the spectrum that becomes available is purchased by incumbent wireless carriers, many of whom are not utilizing all of their current capacity, I think we will have lost a once-in-a-lifetime opportunity to create new competition and incentives for new entrants, innovation, and broader service offerings. The committee's DTV legislation included an amendment I offered which describes the opportunities of this spectrum and the FCC's responsibility to promote the deployment of new technologies, economic opportunity, and competition.

So it is critical for the FCC and Congress to establish a spectrum policy for these new options that encourages new entrants and competitive services, and I look forward to working with my colleagues on the committee and the Commission to ensure that we don't miss this historic opportunity.

Thank you, Mr. Chairman.

Mr. MARKEY. The gentleman from Nebraska, Mr. Terry.

Mr. TERRY. I will waive.

Mr. MARKEY. The gentleman from Michigan, Mr. Stupak.

OPENING STATEMENT OF HON. BART STUPAK, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. STUPAK. Thank you, Mr. Chairman, and thanks for holding today's important hearing.

The digital future of the United States hearings have been very informative and helpful.

In my district today, we have several wireless hotspots and entire wireless communities, including Gladstone and Mackinaw Island. Wireless Internet is fully taking hold in my district. In fact, just about every day, another marina is deploying wireless communications, because the people who vacation in my district expect to have Internet access from their boats when they dock.

Now is the time to move beyond "hot spots" to efforts to cover entire regions. The 700-megahertz spectrum is the "beachfront spectrum" and especially well suited to do the job. Its propagation properties allow for fewer towers to be built, making wireless an efficient alternative for rural America.

But the promise of this spectrum to rural America will only be realized if networks are built there. That is why it is critical that the 700-megahertz auction is done right. I have long advocated for the auction to be conducted in a way that allows small- and medium-sized carriers and new entrants to compete. I am encouraged about what the FCC has said in the past, and I urge the FCC to construct the auction rules in a way that will maximize both competition and build-out in rural America.

Of course, public safety is my key constituency who would benefit from this spectrum. By statute, public safety receives an additional 24 megahertz. The FCC has several different proposals before it to determine how public safety can utilize this 24 megahertz and additional spectrum.

It is important for policymakers and the FCC to carefully consider public safety's views on the broadband proposals. We must structure our spectrum policy in a way that allows public safety to participate in the wireless broadband revolution.

We must also have a spectrum policy that encourages interoperability, not discourages it. As co-chair of the Northern Border Caucus and the Law Enforcement Caucus, and as a representative of a border community, I hear often from law enforcement, Border Patrol, and Canadian officials about communications interoperability between the two borders. The spectrum must be divided in a way that protects the ability of border law enforcement to communicate with their colleagues along our borders with Mexico and Canada. Any plans that hinder law enforcement to communicate should not be tolerated by Congress.

I yield back the balance of my time, Mr. Chairman.

Mr. MARKEY. The Chair recognizes the gentleman from Florida, Mr. Stearns.

OPENING STATEMENT OF HON. CLIFF STEARNS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Mr. STEARNS. Thank you, Mr. Chairman. And again, I compliment you on having this hearing.

The wireless industry is, perhaps, one of the fastest-growing and most competitive sectors in the United States economy. Congress has, more or less, let the industry alone and let consumers decide. Obviously, a lot of us think the consumers are the best judge of this industry. Congress laid the groundwork, however, in 1993 to create a competitive wireless industry.

During that time, the number of wireless subscribers has leaped from about 16 million to more than 233 million today. In addition, the wireless penetration is now more than 76 percent of total in the U.S. population.

I think, like many of the members here, we have a BlackBerry. I have a Treo. And on the Treo, you can stream video, download video clips, take pictures, and as well as get your e-mail, and obviously use the phone. So this new technology is available at our fingertips. And what is so exciting is that with the continuation of wireless, there will be even more opportunities for high definition as well as broadband.

The content is outstanding. For example, when one thinks of large-content providers, they obviously think of Disney in Orlando and others and Amazon, Google, and even Yahoo. All of these folks come to mind. But it is not just these companies. The sports industry has a tremendous amount of deliverable content that they would like to provide. Major League Baseball and college basketball games can be streamed over the Internet to a compatible device so that rabid fans, I represent the University of Florida, recent with its championship in both basketball and football, these rabid sports fans would love to be able to look at that game with the Buckeyes again, and again, and again. And they could do it in their spare moments while they're waiting for the train or the bus. And so we want to help them out. So this is a simply outstanding technology that we want to continue.

Now, I imagine that these newer 4–G technologies are going to require much more bandwidth going forward, so I look forward to hearing from our witnesses Mr. Chairman, how do they plan to manage all this required bandwidth, and what are they going to do to ensure that the users do not experience too much congestion or

other service delay as this amount of data increases. Do these technologies require the dedicated circuits for wireless companies to transport voice and data from the cell towers? If so, who supplies these circuits, and how does this process work?

I imagine many wireless providers, with the exception of a couple, do not have a sufficient wireline network to handle this amount of traffic. The electronics industry is converging rapidly, and each segment of the telecommunications industry is reliant upon another to deliver its services. How this process works and whether or not it is competitive should be a clear focus of this committee.

And I thank you, Mr. Chairman, and I look forward to this hearing.

Mr. MARKEY. The Chair recognizes the chairman of the full committee, the gentleman from Michigan, Mr. Dingell.

OPENING STATEMENT OF HON. JOHN D. DINGELL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. DINGELL. Mr. Chairman, thank you. I commend you for this hearing today. And today, we will hear about the future of wireless communications. We will be focusing on the upcoming spectrum auction. I expect further opportunities to hear from a broader range of interests on what American consumers can expect in the mobile environment of the future.

The Nation's airwaves are a scarce natural resource, and the Congress is entrusted with the high duty to manage them on the public's behalf. This committee has worked diligently to promote competition in the wireless industry, and we have also worked to see to it that the allocation of spectrum was done fairly and in the broad public interest. These efforts will, and should, continue today. It is critical and crucial that this committee pay close attention to the upcoming 700-megahertz auction. This auction holds great promise to bring more competition in the delivery of voice, video, and data services to consumers. The propagation characteristics make this spectrum particularly well suited to a third pipe in the home.

Next week, the Federal Communications Commission is expected to release a preliminary set of service rules and to seek further comment on particulars of the band plan. Unfortunately, the FCC must resolve important questions. These include the size of available spectrum blocks; the geographic scope of the licenses; build-out obligations, a matter of particular concern to me; the structure of small business credits; the rights of minorities; and whether the band plan will advance the utilization of public safety spectrum. I am also concerned that the end result be fair and in the interest of all and that no special preferences, beyond that required by the public interest, be afforded here.

I expect the FCC to proceed with a transparent and a sound auction structure based on the congressional objectives set forth in the statute, and the committee will monitor these matters carefully to assure that that is so.

The threshold question here is whether the auction structure will produce greater competition in the broadband marketplace. This

auction presents an opportunity for new entrants to emerge as a national broadband competitor. The FCC should adopt rules that maximize the opportunity for new entrants to obtain sufficient spectrum.

Next, the FCC must adopt robust build-out requirements to help speed the deployment of wireless broadband to people's homes, particularly in rural areas. The auction structure should provide for licenses of different geographic sizes. Sufficient blocks of spectrum auctioned in smaller geographic areas, combined with robust build-out requirements should produce meaningful deployment in rural and underserved areas. The auction structure should promote a variety of business models such that both large and smaller entities have a realistic chance to obtain spectrum licenses.

Diversity in wireless communications is no less important than diversity in other communications and media industries.

I expect the FCC to provide smaller companies with a workable program and sufficient time to prepare for this auction. I also expect the allocation of spectrum will be done in the best overall fashion with regard to seeing to it that everybody gets what is needed, but not more than what is required for any particular special interest.

Finally, the band plan must promote efficient overall use of the spectrum. Public safety has a strong need for a nationwide, interoperable broadband network. Small carriers seek a nationwide, wholesale provider. Proposals, such as Frontline, appear to provide a technologically-efficient way to achieve worthwhile policy objectives while preserving an open auction format. Installed accountability measures will be required to assure that the public receives the benefit of such proposals, as the proposals produce the intended result.

Mr. Chairman, I thank you for your courtesy. I yield back the balance of my time.

Mr. MARKEY. The Chair recognizes the gentleman from California, Mr. Radanovich.

Mr. RADANOVICH. I thank you, Mr. Chairman. I waive for questions.

Mr. MARKEY. All right. The Chair recognizes the gentlewoman from California, Ms. Solis.

OPENING STATEMENT OF HON. HILDA L. SOLIS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Ms. SOLIS. Thank you, Mr. Chairman and Ranking Member Upton, for holding this very important hearing today.

I want to thank our witnesses for being here and for your expertise that you are going to lend our committee.

As an advocate for diversity in media, I am pleased that today's hearing will give us an opportunity to discuss the role of small businesses in spectrum auctions. And as we all know, but sometimes need to be reminded of, spectrum is a public resource. It is not sold; it is licensed. License holders have a responsibility to act in the public interest, in addition to the services they provide using spectrum.

As we approach the 700-megahertz auction, we must continue to examine whether the rules that will govern this auction are serving the public interest. The auction is one of the most important opportunities in the near future to encourage diversity among spectrum license holders. The auction could also help foster innovative solutions to close the digital divide and accelerate broadband deployment throughout the country.

We need to find a balance that protects the public interest and levels the playing field for spectrum auctions, and I look forward to hearing from our witnesses today on that topic.

And I am looking forward to learning more about proposals to expand wireless broadband Internet throughout the country. As we weigh in on broadband deployment strategies, we must ensure that minority and low-income communities are not left behind. Approximately half of the Latino community, about 56 percent, goes online as opposed to 71 percent of whites who use the Internet.

Proposals such as M2Z Networks' to efficiently use spectrum to provide free wireless Internet across the country could be an important part of the broader discussion of how to close the digital divide. I look forward to hearing more about this proposal. We must increase access to high-speed Internet and other communication services for all consumers and eliminate these disparities that currently exist in minority communities.

Thank you, again, to our witnesses, and I look forward to hearing from you.

I yield back the balance of my time.

Mr. MARKEY. The Chair recognizes the gentleman from Texas, Mr. Gonzalez.

Mr. GONZALEZ. I will waive.

Mr. MARKEY. The gentleman waives.

The Chair recognizes the gentleman from Indiana, Mr. Hill.

Mr. HILL. I will waive an opening statement.

Mr. MARKEY. The gentleman waives.

The Chair recognizes the gentleman from Texas, Mr. Green.

OPENING STATEMENT OF HON. GENE GREEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. GREEN. Thank you, Mr. Chairman. I was just checking to make sure I didn't step in front of you, and I have concern, we are from Texas, of getting in front of our California members.

Mr. Chairman, I have a full statement I would like to place into the record. And I am just saying, after yesterday's interruption to BlackBerry service, even some of those who are not technologically proficient realized that we can't function now without the technology we have. And when we see a rollout of the faster mobile broadband service technologies, such as WiMAX, I look forward to hearing from Mr. West on his company's use of WiMAX. WiMAX will offer the wireless convenience of Wi-Fi, but with greater mobility, and the deployment of this technology will increase competition and benefit consumers by offering what is a third broadband pipe. By increasing competition, companies will be forced to provide consumers the information and service they want at speeds they want, or these consumers will find another service that can.

We also have an opportunity today to look at the plan for public safety and use of the spectrum we will set aside during the digital transition. There are several proposals for addressing public safety broadband needs, and I am not convinced the proposals put forward to this point are the best to the public safety and the consumers, but I believe a public/private partnership of some kind to address the public safety broadband needs deserves attention. And while the recent proposals from Cyren Call and Frontline Wireless, who are here today, have generated a great deal of controversy among wireless carriers and policymakers, even Verizon Wireless recently made some proposals at the recent Southern Governors Meeting, which are interesting. And I encourage all our panelists today, along with others involved in public safety communications, consider innovative solutions involving commercial wireless providers and the public safety. To make more efficient use of our valuable spectrum that will be set aside for public safety, a public/private partnership would be more economical for creating a public safety broadband network. And maybe compromise is not possible, but since we have a short window of opportunity, all parties should engage in good faith negotiations about their options.

Given that timeframe, the FCC will likely be the source of any plans to involve public safety in the upcoming 700-megahertz auction, but Congress has an important role.

Mr. Chairman, before I close, I would like to also note my concern with the upcoming public safety grant distribution by NTIA and DHS. Apparently, these funds it has now been decided will be divided into 50 blocks and according to formulas for the States to distribute. I am very concerned that this approach will not produce tangible benefits and interoperability in our major metropolitan areas of the country, which are the primary terrorist targets of our country. Hopefully, our subcommittee will continue our strong oversight on the public safety grant distribution to see what benefits we will actually see from that $1 billion that now will be divided into 50 parts. And again, we will see what happens in our States, if they actually get to the higher-risk areas instead of what we have seen happen with our other funding in Congress.

So, I yield back my time.

Mr. MARKEY. The gentleman's time has expired.

The gentlelady from California, Ms. Capps, is recognized.

Ms. CAPPS. Thank you, Mr. Chairman, for holding this hearing and to our witnesses for appearing and your testimony, and I will submit my opening statement for the record.

Mr. MARKEY. The gentlelady will reserve her time.

The gentleman from Washington State, Mr. Inslee, is recognized.

Mr. INSLEE. I waive, Mr. Chairman.

Mr. MARKEY. The gentleman from Washington State reserves his time.

The gentleman from New York, Mr. Towns.

Mr. TOWNS. Thank you very much, Mr. Chairman.

OPENING STATEMENT OF HON. EDOLPHUS TOWNS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Let me begin by thanking you and Ranking Member Upton for holding this hearing.

It is important that we understand what the future holds for our constituents in the wireless arena. It is our responsibility to oversee how the public airwaves are used, with special attention to public service requirements, build-out requirements, mitigation efforts, equipment, compatibility and public safety requirements.

The upcoming 700-megahertz auction will bring a new generation of products and services to our consumers and improve the way our public safety professionals communicate. I look forward to working with my colleagues to ensure that the benefits of this spectrum are maximized in a positive way for the public.

Let me say this. The wireless industry has been a huge success for consumers and the economy. Wireless customers are pleased with their choices. The use of these services has led to tremendous productivity, gains for businesses and families, and has contributed billions in taxes and fees to our Government and has spurred innovation and competition all over the world. Just look around here, on any given day, and you will see everybody checking their cell phone.

I look forward to hearing from the witnesses today on how best to manage this spectrum. Each of them has an important perspective to contribute. There have been a few hiccups in spectrum management in the past, and we must admit that.

It is my hope that the testimony today will help us determine the best way to move forward. Our constituents want us to make sure that none of the spectrum goes unused.

I am a primary sponsor of the Telecommunications Development Fund, which uses auction's deposit interest to give small telecom startup access to capital. And I am particularly interested in assuring that it receives maximum funding from the auction. This will require that the spectrum be auctioned under the most competitive process without conditions that reduce its value. I also want to make sure that the designated entity program works so that small and minority businesses can participate and win.

On that note, Mr. Chairman, I yield back, and I look forward to hearing from the witnesses.

Mr. MARKEY. All right. That completes all opening statements by members of the subcommittee. Other statements for the record will be accepted at this time.

[The prepared statement of Mrs. Capps follows:]

PREPARED STATEMENT OF HON. LOIS CAPPS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Thank you Chairman Markey for holding another important hearing on our country's digital future.

At the earlier hearings this subcommittee has held, I have called on the FCC and NTIA to do a better job measuring and encouraging broadband deployment in the United States.

Study after study has shown that the United States is no longer the leader in broadband deployment and access, and this could have dire effects for our economy in the future.

Most Americans have just one or two choices for broadband access today—cable or DSL, and some don't even have those choices.

We need to do more to promote a third and fourth pipe into homes, and I'm pleased that we will be hearing from companies like Sprint, Frontline, and M2Z that have innovative ideas to provide Americans with wireless broadband access.

The upcoming 700 MHz auction could be a great opportunity to increase quality, choice, and competition in the wireless and broadband markets.

It's important that we keep the DTV transition on track so that we can get the spectrum into commercial use quickly and also to provide the 24MHz of spectrum to improve interoperability for our brave first responders.

I want the FCC to ensure that the auction rules allow small businesses to compete for this valuable spectrum.

Mr. MARKEY.We will now turn to our very distinguished panel, which consists of Mr. John Muleta, who is the chief executive officer of M2Z Networks. Mr. Muleta also served as the wireless bureau chief at the Federal Communications Commission and as a vice president of PSINet.

Ms. Shelley Spencer is the president of Wirefree Partners, a small wireless company. Ms. Spencer has been actively involved in managing and forming wireless companies for over 15 years. Mr. Victor "Hu" Meena, Mr. Meena is the president of CellularSouth, a rural cell phone company. CellularSouth is the largest privately-owned wireless carrier in the United States.

Mr. Barry West is the chief technology officer and president of mobile broadband at Sprint Nextel Corporation. Prior to joining Sprint, Mr. West spent 35 years at British Telecom. Ms. Janice Obuchowski is chairman of Frontline Wireless. She is also a former head of the National Telecommunications and Information Administration. And Mr. Michael Gallagher is a partner at the law firm of Perkins Coie. He also served as the head of NTIA for the Bush administration, and more importantly, as a chief of staff for a member of this committee, Rick White.

So, we welcome each of you to our committee today. You will each have 5 minutes to make your opening statement.

Mr. Muleta, when you are ready, please begin.

STATEMENT OF JOHN B. MULETA, CEO, M2Z NETWORKS

Mr. MULETA. Mr. Chairman and Ranking Member Upton and members of the committee, my name is John Muleta, and I am the co-founder and CEO of M2Z Networks, and I thank you for the honor of inviting me to testify on spectrum and our country's digital future.

As an initial matter, I would like to request that my testimony and supporting documents are incorporated into the record of this hearing.

Mr. MARKEY. Without objection, that will be included in the record.

[*Editor's note*: Because of its size, Mr. Muleta's supporting documents are on file with the committee.]

Mr. MULETA. Thank you.

Let me start by quickly telling you about M2Z.

My business partner, Milo Medin, and I founded the company in 2005 with the support of three leading Silicon Valley venture capital firms. Our goal was to use spectrum and wireless technologies to solve two of the more pressing problems in the communications

industry today. these challenges are: first, how to provide for affordable, universally-available and accessible broadband to the over 100 million Americans today, and their children, who continue to be stranded on the wrong side of the digital divide, to our country's ultimate disadvantage; second, how to make better use of underutilized fallow spectrum, one of the country's most precious natural resources, with innovative technologies so that it benefits American consumers of all types and all means, just as Congress intends spectrum to be used.

In light of these challenges, the key to equitable and effective use of spectrum is a transparent and timely assignment process that is driven by well-defined public interest objectives, such as solving the broadband divide. There is bipartisan support for this idea, led by the President and the Speaker of the House, that the public interest today is best served by a renewed and aggressive commitment to solve the broadband divide. It is also manifestly clear, despite what you might hear otherwise, that auctions are not the shorthand for determining such public interests. In its license application, M2Z has transparently demonstrated that it is the best and highest use of the 20 megahertz of unpaired and fallow spectrum, found at 2155 to 2175 megahertz band.

M2Z is committed to building a family-friendly, nationwide broadband network that provides the public the following immediate and direct benefits: access to an always-on, free broadband connectivity at least six times faster than dial-up; the filtering of pornography and other indecent material from the free network so it is safe and accessible to our children; a free secondary, interoperable broadband data network for public safety officials and first responders; and payments to the Federal Treasury of 5 percent of our gross annual revenues from premium subscription services.

Most importantly, M2Z is using private sector funding to build this competitive, nationwide third pipe that will reach a minimum of 95 percent of the U.S. population, all without taking any monies from the Universal Service's funds.

Today, perhaps the greatest impediment to our Nation's digital future is the sad fact that the U.S. broadband market is a duopoly that limits consumer choice and discourages price competition. This is not a statement that I am making of my own accord. In fact, both the GAO and the Congressional Research Service reported this very same fact to Congress last year. Likewise, the FCC's annual status report on broadband Internet access shows that incumbent phone and cable operators have a 95 percent market share in the broadband market.

Without a doubt, U.S. broadband consumers are starving for services and prices like those that M2Z will bring to the marketplace. As you know, spectrum is a critical, if not the only, means for new, nationwide, broadband players, like M2Z, to enter the market and create the vibrant competition that is needed to close the broadband divide today. M2Z wants to recognize and thank Congress for having the wisdom and the vision to mandate transparent and timely procedures that invite innovative entrepreneurs like us to remedy this problem. Congress has done so by empowering the FCC with numerous statutory tools that facilitate the goal

of providing universal and affordable broadband access to the American public.

The FCC can use its statutory tools for authority found in section 7, section 10, section 309, and section 706 to immediately act on M2Z's license application. The FCC has already acted wisely by establishing a full and complete record on the merits of the M2Z license application. The FCC record contains uncontested economic analysis as well as the support of thousands of citizens and Government officials from nearly every part of America who are in overwhelming support of M2Z's use of the spectrum. That support is based on M2Zs transparent and vigorous public interest commitments and I am proud to say the character of its principles. Nevertheless, but for Congress's vision, M2Z would not have the means or the incentive to forward its innovative plans to the FCC, and, most importantly, to the American public.

In closing, the M2Z team has the technology, has the capital, has the energy, and the overwhelming public support to make Congress's call for a broadband future for all Americans a reality. M2Z has made explicit and enforceable commitments that will significantly advance the public interest. There is no reason to wait any longer in granting M2Z's license to provide a free, fast, and family-friendly broadband network to all Americans.

So I thank you very much for asking me to speak here today, and I look forward to answering your questions.

[The prepared statement of Mr. Muleta appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, Mr. Muleta.

Ms. Spencer.

STATEMENT OF SHELLEY SPENCER, PRESIDENT, WIREFREE PARTMERS, LLC

Ms. SPENCER. Thank you, Chairman Markey, Ranking Member Upton, and members of the committee.

I am pleased to participate today and reflect the perspective of a small business that has participated over 10 years in spectrum auctions.

[Slide shown]

As you can see from this panel, innovation often comes from the small, new entrants that are seeking to create new jobs, create opportunity, and use spectrum in a wise way.

Small businesses like mine are at the forefront of bringing innovation and new services.

Based on our decades of experience in participating in spectrum auctions as a small business, we have three recommendations for spectrum policy that are important to keep in mind for the 700-megahertz auction.

First, bidding credits have proven critical for small business participation. Bidding credits allow small businesses to accommodate for their difficulty in accessing capital and compete against large incumbents who also come to the auction.

Second, less Government regulation versus more once we acquire the spectrum and start to run our businesses are important. Innovation takes different forms at different stages of a company's life, and without the ability to have a flexible business plan and adapt

to the changing market conditions, small businesses will not be successful in the use of their spectrum.

Third, we need adequate and sufficient advanced notice of auction rules. We are close to May, and this auction, as has been pointed out today, is supposed to start in January. Small businesses typically need 6 to 12 months to begin to raise capital, which we have raised from Sand Hill Road, as well, and we are closely becoming very close to the close of that window to have an adequate chance to participate.

As has been pointed out this morning, small businesses were concerned when the FCC was granted auction authority. Specifically, Congress recognized that the FCC must design auction rules so that small businesses and businesses owned by women, such as myself, and minorities, have an adequate opportunity to provide spectrum-based services.

To implement this mandate, the FCC established the Designated Entity Program, which has been used over the past 10 years in many different forms. My company's experience in bidding on spectrum provides an interesting reflection on how that program has worked.

In each auction we have participated in, we have taken a disciplined, business approach. And the first large PCS auction in 1996 for small businesses, we left that auction, and we sent our $20 million back to Sand Hill Road, others did the same, because we didn't want to bid outrageous prices and experience business failure.

In subsequent auctions, where we did purchase spectrum, we always honored our commitment to pay in full for those licenses.

In the late 1990s, we created a company that built a network in the southeastern United States from the ground up, creating over 200 new jobs, bringing new competition to the market, and creating a financing standard that allowed other companies to follow behind us. Significantly, those companies were also start-up companies.

Most recently, we raised over $150 million of our own equity and debt to fund the purchase of 16 licenses. We are currently rolling out a network on half of that spectrum that we need for our business, and the other half we are leasing to Sprint Nextel.

Significantly, despite our success, the last auction of AWS spectrum shows that small businesses are not faring well under the current auction rules. The auction results also show that small businesses are not acquiring spectrum at the same degree that they participate in the U.S. economy.

According to the last auction results, small businesses by revenue, value, or designated entities won only 4 percent of the licenses auctioned in that auction. We hope that will not be repeated in the auction to start in January.

According to SBA, small businesses fuel economic growth in our country. Small businesses generate 60 to 80 percent of all the new jobs in the United States. We are responsible for 45 percent of the private payroll. Small businesses receive 13 to 14 percent or more patents than large patenting firms, showing we are leaders in innovation. And women, such as myself, own 6.5 million businesses in the United States, generating over $940 billion in revenues and employing 7.1 million workers.

In wireless, it takes a lot of money to be a small business. The AWS auction raised $13 billion. T-Mobile spent over $4 billion. The 10 MHz license in Boston sold for $30 million. Pittsburgh was $10 million. And Detroit cost $50 million for a single, 10-MHz license. Not surprisingly, none of these licenses were won by small businesses.

Our experience in starting a wireless company leads us to our second recommendation: less Government regulation of ongoing business operations versus more is better for small business success.

While we applaud FCC efforts to ensure that ownership and control truly rest with small business entrepreneurs, regulations beyond these standards stifle innovation and the ability to raise capital. Streamlined regulation is also consistent with section 257 of the Act, where Congress asked the FCC to report on any regulations that could eliminate market entry barriers.

Finally, we need adequate notice of auction and service rules.

The statute expressly requires that adequate notice be given to bidders so they have time to develop a business plan. I regret to inform you that that opportunity is quickly slipping away.

Thank you.

[The prepared statement of Ms. Spencer appears at the conclusion of the hearing.]

Mr. MARKEY. I thank the gentlelady very much.

And now we turn to Mr. Meena. Welcome.

STATEMENT OF VICTOR "HU" MEENA, JR., PRESIDENT, CELLULARSOUTH, INC., JACKSON, MS

Mr. MEENA. Thank you for providing this opportunity to let me testify.

CellularSouth serves all of Mississippi and portions of four other southeastern States. Most of the areas we serve are rural areas, and it is critically important that the future of wireless services include rural customers.

In many ways, this hearing could not come at a more crucial time. The FCC is preparing to auction the last block of spectrum suitable for providing wireless services to rural areas. And it is considering dramatic changes to the Universal Service Fund. It is important to note that these two topics are not separate, and the issues are closely linked. Decisions regarding the 700-MHz auction and USF will determine the future of broadband services in rural America.

Because of its physical characteristics, 700 MHz offers the last realistic chance to provide broadband to rural areas. Lower-frequency spectrum, such as 700 MHz, travels farther than the higher frequency spectrum, making it ideal for serving rural areas. By contrast, spectrum in the higher frequency ranges is abundant and well-suited for serving urban areas.

Today, there is a digital divide in our country. This is particularly true in rural America. The United States ranks 15th in the world in broadband penetration, due, in part, to the large rural areas in the United States that don't have broadband access. Wireline networks have not filled this need, and broadband access via satellite remains prohibitively expensive.

The upcoming 700-MHz auction promises wireless carriers a method of delivering broadband to unserved areas, while USF support offers the means to provide the service. The Universal Service system is already in place to aid in providing services to rural and high-cost areas, and rulemakings should allow, or even require, carriers to use these funds to deliver these services to rural America.

In the upcoming 700-MHz auction, carriers should be committed to serving all customers with the spectrum they acquire. FCC Chairman Kevin Martin recognized the importance of 700 MHz to rural America in his testimony before this subcommittee earlier this year when he stated that the FCC "should consider policies to make sure that people are actually building out and utilizing the spectrum they are purchasing in geographic areas." We agree with the chairman. Because CellularSouth is serious about, and firmly committed to, continuing to deliver advanced services to rural areas, we support strong geographic build-out rules. This can and should be done, and it is the only way that rural America will be built out with 700 MHz.

In the 2006 AWS spectrum auction, the FCC used a well-balanced mix of small-, medium-, and large-sized licenses, which allowed numerous carriers to participate. The success of that auction was due to the significant opportunities available to small- and mid-sized carriers.

Recent reports are that the proposed 700-MHz band plan is not even close to the band plan utilized for the AWS auction where over half the spectrum was licensed on either a CMA or EA basis.

In order to provide small- and mid-sized carriers an opportunity to acquire 700 MHz, there must be at least three blocks of spectrum designated as small CMA licenses or medium-sized EA licenses. And each of these blocks must contain at least 10 MHz of paired spectrum. If the FCC does not have multiple small and medium blocks, all regional carriers will be forced to compete against each other in one or two blocks of spectrum, while the large carriers and others will have the very large spectrum blocks to themselves.

We support Frontline's proposal, because it addresses crucial public safety needs and also provides opportunities for regional carriers, like CellularSouth, to provide nationwide broadband services to our customers when they leave our network. The FCC currently has no rule in place that requires wireless carriers to cooperate with one another through roaming agreements to provide customers with automatic access to advanced wireless services when they travel outside the area served by their home wireless carriers. The Frontline proposal addresses this important issue.

As you can see, this is an important time for the wireless industry and for the future of telecommunications. Decisions made over the coming weeks may determine whether we succeed in connecting our entire country through a comprehensive broadband wireless network.

Thank you, again, for the opportunity to be here today.

[The prepared statement Mr. Meena appears at the conclusion of the hearing.]

Mr. MARKEY. We thank you, Mr. Meena, very much.

At 11 o'clock today, there is a Holocaust remembrance event, and I think it would be appropriate for this subcommittee to pause at this point for a minute to reflect upon the Holocaust, but also to remember in our prayers the families and the victims from Virginia Tech. So let us just pause here for a moment.

[Moment of silence observed.]

Let us now turn to you, Mr. West. We welcome you. Please begin your testimony.

STATEMENT OF BARRY WEST, CHIEF TECHNOLOGY OFFICER, SPRINT NEXTEL CORPORATION

Mr. WEST. Good morning, Chairman Markey, Ranking Member Upton, and members of the subcommittee.

I recently became a U.S. citizen, a country that I am very passionate about, and I am honored to testify before you today on a topic that I am also passionate about: the future of wireless technology.

I head a division at Sprint that has a task no less than launching a service to revolutionize communications. Our vision coincides with the increasing prevalence of two powerful forces: the Internet and mobility. We plan to mobilize the Internet.

Sprint Nextel is using its 2.5-gigahertz spectrum to build a 4G nationwide broadband mobile network. This transformational technology is designed to offer consumers and business customers faster speeds, lower costs, greater convenience, and enhanced multimedia quality using WiMAX-enabled devices.

With our new network and its speeds of 2 to 4 megabits per second, four times faster than today's best wireless networks, you will be able to send photos wirelessly from your digital camera to a printer, share content you have created wherever there is Internet access, enjoy high-quality videoconferencing from your laptop, and do business anywhere.

With our new service, you will be able to have a more rewarding conversation with full motion video. With my grandchildren in the UK, I have four wonderful grandchildren, I look forward to the day when my daughter can take a video camera with her and a laptop PC and granddad can "be there" when my granddaughter takes her first ballet lessons. That can be a reality.

We are bringing this vision to life. By the end of next year, we expect to reach 100 million Americans with our new network. Once in place, our service will enable customers to obtain business information and personal entertainment easily and inexpensively in ways in which one day we will wonder how we lived without, just as we do mobile voice today.

But our mobility broadband services and the broadband services of others face a significant impediment in the United States. That impediment is the market failure of last-mile special access connection.

Sprint Nextel, like other providers, is heavily dependent on Verizon and the new AT&T to provide last-mile special access services. At 99 percent of our cell sites in their territories, we find that either Verizon or the new AT&T is the only choice to connect our sites back to our network. Sprint Nextel would very much prefer to have the option to obtain these dedicated special access circuits

from someone other than the parents of our largest competitors. Indeed, the GAO recently concluded that there are significant barriers to competition for the BOC's special access.

In an industry with an FCC-authorized rate of return of 11.25 percent, Verizon reported a 51-percent rate of return, and AT&T reported 100-percent rate of return on special access for 2006. These returns were not a 1-year aberration. Special access rates of return have grown steadily.

Special access will become even more critical as the capacity needs explode to support the broadband services that this subcommittee is committed to encouraging.

Congress needs to mandate the FCC impose a price discipline that the marketplace has failed to provide. Failure to reduce special access rates will impede broadband development and competition in the United States.

The FCC also has before it a number of complex policy decisions in the 700-MHz spectrum band. It is critical for public safety communications that the FCC not cobble together a hasty hash of rules for this spectrum. Also, if the FCC is interested in allowing commercial and public safety entities to use spectrum jointly, it should consider joint use in other spectrum outside of 700.

America has the opportunity to foster a revolutionary change in telecommunications with the marriage of the Internet and mobility in wireless broadband. Sprint Nextel is building the most advanced wireless network ever, and we are doing it now. We have the technology and the know-how, and you can help bring broadband to America faster by fixing this critical marketplace failure.

Thank you.

[The prepared statement of Mr. West appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, Mr. West, very much.

And now we turn to you, Mrs. Obuchowski. Welcome back to the committee.

STATEMENT OF JANICE OBUCHOWSKI, CHAIRMAN, FRONTLINE WIRELESS, WASHINGTON, DC

Mrs. OBUCHOWSKI. After 18 years, still talking about spectrum.

Mr. MARKEY. Welcome back.

Mrs. OBUCHOWSKI. Thank you.

Mr. Chairman, Ranking Member Upton, members of the committee, thank you for welcoming me back and welcoming Frontline.

Due to your hard work and your vision, the hard work of this Congress, and ultimately, the consent of the President of the United States, our country is about to embark on something virtually unprecedented, a mandatory, mandated, technology transition.

As a result, we are asking many of our citizens, often among the poorer, and some of whom are quite old, to part with their old television sets, to buy a subsidized converter box, and to free the radio waves for a higher and better purpose.

This is a good decision, but it causes all of us to reflect that these airwaves are a public good. Going digital in the United States should answer many of the problems of public safety. Going digital

in the United States wireless industry should open access for greater innovation and leadership moving forward.

Failure is not an option. We must ensure that the radio spectrum adequately serves those first responders, who, in turn, serve all of us. This is why this real estate, the product of this seismic technology shift affecting many, not be predestined to control by an entrenched few.

OBRA '93, the legislative vehicle that launched this program, to which you eluded, Mr. Chairman, envisioned this result when it directed the FCC to rely on spectrum auctions to promote competition in licensing new spectrum-based services.

Frontline has put forward a proposal that would achieve common ground, we hope. We build upon the sound work in the FCC's 9th NPRM to bring a public/private partnership approach to solve this chronic problem of public safety interoperability.

By leveraging private-sector investment to yield public safety benefits, Frontline's proposal is a bipartisan effort to put these beliefs into action. Frontline was formed by former FCC Chairman Reed Hundt; Haynes Griffin of Pioneer Cellular; Jim Barksdale, a high-tech pioneer and a leader of the Gulf Coast renewal post-Katrina; and Ron Shriram and John Doerr, two legendary Silicon Valley entrepreneurs and investors, together with myself.

We propose that 10 MHz of the airwaves be designated to meet public safety's needs and to promote competition and innovation after the auction. Public safety will get a free nationwide build-out of its spectrum, as well as increased spectrum access. This plan delivers nationwide interoperability, a goal which public safety has not otherwise been given the resources to achieve on its own.

The unique propagation characteristics of 700 MHz makes this the most important auction ever held. The FCC has a once-in-a-generation opportunity to write rules of the road for the use and auction of these airwaves that provides advanced tools for first responders and also innovative choices for consumers.

We believe that robust auctions should promote competition. We do not believe that these auctions ultimately are destined for warehousing of spectrum or increased dominance and stifling of competition and innovation. Frontline's proposal would open the spectrum to a cross-section of competitors, from technology innovators to rural entrepreneurs and optimize Government revenues. To maximize competition for the spectrum for diverse bidders, the small business credit should be available for this slice of spectrum, as it is for other spectrum.

An urgent problem we face is a rapidly-consolidating wireless market. In its most recent competition report, the FCC found that the wireless market was heavily concentrated. The wireless market's concentration index stands at roughly 2,700. The Department of Justice considers an index over 1,800 to be highly concentrated. This index is growing higher, having increased by 250 points over the past year.

Finally, Frontline's plan would promote innovation by proposing open-access requirements on this limited slice of spectrum, which would be open to any choice of equipment selected by public safety agencies, individual device users, and different retail service providers.

That is why the stakes are so high. We need to ensure that the next market shift in technology advance to emerge from the backyard of a curious child, comes from an American child, in an American garage, and can find its way directly into the American market.

The stakes are so high because we need to make sure that the public radio spectrum adequately serves those who respond first to local, regional, or national trauma. To those people who cynically call this a "spectrum game," let them look at the people of the Gulf area after Katrina or New York City after 9/11, and you will realize that this is no game. The Commission is at a crossroads in spectrum auctions, and this committee should give it guidance. It can use the spectrum auctions to provide public safety and open access.

Thank you very much.

[The prepared statement of Mrs. Obuchowski appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, Mrs. Obuchowski, very much.

And now, our final witness, Mr. Gallagher. Please begin when you feel ready.

STATEMENT OF MICHAEL D. GALLAGHER, PARTNER, PERKINS COIE

Mr. GALLAGHER. Thank you, Chairman Markey, Ranking Member Upton, and the other members of this great committee.

It is an honor to be testifying before the committee where I started my policy career 12 years ago working on wireless, Internet, and technology issues for Congressman White.

I also had the privilege of working closely with this committee during my 4 years at NTIA, where we collaborated on a number of spectrum policy successes, including the authorization of ultra wideband technology; finding the spectrum for 3G that was recently auctioned at the AWS auction; passing the Commercial Spectrum Enhancement Act, which is the foundation for the relocation of a billion dollars of Federal systems; and the successful auction that was just concluded, doubling the amount of spectrum for Wi-Fi at 5 gigahertz, opening up the 70, 80, and 90 gigahertz bands for commercial use, and standing firm on behalf of innovation and private-sector leadership as the guidepost for the future of the Internet, rather than turning it over to an international bureaucracy.

Today, I am pleased to share my views on the importance of spectrum policy and wireless technologies in our economy today and the fabulous devices and services that lie ahead.

Spectrum is, indeed, the "rocket fuel" of the next wave of technological innovation. The rapidly-declining cost of computing power and computing memory, coupled with worldwide economies of scope and scale and the provision of network equipment, fused with the availability of capital and limited regulation, have delivered us to a communications renaissance.

Our Nation's broadband networks are many, growing, competitive, and an integral part of our economy and the fabric of our daily lives. We enjoy investments in cable, DSL, fiber, licensed and unlicensed platforms, and the services offered on those platforms are developed, launched, and consumed at breathtaking speed. Things

like Google, Slingbox, TiVo, iPods, YouTube, high-definition DVRs, and now iPhones, Twitter, and Second Life are now launched in a period of months and receive vast consumer acceptance in a matter of days. And spectrum is the resource that gives untethered life to all of them and those applications that lie ahead.

Convergence is truly at hand, whether it is on the high-definition plasma screens in this room, on the VoIP phone on your desk, on your video iPod, and in the broadband-enabled MP3 player camera television in your hand that we curiously still call the "cell phone."

In 1993, this committee gave the FCC auction authority for the first time. Those PCS auctions gave rise to much of the success of the industry today. The auction rules were clear, market-based, and easily understood, and the market responded to the benefit of the American consumer and the U.S. Treasury. Since that time, the industry has flourished and delivered outstanding value to American families and businesses. In 1993, the industry had 16 million customers. Today, it enjoys over 230 million. It employed 30,000 Americans. Today, it employs nearly 200,000. Minutes of use in 1993 were measured in the tens of millions, and today stand at 2 trillion. The average bill, interestingly, in 1993, was $61.50. It has declined now to $50.

The committee built on that success with the recently-concluded AWS auction. That auction delivered $14 billion to the U.S. Treasury and is paying for $1 billion in new radio systems for key Federal Government missions. In addition, that market-based auction has given rise to yet another potential competitor, the cable companies, who purchased licenses reaching virtually the entire United States.

Of course, the committee should keep a watchful eye on the Government's process in clearing that spectrum and delivering the full use of it to the spectrum winners as soon as possible.

What lies ahead is also exciting. We have four nationwide, well-resourced, well-capitalized competitors. Plus, WiMAX and new competitors, like Clearwire, are on the horizon.

Technology evolution paths are also clear, economical, and robust. HSPA to LTE, CDMA Rev A to Rev C, and enhanced WiMAX, all promise the potential of 100 megabits per second to your hand. What is needed is the availability of spectrum.

Unfortunately, our policy record is not perfect. The FCC strayed from clear, transparent, and market-based principles where the entity who valued the spectrum the most paid for it, and those detours cost the American public greatly. The C block and NextWave experience should not be repeated.

The issue before the committee today is the leadership to provide in the upcoming 700-MHz auction. I believe the country will be best served if we move forward with the auction as soon as possible, we follow the successful precedent of the PCS and AWS auctions, and deliver the historic endowment of 24 MHz for public safety, but only for truly modern communications systems. My colleague and former Assistant Secretary, Larry Irving, and I published a roadmap for accomplishing just that.

So we should complete the DTV transition. We are committed to it, as a country. Let us reap the benefits.

And again, I thank you and look forward to your questions.

[The prepared statement of Mr. Gallagher appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, Mr. Gallagher, very much. And thank you for mentioning Larry Irving's name so we can have a seamless transition. The first Bush administration all the way through the last one at NTIA.

Now, let us turn to the subcommittee members for questions.

The Chair will recognize himself and turn to you, Mr. West, first.

I am very enthusiastic about your fourth-generation wireless strategy. What impact has wireline consolidation had on your plan and your ability to be able to deploy? How has the consolidation of the wireline industry affected your ability, as a wireless company, to be able to, in an affordable and pragmatic way, deploy your technology?

Mr. WEST. Thank you for the question you have, Mr. Chairman.

The wireline is an important part of any wireless business, because the radio signals go from your handheld device to a tower. But from there, to get to the switching centers and the points of presence for the Internet, they have to generally travel over fixed-line services. So the recent combination of some of the larger Bell Operating Companies into the new AT&T, the FCC did actually provide a standstill on special access pricing. But really, it has done nothing to improve the prices of those services. And the net effect of that is that monies that would have gone into more aggressively rolling out the radio technology is now going to be spent with our competitors in providing those services.

Mr. MARKEY. OK. Thank you.

Mrs. Obuchowski, Mr. Muleta, you each have intriguing proposals as to how the new spectrum should be used. You are proposing a free broadband service that you would provide, Mr. Muleta. You, Mrs. Obuchowski, are promising a build-out of a national public safety network. You each, however, are using an open access wholesale strategy as part of your plan as well. Could you talk about that model and what you think, that is what that open access wholesale model offers as a new competitive strategy in the wireless marketplace?

Mr. MULETA. I will defer to Mrs. Obuchowski.

Mrs. OBUCHOWSKI. Well, thank you very much.

We appreciate that wireless is increasingly a nationwide gain. When I got going in cellular, you could have a regional carrier, and you would know that if you were leaving that region, you might not have full coverage, but that was OK, because you had a discounted plan. But increasingly, it is a nationwide gain.

So, it is important to new entrants, be they new device manufacturers, access manufacturers. And it is also important for rural America that they have access on fair and even-handed conditions to a nationwide network. So, we see our network limited, indeed, in terms of spectrum capacity, because it would be 10 MHz, or whoever wins this spectrum——

Mr. MARKEY. What happens if your strategy doesn't pan out, commercially? What happens to the spectrum then? What do you envision happening?

Mrs. OBUCHOWSKI. I want to allude to a red herring from Mr. Gallagher. There is no aspect of not panning out, financially. There

is no longer incentive payments or delayed payment. So in terms of the financial commitments, those will be made right up front.

But, second, in terms of the vision, we believe, because this is the last and best spectrum coming online, that it is critical that the FCC require aggressive build-out criteria. And those criteria would be applicable to us, or anyone else, and the FCC has the same enforcement authority over any carrier that——

Mr. MARKEY. OK. So, your argument is now it is cash up front, not at the back end.

Mrs. OBUCHOWSKI. Absolutely.

Mr. MARKEY. You have paid for it. If it doesn't pan out, you have assumed a risk.

Let us go to you, Mr. Muleta. Could you go through your wholesale strategy?

Mr. MULETA. Our wholesale strategy is really focused on the fact that in 2005, the FCC made a seminal decision about deregulating broadband services, that is fiber, DSL, and cable broadband and not requiring unbundled access. That has created a tremendous amount of demand in the marketplace for people that already have existing subscriber relationships to partner with somebody who can deliver the heart of the broadband bundle. And so we believe that our model, which is a pure IP-platform that is very focused on delivering data services, that would be a component of bundles for rural carriers, for potentially satellite and other carriers. So, the fundamental thing that we are focused on is making sure that our partners have a way of integrating our services to deliver a total bundle of services into the marketplace. So, that is how our model works. It is focused on pricing of the services and on the technical details that allow integration of this.

Mr. MARKEY. OK. Thank you. My time has expired.

Let me turn and recognize the gentleman from Michigan, Mr. Upton.

Mr. UPTON. Well, thank you, Mr. Chairman.

I want to come back to this Frontline proposal. And Mr. Gallagher, welcome back, first of all. I am glad that you cited your friend, our friend, Larry Irving, as well; the two of you have written on some public safety spectrum issues, and I understand, though I have not read them, I am told, that they are quite good, and I look forward to taking it with me on my next Northwest flight back to Michigan.

I have a question. Can't public safety negotiate with the winner of the auction? Is there anything to prevent that from happening, or with any spectrum holder, for the build-out of a public safety network in exchange for the shared use of the public safety spectrum? I mean, isn't that one of the conditions that we would expect?

Mr. GALLAGHER. Thank you, Mr. Upton, and you should be able to read the entire thing before the plane takes off. Larry and I both have a short attention span, so we were very concise on how we wrote the paper.

My way to respond to the question is that is the best way for public safety to get what it wants as opposed to what others might dictate to it. We can go forward. We can have this auction. Auctions are proven to work. The track record with the PCS auctions,

with the most recent AWS auction, show that that is the best mechanism to transfer the spectrum to where it is going to be used immediately. These other things that we do that hamper, hinder, or otherwise make the spectrum less attractive, are risky. Public safety, then, is in a position to say, "We have our own resources," this 24 MHz that is from Congress. And they are in the position to come together and then to negotiate with whoever might want to provide them capacity on an overflow basis or a pre-empted basis.

Mr. UPTON. Because if we somehow rig the auction and it goes wrong, who is to say that the public safety folks would be able to negotiate with someone or be in support of what is ultimately there. Is that not right?

Mr. GALLAGHER. Well, you raise a very good point, because there are at least two impacts if something goes wrong. One is certainly the impact to public safety. Encumbering their resource in this way and then not delivering on the promise would be a failure of a national level that we cannot afford. And so, allowing a risky venture to take this and experiment to go forward is not the right path, as has been proposed, and in addition, you would be encumbering the other 10 MHz of the commercial spectrum that then would be tied up in the same problem or set of issues. And as we know, it takes us a long time, as a country, to unwind those.

Mr. UPTON. Now, how is Frontline's proposal consistent with section 337 of the statute?

Mr. GALLAGHER. I think that there are questions that you can raise. It is a legality under 337. And the concern that that raises in my mind is that could lead to a delay in the auction or a delay in receipt of the spectrum in the marketplace that could sidetrack our march forward and the conversion to digital television.

Mr. UPTON. That has been one of my points as I have sat down with the FCC folks, and it is very important that this timeline stay consistent with what we ask, because, in fact, it would delay the transition to digital, delay the receipts, delay the NTIA being able to process the applications for first responders for the billion-dollar fund and also impact the converter box, something I know all of us here are very concerned about, particularly with the hearing that we had a couple weeks ago.

I asked, in my opening statement, for you all to think about, in light of the Virginia Tech tragedy earlier this week, how we might be able to use the wireless technology more efficiently to communicate with large groups of folks, whether they be students or employees, whatever the situation might be. And in talking to a couple of our former House staff people, Billy Pitts, who I think many of you know, and some of the different proposals that are out there, it seems as though we are capable of having a system that, in fact, could warn students or large groups of folks of the pending disaster and take some caution. And I know many of us who have college students. It is kids and others, we hear this news, and we just wonder how we could prevent it from ever happening again. And I just wonder if any of you want to comment on something like that, Mr. Muleta, and maybe go down.

Mr. MULETA. Congressman Upton, I think that is a very important question. And I think I harken back to, actually, Katrina,

where we learned the lesson of having vast communities that are dislocated from the communications systems, and not just students, but other folks, who can't afford to get that. And when you asked the question originally, you mentioned that we had three models of how we can communicate: free over the air television and radio, the cellular system, and the traditional public telephone switched system. And I think one of the things that when the M2Z team got together, one of our goals has been, actually, to make sure that there are lots of affordable devices and free services available, similar to television, but on two-way interactive so you can send a message and get the message back and by making cheap devices, IP platforms available, and having a free nonrecurring service. You mentioned that there would be a $2 message per user.

Mr. UPTON. Per year as well.

Mr. MULETA. Per year. And I think, based on my experience, that is actually a very important point, and those services are overlay services on top. But what we have to remember is that even if you assume the great success of wireless, there are still about 70 million people today that are not connected to the cellular system that would not benefit from that.

Mr. UPTON. And I know my time is expiring, but just to get to Mr. West and Mr. Meena, a response.

Mr. MARKEY. That is all right.

Mr. UPTON. It was the BlackBerries that we were able to get after 9/11, because we could not communicate with our old-fashioned beepers.

Mr. MEENA. One technology that should not be overlooked is text messaging. Text messaging is a low-bandwidth product that allows us to communicate with multiple users in a matter of seconds. We are already in talks at the University of Mississippi and Mississippi State University about such a warning system. And we feel like that is a great technology for those types of applications.

Mr. MARKEY. OK. The gentleman's time has expired.

The Chair recognizes the gentlelady from California, Ms. Eshoo.

Ms. ESHOO. OK. Thank you, Mr. Chairman.

First off, I want to compliment you and the work that you did with the minority to put this panel together. This has really been, I think, one of the most effective panels of witnesses since I have been on this subcommittee. I mean, and the way you presented your testimony, I think, has been helpful to all of us, so thank you, Mr. Chairman, and thank you to all the witnesses.

I would like to start out with Ms. Spencer and Mr. Meena first. I pointed out in my opening statement that I was able to add an amendment to the committee bill that reiterated the FCC's responsibility to promote spectrum policies that encourage the deployment of new technologies, economic opportunity, and competition. And I think that it was mentioned during the course of the testimony this morning that recent auctions have been less than successful in this regard. The recent AWS auction resulted in only 4 percent of the licenses being awarded to small businesses. This is troubling to me. I don't have anything against the big guys. I am glad that they have grown and have been successful. But they didn't start out big. They started out small. Somehow there were

the atmospherics that were there so that they could compete and grow. And we have to keep assuring that.

So my broad question to the two of you is how can we actually ensure that the results of the 700-MHz auction produce better results and really fulfill the Commission's statutory mandate? And if you could be succinct in the recommendations that you make to us. If you were going to list the top three things or four things or two things, what would they be?

Mr. WEST. OK. One thing, to speak to the AWS auction, one of the reasons that they may not have had as great a success is that that particular spectrum is an upper-band frequency that works better in metropolitan areas.

Ms. ESHOO. I see.

Mr. MEENA Most smaller companies, and we have actually grown from a tier three company to a tier two, so we're a small- to mid-sized company, but most companies that focus on rural areas are highly interested in and have utilized spectrum in the lower band to deliver services to rural areas. That is what is so important about the 700-MHz auction is that that is the perfect spectrum for us to deliver advanced services to wireless areas, so——

Ms. ESHOO. Thank you. Can we go to Ms. Spencer, because I have a limited amount of time, and I have three questions.

Ms. SPENCER. Thank you. I think I have a less optimistic view of that auction. And I think what happened is we had rule changes very shortly before that auction that specifically restricted a lot of the business plans you hear here. Small businesses are no longer allowed to be wholesale providers.

Ms. ESHOO. And you spoke to that about the lead-time that you need.

Ms. SPENCER. Yes, you can't be a wholesale provider and qualify as a small business today, so the companies on this panel would not be eligible for that program and their new entrants. So, I think we saw real changes before that auction. They weren't good for small businesses, and they were too late, so people couldn't raise the money.

Ms. ESHOO. To Mr. Muleta, and again, Ms. Spencer and Mr. Meena, but we will start with John.

I am just going to go to the question without giving much of the background, because I think that you understand the background better than most. Do you think it is time to reconsider the imposition of a cap on total spectrum holdings so that we do end up with diversity and competition and the dissemination of spectrum licenses? Because really, what we are talking about here is what belongs to the public. If you buy spectrum and hold it and not use it, I mean, it could be argued that if you buy it, I mean, you paid for it. On the other hand, is that in the public's interest?

Mr. MULETA. I think that is a very spot-on question. I think most people don't remember that between 1993 and 2003, there was actually a spectrum cap in place that prevented. For example, the PCS auction was 120 MHz of spectrum of which two-thirds of that was actually designated. In each market, however you want to size up the market, two-thirds of that was for a new entrant. So what happened between 1993 to 2003 was you basically had two incumbents and then four new entrants. The market is consolidated.

There are good reasons for that and good benefits that are coming from it, but it is very important for new entrants. So the choice, I think, policymakers have is do you want to apply rules on mergers and conditions or do you want to just force the market by allowing new entrants, like ourselves and other folks at the table, to come into the market and sort of jazz it up.

Ms. ESHOO. How long has your application been before the FCC?

Mr. MULETA. Our application has been with the FCC for 11 months and a number of days. Almost a year.

Ms. ESHOO. There you go.

Thank you, Mr. Chairman.

Mr. DOYLE [presiding]. Thank you.

The Chair now recognizes the gentleman from Illinois, Mr. Shimkus, for 8 minutes.

Mr. SHIMKUS. Thank you, Mr. Chairman.

First question. Is the 24-MHz allocated for public safety enough for them to do the job of interoperable communication to address the concern highlighted on September 11 and Katrina? And as close to a yes or no response. Maybe you want to add a little bit, but if you would start, Mr. Muleta.

Mr. MULETA. Unfortunately, I am going to have to say maybe. It really depends on a set of parameters that have to develop on what the real specific demands are for public safety and that——

Mr. SHIMKUS. And who will do that?

Mr. MULETA. I think there are 40,000 public safety agencies, and there are a number of groups that represent them, but it also requires input from the Federal resources of DHS, so it is hard to say how we can come to one set of requirements.

Mr. SHIMKUS. OK. Let me go to Ms. Spencer.

Ms. SPENCER. Public safety is a very unique issue, and I don't think, unfortunately, we are in the position to comment on it, because it does vary, as John points out from——

Mr. SHIMKUS. OK. Mr. Meena, that is fine.

Mr. MEENA. Yes. Yes, public safety could most certainly benefit from 24 MHz of spectrum. That is an ample amount, but the right rules have to be in place so that the spectrum can be used properly to address the interoperability issues.

Mr. SHIMKUS. OK. Thank you.

Mr. West.

Mr. WEST. I believe 24 MHz is sufficient, but the real issue is the public safety networks are built for a steady-state demand. What happened at 9/11 and the other instances, a very heavy load comes on those networks, and so solutions have to be built that allow for those high demands. So a public/private partnership has some merit.

Mr. SHIMKUS. Public/private as in needing to add to the 24 MHz in time of national need. Is that what you are referring to? Or public/private in ensuring that the technology within the 24 MHz is sufficient and effectively used?

Mr. WEST. Well, much more the form of it. It is almost impossible to build for that kind of demand, and so having access to a public network in those times can provide for——

Mr. SHIMKUS. Some of these proposals here, and I agree with my colleague, Anna Eshoo. I have been listening. I have been reading,

because we do numerous things. I think it has been a very good hearing, but the basic premise, I think, is 24 is enough. There are proposals out there saying it is 24-plus, so then people want special conditions at the auction, because they are willing to give up some, and I think there are going to be some different views as I go down, but that is kind of what I am getting from this hearing.

Mr. WEST. Congressman, to my point and my submission, these are very complex things, and they really need to be thought through before a decision is made. We have heard over and over this is a unique opportunity. I really believe that, and it is a time where we can actually do something very positive.

Mr. SHIMKUS. Mrs. Obuchowski?

Mrs. OBUCHOWSKI. The answer to your question is no, in a crisis situation; yes, in all others. And to the further point you raised about interoperability, that is also addressed by several of these proposals. It is 5 years after September 11, and we are still talking about individual groups, statewide grants programs. That is part of the proposal Verizon put forward to the National Governors Association. That is not working. And that is why the public safety community has turned to these public/private partnerships. It is interesting. You have got a group of experts here, all with corporate approaches. But the public safety community has concluded that going through an individualized grants program isn't going to get us the interoperable solution that we need. And it is they who are now leading the charge. It can be Cyren Call. It can be Frontline. It is probably somebody entirely different who wins at the auction, because we are proposing an auction, but overflow capacity and a set of rules that promote interoperability is key. I mean, I repeat, we are clearing this spectrum nationwide, forcing people to a dislocation. And if we are so shy about putting some kind of condition on 10 MHz of this to ensure interoperability, we have failed those people.

Mr. SHIMKUS. It is interesting in your proposal, because you pull out 10 that you are willing to release in a major public crisis. But I would think that that would mean, as a consumer, that I would get a discounted price, because it is not 100-percent coverage 100 percent of the time. So I would assume there is a discount, because they are agreeing not to really have full access if you, then, through the national emergency, say, free it up. So I mean, again, that is kind of the question. And I would like to go to Mr. Gallagher and have him respond, and then I have got a follow-up one for you.

Mr. GALLAGHER. Very good. Yes, I will give you an answer in 20 seconds or less. Yes, 24 MHz is a huge amount of spectrum with today's technologies. Today's technologies, especially when you look at the forward path for HSPA and for CDMA Rev-A through Rev-C, very robust amount of spectrum that can handle a huge amount of communications capacity.

And the final point is, remember, we view adequacy of this amount in the context of the spectrum that public safety already has. They are not giving that up. They get to keep that as well. When you look at it all together, it should be enough to accomplish their mission.

Mr. SHIMKUS. And the NTIA is not here, but the couple years I have sat in that position, you are the stewards of that, is that correct? I mean, in your former position, the NTIA is a steward of that MHz spectrum.

Mr. GALLAGHER. Technically, it is the FCC that is in charge of the public safety spectrum.

Mr. SHIMKUS. So they will set the standards on how people are actually going to communicate. I keep thinking of the Fire Act. It is one of the greatest programs that we have done, and it has helped our rural firefighters, volunteer fire departments, I have tons, to upgrade equipment and its turnout gear, its air packs, its radios, primarily. Great program. I keep thinking about the fire chief on vacation from Illinois, a volunteer fire department, and he has got his radio with him. Something goes down bad in San Francisco, and that is where he is at. And he is going to volunteer. He is a volunteer. He is a great American Midwesterner, who is going to run to the call. Will his radio work?

Mr. GALLAGHER. More than likely not.

Mr. SHIMKUS. I mean now. Will it work later?

Mr. GALLAGHER. Well, in the future, that is the expectation is that we would have——

Mr. SHIMKUS. Well, I know now it doesn't.

Mr. GALLAGHER. In the future, and hopefully it is a near future, you have a ubiquitous system where it is more like laptop PCs work on——

Mr. SHIMKUS. And that is the 24-MHz question.

Mrs. OBUCHOWSKI. Well, and that is precisely why we cannot walk away from this decision now, because when this spectrum is gone, you will certainly hear the carriers telling you, "We cannot impose these requirements retroactively. We will take you to court, because we have bought and paid for this spectrum."

Mr. SHIMKUS. OK. I want to make two quick points, and I appreciate it, and I am sorry to cut you off. I have 20 seconds left. One is I just wanted to talk to Mr. Muleta and just the appealing aspect of his proposal is a free access that has decency standards. A lot of us are involved with that, and that is free over the air. And I wanted to throw that on the table.

And Mr. West, if you could give us some information on some of this, and you don't have to do it now, but there are two FCC outstanding dockets on special access. If you could follow up with our office, from your perspective, how that is going, I would like to get that information.

Thank you, Mr. Chairman. I yield back.

Mr. DOYLE. Thank you.

The Chair now recognizes my friend from Michigan, Mr. Stupak, for 5 minutes.

Mr. STUPAK. Thank you, Mr. Chairman.

Mr. Chairman, respectfully, but forcefully, I would like to say to my colleagues, I have heard a lot of heartfelt statements over Virginia Tech today, and I think we all agree on that. But please, in light of the lack of action by this committee and this Congress, for the past several years, I think some of the statements ring hollow.

As smart as Members of Congress think we are, we do not know when the next senseless act of violence will occur or a natural dis-

aster, or, heaven forbid, another terrorist attack on our country. We have done very little over the last 12 years to address this issue. I will wait and see from all of the reports on Virginia Tech what happened there, but did first responders, law enforcement, really have interoperability available to them to talk to each other to try to isolate the shooter? We all watched them running on TV clips with their guns out, but could they communicate? Were they interoperable? Wireless communications did save a lot of lives up in Virginia, because cell phones of the wounded students could call people who then called the hospital so they were prepared. But could every law enforcement officer who responded from many different jurisdictions talk to each other on their wireless cell phone? Maybe their jurisdiction, or maybe their partners and departments, but no one else.

So I hope we would sort of cut the rhetoric and do the right thing. Mrs. Obuchowski said in her statement, right at the end, the best case scenario is that patches of public safety broadband networks without uniform interoperability might be constructed in communities with the resources and the political will to do so. So I would challenge Members of Congress that is us who must have the leadership, not the speeches. It is up to Congress to provide the resources and permanent funding source, and not a billion dollars, when experts tell us it will take at least $18 billion. We beat this so much over the last 10 years I have been on the committee. I would hope we take some action.

So with that, Mr. Gallagher, if I may ask this question. As former head of NTIA and someone who studied this issue, we talk about the billion dollars we have set aside. I am encouraging NTIA to think outside the box. I also plan on reintroducing our legislation to make the grant program permanent and fund it through the proceeds of this auction. I would like to hear your thoughts on what should be done with the money now and in the future.

Mr. GALLAGHER. Thank you, Mr. Stupak.

And with respect to the billion dollars that NTIA has today, it is a significant challenge that NTIA has. It is a policy organization that has now been called upon to distribute at least $2 billion of the proceeds between those funds as well as the converter box program. And the intent, I am sure, I am not running NTIA right now, and I am sure that John, who is the Assistant Secretary, is working closely with the Secretary to make sure that they are using their resources adequately, they are leveraging DHS capabilities that are in place to be the arms and legs on the grant program. It is critical that this billion dollars be a catalyst for the 21st century communications systems that public safety should be using and not simply enabling——

Mr. STUPAK. Where are the rest of the resources going to come from? That is a billion-dollar catalyst. How do we get the other $17 billion that we need?

Mr. GALLAGHER. Yes, looking to the future. I believe, once Congress and the States, who, by the way, spend a lot more money on this than Congress does, it, up until recently, was a completely State responsibility. Now, we Federalized the mission somewhat. The funding sources are going to have to be Federalized as well.

But Congress will be more willing to fund those activities when they see they work, when there is actual demonstrations.

Mr. STUPAK. Why not make the proceeds from this spectrum auction, which will more than cover the cost of interoperability, if we are really serious about it?

Mr. GALLAGHER. Larry Irving and I have had good discussions about funding ideas, and we will be submitting those shortly.

Mr. STUPAK. Because interoperability, we can't leave to the whims of congressional appropriation, with all due respect to appropriators. It shouldn't be left to the whims of it. We have to do this. I mean, 9/11, Hurricane Rita, Katrina, now this.

So Mrs. Obuchowski is raising her hand to go ahead.

Mrs. OBUCHOWSKI. I was just going to comment that, again, 5 years into this process, we can't be hoping for further appropriations, hoping. Even Verizon and its proposal to the Governors Association, was giving the numbers for purely the local part of the deployment at $13 to $19 billion, total deployment costs of $35 billion to $61 billion and suggesting, if public safety used its infrastructure, that might be somewhat discounted. That was that approach. But those are the appropriated funds, if it is going to be subject to appropriations. That is a hope that I don't really believe is realistic in the relevant timeframe.

Mr. STUPAK. Well, let me cut you off.

Mrs. OBUCHOWSKI. And that is why public safety has turned to these partnerships.

Mr. STUPAK. Mr. Muleta, in your plan, you mentioned 95 percent of the country will be covered. I am the 5 percent that never gets covered, plus I am a border community, I mentioned in my opening statement. How do we do the 5 percent, and when will you do the last 5 percent?

Mr. MULETA. We believe the 5 percent, as Mr. West explained, problem comes from the fact that the telephone network only reaches 94.6 percent of the population, and so the minimum threshold for us is to reach 95 percent. We plan to be there by working with rural carriers who need a data-roaming partner nationwide. So one of the appeals of our plan to rural carriers is the fact that they have, as Congressman Shimkus noted, when you go to San Francisco from a rural town, you still need connectivity and you need a national partner. So we hope, by working with them and getting the telephone infrastructure going out there, that is another important reason why we don't want to take from the Universal Service Fund, because those monies could be used to build to that last 5 percent. That is really what Congress wants to happen.

Mr. DOYLE. The gentleman's time has expired.

Mr. STUPAK. Thank you, Mr. Chairman.

Mr. DOYLE. The Chair now recognizes the gentleman from Mississippi, Mr. Pickering, for 5 minutes.

Mr. PICKERING. Thank you, Mr. Chairman.

And I also want to join Chairman Markey in welcoming Hu Meena here on behalf of CellularSouth. They provide great service to my home State of Mississippi, building out advanced networks, serving rural areas. In Katrina, they provided heroic action to re-

sume communication during that critical time. And so we welcome you to the committee and your insight.

Real quickly, I am glad that Mr. Gallagher and Mr. Meena both agreed that the AWS auction is the successful model. And the reason that it was successful, it had small, medium, and large blocks of spectrum in which there was full competition in each of those blocks.

My concern is that, in the reported proposed auction blocks and rules that the FCC is currently considering, it is going away from that model, and it will be heavily weighted to large blocks and one small block but no medium blocks. And that would, I think, devalue the spectrum if we do it in that way without full competition in each of the blocks. And for those of us on our side, who want to avoid regulation or inclusion into the market, the best place to do that is through the new entrants. And the best way to do that, to have a healthy market, is to have wholesale. Not only retail, but wholesale. And so I am encouraged by Mr. Muleta and Mrs. Obuchowski's proposals to give innovative new entrants a chance in the marketplace and bring health into a market that could evolve into something with too high of a concentration.

Mr. Meena, in that context, tell me, what would be the recommendations that you would have based on the current draft recommendations or proposals on the 700 MHz? How can we make sure that it is balanced and maximizes the benefit to rural and urban areas in the 700 MHz? What would you propose on the size of the blocks of the spectrum?

Mr. MEENA. Thank you, Congressman Pickering, for those kind words. We appreciate what you do for our State and also for the communications industry, in general, and your understanding of that.

We see that the threat, as has been purported in the recent proposal, is that too many licenses are being potentially auctioned on a REAG basis. REAG basis includes multiple-stage regions of States. We would like to see more blocks include CMAs, which there are 734 CMAs within the United States, or EAs, which is a number that is a medium-sized block. EAs or CMAs give more people the opportunity to bid for this very valuable spectrum. And as you said, the AWS auction was a good model where you had more than half of the markets were auctioned on a CMA basis or the EA basis. So we would like to see that occur not only in the lower band of the 700-MHz auction but also the upper band.

Mr. PICKERING. You also, in your testimony, raised questions on the buildout, making sure that we have got the build-out language right. Currently, the proposal is to do it based on population. Tell me what the flaws are as that relates to rural build-out areas, and what would you propose to rectify that?

Mr. MEENA. Well, we have seen it in the PCS A and B block, for example, that when you do that, the carriers who are awarded those licenses only build the population centers. Well, that precludes those who are serving the rural areas from providing advanced wireless services, because the spectrum goes unused. The 700-MHz spectrum is too valuable to not be used, so therefore, we are calling for geographic build-out requirements where those who win in these auctions are required to build *X* amount of geography.

And we have specific proposals that I will be glad to provide to the subcommittee, and it is based on a 3-, 5-, and 8-year period, but the geographic areas must be built out for 700, because 700 is the beachfront property that allows rural carriers the opportunity to provide advanced wireless services to their constituents.

Mr. PICKERING. And Mr. Meena, there are some that have raised questions that they will be in western States, in States like Alaska or States where you have large tracts of public lands, there might be a problem with geographic buildouts. Could you and your language address those concerns so that there could be a nice balance between areas where geographic buildout makes sense and exemptions where it may not make sense?

Mr. MEENA. We could see rulemaking that might have one set of rules for States east of the Mississippi and another set of rules, or maybe some options, for those States west of the Mississippi.

Mr. PICKERING. Mr. Chairman, if I could, just one last question to Mr. West.

A second ago, you mentioned, as you buildout your 4G, the impediments that you face. Could you quantify how much you invest in your networks and how much you pay in special access?

Mr. WEST. Yes, sir. This year, we will invest over $7 billion in our network, $7.2 billion, of which $800 million is in our new WiMAX network. We spend, on special access, over a billion dollars a year, nearly $2 billion, actually. And at those rates, that is taking money from where we would like to invest it to pay our competitors.

Mr. PICKERING. Thank you, Mr. Chairman.

Mr. DOYLE. The gentleman's time is expired.

The Chair now recognizes the gentleman from Texas, Mr. Gonzalez, for 8 minutes.

Mr. GONZALEZ. Thank you very much, Mr. Chairman.

First of all, we have entitled today's hearing spectrum opportunities and the future of wireless. And I am going to agree with Mrs. Obuchowski that the future is now. Whatever we establish, however we go through with this auction, and the parameters and any conditions pretty well sets the pattern and the parameters, of course, of what we are going to be able to do within the context of that sale. So it is very important.

This committee has been primarily concerned with, of course, the Internet, its expansion in a global marketplace, and the fact that we aren't where we are supposed to be when it comes to broadband. Wireless is the alternative to cable and DSL, when all is said and done. And that is what we are talking about here.

The beauty of wireless, if you start looking at Wi-Fi, WiMAX, are all the players that are involved in this technology. I was looking over it, and just a few of the articles I was recently reading, we have got Sprint, Intel, AT&T, Google, QUALCOMM, Samsung, EarthLink. You don't know you are an ISP anymore or a network or a content provider. And that is the beauty of the marketplace. And I think, first and foremost, that should be our guiding star.

Now, if it is not a level playing field, if it doesn't promote the public interest, then we do move then. And I think Congress, then, should act. At this point, we are having that discussion. We are having a dialogue, and we are having that debate.

The first question I have really will go to Mr. West, because I am very interested in some of your remarks that were kind of separate more than anybody else's testimony and really centered on special access fees. And I think that is the legitimate concern. Your WiMAX partners, it is my understanding, are Intel, Motorola, and Samsung, right?

Mr. WEST. And Nokia, sir.

Mr. GONZALEZ. OK. Those are business relationships. And you can appreciate business relationships, right?

Mr. WEST. Yes, sir.

Mr. GONZALEZ. I would assume that you are going to be utilizing their technology. But you also will be promoting products and services that your partners have out there in the marketplace. That is the first observation I want to make.

Second, utilization of assets by any business, and I know this is going to be a real simplification, but I really do want to make it, and full disclosure, AT&T is in my district, all right. But it is always one direction. I understand that last mile and the utilization of assets by, let us say, someone like AT&T, Verizon, and so on. I would like to take it the other direction. If we have a network, if we have an AT&T or Verizon that would like to access Sprint's wireless network by going back the other direction, I think some people might have some real concerns about that, and they would say, "I am not sure if that is fair. Let us make sure that there is going to be an access fee and such." And we try to promote something of that nature. The next thing is the advantages of ownership and the considerations of ownership. I am going to read from a story back in August when you were announcing WiMAX. "The economics of Wi-Fi were unattractive to large carriers, because the service relies on unlicensed radio spectrum, allowing even tiny Internet service providers that own no radio spectrum to compete. A service using spectrum owned by the providers would be more exclusive." I think what they meant there are business advantages and benefits if you are the owner of the spectrum.

My understanding is that WiMAX does utilize spectrum that is owned by the provider. And there is nothing wrong with that. I am just saying that if we start looking at business models and such, the point I am leading up to is simply a question that there has to be some addressing your concern, which may be legitimate and may not be. However, it is looking, as far as the source of the answer to your concerns, is it possible that your access needs could be addressed through the wireless wholesale providers?

Mr. WEST. That is a lump question, and if I may——

Mr. GONZALEZ. I will tell you right now, can your access needs be addressed through wireless wholesale providers?

Mr. WEST. Certain parts of it can. It is not possible to reach all of our cell sites by alternative access technologies. We are looking very aggressively at using those technologies, but we are, for a significant part of that field, dependent on the local exchange carriers.

And, sir, if I may answer the licensed versus unlicensed. Wi-Fi, for me, is a great technology. It has been very successful, and we don't mind the competition. Actually, we are very big supporters of competition. The issue around unlicensed becomes an interference model. As more and more people use it, you cannot manage that.

It is also unsecure, whereas the WiMAX technology offers a managed service that is secure.

Mr. GONZALEZ. No, and I understand, Mr. West, and I am going to have to cut you short, because I have got 2 minutes, and I have one question that I wanted to pose, I guess, to Ms. Spencer and Mr. Meena. This is from today's Communication Daily, April 19: "The Martin band plan would have no cellular marketing areas, CMAs," and I am not sure if Mr. Pickering covered it, I excused myself at that moment, "in the upper 700-MHz bands and only one 12-MHz, two 6-MHz paired slice of CMA block in the lower band." Your comments regarding that particular proposal, which I think will be voted on, more or less, on April 25, and its impact, as you see it?

Ms. SPENCER. Well, certainly, for small businesses, we have found that smaller markets are better, because if you have to buy the REAGs that Mr. Meena talked about, it is in the hundreds of millions of dollars, but they need to be sizeable enough so you could start the business from scratch if you don't have a rural telephone company. So we would actually advocate, like, the economic theory is a little larger than the CMAs, so you can get enough of an aggregation of spectrum geographically.

Mr. GONZALEZ. Mr. Meena.

Mr. MEENA. And we do have concerns, because in the report that has been circulated, there is only one block that has been divided up into smaller CMAs, and we think that is not what is going to best serve those who want to provide services to those throughout our country, especially in rural areas. We need more smaller blocks, more medium-sized blocks.

Mr. GONZALEZ. And lastly, another, just, observation, and I am not saying these things clash or whatever when we go into the auction, but Mrs. Obuchowski, I think, in your testimony, you said, finally, although maximizing auction revenues is not a relevant consideration of the Communications Act, we have already put a price tag. We put a bottom price tag on this thing a long time ago, and I think when we voted on the budget reduction act, whatever we called it back then, when the Republicans were in the majority, I think we got a floor, and it is so tempting to maximize that. Yet, I understand that maybe that may be inconsistent with maybe the best efforts that we should be making.

Mrs. OBUCHOWSKI. Well, let me redirect. We can accommodate that floor and put the limited conditions that we are suggesting into the regulations. It is not necessarily revenue-maximizing to do what the gains theorists have recommended, for example Verizon, very large chunks of spectrum going on the block. It is the equivalent of saying, "The revenue-maximizing market is all $6 million homes." No. You are not bringing into the auction people such as Mr. Meena who have plenty of money to spend to cover geographic areas that they really think they can cover.

Mr. GONZALEZ. Thank you very much.

Mr. MARKEY [presiding]. The gentleman's time has expired.

There are two roll calls on the floor. And so what we will do right now is recognize the gentleman from Texas, Mr. Barton, for 5 minutes.

Mr. BARTON. Mr. Chairman, thank you.

Since we have got a vote on, and I just arrived, I will submit my questions for the record.

Mr. MARKEY. I don't think that is necessary at all. I think there is plenty of time for you to ask your questions, Mr. Barton.

Mr. BARTON. OK. I just was trying to expedite the process, but that is fine.

My basic question is to the entire panel, and it goes to the proposal by Frontline to basically buildout a public safety network in return for getting some of the spectrum that would have been given to the public safety providers. Is that, generically, a good idea or a bad idea? Anybody that wants to take a pop at it, except the gentlelady who is actually in favor of it, because it is her idea.

Mr. MULETA. Well, if I could address the question, all of these proposals are actually trying to solve a major problem, so I think they are all good. I think if you look at the M2Z plan, what we have committed to do is to build a consumer-scale network on fallow spectrum that will provide actual, day-to-day, free network access on a secondary basis to public safety. So we believe that giving public safety more networks of networks, more options to use networks with very low-cost devices and no recurring cost, actually addresses a significant amount of their needs. Now, without going into specific proposals, which would be best covered by Mrs. Obuchowski, I think what we are actually looking for is a network of networks, all kinds of networks, to actually be purposed for public safety.

Mr. BARTON. But I am not enunciating the question as clearly as I should. My generic question is, as it is currently configured, we are going to give 24 MHz of spectrum to public safety and that is going to be allocated by the FCC, and there is no auction, as I understand it. But then we are auctioning off this other spectrum, and whoever wins the auction can use it for whatever they want to. So you have a public purpose use that is not auctioned, and you have an auctioned use that can be used for any viable commercial opportunity that meets the general standards of the FCC and the Federal statutes. And as I understand the Frontline proposal, it is trying to have a little bit of both, but it is sweetening it by putting a carrot out: "If you let me have this, I will do that for free." And that is my question. Is it a good idea to blur the line between non-auctioned public spectrum that has been set aside for public safety uses and auctioning spectrum that is for commercial opportunities, whatever they may be?

Ms. SPENCER. It has been our experience that auctions should be objective and not pick particular business plans, and I think the business plan decision is made with your investors and shouldn't be made in the auction context.

Mr. MEENA. And we think the Frontline proposal addresses two critical issues: one, the public safety needs and the interoperability related to that, as well as providing regional carriers opportunity to have access to a broadband, national network, which will be wholesaling to carriers like ourselves.

Mr. BARTON. You think it is a good idea?

Mr. MEENA. Yes, sir.

Mr. BARTON. She didn't think it was a good idea. I am not sure what the first one told me, because I didn't ask him. I think you said it was sort of a good idea.

Mr. MULETA. To be specific, as Chief of the Wireless Bureau at the FCC, the complexity of the public safety problem as such it is really a federalism question, because the threats that we face today are significantly different than traditionally what we faced in the United States. So whether it is Katrina or 9/11 or even something like what happened at Virginia Tech, the problem is that at any one point in time, the solutions that we can envision don't really envision the problems that might be coming up, and so my answer is to actually give more options of different kinds of networks for public safety, whether it is our network or it is the network that is being contemplated by any of the folks that are sitting at the table, or other networks. So what we have to find is can we get it to the price point where public safety officials, the chief information officer can actually say, "This is actually a good solution that I can integrate and provide the kind of interoperability that we need for some future threat that we can't predict today."

So it sounds a bit complex, and I apologize for that.

Mr. BARTON. That is a great answer. I am not sure it is to my question, but it is a great answer.

Mr. WEST. Public safety has had spectrum for a long time, but we still don't have the interoperability or the capacity in an event like 9/11 to deal with it, and again, this is a very complex subject, and it is a one-time opportunity. I do believe that we should take the time to examine all the potential proposals to make sure we have a holistic solution to this problem. Our first responders are terrific people, and they do a great job. We must make sure they have the means and the ability to do that job at the least risk to themselves. So a little time, I think, is more than merited on looking at these different solutions.

Mr. BARTON. I know you think it is a good idea.

Mrs. OBUCHOWSKI. Could I say something?

Mr. BARTON. It is your idea.

Mrs. OBUCHOWSKI. Mr. Barton, you said recently something wonderful, that it is too late for further excuses.

We have a few months, even, to get this auction off on time and give people, legitimately, the time they need to build capital to get this right. We build upon what the FCC has proposed. Indeed, they have proposed a public/private partnership to address this broadband in the public safety space. And one thing we are very directive of, and I want to clarify this, is we will never hold that license over that 12 MHz. That is public safety's held in trust. The commitment of whoever wins the commercial/public safety license is to buildout a network capable of accommodating them, capable of solving public safety's needs. But they will govern that license and can govern access to it.

Thank you.

Mr. INSLEE. And I thank you, ma'am.

Speaking of time, we need to adjourn for votes. We will recess until 12:30. Thank you.

[Recess.]

Mr. MARKEY. The subcommittee will reconvene.

And the Chair will recognize the gentlelady from California, Mrs. Capps. The early bird gets the recognition of the Chair.

Mrs. CAPPS. I was kind of hoping that it might turn out this way.

We have a wonderful panel of witnesses with very interesting stories to tell. I only have 5 minutes, so I have selected two of you——

Mr. MARKEY. The gentlelady actually has 8 minutes, because she waived her statement.

Mrs. CAPPS. Oh, that is even better.

But there is still not enough time to get into all that I would like to ask about, so I have chosen to ask a couple of you a set of questions, brief ones, and I will start with you, Mrs. Obuchowski.

I appreciate your testimony and your long record of service here, and I find Frontline's proposal to be very interesting and encouraging, for me, to hear of a plan that could buildout a nationwide interoperable network for public safety. I am a public health nurse, so I am very interested in that aspect of it. Your proposal suggests an open-access model for the network, meaning that customers could connect devices of their own choosing to that network. And this seems to be different from the way most wireless networks currently in use operate. But are there some technical issues, just briefly, that you could mention to this type of open-access network? That is the first of three questions I will ask you.

Mrs. OBUCHOWSKI. Sure. Well, clearly, when you are proposing a nationwide interoperable broadband network, there are technical issues, but they are soluble and issues that have been solved.

Mrs. CAPPS. OK.

Mrs. OBUCHOWSKI. FourG technology is now making its way into both the commercial and the public safety space, clearly, because you have got the wonders of the Internet associated and the ability of the underlying technology to make devices compatible, and also to develop hierarchies to say what traffic is higher priority or lower. You can solve a great number of these problems. That is why, I would say, some people say our company is high-tech needs public safety. We have two wonderful California investors, John Doerr and Ron Shriram, investing in us as angels, and I think that is in part because they see the same problem and opportunity of taking this 4G technology and putting it to work in a different way.

Mrs. CAPPS. So whatever technical problems there might be can be——

Mrs. OBUCHOWSKI. Yes. I would assume that all the panelists——

Mrs. CAPPS. Just because some of us aren't very sophisticated about this maybe even also for the record, are there some advantages to consumers in an open-access network? Spell that out, just a little bit, as to how that would be of benefit.

Mrs. OBUCHOWSKI. We can debate the numbers. Is this a fully-competitive market? Is this a market that is competitive but is becoming more concentrated? But in any event, you see a great deal of concern associated with two or three points, one being the ability of folks to roam, to access a network on fair and equal conditions, not to be essentially seeking to roam and compete with their own competitor. So that is one issue where open access is desirable, particularly to rural companies.

A second issue is the issue of open access to devices. There is a proposal out there put in by Skype that seeks open access across the board. We would not support that, in that it is retroactively applied, but when you look at the future and you say now if you have a device and you are seeking to bring it to market, you need, typically, to negotiate with one of the large carriers. And it really depends on their business model whether they are accepting of that or not.

Mrs. CAPPS. I see.

Mrs. OBUCHOWSKI. I would say there are absolute innovation advantages, and again, that is why I think we have a great deal of support, particularly from the people that are concerned about innovation.

Mrs. CAPPS. All right. A final question for you in a different tack.

One of the most common arguments against Frontline, that I have heard, has been that it isn't really a true auction, because under your plan, several conditions are placed on the spectrum, including network neutrality, open access, wholesaling, and roaming, as you have mentioned. Do you agree with this assessment that is a little bit more negative and/or do you believe auctions are the best way for a government to allocate spectrum?

Mrs. OBUCHOWSKI. Yes, I absolutely believe that auctions, and we absolutely believe that auctions are the best way to allocate. I think that is, again, an utter red herring going all the way back to over 1993. This committee and then the Congress and then the President decided that spectrum auctions are a good way to assign spectrum. They don't define all the rules of the road. That is flatly not the case. And I need to make one more point, which is that I would not assume this auction is going to be competitive. I mean, one of the Holy Grails has been why isn't Silicon Valley involved in spectrum auctions. And I think you see, both with Mr. Muleta's proposal and ours and others, that increasingly, people from other sectors, not the cable and the telephones, which are great, are looking. They understand that cellular and wireless undergirds vastly more than that, and they have become interested. I think they will be in this auction, and I don't see that they will be stepping away, because some public safety conditions are——

Mrs. CAPPS. All right. Thank you.

Now I just have 2 minutes, Mr. Muleta, but I appreciated hearing about your company's creativity as well in developing a proposal to roll out free wireless broadband access to most of America. It sounds like a good idea. Your company wants the FCC to grant you spectrum without an auction.

So I will pose the same question to you. Do you believe that auctions are the best way, and why aren't you choosing that model?

Mr. MULETA. It really, fundamentally, comes down to the spectrum that we would like to use. The spectrum has been in the marketplace for 7 years, has had zero demand for its use, until we came around. Now there are some claim-jumpers that have stepped into the frame. But the bottom line is the FCC has been given a panoply of tools to assign spectrum in the public interest. What we believe is that we would like to get it to the marketplace as quickly as possible. We would like to make sure that the rules of the road for an auction are not encumbered in such a way that it prevents

new entrants from coming in and will be done and be very transparent and explicit about what the direct consumer benefits are. I just ask you, when you go back to California and you land on the plane, when the plane lands, today, you can take out your cell phone, and you can connect. But if you take out your laptop, you hope maybe there is broadband connectivity. And I think that is really our vision is to have the kind of model, free, over the air type of television model with very low-cost equipment to get it out in the marketplace.

The issue about auctions really has to do with is this spectrum fallow, and will other people have an incentive to prevent entry? How can it be designed in that way?

Mrs. CAPPS. Thank you. I see there is time for one more quick question.

If the 700-MHz band is beachfront property in terms of its quality and desirability, what is the area you are looking at? Is it going to be technically feasible to build a nationwide broadband network, including high-speed, in the 2.15-GHz band?

Mr. MULETA. Yes, it is. Absolutely. The reason that the demand for the spectrum has been so low in the marketplace, and again, 7 years of lying fallow, has been because it is unpaired spectrum, which means if you want to try and develop voice types of services that are voice that maybe do data, it is very unattractive for a lot of the existing players. And so what we have focused on is providing an IP-only, a data-only service, and we think, at that level, the 2155 to 2175 spectrum can be very much used to deploy that. The other thing is, when you are thinking about computing services, our company's investors are Charles River Ventures, Red Point Ventures, who has backed TiVo and MySpace, as well as a client of Perkins when Mr. Doerr was on our board, have also invested in a lot of these interesting applications. What they need are data applications, a data open platform to provide these services.

Mrs. CAPPS. Thank you, Mr. Chairman.

Mr. MARKEY. The gentlelady's time has expired.

You can take this beachfront property analogy too far because in the same way there is climate change affecting beachfront properties all across the planet, well, we have learned that there can be economic climate changes, too, that affect this beachfront property. We learned that with a lot of wireless licenses in the 1990s.

The Chair recognizes the gentleman from Texas, Mr. Green.

Mr. GREEN. Thank you, Mr. Chairman.

Mr. West, in most areas, consumers have only two choices for broadband, the telephone company, the DSL, or the cable company. Several wireless carriers are now offering wireless broadband service over their cell networks as well. Sprint is notable in that, unlike Verizon Wireless and Cingular, it is not affiliated with a DSL provider. Would you say that Sprint is offering a third source of broadband, which many of us are seeking for many years in becoming closer to a fully competitive market in broadband?

Mr. WEST. Thank you for the question, sir. Yes, I do. I think that the move to mobile broadband increases competition. But more importantly, like with mobile voice, it creates a larger market, and that larger market leads to economic growth, and that is what I think is the big prize here: great economic growth.

Mr. GREEN. Well, the third choice for consumers in broadband on issues like speed, price, and access or restrictions on content, what is the impact of a third choice for both the speed, the price, and the access or restrictions on content?

Mr. WEST. Well, in terms of speed, it is not possible for a wireless network, economically, to match the speeds of a wireline-based network, particularly a fiber optic-based network. But then again, I like to use the example, I have a service from one of the cable operators that has 400 video channels, 200 audio channels. I have five TVs, and there is Julie and me. So there are only two of us that can consume it at any one time, and I do believe that wireless broadband can actually serve the public.

Mr. GREEN. I think Congressman Markey might want us to have those TV stations on all those TVs that we all have in our home, we might turn them off more often.

On the WiMAX service, is that WiMAX service going to improve the current offering, more over more traditional cellular networks?

Mr. WEST. Yes, sir, because the tonnage, the amount of megabytes that will be consumed in this wireless broadband market, it is very difficult to support that from an economic viewpoint and reach the price points that the public expects. The price points are really set by DSL and cable access. And to deliver that kind of connectivity with current technology, because of the nature of the narrow band, is very difficult.

Mr. GREEN. And are you planning to not only market it to business consumers but also individuals?

Mr. WEST. Yes, sir. I mean, it is a completely new model. It is an open model. People will buy devices with WiMAX chips and those will automatically connect to the WiMAX network, so this is not the closed models that we have seen so far in the cellular world necessary to support the subsidies. This is a world with no subsidy.

Mr. GREEN. And our goal, obviously, from the 1996 Act, was to have competition in services, and I would hope that customers would know that there is a third way or another way that you can have a service provider.

So Mrs. Obuchowski, is Frontline's proposal a final proposal, or is your group interested in considering other options to provide a public safety broadband network?

Mrs. OBUCHOWSKI. Well, it is certainly our best proposal. We are committed to it. I am hesitating a bit, because I am not sure what that means, "Is it your final proposal?" We have submitted our business case and our regulatory proposal, and we think this is the best approach to bring interoperability to the country.

Mr. GREEN. But again, we know also negotiations take place to make sure it can work. There will probably be lots of other folks, I think, that will probably contact you. What are the obstacles to getting public safety broadband access into the traditional wireless networks, especially providers bidding in that upcoming auction? What are your obstacles to getting public safety broadband access?

Mrs. OBUCHOWSKI. Well, clearly, No. 1 is, in terms of spectrum policy, to make sure that there is adequate spectrum, not just for the regular load, but for the emergency load. And that is where, I think, public safety has been supportive of approaches such as our, not solely ours but such as ours.

Second, obviously, it is an issue of interoperability and funding. And while this Congress has been very generous giving resources, talking about a billion dollars for one fund and $1.5 billion for another, to build a nationwide, interoperable, broadband network is just a matter of $20 billion, $30 billion, $40 billion, and not just that, but it is the constant renewal. It is the renewal that happens in commercial networks. You know better than I how the appropriations cycle doesn't really support that type of approach.

We have seen public/private partnerships developing networks for the military. The Government uses it for its own internal needs. And it is, frankly, almost mind-boggling that we are in 2007 and there are questions raised about whether commercial entities could now serve this purpose. People use the word risk associated with our business case. I would say, as with any business case, it has risks, but a far riskier approach would be to hope that, at some point, 50 States will come together with a proposal and that will be funded.

Mr. GREEN. Mr. Chairman, could I just see if Mr. West had a response to that on public/private partnerships, because——

Mr. WEST. Well, I do believe that the capacity issues are best addressed through public/private solutions. It is almost impossible to design a cellular network that can handle the sorts of loads that we saw at 9/11 or like at the Virginia Tech incident. So the more you can share the capacity, the better.

Mr. GREEN. And we experienced that on 9/11, too, here in Washington.

Mr. WEST. Yes.

Mr. GREEN. Thank you, Mr. Chairman.

Mr. MARKEY. The gentleman's time has expired.

I am just going to ask a couple of questions and then wrap up the hearing, at the committee's approval.

Mr. Gallagher, could you tell us, who paid for the report that you were referring to here, that you completed?

Mr. GALLAGHER. Yes, well, Larry Irving and I co-wrote the document, so I can't speak for Larry, but my law firm represents a wide range of communications clients, hardware/software companies, networks, wired and wireless——

Mr. MARKEY. They paid for it?

Mr. GALLAGHER. They didn't directly write a check for the report, no.

Mr. MARKEY. OK. Can you give us a couple of the companies' names?

Mr. GALLAGHER. You bet, yes. On the wired side, the firm represents Verizon and Qwest. On the wireless side, we represent all of the major wireless providers for different things.

Mr. MARKEY. I just think, for the record, it is important to have that out here for the permanent record.

Quickly, I mean very, very, very briefly, Mr. Muleta, what happens if you don't get this spectrum that you are looking for? What will happen with that spectrum?

Mr. MULETA. We don't know. There are no plans for the spectrum. There is no assignment process, and it will remain fallow. What we are hoping for is that this sorry state of affairs is not extended. There are two economic studies that we submitted into the

record today that show that consumers would benefit, over the license period of 15 years, $18 to $32.4 billion of net consumer benefits. And that has not been contested, so we hope that there is swift action on our proposal.

Mr. MARKEY. Thank you.

Mrs. Obuchowski, who will build the public safety network if you don't build it? Can you give us your view of that?

Mrs. OBUCHOWSKI. I don't think that this public safety network will be built in an interoperable fashion in the relevant timetable if you do not go to a commercial public/private partnership. It is not going to happen. I mean, it hasn't happened. The funding isn't there, despite your best efforts, and that is exactly why you see public safety having, over the last year or so, really very much changing their mindset about a public/private approach. They want to hold the license. They will hold that license. They want to control the negotiation. But in terms of a public/private partnership, I think that mindset has completely changed.

Mr. MARKEY. OK. Well, we thank you.

And we thank you, Ms. Spencer, for bringing the woman entrepreneurial perspective to this committee. It is very, very important.

And you, Mr. Meena, for focusing upon the rural aspect of this issue. It has to be an indispensable part of the formula.

You, Mr. West, for pointing out how important it is for reasonable interconnection to be available along with this wireline network is the indispensable part of our ability to provide real competition on an affordable basis.

And to you, Mr. Gallagher, for bringing your expertise along with Mrs. Obuchowski and Mr. Muleta.

I really wanted to go off on a whole Carterphone issue here, and for those who are watching us, that just means that when you buy your device and you want to move to another service, is it going to cost you another fortune to buy the device? And we kind of established back in 1968 that you wouldn't have to do that if it was your phone back at home. But if I had one complaint, I have had 1,000 complaints of people just coming up to me who were very upset about that issue, and it is just something that we have to focus on in another hearing at another time, but it is moving up there as a big consumer complaint.

With that, we thank all the witnesses. This hearing is adjourned. Thank you.

[Whereupon, at 12:55 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

Testimony of

Janice Obuchowski
Chairman, Frontline Wireless, LLC

Before the

SUBCOMMITTEE ON TELECOMMUNICATIONS AND THE INTERNET
COMMITTEE ON ENERGY AND COMMERCE

UNITED STATES HOUSE OF REPRESENTATIVES

April 19, 2007

I. INTRODUCTION

Thank you Chairman Markey, Ranking Member Upton, and distinguished members of the Subcommittee for the opportunity to address how the American people can finally benefit from the far-sighted spectrum policies adopted by this Subcommittee over the years. My name is Janice Obuchowski and I serve as Chairman of Frontline Wireless, which is a Limited Liability Corporation based out of Greensboro, North Carolina. Frontline was founded by our CEO Haynes Griffin, Reed Hundt, our vice chairman, and me. We are fortunate to also have as our partners Jim Barksdale, John Doerr, and Ram Shriram — all visionary high-tech entrepreneurs who share our commitment to meeting public safety's needs.

Frontline recognizes and applauds the outstanding work this Subcommittee has done to free up this spectrum for public safety and commercial uses. Indeed, we are here today only because of the foundation you have laid. This Subcommittee worked to establish the digital television transition and kept this transition on track by enacting firm deadlines. You also had the foresight to allocate spectrum for public safety communications. Equally important, this Subcommittee has worked tirelessly to promote competition and innovation in the industry. In short, you have given the FCC the tools it needs to protect the safety of the American public and

to promote a new generation of wireless services. We are close to the finish line, but not yet across it. The FCC must finish the job that you have started.

The future of wireless is bright if key policymakers continue to use the tools at hand — spectrum auctions and private sector solutions that can improve public safety and advance competition — to meet the challenges ahead. To reach that bright future, policymakers must address two major challenges in particular. First, and most importantly, our public safety communications systems have reached the point of crisis. These communications systems are unreliable; they are not interoperable; and they put our dedicated first responders (and all the people who depend upon them) in danger. Our first responders deserve better, we deserve better, than what has been provided to date. We cannot rely on misguided policies that will strain taxpayers and result in slow and uncoordinated deployment of modern communications systems. In short, we must provide better communications systems for our public safety community and we must do it now.

Second, policymakers need to ensure that the wireless industry remains competitive. By promoting innovation and expanding consumer choice, market-based competition is the most effective way to unlock the potential benefits of next-generation wireless services. Without robust competition, American wireless services will lag behind other nations in terms of innovation, capabilities, and costs. Indeed, while we pioneered wireless technology, America has fallen behind much of the world in the deployment of new wireless services and technology. One reason is that consolidation in the wireless sector has reduced the number of competitors, thereby increasing the already-daunting barriers to entry. The upcoming spectrum auction provides the FCC a once-in-a-generation opportunity to address both of these problems.

Our company, Frontline, has come forward and proposed to the FCC a readily-achievable, market-based solution that meets these two important challenges head on. Our Public Safety Broadband Deployment Plan ("Plan") accomplishes these two critical objectives without requiring additional legislation and without delaying the spectrum auction by a day. First, the Plan improves and modernizes public safety communications by requiring the construction of a nationwide, interoperable, wireless broadband network for the public safety community at the willing expense of a national commercial licensee who would construct the network as a condition of the license. The Plan also increases the spectrum available to public safety by providing it access to the national licensee's commercial spectrum during an emergency. To generate the capital necessary to build such a network, the commercial licensee would have secondary, preemptible access to unused public safety spectrum. The Plan thus meets the following five key communications needs of our nation's public safety community:

- *Free build-out* of a nationwide public safety wireless broadband network;
- *Increased spectrum* through priority access to commercial 700 MHz spectrum in an emergency;
- *Nationwide interoperability* among all broadband networks with security and authorization controlled at national, regional, and local levels;
- *Local control* over public safety networks; and
- *Maximum equipment choice* with the use of open access standards.

Second, the Public Safety Broadband Deployment Plan promotes competition in the wireless industry by proposing specific license conditions for the national commercial licensee that will spur innovation, unleash entrepreneurial forces, and lead to increased consumer choice. These conditions include:

- Offering *roaming* to requesting carriers;
- Providing service on a *wholesale basis*;

- Operating the network under *open access* principles; and
- Creating *a new E Block* that will expand bidding opportunities and increase competitive choice.

The Public Safety Broadband Deployment Plan is the best way to achieve these critical objectives. The Subcommittee should note that, as articulated in a proposal to the Southern Governors' Association, Verizon's proposal, by contrast, would not achieve these objectives. For one, the Verizon plan calls for public safety's network to be financed with billions of taxpayer dollars. The history of the past few decades, underscored by the history since 9/11, tells us that this approach would not lead to a national public safety broadband network. Instead, it would result — at best — in a slowly-developed Balkanized network funded by taxpayers at many times the cost of the Plan.

In addition, Verizon's proposal would vastly accelerate consolidation in the wireless market. Quite simply, the Verizon proposal will expedite the delivery of spectrum into the hands of those who have powerful incentives to hoard spectrum and raise prices. The wireless market is an increasingly national one. To compete, companies must have the ability to offer a national service. Auction design must not facilitate warehousing by carriers such as Verizon of even more spectrum, making it impossible for new and small businesses to become national competitors. Such a plan thus robs customers of competitive choice and further depresses innovation.

The FCC is therefore at a key decision point. It can use an auction to encourage innovation, or predestine more spectrum to a few dominant incumbents. The FCC should not bulk up Verizon's spectrum at bargain basement prices. Instead, it can and should promote a national policy that would open the door to competition, new technologies, and a national network for policemen and fire fighters.

The Public Safety Broadband Deployment Plan outlines a better policy. We want an auction at which lots of parties can participate. We want an auction where small businesses can enter and bring their innovative business models to the market. We want an auction where the winners of this crucial spectrum adjacent to public safety's spectrum will build — for free — a network that lets our public safety heroes save lives. That is a better outcome than encouraging the dominant incumbents to chase bidders out of an auction and warehouse spectrum, leaving public safety to count on taxpayer funds that are not forthcoming. We want an auction where the winner has to build a network open to all users instead of closing off access to only the few favored choices selected by the spectrum owner. In short, we want a market-based solution to the problems of consolidation, rising prices, stifled innovation, shrunken choice, and handicapped public safety.

We cannot let this opportunity pass. The FCC has an opportunity to enable the construction of a national public safety broadband network, and it should take it. Our nation has not been put through the massive dislocation of the digital television conversion only to entrench the status quo. That is not why this Subcommittee worked on the DTV transition over the past decade.

To address these numerous issues, I want to discuss Frontline's innovative proposal. First, I will address the inadequacy of our current public safety communications systems. Second, I will describe how these problems could be solved with a national public safety wireless broadband network. In particular, I will explain how the Public Safety Broadband Deployment Plan eliminates the current obstacles to constructing this important network. Third, I will describe how the Plan promotes and protects competition in the wireless industry. Finally,

I will outline the actions that I believe this Subcommittee should take to make its wireless policy vision and goals a reality.

II. A PREVENTABLE CRISIS — OUR FAILING PUBLIC SAFETY COMMUNICATIONS SYSTEMS

Our first priority must be to improve our public safety communications systems. As you know, reliable communications systems can be the difference between life and death in an emergency. Whether responding to a terrorist attack or a local fire, our nation's courageous first responders rely upon communications systems to share information, coordinate responses, and save lives. Because they selflessly put their lives on the line every day for us, we owe them nothing less than the most modern, most reliable, most interoperable, and most flexible communications system available. Unfortunately, this is not the type of system they have today.

Instead, our public safety community uses 20th century technology to respond to 21st century emergencies. Although technology has advanced and security threats have increased, our public safety communications systems have not kept up. These systems are outdated, inefficient, and wholly inadequate to the ever-increasing demands placed upon them. Even today, more than five years after 9/11, many of our first responders lack the modern, interoperable communications systems that allow them to talk to each other during emergencies.

We have seen the results of these communications failures all too clearly, most notably on September 11. Thomas Kean, co-chair of the 9/11 Commission, has stated bluntly, "On September 11, people died because police officers couldn't talk to firemen." The 9/11 Commission Report elaborated, providing examples of how the lack of interoperable radio frequencies between police and fire department officials hindered evacuation efforts:

> At 9:00, the [police department] commanding officer of the World Trade Center ordered an evacuation of all civilians in the World Trade Center complex. . . . This order was given over World

> Trade Center police radio channel W, which could not be heard by the deputy fire safety director in the South Tower.

As we now know, the South Tower collapsed an hour after this unheard evacuation order was issued.

Four years later, the failures of our public safety communications networks were again on display during Hurricane Katrina. Even though our first responders once again showed selfless courage and determination, the communications systems they relied upon failed both them and the public. An independent panel appointed by the FCC documented some of the more disturbing examples of these communications breakdowns:

> [C]ommunications between the military and first responders also appeared to suffer from lack of interoperability. In some cases, the military was reduced to using human runners to physically carry messages between deployed units and first responders. In another case, a military helicopter had to drop a message in a bottle to warn first responders about a dangerous gas leak.

With each tragedy, we vow "never again" to allow communications systems failures to hinder the efforts of our first responders. Yet, these failures keep happening, with predictable consequences.

While we have made important progress in some areas, the truth is that our public safety communications systems — and thus the American public — will remain highly vulnerable so long as the networks continue to rely on yesterday's technology. This is unacceptable. The patience of the American public is wearing thin. The time has come to ensure that the public safety community has the 21st century communications systems it needs and deserves.

III. THE FRONTLINE PLAN PROVIDES THE ANSWER — A NATIONAL PUBLIC SAFETY WIRELESS BROADBAND NETWORK

Public safety officials have stated clearly what they need to cure these communications deficiencies. They need a nationwide, interoperable, wireless broadband network. This type of

network — with the reliable, secure, diverse capabilities it enables — is the single best way to improve and modernize public safety communications systems. For this reason, virtually all parties — including the FCC — agree that such a network is needed.

Unfortunately, there are a number of obstacles that stand in the way of the construction of a broadband network that can meet public safety needs — most notably, funding. Making spectrum available is simply not enough. Someone must build a network to use that spectrum. Building a network, however, requires huge capital investment to cover the large, upfront, fixed costs that will be required and that are beyond many communities' means. Additional steps are therefore needed to ensure that public safety broadband networks will actually be built. By adopting the right policies, the FCC has the opportunity to leverage private sector investment to yield public safety benefits. Without that kind of investment, public safety networks simply will not be built.

Our company has proposed a readily-achievable solution to these urgent communications needs. The Public Safety Broadband Deployment Plan proposes that the FCC structure the upcoming spectrum auction to achieve the construction of a nationwide, interoperable, state-of-the-art, wireless broadband network for the public safety community at no cost to public safety or to taxpayers. The Plan requires no new legislation, and it will keep the auction on track to meet deadlines contained in the statute.

To summarize briefly, the Plan proposes that the FCC license a portion of the 700 MHz commercial spectrum under the conditions that the commercial licensee build a nationwide public safety broadband network *and* give public safety agencies priority access to the commercial spectrum during emergencies. In return, and to generate the capital necessary for construction of the network, the commercial licensee — whether Frontline or any other entity

that wins the auction — would have access to this spectrum and also secondary preemptible access to the public safety spectrum during times when it lies fallow. The Plan thus provides public safety — and all Americans — with enormous benefits including (1) free network build-out; (2) increased spectrum; (3) national interoperability; (4) local control; and (5) maximum equipment choice.

The Plan also specifically addresses the chronic communications problems that public safety officials face and removes the obstacles to the construction of a public safety broadband network. These problems include the following:

Insufficient Funds for Capital Expenditures. The most obvious obstacle to a nationwide public safety broadband network is that the government dollars are not available to pay the more than $10 billion needed to construct a network. The public safety community is not one monolithic entity, but rather consists of a diverse coalition of state, regional, and local agencies and officials with access to unequal resources. Each of these agencies cannot be assigned its own spectrum for broadband communications, much less be expected to build their own individual networks. The Public Safety Broadband Deployment Plan solves the funding problem by building the broadband network infrastructure with private capital at no cost to public safety. This proposal relieves public safety agencies of both the construction costs and the time-consuming task of securing investment, thereby freeing them to focus on protecting our communities. The Plan also includes aggressive build-out requirements ensuring that the new network will be national in scope. Public safety agencies in communities with less resources will no longer need to worry about being left behind.

Insufficient Spectrum. Another critical problem faced by public safety is a lack of sufficient spectrum for broadband communications. To its credit, the FCC has proposed

allocating half of the 24 MHz of public safety spectrum for a broadband network. Although the FCC's grant of more spectrum is an improvement, 12 MHz falls short of meeting the critical spectrum needs of a national public safety broadband network during an emergency. Indeed, it is important to understand that public safety's need for broadband communications peaks during emergencies. The Public Safety Broadband Deployment Plan solves this urgent problem by granting public safety communications primary access to commercial spectrum during emergencies. As a result, the Plan nearly doubles the amount of broadband spectrum available to public safety communications during emergencies.

Lack of Interoperability and Local Control. Again and again, we have seen the tragic consequences that result because first responders and emergency officials lack interoperable communications. The Public Safety Broadband Deployment Plan addresses this chronic problem by requiring the wireless broadband network to operate a state-of-the-art, IP-based network that provides interoperability and local command and control capabilities. The national commercial licensee will provide the unified platform needed to ensure this interoperability.

These types of broadband networks will address and resolve many of the communications problems that have plagued our nation's first responders during emergencies. First, the Plan avoids the problem of states and localities constructing diverse networks that cannot talk to each other since there will be a single nationwide network. Second, the IP-based broadband networks that the Plan requires are uniquely suited to promote interoperability within and among agencies. Similarly to everyday communications over the Internet, public safety communications would not depend on a specific type of device or transmission method. Fire fighters rushing into a burning building could access a video feed of the inside and share that with the rescue squad as they plan how to save lives — without worrying if their wireless devices were compatible.

Third, broadband networks allow public safety agencies to take advantage of advanced, high-tech services that are unavailable on older communications systems. A police helicopter in rural Montana could transmit a data-intensive video feed of a forest fire to the officials fighting on the ground. An interagency terrorism task force could share large databases of information in real time, from the field. And an ambulance could send in-depth patient diagnostics ahead to a waiting emergency room. These types of advanced capabilities are simply unavailable to much of our public safety community today.

Lack of Freedom of Equipment. Public safety officials often express frustration with the wireless devices they use. Lacking meaningful choices, public safety agencies are forced to purchase equipment that is too expensive and relatively primitive. The Public Safety Broadband Deployment Plan solves this problem by adopting open access principles that ensure freedom of equipment choice. Specifically, the Plan requires the commercial licensee to permit public safety users to attach the device (or devices) of their choice to the broadband network. This policy will allow public safety to take advantage of affordable, state-of-the-art technology from a variety of vendors in response to their individualized needs. In addition, freedom of equipment choice will spur investment and innovation in the equipment sector as entrepreneurs work to satisfy public safety officials' unique needs.

IV. THE FRONTLINE PLAN PROVIDES THE ANSWER — PROMOTING WIRELESS COMPETITION

In addition to making Americans safer by improving public safety communications, the Public Safety Broadband Deployment Plan allows the FCC to promote other important policies that will profoundly affect the future of wireless services — namely, promoting competition. Quite simply, when markets are competitive, American consumers win. Indeed, market competition is the single most effective way to ensure that next-generation wireless services live

up to their promise and potential in tomorrow's information economy. It is therefore critical that the wireless industry be deeply competitive. In fact, the FCC's own reports show how effective the forces of competition were in the wireless industry from 1993 to 2003 when five and six players existed in most markets: Subscribers went up by 780%, capital investment went up by 800%, and per minute prices went down by 74%.

Today, however, market competition within the wireless industry is decreasing. The FCC's most recent CMRS competition report found significant market concentration. Under the index the FCC uses to measure concentration (i.e., the Herfindahl-Hirschman Index or "HHI"), the market's average HHI was 2706, which is extremely high.[1] By way of comparison, the Department of Justice's Antitrust Division considers HHIs over 1800 to indicate "highly concentrated" markets. In addition, the HHI number is growing, having increased by 250 over the past year.

The report also suggested that these numbers reflected "the limited effect of competitive entry." The report confirms that new entrants in the wireless market face daunting challenges. Having spectrum and building a network in a specific market is no longer enough. New entrants must increasingly be able to offer national "go anywhere" service. Roaming is thus the key enabler for national service. However, commercially reasonable roaming agreements with the major incumbents are harder and harder to come by.

These developments should trouble the Subcommittee, which has done so much to spur competition. Indeed, the detrimental effects of this development are reverberating. Declining competition can (and is) limiting roaming options for smaller and rural carriers. As potential

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[1] *Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, Eleventh Report, WT Docket No. 06-17, FCC 06-142, ¶¶ 42-47 (2006).

roaming partners drop from the market, rural carriers have little choice but to narrow coverage or increase customer fees. Because neither option makes for a viable business plan in the long term, many small providers face pressure to sell out to larger players.

Although wireless broadband has the potential to revolutionize American communications and spur dramatic growth and broadband penetration, it can only do so if we create the incentives for innovation and market entry. For instance, if the innovators of tomorrow can only obtain wireless access from their *retail competitors*, they will be less likely to enter the market, and will certainly be less likely to obtain capital for their new ventures. While we see wireless innovation in the unlicensed realm, unlicensed technology is simply not capable of providing the fully-mobile, highly-reliable communications needed to reach all Americans, particularly in rural and less wealthy areas.

Once again, the Public Safety Broadband Deployment Plan meets these important challenges head on. The Plan recognizes both the benefits of competition and the tremendous opportunity that the spectrum auction provides to promote the pro-competitive policies that will usher in the next generation of innovators and services. To this end, our Plan promotes competition by carving out a new 10 MHz "E Block" from the existing 20 MHz "D Block." The Plan then requires the E Block commercial licensee to comply with the following license conditions: (1) offer service on a *wholesale basis*; (2) operate the network under *open access* principles; and (3) offer *roaming* to requesting carriers. These policies will accomplish two critical objectives: (a) they will promote technological innovation; and (b) they will dramatically expand customer choice, particularly for rural customers. For these reasons, the Plan is far superior to the "Verizon first" proposal that is designed to bulk up Verizon's already-massive spectrum holdings, thereby limiting both innovation and customer choice.

Wholesale Service. One important challenge that innovators and entrepreneurs face in the wireless context is that they must often purchase network capacity from their retail competitors. For instance, imagine that someone invented a revolutionary type of voice service, yet could only buy network capacity from a rival voice provider. This situation would potentially limit both wireless innovations and capital. Unfortunately, if current trends continue, more and more service providers will face this precise predicament, particularly if the FCC were to adopt an auction and band scheme destined to put more spectrum in the hands of a few at cheap prices. The Public Safety Broadband Deployment Plan addresses this problem by requiring the commercial licensee to operate on a wholesale basis. The result will be an innovation-friendly zone free from the concerns of potential retail discrimination.

With respect to the wholesale requirement, and to ensure that Congressional policy is respected, it is important that the FCC clarify that its small business (i.e, "Designated Entity") rules would not prohibit an otherwise eligible small business from bidding on the commercial spectrum and receiving a credit in doing so. The FCC's recently-adopted rules deny these credits to an entity that leases or resells more than 50% of its bare spectrum capacity to another entity. The E Block licensee, however, will not be leasing or reselling spectrum. Instead, it will be required *to build facilities and construct a national network over which it will offer services.* Because these build-out requirements will apply to any E Block licensee (whether Frontline or anyone else), the leasing and resale restrictions are not relevant and the FCC should so clarify.

It bears mention that the leasing and resale restrictions were intended to prevent sham arrangements in which one small business "flips" spectrum to a larger entity which in turn constructs the facilities over which service is delivered to the public. As the FCC explained in adopting the rule, it wishes to discourage relationships that can "impede a [small business's]

ability to become a *facilities-based provider*, as intended by Congress."[2] Accordingly, it makes no sense — and would wholly undermine Congressional and FCC policy — to apply this restriction to the potential E Block licensee. Indeed, the FCC's failure to make this clarification would have the ironic effect of discouraging new entrants from building out networks.

Open Access. The Public Safety Broadband Deployment Plan also promotes competition by requiring the commercial licensee to operate according to open access principles. Specifically, the commercial licensee must (1) provide reasonable, nondiscriminatory access to services and applications of the user's choice and (2) allow users to access the network through the device of their choice subject to "do no harm" requirements. Because open access provides customers with maximum freedom to use the services or device of their choice, it will create the incentives for revolutionary innovation and will unleash entrepreneurial forces into the wireless market.

This particular requirement is urgently needed. Today, equipment manufacturers are forced by many cellular operators to disable features in handsets that may compete with other services offered by the cellular operator. Further, manufacturers must frequently sign exclusive deals with operators to get their products to the market. In the wireline world, freedom of equipment policies broke monopolists' grip on customer equipment and spurred tremendous innovation from PBXs to faxes to PCs. Open access can and will spur the same type of explosive growth in wireless customer equipment.

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[2] *Implementation of the Commercial Spectrum Enhancement Act and Modernization of the Commission's Competitive Bidding Rules and Procedures*, Second Report and Order, WT Docket No. 05-211, 21 FCC Rcd 4753, 4762 ¶ 23 (2006) (emphasis added).

Roaming. Small, mid-sized, and rural carriers — and the competitive choices they provide — are increasingly threatened by a lack of roaming options in a consolidating wireless market. Whereas Verizon's proposal would exacerbate this urgent problem, Frontline's Plan would address it by requiring the commercial licensee to offer roaming to requesting CMRS providers using compatible equipment. This requirement will not only help ensure widespread and robust wireless service in rural areas, but will allow smaller and mid-sized carriers to "go national," and offer additional competitive choices to American consumers. Without the ability to offer national service, these carriers cannot provide a competitive alternative to larger carriers' service.

E Block. As described above, the Public Safety Broadband Deployment Plan creates a new 10 MHz E Block by dividing the current 20 MHz D Block in half. This type of allocation is well within the FCC's authority, and it leaves the remainder of the commercial spectrum untouched. Creating the E Block in this manner will promote competition and innovation by providing an opportunity for a greater number of more diverse parties to bid on the valuable spectrum.

Further, it is important to note that the legislation creating spectrum auctions made clear that maximizing revenues is *not* and should not be the guiding principle shaping auction rules. *See* 47 U.S.C. § 309(j)(7). Rather, Section 309(j)(4)(C) states that the FCC should also strive to "promote (i) an equitable distribution of licenses and services among geographic areas, (ii) economic opportunity for a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women, and (iii) investment in and rapid deployment of new technologies and services." The Public Safety

Broadband Deployment Plan enables the Commission to meet each of these goals freely and fairly.

Indeed, there is a strong argument that this proposal will *enhance* auction revenues. Three reasons support that conclusion: First, by getting preemptible access to public safety spectrum, a bidder is getting 10 MHz *plus* conditional access on an adjacent 12 MHz. Simple economics tells us that the right to use additional spectrum will drive up the price any entity is willing to bid. Second, by cutting the large D Block into two 10 MHz blocks, more players can bid. Yes, Verizon may be anxious to bid on the largest block, but it is unclear that it is well-suited to any other party. By contrast, there will be significant demand for smaller chunks of spectrum, particularly if purchasers of these licenses have a guaranteed national roaming partner in the E Block licensee. Third, the prospect of having public safety as an anchor tenant will give an auction bidder the prospect of an established customer base; thus enabling projection of future revenues that likely will push bid prices higher. Though we acknowledge that maximizing revenues is not the only goal, we think the Treasury will do well under this proposal.

V. NEXT STEPS — WHAT THIS SUBCOMMITTEE CAN DO TO MAKE ITS SPECTRUM GOALS A REALITY

Looking ahead, the FCC faces a number of challenges that might prevent it from implementing this Subcommittee's spectrum goals. Specifically, it has a number of important and difficult tasks that it must accomplish with this spectrum auction in short order. It must plan one of the most important and consequential spectrum auctions ever; conduct the auction within a specific period of time; and ensure that the auction results in timely payment to the United States Treasury by next summer. These are difficult challenges, and Frontline applauds the FCC's efforts to keep the auction on track.

In light of these tasks, it is important that the FCC not lose sight of the spectrum policy goals embodied in law. The FCC will soon auction what is perhaps the most valuable piece of spectrum ever allocated for mobile wireless services. It will be decades before such a large amount of valuable, versatile spectrum is auctioned again. Thus, it is critical that the FCC uses this one-time opportunity to improve our public safety communications systems and promote competition within the market, and not to construct an auction designed to benefit the dominant incumbents. The FCC's action (or inaction) will shape the wireless market for the next generation. It is important that the FCC not let this opportunity pass by. When the next emergency strikes, our communications systems must be a tool that saves lives rather than a source of confusion and tragedy.

So, what can this Subcommittee do to make this vision a reality? First, let me be clear that no legislation is necessary. Instead, Frontline respectfully requests that the members of this Subcommittee urge the FCC to adopt the following elements for the upcoming 700 MHz auction:

- Create an E Block to enable the construction of a public safety wireless broadband network and to promote market competition;
- Establish a national license for the E Block to ensure uniform construction and quality of the public safety network and to facilitate capital investment in the network;
- Require the E Block licensee to offer service on a wholesale basis;
- Ask the FCC to clarify that the Designated Entity restrictions on wholesale and retail providers do not apply to the potential E Block licensee given that it is required to construct its own facilities and offer services upon them;
- Require the E Block licensee to offer roaming to requesting carriers; and
- Require the E Block licensee to operate according to open access principles.

As this Subcommittee has repeatedly recognized, these issues are extremely important. The Subcommittee has given the FCC everything it needs to improve public safety communications and to ensure a competitive wireless market. However, unless the FCC takes

further action, or if it adopts Verizon's proposal, the national broadband network will not be built and the wireless market will continue to consolidate. In fact, without FCC action, the *best case* scenario is that patches of public safety broadband networks without uniform interoperability *might* be constructed in communities with the resources and political will to do so.

In conclusion, the FCC has the opportunity to advance American leadership in wireless service for the next generation. Given the stakes involved, we hope this Subcommittee will monitor the auction closely and will urge the FCC to take the steps necessary to make this Subcommittee's vision a reality. I thank you again for the opportunity to be here today.

Testimony of Shelley Spencer
President of Wirefree Partners, LLC
Before the
House Committee on Energy and Commerce
Subcommittee on Telecommunications and the Internet
On the
"Digital Future of the United States Part III: The Future of Wireless"

April 19, 2007

Chairman Markey, Ranking Member Upton and Members of the Committee, my name is Shelley Spencer, and I am the President of Wirefree Partners. Wirefree Partners is a start up company that purchased 16 licenses to provide wireless services in the FCC's last auction of PCS spectrum. We are currently developing our roll out plan to deploy a wireless network in 16 markets to serve the public and to lease half of the spectrum, spectrum which we are not using in our own network, to Sprint Nextel. Over the past 10 years, we have participated in multiple spectrum auctions as a small business and have successfully built and grown wireless companies that have created over 200 new jobs and have offered consumers additional choices in wireless services. I am honored to participate in this panel as the Subcommittee explores the Future of Wireless.

From my perspective, the future of wireless in the U.S. is strong and exciting. As we have witnessed over the past decade, wireless is increasingly the preferred means of communications by consumers of all ages, income levels and occupations. It is telling that when my middle school daughter in Maryland, who can identify each cell phone model by name, calls her grandmother in Ohio it is on her cell phone not a wired phone and she doesn't wait until after 11:00 PM for the rates to go down, as I did growing up.

The wireless industry is at the forefront in bringing new innovative services to all consumers. Significantly, as we have seen in many industries, innovation and

competition often are driven by the entry of new and competitive entrants that are started by entrepreneurs. Accordingly, it is extremely critical that spectrum policy be structured to provide meaningful opportunities for small business to participate in the future of wireless.

Congress recognized that disseminating licenses by auction would have a direct impact on the diversity of licensees unless the auction rules include provisions to ensure that licenses were available not just to large companies but also to small businesses, businesses owned by women and minorities and rural telephone companies. As set forth in Section 309(j) of the Communications Act, the FCC is required to design auction rules that achieve the goal of "disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women."[1] The Act also requires that the FCC design auction regulations to ensure that those same entities – small businesses, rural telephone companies, and businesses owned by members of minority groups and women -- "are given the opportunity to participate in the provision of spectrum-based services."[2] The FCC has interpreted this law, which established the Designated Entity (or "DE") program, to now include only small businesses and rural telephone companies.

As a small business owner and woman entrepreneur with over 12 years of experience in the wireless industry, I am pleased to share with you the realities faced today by new entrants seeking to be a part of the wireless revolution in the U.S. by acquiring licensed spectrum through auctions. Over the years, my partners and I have seen the FCC's auction rules vary significantly, sometimes erratically, from significant,

[1] 47 U.S.C. §309(j)(3)(B).

[2] 47 U.S.C. §309(j)(4)(C)(ii).

ongoing regulation of small businesses and other designated entities, to less regulation and more control left to the individual businesses. Based on our experience in creating new wireless companies with licensed spectrum as the core asset, we have found that spectrum policies must adhere to three fundamental principles for small businesses to have a meaningful opportunity to be a part of the wireless future. Small businesses need:

(1) a meaningful opportunity to participate and bid against large carriers in auctions through bidding credits or closed bidding;

(2) less government regulation to give small businesses more flexibility to run their businesses in a competitive wireless market including the ability to enter into commercial transactions with other wireless industry participants; and

(3) regulatory certainty, stability and sufficient notice of auction and service rules so small businesses can raise the capital necessary to fund their auction participation and build their businesses.

I. OUR STORY – DISCIPLINED BIDDING AND ACCESS TO CAPITAL ARE KEYS TO SMALL BUSINESS SUCCESS IN THE WIRELESS INDUSTRY

My partners and I have 30 years of experience in serving the public and a track record of success in building and operating wireless networks from the early days of paging to cellular to PCS. Drawing on our team's extensive experience and ability to compete, we have been able to raise capital from leading venture capital firms, such as Globespan Capital of Boston, as well as secure debt to fund our spectrum acquisition and network costs. While it has never been easy for us to raise money, win at FCC auctions, or build a company from the ground up, as experienced entrepreneurs we continued to believe in and pursue the exciting opportunities to provide wireless services.

Throughout our ten year history in planning for and participating in spectrum auctions, we have faced different financial markets and competitive wireless markets. Without fail, however, we have always followed a disciplined business approach in

bidding on spectrum. At times, this disciplined approach has required us to withdraw from auctions without winning a single license. In the first, large PCS auction in 1996 where spectrum was reserved for bidding only by small businesses, we withdrew our $20 million deposit and left the auction because the spectrum prices exceeded those in our business plan. In subsequent auctions when we acquired licenses, we honored in full our high bids and license payment obligations to the FCC. In the late 1990s, we built a company that developed and managed a PCS network in certain markets in the Southeast covering more than seven million people in three states and creating more than 200 jobs. Although the service was branded as Sprint through an affiliation agreement, that service was constructed and operated using its own equity and debt. Our ability to tap the public debt and equity markets for that company created a market standard that allowed similar, small companies to complete financings to build and operate their own wireless network, thereby generating new employment and economic growth. In 2005, because of our successful business history, our current company, Wirefree Partners, was able to raise its own equity and debt financing to fund the purchase of 16 PCS licenses for total net winning bids of $150 million and to cover our network construction costs. As a qualified small business, we were eligible for a 25 percent credit under the DE program, which was also crucial for our being competitive in that auction. We are currently deploying our own network with half of the spectrum while leasing the other half to Sprint Nextel.

II. SMALL BUSINESSES ARE A KEY COMPONENT OF THE U.S. ECONOMY AND SHOULD FULLY PARTICIPATE IN COMMERCIAL SPECTRUM OWNERSHIP

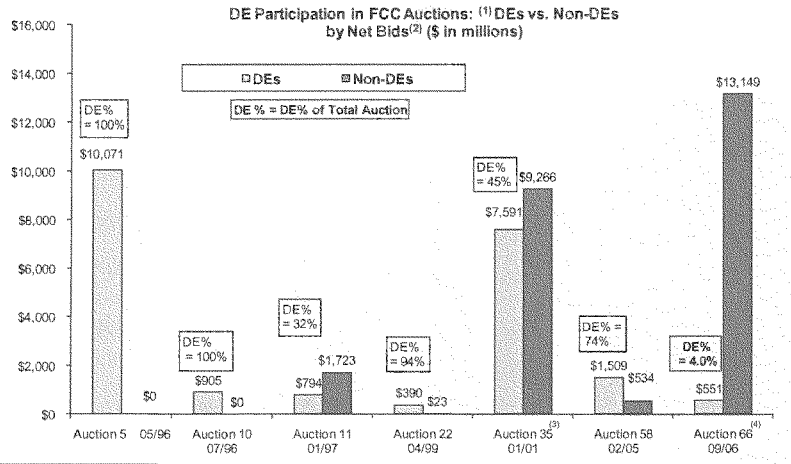
Small businesses are a vital part of the U.S. economy and should be given a meaningful opportunity to participate in the wireless industry by acquiring licensed,

commercial spectrum. According to the Small Business Administration ("SBA"), small businesses generated 60 to 80% of the new jobs in the U.S. annually during the last decade. More than 45% of the private payroll in the U.S. is by small business employers. In addition, small businesses are leaders in innovation. SBA reports that small businesses receive 13 to 14 times more patents per employee than large patenting firms.[3] Women business owners, like me, are an important part of that small business growth. The last Census found that in 2002, women owned 6.5 million businesses in the U.S. and that these women-owned firms generated over $940 billion in revenues while employing 7.1 million workers.

This stellar contribution of small businesses and women entrepreneurs as an engine for economic growth has not been replicated in the acquisition of FCC licenses. In the last major spectrum auction held last year by the FCC for 90 MHz of Advanced Wireless Services ("AWS") spectrum, entities that qualified as small businesses won less than 4% of the licenses measured by economic value. This stands in stark contrast to the historical 74% average of licenses by value won by small business in PCS auctions where small businesses were afforded bidding credits and, at times, were part of a closed bidding process.

[3] See Frequently Asked Questions, www.sba.gov/advo/.

Exhibit from Council Tree Communications, Inc. et al. v. FCC No. 06-2943:



(1) Auctions 5 and 10 included only Closed Licenses (i.e., for DEs only). Auctions 11, 22, 35 and 58 included both Closed and Open Licenses (with Open Licenses available both to DEs and non-DEs and with DEs receiving bidding credits). Auction 66 was the only one of these to include Open Licenses only.
(2) Net Bid is the gross bid less any DE bidding credits.
(3) Auction 35 results overturned by Supreme Court ruling in the NextWave case.
(4) Winning bids as of close of Auction 66.

This mixed track record in auctions from 1996 to 2006 calls for an evaluation of past, present, and future spectrum policy, and specifically auction policy, to determine how small businesses can be meaningful participants in the future of the wireless industry.

III. ACQUIRING SPECTRUM AND RUNNING A WIRELESS BUSINESS REQUIRES SIGNIFICANT CAPITAL, MAKING BIDDING CREDITS AND CLOSED BIDDING ESSENTIAL TO SMALL BUSINESSES

The wireless business is a capital-intensive business and requires bidders to raise significant capital in advance of the auction just to acquire spectrum. This is a particular challenge for small businesses. In the AWS auction, held by the FCC last year, bidders

seeking to bid on one license in the six licenses regional economic areas were required to deposit between $15 and $50 million prior to the auction start and just to place one bid. The licenses in that auction went for an average of 54¢/MHz Pop and netted winning bids in excess of $13 billion which was deposited directly into the U.S. Treasury. Licenses for urban areas received multimillion dollar winning bids. For example, the high bid for a 10 MHz license in the Boston area was $30.4 million, the winning bid for this license in Pittsburg was $14.8 million, $9.3 million for Grand Rapids and $50 million for the Detroit market. None of these licenses were won by bidders that qualified as a small business.

Beyond acquiring spectrum, a new wireless company must also fund its network expenses and operating costs, making the full budget for even small wireless carriers in the hundreds of millions of dollars over and above the license cost. In our network build-out, we are experiencing per cell site build costs in the range of $85,000 to $150,000 per site. These hardware costs do not include any costs for operating expenses, marketing or administrative costs. Accordingly, new wireless carriers must raise significant capital even before they provide service to a single customer and with a lead time of 12 to 18 months, which only adds to the overall expense.

The prospect of acquiring spectrum is particularly daunting for a small business or new entrant if it is forced to bid against large entities for the same spectrum or without a bidding discount. Not surprisingly, the most successful auctions for small businesses have been those in which a portion of the spectrum was reserved for bidding by small businesses and small businesses were provided bidding discounts.[4] While there were

[4] Under the Designated Entity program, qualified small businesses and rural telephone companies are eligible for bidding credits of 15 or 25 percent, depending on the size of the entity.

some high profile defaults by bidders in past auctions reserved for small business, most notably the auction for PCS spectrum in 1996, these are not the only stories that should be heard. Other small businesses have acquired spectrum in auctions, paid for their licenses and run successful businesses. Competitive providers Tritel and Telecorp both acquired spectrum and deployed new networks using spectrum from spectrum auctions in the late 1990s. The now successful competitive providers, Metro PCS and Leap Wireless, that compete against the national wireless carriers each hold spectrum awarded to them when they qualified as small businesses. By contrast, the recent AWS auction did not result in any small business bidders acquiring any meaningful spectrum in major markets. Accordingly, one way to lower the entry barrier to spectrum acquisition for small business is to provide for closed bidding by small businesses only for certain spectrum and to retain the use of bidding credits for DEs.

IV. LESS IS MORE IN GOVERNMENT REGULATION OF SMALL BUSINESSES SEEKING TO COMPETE IN THE COMPETITIVE WIRELESS MARKETPLACE

Based on our experience, a small business' qualifications for spectrum licensing should be measured by ownership and control requirements. Once these "bona fides" are established, less government regulation will provide small business with the ability to compete fully in the wireless industry. Streamlined regulation is also consistent with the Congressional directive in Section 257 of the Communications Act, directing the FCC to periodically review its rules and report to Congress on any regulations prescribed to eliminate market entry barriers for entrepreneurs and small businesses.[5] There is no single formula for small business success and small providers must be allowed to enter

[5] 47 U.S.C. §257(c).

into strategic commercial transactions with other companies to raise the money necessary to participate in the auctions and succeed in the competitive wireless marketplace.

Over the past ten years, the spectrum auctions have included a myriad of different rules for qualifying and maintaining a wireless company's status as a small business. Auction rules can either restrict or enable a small business' ability to raise the necessary capital to run a wireless company and affect its ability to compete in the very competitive wireless industry. Since the inception of spectrum auctions, we have seen the pendulum swing from significant regulation of our small business structure and operations to less regulation and back to more regulation. Consistently, we have found that for our entrepreneurial companies to raise the capital necessary to be in the wireless business, we must be able to adjust our business plan and operations quickly to react to the dynamic and changing market conditions and respond to technological innovation. If we must seek government approval of each business initiative, we just can't compete.

My company is a good case study. We were only able to fund our net winning bids for 16 PCS licenses in Auction 58 of $150 million, and our initial build-out efforts, by leasing 50% of our spectrum to subsidiaries of Sprint Nextel. The lease is on commercially reasonable terms and does not provide Sprint Nextel with any management or ownership rights in Wirefree Partners, a true arms length transaction. We paid for the spectrum with our own debt and equity capital. With the funding raised, we are now focused on deploying our own network in each of the 16 licensed markets. Without the ability to supplement our projected business plan with leasing revenues, Wirefree Partners would not have been able to raise sufficient capital to participate in Auction 58 or fund its preliminary network build-out and ongoing operations.

It is important that any policies designed to promote participation by small businesses in spectrum auctions in the future actually flow to those small businesses. We therefore applaud FCC efforts to ensure that ownership and control truly rest with the small business entrepreneurs. However, regulation beyond the traditional test of ownership and control stifle small business participation in spectrum auctions and in developing service offerings dependent on commercial relationships with others in the wireless industry. This flexibility is critical in the wireless industry where technology and innovation are a daily occurrence that should be encouraged and promoted. Excessive government regulation will chill the innovation, investment and the roll out of services to meet public needs. Significantly, my company's lease of half of its spectrum to raise money, to buy spectrum and to start our business is now impermissible under the current rules for future auctions. Government regulation should not impinge on strategic business decisions or stifle the kind of innovative service offerings and necessary financing arrangements of small businesses.

V. REGULATORY CERTAINTY AND STABILITY ARE CRITICAL FOR SMALL BUSINESSES TO RAISE CAPITAL AND FULLY PARTICIPATE IN THE WIRELESS INDUSTRY

Regulatory certainty is critical to any bidder's participation in a spectrum auction and especially essential to small businesses that often do not yet have significant revenues or cash flow to fund spectrum acquisition. Start up companies and small businesses often need months to secure the funding necessary for a spectrum auction. We typically have to begin the process of raising capital eight to twelve months before an auction starts or payments are due. The impact of regulatory uncertainty or adequate notice of the rules for the auction is particularly essential in the licensed wireless industry

where new entrants face stiff competition from national carriers. In addition, investors are often critical of the prospects for success of new, smaller entrants in this highly competitive market. Thus, investors and prospective lenders routinely require entrepreneurs to present business plans with sound fundamentals, strategic advantages and limited regulatory risk.

Congress had the foresight to recognize the need to provide adequate advance notice of auction rules in granting the FCC auction authority. The statute expressly requires that adequate notice be given to bidders to enable them to develop business plans and raise capital. The key section, 47 U.S.C. §309(j)(3)(E), in part, requires that the FCC:

> **(E)** ensure that, in the scheduling of any competitive bidding under this subsection, an adequate period is allowed—
>
> > **(i)** before issuance of bidding rules, to permit notice and comment on proposed auction procedures; and
> >
> > **(ii)** after issuance of bidding rules, to ensure that interested parties have a sufficient time to develop business plans, assess market conditions, and evaluate the availability of equipment for the relevant services.[6]

Accordingly, adequate notice of final auction rules well in advance of the auction are a key component of providing small businesses with a meaningful opportunity to participate in the acquisition of spectrum.

I greatly appreciate the opportunity to appear before the Subcommittee on this important topic and look forward to your continued interest in promoting small business participation in the wireless industry and in spectrum licensing. I would be happy to answer any questions you may have.

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[6] 47 U.S.C. §309(j)(3)(E).

WRITTEN TESTIMONY

OF

BARRY WEST

CHIEF TECHNOLOGY OFFICER AND PRESIDENT,
4G MOBILE BROADBAND,
SPRINT NEXTEL CORPORATION

ON

THE DIGITAL FUTURE OF THE U.S.: PART 3: SPECTRUM OPPORTUNITIES AND THE FUTURE OF WIRELESS

BEFORE THE
HOUSE SUBCOMMITTEE ON
TELECOMMUNICATIONS AND THE INTERNET

APRIL 19, 2007

WRITTEN TESTIMONY OF
BARRY WEST
CHIEF TECHNOLOGY OFFICER AND PRESIDENT,
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THE DIGITAL FUTURE OF THE U.S.: PART 3: SPECTRUM OPPORTUNITIES AND THE FUTURE OF WIRELESS

APRIL 19, 2007

Good Morning Chairman Markey and Members of the Subcommittee. I am Barry West, Chief Technology Officer and President, 4G Mobile Broadband, for Sprint Nextel Corporation. Thank you for the opportunity to appear before you today to address a topic I am passionate about: the future of wireless technology. What we are discussing today is the opportunity to enhance the way customers experience communications. This hearing is about a revolution that promises new freedoms in mobile information access and shared experiences. In my remarks today, I would like to emphasize an issue that is critical to achieving these freedoms: the provision of "special access" services that are a key component in providing wireless broadband and other broadband services.

Sprint Nextel

Sprint Nextel offers a comprehensive range of communications services that bring the freedom of mobility to consumers, businesses and government users. Sprint Nextel is widely recognized for developing and deploying innovative technologies, including two robust wireless networks serving over 53 million customers; industry-leading mobile data services; and instant national and international walkie-talkie capabilities. In a nutshell, we are one of the last strong competitors of the Bell Companies to remain standing.

Wireless Broadband Services Today

The Sprint Nextel vision goes well beyond traditional communications. We offer the most wireless broadband coverage of any carrier today. The Sprint Mobile Broadband Network reaches more than 200 million people nationwide in more than 9,000 communities and allows consumers to access audio, video and data applications with handheld and connection card devices. Sprint Nextel was the first carrier to upgrade its mobile broadband network to the faster EV-DO Revision A technology. "EV-DO Rev. A" offers significantly faster upload speeds and can enable richer applications and services such as high-speed video telephony, music on demand, video messaging, large file uploads and high performance push-to-talk capability. Customers on this upgraded network can expect average download speeds of 600 kbps-1.4 mbps and average upload speeds of 350-500 kbps.

4G Mobile Broadband

We are not resting on our laurels. Sprint Nextel is actively developing and deploying a fourth generation (4G) nationwide broadband mobile network, using our 2.5 GHz spectrum holdings and the mobile WiMAX (Worldwide Interoperability for Microwave Access) IEEE 802.16e-2005 technology standard. Sprint Nextel's 4G network will be a nationwide mobile data network designed to offer consumers and business customers faster speeds, lower cost, and greater convenience and enhanced multimedia quality.

Sprint Nextel will offer its customers much more than simple wireless connectivity – we will provide a comprehensive Digital Lifestyle through next generation mobile broadband. We see a Digital Life that is simple, instant, enriching and productive

for businesses, governments and consumers. This vision coincides with the increasing prevalence of two powerful forces – *the Internet* and *Mobility*.

Our plan is to enable visually-rich content and bandwidth intensive applications over a diverse array of electronic devices and services for the home, the office, and on the go. These products and services will go well beyond today's data-enabled cell phones and PDAs, which have sparked consumer interest in downloading large files, music and mobile TV through mobile broadband connections. We have our eye on the next frontier – the millions of consumer electronics devices that are without wireless capability or have only tethered access to the Internet. We see a future in which Americans enjoy the benefits of faster networks and higher bandwidth for data-centric applications. We see a future in which consumers, businesses and governments can choose from a range of WiMAX-enabled devices for computing, portable multi-media, interactive and other services.

We have set in motion a plan that is turning our vision into reality. We will launch advanced wireless broadband services in trial markets by the end of 2007. In 2008, we will deploy a network with speeds of 2 to 4 mbps that reaches as many as 100 million people. We intend to expand mobile WiMAX network coverage thereafter. Once in place, our service will enable customers to obtain business information and personal entertainment easily and inexpensively – and in ways that they will one day wonder how they lived without.

An Impediment to Broadband in the U.S.: The Special Access Market Failure

Although Sprint Nextel and others are working hard to bring the next generation of wireless broadband to consumers throughout the country, these efforts are impeded by

a serious failure in the market for "special access services." Special access is a lynchpin to the success of a vibrant, competitive broadband marketplace, but is currently subject to bottleneck control by just a few Bell Operating Companies (BOCs) who are charging anticompetitive prices for this service.

Special access services are "last mile" connections that are essential for broadband and communications services provided by Sprint Nextel and others, including Internet Service Providers, cable companies, long distance carriers, competitive local exchange carriers, and other wireless companies.[1] Special access provides dedicated circuits to link together different parts of a service provider's network (for example, from our cell sites to our switches) and to link its network to the networks of other carriers. Sprint Nextel and other broadband providers will increasingly rely on special access services in the coming years as we handle even greater volumes of traffic over our cell sites and networks to support rising customer demand for voice, video and other data services.

Unfortunately, the BOCs dominate the market for special access, and are often the only viable providers of this service in many areas. In fact, Sprint Nextel has identified alternative providers of special access services at less than one percent of its cell sites nationwide. In other words, in nearly every case the BOCs are the *only* choice for service in their respective service territories.

Sprint Nextel would very much prefer to have the option of obtaining these dedicated circuits from someone other than the BOCs who, after all, are large, integrated companies that compete with Sprint Nextel in offering wireless and broadband services to

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[1] *See, e.g., AT&T Inc. and BellSouth Corporation Application for Transfer of Control*, Memorandum Opinion and Order, WC Docket No. 06-74, FCC 06-189, ¶ 27 (rel. Mar. 26, 2007).

customers. These integrated firms, therefore, have a strong incentive to raise the special access costs of, and thereby disadvantage, Sprint Nextel and other competing providers of retail communications services. And, the BOCs have the ability to act on these incentives given the stranglehold they have on the special access market. Even a decade after passage of the Telecommunications Act of 1996, the competitive availability of special access services, such as DS1 and DS3 services, is woefully limited.

In the Boston, Massachusetts metropolitan area, for example, Sprint Nextel provides wireless service to its subscribers through a sophisticated network with more than 1500 cellular radio towers and five mobile switching offices. To move our traffic from cell sites to our switches, and then ultimately to the Public Switched Telephone Network, we purchase dedicated DS1 and DS3 circuits that interconnect the towers and switches and link our Boston customers to Sprint Nextel's national and international telecommunications network. *Ninety-eight percent* of Sprint Nextel's expense for the hundreds of dedicated special access circuits Sprint Nextel uses in the Boston area is paid to Verizon.

Several other markets tell the same story. In northern New Jersey, Sprint Nextel has over 1000 cell sites, five mobile switching centers, and approximately 3,500 special access pipes connecting those network components. *One hundred percent* of those special access circuits are purchased from Verizon. In Miami, *eighty-eight percent* of Sprint Nextel's expense for 2800 special access pipes, connecting over 1,200 cell sites to four mobile switching centers, is paid to AT&T. In Richmond, Virginia, our network of over 400 cell sites and one mobile switching center is connected by approximately 900 special access connections, with *eighty-five percent* of our expense for those connections

going to Verizon. For our San Francisco network, we purchase *ninety-eight percent* of our special access from AT&T to connect our 2,000-plus cell sites to six mobile switching centers.

To provide just one more example that demonstrates the monopoly market Sprint Nextel and numerous other businesses face for special access services, look to the New York City metropolitan area – an area generally regarded as one of the *most competitive* communications markets in the nation. Prior to its merger with Sprint, Nextel made a concerted effort to reduce its dependence on Verizon special access service, but found that there is almost no alternative. When Nextel sought bids for special access services in the New York metropolitan area, competitors bid to serve *fewer than 3% of the required locations* in one of the most competitive geographic markets in the nation. On a nationwide basis, according to an FCC report, wholesale revenues from the sale of special access by the BOCs and other incumbent local exchange carriers to Sprint Nextel and other carriers amounted to $10.5 billion, while the wholesale revenues generated by competing providers amounted to $664 million.[2] A recent GAO Report, entitled "FCC Needs to Improve Its Ability to Monitor and Determine the Extent of Competition in Dedicated Access Services," estimated that the BOCs' revenue from dedicated access services reached $16 billion in 2005.[3]

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[2] *See* Federal Communications Commission, "Telecommunications Industry Revenues: 2004," at Table 5 (March 2006).

[3] United States Government Accountability Office, "Telecommunications: FCC Needs to Improve Its Ability to Monitor and Determine the Extent of Competition in Dedicated Access Services," Report No. GAO-07-80, at 1 (Nov. 2006) ("GAO Report").

Sprint Nextel is not the only company captive to the BOCs' special access market dominance.[4] Other companies – including, notably, AT&T and MCI prior to their absorption into the Nation's two largest BOCs – have demonstrated repeatedly that there is a special access market failure. In 2004, MCI (now Verizon) informed the FCC that "[t]he ILECs' market power over the market for DS1 and DS3 facilities, coupled with the Commission's decision largely to deregulate the pricing of those facilities, has resulted in prices that are far in excess of cost. The result is that special access has become the ILECs' most profitable line of business."[5]

Pre-BOC merger AT&T recognized the need for "re-imposing an annual productivity offset . . . [to] ensure that ratepayers share in the benefits of special access productivity gains, as the Commission originally intended."[6] The Ad Hoc Telecommunications Users Committee, an organization of major U.S. businesses, also filed data with the FCC showing that the BOCs remained the sole source of dedicated access at roughly *ninety-eight percent* of all business premises nationwide, even for the

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[4] Other providers appear to have been similarly unsuccessful in obtaining competitively provided dedicated circuits. *See* AT&T Reply Comments, RM-10593, at 12-16 (Jan. 23, 2003) ("AT&T 2003 Reply Comments"); Economics and Technology, Inc., "Competition in Access Markets: Reality or Illusion, A Proposal for Regulating Uncertain Markets," at 16-22 (Aug. 2004) ("ETI Report"), appended as Attachment A to Ad Hoc Telecommunications Users Committee Reply Comments, WC Docket No. 05-65 (May 10, 2005) ("Ad Hoc 2005 Reply Comments"). In addition, Ad Hoc's analysis shows that intermodal technologies do not offer competitive alternatives to high speed special access services. Declaration of Susan M. Gately, appended as Attachment B to Ad Hoc 2005 Reply Comments, ¶¶ 19-25 ("2005 Gately Declaration"). In fact, it appears to be undisputed that competitive alternatives are available only at a "tiny percentage" of commercial buildings. AT&T 2003 Reply Comments at 13 (stating that the BOCs do not dispute the conclusion that competitive alternatives are available only in a small number of buildings).

[5] MCI Comments, WC Docket No. 04-313, at 156 (Oct. 4, 2004) ("MCI 2004 Comments").

[6] AT&T Comments, WC Docket No. 05-25, at 5 (June 13, 2005).

largest corporate users.[7] The GAO Report found that "dedicated access services to end users . . . does not appear to be extensive" even in the 16 major metropolitan areas it examined.[8]

Will competition develop and correct this market failure? Unfortunately, that is not likely. GAO found that there are a number of barriers to entry preventing competitors from providing alternatives to the BOCs' special access services, including zoning restrictions and problems with building access.[9] Moreover, as the FCC itself has noted, the competitive deployment of stand-alone DS1 circuits connecting two points – for just one carrier's traffic – is rarely if ever an economic possibility. Such circuits require high fixed, sunk costs to serve an individual customer location. No firm can match the scale economies that the BOCs enjoy in furnishing DS1 special access service since they alone had the opportunity to construct a ubiquitous local network over a period of decades while protected against competition.[10] Competitive carriers simply cannot establish a business case to lay a DS1 circuit out to a Sprint Nextel cell site, given the high fixed, sunk costs incurred to construct that circuit. Prior to its mergers with SBC and

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[7] 2005 Gately Declaration ¶ 18.

[8] GAO Report at 19 (also finding that "moderate levels of competition appear where demand for dedicated access exceeds the DS-3 level.") Overall, GAO found that less than 6 percent of buildings with demand of DS-1 level or higher are served by a fiber-based competitor, with competition being heaviest for those buildings with the highest levels of demand. *Id.* at 19-20. And, according to GAO, even this modest estimate may overstate the availability of facilities-based competition. *Id.* at 21.

[9] GAO Report at 13, 26-27. GAO also noted that incumbents may be able to use pricing strategies to discourage deployment of competitive facilities. *See id.* at 18, 26. Similarly, the BOCs may impose terms and conditions – such as revenue guarantees and termination penalties – on the special access customers that limit or inhibit a customer's ability to switch to a competing provider's facilities. *Id.* at 30-31.

[10] *Unbundled Access to Network Elements; Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Order on Remand, 20 FCC Rcd 2533, ¶ 166 (2005); *see also* GAO Report at 13.

BellSouth, AT&T echoed this predicament, stating that it and other special access purchasers "generally have *no* alternative suppliers for the bread and butter DS-level services."[11] Thus, for carriers like Sprint Nextel that rely heavily on those circuits, the prospects for obtaining service from competing providers are practically non-existent.

In the case of wireless carriers in particular, the possibility of a competitive market for these circuits is even more doubtful because, for zoning and other reasons, cell sites frequently are located in out-of-the way locations, such as along roadsides or atop surrounding hills. In the Boston metropolitan area, for example, seventy-five percent of Sprint Nextel's cellular radio towers are located outside of the core urban area, in the areas least likely to attract competitive offerings. Furthermore, alternative technologies, such as fixed wireless or a cable-provided circuit, rarely meet Sprint Nextel's service requirements.[12]

Deregulation in the Face of Market Failure Has Led to Anticompetitive Rates

Despite the lack of competition for special access, even in places like metropolitan New York, *the FCC deregulated the rates* for these last mile special access circuits in many metropolitan areas around the country. The result of deregulation in the face of a market failure has been predictable (and, frankly, perfectly rational from the BOCs' point of view): astounding rates of return and, as a result, harm to the promise of wireless, mobile broadband.

Pre-merger MCI noted to the FCC that between 1996 and 2003, "the BOCs as a group enjoyed an almost six-fold increase in the rate of return for interstate special access

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[11] AT&T 2003 Reply Comments at 11 (emphasis in original).

[12] *See, e.g.,* ETI Report at 22-24.

(from 7.6 % to 43.7 %), with three BOCs reaping returns in excess of 60% in 2003."[13] More recent data *that the BOCs themselves filed* with the FCC show that they have continued to earn exorbitant profits from special access. For example, the average rate of return for all BOCs in 2005 was nearly 68%; AT&T/SBC earned a rate of return of 92% on its special access services; BellSouth earned over 98%.[14] Even Verizon, which historically has lagged behind the other BOCs, reported a return of 42%.[15] In 2006, based on reports submitted earlier this month, BOC special access profits increased even further: AT&T reported a 100% rate of return and Verizon reported 51%. To put these earnings levels in perspective, the FCC's authorized rate of return is 11.25% – AT&T's 2006 rate of return for special access is nearly nine times, and Verizon's 2006 rate of return for special access is more than four and one-half times, the FCC's authorized level.

These returns are not a one-year aberration – special access rates of return (or, their after-tax profits) have grown steadily over the past five years. Indeed, SBC's rate of return rose by more than 120% from 2001 to 2005, and the rates of return for the rest of the BOCs increased by more than 167% for BellSouth and 175% for Verizon.[16] Moreover, one study has suggested that even these astronomical returns may *understate* the BOCs' earnings; the costs of other services may have been misallocated to the special

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[13] MCI 2004 Comments at 158.

[14] These returns are computed from data the BOCs filed with the FCC in their annual ARMIS 43-01 reports. *See also* Ad Hoc Telecommunications Users Committee Reply Comments, WC Docket 06-74, at ii, 9 (June 20, 2006); *id.* at Attachment B, Reply Declaration of Susan M. Gately, ¶ 10 (June 20, 2006) ("2006 Gately Declaration").

[15] These returns are computed from data the BOCs filed with the FCC in their annual ARMIS 43-01 reports. *See* 2006 Gately Declaration ¶ 10.

[16] These returns are computed from data the BOCs filed with the FCC in their annual ARMIS 43-01 reports.

access category, thereby overstating the BOCs' special access costs and understating their rates of return.[17] These high BOC returns are evidence of a market failure: the lack of competition for special access has allowed the BOCs to charge exorbitant prices without restraint.

As the GAO recently found, "without more complete and reliable measures of competition, FCC is unable to determine whether its deregulatory policies are achieving their goals."[18] The FCC's deregulation was predicated on proxies and predictions, but the fact is competitive alternatives have *declined.*[19]

Without effective rules or meaningful competition, the BOCs' special access overcharges are likely to grow at an even faster pace in the future – a future in which special access will become even more critical to the telecom marketplace as more and more capacity will be required to support burgeoning customer demand for broadband.

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[17] *See* ETI Report at 33-34 (noting that the net investment allocated to the special access category is "completely disproportionate" to the number of special access loops as a percentage of loops in service, raising "suspicions that costs are being *overallocated* to the special access category") (emphasis in original); 2006 Gately Declaration ¶¶ 15-17.

[18] GAO Report at 15.

[19] GAO Report at 42.

Congress Should Require the FCC to Act

What is the solution to the special access market failure and rate gouging? Congress needs to mandate that the FCC rollback its premature deregulation of special access services and implement the pricing discipline that the marketplace has failed to provide. *Let me be clear: failure to do so will impede broadband deployment in the United States.*

The 700 MHz Spectrum Policies and Rules: Important and Complex

The future of wireless communications in the United States will also be affected by the FCC's policy decisions about the 700 MHz spectrum band. The Commission has before it a complex set of inter-related rulemaking proceedings addressing a large swath of spectrum in the 700 MHz band. This valuable spectrum is available for new uses because Congress wisely decided to require incumbent TV stations to vacate TV channels 52 to 69 when the digital television transition ends in February 2009. The 700 MHz spectrum band holds great potential. It is critical for public safety and other communications that the FCC makes the right decisions about this spectrum.

Before the FCC begins to auction and assign the 700 MHz spectrum, it needs to resolve a multitude of thorny technical and policy issues, including: whether to allocate more spectrum to public safety communications, how to enable or encourage interoperability among public safety agencies, whether or how public safety and commercial entities might use spectrum jointly, whether or how to change the use of the guardbands, the size of the spectrum blocks (how many megahertz per block), the geographic areas of the spectrum blocks (*e.g.*, large regional licenses or smaller license

areas), the construction benchmarks, the power limits and other service rules needed to minimize interference, how much spectrum should be devoted to narrowband, wideband, and broadband services, the type of auction to be held (*e.g.*, open or "blind," simple or combinatorial bidding), and the rules that apply to small businesses that want to participate as "designated entities."

In fact, the open issues are so numerous and so complex that the Commission now has pending before it multiple incomplete 700 MHz rulemaking proceedings:

- A Notice of Proposed Rulemaking regarding the service rules for commercial licensees in the 700 MHz band (WT Docket No. 06-150),
- Both the Eighth *and* Ninth Notices of Proposed Rulemaking regarding how to promote public safety wireless broadband (PS Docket No. 06-229 and WT Docket No. 96-86), and
- A Notice of Proposed Rulemaking concerning the guard band spectrum in the Upper 700 MHz block (WT Docket No. 06-169).

Given the importance of the 700 MHz band to the future of wireless and broadband in our country, Sprint Nextel would like to offer a few recommendations and observations. First, it is critically important that the Commission protect the allocation of spectrum to public safety communications. First responders who go into a burning and bombed building, as they did twelve years ago today in Oklahoma City, must have radios that enable them to communicate reliably. Second, we recommend that the Commission proceed judiciously to address the many open rulemaking issues rather than racing to a hasty hash of rules for one of the most significant spectrum bands available. The availability of this spectrum is a unique opportunity and it is essential that the FCC not "rush to judgment." Sprint Nextel is engaged today in a partnership with public safety to remedy spectrum allocation decisions that jeopardized reliable communications in the

800 MHz band; the Commission must ensure that its 700 MHz decisions do not repeat such errors.

Third, we recommend that the Commission consider carefully the ramifications of the size of the geographic license areas. If it establishes license areas that are too large, it may unfairly tip the 700 MHz auction in favor of well-heeled incumbents who may not have the same incentives to put this prime spectrum to good use as more entrepreneurial startups.

Fourth, it is important for policy makers to understand that the 24 MHz of spectrum allocated for public safety services in the 700 MHz band is allocated for state and local public safety entities. This spectrum is not allocated for federal use, but the discussions about interoperability have missed or glossed over this point. A fifth suggestion is those policymakers who are intrigued by proposals to allow commercial and public safety entities to use the same spectrum block jointly should understand that such joint use could be achieved in other spectrum bands, that is, they need not be limited to the 700 MHz band.

Conclusion

Chairman Markey and Members of the Subcommittee, you have demonstrated a forward looking and insightful approach by holding this hearing today. America has the opportunity to foster a revolutionary change in communications with the marriage of Mobility and the Internet in wireless broadband. Let's do all we can to achieve that goal. Let's not allow the special access gatekeepers to rob the nation of this opportunity.

Thank you.

U.S House of Representatives
Subcommittee on Telecommunications and the Internet
Hearing on
"Digital Future of the United States: Part 3 –
Spectrum Opportunities and the Future of Wireless

Written Testimony of John B. Muleta
CEO, M2Z Networks, Inc.

April 19, 2007

Background

Mr. Chairman and Members of the Subcommittee, thank you for inviting me to testify today. My name is John Muleta, and I am the co-founder and CEO of M2Z Networks, Inc. My business partner, Milo Medin, and I founded M2Z Networks in 2005 with the support of three prominent venture capital firms that have backed a long list of innovative technology companies of the digital age such as Netscape, Google, Tivo, MySpace and Amazon. Milo previously founded @Home Networks, and was one of the key innovators in the cable broadband industry. It is in large part due to Milo's leadership that the cable broadband industry grew from zero subscribers only a few short years ago to more than 40 million today.

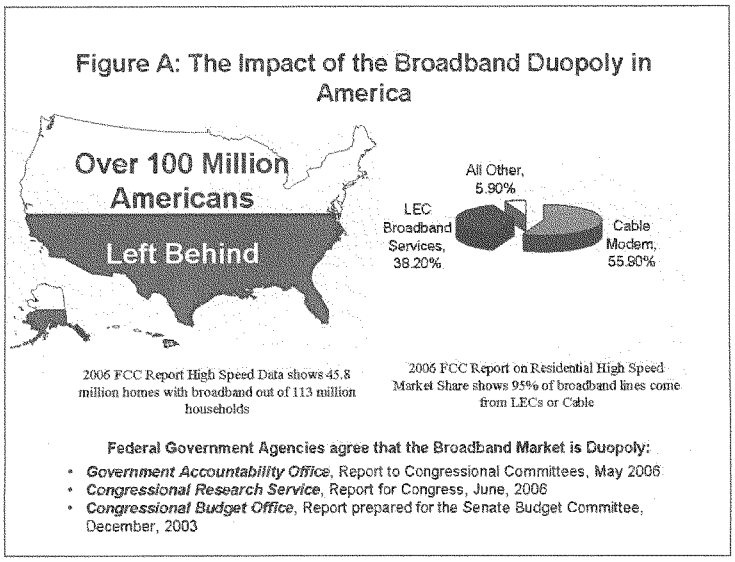
As for myself, I have more than 22 years of experience in the wireless and wireline telecommunications industries. As a businessman and entrepreneur, I

have worked with companies that helped to pioneer the Internet, including GTE and PSINet, Inc. At PSINet, I headed up efforts to build fiber and IP networks in 28 countries, and worked to open up developing markets through competition from IP-enabled services. I also served as the Chief of the Wireless Telecommunications Bureau at the Federal Communications Commission (FCC or Commission) between 2003 and 2005, and was Deputy Bureau Chief and Chief of the Enforcement Division of the FCC's Common Carrier Bureau during the implementation of the 1996 Telecommunications Act.

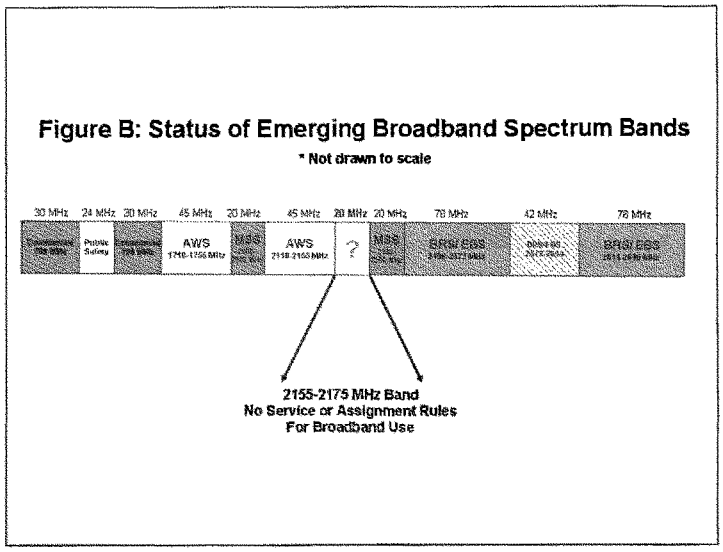
The Subcommittee was kind enough to ask me here to speak about spectrum management and how it affects our country's digital future. Today, spectrum management must place particular focus on the need for additional consumer broadband access across the country because of the educational and economic impact it will have on our country's global competitiveness in the future. Broadband availability for all U.S. citizens has been identified as a top priority by leaders in both parties, including President Bush, Speaker Pelosi, FCC Chairman Martin, and many of the distinguished members of this Subcommittee. I am happy to report that M2Z has identified a path to reach this paramount goal by utilizing 20 MHz of unpaired, historically underutilized, and largely fallow spectrum at 2155-2175 MHz for which it has sought an FCC license.

M2Z's mission is to provide Americans, of all means and all demographics,

the opportunity to access a free, fast, and family friendly nationwide wireless broadband data network. This network will finally bring broadband Internet access to over 100 million adult Americans – in addition to their millions of children who need fast, reliable Internet access to augment their education – who currently have no Internet access or who use outdated dial-up connections. For others, M2Z will provide a welcome choice to the current broadband duopoly.



In order to provide this valuable free service, M2Z has applied to the FCC for a license to construct its network at 2155-2175 MHz as depicted in Figure B below.



This particular block of spectrum is largely unused and underutilized; it is also unpaired and thereby unattractive to incumbent wireless operators who cannot use it in conjunction with their existing mobile voice networks that rely on paired spectrum assignments. Yet, as a technical matter, virtually all experts agree that unpaired spectrum technologies are the most efficient and effective means of transporting wireless broadband data.

M2Z has thus responded to the national imperative for more broadband with a solution that uses spectrum that currently is lying fallow[1] and which is a poor fit

[1] Although there is a long circuitous twelve year path to how this band ended up in its current situation, it is where it is and there is no need to review the sordid history. What is clear is that

for existing mobile technologies. There simply is no public policy reason not to allow M2Z to proceed with deployment of its network. Indeed, the only opposition that M2Z has encountered comes from incumbent operators, their representatives, and other would be competitors that fail to meet or rebut the high public interest standard set by M2Z's free broadband initiative.

Spectrum Management And The Problems of the Digital Age

Today, one of the greatest impediments to the realization of the promise of the digital age is the fact that the broadband market is a duopoly that limits consumer choice and provides little incentive for existing competitors to drive prices down. This should come as a surprise to no one. The Government Accountability Office ("GAO")[2], the Congressional Budget Office (CBO)[3] and the Congressional Research Service ("CRS")[4] have reached the same conclusion. Similarly, FCC reports on the status of broadband Internet access show that incumbent local exchange carriers ("LECs") and cable operators dominate the residential broadband market, with LECs serving 38.2% of the market, and cable

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the spectrum band has no service rules in place to define its new use and no geographic blocks for assignment.

[2] Broadband Deployment is Extensive throughout the United States, but It's Difficult to Assess the Extent of Deployment Gaps in Rural Areas, United States Government Accountability Office, GAO-06-426, May 2006

[3] "Does the Residential Broadband Market Need Fixing?" Congressional Budget Office, 2003.

[4] "Access to Broadband Networks," Congressional Research Service Report for Congress, June 28, 2006.

operators serving 55.9% of residential broadband subscribers.[5] Only 5.9% of all residential broadband subscribers use other technologies.[6] Finally, and most disappointing, well over half of all U.S. adults do not have access at all to broadband at home.[7]

As these data demonstrate, the broadband Internet access market would benefit greatly from the entry of a new, nationwide, facilities-based competitor,[8] and the most likely source of such facilities-based competition is a wireless

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[5] *See* FCC, *High-Speed Services for Internet Access: Status as of December 31, 2006*, at 3, Table 3, See Chart 4. According to the 2006 Report, of the 50.4 million lines which were faster than 200 kbps in *both* directions, 55.9% were cable modem, 36.3% were ADSL, 1.9% were SDSL or traditional wireline, 1.4% were fiber to the end user premises, and 4.5% used other technologies.

[6] Unfortunately, DSL service is proving to be little or no constraint on cable modem prices. Last year, two LECs announced that they would not reduce the price of DSL service to reflect the Commission's elimination of certain USF contribution fees. Instead of passing the savings from these fees on to consumers, BellSouth and Verizon reported that prices would remain the same. *See, e.g.,* Amy Schatz, *Verizon and BellSouth DSL Users Won't See Lower Bills as Fee Ends,* WALL STREET JOURNAL, Aug. 22, 2006, at A2. Commission reaction to protect consumers was swift; reports of the Commission's commencement of enforcement proceedings were widespread. *See, e.g.,* Amy Schatz, *FCC Questions DSL Customer Fees,* WALL STREET JOURNAL, Aug. 25, 2006, at A4. Within a few days, the carriers eliminated the fees. *See Statement of FCC Chairman Kevin Martin on Verizon And BellSouth Eliminating Recently Imposed DSL Fees* (rel. Aug. 30, 2006) ("Consumers should receive the benefits of the Commission's action last summer to remove regulations imposed on DSL service.").

[7] There are 45.8 million residential broadband lines in the U.S. *See* FCC, *High-Speed Services for Internet Access: Status as of December 31, 2006*. According to the Census Bureau, there were 113 million households in the United States in 2005. *See* U.S. Census Bureau, "Households by Type, 1940 to the Present," May 25, 2006 (available at http://www.census.gov/population/socdemo/hh-fam/hh1.pdf). The percentage of households with broadband access is therefore approximately 38%.

[8] The principal barriers to widespread broadband use are the retail cost of service and the fact that broadband infrastructure is not universally deployed. Accordingly, the Commission has identified greater broadband access as a strategic goal, stating that "[a]ll Americans should have affordable access to robust and reliable broadband products and services." Federal Communications Commission, Strategic Plan 2006-2011 at 5 (2006).

platform.[9] But don't look for that competition to come from the large incumbent providers,[10] which have little incentive to deploy a broadband wireless service that will compete with their current offerings.[11] If policy makers want robust broadband competition from a wireless provider, they must turn their attention to nurturing new entrants that are unaffiliated with existing cable modem, DSL, or incumbent wireless carriers.

M2Z is one such potential new entrant whose proposal, in my opinion, is superior because it is complete, transparent and replete with the technical and

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[9] *See, e.g., Martin Tells Reporters He Sees Progress on Broadband, Video, '911'*, TR DAILY (Mar. 17, 2006) (wireless broadband will be an "important component" of high-speed service and regulatory relief should be offered to new investors in the broadband marketplace); Remarks of Commissioner Jonathan Adelstein at the Wireless Communications Association Annual Convention (June 27, 2006) ("If we are going to see real broadband competition, it probably has to come from wireless.").

[10] Incumbent broadband providers that offer cable modem or DSL service have little incentive to deploy a broadband wireless service that will compete with their own wireline offerings. *See, e.g.*, Tiernan Ray, *Comcast Sending Strong Buy-Cell Signals*, BARRON'S, Aug. 29, 2006 (observing that Comcast is not likely to construct a wireless network until such service will complement, rather than compete with, its existing network); Karen Brown, *BellSouth Expands Broadband Wireless Plans*, MULTICHANNEL NEWS, July 10, 2006 (BellSouth's director of product development explains that BellSouth will use its wireless communications service (WCS) spectrum to supplement its wireline network, stating that: "Even in metro areas, we have spaces where we don't have DSL coverage. And then when we get out to rural areas where we have DSL, but it goes so far out and the economics don't carry it farther . . . So what you are seeing is our plan using wireless broadband to push broadband farther out.").

[11] The Commission recently granted all WCS licensees (in the 2.3 GHz band), including entities such as AT&T, BellSouth, NextWave, and Verizon Wireless, an additional three years until July 2010 to satisfy their applicable construction build out requirements. *See* In the Matter of Consolidated Request of the WCS Coalition For Limited Waiver of Construction Deadline for 132 WCS Licenses, Order, 21 FCC Rcd 14134, ¶ 13 (2006). The WCS waiver order limited the breadth of the original request because it lacked certainty and "could act as a disincentive for WCS licensees to expeditiously develop technological solutions for the band and construct systems" and "undermine one of the purposes of the construction requirement to prevent spectrum warehousing."

business foundations to succeed in the marketplace. M2Z was founded to offer an alternative to the broadband duopoly by using spectrum that has been abandoned by the marketplace and which is all but unused. The 2155-2175 MHz band that M2Z seeks access to in order to compete in the marketplace has no identified future use, no specific time or date for assignment, and no incumbent users that have not already been ordered to transition out of the band. [12] M2Z has proposed a solution to use this spectrum and directly address the three most vexing problems in growing the U.S. broadband market: affordability, availability, and accessibility.

As explained in detail in its license Application, filed now almost a year ago on May 5, 2006, M2Z proposes to make available free, broadband Internet access to nearly every consumer, business, non-profit and public safety entity in the United States. To make this service possible, M2Z filed an application for an exclusive, nationwide authorization, with a 15-year license term, to operate in 20

[12] *See Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd. 14165, ¶¶ 37-38 (2004) ("*BRS R&O*") (ordering the relocation of users from the 2150-2156 MHz and 2156-2160 MHz bands to 2496-2502 MHz and 2618-2624 MHz respectively); *Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems*, Eighth Report and Order, Fifth Notice of Proposed Rulemaking and Order, 20 FCC Rcd. 15866, ¶ 6 (2005) ("*AWS 8th R&O*") (ordering the relocation of users of the Fixed and Mobile Service allocations in the 2155-2160 MHz band and designating the 2155-2175 MHz band for AWS use). *See also Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems*, ET Docket No. 00-258, Ninth Report and Order, FCC 06-45 (rel. Apr. 21, 2006) ("*AWS 9th R&O*") (establishing procedures for relocation of incumbents.

MHz of spectrum.[13] In return, M2Z is willing to assume specific and enforceable public interest obligations, including, among others:

(1) provision of a free wireless broadband service throughout M2Z's national footprint;
(2) rapidly build out its network to 95% of Americans in 10 years, with interim benchmarks of 33% of the population in 3 years and 66% in five years;
(3) finance the build-out without using the Universal Service Funds (USF);
(4) filter pornography and other obscene and indecent material on the free network in order to make broadband access safe for children and their parents;
(5) provide access to an interoperable wireless broadband platform free of charge for public safety organizations; and
(6) voluntarily pay to the U.S. Treasury a five percent spectrum usage fee based on subscription revenue.

One might reasonably ask, then, when M2Z will be licensed so it can begin deploying its network? It turns out the answer has to do with the potential of incumbent licensees and speculators to manipulate the FCC 's spectrum assignment process as a way of delaying competitive entry or otherwise thwarting innovation that is in the public interest.

The Fundamental Goal Of Spectrum Management: Serve The Public Interest

Let me now turn to the purpose of spectrum management and the FCC's spectrum assignment process. Congress directed the Commission, quite simply, to

[13] *See* Application of M2Z Networks, Inc. for License and Authority to Provide a National Broadband Radio Service in the 2155-2175 MHz Band (filed May 5, 2006) ("*Application*").

put spectrum to its highest and best use ***in the public interest.*** In terms of spectrum assignment, Congress afforded the FCC a number of tools to achieve that end. These tools range from direct assignment using threshold licensee qualifications to spectrum sharing as well as competitive bidding as warranted by the public interest in each particular circumstance.[14]

In empowering the FCC, Congress has also rightly provided the FCC the discretion to select the best method that fits the public interest objective at hand. Thus, contrary to what entrenched players in the industry and their speculative brethren might argue, there is no shorthand process for making assignment decisions; Congress did not direct the Commission to thoughtlessly jump to competitive bidding at every instance.

For example, the FCC's timely decision to accept and seek comment on M2Z's license application has helped develop a record that fully illuminates the public interest considerations relevant to the use and assignment of the 2155-2175 MHz band. That record makes it plain that, first, the band should be allocated for the development of a national broadband radio service, as suggested by M2Z's application, and second, that licensing the spectrum by using threshold qualifications and technical parameters, based on a well established record, would

[14] *See* 47 U.S.C. §§ 301, 303, 308 and 309

be more effective than resorting to time consuming, counter-productive, and redundant rulemakings.

That is a strong statement, but the record supports it. Nearly 1,000 comments have been filed urging the FCC to grant M2Z's license application.[15] By M2Z's last count, these supportive comments come from people and organizations representing the interests of over 26 million Americans.[16] Moreover, the record contains two authoritative and uncontested economic studies, one submitted by a former FCC Chief Economist and the other by a respected technical consultant, Dr. Kostas Liopiros that estimate that deployment of M2Z's network will generate up to 32.4 billion dollars in direct consumer welfare benefits.[17]

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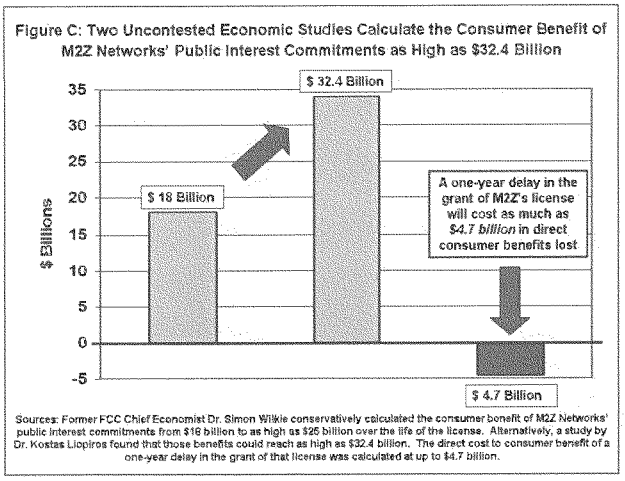
[15] The Commission's Strategic Plan notes that "[t]he Commission shall seek to understand consumer demand for broadband and to encourage deployment across multiple platforms to ensure that access is not a barrier to adoption of affordable broadband technologies *as they become available*." FCC Strategic Plan at 5 (emphasis added).

[16] *See* WT Docket Nos. 07-16 and 07-30 available at http://gullfoss2.fcc.gov/prod/ecfs/comsrch_v2.cgi.

[17] *See* Simon Wilkie, "The Consumer Welfare Impact of M2Z Networks Inc.'s Wireless Broadband Proposal," WT Docket Nos. 07-16 & 07-30 (submitted Mar. 2, 2007); Kostas Liopiros, "The Value of Public Interest Commitments and the Cost of Delay to American Consumers," WT Docket Nos. 07-16 & 07-30 (submitted Mar. 19, 2007).



Indeed, Dr. Liopiros' study finds that the consumer welfare benefit of M2Z's network will decrease significantly (by as much as 4.7 billion dollars) for each year of delay in granting the license application.

But economic papers and demands by the public for better and cheaper broadband service are not necessary to understand the public interest benefits of a free, nationwide wireless broadband platform. The benefits of M2Z's proposal are immediately obvious. Indeed, the FCC has recently suggested that even incremental additional broadband deployment and competition, though it may pale in comparison to the promise of M2Z's new network, would serve the public interest.

In its decision to allow the $86 billion merger between AT&T and

BellSouth, the FCC gave one view of what constitutes the public interest. In a transaction the scale and scope of which with regard to consolidation has no parallel in the telecommunications industry, BellSouth reluctantly (and at the last minute) agreed to a set of merger conditions that the Commission found to be in the public interest. BellSouth agreed to provide unbundled access to DSL, and guaranteed to offer, for 3 years, a "low-cost" DSL service ($10 per month) throughout its service territory covering 9 million people. BellSouth also offered to build out several trial markets using its unused 2.3 GHz spectrum covering the same population, but without any description of the specific services that consumers will receive. And again, its commitment to construct trial markets using its 2.3 GHz spectrum is limited to 3 years. Finally, it agreed to divest itself of spectrum held in the 2.5 GHz band, which it had obtained some 10 years ago and which, by all appearances, it has merely been warehousing in the interim.

Figure D below contrasts these public interest conditions with the binding commitments offered by M2Z.

Figure D: M2Z's Public Interest Commitments Exceed even the AT&T/BellSouth Merger Requirements

M2Z Application

M2Z will deliver Free, Fast, Family Friendly consumer wireless Broadband to a minimum of 95% of the US Population for the 15 year license

- Free Service at minimum 384 kbps with no contract or long term commitment
- Family Friendly service with filtering in the network for the Free Service
- Build-out commitments as a condition of the license: 95% of the US Population in 10 years with intermediate milestones of 33% in 3 years, 66% in 5 years
- Public Safety – free use of the network with traffic prioritization and pre-emption in emergencies
- Will not take from USF; will pay into USF
- Pay 5% of premium services for use the spectrum

Greater Than

AT&T BellSouth Merger Conditions

Combined AT&T/BellSouth has been required to provide broadband service to their service territory for 3 years

- $10 unbundled DSL service to new customers
- Free modems to customers that upgrade from dial-up with a 12-month contract
- Report in 12 months on efforts to provide high quality service to customers with disabilities
- Divestiture of 2.5 GHz Spectrum to new broadband entrant (Clearwire)
- Mandated interim build out of 2.3 GHz holdings

M2Z is offering a free broadband service with a network that will reach, at a minimum, 95% of the population. M2Z has extended its offer to include those that protect and serve our homeland by offering free access to every public safety officer. M2Z's offer is neither limited nor temporary. It is not an offer made in light of public and private pressure in the context of a merger review, but was instead made willingly and eagerly, and with the vigor of a new entrant.

Process Should Not Defeat Progress

Not surprisingly, several competitors or would-be competitors to M2Z have opposed M2Z's license application, and are now seeking to use the regulatory

process as an anticompetitive weapon. Many of them conveniently presuppose that spectrum assignment by competitive bidding is an absolute requirement of the Communications Act. They also argue that this process requires lengthy and tedious further rulemakings and fact findings to ensure efficiency and fairness. Their positions are both legally erroneous and factually flawed.

As to the legal requirements guiding the FCC's determination, a reading of the relevant statutes and FCC precedent reveals that auctions are not required by the Communications Act where they are not needed or appropriate. Rather, Congress recognized that auctions are just one of among the panoply of methods for assigning spectrum in accordance with the public interest.

Again, at the risk of reciting Congress' own handiwork, let me be more specific about the statutory basis of the FCC's spectrum assignment processes. The clear and plain meaning of Section 309 of the Communications Act, as interpreted by the FCC and the courts of jurisdiction, is that Congress requires assignment by competitive bidding only when other alternatives fail. Specifically, Sections 309(j)(1) and 309(j)(6)(E), when read together, direct the FCC to use a variety of means, including "threshold qualifications, engineering solutions and other means" in order to avoid mutual exclusivity, which is the necessary precondition for licensing by competitive bidding.

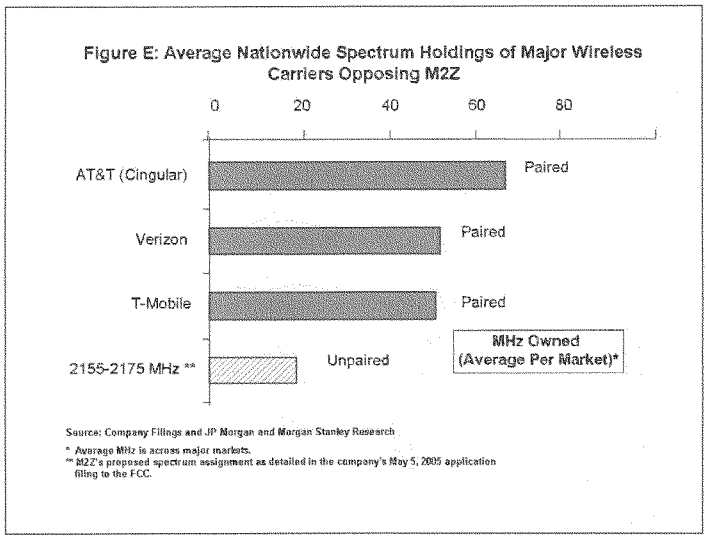
Further, despite what the proponents of competitive bidding might argue, it

is not clear that license auctions actually result in the greatest recovery to the public for the use of its spectrum. Assigning licenses through competitive bidding provides the U.S. Treasury with a one-time payment that represents a potential licensee's best estimate of the value of that particular license at the time of bidding. If spectrum is undervalued by auction participants, the public has no recourse; a licensee that earns billions using a spectrum license that cost a fraction of one year's annual revenue doesn't share that windfall with the public that owns the spectrum. For example, Personal Communications Services ("PCS") spectrum garnered a total of $17 billion in winning bids at auction over a course of 12 years. Today, the PCS industry enjoys annual revenue of $100 billion using this spectrum. If the PCS industry were paying a five percent share of its revenues to the U.S. Treasury, as contemplated by M2Z in its pending license application, the public would be benefiting by $5 billion for 2006 alone, with similarly large annual contributions in perpetuity.[18] Thus, the amounts collected through spectrum auctions do not necessarily reflect the true value of this public asset.

With regard to the claims of efficiency and effectiveness of auctions, empirical studies confirm that some past FCC auctions used to assign spectrum

[18] The Office of Management and Budget has said that "[u]ser fees will help to ensure that spectrum is put to its highest and best use, by internalizing the value of spectrum to the license holders." available at http://www.whitehouse.gov/omb/budget/fy2007/other.html *See* also "Major Savings and Reforms in the President's 2007 Budget, Executive Office of the President, February 2006

may not only have been inefficient but also competitively unfair. Dr. Simon J. Wilkie, former FCC Chief Economist, recently completed a report, which is included in M2Z's dockets at the FCC and which M2Z is submitting into the record of this hearing, comparing the theoretical underpinnings of past auctions with the empirical results.[19] Dr. Wilkie's paper clearly demonstrates that incumbent competitors have the financial incentives and, in most cases, the means to prevent competitive entry by warehousing spectrum rather than allow it to fall into the hands of new entrants.



Wilkie's analysis found that it is only when there is active *ex-ante* intervention by

[19] *See* Simon Wilkie, PhD., *"Spectrum Auctions Are Not a Panacea: Theory And Evidence Of Anti-Competitive and Rentseeking Behavior in FCC Rulemakings and Auction Designs,"* WT Docket Nos. 07-16 & 07-30 (filed Mar. 26, 2007)

the FCC – such as by imposing spectrum caps for incumbents or other means – is it likely that incumbents will be prevented from stifling new competitive entry through unproductive spectrum warehousing. Of course, one need not be an expert economist to comprehend the weakness of the unbounded use of auctions as a spectrum assignment tool. According to a scientific and bipartisan national survey conducted in February that M2Z is today submitting into the record of this Hearing, over sixty-percent of those surveyed supported issuing a spectrum license for the provision of a free high-speed Internet service based on the public interest instead of simply granting it to the entity that promises to pay the most.[20]

Nonetheless, several of the parties who have opposed M2Z continue to pound the table with their figurative shoes calling for an auction. The obvious attraction, of course, is that an auction provides an opportunity, at least, for an incumbent operator to freeze out new entry. More insidious still, however, is the use of the auction process strategically to run out the clock on entrepreneurial plans to provide new services. Those who would smother an infant service in its crib have a near perfect murder weapon in the auction process, which by its nature allows parties to add layer upon layer of procedural hurdles before any would-be

[20] Voter Consumer Research and Lake Research Partners collaborated to conduct a nationwide survey of 1,003 registered voters. The margin of error for this poll was +/- 3.1%. See Memorandum of Dr. Jan van Lohuizen, "Public Support for New Model of Wireless Licensing," Voter Consumer Research, February 28, 2007 and Memorandum of David Mermin, "Public Support for Licensing Wireless Broadband Service," Lake Research Partners, February 28, 2007, to be submitted for the record.

new entrant.

An oft-quoted study by Dr. Thomas Hazlett concluded that the median length of time from commencement of spectrum allocation proceedings to completion of an auction was 6.7 years.[21] As Dr. Hazlett convincingly argues, a regulatory snail's pace in Washington is not keeping up with the demands of our digital future and rapid technological advances. More to the point, process is not a substitute for policy.

This Commission, however, does not appear likely to delay an effort to expand broadband access. Chairman Martin has emphasized the importance of wireless offerings to the rapid deployment of broadband service, and has stated that grant of regulatory relief to new investors in this sector would spur further deployment.[22] Elsewhere, the Chairman and Commissioner Tate have acknowledged that forbearance is among the available means by which the Commission can "establish a policy environment that facilitates and encourages broadband investment, allowing market forces to deliver the benefits of broadband to consumers."[23] Having long advocated competitive entry into the broadband

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[21] *See* Thomas W. Hazlett, *The Wireless Craze, the Unlimited Bandwidth Myth, the Spectrum Auction Faux Pas, and the Punch Line to Ronald Coase's Big Joke: An Essay on Airwave Allocation Policy*, 14 HARVARD L.J. 335, 481, Table 8 (2001).

[22] *See Martin Tells Reporters He Sees Progress on Broadband, Video, '911'*, TR DAILY (Mar. 17, 2006).

[23] *See Petition of the Verizon Telephone Companies for Forbearance under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Their Broadband Services,* Joint Statement of Chairman Kevin J. Martin and Commissioner Deborah Taylor Tate, WC Docket

marketplace, Commissioner Copps has indicated that wireless technology holds promise as a potential entrant.[24] Likewise, Commissioner McDowell has lauded not only the benefits of broadband, but the public interest benefits of new competition in the broadband marketplace.[25] Having concluded that "the public interest means securing access to communications for everyone," Commissioner Adelstein "look[s] for opportunities for new entrants . . . who are seeking to compete in spectrum-based services."[26]

Congress Provided Safeguards Against Regulatory Delay

Even with the vigilance of individual FCC Commissioners to safeguard the public interest, Congress has also provided the whole Commission with the power and authority to overcome any unforeseen challenges that would delay its licensing process. It is crucial that the FCC use that authority to prevent incumbents from

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04-440 (rel. Mar. 20, 2006).

[24] *See Amendment of Part 15 Regarding New Requirements and Measurement Guidelines for Access Broadband Power Line Systems, Carrier Current Systems, Including Broadband over Power Line Systems*, Statement of Commissioner Michael J. Copps, FCC 06-113 (rel. Aug. 7, 2006) ("Along with *wireless technologies*, Broadband over Power Line is a credible candidate for a 'third pipe' that could bring meaningful competition to this market" (emphasis added)).

[25] *See Amendment of Part 15 Regarding New Requirements and Measurement Guidelines for Access Broadband Power Line Systems, Carrier Current Systems, Including Broadband over Power Line Systems*, Statement of Commissioner Robert M. McDowell, FCC 06-113 (rel. Aug. 7, 2006) (expressing optimism about broadband over power lines because new entry into broadband market would "help drive down consumer prices and foster innovative technologies").

[26] Remarks of Commissioner Jonathan S. Adelstein, "Accessing the Public Interest: Keeping America Well-Connected," 21st Annual Institute on Telecommunications Policy & Regulation, Washington, DC, December 4, 2003, at 1, available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-241881A1.doc.

abusing regulatory processes to disadvantage new entrants that want to promote new and better service to the American people.

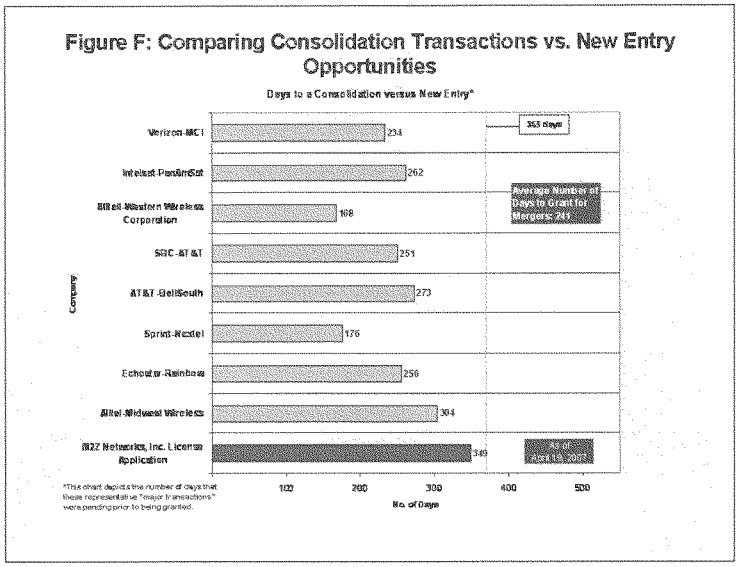
Notably, Section 7 of the Act, 47 U.S.C. § 157, provides that the Commission "shall determine whether any new technology or service proposed in a petition or application is in the public interest within one year after such petition or application is filed." This statutory provision was enacted to: (1) "encourage the availability of new technology and services to the public"; (2) prevent the Commission from "hamper[ing] the development of new services"; and (3) allow "the forces of competition and technological growth [to] bring many new services to consumers."[27] As Congress recognized when it enacted the statutory provision, delays in authorizing new services often result from opposition from incumbents seeking to limit competition and thus placed the burden of proving that such new services and applications are not in the public interest on those that oppose it.[28] The key to promoting the public interest is to have spectrum licensing procedures that promote market entry.[29] In light of the Commission's self-imposed policy of providing expeditious review of mergers and license transfer transactions that lead

[27] 47 U.S.C. § 160(a).

[28] *See* Extended Remarks of Hon. John R. Dingell on Amendments to H.R. 2755, 130 Cong. Rec. E74 (Jan. 24, 1984).

[29] The goal of Section 7 to expedite market entry was repeated in the 1996 Act with the passage of Section 271. That section permitted entry into new markets by large local exchange carriers based on a 90 day time clock. These statutory provisions reiterate the importance of Commission processes that promote timely market entry.

to market concentration, the Section 7 one year statutory timeframe approving nev licenses and new services is more than appropriate.



Similarly, Section 10 of the Act requires the Commission to forbear from applying any rule or any provision of the Act that is neither necessary to protect consumers nor to ensure that rates are just, reasonable, and non-discriminatory, provided that forbearance otherwise is consistent with the public interest. Congress anticipated that the Commission would use its forbearance authority to end unnecessary regulation and reduce the regulatory burdens on new entrants. And again, to expedite action on forbearance requests, Congress expressly limited the length of Commission deliberations on Section 10 petitions. M2Z has sought

forbearance under Section 10 for any and all regulatory or statutory provisions that might impede or impair the full and rapid deployment of its network.

M2Z's Application provides an ideal case for the Commission to utilize the myriad of tools at its disposal to further the foundational Congressional goal of bringing new competitive and affordable services and technologies to the public on an expedited basis. [30] No auction is required, no new rulemaking proceedings are needed, no further fact finding studies or other regulatory machinations are necessary or appropriate. Swift action to grant M2Z's application, based on the authority conferred to the FCC in Section 309(j)(6)(E) and consistent with Section 7 and Section 10 of the Communications Act, will help to promote facilities-based competition in the provision of broadband commercial mobile radio service, increase broadband penetration, and make more efficient use of a national spectrum resource currently underutilized.

Conclusion

No one has ever heard of an "analog divide" because it does not exist. One can buy an inexpensive TV or radio, plug it in and never have to pay a recurring fee. M2Z seeks to accomplish the same thing for broadband access. M2Z's Application proposes the licensing and deployment of an innovative nationwide

[30] Congress created the Commission "[f]or the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States . . . a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges." 47 U.S.C. § 151.

wireless broadband system. The public interest benefits of the system are substantial and well documented. The record before the FCC is complete and, in light of previously enacted legislation, no additional Congressional action is needed. M2Z has the technology, the energy, the vision, the funding, the public support and we have made explicit and transparent commitments that will significantly advance the public interest. The only question remaining is whether the Commission's rules, procedures, and policies can be manipulated by those seeking to protect their current market position to create a barrier to the rapid deployment of M2Z's new and innovative competitive broadband service.

* * *

APPENDIX 1

OF
Testimony of John B. Muleta
CEO, M2Z Networks, Inc.

(Graphical Illustrations)

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Figure A: The Impact of the Broadband Duopoly in American

Figure B: Status of Emerging Broadband Spectrum Bands

Figure C: Two Uncontested Economic Studies Calculate the Consumer Benefit of M2Z Networks' Public Interest Commitments as High as $32.4 Billion

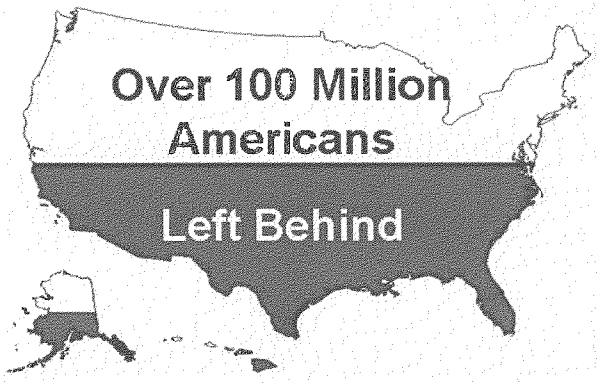
Figure D: M2Z's Public Interest Commitments Exceed even the AT&T/BellSouth Merger Requirements

Figure E: Average Nationwide Spectrum Holdings of Major Wireless Carriers Opposing M2Z

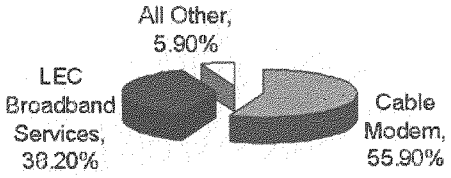
Figure F: Comparing Consolidation Transactions vs. New Entry Opportunities

April 19, 2007

Figure A: The Impact of the Broadband Duopoly in America



2006 FCC Report High Speed Data shows 45.8 million homes with broadband out of 113 million households



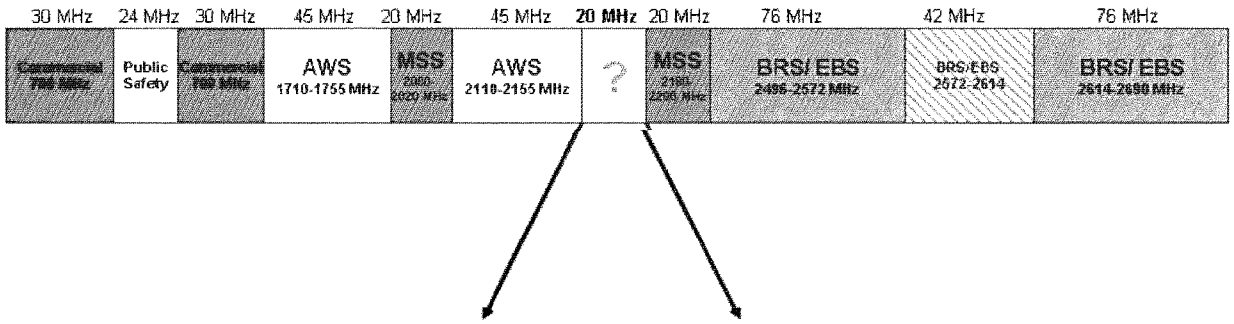
2006 FCC Report on Residential High Speed Market Share shows 95% of broadband lines come from LECs or Cable

Federal Government Agencies agree that the Broadband Market is Duopoly:

- ***Government Accountability Office***, Report to Congressional Committees, May 2006
- ***Congressional Research Service***, Report for Congress, June, 2006
- ***Congressional Budget Office***, Report prepared for the Senate Budget Committee, December, 2003

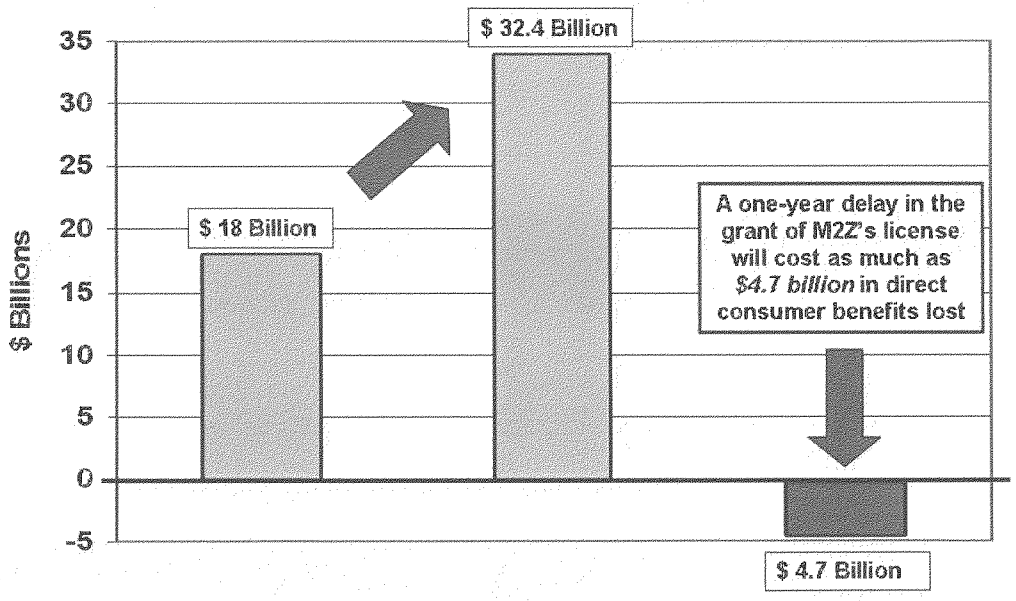
Figure B: Status of Emerging Broadband Spectrum Bands

*** Not drawn to scale**



2155-2175 MHz Band
No Service or Assignment Rules
For Broadband Use

Figure C: Two Uncontested Economic Studies Calculate the Consumer Benefit of M2Z Networks' Public Interest Commitments as High as $32.4 Billion



Sources: Former FCC Chief Economist Dr. Simon Wilkie conservatively calculated the consumer benefit of M2Z Networks' public interest commitments from $18 billion to as high as $25 billion over the life of the license. Alternatively, a study by Dr. Kostas Liopiros found that those benefits could reach as high as $32.4 billion. The direct cost to consumer benefit of a one-year delay in the grant of that license was calculated at up to $4.7 billion.

Figure D: M2Z's Public Interest Commitments Exceed even the AT&T/BellSouth Merger Requirements

M2Z Application

M2Z will deliver Free, Fast, Family Friendly consumer wireless Broadband to a minimum of 95% of the US Population for the 15 year license

- Free Service at minimum 384 kbps with no contract or long term commitment
- Family Friendly service with filtering in the network for the Free Service
- Build-out commitments as a condition of the license: 95% of the US Population in 10 years with intermediate milestones of 33% in 3 years, 66% in 5 years
- Public Safety – free use of the network with traffic prioritization and pre-emption in emergencies
- Will not take from USF; will pay into USF
- Pay 5% of premium services for use the spectrum

Greater Than

AT&T BellSouth Merger Conditions

Combined AT&T/BellSouth has been required to provide broadband service to their service territory for 3 years

- $10 unbundled DSL service to new customers
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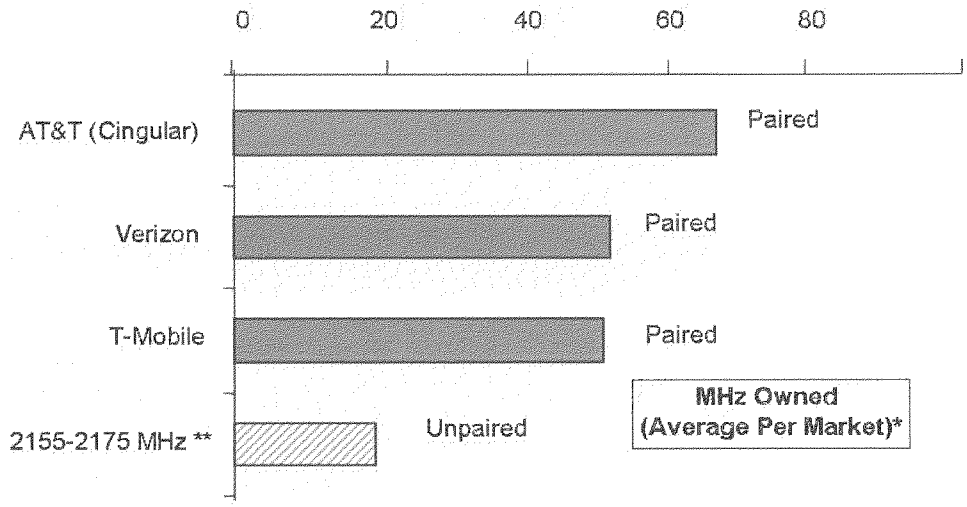
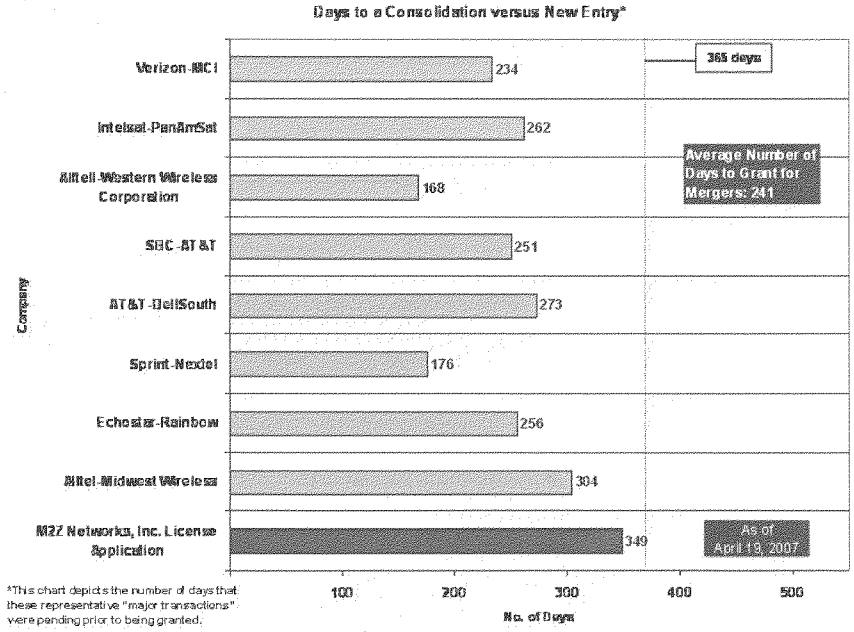
Figure E: Average Nationwide Spectrum Holdings of Major Wireless Carriers Opposing M2Z



Source: Company Filings and JP Morgan and Morgan Stanley Research

* Average MHz is across major markets.
** M2Z's proposed spectrum assignment as detailed in the company's May 5, 2005 application filing to the FCC.

Figure F: Comparing Consolidation Transactions vs. New Entry Opportunities



*This chart depicts the number of days that these representative "major transactions" were pending prior to being granted.

TESTIMONY OF

MICHAEL D. GALLAGHER

PARTNER, PERKINS COIE LLP

BEFORE THE

UNITED STATES HOUSE OF REPRESENTATIVES

COMMITTEE ON ENERGY AND COMMERCE

SUBCOMMITTEE ON TELECOMMUNICATIONS AND THE INTERNET

HEARING ON " THE DIGITAL FUTURE OF THE U.S.: PART 3: SPECTRUM OPPORTUNITIES AND THE FUTURE OF WIRELESS"

APRIL 19, 2007

Good morning, Chairman Markey, Ranking Member Upton and Members of the Subcommittee. Thank you for inviting me to be with you here today and I am honored to be on a panel with many of my distinguished colleagues. I want to begin by commending you for your leadership in bringing attention to the importance of sound spectrum policy and looking ahead to the amazing opportunities wireless technologies and services present to U.S. business and American families. In 2003 as I took the helm at NTIA, I said that spectrum is "the rocket fuel for the next wave of technological innovation." We are certainly experiencing that today.

I have had the privilege of holding various positions impacting the wireless community— from my position working closely with the Energy & Commerce Committee as chief of staff to Congressman Rick White, managing state legislative and regulatory affairs for leading wireless companies, and serving as Assistant Secretary of Commerce for Communications and Information under President George W. Bush. I can say that never before in my twelve years of professional service have I ever been as optimistic about the health and future of communications services and technologies— particularly wireless— as I am today.

Some key statistics paint the picture— the growth of wireless from an expensive niche product to one that is mainstream and readily affordable for all Americans is breathtaking and is indicative of its continued potential. There are an estimated 235 million wireless subscribers in the U.S. today generating more than 250,000 direct carrier jobs. According to the FCC, the U.S. "continues to lead the world in average minutes of use per subscriber," no doubt driven by the virtually free long distance and coast-to-coast roaming capabilities millions of Americans enjoy everyday. Analyst data indicates that the average U.S. wireless customer consumes five times as many minutes of use as their European counterparts— and free of the roaming crises that plague

European consumers. And they communicate on some of the fastest commercial networks in the world today.

Wireless is beginning to have a sharp impact on the deployment of broadband as well. The FCC says that 35% of the growth in all reported high-speed lines between June and December 2005 was attributable to mobile wireless. Moreover, 99% of Americans are living in counties where next-generation wireless services are available. The US was the first country in the world to deploy world-leading 3G wireless networks. Following the merger of Cingular with ATT Wireless, the better resourced Cingular was first in the world to deploy HSDPA – the highest evolved state of GSM technology. Today it reaches over 100 cities across the US and offers speeds approaching one megabit per second. However, in contrast to much of the world, the US also enjoys a very competitive market for wireless services. Verizon Wireless and Sprint have deployed the competing CDMA technology— EVDO Rev A— which offers customers similar speeds. By the end of 2008, Verizon and Sprint expect to offer that service to 200 million Americans. To add to the competitive, wireless, broadband mix, the US will see substantial deployments of WiMax technology powered by the investment of Sprint, Clearwire, Motorola, and Intel. WiMax is particularly attractive for its ability to cover large areas with fewer towers.

The future is even brighter. All three technologies have currently achievable, economic evolution paths (EVDO Rev C for CDMA and LTE for HSPA) which will be able to deliver 100 megabits per second to your hand in 2010. However, to achieve those speeds, the carriers will need access to attractive spectrum in blocks large enough to deploy 10 MHz channels (greater than the one to two MHz channels used today). The challenge to the federal government will be to make the resources available to meet the capabilities these technologies are capable of providing.

And the global economic impact of telecommunications is astounding. The Telecommunications Industry Association's (TIA) "2007 Telecommunications Market Review and Forecast" found that telecom revenue worldwide amounted to $3 trillion in 2006, up more than 11% from the previous year. The U.S. grew 9.3% in 2006 to $923 billion— the largest percentage growth in revenue since 2000. The global and U.S. markets are projected to reach $1.2 and $4.3 trillion in 2010 respectively. U.S. wireless industry revenue reached $129 billion for 2006, with an expected growth to $184.5 billion in 2010. As TIA President Grant Seiffert noted, "Technologies like VoIP and broadband video, as well as new mobile data services, are sparking new growth in the telecommunications industry." Unlicensed spectrum has been a catalyst for this growth as well. In just the last three years, WiFi has spread from 11,000 hotspots in 27 countries, to nearly 150,000 hotspots in 131 countries today— with a world-leading 50,000 of those in the U.S. Working with leadership from this committee, the FCC and NTIA provided fuel for the future of WiFi by opening up 240 MHz of additional spectrum for WiFi in the 5 GHz band. Those actions, in addition to first in the world authorization of ultrawideband technologies and opening up 26 GHz of spectrum in the 70 GHz, 80 GHz, and 90 GHz bands provide fuel for wireless innovators throughout the US economy.

In short, the U.S. leads the world in the competitiveness, capabilities, and consumption of voice minutes. It leads the world in wireless high-speed offerings and innovation to even faster networks in the years ahead. It provides American consumers and business competitive offerings that boost our productivity and enhance our lives.

So how did we get here?

Congress, and specifically the Energy & Commerce Committee under the leadership of its current Chairmen, can take significant credit for much of the success of this industry. By granting the FCC auction authority in 1993 and setting the stage for flexible use and a deregulatory approach to the auctioned spectrum it provided the roadmap for the development of the industry. In implementing Sections 309(j) and 322 of the Communications Act, the Commission has endeavored to put in place market-driven procedures and avoid the shortages and waste incurred by the "administrative allocation" of spectrum documented by economists in recent years. The unparalleled success of that decision is evident by many of the recent spectrum auctions. As the FCC 1997 report to Congress on spectrum auctions stated, "The FCC auction program has been widely recognized as a success. The FCC has not only met the goals mandated by Congress but also met its primary responsibilities to adopt fair rules, run fair auctions, and rapidly issue licenses to successful bidders. Moreover, FCC auctions have benefitted the American public by recovering at least a portion of the value of the spectrum resource."

Nearly 15 years ago, the completion of the successful Personal Communications Service (PCS) auction was the first step and a shining example of the policy wisdom of the current leadership of this committee. Each year since Congress granted it auction authority, the Commission has opined on the state of the wireless industry, and each year it describes an industry that is robustly competitive to the great benefit of the consumer. The market, not the regulator, continues to drive carriers to provide service throughout the nation and introduce innovative service offerings. Without any regulatory requirement to do so, carriers have upgraded their digital networks multiple times and are introducing true mobile broadband services in spectrum originally allocated for voice.

Following the leadership of Chairman Barton and Chairman Upton, last year's Advanced Wireless Services (AWS) auction was a huge success. This committee, working in partnership with leaders in the Senate and the Administration, ensured the success of that auction through passage of the Commercial Spectrum Enhancement Act which introduced the power of market mechanisms to assist in upgrading critical government radio systems and opening up vital spectrum to private sector innovation. Under FCC Chairman Martin's leadership, 104 bidders won 1,087 licenses resulting in gross bids of $13.9 billion— the largest completed auction to date. The AWS auction exemplified the key criteria for a successful auction. Licensing was open, simple, and transparent with no market-impacting conditions. Due to that auction structure, the U.S. will enjoy the introduction of another nationwide wireless competitor -- the cable industry – who purchased licenses covering nearly the entire country.

Today we have another opportunity to demonstrate the world-leading spectrum policy and deliver more fuel for economic growth: the auction of 60MHz of spectrum at 700MHz. As part of the Digital Television Transition and Public Safety Act (the "DTV Act"), this spectrum is being vacated by television broadcasters and the upcoming auction is drawing significant excitement and interest. It is valuable spectrum that will fuel the U.S. high-speed wireless broadband engine. In addition, the spectrum auction will provide key funds for many critical needs, including $1 billion to public safety for interoperability; more than $1 billion for set-top box vouchers; and billions for deficit reduction. Equally important, 24 MHz of this prime, newly-available spectrum is being provided to our nation's first responders to help facilitate interoperability and give public safety the 21st century communications tools they have needed for too long.

The potential of this spectrum to build upon recent successes is assured. As many esteemed members of the committee likely remember, the establishment of a clear date certain for the shut-off

of analog television and handing over the valuable spectrum to public safety was very difficult and hard fought. With the recommendations of the 9/11 Commission in hand, we cannot shrink from the commitment to that date. For months, former assistant secretary Larry Irving, my Commerce Department predecessor and I have been publicly advocating the importance of this spectrum and law to public safety and America's wireless consumers. The optimism I have been conveying rests a great deal with the unencumbered completion of the 700MHz auction and process using the PCS and AWS models and success stories as our guide.

In short, the DTV Act serves three vital public interest goals: first, it accomplishes the important Digital TV transition. Second, it helps promote the development of new and very high-speed broadband wireless services. Third, it ensures the availability of effective, interoperable emergency communications for first responders.

I am very concerned when I hear discussions or intimations about delaying the auction or encumbering the spectrum with restrictions such as "open access." This is truly where history should be our guide because I firmly believe anything short of a straightforward, transparent auction would cause far-reaching negative consequences.

The NextWave example comes immediately to mind. When compared against the successful AWS and PCS auctions other than the C block, the NextWave experience shows how any policy changes to a straightforward and fair auction devalue and delay spectrum and ultimately cost the American taxpayer. In its efforts to steer licenses to particular constituencies and employing such notions as designated entity requirements, bidding credits, and federal government financing all met with failure. Indeed, the end result of the Nextwave experiment was a sale of the encumbered

licenses to Verizon and Cingular. The social result was wasteful litigation and nearly a decade of political, economic and policy failures that took years to recover from.

"Open access", which many would call Wireless Net Neutrality, has no business in wireless today. Wireless carriers need to manage their infrastructure and delicate, high-speed ecosystems to provide the most reliable service and capabilities to their subscribers and the communities they serve. Unlike the traditional landline system which can provide substantial capacity to individuals over the "last-mile" connection, wireless systems provide a shared connection for all users operating in a certain geographic area. Forced open access policies create networks in which a few users can dominate the shared spectrum resource, thereby diminishing the quality and accessibility of service for other customers. Indeed, all handsets sold by U.S. carriers today undergo rigorous testing to ensure that they are extremely efficient with the scarce spectrum resource available, and that they do not impair the network experience of others or the health and safety of the customer.

In the wired world, the notion of Network Neutrality is a bitter policy debate which is devoid of a consensus today. Very few have stretched the notion to encompass the wireless market— and for good reason. Today, the handset market is defined by the sharpe edge of the consumer electronics marketplace. Large, sophisticated enterprises like Samsung, LG, Motorola, Sony, Blackberry, Treo, and today, Apple, compete for the favor of carriers— and their scores of millions of customers. The "in" handset of today becomes the "give-away" handset of tomorrow, and the "old school" handset of the day after that. In addition, the admittedly competitive carrier market where carriers compete on network quality, price, coverage, data capabilities, entertainment services (including this year, "television on your cell phone")— and handset availability— is serving customers enormously well. Aside from the technical immaturity of "open access" mandates, it is difficult to see, much less believe, the policy question that proponents of such conditions are trying

to answer. Moreover, creating "open" networks, in which users decided what to attach or run on the network, makes it more difficult for the network operator to meet the mandates of the Federal Communications Commission for socially beneficial programs like wireless location-capable E911 services and other priority messaging services. As I noted above, in today's wireless market, fierce competition has brought product and price differentiation for wireless services, unlike any other communications services. Open access restrictions on the spectrum slated for auction will do nothing more than stifle future innovations and significantly devalue the spectrum itself.

When we talk about wireless broadband innovation, we are not talking about "Buck Rogers" or pie-in-the-sky concepts. It is very much here today. The high-speed broadband technology path ahead of the country's wireless carriers (those in market and those about to enter) represents the true convergence between wired and wireless existences via an advanced IP-based integrated system. The infusion of valuable spectrum at 700MHz is a key catalyst for expanding new technologies and building next-generation capabilities. For the good of our economy, the competitiveness of the American worker, and to maximize the connections amongst American families, we must keep 700 MHz policy train on track. Not a single hertz of the spectrum should be wasted either on inefficient, analog voice public safety systems, nor on value-destroying, market-evading conditions. Anything short of a clear, transparent, straightforward auction will leave us short of our policy goal – and one successfully supported by this committee on multiple occasions in the past.

The allocation of new spectrum for both commercial and public safety use in the same band provides a unique opportunity to promote public-private partnerships. However, to promote such partnerships, Congress should ensure that the full force of the competitive marketplace is brought to

bear on the problem. That means that public safety should have the flexibility to negotiate with any wireless provider to obtain the best arrangements that will help it accomplish its objectives.

Nearly four years ago on June 11, 2003 members of this esteemed committee met for another hearing titled "The Spectrum Needs of Our Nation's First Reponders." At this hearing every witness focused on the critical need to free up the 24MHz in the upper 700MHz band. While nobody asked for more spectrum, funding was a key issue. Representative Stupak said "If I have heard anything today, it has been money, money, money. I understand that, but we have to identify some sources. Do you have any other auctions coming up that might be able to provide some source of funding?" The upcoming 700MHz auction will provide that kind of key funding.

In conclusion, I cannot emphasize enough the optimism I feel today about the future of the U.S. wireless communications. We are on the cusp of many amazing innovations and economic impacts. The U.S. is— and must continue to be— the world wireless leader. Keeping the 700MHz spectrum auction on track and unencumbered is critical to maintaining that leadership position. I welcome any questions you might have and thank you again for inviting me to be with you here today.

WRITTEN STATEMENT

of

MR. VICTOR H. "HU" MEENA
PRESIDENT
CELLULAR SOUTH, INC.

Before the
SUBCOMMITTEE ON TELECOMMUNICATIONS AND THE INTERNET
COMMITTEE ON ENERGY AND COMMERCE
UNITED STATES HOUSE OF REPRESENTATIVES

April 19, 2007

Introduction

Good morning Mr. Chairman and distinguished members of the Subcommittee. Thank you for providing this opportunity to testify before you today regarding the future of wireless services in America. Cellular South is the nation's largest privately-owned wireless carrier serving all of Mississippi and portions of Alabama, Tennessee, Arkansas and Louisiana. Most of the area served by Cellular South is rural, so we understand the unique challenges in delivering services to these areas. We also understand that our rural customers expect and deserve the advanced telecommunications services available in urban areas, and that the future of wireless in America must include these rural customers.

The telecommunications network once connected specific locations. Today, wireless technology has created a network that connects people, not just locations. Also, modern wireless networks offer more than simply voice services. Wireless customers can use handheld devices to perform countless business and non-business applications. Newer devices place e-mail and the Internet at a person's fingertips, moving the Internet's utility off of the desktop and into a mobile environment. As technology continues to evolve, it is essential that wireless carriers have the ability to expand and improve services for consumers. Ultimately, we serve the consumer and we should make decisions that are in the consumer's best interest.

In many ways this hearing could not come at a more crucial time for rural Americans. The Federal Communications Commission ("FCC") is preparing to auction the last block of spectrum suitable for providing wireless services to rural areas, and it is considering dramatic changes to the Universal Service Fund ("USF"). It is important to note that these two topics are not separate issues. Decisions regarding the 700 MHz auction and the Universal Service Fund

will determine the future of broadband service in rural America. For millions of rural Americans, it is essential that policymakers "get it right" when making these decisions.

I. 700 MHz

The 700 MHz spectrum is the future of wireless service for rural America. Because of its physical characteristics, this spectrum offers the last realistic chance to provide advanced wireless service – including wireless broadband – to rural areas. Lower-frequency spectrum (such as the upcoming 700 MHz spectrum and the already-licensed 800 MHz spectrum) travels farther than higher-frequency spectrum, making it ideal for serving rural areas. By contrast, spectrum in the higher-frequency ranges (such as 1900 MHz Personal Communications Services ("PCS") spectrum or 1700 MHz & 2100 MHz Advanced Wireless Services ("AWS") spectrum) is more abundant and is well-suited for serving urban areas. The upcoming 700 MHz auction will auction the last of the low-frequency spectrum and, with it, the last opportunity for rural Americans to receive wireless services. There simply is no other spectrum that can serve rural areas the way that 700 MHz spectrum can.

A. Broadband and Advanced Services

FCC Commissioner Michael Copps recently described a nationwide broadband network as today's great infrastructure challenge just as railroads and highways were America's infrastructure challenges in years past.[1] Broadband is becoming an essential part of everyday life for people around the world. We must ensure that all Americans have the opportunity to enjoy the benefits of broadband connectivity.

Today, there is a "digital divide" in our country where some Americans have access to broadband technology while others are being left behind. This is particularly true in rural areas.

[1] *Oversight of the Federal Communications Commission, Before the Subcomm. on Telecommunications and the Internet of the H. Comm. on Energy and Commerce*, 110th Cong. (March 14, 2007) (testimony of Michael Copps, Commissioner, Federal Communications Commission).

Entire communities are deprived of e-commerce opportunities, lifesaving telemedicine applications and other benefits of advanced data services. According to the most recent global rankings, the United States ranks only 15th in the world in broadband penetration behind such countries as Iceland (1st), Denmark (4th), Finland (7th), and Canada (9th). This ranking is due, in part, to large rural areas in the United States that do not have broadband access. If America is ever to assume a global broadband leadership role, these rural areas must receive broadband service. Wireline networks have not filled this need and broadband access via satellite remains prohibitively expensive for most rural consumers. Fortunately, wireless carriers can provide broadband access to rural America as they proceed with network upgrades and expansion.

The upcoming 700 MHz auction promises wireless carriers a method of delivering broadband to unserved areas, while support from the Universal Service Fund could offer the means to provide this service. The 700 MHz spectrum is a perfect platform for delivering wireless broadband because the spectrum travels great distances and penetrates obstructions. The Universal Service system is already in place to aid in providing advanced services to rural and high-cost areas. Any carrier who could not otherwise afford to provide broadband to rural areas can serve these areas with 700 MHz spectrum and USF support. These two tools will allow wireless carriers to close the "digital divide" that faces rural America.

B. 700 MHz Auction Rules

Because this spectrum is so unique and valuable, it is important that the auction rules are designed to ensure that winning bidders actually use the spectrum in rural areas, and to provide small wireless carriers – typically those carriers who serve rural areas – an opportunity to acquire 700 MHz licenses.

1. Implement Geographic Build Out Requirements

First, carriers should be committed to serving customers with the spectrum they acquire in the auction. FCC Chairman Kevin Martin recognized the importance of 700 MHz spectrum to rural America in his testimony before this Subcommittee earlier this year. Chairman Martin stated that the FCC "should consider some kind of policies to make sure that people are actually building out and utilizing the spectrum they are purchasing in geographic areas."[2] He further emphasized the importance of building out license areas, noting that the FCC must "make sure that people that are participating in this auction have every intention of actually building [the area] out and utilizing [the spectrum] to serve those in rural areas."[3]

Population-based build out requirements are not the solution for delivering service to rural America. This type of requirement measures a carrier's progress according to the percentage of the population that the carrier serves. This encourages wireless carriers to build out in densely-populated metropolitan areas and can penalize carriers who serve rural areas.

The best way to ensure that 700 MHz spectrum is actually used for the benefit of all Americans – including rural Americans – is to require winning bidders to meet certain geographic build out objectives in their license areas within a designated period of time. Geographic build out requirements are based on the amount of land that a carrier covers. This eliminates the incentive to serve metropolitan areas at the expense of rural areas. In licensing the 800 MHz spectrum, the FCC only allowed wireless carriers to keep licenses for geographic areas that they built out. As a result, carriers provided 800 MHz service to many rural areas when they would not have done so otherwise. The only way to guarantee that rural Americans will benefit

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[2] *Oversight of the Federal Communications Commission, Before the Subcomm. on Telecommunications and the Internet of the H. Comm. on Energy and Commerce*, 110th Cong. (March 14, 2007) (testimony of Kevin Martin, Chairman, Federal Communications Commission).

[3] *Id.*

from the inherent advantages of 700 MHz spectrum is to establish geographic build out requirements.

Cellular South supports strong geographic build out rules that would require carriers to establish coverage in 25% of their licensed area after 3 years, 50% after 5 years, and 75% after 8 years. Carriers that are not committed to serving 75% of their geographic license areas within 8 years should be required to give up portions of those areas to other carriers who will provide service. This "keep what you use" geographic build out requirement strikes a reasonable balance between the rights of carriers to serve the areas they choose and the rights of rural Americans to benefit from a national resource.

2. Offer a Mix of Geographic License Sizes

A second and equally important aspect of the 700 MHz auction is that small carriers and new market entrants must have a realistic opportunity to participate because these are the carriers who are most likely to build out and serve rural areas. Currently, the 700 MHz spectrum blocks are divided into six (6) large licenses (each covering roughly 1/6 of the United States) called Economic Area Groupings ("EAGs"). These licenses are entirely too large for small carriers to participate in the auction. Chairman Martin addressed this issue in his testimony earlier this year, stating that he "support[s] auctioning off multiple bands in smaller areas than [EAGs]" in the upcoming 700 MHz auction.[4]

In order to allow small carriers an opportunity to acquire 700 MHz licenses, there must be at least three blocks of spectrum designated as small Cellular Market Area ("CMA") licenses or medium Economic Area ("EA") licenses, and each of these blocks must contain at least 10 MHz of paired spectrum. If the FCC does not have multiple small and medium blocks with paired spectrum, all small and regional carriers will be forced to compete against each other in

[4] *Id.*

one or two blocks of spectrum while the large carriers will have the very large spectrum blocks to themselves because smaller carriers cannot compete in the auction for those licenses.

A group of small and mid-sized wireless carriers submitted a proposal called the "Balanced Consensus" Plan that would use small, medium and large license areas. Chairman Martin stated that "[the FCC] will try to accommodate exactly what the rural wireless providers have asked for" with regard to these license areas.[5] It is important that the FCC use small, medium and large license areas to ensure a diverse group of auction participants.

In the recent AWS spectrum auction, the FCC used a well-balanced mix of small, medium and large license sizes which allowed numerous carriers to participate. This is an absolute necessity if small carriers, mid-sized carriers and new entrants are to have any opportunity for participation, and it is a win-win proposition for all bidders. Small license areas have the advantage of allowing large carriers to target areas that they will actually serve – typically the densely-populated areas – while giving small and mid-sized carriers a chance to bid on the smaller geographic areas where they can reasonably provide service. Small geographic license areas will promote deployment of advanced wireless services in rural areas. Chairman Martin recognized these points in his Subcommittee testimony, noting that he "think[s] it is actually critical that we continue to try to establish smaller & smaller geographic areas when we are auctioning off spectrum to make sure . . . that smaller entities are able to participate vibrantly in the auction and also that we can make sure that people are buying spectrum in geographic areas that they will actually utilize."[6]

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[5] *Id.*
[6] *Id.*

3. Reject Package Bidding / Combinatorial Bidding

As a final thought on the 700 MHz auction rules, it is important to make sure that any rules promoting small carrier participation are not offset by other auction rules. In particular, rules that allow "package" or "combinatorial" bidding could undo all the benefits of having small geographic license areas.

"Package bidding" allows a carrier to combine numerous small licenses and make one bid for the entire collection. If the total bid for the package exceeds the sum of individual bids for the licenses, then the package bidder wins that group of licenses. This benefits the carriers who are able to bid on numerous licenses across the country, but harms smaller carriers who focus on local markets and contiguous licenses. Whatever theoretical gains may come from package bidding, in practice package bidding would virtually eliminate the opportunity for smaller and rural carriers to acquire licenses in the 700 MHz auction.

Small and rural carriers are eager to provide advanced wireless services to rural Americans. The FCC's rules for the 700 MHz auction will determine whether carriers have this opportunity.

C. Frontline Proposal

Recently, a group called Frontline proposed a plan that would create an interoperable broadband network for public safety entities, and would also provide a source of wholesale nationwide roaming to wireless carriers. This proposal has the potential to solve two problems facing wireless users today.

First, emergency responders have made clear their need for a nationwide interoperable broadband network. This will allow public safety entities to communicate with each other and

will create a foundation on which they can deploy future advanced technologies to protect all Americans in times of emergencies or natural disasters.

Second, regional carriers who focus on rural areas have a challenge to provide service to our customers when they leave the regions we serve. Small and regional carriers must have roaming agreements with large carriers in order for our customers to use wireless devices when they leave our networks. The FCC currently has no rule in place that requires wireless carriers to cooperate with one another through roaming agreements to provide consumers with automatic access to voice, data and, of great importance, broadband access when they travel outside the area served by their home wireless carriers. Technical incompatibility may be a reasonable exception, but refusal by some carriers to cooperate is quite another. While this hurts small and regional wireless carriers, the one who truly pays the price is the customer. Frontline's proposal would provide a source of nationwide roaming for customers of small and rural carriers.

We support Frontline's proposal because it addresses crucial public safety needs and also provides opportunities for regional carriers like Cellular South to provide nationwide broadband services to our customers when they leave our network.

II. Universal Service Fund

To further elaborate on an earlier issue, the future of the Universal Service Fund is a concern for small wireless carriers today. The USF system has been under attack recently because the size of the high-cost fund is growing. While there may be areas of the program that could be improved, I fear that the Fund's accomplishments are being overlooked.

A. Universal Service Fund Success

Support from the Universal Service Fund is the reason that many portions of rural America have wireless services. As you know, the goal of the Fund is to provide consumers in

rural and high-cost areas with reasonably-priced services that are reasonably comparable to the services offered in urban areas. When the Telecommunications Act of 1996 opened local markets to competition, wireless carriers became eligible to receive USF support. It is this support that made it possible for wireless carriers to serve rural markets that would not otherwise have these technologies.

In Mississippi, Universal Service support has helped Cellular South build out our network in rural areas. It is this network that was the only source of communication for many in the aftermath of Hurricane Katrina in 2005. While wireline networks remained inoperable for weeks, Cellular South's network was at full capacity just ten days after the hurricane made landfall. Relief workers and storm survivors along the coast as well as inland areas relied on Cellular South's network as we began the recovery process together. This comprehensive network would not have been possible without support from the Universal Service Fund.

As small carriers acquire spectrum in the upcoming 700 MHz auction, it is important that the USF continue to aid carriers in building out their license areas and allow carriers to use support for broadband services. Small carriers serve the rural customers that large carriers leave behind. It is essential that the USF system allow small carriers to continue deploying wireless technology, including broadband, to rural areas.

B. Unacceptable Reform Proposals

Currently, there is a proposal to restructure the USF program by implementing a system of "reverse auctions" in which carriers bid against each other to determine the least amount of support necessary for a carrier to provide service in an area. The reason that high-cost areas receive subsidies is because it is uneconomic for carriers to provide service without this support. Under a "reverse auction" plan, the available support in a high-cost area would go to a single

winner. Therefore, the only carrier who could afford to serve an area would be the carrier who wins the auction and receives the subsidy. This would drive out all competition and create a monopoly for the winning carrier, which is exactly the situation that the Telecommunications Act of 1996 was designed to correct.

Another suggestion for USF reform is to place a "cap" on the amount of USF support available to carriers. Under one version of this plan the cap would apply solely to wireless carriers while other USF recipients remain free of any kind of reform. There are several problems with this type of reform.

First, a cap is the wrong approach for reform because it does nothing to make the system more efficient. With a cap, inefficiencies are locked in place while new entrants (who may have a more efficient method of delivering services) are prevented from obtaining support. A cap would promote inefficiency in the system, thus artificially inflating the necessary amount of support.

Also, a cap on wireless carriers inequitably focuses on one class of carrier while the purpose of the Universal Service Fund is to aid in delivering services to consumers. Support to wireless carriers is growing because consumers are choosing wireless. Capping that support effectively increases the subsidy that wireless consumers provide to wireline networks that they are abandoning. I am advised that such discrimination against one class of carrier is not only fundamentally unfair, but it fails the FCC's own core principle of competitive neutrality – that is, the universal service rules are not permitted to advantage or disadvantage any technology or class of carrier. Cellular South believes that any reform proposal should apply to all USF recipients equally, regardless of the technology that the carrier employs.

The Universal Service Fund receives $2.5 billion each year from wireless customers. These customers deserve the benefits of choices in advanced communication services that Congress intended to provide in the Telecommunications Act of 1996.

Conclusion

As you can see, this is an important time for the wireless industry and for the future of telecommunications in rural America. Decisions made over the coming months will define whether America succeeds in connecting our society through a comprehensive, reliable broadband network. Wireless carriers are poised to do for broadband what they have already done for voice services, reaching users at home, at work and anywhere else on the network.

We have an extraordinary opportunity to deliver broadband to rural America. Wireless carriers can extend broadband technology to unserved areas using the capabilities offered by 700 MHz spectrum and Universal Service support to aid in the build out. The tools are there for delivering broadband to unserved areas, and small carriers are eager to provide service to these markets. With your help, we can deliver broadband to rural America.

Thank you again for the opportunity to be here today. I appreciate your time and your interest in these issues and look forward to discussing them here this morning. With that, I welcome any questions you may have.

THE DIGITAL FUTURE OF THE UNITED STATES

BROADBAND LESSONS FROM ABROAD

TUESDAY, APRIL 24, 2007

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON TELECOMMUNICATIONS
AND THE INTERNET,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:05 a.m., in room 2322 of the Rayburn House Office Building, Hon. Edward J. Markey (chairman of the subcommittee) presiding.

Members present: Representatives Doyle, Harman, Gonzalez, Inslee, Hill, Boucher, Eshoo, Green, Capps, Solis, Upton, Hastert, Stearns, Shimkus, Pickering, Walden, Terry and Barton.

Staff present: Johanna Shelton, Tim Powderly, Mark Seifert, Colin Crowell, David Vogel, Neil Fried, and Courtney Reinhard.

OPENING STATEMENT OF HON. EDWARD J. MARKEY, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF MASSACHUSETTS

Mr. MARKEY. Good morning. We welcome you. Today's hearing adds to the series of educational oversight hearings which began with the inventor of the World Wide Web, Sir Timothy Berners-Lee, and which is designed to illuminate telecommunications policy issues for the subcommittee this year.

This morning we have several distinguished witnesses to assist us in learning about international broadband deployment, competition and consumer adoption. I want to particularly thank the witnesses this morning who have traveled great distances from New Zealand, the United Kingdom and Japan to testify.

It is clearly time for us to look beyond our borders in developing our Nation's broadband strategy. While U.S. broadband adoption is certainly increasing and deployment continues, in international broadband rankings, a nation must essentially run in order to stand still. Relative to other countries, however, it appears as if America's broadband penetration is stalling at dial-up speeds while other nations have developed national plans and are moving ahead.

When the Organization for Economic Cooperation and Development first ranked its 30 member nations on broadband penetration in 2000, just 4 years after initial implementation of the Telecommunications Act of 1996, the United States was ranked fourth. By 2004, the United States had dropped to 12th, and as of yester-

day, newly released data show the United States has dropped three more places to the No. 15 spot on the list, down to 15th out of 30. Thank goodness, there are only 30 members of the OECD so that we can never drop below No. 30.

Now, some will argue that rankings on broadband penetration don't tell the whole story. That is true. Because merely looking at broadband penetration does not highlight that broadband elsewhere also tends to be both significantly faster and far cheaper. Others may say that our panelists' experiences cannot be replicated here in the United States based on differences in factors such as geography, population density and telecommunications infrastructure. Certainly no two countries are exactly alike. Yet despite the fact that most of the American population lives in urban or suburban areas, which are less costly to serve, we still don't enjoy the same broadband speeds or prices or the sheer number of consumer choices for broadband that are found in Japan or the U.K. In other words, our dilemma is that it is not simply that fast, affordable broadband is not available in Wyoming, it is also not available in Boston, where a 30-megabit-per-second fiber connection from Verizon costs about $180 per month, assuming you can even get one. In contrast, in Japan a consumer can get even faster service, 50-megabit service, for the equivalent of $30 a month.

Advanced high-speed broadband service is the indispensable infrastructure of the 21st century. It will be the vehicle through which countless other economic, civic and cultural activities occur. As we assess where we stand today, I think the way to achieve greater progress is not from more oratory rhetoric or excuses for poor rankings. The United States needs a plan. In my view, the United States started out on the right path. The 1996 Telecommunications Act mandated a robust unbundling and interconnection regime designed to jumpstart competition both between and among technology platforms. The idea was that competition would reduce prices, improve service and spur innovation including the deployment of broadband by incumbents and competitors. Gradually, however, we lost our way as regulators became convinced that competition within a platform actually hindered overall broadband and as a result we now have a residential broadband duopoly marked by relatively slow speeds and high prices.

Many other nations took one look at our broadband situation, learned from our experience and took the opposite approach. In Japan and the U.K., for instance, they implemented policies such as local loop unbundling and broadband resale that facilitate competition using the incumbent's plant regardless of technology. As a result, Japan and the U.K. today have faster broadband, cheaper broadband and more broadband choices.

I believe this hearing on Broadband: Lessons from Abroad will assist the subcommittee greatly in assessing what we consider for a broadband plan here at home.

Again, I thank our witnesses. I look forward to their testimony.

I turn and recognize the ranking member, the gentleman from Michigan, Mr. Upton, for his opening statement.

OPENING STATEMENT OF HON. FRED UPTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. UPTON. Thank you, Mr. Chairman, for this important hearing.

Today one of the focal points for our review of this issue is the benchmark that many cite as the measure of broadband deployment in countries throughout the world, the Organization for Economic Cooperation and Development, OECD, broadband statistics. December 2006 data released yesterday ranks the United States as 15th, as you indicated, in broadband penetration based on percentage of population. I believe, however, that it is important to understand two things: first, the methodology that the OECD uses to produce these relative rankings and how it understates the actual level of broadband connections in the United States, and second, that this ranking reflects the fact that we are just now overcoming the anti-infrastructure, anti-investment, anti-broadband decisions made by the FCC in its implementation of the 1996 Act during the 1996 to 2002 time frame.

As to the OECD rankings, I have come to learn that the methodology used by OECD to measure the extent of broadband connections is this. It adds up the business and residential broadband connections, then divides the number by the population of that particular country. The business broadband connections in the United States that are affected by the use of special access services are not counted for some unknown reason and only those that use DSL, cable modem or other technologies such as satellite and wireless are. That has the effect of greatly understating our broadband penetration as compared to that of Europe, which primarily relies on DSL. Part of the problem too is that the FCC until relatively recently was making decisions under the guise of implementing the 1996 Act that were in fact decidedly anti-investment by their very nature. What this committee came to realize back in 2001 and 2002 during the consideration of the Tauzin-Dingell bill was that the pace of deployment for broadband services and facilities was, as the committee indicated, "inextricably linked with the manner in which such services are regulated." Consequently, the legislation recognized that the unnecessary application of title II common carrier legacy regulation would stifle the deployment of broadband services and facilities.

When the House passed Tauzin-Dingell in February 2002 by a vote of 273 to 157, DSL was fully regulated as telecommunications services under title II. We didn't know whether cable modem was a telecommunications service or an information service, and broadband facilities were subject to unbundling requirements. After years of reversals, court decisions and revised FCC decisions, these matters now have been rectified, answered and decided, and we are catching up for lost time. Even though Tauzin-Dingell was never enacted, its underlying principles of promoting broadband investment and deregulatory parity have been the influential guideposts for subsequent FCC decisions and some of those decisions have established the broadband policy that we have been lacking. Consider this: March 14, 2002, less than 3 weeks after House passage of Tauzin-Dingell, the FCC determined cable modem service to be an information service not subject to title II regulations, and that was

affirmed by the Supreme Court. In February 2003, the FCC determined not to require the unbundling of broadband facilities such as fiber to the home, and that decision also was affirmed by the Court of Appeals in March of 2004. In August 2005 the FCC determined that wireline broadband access service, in other words, DSL, was an information service not subject to title II, and then in November 2006 the FCC determined that the broadband over power line was an information service not subject to title II regulation, heretofore dismissed by anyone as a viable broadband alternative. One should note the fact that the OECD report that lists Denmark as the leader in broadband penetration observes further that Danish power companies are rolling out fiber to consumers as they work to bury overhead power lines. In December 2006, the FCC adopted its video franchising report order, accelerating the process for new entrants. Video will be, as we know, a major driver for broadband deployment. In March 2007, just last month, the FCC determined that wireless broadband was an information service not subject to title II regulation. As a result of these FCC and judicial actions, we at long last have the semblance of a national broadband policy that promotes competition, is pro-investment, not anti-investment, and that imposes minimal Government regulations upon broadband services and facilities. I know that these long-sought-upon broadband policy decisions will greatly accelerate broadband. They are now only taking hold as a regulatory uncertainty that has hung over broadband was, as we thought in 2002, an investment-stifling factor.

We heard last week at the wireless hearing about the spectrum resulting from the DTV transition that will permit wireless providers to provide significant broadband services, so rather than look for new regulatory solutions, we must continue to promote competition, promote new technologies, promote and foster broadband network investment and rely on competition and deregulatory, not Government regulations.

I yield back. Thank you.

Mr. MARKEY. The Chair recognizes the gentlelady from California, Ms. Harman.

OPENING STATEMENT OF HON. JANE HARMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Ms. HARMAN. Thank you, Mr. Chairman. I am glad to see you are fully recovered. We were all quite worried a few weeks ago.

Mr. Chairman, your statement and that of Ranking Member Upton are very depressing. America is clearly lagging in broadband development despite clear legislative intent by the U.S. Congress. I remember 1996, but we all had hoped that we would have a robust broadband build-out by now.

To summarize what you said, broadband deployment in the United States is slower, more expensive and less extensive than in many other countries, and I say shame on us. The advantages of broadband for the e-economy are obvious and so are the disadvantages of leaving 200 million Americans in the Stone Age. I come from a part of the country where movies and music pay salaries and mortgages, CD sales are declining, media outlets are consolidating and piracy is rampant. Expanding broadband will bring new

markets to the entertainment industry and other industries, and I think that those markets will benefit, not just my constituents but constituents of members of this committee around the country.

There is still some dispute about how we stack up against other nations, but I think there is no dispute that the news is basically bad, and I am glad we are having this hearing to see if we can chart a way forward.

Thank you, Mr. Chairman.

Mr. MARKEY. The gentlelady's time has expired.

Speaker Hastert, the gentleman from Illinois.

Mr. HASTERT. I will pass.

Mr. MARKEY. The Chair recognizes the gentleman from Texas, Mr. Gonzalez.

Mr. GONZALEZ. I will waive.

Mr. MARKEY. The gentleman's time will be reserved.

The gentleman from Virginia, Mr. Boucher.

Mr. BOUCHER. I will waive.

Mr. MARKEY. The gentleman from southwestern Virginia waives his time.

The gentlelady from California, Ms. Eshoo.

OPENING STATEMENT OF HON. ANNA G. ESHOO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Ms. ESHOO. Thank you, Mr. Chairman, and thank you for now the eighth telecom hearing of this year. I think that there were eight held in the entirety of last year, so we are on a move here, and we need to be.

I want to welcome the witnesses to our country, to the Congress and to the House of Representatives to this hearing. It is an important one.

What brings us here today is reflected is one simple statistic. The United States now ranks 12th in broadband penetration, I think it is 15th as of yesterday, among all industrialized countries according to the OECD. The International Telecommunications Union has us rated even lower at 15th. Whatever No. 1 goes by, and whoever's ranking one chooses, one thing is absolutely clear: we are a long way from first, and we are not doing the things we need to do to get there. Yesterday, Mr. Chairman, PC Magazine came out with an article that is not complimentary of the United States and where we are, and I would like to, with unanimous consent, place it in the record because I think it should be part of this hearing.

Mr. MARKEY. Without objection.

Ms. ESHOO. Later this morning I am going to join the Speaker and several of my House colleagues including Chairman Markey to announce the Innovation Agenda, a legislative package to promote American competitiveness and ensure that we continue to lead the world in critical innovation and technology. Central to this agenda is a commitment to provide universal broadband access for all Americans within 5 years. I think it can be done in a shorter period of time but certainly within that time. Universal broadband isn't just something we should do; it is something we must do if we are to remain competitive in the 21st century. Unfortunately, our country, and our Government have not been committed to this

difficult task, and in the last several years we have lost significant ground to the rest of the world. No longer is the country that created the Internet and the most connected nation in a leadership position, and Americans shouldn't settle for 12th or 15th or 20th. That is not who and what we are. We need to rethink our broadband policies and look at what has worked in other countries, and that is why this hearing is such an important one and the witnesses that are here to be instructive to us.

We also have to provide what has been most lacking in this area, and simply put, it is leadership or the lack thereof. Broadband access has not been the focal point in our country because no one has made it a priority. Chairman Markey has made it clear that he intends to make this a priority, commencing his chairmanship with a series of hearings on the digital future of our country and certainly the Speaker has made this her commitment as well. I look forward to working with everyone on the committee. We have a lot of work to do, and I look forward to getting it done.

Thank you, Mr. Chairman, for your leadership, and I yield back the balance of my time, if there is any.

Mr. MARKEY. The gentlelady's time has expired.

The Chair recognizes the ranking member of the full committee, the gentleman from Texas, Mr. Barton.

OPENING STATEMENT OF HON. JOE BARTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. BARTON. Thank you, Mr. Chairman.

I would like to clarify a few misconceptions about broadband deployment in this country that are giving us an inferiority complex. While it is true that the current rankings in the OECD list Denmark as No. 1 and United States as No. 15 in overall broadband penetration, it is a little bit misleading. For example, the OECD doesn't count the special access lines that any U.S. businesses use for broadband. As a result, the OECD rankings greatly underrepresent U.S. businesses as compared to those in other countries which use DSL.

Focusing on penetration can also be misleading sometimes. Other OECD data rank the United States first with the most subscribers—we had over 58 million as of December 2006. In fact, of all the broadband connections in all of the OECD's 30 members, nearly a third are in the United States by itself. The OECD rankings do not account for the widely varying geographies and population densities. As Chairman Markey has pointed out, comparisons are questionable when most people in Iceland live in one community, Reykjavik, and most people in South Korea live in Seoul, the capital.

If we break U.S. residential broadband penetration down by State based on a May 2006 Pew study, the size comparisons become more realistic. Doing so, we find that the top three States have higher penetration than Denmark's 49 percent: New Jersey has 53 percent, California has 53, Connecticut has 51. In fact, the United States takes eight of the top 10 spots in terms of residential broadband penetration if ranked with the European Union countries. Even the bottom three states would be above the EU average of 23 percent. Vermont, for example, has 31 percent, Mississippi has 29 percent and West Virginia has 27 percent.

U.S. broadband penetration is also continuing to grow rapidly, thanks to our deregulatory policies. Recent FCC data show that since DSL was classified as an information service, the number of DSL lines has increased by 38 percent and the total number of high-speed lines has increased by 52 percent. Even better numbers are expected this year.

The United States also benefits from robust competition between cable and phone companies that other countries lack. In the United States, 51 percent of broadband penetration is attributable to cable modem, 42 percent coming from DSL and 7 percent from other sources, according to an HSBC report. By comparison, about 79 percent of the market in Europe is DSL. It is this lack of platform alternatives that has led the EU to rely on regulatory approaches, such as unbundling.

Their lack of platform alternatives and their reliance on network sharing is also the reason why the EU countries will soon be slowed by the speed and capacity limitations presented by technology. Companies in Europe generally are not deploying cable or fiber-optic facilities to the same extent as we are in the United States, and it is those types of facilities that will be necessary for the next generation of services.

We also have a flourishing wireless industry that is adding yet another broadband alternative. If we get the rules right for the upcoming 700 MHz auction made possible by our DTV legislation, we will have even more spectrum available that is ideal for next generation broadband services.

Mr. Chairman, I appreciate you doing this hearing, and I yield back my time.

Mr. MARKEY. The gentleman's time has expired.

The gentlelady from California, Ms. Solis.

OPENING STATEMENT OF HON. HILDA L. SOLIS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Ms. SOLIS. Thank you, Mr. Chairman, and thank you, Ranking Member Upton, and also welcome to our visitors from abroad who are here to testify.

Today, as you know, we have an opportunity to examine the best practices of other nations around the world in deploying high-speed communication technology. We know that this is going to require a significant investment to upgrade our infrastructure. Some of the questions I have are: what we will do here in the United States as we currently rank 15 among 30 industrialized nations as members of the Organization for Economic Cooperation and Development. I represent a very diverse district in Los Angeles. In fact, in some portions of the district we are known as Little Taiwan. We have a very large Asian Pacific Islander community, about 22 percent and growing, and I notice on this chart that we will probably be reviewing that China and Taiwan are not listed on our chart.

So we need to increase our communication and obviously deploy this very valuable tool, but more importantly, there are also some socioeconomic factors that need to be addressed, and that is the other part of the community I represent, which is East Los Angeles, heavily Latino, a lot of socioeconomic challenges there, and the

digital divide exists in our classrooms and in many of our homes. So I am looking forward to hearing how we can lower the cost, spread broadband out in communities that are currently underserved, and also figure out how we can do a better job of reaching out to our underrepresented communities both economically and culturally.

Thank you.

Mr. MARKEY. The gentlelady's time has expired.

The gentleman from Nebraska, Mr. Terry.

OPENING STATEMENT OF HON. LEE TERRY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEBRASKA

Mr. TERRY. Thank you, Mr. Chairman. I appreciate this hearing in particular as I think one of the issues that we need to work through to better shape this argument, broadband deployment, is really to look at how deep the deployment is.

There is no doubt in my mind from my experience on this committee that we have been saddled with the baggage of the past, legacy-type technologies and the regulatory schemes that are equally as ancient. While other countries may not have had that type of issue to deal with, we have also had a telecom recession that slowed down the dollars flowing into the market where other countries that were using Government dollars perhaps had a speedier time of outlaying a system. But I really believe that we are on track to have the best system in a matter of time. It is just a matter of how we conduct the inventory because even in my State of Nebraska, we claim almost universal deployment of broadband, but when you go into certain communities, they are saying where is it. So one of the things I think we need to do a better job is a real or actual inventory because what I see in my travels around the country is that we have got great assets, infrastructure and competition within larger, denser populated areas and then once you get outside of that, it is like falling off a cliff.

I want to tell a story about when I spent last August traveling around several small communities in the State of Nebraska, even though I only represent the city of Omaha, and talked to areas that wanted broadband and others that didn't. I want to tell you a story. Diller, NE, 298 people, it is the Diller telephone exchange. There are 800 people in the entire area, 800 lines, but they are very progressive, especially in broadband deployment. They have gone wireless. They put out fiber. So what has that meant to the community? Well, let me tell you a story of a little butcher ship in Diller, just about ready to go out of business, third generation running it, decided that they were going to start selling boxed beef over the Internet. So it went from three family members employed there to now 50 in a matter of 4 years. They buy all of their cattle locally near Beatrice, NE. They have sold to every State in the country and Canada, and they now employ 50 people using a broadband business plan. That is what it means for America and that is why this hearing is so important, so we can make sure that everyone has access to this type of technology and can compete in a 21st century global economy no matter where they reside.

I yield back.

Mr. MARKEY. The gentleman's time has expired.

The Chair recognizes the gentleman from Pennsylvania, the vice chair of the subcommittee, Mr. Doyle.

OPENING STATEMENT OF HON. MIKE DOYLE, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF PENNSYLVANIA

Mr. DOYLE. Thank you, Mr. Chairman, and welcome to our panelists.

Mr. Chairman, it seems like only a few weeks ago I was bemoaning our OECD broadband subscriber ranking at number 12. I want to congratulate Chairman Markey for holding a hearing about our standing in the international broadband rankings the day after we fall from 12th to 15th. Mr. Chairman, your timing is certainly better than Rich Little's was at the White House correspondents' dinner this weekend.

I appreciate getting letters from companies and industries who want to tell me that we shouldn't worry about our place in the broadband world. It doesn't matter, they tell me, that tens of millions of Americans don't have a fast connection to the Internet. An open and free Internet could be considered the first truly accessible tool to make the spirit of the First Amendment come alive for everyone in this country, but without an Internet available to all that guarantees fast speeds to anyone's content, that potential is just a promise.

I am hesitant to believe those who would tell us that the rankings aren't meaningful and that we should instead find a new way to look at the data. Frankly, I believe those views are what is holding us back. To say that we can't learn from other countries whose policies are clearly working better than ours seems to come from the same mindset that hinders our foreign policy and other matters. Each different way I looked at the rankings, and I have turned them upside down and looked at them sideways, it still shows we are in the middle, and when you look at the data over time, we are falling. We are falling behind to countries that are doing what we tried first, lost patience with and gave up on. That is right: Other nations are seeing success with what should have been our policy from the start, a policy that unbundled services from the wire those services travel on, a policy that recognized our infrastructure should be ripe for competition, new services, faster speeds and lower prices.

Chairman Markey, to paraphrase something Archie and Edith Bunker could have sung in 1996, hair was short and skirts were long, Celine Dion really sold a song, I don't know just what went wrong, those should have been the days.

Mr. Chairman, the lesson it seems from U.S. telecom policy is, do what we said in 1996, not as we actually did in 2003, and with that, Mr. Chairman, I will yield back.

Mr. MARKEY. Excellent. They should have had you, not Rich Little, on Saturday night.

The Chair recognizes the gentleman from Illinois, Mr. Shimkus.

OPENING STATEMENT OF HON. JOHN SHIMKUS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. SHIMKUS. Thank you, Mr. Chairman. I am wondering if Colin is moonlighting for Doyle in the script and songwriting area, so better check his compensation schedule there.

A couple quick things. First of all, I think we ought to be going to some of these countries that are represented here talking about our successes because we all know we can do better, but I think my colleague, Mr. Doyle, is wrong. I think we have a great story of success to tell, and I think we can go to some of the countries that are represented here and make the case why what we have done in some aspects has been very successful. I am a competitive-market guy, and I want more pipes, more competition and really not dictated by a large Federal bureaucracy.

Let me give you a couple points here. In absolute figures, even the OECD statistics indicate that the United States has the largest number of broadband subscribers with 58.1 million as of December 2006. That is roughly 30 percent of the broadband connections in all the OECD countries combined. By aggregating business and residential data, the OECD report also fails to show that residential broadband penetration is higher in the United States than most other countries at 42 percent, according to a May 2006 Pew study. That is less than Denmark's, the Netherlands' or Sweden's but more than each of the other EU member states. The rankings do not account for geography and population density. If we make the size comparisons more apt by breaking residential broadband penetration down by State to the top three, New Jersey, California and Connecticut, we beat number one-ranked Denmark. Even the bottom three States would beat the average penetration in the EU countries.

As many of you know, I am involved with the Baltic countries, Estonia, Latvia, Lithuania, very closely. Estonia has a great success story of penetration through cellular high-speed. Why did they get there? Because of a free, unfettered market and the fact that they could bypass the incumbents and bring competition to the world. It is truly a great story. Competition, competitive markets always beat government. That is where I stand, and I think we have got a good story to tell.

I yield back my time, Mr. Chairman.

Mr. MARKEY. The gentleman's time has expired.

The gentlelady from California, Mrs. Capps.

Mrs. CAPPS. Thank you, Mr. Chairman. I welcome our witnesses today and I will submit my statement for the record.

Mr. MARKEY. The gentlelady's time will be reserved.

The gentleman from Indiana, Mr. Hill.

Mr. HILL. I would waive an opening statement.

Mr. MARKEY. The gentleman's time will be reserved as well.

I see Mr. Stearns has just arrived. Would the gentleman like to be recognized to make an opening statement?

Mr. STEARNS. Thank you, Mr. Chairman.

Mr. MARKEY. The gentleman from Florida is recognized.

OPENING STATEMENT OF HON. CLIFF STEARNS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Mr. STEARNS. Let me compliment you for having these series of hearings. I think this is a diverse panel of witnesses that have broad experience.

I caution my colleagues not to go overboard in comparing the experience of other nations to the United States. In many cases, it would be comparing apples to oranges. The recent broadband ranking by the Organization for Economic Cooperation and Development puts the United States right in the middle of broadband subscribers. These rankings provide an interesting snapshot but are in many ways flawed and misleading. The OECD underrepresents U.S. broadband penetration, in part because they do not count business lines in the United States. Furthermore, the rankings do not take into account the varying geographics and population densities of each country. The United States, as we know, is very geographically diverse, especially compared to other countries on the OECD list. In an apples-to-apples comparison of broadband penetration by household, the U.S. outranks Europe. A more appropriate measure would be to break U.S. residential broadband penetration down by State to make the size comparisons. The top three U.S. States have broadband penetration rates greater than all European Union member states except the Netherlands. The average U.S. broadband penetration rate for all States is greater than the EU average.

As flawed as these rankings may be, we still have a lot of room for improvement, but we need to have better data than is currently available to make the best-informed policy decisions. I believe the United States is on the right track, but there is more that Congress can do by promoting wireless broadband, by identifying more spectrum and focusing on cooperative programs to stimulate rural broadband deployment. The last thing Congress should do is impose anticipatory regulation.

One area of improvement is on download speeds and prices. Other countries certainly have higher average download speeds and lower average prices than the United States. However, it is important to see whether prices are sustainable. Download speeds can be increased in the future and where upload speeds are adequate or capable of increasing. France, for example, does have lower prices for 20-megabits-per-second broadband service but France telecom is selling that service at half the real cost. How sustainable is that? DSL download speed in Europe varies from 8 to 50 megabits per second because EU loop lengths are very short in comparison to the United States loop length. Even so, U.S. speeds on average are higher than Europeans' to a significant degree because the United States has platform competition.

So Mr. Chairman, I thank you for holding this hearing. I look forward to hearing the witnesses and working with my colleagues to increase broadband subscribership and penetration in the United States.

Mr. MARKEY. The gentleman's time has expired.

The Chair recognizes the gentleman from Texas, Mr. Green.

OPENING STATEMENT OF HON. GENE GREEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. GREEN. Thank you, Mr. Chairman, for holding this hearing on broadband deployment around the globe, and I know this is our continuing series and I look forward to our witnesses today.

We have been looking at the digital future of the United States for several weeks now, and last week we heard from several witnesses on plans to deliver wireless broadband. Consumers here in the United States are paying double, triple or more per megabits per second of bandwidth than consumers in other countries. The lack of affordable broadband access with comparable speeds could eventually hurt U.S. businesses struggling to grow and create jobs. Accelerating broadband deployment is critical to the long-term health of the U.S. technology sector that provides the building blocks for our new networks. The U.S. does differ greatly from many foreign countries, however, because we have multiple platforms building networks competing for customers. Cable, DSL and soon WiMAX will each offer broadband service to the home and to business, and this competition could benefit consumers by driving down prices and forcing companies to invest in their networks and increase these speeds and stay competitive. Unbundling worked overseas because there was primarily only one platform to deliver broadband. It is unclear if that approach could work in the United States because of slow investment in networks that impede competition between the different platforms. In fact, many members of this committee supported the Tauzin-Dingell legislation to help push the FCC to roll back most of the unbundling regime from the 1996 Act. Congress did not accurately see the future in 1996 because the future of phone competition was not unbundling but instead with voice-over Internet. Cable companies and other voice-over Internet companies have successfully taken millions of former telephone subscribers and that competition has reduced the rates.

I look forward to hearing from our witnesses and working with the subcommittee on the future of broadband deployment and access and yield back my time.

Mr. MARKEY. The gentleman's time has expired.

All time for opening statements by members of the subcommittee has expired. Statements will be accepted for the record.

[The prepared statements of Mrs. Capps and Mr. Engel follow:]

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Statement of the Honorable Lois Capps
Subcommittee on Telecommunications and the Internet
Digital Future of the U.S.: Broadband Lessons from Abroad
April 24, 2007

Thank you, Chairman Markey, for holding this hearing.

I think this is a particularly important hearing for this subcommittee.

As all of us know, our country has been falling down the international rankings for broadband access. The most recent OECD study now puts the U.S. at 15th.

We must do better. Our economy is increasingly dependent on the internet, and we can't continue lead the world economically if we fall behind our competitors in broadband deployment and access.

This hearing gives us a chance to hear from some of our competitor nations about what's worked and what hasn't in terms of broadband policy.

The United Kingdom lagged our nation for much of the computing revolution, but now they've caught up and even surpassed us, according to the newest statistics, in broadband access.

I want to hear how that happened, and what steps we can do to reclaim our leadership.

I do know some steps we must take right away.

The FCC still has an outdated definition of broadband – just 200 KB/s, while Japan, another witness at today's hearing, has fiber connections that are 200 times as fast.

And we don't know who has broadband in this country, the places where it isn't available, and the prices that Americans are paying for it.

Let's solve these basic problems, and then rethink our nation's broadband strategy.

Thank you.

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Statement of Eliot L. Engel
Subcommittee Hearing on Broadband Lessons from Abroad
April 24, 2007

For several years now, this committee has faced the challenge of broadband deployment and encouraging investment in a network to ensure broadband access for all Americans. The promise of broadband requires an enormous investment from service providers, an investment that several years ago I feared would not be made by companies because of the regulatory abyss stifling them. These regulations would have cost them millions of dollars and in the end be fruitless. I have followed this issue closely and am happy to see that current regulatory conditions are such that it has increased investment in deploying fiber-optic lines to the home and throughout the system.

According to the OECD the United States remains in the middle of the pack among nations in deploying broadband telecommunications. While the U.S. ranks 12th in some listings when it comes to broadband, this country has the largest number of subscribers in the world, representing more than 30 percent of all broadband connections in OECD countries. I believe we need to take care when comparing the United States to many of our foreign friends who are considered to have superior penetration. The U.S. has both rural and urban populations as well as densities that spread over a large land mass. The geographical challenges we face here do not exist in many of the countries we are learning about in this Committee today. It is clear that factors such as geography, distance, and population concentration and urbanization are critical to the pace and success of investment in any network, not just broadband.

While I believe the United States is in a better position than it is ranked by the OECD, there is still more we can do in this Committee to ensure we have extensive broadband penetration. I am eager to learn from our witnesses today what policies their governments implemented in efforts to roll back barriers to broadband deployment. I also look forward to exploring the price of broadband to the consumer in these nations. Are prices sustainable and how do they compare to prices in the U.S.?

Mr. Chairman, I thank you for holding this important hearing. I believe that in order to maintain the United States' competitiveness as well as provide broadband penetration in all areas of the United States, we need to look at all the successes and mistakes of other nations.

We will now turn to our panel. We have an incredibly distinguished group of witnesses before us today. The Honorable Paul Swain has been a Labour member of the New Zealand Parliament for nearly 17 years. During his tenure, he has held a number of ministerial positions, including the minister of communications and information technologies. Mr. Ed Richards is the chief executive officer of the Office of Communications, the regulatory authority of the telecommunications and media sectors in the United Kingdom. Mr. Richards is the Kevin Martin, he is the equivalent of the Chair of the Federal Communications Commission for Great Britain.

Mr. Shin Hashimoto is executive vice president of Nippon Telephone and Telegraph Corporation, the parent corporation of Japan's two incumbent telephone companies, NTT East and NTT West, and its dominant mobile wireless provider, Dokomo. Mr. Greg Wyler is cofounder and director of Rwandatel and Terracom Communications, providers of broadband Internet access in Rwanda, and Dr. George Ford is the chief economist for the Phoenix Center for Advanced Legal and Economic Public Policy Studies, a think tank that studies issues related to the law and economics of the telecommunications and high-tech industries.

So we will turn to you, Mr. Swain, and each witness will have 5 minutes to make their opening statement, but you can see there is plenty of pent-up interest in questioning the witnesses.

We will begin with you. Welcome.

STATEMENT OF HON. PAUL SWAIN, MP, PARLIAMENT OF NEW ZEALAND, WELLINGTON, NEW ZEALAND

Mr. SWAIN. Thank you, Mr. Chairman and members. It is a great honor for me to be here in your country and be invited to participate in this hearing related to international perspectives on the provision of broadband. I will firstly say, Mr. Chairman, I hope I am not asked to sing, because I think that would lead to the clearing of the room.

As has been said, I am Paul Swain. I have been a member of Parliament for 17 years and the minister of communications and information technology from 1999 to 2004. New Zealand is a small country and like all countries is dependent on high broadband penetration rates for economic growth and social development. Like many countries, yourself included, looking at our penetration rates relative to the OECD, and I have to acknowledge, Mr. Chairman, that our ranking is 21 out of 30, and that is during a period probably of the last decade of one of the most light-handed regulatory regimes in the world, and we have just recently introduced some new measures to boost our country's performance.

Just a little background. Telecommunications in New Zealand was originally owned by the Government. In the late 1980s, the telecommunication market was deregulated and Telecom New Zealand was privatized in 1990. No specific teleco regulations were introduced at that time. The industry relied on general antitrust law to resolve disputes and issues. It was arguably the most deregulated market in the world. While there was some investment in competitive infrastructure in the 1990s, this stalled alongside a growing dissatisfaction with the growing regulatory regime and the levels of competition in New Zealand. In 2001, I was responsible

for a new telco regulatory regime which promoted the interests of consumers, established a telco regulator and introduced regulation of interconnection and wholesaling, national roaming and cell-site co-location and number portability. Local loop unbundling was not introduced at this time. In 2002, the government provided $45 million New Zealand to the private sector to lift broadband penetration rates in sparsely populated areas of New Zealand centered and focused around the nation's schools. In 2003, following a mandate, the telco recommended against local loop unbundling once again, and the government reluctantly agreed on the basis of voluntary commitments from the incumbent to increase investment of penetration rates in its Next Generation Network, NGN. Many of the investment and penetration targets were simply not met.

So in 2006, following a stocktake of New Zealand's broadband performance relative to the OECD and wide dissatisfaction with the competitive environment, particularly facilities-based competition, the government introduced local loop unbundling and required functional separation of the incumbent Telecom New Zealand into three business units, an access network, wholesale and retail business unit. Strong equivalents of inputs requirements whereby the incumbent is required to provide access to its network on the same terms and conditions as it provides access to its own was also introduced similar to the model adopted in the U.K. by OFCOM and British Telecom. Details are currently being worked through, with agreements expected to be reached by the end of the year. We anticipate better broadband penetration rates as a result.

In conclusion, Mr. Chairman, New Zealand is determined to improve the provision of broadband services given their critical impact on economic growth, and given that we are primarily an agricultural nation, the broadband penetration rates are as important to us as the introduction of the freezer ship was in the 1880s, which allowed our agricultural products to be taken from New Zealand to British markets. Our experience over two decades is that it is extremely difficult to achieve greater competition and investment in broadband services under a light-handed regulatory regime, given that incumbents do what incumbents always do. We believe that full unbundling of the local loop with functional separation of the incumbent will deliver better results for all consumers.

Thank you once again, Mr. Chairman and members, for this opportunity, and I wish you well for your deliberations.

[The prepared statement of Mr. Swain appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, sir. Thank you for being here today.

Mr. Richards, again, we are honored to have you here today. Whenever you feel comfortable, please begin.

STATEMENT OF ED RICHARDS, CHIEF EXECUTIVE OFFICER, OFCOM, LONDON, UNITED KINGDOM

Mr. RICHARDS. Thank you very much. Good morning, Chairman Markey, Ranking Member Upton and all members of the committee.

As you have heard, my name is Ed Richards. I am the chief executive of OFCOM, the Office of Communications, with the regu-

latory authority for telecommunications and the media in the United Kingdom. It is a great honor to be asked to appear here today.

Now, I know that the committee has been considering the future trajectory of communications regulation here in the United States, and as you can imagine, that is a subject of great interest in the U.K. as well. I very much hope that insights from our experience can be of some value to work with your committee. We were created very much as a response to convergence so we have responsibilities that set across broadcasting, across telecom and indeed we are the spectrum management agency for the United Kingdom as well. We are also the antitrust authority for the sectors within our remit. We work very closely with the U.K. Government but we also are very clearly independent from the U.K. Government.

The U.K. telecoms market is similar to the United States in many ways and our operators are facing very similar challenges to your own. Revenues are shifting from traditional fixed voice services to both wireless and to broadband. Given this shift, I think in our view broadband is the key strategic product from industry, from consumer and from a regulatory perspective.

The British broadband market is now I believe making very rapid advances. We have seen market penetration increase from 39 households in every 100 to over 50 households in every 100 during the course of the last year. The total number of connections has risen by some 31 percent in that time. Now, part of that change can be attributed to a reinvigorated market environment as a result of significant change in our regulatory policy. In our written evidence we have explained how the U.S. and U.K. telecoms regulatory policy, despite a very strong shared commitment to promoting competition, investment and open markets, have often pursued different trajectories over the last 25 years. That I believe to a large extent simply reflects different market realities.

When we were formed in 2003, we found that the U.K. was very much underperforming other nations in telecoms. In particular, we were very concerned about our approach to the rollout of mass-market broadband. When we examined that situation, we saw that the overall volume and activity of regulation had steadily increased over the years but that had not led to the conditions which would support sustainable competition. In fact, competitors to BT, our incumbent, were fragmented and weak, and they were overly reliant upon regulation themselves. That didn't suit anyone. It didn't suit the competitors and nor in fact did it suit the incumbent, who faced an ever-expanding regulatory burden and a significant overhead of regulatory risk and uncertainty. In our strategic review which followed, we looked all around the world for ways to address the problems. We looked very closely at U.S. policy and in particular the conclusions of the 2003 Triennial Review. We considered the option of regulatory forbearance, but our market conditions differed from yours in a number of respects, perhaps more crucially, the fact that cable is not as extensively rolled out in the U.K. as it is here in the United States. We also considered a model of your Bell breakup, which would have meant the forced legal separation of BT's access business from its other activities, but we judged that that

would have been complex, time-consuming and would have created, rather than eliminated, regulatory uncertainty.

So we sought a different solution. That solution is now being called functional separation, with the natural monopoly infrastructure parts of our incumbent separated into a different business unit, a new business unit called Openreach with its own offices, its own management, its own remuneration schemes and indeed company identity but still owned by BT Group PLC on an arm's-length basis. We coupled that change with the introduction of tough rules on discriminatory treatment, which we termed equivalence of input. The equivalence of input means that BT's own downstream business and those of its rivals receive exactly the same products at the same price for the same quality of service and on the same terms and conditions at all times. The results so far have been significant. We have certainly seen a surge of new investment in broadband infrastructure and indeed a price wall. New operators are coming to market with higher bandwidth services offered at lower prices and services are being packaged in more innovative ways. This approach has prompted interest from elsewhere as well. We expect functional separation to become a part of the armory available to all European regulators. As Mr. Swain has explained, the New Zealand Government has begun to look closely at our approach. Its communications minister is proposing a new law that will grant its national regulator similar powers and a similar approach to U.K. policy, and many other countries are expressing interest as well.

One question we are often asked in this context is, what is in it for the incumbent, what was in it for BT? Well, on the downside, we made very clear that the only alternative was a multi-year inquiry, which could have led to forced legal separation. On the other hand, the voluntary agreement to separate its business and introduce equivalence of input has allowed us to grant more freedom to the incumbent to compete in downstream retail markets. So as a consequence, we actually have been able to deregulate as well. We have also been able to offer BT greater certainty on the regulatory treatment of its Next Generation Network. Within the framework of a guaranteed regime of fair access, we were able to make clear that BT will be compensated appropriately for the risks that it takes today in terms of the regulatory pricing associated with wholesale prices.

I believe the committee is also closely tracking the evolution of spectrum policy as well, which we believe is increasingly related to an effective communications policy and an effective broadband policy. The U.K. and the U.S. I think share a similar vision of the importance of spectrum as an economic resort. We share a belief in the need for flexibility in a complex and fast-moving environment. In the U.K., where historically 95 percent of our spectrum has been subject to a command and control model, our vision is to move by 2010 to a predominantly market-led approach, with 70 percent of spectrum available for use for any purpose and with any technology subject only to a minimum set of restrictions to prevent interference. We have a major program of spectrum release to be conducted over the next 4 years, which will put some 350-MHz of spectrum into the market, in each case allowing flexible use and free-

dom over the choice of technology. Our European Union partners are of course extremely important in our development in this area as are other countries, so we look forward to close cooperation with many countries ahead of the World Radio Conference later this year.

Mr. Chairman, we can see many points of similarity between our two nations in relation to these challenges. I think we are both deeply committed to market-based policies which promote innovation, investment and competition. I very much hope that we can maintain a strong and fruitful dialog over the coming months.

[The prepared statement of Mr. Richards appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, Mr. Richards, very much.

Now, Mr. Hashimoto, we know that you have taken extraordinary efforts to be here today, which we very much appreciate. Whenever you feel comfortable, please begin.

STATEMENT OF SHIN HASHIMOTO, EXECUTIVE VICE PRESIDNT, NIPPON TELEGRAPH AND TELEPHONE CORPORATION, TOKYO, JAPAN

Mr. HASHIMOTO. Thank you. Well, Chairman Markey, Ranking Member Upton and members of the subcommittee, it is an honor and a privilege for me to appear before you today. As a summary of my statement, I would like to share with you some information about the current status and the future of broadband and next generation networks in Japan.

As indicated in the chart in the supplementary material on page 5, in Japan more than 7 million people are enjoying fiber to the homes subsidies and there has been some loss for FTTH subsidy. FTTH subsidies are already widely available throughout Japan and the typical monthly charge for a 100-megabit connection is around 5,300 yen, or $46 U.S. NTT is now engaged in building a next generation network named NGN. In recent years, there has been increasingly momentum of utilizing fiber-based broadband services, much higher speed and more stable connectivity. NTT still owns large legacy public networks that need to be upgraded in the near future. In view of these circumstances, NTT has decided to build its own next generation network in conjunction with fiber-based broadband access and the new network infrastructure through which a wide variety of broadband services can be very good. Our next generation network will be able to meet various needs of our customers by providing a wide range of services and reverse security functionalities of NGN comprised of standards adopted by international organizations. It is our belief that our NGN as new communication infrastructure should have interconnectivity with other service providers inside and outside of Japan. NTT wishes to develop new business models that best utilize the NGN for correlation with partners in a relationship of mutual trust to create rich diversity of new businesses and services. Specifications of connectivity interface have been made available to the public.

The first step of our next generation network implementation began a few trials in December 2006. This was intended to verify the technological and operational issues of our NGN commercial deployment. A number of companies have been participating in our

field trials conducting interoperability testing interfaces. They have been developing new business models and discovering numerous opportunities by using various applications over NGN platforms.

I am very pleased to have this opportunity to share NTT's plans with you today. Since the introduction of the Bell system to our country, Japanese telecommunication industry was viewed upon generous collaboration growth by the United States. Now it is our time to share energy and experience and fiber optic technology as much as possible with various U.S. industries to fuse new next generation networks together. I hope it strengthens our two countries' relationship even more.

Once again, I appreciate the opportunity to speak to the committee today.

[The prepared statement of Mr. Hashimoto appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, Mr. Hashimoto, very much.

And now we turn to Mr. Wyler. The subcommittee thought it would be interesting to hear a story from the developing world, and Mr. Wyler is intimately involved in what has happened in Rwanda. Welcome, Mr. Wyler. Whenever you feel comfortable, please begin.

STATEMENT OF GREGORY WYLER, DIRECTOR, RWANDATEL, S.A., MANCHESTER, MA

Mr. WYLER. Thank you, Chairman Markey, Ranking Member Upton and members of the committee. I am honored by your request for my attendance at this hearing. More so, I am appreciative that the positive impact of broadband on developing nations is given an opportunity to take the stage in your decision making. I have but one of many small success stories in the developing world where broadband has helped bring economic empowerment, equality, democracy and change to a developing area. I am also here as an American to testify that it is in America's interest both economically and socially to help bring broadband infrastructure to developing worlds.

In the early 1990s I had left graduate school to found a company, and we developed semiconductor cooling technologies. I was able to do that because I had an infrastructure around me. I had entrepreneurs, financial expertise and help. I had the ability to buy goods and services very easily. Later after that, I took a turn to look at the developing world to try to see what we could do to change things for them.

In Rwanda, we have developed world-class infrastructure including the first African deployments of both fiber to the premise and EVDO mobile broadband. I personally witnessed the positive impact of broadband on many parts of this rural, growing economy including successful poverty reduction and medical treatment strategies. Two examples: The efficient distribution of AIDS requires electronic infrastructure to determine patterns, dosage and effect. Software from Voxiva in Maryland creates Web sites to visually map these items and electronically collect the data from the various health centers. The broadband implementation allows this to happen. Because of a desperate need in 2004 when I went to Rwanda, we formed a small ISP to connect Internet to schools. Hiring an entirely local staff, we climbed roofs, laid fiber and brought the

latest technologies to Rwanda. We now have almost 400 Rwandan employees and provide Internet access to approximately 50,000 end users. The fiber network designed, installed and maintained entirely by Rwandans covers almost 400 kilometers, interconnecting approximately 150 buildings including six of the seven public colleges and all the government ministries. Our EVDO broadband deployment brings high-speed mobile networking throughout the country, including every city and many rural areas.

What I have seen and had the opportunity to experience is a growth of a country that had very little broadband, there was only about 22 connections when I got there, to now something which is one of the leaders in Africa, and what I have seen is the economic growth and the interdependent web of businesses that have grown, and I will give you an example. When I got there, a deposit in one branch of a bank couldn't be in another branch. That created a tremendous friction in commerce. So after we put in the broadband to connect the branches, some people left our company and left another bank and developed another software company to create the financial software to create those interconnections. That reduced the friction on commerce, and of course we have seen the growth that has happened in Rwanda. There are many examples of this that are going where you have a multi-tiered, independent web of business-to-business commerce that is happening inside Rwanda.

With all these positives, there is still a long way to go. Internet backhaul costs and quality hamper development of nations. As will be detailed, even if geo-satellite costs were reduced, the quality of Internet over geo-satellite is so poor it prevents participation of the developing world in the new high-bandwidth Internet. Solving this problem requires a significant investment in geo-satellite technology and fiber networks. The entirety of Africa and most of the developing world is not on fiber, so we get all of our access over satellites. The incredible latency of satellite of 700 milliseconds, over half a second between the time when you type something and it reaches a server or your Google or Yahoo server slows down the access tremendously. When you go to CNN, it takes 24 seconds. It populates very slowly. This really prevents people from accessing and being part of the community.

Often overlooked besides the economics is the significant and crucial role the Internet plays in fostering democracy. Internet access eliminates a one-way channel of communication, enhancing participatory government through both authored and anonymous critique. Furthermore, wide accessibility creates an open looking glass for peer review for the goings-on in any particular country. In extreme instances, significant deprivations of human rights can quickly be seen by the world. The recent history of Rwanda would have been far different had access been available. In part, the belief that communications can free people drove this project.

Beyond the sale of equipment and cost to create infrastructure from America, the United States exports a significant amount of Web-based services. For example, almost half of eBay and Google sales are international, Yahoo's profit growth is entirely from international sales, and all the 20 most popular Web sites are American. Because American companies continue to lead the world in

monetizing Web users, it is also in our economic interest to help develop the other three billion people onto the Web.

Slow access speeds in the 1990s hindered the growth of the "World Wide Wait." New Internet applications such as video, Web 2.0 and Ajax require higher bandwidth. Unfortunately, most of the developing world is stuck with extremely slow Internet access speeds.

It is my hope this testimony will offer guidance on the importance of broadband for development. Broadband creates significant efficiencies for every other initiative whether for health, education, economy or democracy and its need is often overlooked because it plays only a supporting role. Broadband does not cure disease but it can make the cure affordable.

[The prepared statement of Mr. Wyler appears at the conclusion of the hearing.]

Mr. MARKEY. We very much appreciate your testimony, Mr. Wyler.

Mr. Ford, we welcome you and we look forward to your testimony.

STATEMENT OF GEORGE FORD, CHIEF ECONOMIST, PHOENIX CENTER FOR ADVANCED LEGAL AND ECONOMIC PUBLIC POLICY STUDIES, WASHINGTON, DC

Mr. FORD. Thank you, Mr. Chairman, Ranking Member Upton and members of the subcommittee. Good morning and thank you for inviting me to testify today among these distinguished guests. I haven't traveled as far as they have, but some of you may think Birmingham, AL is farther away than Tokyo from Washington, DC.

I am the chief economist of the Phoenix Center for Advanced Legal and Economic Public Policy Studies. The economics of the communications industry has been the focus of my career starting with my Ph.D. dissertation on competition in the cable television industry. The Phoenix Center is a nonprofit 501(c)(3) organization with a particular emphasis on the law and economics of telecommunications and high-tech industries. The Phoenix Center does not endorse or support any particular piece of Federal or State legislation or proposed regulation. Our mission is not to tell policymakers what to think about an issue but how to think about it. All of our research is available for free on our Web site, *www.Phoenix-Center.org*, and unlike any other organization such as ours of which I am aware, you will also find posted critiques of our research with rebuttal. Much of our work is published so receives independent review as well.

The topic today is broadband communications and lessons from abroad. As a result of this hearing and those like it, we are laying the groundwork for the development of a national broadband strategy for the United States. In my view, developing and implementing a national broadband strategy is perhaps the key issue for modern communications policy, particularly as Internet usage explodes exponentially, and massive additional infrastructure investment is required to keep pace. From what I have heard today, there appears to be a general consensus on this point, though some differences about how to accomplish this.

On this issue I wish to make three points today. First, I believe that the rankings across countries of broadband subscriptions frequently used in the debate over broadband policy are exceedingly crude measures of relative performance and I encourage you to think more deeply about broadband policy than what the rankings tell us, not necessarily to ignore them but to respect their limitations. Integrating broadband into our economy is not a collegiate sport and there is no prize for who has the most subscriptions per capita to some inconsistently and vaguely defined service. Rather, broadband is an essential component of our Nation's infrastructure and we should seek to develop the best communications opportunities and service possible. The problems with the rankings are not the fault of the OECD or ITU. These organizations provide a summary of the data collected by the individual countries. The problem lies with those who do not temper their advocacy to reflect the considerable defects with the data such as how connections are defined and counted. One serious defect in the rankings data is easily demonstrated by ranking countries in the hypothetical broadband nirvana where every home and business in the OECD countries has a broadband connection. You might think we would all be tied for first in this world but in fact the United States ranks 20th among OECD countries in this nirvana and it is further from first place than it is today.

The rankings in subscription rates in this nirvana are provided in table 1 of my written testimony. This thought experiment reveals the important role that expressing connections in per capita terms has on rankings. Dividing by population seems innocuous but it actually adds to differences in broadband connections such economic and demographic factors such as household size and average business size. The experiment also suggests that the subscription numbers are not on the same scale and thus ranking them is illegitimate. Comparing rankings is a bit like concluding that a student with a 3.9 GPA on a 4-point scale is a worse student than one with a 4.0 GPA on a 5-point scale.

An alternative to per capita calculations is to divide connections by household. Table 2 of my written testimony shows that this seemingly trivial adjustment is not so trivial since Sweden falls from 8th to 16th and Australia rises from 17th to 4th. I doubt the economic significance of their broadband infrastructure is so sensitive to definitions and neither is ours. None of these simple calculations get close to measuring what is important, which is whether or not our broadband infrastructure is capable of supporting economic growth in the global economy. Further, I believe that increasing the subscription rate in this country to a 200-kilobit service is not a legitimate goal of a national broadband strategy but that is all a focus on the ranking data gets you. In fact, we could magically convert every broadband connection in this country to at least 100-megabit fiber-optic circuit offered by ten different facilities-based providers and we would still rank 15th in the OECD rankings. Rather than focus on rank, our intellectual resources should be devoted to figuring out effective and efficient ways to augment the geographic coverage, increase productive use and expand network capacity and enhance network capabilities of our broadband infrastructure.

Second, I encourage you to recognize the limitations of public policy in determining broadband subscription. Variations across countries and subscription rates are in large part a product of factors outside the realm of communications policy. Much of the variation in broadband subscription rates is driven by non-policy factors including age, household size, education, income and so forth. My written testimony provides a list of factors that drive broadband subscription rates and some estimates of their relative influence. A healthy respect for what policy can and cannot do is important, but I would mention that price can cover up a variety of ills.

Finally, I propose that what is most needed is for this country to state plainly and with reasonable detail the desired outcome for broadband services and then establish a framework to evaluate policy proposals in reference to obtaining that explicit goal. My written testimony provides a more detailed framework for evaluating policy. I believe the desired outcome is augmented geographic coverage, more productive use of services and expanded network capacity and enhanced network capabilities of broadband infrastructure.

Thank you.

[The prepared statement of Mr. Ford appears at the conclusion of the hearing.]

Mr. MARKEY. I thank the gentleman, and now we will turn to questions from the subcommittee.

Mr. Richards, in the U.K., you forced BT to unbundle loops for its competitors so they could use these facilities to offer their own broadband services. As a result of this competition, BT now has less than 25 percent of the retail broadband market. So I have three questions for you. Did competition created by mandatory loop unbundling drive down the price of broadband? Second, did competition increase broadband speeds? And third, did competition increase consumer demand for broadband?

Mr. RICHARDS. I think the headline answer to those questions is undoubtedly yes. Did competition drive down price and has it increased broadband speeds? Yes, it has. Our story is one of very significant change in the last few years, and if we went back to 2001, we were in a perilous state in relation to broadband. We were at the bottom of whatever rankings you wanted to take. You could have five different rankings and we would be at the bottom of them. And there is no question that over that period the policy framework changes have made a difference. We certainly changed as a result of regulation the attractiveness for investment, attractiveness for competitive provision of broadband through the local loop unbundling policy. That has certainly affected the overall levels of speed, and it certainly affected the retail price. Consumer demand, I think where we have seen benefits there is what you see is very aggressive competitive marketing, and that has stimulated our consumer interest. You have also seen very aggressive competitive innovation around speeds on the kinds of services offered. So I would answer that in the U.K. at least that has been part of the story which has seen us improve our position over the last 3 years.

Mr. MARKEY. Thank you, Mr. Richards.

Mr. Hashimoto, did unbundling remove NTT's incentive to invest in fiber or did it compel NTT to accelerate its fiber deployment?

Ms. GALE. Please allow him to use an interpreter.

Mr. MARKEY. OK, please.

Mr. HASHIMOTO. I believe that your question is whether or not unbundling caused any change in NTT's investment, and as a result of unbundling, it is very clear that we had more new entrants, those who provide service on DSL. However, the situation in Japan is somewhat different than in the United States. Ever since NTT was privatized, NTT has been very steadily preparing itself for deployment of broadband. It started with 64 Kbps, which was called ISDN. And then from early on, NTT had had a plan to use fiber optics as a successor for ISDN. And the turning point for us that happened in 1995 when Microsoft introduced Windows. So the introduction of Windows in 1995 opened up the access to Internet, and I became keenly aware that there will be a strong demand for Internet access in Japan and also the requirements for high-speed connection. The DSL technology was not commercialized prior to 1995 or prior to the 1996 telecommunications act. One of the unique competitive situations in Japan is the competition against utilities which provide the broadband access. Backed by very good financial situation, the utilities were very ambitious about deployment of fiber optics network. And so against that backdrop, the NTT started investment in fiber optics in 1995. However, at that point the coverage by fiber optics was extremely low in Japan, so as a transition we started to provide ADSL.

Mr. MARKEY. Mr. Hashimoto, I apologize to you but I only have 5 minutes allotted for my questions, and I do apologize to you, sir.

The Chair recognizes the gentleman from Michigan, Mr. Upton.

Mr. UPTON. Thank you, Mr. Chairman. Before I start my questions, I just want to put in a letter from the NCTA, Kyle McSlarrow, into the record and just note a particular paragraph that he writes, and that is, "Based on company data collected by the FCC as of June 30, 2006, cable high-speed Internet service was available to 93 percent of households that could access cable TV service. We think that number is even higher. A recent report by Kagan Research shows that cable broadband service is available to more than 94 percent of all U.S. homes," and I will just share that for the record.

Mr. MARKEY. Without objection, we will include that in the record.

Mr. UPTON. I am going to ask sort of a long question and I would like Messrs. Swain, Richards and Ford to answer this, and that is, as I look through the data, and this goes back I think to Mr. Ford's comments, that it really is sort of apples and oranges in terms of where we are, and I look forward to having a hearing 2 or 3 years from now to see how this data might change as we sort of pry it apart like an onion to look at DSL, cable and fiber to the land, and I would just like to say too, and starting my question, Mr. Swain, to Mr. Richards, about 51 percent of our broadband comes from cable, 51 percent; 42 percent from phone companies and 7 percent from other sources such as wireless. Such figures platform competition tends to drive broadband deployment. How much of broadband service in your two nations comes from the phone company and how much from other sources like cable or wireless, and where do you expect broadband provided by DSL to go 3 to 5 years from now,

and in particular, where do you think, particularly Mr. Richards, as you look at the functional separation, where do you see as a percentage per hundred inhabitants fiber itself, and then I want Mr. Ford to conclude. Mr. Swain.

Mr. SWAIN. Thank you.

Mr. UPTON. We look forward, by the way, to having a subcommittee trip to both of your nations.

Mr. SWAIN. You would be very welcome.

Mr. MARKEY. Not on the same trip though.

Mr. SWAIN. Having sat on similar committees in New Zealand, we are always looking for opportunities to come north as well, so you would be most welcome in New Zealand.

The first point is recognizing the difference between the United States and, for example, New Zealand, with your cable infrastructure. About 93 percent of particularly our DSL service comes via the telecommunications, primarily the telecommunications incumbent, and about 7 percent comes from wireless——

Mr. UPTON. According to this these factors were 0.0 for fiber per hundred.

Mr. SWAIN. Yes. So we have primarily two sources, if you like. One is the incumbent telecommunications company over copper, and 93 percent of that comes from there and the rest comes from satellite and wireless. And so therefore the issues of the difference between cable layout here and New Zealand are marked and significant. However, I will make two quick points if I may. The first one, looking at the future of wireless, as a minister I put a lot of store and faith in the development of wireless. Because of the geographic nature of New Zealand, I thought this would be a great solution. Lots of the promises and pledges around wireless had not materialized, and I have come to the view that wireless—I may of course be wrong but this is my personal view, that in the end wireless will always complement other infrastructures. My view is that it will still be cable and copper that will be the main driver of the processes here.

Mr. UPTON. I am running out of time, and since I don't have the gavel I am not able to give myself an extra 4 minutes.

So you would say just briefly here that your 0.7, which is in essence wireless, is going to stay about the same and your 0.0 for fiber will go up pretty small?

Mr. SWAIN. Yes, it will go up small.

Mr. UPTON. Mr. Richards.

Mr. RICHARDS. Cable is very, very different here. In the U.K. it is about 54 percent coverage, about 98 percent here. That is a very significant difference and why you have to——

Mr. UPTON. And you are also at 0.0 for fiber?

Mr. RICHARDS. Well, let me tell you about that in the 30 seconds I have. Broadband is about 75 percent DSL, so there is a significant cable portion, but it is smaller than it is here. We don't count 3G or wireless services at the moment. We will in due course. I do expect those to play a very significant part for lower bandwidth broadband. I do not expect them to compete in the long term against high-bandwidth ADSL, cable or indeed fiber optic cable. The answer to your question on fiber is that we have scarcely any at the moment and that is, we do not regard that as a problem at

the moment. Fiber optic cable should be invested in when it is an efficient investment, and it is not yet an efficient investment in the U.K., and one of the reasons for that is because we expect because of the shorter copper loops in the U.K. to stretch to 24 megabits per second. So in the U.K. copper has got a long way further to go, and we expect, we want the incentives to be very clearly in place such that when fiber is an efficient investment to make, it is made.

Mr. UPTON. So to conclude, do you think your number of 0.0 on fiber is going to dramatically increase? Because I expect that to happen here in the United States too.

Mr. RICHARDS. It will increase over time. I expect fiber to be further ahead in the United States because of the different geographic nature of the country. I don't think that is a surprise or a shock. There are always differences between countries, and we can get a lot more out of copper because of the shorter loops than you can in the United States and therefore you would expect fiber to roll out more quickly here. You expect fiber to roll out more quickly in places like South Korea, which it has, because the economics of density are very, very different in South Korea than they are in the U.K. So none of these things are surprises. The question for us, and I think the question for every country is, do you have the incentives in place which make efficient investments logical for competitive provisions of the telecommunications infrastructure.

Mr. UPTON. And Mr. Ford, if you could just answer briefly, that would be great.

Mr. FORD. I will be very short. The diversity of platforms is very important in terms of penetration for a variety of reasons that cover different areas. EVDO adds to these numbers so will increase our ranking as people subscribe to that service. Of these numbers here, we are one of eight countries, I believe, that have any fiber deployed, and I think there is no question that fiber is the platform of the future. So that is certainly encouraging for this country, and that number will be rising sharply I think over time.

Mr. UPTON. Mr. Chairman, thank you for the indulgence.

Mr. MARKEY. There is no problem, and we had to have time for the translation from Japanese and time for the translation from Alabama, so we were kind of each allocated more time.

Let me turn and recognize the gentleman from Texas, Mr. Gonzalez.

Mr. GONZALEZ. Thank you very much, Mr. Chairman, and welcome one and all to the panel.

Some observations that have already been made, and I think the backdrop is so important, and that is, we were making these comparisons to take into account something that may not be taken into account when we say where does the United States rank. Special access lines, I think we have had some discussion about that that we don't count and we don't have reflected. The other thing of course is the robust competition between our telecom, our telephone companies in essence, and the cable providers, which is really I don't believe duplicated anywhere else in large measure the way we have it here. The fact that we do have different platforms for the delivery of broadband that is available and is of course developing and we need to encourage of course the build-out.

My first question will be to Mr. Swain, and I do appreciate your testimony and I am going to read from it, that the New Zealand Government introduced a major initiative, Project Probe. The first aspect of it was a pretty substantial investment in the way of New Zealand dollars and that regional tenders were sought. The objectives of the project were to increase deployment, to lower prices, to promote greater competition. While four of the 15 tenders were awarded to non-incumbent providers, new facilities-based competition, particularly wireless, did not emerge. These are some lessons that the United States probably can learn from your experience and that of the other witnesses. There was a review by the New Zealand Government. At the conclusion of this investigation, the telecommunications commissioner advised against implementing full local loop unbundling and instead recommended the introduction of a limited-speed unbundled bitstream service. The government reluctantly agreed with this recommendation so as not to delay the process further, on the basis that the decision would lead to the development of a competitive broadband wholesale market and would provide incentives for Telecom, the New Zealand incumbent, to deliver greater penetration rates and to quickly deploy its next generation network. I guess what I gleaned from your testimony is that sometimes what might be an incentive to a reseller may be a disincentive to an incumbent, and somewhere you have got to draw the line and figure what works and what doesn't work. Again, reviewing the regime that you had and any particular situation in New Zealand, what was your experience in trying to balance when you have an incentive that may act as an incentive of a certain player but not necessarily to another party?

Mr. SWAIN. Well, thank you. It is right, and for policymakers and for legislators, the difficulty always is that balance between providing pro-investment, pro-competition policies on the one hand but on the other hand, trying to ensure that potential monopoly or duopoly of incumbency is overcome to provide greater opportunities for people to compete for the consumer. In our own experience in New Zealand, we did try that particular program. It was an up-front subsidy working as a private-public partnership with the private sector to increase deployment rates. I had hoped that as a result of that there a number of new technologies would emerge and particularly around the wireless space, but because of arguments about protocol and because of the fact that it was an immature market at that time, it didn't emerge. So we then went to the position of saying well, if we gave the incumbent more time, would they reinvest, would they attack the deployment of penetration rates, would they move on their NGN, and the ultimate answer to that is no, and I think finally I should say that if we look at the next 10 years out, it is still my view that the greatest service to the consumer is going to come from the existing infrastructure that we have at the moment, and the problem for policymakers is, how are we going to deal, whether it is a monopoly or a duopoly, with incumbency, and I have come to the position reluctantly to a certain extent myself after having spent many, many years on this, unless you can deal with the problems of incumbency and unless you can actually deal with the issues such as local loop unbundling and ultimately functional separation, it is going to be very, very

difficult to get a proper good deal in terms of price and coverage and services for the consumer, which ultimately as a member of Parliament is my ultimate concern.

Mr. GONZALEZ. Thank you very much.

Mr. Richards, how do you see the United States' position, again who we have as providers, competing platforms, the fact that our percentages as far as how the inhabitants per thousand receive broadband almost evenly if you look at DSL and cable, how does that play—in other words, I know your experience in the United Kingdom, but what considerations, what do we take into account as we attempt to find some sort of not necessarily regulatory scheme but again the economic incentives that play to all of the participants in trying to extend broadband in the United States?

Mr. RICHARDS. Well, I would be cautious about making observations about the U.S. market because my own experience is, you have to understand your own markets in real detail to understand what the appropriate policy response is. So in a sense I think it up to others to interpret the lessons that I can offer from our own experience and apply them to your country. The difference is very significant between the presence you have of a very, very well-built-out competitive cable industry alongside the DSL proposition. There is no question about that. We have only a part of that. We still have only a part of that. I think the geographic diversity and the rural nature of some parts of the U.S. is also a more significant challenge than it is in the U.K. With that said, one of the key things that we have learned so far, I think it is that if you get to a situation where there is a real, there is an accommodation between the existing players, which is what I would describe as the situation we were in in 2001–02, where really no one was taking initiative of any kind, I would describe that for any country to be a very, very dangerous place to be in. That is where we found ourselves, and therefore we felt that we had to act fairly quickly to tackle the level of competition in the market and make judgments about incentives and the regulatory approach in particular to the DSL incumbent. That has been reasonably successful but others have pointed out our next challenge will be next generation access, fiber to the curb, fiber to the home, and that is a very significant issue for us looking forward where clearly in the United States there is progress already being made. My key observation I think would be not enormously different to Mr. Swain's. I don't believe, we don't believe that in the long-term wireless platform certainly in the next 5 years or so will provide really profound competition or really significant competition at the high-bandwidth end. I think you absolutely will at the lower bandwidth end of services. I think we should expect that and that will provide effective competition in a number of countries around the world. And if you take that as your starting point, you have to think very, very carefully about the level of competitive intensity for the fixed line services.

Mr. GONZALEZ. Thank you very much.

Thank you, Mr. Chairman.

Mr. MARKEY. The gentleman's time has expired. Speaker Hastert is recognized for 8 minutes.

Mr. HASTERT. I thank the chairman. I also want to say to the chairman I am glad I didn't give an opening statement because my

staff would have had a little ditty in there for me to sing and I just thought it would benefit the whole committee that I didn't sing anything.

Mr. MARKEY. The committee thanks the Speaker.

Mr. HASTERT. As I listened to each testimony, I think of my own situation. I live out in the country. Now, we don't have natural gas piped out to us out in the country, and we don't really have cable out in the country so anything we have to do, it either comes from space or comes from hard wire. But there is a company down the street that happens to be a nursery, which is a fairly large entity and they have a special access line and their high-capacity connection is pretty common with business.

Mr. Ford, I understand the OECD statistics underestimates United States broadband penetration because they didn't count high-capacity connections, is that correct, that most businesses or many, many businesses use?

Mr. FORD. I think the OECD uses what we report or the FCC reports and it doesn't include special access so that is probably the case.

Mr. HASTERT. So when you talk about a half a percentage point or 1½ percentage points, it moves us up and down the scale maybe 5 or 10 points and would that be significant?

Mr. FORD. It could be.

Mr. HASTERT. Just to clear that up.

I was interested in listening especially to the testimony of the gentleman from New Zealand, Mr. Swain, and the gentleman from Japan, Mr. Hashimoto. I think I heard that you said that when you unbundled, competition really went to different entities but real competition didn't increase. In other words, when we talk about competition, there are two things that we think should happen from competition: No. 1, prices should decrease, and No. 2, you should get a better menu of services.

Very briefly, Mr. Swain, I think you said that, but I wanted to have you clarify that, and Mr. Hashimoto, if you would clarify that as well.

Mr. SWAIN. Well, that is the expectation of competition. That is certainly right. We don't have unbundling at the moment, but we are introducing it, and our expectation absolutely is as a result of that, particularly for the consumer and the small business owner, that price and quality of service will improve. That is the objective of the process.

Mr. HASTERT. And your unbundling right now is basically a copper wire, right?

Mr. SWAIN. It is copper wire.

Mr. HASTERT. Let me just follow up on that. The new Telecom New Zealand chairman, Mr. Boyd, has threatened to sell off its copper line network rather than submit to Government-imposed regulation that would split the company three ways. How do regulatory proposals affect the way the company operates its business, and if the company proceeds with the sale, how will New Zealand be able to deploy advanced broadband facilities in the future?

Mr. SWAIN. You are absolutely right to pick up on that issue and it has been in the media now publicly for about a month. It is not clear what the intent of the incumbent is. That would be a struc-

tural separation that it would do to itself. It is not clear whether it will proceed with that. I think it is probably floating an idea to see what support it might get. Of course, any company is entitled to restructure itself in any way. The concern I suppose that we would have is that if it were to break off whether it would start to compete with its formerly existing wholesale and retail services and we would back into an issue of trying to make sure that there was equivalence of service for those things. But I think that at the moment, my expectation is that the model will emerge similar to the BT model, the one that was pointed out to you where there is common ownership but functional separation below the level of the board, and because it is such early days, these issues are being discussed, and it is not clearly exactly what the outcome will be. I think we will be clearer on that in my view in about 6 months' time.

Mr. HASTERT. So it is a little clouded still?

Mr. SWAIN. Yes, yes.

Mr. HASTERT. Thank you, Mr. Swain.

Mr. Hashimoto, the first question about unbundling and competitive expectations creating more competition, has that lowered costs in Japan, and are there more services for the customers?

Mr. HASHIMOTO. I didn't have a chance to finish my response to the chairman's question earlier, but definitely unbundling was useful for the promotion of competition including lowering the price, and we talked about ADSL and competition. When competition was introduced in ADSL, we tried to increase our competitiveness in the ADSL area but at the same time we developed the fiber optic technology which could be economically competitive. More specifically, the distance to the house in Japan, an average distance to a house in Japan is much, much shorter than that in the United States. It is about 200 meters. And then the percentage of the apartments is about 30 percent nationwide, and in a place like Tokyo, almost 40 percent. So we are able to provide high-capacity, high-speed, the fiber to the apartment complex and costs can be shared by all the tenants, or we also introduced a technology called PON, and that separates the span of the fiber cable. By doing so, we were able to lower the cost for fiber optics deployment.

Mr. HASTERT. Thank you. *Arigato*.

Mr. HASHIMOTO. You are welcome.

Mr. MARKEY. The gentleman's time has expired.

The Chair recognizes the gentlelady from California, Ms. Eshoo.

Ms. ESHOO. Thank you again, Mr. Chairman, for this extraordinary hearing. To all of our witnesses, thank you. I wish the C-SPAN cameras were here so that the American people could hear what you are saying, because I think that it is so noteworthy and so instructive.

Mr. Richards, my first question to you is, would you like to be chairman of the FCC in the United States of America? I would love to recruit you. As you know, in the United States the FCC essentially has given incumbent exchange carriers a regulatory holiday, and I think therein lies the problem for the United States. They have exempted their next generation network infrastructure from any meaningful competitive obligations. Essentially the Bells argue that they need this, no competitive obligations, I mean, which is

really something that takes my breath away and goes to the heart of why we are where we are today. Even though Mr. Ford says that the numbers are something other than that, I think we should recognize what the numbers are and stop digging a hole. It is just incredible to me that the United States of America is in the position that she is in.

Mr. Richards, you have obligations. What I would like you to tell the committee about is what investments have accompanied your policy? We are always looking for investments. In fact, people that are on the opposite side of this debate say that we have attracted investments, that this has been great for us. Well, our position isn't great. I don't think we are attracting the kind of investment or the competition that we have so can you just kind of briefly tell us about what investments have accompanied your policy?

Mr. RICHARDS. Sure. The critical change has been investment by competitive providers who are unbundling, of which there are a number. I think it ends up being three, four, five or possibly six in the dense urban areas and two or three in addition to the incumbent outside of that area, and they have made very significant investments to compete, so that has definitely happened. I can't give you an exact number.

Ms. ESHOO. Small companies?

Mr. RICHARDS. Some small, some very substantial, so investments by Orange or by France Telecom, investments by Sky, who are owned by News Corporation, investments by Cable and Wireless, another big British company, but also some start-up companies, one called B Unlimited, which is a very small company. It has since been taken over. So you have seen a range of different companies coming to the market at this stage. Now, they have required sufficient regulatory certainty and sufficient predictability to make that investment, and I think that was absent in the U.K. in prior years, so that has been a very significant change. People are not, as has been observed at the moment investing in fiber other than in new builds where it is happening, and we would expect that to change over time, but as I said, it is a problem at the moment.

Ms. ESHOO. Great. Thank you very much.

For Mr. Swain, thank you again for your important testimony. Following your country's efforts to impose new competitive regulation on the telecommunications sector, how has investment in advanced telecommunication infrastructure been affected in New Zealand? It follows on I think along the lines of my question to Mr. Richards. But I would like to hear from you how it is playing out in New Zealand.

Mr. SWAIN. Well, briefly there are probably three periods, the period of non-regulation up until 2001, where no doubt there was some new investment and some intent to try and get some facilities-based competition but the incumbent competed so hard against the new facilities-based competitor that basically they gave up because they couldn't compete. From 2001 to 2006, the period that I was involved myself, there was a quite significant increase in investment particularly in those people wanting to purchase wholesaling arrangements from the incumbent. However, our view is that if people are able to get access to the local loop, investment will increase quite significantly. Not only that, in our view the

range of services will increase. As a result, prices should fall, and as a result the consumer should be better off, and part of the problem for me as a legislator is that is the ultimate goal is to try and ensure that the consumer gets a better deal, and our view is that with the arrangements that we are putting in place, ultimately the consumer will get a better deal.

Ms. ESHOO. Thank you very much.

Can I just add, Mr. Chairman, my congratulations to Mr. Wyler for your work? I read your testimony. It is a provocative, wonderful story, and I salute you for what you have done, and Mr. Hashimoto, thank you for traveling so far to be a teacher to us. Thank you.

Mr. MARKEY. The gentlelady's time has expired. By the way, Mr. Wyler, the story of fiber to the home in Rwanda, they started this 7 months before Verizon did in the United States.

The Chair recognizes the gentleman from Illinois, Mr. Shimkus.

Mr. SHIMKUS. Thank you, Mr. Chairman. I think a couple things are important. One is that we have evolved through a system of multiple pipes. If I just look at my own use of high-speed Internet access at home, we have voice over Internet protocol through the cable. In the townhouse here I have a couple roommates. When one of my roommates goes back to the townhouse and he wants to access the World Wide Web, he uses cellular Internet cable because we have no landline—we are cheap. We have no landline connections to our townhouse because we all use our cell phones, and he uses the cellular high-speed Internet accessibility. Here, you know, we are connected through copper wires and stuff so our system has developed into a multiple-pipe system which I think provides us some competition and choices of services and ability to move from one place to another. The other thing is, this is my first question. It is just to make a point. If you drive 4 hours at 105 kilometers per hour, how far can you get in the respective areas that you are representing? In fact, let us start with New Zealand. How far can you travel? Probably the width of the island except for you have got some mountains there. So how far could you go?

Mr. SWAIN. Probably from Wellington, the capital city, halfway up the north island.

Mr. SHIMKUS. OK, halfway up the north island.

Mr. SWAIN. Roughly. Very roughly.

Mr. SHIMKUS. That is close enough.

Let us just go down. Mr. Richards, how far could you get in the-

Mr. RICHARDS. Same question?

Mr. SHIMKUS. Yes.

Mr. RICHARDS. You could comfortably go from London to Wales.

Mr. SHIMKUS. London to Wales. Thank you.

Mr. Hashimoto?

Mr. HASHIMOTO. Well, the size of Japan is almost equivalent to California, so it is probably from Tokyo to Osaka, like Los Angeles to San Francisco.

Mr. SHIMKUS. Thank you.

Let us see. Can you cover the whole country of Rwanda?

Mr. WYLER. I don't have a chance of doing 105 kilometers an hour in Rwanda but hypothetically——

Mr. SHIMKUS. How about 55 miles per hour?

Mr. WYLER. About 30 on the roads. But we are about the size of Maryland.

Mr. SHIMKUS. And my point is, it takes from the northern part of my district to the southern part of my district, going 65 miles per hour, it takes me 4 hours to travel. Now, I am one of 435 Members of Congress. Many districts are very similar to mine. You have to take some acceptance and some acknowledgement of size and scope about this great country we have, and we do offer incredible services. We do have issues that we have to address though and that is what the hearing is, to make us better, and we just don't want to go backwards. We want to keep moving forward.

Mr. Ford, you used to work for MCI when the company relied on unbundling for its business model. What is your experience with that?

Mr. FORD. I also worked for Ztel Communications, which was my last position before the Phoenix Center, which relied exclusively on unbundled elements. I think there is a lot to learn from that experience. The point for me of unbundling, and this is documented in my writings, was to create a non-incumbent demand for facilities to move customers away from the incumbent into the hands of non-incumbent firms and then allow those customer bases to be aggregated such that they demand an alternative network and that demand for an alternative network would lead to platform entry, and we have achieved that to a large extent. I mean, we are still trying to get a lot of the regulation out of the way to allow our platforms to compete and invest. Franchise reform is one case. So, to some extent my view of what unbundling was for has been accomplished. My greatest fear about doing unbundling again is, would anybody show up to the dance. After being in that business for a long time, you always knew that it took one decision to put everybody out of business, and I think everybody really realizes that at this point and I just don't know if people would have the courage to step up and play that game again. I don't think I would.

Mr. SHIMKUS. Thank you. That is a great observation. My time up so I will just end with two statements.

Mr. Richards, our fiber to the home only came about after we ruled that unbundling would not apply and so that is when we started seeing our fiber to the home. And on a side note, I don't think Speaker Hastert has helped his rumors about other jobs, I don't think he has helped that based upon his use of Japanese in this hearing, and I yield back my time.

Mr. MARKEY. I thank the gentleman. The gentleman's time has expired.

The gentleman from Pennsylvania, Mr. Doyle.

Mr. DOYLE. Thank you, Mr. Chairman.

Mr. Wyler, I want to say also that it is good that we have people like you in the country. I didn't have prepared questions for you, but I am going to ask you, you have listened to all of this debate and I have seen what you have done over—I read your story in Rwanda and this discussion we are having about unbundling. I would say, Mr. Ford, yes, I don't know how many would show up either after what we did to them. We set out in 1996 to encourage all these little companies to compete and then we pulled the rug

from under them. I would be skeptical if we redid it too, but I don't think that means that it shouldn't have stayed.

What do you think about this idea of unbundling and separation to encourage lower prices? I am just curious of your take after you have heard all these panelists speak.

Mr. WYLER. I think Mr. Ford did hit the nail on the head, just from my friends who have been through the process and a customer of unbundled service that went away suddenly. A lot of the discussion has been on fiber technology and unbundling. I am not sure how unbundling and fiber are related because when you are using a passive optical network, a PON system like he talked about, there is no real incentive to unbundle it because it is usually one thing. Or there might be technically. You might be able to get there. So if you are looking at fiber, unbundling is nothing, but you want to back up a little bit because everybody has a central office. That central office, is there a way to—if you want to put fiber in the home, you need to get access to that fiber in the first place, which means you need to have access at the central office at 100 megabits or a gigabit or something in order to bring in customers. So I haven't heard any discussion of how if I want to stay a fiber in the home project in my town, I would get access to the backbone in my town first of all.

Mr. DOYLE. Interesting.

Mr. Ford, I know you don't put much stock in the rankings but tell me, do you think if the United States had followed policies like those in Japan and in the U.K. and France, do you think we would have more or fewer Americans with broadband connections at home?

Mr. FORD. I really don't know if it is possible to tell. I mean, for a network that was built at zero percent interest rates, I mean, if we could accomplish that, what would our ranking be then? I mean, if we gave money away essentially to carriers, what would get built? I don't know. The U.K. situation is very different. Unbundling in a regime that is primarily a single firm and you expect it to be that way for a long time is one thing to adopt sort of a perpetual unbundling model where we really don't expect things are going to change. In this country I think our view was that the unbundling was a step to platform-based competition, not a perpetual situation. So I don't know how much that helps. I mean, there is one thing I have learned about unbundling is the devil is in the details, and we always say things like that, but it really was. What was the impact, and we have unbundling in this country. Yes, but you couldn't get unbundled switching if you needed more than four lines of it. And we had all these little rules, you couldn't mix local service and long-distance service on the same circuit, and all these things that made unbundling not unbundling generally but a very specific regime, and to understand the impact of regimes, you have to know the very specific regime that you are talking about but I think you ask yourself the simple question: Is Verizon going to stop if you make them unbundle it? I am not going to tell you what the answer is, and I don't know what the answer is but I think it is a good question to ask yourself.

Mr. DOYLE. I think we all know what the answer is.

Mr. Swain, when you were developing—by the way, I have been to your country. It is a beautiful country and I would like to get back. When you were developing your new strategy, your new broadband strategy, what countries did you try to emulate and why?

Mr. SWAIN. Well, we obviously looked around the world. Usually our first port of call is Australia, which had been a program of unbundling, and also bitstream unbundling, as we had done, but I think that we were most tempted by the U.K. model, primarily because it seemed to us there were two key elements to it, and I think the two key elements go hand in hand. One is an unbundling regime and the other is the ability for competitors to get equivalent access to the network at the same terms and conditions and we see those two things being really two sides of the same coin, because you can have an unbundled regime but still the incumbent making it extremely difficult to get a satisfactory arrangement for them, so the answer to the question, sir, is essentially that we did look around the world but we were heavily influenced by the work that was being done in the U.K. because it had these two elements together.

Mr. DOYLE. Thank you. I see my time is up, Mr. Chairman.

Mr. MARKEY. The gentleman's time is expired.

The Chair recognizes the gentleman from Mississippi, Mr. Pickering.

Mr. PICKERING. Thank you, Mr. Chairman, for this hearing. As most of you all know, in 1996 the United States started a policy to open incumbent networks and move toward competition to unbundle to provide for nondiscriminatory access to those elements. We followed that policy for roughly 5 years, and over the last 5 years we have probably seen a reduction of that direction toward more of a multiple-platform-based and less of a reduced access to network elements. We are I think making progress in multiple-platform competition but this is always, as Mr. Ford said, the devil is in the details and the question is, what is the right balance and what are the minimum guarantees that we need to make sure that we achieve both broadband deployment and competition. Mr. Ford asked would Verizon continue to deploy if it had unbundling requirements.

Mr. Richards, British Telecom has unbundling requirements. Are they still deploying?

Mr. RICHARDS. Well, depending on what you mean by deploying. I mean, are they still competing in the market, are they still investing in new structure? Absolutely. They are about to put a very, very substantial amount of money into a new core network, which they refer to as their next generation network, that will move their entire backbone in the U.K. onto IP protocol. They are still very aggressive competitors in the U.K. market. They have become more aggressive competitors in international markets. So there is no evidence I think from the U.K. at least that this suggests that the incumbent somehow backs out of the market. I think there is another question you were trying to drive at which is, does it affect their incentive to deploy fiber, for example, and as I said I think once or twice, I don't think the U.K. market is at the right point for that yet but we don't believe that there should be any incentives con-

trary to a firm, whether it be the incumbent or somebody else, making that investment when the commercial logic makes sense, which is when we think it should be made.

Mr. PICKERING. So you would look at it as a market evolves or the incentives evolve for fiber deployment as to whether you could have any regulatory relief to further incent them. Is that what you are saying?

Mr. RICHARDS. No. We are looking at our regulatory approach to fiber deployment at the moment but we would not expect in the U.K. context, in the U.K. circumstances, which as I said are different than the United States, so I think one has to be careful about reading across completely but in our context, we would not anticipate a full regulatory holiday because we think the key is to make sure that competition is maintained into a next generation access world, into a fiber-optic world. We think it would be a problem for us if the price we had to pay for investment in fiber was the elimination of all competition for the next decade or even longer. So we don't necessarily see, and I wouldn't accept, that competition and investment in further deployment are mutually exclusive. I wouldn't accept that proposition.

Mr. PICKERING. I think that is a very important point for our policymakers to consider because I think that we sometimes are told and there is a misunderstanding that it is mutually exclusive, that either you unbundle and have competition or you don't unbundle and you do not get deployment, and I really think that is a false choice and it is not mutually exclusive, and one drives the other. I think competition drives the investment, and lack of competition then shifts to a tipping point where instead of having an economic incentive to deploy and compete, you have an economic incentive to contain cost which is the opposite of deployment, I am hopeful that as we go forward that we maintain multiple facility-based platforms but we have some guarantees of minimal access to loops and a guarantee to cross platforms interconnection policy because without those core interconnection and minimum access, I think we could lose the progress we have made in this country as far as competition and then we will lose the incentive to actually get the deployment that we seek.

Would you agree with that, Mr. Ford?

Mr. FORD. Yes. I mean, I think you are absolutely right. Some of our papers address this issue empirically and theoretically, that it is not just a one up, you either do this and you don't get investment or you don't. There is some competitive pressure and there was some evidence of investment available, questioned evidence, but there was some evidence that unbundling led to investment. But there is an even sort of deeper issue. It is not that there is unbundling or not and investment or not. The issue comes in the regulation. OK, if you are going to force somebody to do something that they otherwise wouldn't do, you are going to have to regulate their price as well, and that is where the problem comes. It is the regulation of the prices that causes the defect. If you say you have to unbundle and they say OK, well, I will unbundle and set my own price, then it is not an issue. Firms do that all the time. I sell things all the time to people. The long-distance business has been that way for a long time, people selling their network to other peo-

ple. The incentive to do that and to invest heavily in that network is because the firm gets to set the price. In that case, it is a competitive price. But in this case, it is regulating a monopoly price and that might cause sabotage or something like that. That is the issue.

Mr. MARKEY. The gentleman's time has expired.

The Chair recognizes the gentleman from Washington State, Mr. Inslee.

Mr. INSLEE. Thank you. I am looking at our chart of penetration of broadband in various nations around the world, and I just wanted to ask kind of an open-ended question of what you all see as the reasons for Denmark, the Netherlands, Iceland, Korea, Switzerland, Norway being in the top third, Poland, Slovakia, Greece, Turkey, Mexico being in the bottom tier. We are I think No. 15 or somewhere along that line. How do you all look at the reasons for the variety of success or lack of success of those various countries? Did you draw any sort of broad conclusions from that? Open-ended question, anybody can take a shot.

Mr. FORD. My testimony dealt with that primarily. There are some very interesting things and many of them are contained in my testimony. What is the income of the country? I mean, to a large extent in this country we have a demand problem as much as anything, and you could argue that is the price but you could also argue there is just sort of an apathy towards the purchase of broadband service. My mother was called by BellSouth one day, she has a DSL connection, and they said well, we will basically double your speed for $2, and she told them no. I said why not. But there is this lack of understanding of the service and just a lack of interest. She said well, what I have is fine, OK, so that is part of the problem.

Japan has very low prices in fiber yet they rank one spot higher than we do on these charts, so what exactly is that telling you? There are a number of factors that determine the demand for the service absent the supply of the service, OK, and my guess is that most of it is determined by factors such as that. The other issue is that right now we are 15th. Twelve of the people above us should be above us in the broadband nirvana where everybody has a connection, so you could explain roughly a good part of the people ranking above us just because of the relationship of household size across countries and business establishments per capita across countries because we are dividing by population and there is more to population than meets the eye. So there is a lot of reasons. Now, is that to say that we are not lagging or that we need to do more? I don't think so. We just need to focus more on what the issue is, and the issue is that we need better networks, augmented supply, which may require subsidization, and we need to have better services and higher capacity. That is the issue, not how many accounts we have.

Mr. INSLEE. Does anyone else want to take a crack at that?

Mr. RICHARDS. I think there are probably four main factors. One is the economics of density, so the different geographic environments of different countries. You will notice a number of small countries at the top of the list. That is definitely a factor because it affects the cost structure that underlies what can be provided.

Second is the pattern of consumer demand. You will also notice that a number of Scandinavian countries that are always at the top of the list. You will see that by and large in all areas of ICT adoption. That has to do in some ways with the levels of education and the pattern of demand in those countries. The third is certainly income. Average income is absolutely a relevant factor, and you will see some of the poorer countries at the bottom of the list. But the fourth, and the U.K. is the exemplar for this, is that the policy framework does make a difference. So there are a range of different factors but ultimately the policy framework does matter in tables and assessments of this kind.

Mr. INSLEE. And could you describe generally the subsidization in various countries, to what extent has it existed, how would people quantify it and where has it worked and not worked?

Mr. FORD. I think that there is some evidence of Korea's extensive subsidization of its deployment, I think $20 billion or something like that so, I mean, there is a lot of money spent on that, and you can spend money to deploy in New York City or you can spend the money to augment in rural areas that may not have access, and that is a very important policy decision. It would be interesting possibly to see what is the extent of government spending on, say, DSL coverage or something like that but I haven't seen that study. It may exist but that is probably something worthy of looking at from an empirical perspective, I think.

Mr. SWAIN. I will just make one quick comment on our own is that there are general problems with subsidies because you are not sure whether you are doing something that the private sector would do anyway and so there is always that tension. We have only stepped into the subsidy area for one specific purpose and that was really to try and help the business case for low-density areas, particularly around the education sector, so we had a specific purpose to look at increasing and improving deployment, and that was because from the private sector point of view, the business case is hard to make when you have got very small groups of people. But if you want to avoid the digital divide, if you want to try and make sure that every citizen has the ability to take part in the community, then you do need to make an effort. So the subsidy, if you would like to try and bundle groups of people together to try and provide competitive tenders and to get a service rollout, results show some progress in that.

Mr. MARKEY. The gentleman's time has expired.

The Chair recognizes the gentleman from Oregon, Mr. Walden.

Mr. WALDEN. Thank you, Mr. Chairman, and thank you for holding this hearing.

I want to go back to something. Mr. Ford, your testimony I thought was really enlightening for me because I have heard these statistical numbers about where we rank versus other countries, and I am concerned about that. My district is a very rural one, so we are always trying to figure out how do you get broadband into really remote and in some cases even frontier areas, and did I hear you correctly that if every person in the United States or all the OECD countries had broadband, we would rank 20th?

Mr. FORD. Twentieth, yes.

Mr. WALDEN. So if we fully penetrate, we would be 20th. So it is a measurement issue we are working on here that really can skew how we perceive our progress?

Mr. FORD. Yes, that is a factor because we are dividing by population, and some people have large families and some people have none. You need one connection per house, say, which I think is a reasonable assumption, and some countries you have five people in a house and sometimes you have two and a half people in a house.

Mr. WALDEN. I remember in my own house, at one point we had dial-up, wow, we got up to 14.4 or something, and then we went to cable modem, and I have got a router inside my house and sometimes there are four or five of us doing business online with one connection now, and that is really the point you are making?

Mr. FORD. Well, no, the point is——

Mr. WALDEN. Is that there is new technology that allows more people to be on so the measurement——

Mr. FORD. I think at the nirvana, the point is that even in the best of all worlds, we are not all tied for first. I mean, there is this perception that this number varies from zero to one and those guys closest to one are in the best position, and that is not necessarily true. Like in our country, and I don't remember exactly what the number is, but if everybody had it and every business had it, we would be 0.38 or something like that, OK? Well, does that mean—and another country might be 0.5, so for the other country, they should be a little bit higher than us even if half the businesses have it and half the households have it, they are going to have a higher number than we do just because they have smaller families than we do or larger families that we do.

Mr. WALDEN. It helps because we hear this all the time about where we rank, and that is important as we try to figure out where to go. We need to know what we are hearing.

Mr. Swain, welcome, by the way. I come from the State of Oregon. The current ambassador to New Zealand is a friend of mine, Bill McCormick. He is a terrific gentleman who has great restaurants, by the way. That is not a plug but I just know that. And Butch Swindell before that, also from Oregon. Some have argued that the introduction of greater regulation in New Zealand has driven increased broadband deployment. Regulatory intervention has been quite recent however, it is my understanding with bitstream access available in 2005, local loop unbundling in 2006, and the functional separation requirement has been adopted but I guess has not yet been implemented. Isn't it more likely the steady increase in broadband uptake since 2000 has been the result of many factors including those in effect prior to the regulatory intervention?

Mr. SWAIN. Well, firstly, can I say that yes, I know both the current ambassador and the former ambassador, both great gentlemen, and I have also been to Oregon. It is a beautiful State which reminds us very much of New Zealand actually, and so my regards to the people there.

I think the first point really is that yes, there has been an increase in deployment over a period of time and of course that was in periods of relatively to what we have got now light-handed regulation, but we also look at the tables notwithstanding the discus-

sion about how you measure and we are in an area where our GDP growth is pretty good but we are at the bottom half of the OECD. We look at our distance and we also look at our population density, and there are certain challenges that we have, geographic challenges because of the shape of the country, and in the end it is kind of a line call really. If we were to leave the regulatory regime in place, would we be better off, worse off or stay the same, and of course this is a very difficult problem that legislators have, which is why everybody has an opinion on what we should do. But we have come to the view after quite a considerable period of not just looking at our own performance but comparing it, that we think that we can get better penetration rates if we go to the step that other countries have taken because of the fact of incumbency in New Zealand and because of the fact that we think that there is lots of opportunities for new investment and greater services available to the consumer if we take that step. So the answer to your question is that it is difficult to know but on our own experience, what we have decided is that we are to move up the rankings, whatever that means or whatever they are, and for New Zealand it is most important because for us it is next stop Antarctica. We are a long way away from anywhere. And so for us, the importance is that we get ourselves up those rankings, and the way to do that, we feel, is the kind of policies that we have implemented.

Mr. WALDEN. Thank you. Thanks for coming to testify to all our panelists. I appreciate your input. It is helpful as we deliberate these issues as well.

Thank you, Mr. Chairman.

Mr. MARKEY. Thank you.

I was going to ask Mr. Richards if Boston, Massachusetts, reminds you of London the way Oregon reminds Mr. Swain of New Zealand, but I won't go there.

Mr. Hashimoto, does your country allow NTT to rip out the copper wires as you deploy fiber-optic cable, or must NTT leave the copper wire there for competitors to use?

Mr. HASHIMOTO. Well, the government hasn't yet come up with specific policy on that. Currently there are about five dominion fiber access lines for new generation network available. However, we have 50 dominion copper lines.

Mr. MARKEY. So is NTT removing the copper wires as they deploy fiber optic?

Mr. HASHIMOTO. Yes. As we are deploying the new generation network, we are considering the possibility of removing the current fixed line network as well as copper lines.

Mr. MARKEY. Thank you.

I am going to ask Mr. Richards one final question. Then I am going to ask each one of you in reverse order of the opening statements to make a 1-minute summation to us to tell us what you would like us to remember and highlight from your testimony.

I am going to ask, Mr. Richards, you have made a decision to ban all junk food advertising to kids. In the United States, obesity has become an epidemic amongst U.S. children, and I surmise that there is a similar problem in the U.K. Could you talk a little bit about your reasoning on that?

Mr. RICHARDS. By all means. Obesity is a rising problem in the U.K., as it is in most developed countries. We did a serious piece of work over the course of 2 years to identify what the causes of that were and the role in particular of television advertising. We concluded that television advertising played a modest but direct effect, so there are all sorts of other factors as well, but we concluded it did have a modest and direct effect and also an unqualifiable indirect effect, and as a result of that we have introduced some limitations on the advertising of foods which are high in fat, salt and sugar which people often refer to them as junk food, and that is now in place. It is not a total ban. It is a restriction, in particular around children's airtime and programs which are of particular appeal to children. So it is a fairly limited restriction but we do think it will reduce the exposure that children have to junk food advertising.

Mr. MARKEY. I thank you, Mr. Richards.

Mr. Hashimoto, just to clarify a little bit, as you do remove the copper, NTT is required then to unbundle the fiber optic for competitors. Is that correct?

Mr. HASHIMOTO. Currently we are maintaining the fiber optics as well as copper, and in order not to discourage NTT, the further investing on fiber optics currently that NTT is asking the government not to impose unbundling on the fiber optics. Well, our goal or plan is to provide 30 million fixed line by fiber optics by year 2010. However, we have some geographical issues in Japan as well, and there are a lot of challenges with respect to providing fiber optics to rural areas so there are a lot of issues we have to overcome in order to provide fiber-optic connection to the rural, isolated areas.

Mr. MARKEY. Thank you. So it seems that you are maintaining both networks right now and unbundling both networks at the same time, and that helps us to understand Japan's policy a little bit better.

Mr. Ford, we will begin with you. Thank you for your testimony.

Mr. FORD. I guess my point in 1 minute would be that these are very complicated issues and people that tell you they are not are lying to you. I think that probably the most important thing for policymakers is to establish what your goals are: augmented coverage, better networks, lower prices, whatever it may be and then require people who come in and tell you what they want you to do to explain explicitly and precisely how would they propose makes things better rather than just come in and say here is what I want, can I have it, please, which is a lot of what is going on today.

Mr. MARKEY. Thank you.

Mr. Wyler.

Mr. WYLER. Just establishing for businesses, establishing goals and metrics for businesses to follow them will allow them to come up and use their ideas to create what you are looking for, and of course having an understanding—you want to know what the visibility is of the legislation, how long it will last in order to invest, so I would put that together with metrics and goals.

Mr. MARKEY. Thank you.

Mr. Hashimoto, you have 1 minute to summarize.

Mr. HASHIMOTO. Well, this unbundling, the requirement imposed on us is a very, very severe requirement in view of the harsh competition. Of course, it is good for promotion of competition, but it is a tough requirement on us in view of the harsh environment of competition. However, I think that it is possible to provide the value added, not relying on unbundling, and I would like to emphasize here the fact that we are focusing on long-term strategy rather than short-term strategy.

Mr. MARKEY. Thank you.

Mr. Richards.

Mr. RICHARDS. Four simple points, I think. The first is that I absolutely agree that policy in this area is complicated and it needs, in our view, constant vigilance and attention. Second is that every country does indeed need to be carefully assessed on its own merits. Every country is different. Third, the lesson I think from the U.K., if there is a clear one, is that the policy framework does matter and does make a difference. And fourthly, I think we would hold out for the proposition that competition and investment are not necessarily mutually exclusive.

Mr. MARKEY. Thank you, Mr. Richards.

Mr. Swain.

Mr. SWAIN. Well, in addition to those points, I think that we all agree that improved broadband service is fundamental for economic growth. We have a goal in our policy framework to achieve that in the interests of the long-term benefit of the consumer. We have had an interesting journey from the most deregulated environment to now international orthodoxy. The key issue for us is how to promote competition and investment and how we deal with the issues of incumbency, and we think that our solution will do that for New Zealand, and I thank you, Mr. Chairman, for this opportunity to present here today, perhaps on behalf of all of us. It has been an honor to be here, and on behalf of the New Zealand tourism industry, if you ever want to come to New Zealand, you would be most welcome.

Mr. MARKEY. I think we might all take you up on that invitation so that we can follow your course from the lower rankings to the higher rankings which, from my perspective, is inevitable if you adopt the U.K.'s policies.

We thank each of you for testifying today. The challenge for the United States is really whether or not in this whole broadband area we are going to adopt a Lake Wobegon standard, which is that every country can be above average, depending upon how you look at the rankings, and actually that is an argument I used to make to my mother when I brought home my report card that as I got older I decided there were certain subjects I just wasn't that interested in, and so I would just try to persuade my mother that I was doing very well in the areas that I wanted to do well in, and that was not a standard my mother accepted easily, and I think that is going to be the test for America going forward because even if we actually just looked at the areas where the United States or the Bush administration says it wants to do well and that is all we looked at, we still wouldn't be number one, much less all the areas that we are not doing well in in terms of broadband deployment. So the witnesses today have really issued a challenge to us to re-

spond to this international ranking, and I promise you, it is going to be very helpful in the months and years ahead.

With that, this hearing is adjourned.

[Whereupon, at 12:40 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

Testimony of George S. Ford, PhD

Chief Economist, Phoenix Center for Advanced Legal & Economic Public Policy Studies

House Committee on Commerce and Energy Subcommittee on Telecommunications and the Internet Hearing on "Digital Future of the United States: Part IV: Broadband Lessons from Abroad"

April 24, 2007

I. Introduction

Mr. Chairman, Ranking Member Upton, and members of the Subcommittee, good morning and thank you for inviting me to testify today.

My name is Dr. George S. Ford, and I am the Chief Economist of the Phoenix Center for Advanced Legal and Economic Public Policy Studies. I hold a Ph.D. in Economics from Auburn University, and the economics of the communications industry has been the focus of my career—starting with my Ph.D. dissertation on competition in the cable television industry. Prior to my joining the Phoenix Center full time, I worked at several companies in the industry, as well as doing a stint at the Federal Communications Commission's Competition Division. I have authored numerous research studies that explore this industry, and many of these studies have been published in peer-reviewed academic journals, books and other academic outlets. A copy of my current curricula vitae is attached to my Testimony. I am pleased that the Subcommittee has asked for my insight on this topic.

By means of introduction, the Phoenix Center is a non-profit 501(c)(3) organization that studies broad public policy issues related to governance, social and economic conditions, with a particular emphasis publishing academic-quality research on the law and economics of telecommunications and high-tech industries. Among other activities, the Phoenix Center publishes a PUBLIC POLICY PAPER SERIES, a POLICY BULLETIN SERIES, and a POLICY PERSPECTIVES SERIES. We also sponsor Congressional briefings, Policy Roundtables at the National Press Club, educational retreats, as well as our Annual U.S. Telecoms Symposium. Our research agenda is consistently targeted at providing policymakers information about the important role that pro-entry policies must play in the communications industry. We have written over thirty papers on telecommunications policy in the last nine years, many of which have been published in academic journals. Moreover, we make all of our research—as well as rebuttals by those who do not agree with us—available for free at our website, www.phoenix-center.org.

Before beginning my testimony today, I wish to make it clear that the Phoenix Center makes it a policy not to endorse or support any particular piece of federal or state legislation or proposed regulation. Our mission is not to tell policymakers *what* to think about an issue but *how to think* about it. As such, our contributions to communications policy are decidedly more analytical than most, and we refuse to ignore the institutional realities and economic constraints of the communications business.

At the core of much of our research is a formal recognition that competition between integrated voice, video and broadband networks is costly, expensive and risky. Phoenix Center and other academic research show that because it is costly to build and

operate communications networks, even in a "best case scenario," only a few firms will be able to provide the complete package of voice, video and data services over their own network.[1] The number of firms that a market can sustain is directly related to the size of potential addressable market and the cost of entering that market. This simple and perhaps obvious observation tells you that if you want more "facilities-based" competition, which is the chosen path of communications policy today, then you need to do what you can to either *increase* the size of the addressable market and to *lower* the cost of entering that market. Importantly, having only a few providers does not, however, imply poor economic performance.[2] Indeed, a small number of providers may very well be the result of intense competition, rather than an indicator of a lack of price competition.[3] We believe that recognizing the actual economic conditions of communications markets makes for better policy decisions, by correctly focusing interventions and removing unproductive ones.

The topic today is broadband communications and "lessons from abroad." There is no question that the nation's broadband infrastructure is, and should be, a top priority for policymakers. The communications industry has always played a vital role in the economy, and broadband communications is no exception. It is possibly only a

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1 G. S. Ford, T. M. Koutsky and L. J. Spiwak, *Competition After Unbundling: Entry, Industry Structure and Convergence*, PHOENIX CENTER POLICY PAPER NO. 21 (July 2005); *and reprinted in* 59 FEDERAL COMMUNICATIONS LAW JOURNAL 331 (2007).

2 *Id.*, 59 FEDERAL COMMUNICATIONS LAW JOURNAL at 339-40, 346-50.

3 *Id.*, 59 FEDERAL COMMUNICATIONS LAW JOURNAL at 346-50.

mild overstatement that from now on the ability of information technologies to communicate quickly and reliably will be the distinguishing factor between modern and antiquated economies, and between economic growth and decline. Indeed, an article I co-wrote two years ago was one of the first studies that demonstrate an empirical link between the availability of broadband capacity and economic activity, and there have been several studies since confirming the important role of broadband communications in the modern economy.[4] In my view, developing and implementing a national broadband strategy is perhaps *the* key issue for modern communications policy, particularly as Internet usage explodes exponentially and massive additional infrastructure investment is required to keep pace.[5] President Bush has made broadband deployment a national concern, and I suspect that many members of this Subcommittee understand that the increasing global nature of our economy forces us to carefully consider whether our national infrastructure can support our global competitiveness.

But before considering the details of any specific policy strategy to improve our nation's broadband infrastructure, the first step is to ask whether or not we need any

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[4] G. Ford and T. Koutsky, *Broadband and Economic Development: A Municipal Case Study from Florida*, 17 REVIEW OF URBAN AND REGIONAL DEVELOPMENT STUDIES 216-229 (2005); S. Gillett, W. Lehr, and M. Sirbu, *Measuring the Economic Impact of Broadband Deployment*, Final Report, Economic Development Administration, Dept. of Commerce, Evaluation Project No. #99-07-13829 (2006).

[5] *See, e.g.*, J. Chambers, *Guts and Glory*, FORBES.COM (May 7, 2007) (Cisco Chairman and CEO John Chambers noting that "In a little more than two years worldwide Internet traffic will hit 9 exabytes per month. That is the equivalent of 9 quintillion typed characters, enough for 4 trillion novels. It is nearly two times the letters you'd need to write down all the words ever spoken.")

policy at all. Several countries around the world have adopted detailed and aspirational national broadband strategies. Whether the United States should take a similar step is hard to say without looking at what other nations are doing and how they are doing relative to us. We inevitably benchmark ourselves to others, most notably by comparing the rankings of broadband subscriptions across the OECD or the world. These OECD broadband rankings purportedly provide us a signpost as to "how well we are doing" among industrialized nations. Are we ranked too low, too high, or are we just right? Are we doing something wrong, or do our policies promote investment and broadband deployment? Are our competitor nations doing something better? Are we disadvantaged or handicapped in some way?

These questions are nagging ones and no doubt inspire a lot of hand-wringing, and I suspect that these ranking are a root cause of this hearing today, given the interest of this Committee in the specific policy choices for broadband made in other countries.

The use of the rankings data as an important element of the policy debate is, in my opinion, unfortunate and unduly distracting. The OECD broadband rankings are most often employed in a manner that presents a grossly inadequate and highly misleading yardstick of our broadband infrastructure and the problems with it. There is no shortage of lobbying in the telecom industry, and the OECD's broadband rankings probably top the list of statistics that are mis-used in these efforts. That is no fault of the OECD, or the ITU, which publishes similar information. Both groups work very hard to provide policymakers and researchers with useful and detailed information on communications markets across the globe. I do not intend to criticize the OECD or its

reports, but rather those who use the data irresponsibly to support one policy agenda or another. The broadband ranking is everyone's favorite statistic—it is used simultaneously to promote more regulation and less regulation, fewer mergers and more mergers, less subsidies and more subsidies. A cite to the current rank of the United States is now boilerplate for any argument, and that fact alone suggests a serious defect in the analytical foundations of the present debate.

My efforts in this testimony today are modest. There are only three important points that I seek to make.

First, broadband rankings across countries are exceedingly crude measures of relative performance, and I encourage you to think more deeply about broadband policy than what the rankings tell us. I implore the members of this Subcommittee—and the telecommunications industry in general—to shed themselves of debate over "Who's Number 1" and one-upsmanship between countries and instead get down to the serious business of developing a broadband policy for this nation. Integrating broadband into our economy is not a contest, and there is no prize for who has the most subscriptions per capita to some inconsistently and vaguely defined service. Rather, broadband is an essential component of our nation's infrastructure, and we should seek to deliver the best communications opportunities and services possible.

Second, I encourage you to recognize the limitations of public policy in determining broadband subscription. There are many factors that determine broadband subscription, including age, household size, income, and so forth. Thus, variations across countries in subscription rates are, in large part, a product of factors outside the

realm of communications policy. I do not mean to suggest policy is irrelevant; it is not. But, a healthy respect for what policy can and cannot do is important.

Finally, I propose a very simple, economics-based framework for evaluating the elements of an effective and sensible broadband strategy for this country. This approach is exceedingly straightforward and I believe that this framework will substantially improve the quality of the debate over what is good, and bad, broadband policy for this nation. Having a national broadband strategy does not imply that regulation or intervention is required. Indeed, a legitimate strategy may be no regulation of broadband at all, and it is probably the case that this should be the starting point of the discussion. The market system serves this country well, but that does not preclude instances of legitimate intervention. Investment tax credits, for example, might be helpful. Intervention to remove government created or sponsored impediments to infrastructure improvements are an obvious first step for any sensible broadband strategy. It is necessary to keep in mind that while regulation may have plausible benefits, regulation inevitably includes costs as well. Keeping that in mind, any intervention no matter how big or small should undeniably move us closer to our broadband goal, and the policy framework I recommend will help ensure the debate is framed in a way that helps this happen.

II. Background on the OECD Rankings

As the global economy grows and becomes more competitive, national leaders are increasingly and appropriately focusing on broadband subscriptions in their countries as a way to benchmark themselves against other nations and identify areas of

concern. The Organization for Economic Cooperation and Development (OECD) releases every six months a ranking of broadband subscription rates for each of its thirty country members, including the United States and most other major industrialized nations of the world.[6] This event sparks collective hand-wringing of leaders around the globe.[7] In the latest OECD rankings for June of 2006, the United States ranked 12th among the 30 OECD countries. The International Telecommunications Union (ITU) presents similar ranking for a larger collection of countries, and the United States ranks similarly in these rankings as well.[8]

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[6] For the latest release of the broadband subscription statistics, *see* OECD Broadband Statistics, June 2006 (available at http://www.oecd.org/document/9/0,2340,en_2649_201185_37529673_1_1_1_1,00.html#TimeSeries).

[7] For example, in 2004, when the United States ranked tenth, President George W. Bush is quoted as saying, "Tenth is 10 spots too low as far as I'm concerned." *See* Ashlee Vance, *Bush demands Net Access Tax Ban*, THE REGISTER (Apr. 26, 2004)(available at: http://www.theregister.co.uk/2004/04/26/bush_says_nonettax). The release of the OECD broadband rankings sparks a flurry of press releases around the world. But even a curiosity—like Ireland dropping one place to the Czech Republic "passing" Ireland in the June 2006 rankings, despite the fact that the two countries have been in a virtual dead heat—are taken seriously and spark policy debate. *See* Emmet Ryan, "Czech mate for Irish broadband," ELECTRICNEWS.NET (Oct. 14, 2006)(available at: http://www.enn.ie/news.html?code=9830016); IrelandOffline, *IrelandOffline Slams Ineffective Government Broadband Policies, Ireland falls a place in OECD Broadband Rankings, 14 countries gain more than Ireland* (Oct. 14, 2006)(available at: http://www.irelandoffline.org/2006/10/13/irelandoffline-slams-ineffective-government-broadband-policies/#more-285) (quoting chairman of an Irish advocacy group in response that "[n]othing short of a complete slash and burn of current telecoms policy will make a dent on our international position for broadband.").

[8] *See* International Telecommunications Union, *Broadband Goes Mobile* (Dec. 6, 2006) (ranking the United States 21st in broadband connections per capita among a larger set of countries)(available at: http://www.itu.int/osg/spu/newslog/CategoryView,category,Mobile.aspx). The OECD data is more recent and, therefore, I focus my testimony today on the OECD figures. Because the ITU reports broadband rankings based on a similar calculation (broadband connections per capita), many of my observations about the shortcomings of the OECD data are equally applicable to the ITU rankings.

The policy relevance of these rankings is, while not irrelevant, very limited. Many others have questioned the usefulness of the data, and these criticisms are often compelling. Some observe, and I agree, that it is a little odd to compare our nation to Iceland, a country the size of Virginia with no military, and a population of about 300,000—93% of which live in urban areas and 60% of which live in the capital city.[9] Others focus on relative geographic size. By my calculations, excluding Canada and Australia, we could fit all the other countries in the OECD within the geographic boundaries of the United States.

Some correctly claim that there are some meaningful differences in the way broadband connections are counted across countries that could skew the OECD rankings.[10] Others note that many of the subscription rate numbers are so close as to be indistinguishable from a statistical perspective. For example, compare the subscriptions rates of the United States at 0.192 to the United Kingdom at 0.194, Japan at 0.190, and Belgium at 0.193. Given that both connections and population are estimates and subject to error, it is unlikely that these countries can be legitimately ranked on subscription, though it is obviously possible to do so using the point estimates of subscription. In fact,

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[9] Not to mention the fact that Icelanders pay (US) $10 for a glass of beer and pay (US) $7.50 for a gallon of gas. G. Eichhorn, *Iceland: Land of Fire and Ice* (vistited Apr. 23, 2007) (available at: http://gei.aerobaticsweb.org/iceland.html).

[10] For an interesting discussion, see *Researcher Debunks Global Broadband Rankings*, COMMSDAY (Apr. 4, 2007). Such differences certainly appear in the counting of wireless telephone subscribers, for example, with many countries reporting more wireless telephones than people—an undeniably peculiar result. *See* In the Matter of Section 6002(b) of the Omnibus Reconciliation Act of 1993, WT Docket No. 06-17, Eleventh Report, FCC 06-142 (rel. Sep. 29, 2006) (available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-06-142A1.pdf) ("11TH CMRS COMPETITION REPORT") at App. A, Table 12.

with just a 5% error in measurement, the United States could be ranked 10th rather than 12th. With a 10% error, we could be ranked 8th.

Most commonly, people attribute our rank to differences in population density, and it is the case that those ranked higher than the United States are often more densely populated along some dimension. All of these criticisms are worthy of consideration, and some seriously force us to question the legitimacy of the rankings data.

Comparing apples-to-oranges is a serious indictment of the broadband rankings. But even if these problems did not exist, it is my position that interpreting the broadband rankings remains problematic. Indeed, I believe that the broadband rankings are fundamentally flawed for two reasons, at least in the way they are interpreted by participants in the arguments over broadband policy. First, there is an interpretation problem. Second, there is a relevance problem.

From the perspective of interpretation, let me demonstrate what I mean through a simple thought experiment. Let us assume that you and every other policymaker in the OECD are successful in achieving complete broadband penetration in *every home* and *every business* in every country in the OECD. You could consider this a "Broadband Nirvana." In this thought experiment, all countries are equally successful. No OECD economy would be advantaged or disadvantaged in relation to broadband availability and subscription.

In this Broadband Nirvana, where do you think the United States would rank among OECD countries? Where would the UK rank, or Iceland?

You would think all of these countries would be "Tied for First", right?

Well, no.

Table 1 provides the current OECD rankings and the rankings the OECD would publish if all OECD economies achieved 100% penetration of all homes and businesses.[11] In the Broadband Nirvana—with total and complete broadband penetration to every home and business throughout the OECD—the United States **would rank twentieth**! That is actually eight spots lower than where we are ranked today—a position that has been described by FCC Commissioner Michael J. Copps as a "Broadband Ditch" and evidence that "something has gone dreadfully wrong."[12] Furthermore, on a penetration basis, we would be further from 1st position than we are today—we would be 16 percentage points (0.54 versus 0.38) behind the leader where today we are only behind by 10 percentage points (0.29 versus 0.19). Of course, there is no catching up, since everyone had a broadband connection already.

Obviously, in this Broadband Nirvana, there is nothing left for policymakers to do because every household and every business has a broadband connection. Yet, by

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[11] I use data on business establishments reported by the OECD to measure businesses. OECD, STRUCTURAL AND DEMOGRAPHIC BUSINESS STATISTICS: 1996-2003 (2006). In a few cases, statistical procedures are used to estimate missing observations. Since the definition of establishment may vary across countries, the exact numbers in the tables should be considered primarily as illustrative rather than precise.

[12] M. J. Copps, Disruptive Technology ... Disruptive Regulation, 2005 MICHIGAN STATE LAW REVIEW 1, 7-8 (2005); Federal Communications Commission, Availability of Advanced Telecommunications Capability in the United States, Fourth Report to Congress, 5 (Sep. 9, 2004) (Statement of Commissioner Michael J. Copps, Dissenting)(available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-04-208A1.pdf).

today's rhetorical standards, in which every six months we lament our middling place among the OECD, we would be considered a failure, eight steps deeper into the "broadband ditch."

But there is, of course, an explanation for the ranking. The reason we would rank 20th in this Broadband Nirvana is because the OECD measures "broadband connections per capita." In other words, it adds connections purchased by both businesses[13] and households (as reported by the respective countries) and divides by population. As a result, a country's OECD broadband ranking is a function not only of broadband subscription but also the result of such simple demographic and economic factors like household size and average business size.

This simple experiment shows clearly that the metric used to rank countries makes comparing countries difficult, and certainly suggests that strong statements made regarding the implications of such rankings are inappropriate.

Consider a simple analogy. If a perfect broadband score is 0.38 in the United States but 0.54 in Sweden, then how can we compare the two on a single scale? It is akin to a college admissions officer who has to compare applications from students from high schools with a four-point scale to students with schools with five-point scales. The admissions officer would not conclude that a student with a 3.9 grade point average

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[13] There is some dispute about how well business connections are measured.

from a five-point scale school is as smart as a student with the same grade from a four-point scale school. The admissions officer would adjust the scores to be on a similar scale. We can and should do the same for broadband subscriptions—and measured as deviations from a Broadband Nirvana, the United States is doing well relative to other OECD countries.

Let me be clear. My criticisms of the numbers are not an indictment of the OECD or ITU. To compare broadband connections across countries that vary so drastically in size, some form of normalization is required. Choosing population for such

Table 1. Actual OECD Rank v. Broadband Nirvana
Broadband Connections per Capita

	OECD Data, June 2006		Broadband Nirvana	
Country	Subscr. Rate	Rank	Subscr. Rate	Rank
Denmark	0.293	1	0.478	4
Netherlands	0.288	2	0.437	7
Iceland	0.273	3	0.489	2
Korea, South	0.264	4	0.254	28
Switzerland	0.262	5	0.429	8
Finland	0.250	6	0.477	5
Norway	0.246	7	0.403	15
Sweden	0.227	8	0.541	1
Canada	0.224	9	0.419	10
United Kingdom	0.194	10	0.389	19
Belgium	0.193	11	0.410	12
United States	0.192	12	0.380	20
Japan	0.190	13	0.390	18
Luxembourg	0.179	14	0.378	21
Austria	0.177	15	0.406	13
France	0.177	16	0.424	9
Australia	0.174	17	0.315	27
Germany	0.151	18	0.449	6
Spain	0.136	19	0.338	26
Italy	0.132	20	0.404	14
Portugal	0.129	21	0.392	17
New Zealand	0.117	22	0.398	16
Czech Republic	0.094	23	0.478	3
Ireland	0.092	24	0.347	24
Hungary	0.078	25	0.411	11
Poland	0.053	26	0.341	25
Turkey	0.030	27	0.212	30
Slovak Republic	0.029	28	0.351	23
Mexico*	0.028	29	0.247	29
Greece	0.027	30	0.362	22

normalization is a common and a sensibly crude approach when making such comparisons across countries or even across states. Unfortunately, those commenting on the data fail to realize that normalization is not an innocuous procedure, and different normalization choices can present substantially different results, particularly when comparing ranks.

For example, in Table 2, I normalize broadband connections by households rather than population.[14] In my opinion, because a household generally needs no more than one broadband connection, households is a sensible and probably better metric by which to normalize connections, though admittedly still crude.

Measured as connections per household, the United States remains in its 12th position. However, there is considerable shifting among other countries. To the extent policymakers want to emulate countries that are "above us," the changes from this restatement are extensive. Sweden, for example, falls from 8th to 16th—someone now could claim that Sweden is no longer a success story but instead a fairly average performer. Denmark falls from 1st to 6th, and while still ranking high, there is an obvious and meaningful difference in its position.

Several countries move up as well. South Korea is now 1st, up from 4th, and Norway moves up substantially too. Australia moves from 17th to 4th in the rankings. So, while we outperform Australia on a per-capita basis, it is a country to emulate on a per-household basis. Without this level normalization, Australia would not have been on the radar screen of countries from which we should attempt to learn. These dramatic changes are due to nothing more than altering the normalization criterion from population to households.

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[14] One could normalize using any measure of relative "size," including Gross Domestic Product, labor force, and so forth.

I do not want to suggest that Table 2 is the "correct ranking," because both population and households render crude estimates of the statistic of interest. The problem with very crude normalization procedures is that our interest is not in broadband subscriptions *per se*, but on the influence of broadband infrastructure on economic activity. It is certainly possible, if not to be expected, that the economic output per connection varies across countries. For example, broadband subscriptions may be more important in a service economy than in an agrarian economy. In other words, a single broadband connection in the United States may produce more economic output than two connections in another country, or maybe half as much relative to another. The commingling of business and residential connections in the OECD data makes this distinction especially important. Since our real interest in how broadband subscription is converted into economic growth, then we need not only information on subscription counts but these counts must be adjusted by some type of connection-to-growth factor to render a truly meaningful statistic. At present, we assume that this conversion rate is equal across countries, but there is no general reason to expect that this is true. Thus, this implicit assumption should be recognized to render exceedingly crude estimates of the relative position of countries in terms of broadband infrastructure.

Table 2. Broadband Connections Per Capita and Per Household

	OECD Data, June 2006 (Connections per Capita)		OECD Data, June 2006 (Connections per Household)	
Country	Subscr. Rate	Rank	Subscr. Rate	Rank
Denmark	**0.293**	**1**	**0.645**	**6**
Netherlands	0.288	2	0.691	2
Iceland	0.273	3	0.655	5
Korea, South	**0.264**	**4**	**1.162**	**1**
Switzerland	0.262	5	0.629	7
Finland	0.250	6	0.550	9
Norway	**0.246**	7	**0.664**	**3**
Sweden	**0.227**	**8**	**0.454**	**16**
Canada	0.224	9	0.582	8
United Kingdom	0.194	10	0.524	10
Belgium	0.193	11	0.502	14
United States	0.192	12	0.518	12
Japan	0.190	13	0.513	13
Luxembourg	0.179	14	0.519	11
Austria	0.177	15	0.460	15
France	0.177	16	0.443	18
Australia	**0.174**	**17**	**0.661**	**4**
Germany	0.151	18	0.347	21
Spain	0.136	19	0.449	17
Italy	0.132	20	0.370	19
Portugal	0.129	21	0.361	20
New Zealand	0.117	22	0.328	22
Czech Republic	0.094	23	0.226	24
Ireland	0.092	24	0.276	23
Hungary	0.078	25	0.211	25
Poland	0.053	26	0.170	26
Turkey	0.030	27	0.150	27
Slovak Republic	0.029	28	0.084	29
Mexico*	0.028	29	0.123	28
Greece	0.027	30	0.081	30

Related to this point, a count of connections entirely ignores the intensity and purpose of use. In wireless communications, for example, consumers in the United

States use the service with significantly greater intensity than in other countries. In the United States, each phone is used on average 800 minutes per month, where in many other countries the usage levels are more in the 150-to-300 minute range.[15] Therefore, while our mobile telephony subscription rate may lag that of other countries,[16] our use and integration of that technology into our economy is perhaps more significant.

From the perspective of forming a national broadband strategy, there is even a deeper problem with this data. Given the variation in the definition of "broadband" across countries including the United States, the count of broadband connections in the OECD and ITU data is typically for a very low speed service. Thus, the count is unlikely to provide an accurate portrayal of the relative superiority of broadband infrastructure across countries. In my opinion, increasing the subscription rate in this country to a 200 kilobit service is not a legitimate goal of a national broadband strategy, but that is all a focus on the broadband rankings data gets you.[17] In fact, if we could magically convert every broadband connection in this country to at least a 100 megabit fiber optic circuit offered by 10 different facilities-based providers, then we would still rank 12th in the

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15 11TH CMRS COMPETITION REPORT, *supra* note 10, at App. A., Table 12.

16 In 2003, the United States ranked 26th among the OECD in cellular mobile subscribers per 100 inhabitants. OECD Information and Communications Technologies, OECD COMMUNICATIONS OUTLOOK 2005, 109, Table 4.8 (2005). There is some substantial skewing in this OECD calculation particularly with regard to small European nations, where individuals may subscribe to several mobile carriers in order to meet their needs. Luxembourg, for example, in 2003 had 119.8 mobile subscriptions per 100 inhabitants, indication a substantial rate of double or triple subscribership.

17 In the United States, the FCC defines 200 kilobits per second as the threshold for "broadband" service. *Local Telephone Competition and Broadband Reporting*, WC Docket No. 04-141, Report and Order, 19 FCC Rcd 22340 (2004) at n.7, ¶¶ 14-19.

OECD rankings. Clearly, that's a problem. Rather than focus on rank, our strategy should be to augment the geographic coverage, increase productive use, and expand network capacity and enhance network capabilities of our broadband infrastructure. This strategy will require massive investments in our communications networks, and policymakers must recognize that such investments are unlikely to occur in an overly burdensome regulatory environment.

Are the broadband rankings useless? Not completely, perhaps, but close to it. Even so, it is the exaggerated importance and naïve application of them that is most problematic, not simply that they are available. There are obviously more important issues than simply pumping up subscription to low speed Internet services, and that's about the only issue the rankings data implicate. Nevertheless, the numbers can clearly be included as one element in a portfolio of evidence regarding our broadband infrastructure, and they have encouraged us to take broadband policy seriously—in that alone they serve a purpose. My point is to merely caution you that to interpret the ranking as implying this country is in a "broadband ditch" or that our existing policies are grossly misguided takes it much too far.

III. Using OECD Data to Determine the Sources of Broadband Penetration

Absent from much of the discussion of OECD rankings data is the obvious point that broadband is a good or service that is purchased by consumers and businesses just like other goods and services. In effect, there is a demand for broadband service and that demand is likely driven by the typical set of factors such as prices, income, education, age, and so forth. There is also the supply of these broadband network

services, and the networks that provide this service may vary considerably across countries due to geography, embedded technologies, regulation, subsidies, general economic conditions, and so forth.

Recently, I performed a statistical analysis in an effort to better understand the demographic and structural determinants of the OECD's subscription numbers.[18] This analysis provides insight into the relative importance that demographic and other factors may play in determining an OECD country's broadband subscription rate, and I believe the findings are interesting. My findings are summarized in relation to a 10% increase in each relevant factor as follows:

- A 10% increase in Gross Domestic Product Per Capita *increases* broadband subscription by 8.4%.
- A 10% increase in Household Size increases broadband *increases* subscription by 8.3%.

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[18] The reported effects are based on an econometric model using the OECD subscription rate data for the first and second half of 2005 and the first half of 2006, the latest data available. All variables except for dummies are expressed in natural log form. The bulk of the data is provided by the OECD FACTBOOK 2006 and the Worldbank's WORLD DEVELOPMENT INDICATORS 2006. Price is provided by the OECD, Working Party on Telecommunication and Information Services Policies, BENCHMARKING BROADBAND PRICES IN THE OECD (June 2004), and is measured as the introductory rate for broadband service assuming the customer generates 1GB of traffic per month (since some prices are metered). Most regressors are three-year lags, due to data limitations and concerns about simultaneity bias. Of all the variables, price is the most difficult to measure since quality data on prices is scant. Not surprisingly, heteroscedasticity was a problem with the model, but this was resolved using the weighted least squares method prescribed in G. S. Maddala, LIMITED DEPENDENT AND QUALITATIVE VARIABLES IN ECONOMETRICS (1983), at 29. All variables are statistically significant at the 5% level or better. The R^2 of the (unweighted) regression is 0.83.

- A 10% increase in Number of Wireline and Wireless Telephones Per Capita *increases* broadband subscription by 7.0%.
- A 10% increase in Tax Revenue as a Percent of GDP *increases* broadband subscription by 5.3%.
- A 10% increase in Percent of Population with Tertiary (that is, post-secondary) Education *increases* broadband subscription by 1.6%.
- A 10% increase in Percent of Population in the Country's Largest City *increases* broadband subscription by 1.4%.
- A 10% increase in Population per Square Kilometer *increases* broadband subscription by 0.5%.

In contrast:

- A 10% increase in Percent of Population Age 65 or older *reduces* broadband subscription by 3.7%.
- A 10% increase in Price Index of Broadband Service *reduces* broadband subscription by 4.0%.
- A 10% increase in Percent of Broadband Connections provided by the Dominate Broadband Technology *reduces* broadband subscription by 4.2%.
- A 10% increase in Income Inequality (the GINI coefficient) *reduces* broadband subscription by 8.4%.

There are very few surprises here. The subscription rate is positively related to income, education, telephone consumption, household size, and population density. Subscription rates are negatively related to price, income inequality, and age.[19] Of the more interesting findings, the statistics reveal that subscription rates are lower in markets with a highly dominant technology for broadband. Thus, more competition and a greater diversity of technological options is a good thing for subscription. Compared to other OECD countries, the United States, by the way, ranks favorably in this factor.

I encourage you to recognize that there are many significant determinants to broadband subscription that have nothing to do with broadband policy *per se*. Policy is not irrelevant, because an effective broadband policy may be able to offset many of the factors that discourage subscription.[20] In some cases, however, intervention may make matters worse by exacerbating the impacts of our handicaps such as unequal incomes and relatively low population density.

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[19] It is not possible to describe the price effect as an elasticity of demand, since I did not estimate a demand curve.

[20] For example, numerous organizations across the country provide computers and connectivity for poorer people, which might dampen the role of income inequality as a determinant of subscription. Likewise, there are programs that help finance the funding of network deployment in rural areas, offsetting the impact of population density.

IV. How to Establish a National Broadband Policy

When I opened my testimony today, I mentioned that the Phoenix Center exists not to tell policymakers *what to think* but *how to think* about communications policy. Hopefully, my discussion today on broadband rankings has triggered some interest beyond the undue focus on "which country is doing better than the United States and why." Instead of fixating on rankings, I propose that you begin your deliberations with little more than the baseline proposition that we, as a nation, need to better geographic coverage, more se the productive use, and expand network capacity and enhance network capabilities of our broadband infrastructure in order to accommodate the rapidly growing demand for broadband communications.[21] Armed with this simple proposition, we can return to basic economics for guidance.

To begin, think about the decision to subscribe to broadband service. First, a consumer cannot buy what is not available. Thus, it is clearly important to adopt policies that lead to the increased availability of broadband services, including, most critically, expanding service to presently unserved areas.

Secondly, if service is available, then a consumer will subscribe only if the value of the service exceeds its price. So, to increase subscription, we need policies that increase the value of broadband service and policies that do not lead to higher prices.

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[21] This proposition is debatable, but, in my opinion, legitimate.

Finally, the broadband services available to consumers and businesses must be sufficiently robust to handle the growing demands of broadband communications. Just because we define something as "broadband" does not imply that the service is capable of supporting the communications requirements of our economy. 200 kbps is sufficient capacity to handle email and standard web-browsing—applications that were developed five to ten years ago. But as video streaming services like YouTube proliferate, new and different demands will be placed upon communications networks that will render this capacity level insufficient and insignificant.

So, the goal is to modernize our broadband infrastructure in a way that increases availability, increases value, maintains or lowers prices, and improves the capabilities of the networks.

This framework suggests a simple yet powerful approach to evaluating policy proposals. In fact, I believe that policymakers, whether here in Congress or at the relevant regulatory agencies, should require all interested parties to demonstrate with acceptable precision exactly how their various broadband policy proposals will impact the incentives to deploy advanced network or upgrade network capacity, affect consumer value of broadband service, and influence prices. In cases where there are conflicts between the two, a meaningful cost-benefit analysis should be provided.[22]

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[22] G. S. Ford, T. M. Koutsky and L. J. Spiwak, *The Efficiency Risk of Network Neutrality Rules*, PHOENIX CENTER POLICY BULLETIN NO. 16 (May 2006)(calling for a cost/benefit analysis Network Neutrality proposals

Footnote Continued...

Why is a framework for evaluating policy proposals important? Because it happens too frequently that advocates of various positions first observe that we are ranked 12th in broadband subscription only to follow up that observation with a proposal that, without question, would then reduce the supply and/or demand for broadband services. For example, my research has shown that efforts to commoditize broadband transmission will likely reduce the incentive to invest in networks and tend to increase industry concentration.[23] Neither of these outcomes is desirable and both would work to decrease the supply of broadband and drive up its price so that fewer consumers could and would purchase it.

Likewise, hindering the ability of broadband providers to satisfy consumer demands with different price-quality combinations unquestionably reduces subscription, since some consumers are willing or able to purchase the service only at a lower price. If increasing subscription is desirable, then the tiering of service should be encouraged, not discouraged, because such tiers would invite more marginal users to subscribe to broadband services.[24]

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that would limit operators from injecting intelligence into broadband Internet access networks) (available at: http://www.phoenix-center.org/PolicyBulletin/PCPB16Final.pdf).

[23] G. S. Ford, T. M. Koutsky and L. J. Spiwak, *Network Neutrality and Industry Structure*, PHOENIX CENTER POLICY PAPER NO. 24 (Apr. 2006), *and reprinted as* 29 HASTINGS COMMUNICATIONS AND ENTERTAINMENT LAW JOURNAL 149 (2007).

[24] See, e.g., B. Hermalin and M. Katz, The Economics of Product-Line Restriction with an Application to the Network Neutrality Debate, Unpublished Manuscript (Feb. 9, 2007).

Finally, we should be very wary of calls for legislation that would mandate an inflexible set of rules that would foreclose or severely limit market transactions among consumers, broadband network operators, and content providers. As our recent research reveals, under plausible conditions, rules that prohibit efficient commercial transactions between content and broadband service providers could, in fact, be bad for *all* participants: consumers would pay higher prices, the profits of the broadband service provider would decline, and the sales and number of Internet content providers would also decline.[25] That said, we must not allow blatantly anticompetitive actions to go unchecked, and vigorous regulatory and antitrust enforcement oversight remains crucial.

On the positive side, there have been a number of sensible and effective policies proposed and recently implemented.

An excellent example of a public policy that will encourage network upgrades and expansion as well as increased subscription is the Federal Communications Commission's recent efforts to streamline the local franchise process for cable television service, because video is a key driver of broadband network deployment.[26] Adding

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[25] G. S. Ford, T. M. Koutsky and L. J. Spiwak, *Network Neutrality and Foreclosing Market Exchange: A Transaction Cost Analysis*, PHOENIX CENTER POLICY PAPER NO. 28 (Mar. 2007)(available at: http://www.phoenix-center.org/pcpp/PCPP28Final.pdf).

[26] G. S. Ford, T. M. Koutsky and L. J. Spiwak, *The Impact of Video Service Regulation on the Construction of Broadband Networks to Low-Income Households*, PHOENIX CENTER POLICY PAPER NO. 23 (Sept. 2005), *and being reprinted in* I/S: A JOURNAL OF LAW AND POLICY FOR THE INFORMATION SOCIETY (forthcoming Spring 2007).

multichannel video service capability to a broadband network increases the revenue potential market of that network tremendously. I just read an article a few days ago regarding Verizon's decision to slow its fiber investment in Massachusetts due to the lack of a statewide franchise process, redirecting its capital spending to states where legislation had reduced the costs of entry.[27] We predicted that very result in a recent paper, as we showed that investment dollars would move to markets with favorable regulatory environments.[28]

Moreover, as we showed in PHOENIX CENTER POLICY PAPER 23, adding video services to the mix provides a strong incentive to build these multi-service broadband networks in low-income and minority areas.[29] As a result, policymakers interested in increasing broadband subscriptions in the United States should be tripping over themselves to figure out ways to streamline and accelerate the availability of video services on these networks—not fighting against it. Reforming the franchise process is critical to network deployment and it is a good thing that the FCC took those steps last December.

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[27] C. Johnson, *Verizon Suspends Push for Mass. TV Franchises*, THE BOSTON GLOBE (Apr. 18, 2007).

[28] G. S. Ford, T. M. Koutsky and L. J. Spiwak, *The Consumer Welfare Cost of Cable "Build-out" Rules*, PHOENIX CENTER POLICY PAPER NO. 22 (third release, Jan. 2007) (available at: http://www.phoenix-center.org/pcpp/PCPP22_Third_Release.pdf) at 19 ("Communities benefit from defecting from a build-out requirement by increasing their relative attractiveness to entrants.").

[29] *The Impact of Video Service Regulation*, *supra* note 26.

The Internet Tax Moratorium is another policy that likely furthers the advancement of broadband infrastructure in this country. Taxes lead to higher prices without affecting value, and, as such, reduce the quantity purchased of broadband service. Unquestionably, consumers will respond to higher prices, so taxing the Internet-related services will lead to reductions in subscriptions.

Another step in the right direction is the FCC's upcoming auction for spectrum in the 700Mhz band for Advanced Wireless Services. Creating diversity in broadband options for consumers and businesses increases value and, in some cases, reduces prices. Also, the FCC's recent decisions to homogenize the regulatory treatment of broadband services—regardless of the underlying technology—reduces uncertainty and, consequently, should encourage productive investments in broadband infrastructure.

There are a number less obvious linkages between policy and broadband deployment and subscription. An example is the video program access rules, which are required by Section 628 of the Communications Act.[30] As I discussed above, potential revenues from video is a key driver in broadband deployment. However, many popular cable networks like CNN, The Discovery Channel and HBO are owned, at least in part, by incumbent cable companies. Without access to these programming networks, the services offered by new wireline video competitors would be less valuable, and less

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[30] 47 U.S.C. § 548.

people would subscribe to their broadband platform as a result.[31] In this case, a regulatory intervention like the program access rules promotes broadband deployment because it removes a significant barrier to entry by allowing new wireline video competitors the ability to provide their video customers with these popular and unique programming networks.[32] These rules are set to sunset this year[33]—precisely at the time when the nation appears to be on the cusp of potentially robust, facilities-based wireline video competition.

In my view, every issue in communications should be viewed through this prism—how would this or that policy improve broadband infrastructure and use in the United States? There are no shortages of policy proposals before you, but I believe that if you put each of them to this test, you would begin to see the outlines of a coherent and economically sound approach.

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[31] The incentive for the vertically-integrated cable operator to block access to such content in an effort to deter entry in multichannel video delivery is discussed in J. Farrell & P. Weiser, Modularity, *Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age,* 17 HARV. J. LAW & TECHNOLOGY 85, 104-05 (2003).

[32] J. W. Olson and L. J. Spiwak, *Can Short-Term Limits on Strategic Vertical Restraints Improve Long-Term Cable Industry Market Performance?* 13 CARDOZO ARTS & ENT. L.J. 283 (1995) (available at: http://www.phoenix-enter.org/library/prog_access.doc).

[33] *See* In the Matter of Implementation of the Cable Television Consumer Protection and Competition Act of 1992, MB Docket No. 07-29, Notice of Proposed Rulemaking, FCC 07-0 (rel. Feb. 20, 2007)

V. Conclusion

In conclusion, I think we all can agree that the expansion and modernization of our broadband infrastructure is a critical component of the nation's economic growth potential. But to make sound decisions, we must interpret the data available to us soundly. I do not mean to criticize the OECD or ITU for their efforts to provide useful information on communications industries across the globe. But the information they collect must be placed in context and normalized for certain factors—like household size—that have nothing to do with broadband policy and which can lead to a skewing of results. While I have made several observations on the limitations of the OECD ranking data, I confess that inevitably we must compare and benchmark ourselves to other countries. We should do it with care and a healthy does of skepticism.

What is most needed is for this country to state plainly and with reasonable detail the desired outcome for broadband services and then establish a framework with which to evaluate policy proposals in reference to obtaining that explicit goal. I believe the goal should be to augment the geographic coverage, increase the productive use, and expand network capacity and enhance network capabilities of our broadband infrastructure in order to deal with the ever-growing bandwidth demands of the content and consumer, and make broadband a better value proposition for consumers. We must avoid making it more difficult for network providers to sell different services over multi-use broadband networks. And on the demand-side, beware of policies that would increase end-user consumer prices either directly or through making broadband service more costly to provide. I believe this disciplined approach to broadband policy will

render better results and eliminate the waste of resources devoted to quibbling over bad ideas.

Mr. Chairman, thank you again for the invitation to testify. I would welcome any questions the subcommittee might have.

Testimony of Gregory Wyler

Before the United States House of Representatives
Committee on Energy and Commerce

Subcommittee on Telecommunications and the Internet
Hearing on the "Digital Future of the United States: Part IV: Broadband Lessons from Abroad"

Chairman Markey, Ranking member Upton and Members of the Committee. I am honored by your request for my attendance at this hearing. More so, I am appreciative that the positive impact of broadband on developing nations is given an opportunity to take a stage in your decision making. I have but one of many small success stories in the developing world where broadband has helped bring economic empowerment, equality, democracy and change to a developing area. I am also here, as an American, to testify that it is in America's interest, both economically and socially to bring broadband infrastructure to the developing world.

To introduce myself I am a native of Massachusetts and was in the public school system through my college degree. In the early 1990's I left school to start a semi-conductor cooling company. The business grew quickly we became a leading supplier to Dell, Hewlett-Packard, IBM, and now even the xbox 360. After selling the company in 1998 I spent time in open source software, including to help fund a successful internet company through its public offering. Soon after this I decided to devote my time towards the developing world. This is how and where I was introduced to Rwanda.

In Rwanda we have developed a world class infrastructure including the first African deployments of both fiber to the premise and EVDO mobile broadband. I have personally witnessed the positive impact of broadband on many parts of this rural, growing economy, including successful poverty reduction and

medical treatment strategies. Two examples; 1) the efficient distribution of aids drugs requires an electronic infrastructure to determine patterns, dosage and effect. Software from Voxiva (Maryland) creates web sites to visually map these items and electronically collect the data from the various health centers., and 2) Columbia University has had a very successful large scale poverty reduction program (millennium challenge) in which telecommunications for e-health, education and even sales of corn have played a well documented part of its success as written about in the Philadelphia Enquirer[i] and San Francisco Chronicle, *"Fiber Optics to Rwanda's Rescue"*[ii]

1: Internet Penetration in Rwanda

In 2003 I visited Rwanda with a goal of connecting some schools to the internet and learning about how else I could contribute. I found very little broadband access. For instance, the PTT had 22 internet connections greater than 64kbps, with pricing of $1000 per month for 64kbps, or $2000 per month for 128kbps. With a population of over 8,500,000, the internet tele-density of Rwanda was very low. Rwanda was in a catch 22, no one would invest in internet infrastructure because there were few users, and there were few users because there was no infrastructure.

Because of the desperate need, in 2004 with an investing partner, we formed a small ISP to bring internet to schools. Hiring an entirely local staff we climbed roofs, laid fiber and brought the latest technologies to Rwanda. We now have almost 400 Rwandan employees and provide internet access to approximately 50,000 end-users.

The fiber network, designed, installed and maintained entirely by Rwandans covers almost 400km, inter-connecting approximately 150 buildings including 6 of the 7 public colleges and all of the Government Ministries. Our EVDO broadband deployment brings high speed mobile networking throughout the country, including every city and many rural areas.

The Rwandan economy has outpaced its peers growing over 9% per year, and technology exports are beginning. Such exports include a partnership with Solidworks (Concord, Massachusetts), a leading mechanical cad design firm which is working with the students of ETO Gitaramma to produce 3d components for an online 3d library.

Software businesses have been formed which focus on providing services over this infrastructure. For instance, in 2004 bank branches were not inter-connected. A deposit in one branch had no relation to a balance in another branch. Simultaneously with our inter-connecting bank branches, some employees formed a new company to develop software for coordinating inter-branch deposits and withdrawals.

Another example is in revenue collection. Because we could connect major tax payment locations via fiber, the revenue authority hired local and foreign software engineers to develop a web based customs and tax payment portal. This increased both the time and amount of revenue collections.

Pricing has played a major factor in penetration. The prices charged are the lowest in Africa and access costs for end users are similar to the US. For instance, EVDO mobile broadband service is approximately $60 USD per month, similar to both Verizon and Sprint. DSL services start at $70 per month including a fixed telephone line, comparable to Verizon DSL and phone service (but only for 256kbps in Rwanda).

With all these positives there is still a very long way to go. Internet backhaul costs and quality hamper development of nations. As will be detailed later, even if geo-satellite costs were reduced the quality of internet over geo-satellite is so poor it prevents participation of the developing world in the new high bandwidth internet. Solving this problem requires a significant investment in leo-satellite technology and fiber networks.

2. Internet access fosters democracy

Often overlooked is the significant and crucial role the internet plays in fostering democracy. Internet access eliminates a one-way channel of communication, enhancing participatory government through both authored and anonymous critique. Furthermore, wide accessibility creates an open looking glass for peer review into the goings on in any particular country. In extreme instances, significant deprivations of human rights can quickly be seen by the world. The recent history of Rwanda would have been very different had internet access been available. In part, the belief that communications can free people drove this project.

In 1994 Rwandan citizens were limited to one source of information- a single Government radio station. This sole source and monopoly of information eliminated any opportunity for either dissension or education on varied viewpoints.

If participative democracy is the voices of many to form the will of the people into a coherent structure of laws and rules, then the internet is a great enabler. Driving the internet, blogs, forums and ad-hoc "journalism" deep into a growing nation will quicken the pace of freedoms in a public and transparent manner. Worldwide sharing of ideas and thoughts of citizenry reduces the possibility of propaganda and reduces the cost of keeping a helpful eye on growing economies.

3: It is in Americas' Interest to foster internet growth

Beyond the sale of equipment and services to create the infrastructure, the United States exports a significant amount of web based services. For example, almost ½ of Ebay and Google's sales are international[iii], Yahoo's growth is from International sales[iv], and all of the 20 most popular web sites are American.[v] Because American companies continue to lead the world in monetizing web users, it is in our economic interest to increase the total user pool.

The United States and U.S. foundations also spend billions of dollars on aid for developing countries. The programs would be significantly more efficient if a communications infrastructure existed. The difficulties of providing relief without communications are well known yet relatively little funding goes towards this development. Aid organizations spend too much on recreating ad-hoc communications systems because none are in place, and none will be funded. The distribution, logistics and educational issues they face are on the scale of Walmart's, but Walmart has an existing communications infrastructure to leverage.

4: Slow internet speeds hinders economic growth

Slow access speeds in the 1990's hindered the growth of the "World Wide Wait". New internet applications such as video, web 2.0, and ajax require higher bandwidth. Unfortunately much of the developing world is stuck with extremely slow access speeds.

Most of Africa is serviced by geo-stationary satellites. The satellites are so far away there is a ½ second delay for every signal. This "latency" reduces the effective end-user speed of the internet to about 176kbps no matter how large the pipe.

The Internet (tcp/ip) delivers packets like the post office delivers return receipt mail. The sender waits for confirmation from the destination (receipt) before sending the next packet. The continuous back to back round trips compound any delay caused by connection distance. Web pages "slow fill" section by section, for instance CNN.com may take 24 seconds to fully load over a high latency link.

If developing rural economies are going to benefit from the latest internet technologies and even contribute to their development, they must have access to them. Technically, lower latency is better and latency charts are standard requirements in service level agreements by service providers. For reference purposes, latency under 100ms is excellent (within continental US), and latency between 100ms and

300ms is adequate. Typical Geo-Satellite latency is 600ms. Soon "desktop applications" on web 2.0 will be common, but only for low latency users because few will wait ½ second for a menu item to open.

5: Conclusion

I have had the privilege of watching the Rwandan economy transform in three years from very little internet to one of the most advanced in Africa. I have worked with schools, the Government, NGO's and foundations to understand and support their technical needs. It is with this background that I offer this testimony on the significant positive economic and social effects of broadband on a rural economy.

It is my hope this testimony will offer guidance on the importance of broadband for development. Broadband creates significant efficiencies for every other initiative, whether for health, education, economy or democracy and its need is often overlooked because it plays only a supporting role. Broadband does not cure disease, but it can make the cure affordable.

Thank you again for the opportunity to appear before you today.

24 April, 2007

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[i] "U.S., and its stars, can help Africa", 05 Jan 2007, Philadelphia Enquirer
[ii] http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2006/11/19/INGLBMDO3D1.DTL
[iii] http://biz.yahoo.com/ap/070418/earns_ebay.html?.v=6,
http://googlewatch.eweek.com/content/google_financials/google_4q_2006_revenue_up_67_over_2005.html
[iv] http://yhoo.client.shareholder.com/NEWS/Q107/238370.pdf
[v] http://internet.seekingalpha.com/article/25309

Ofcom Written Submission for Congressional Sub-Committee on Telecoms and the Internet Hearing "Digital Future of the US Part IV; Broadband: Lessons from Abroad"

Good morning Chairman Markey, Ranking Member Upton, and Honourable Members of the Committee.

My name is Ed Richards, and I am the Chief Executive Officer of the Office of Communications, the regulatory authority for the telecommunications & media sectors in the United Kingdom. It is an honour to appear before your committee today.

I know that this committee has been considering the future trajectory of communications regulation here in the United States. As you can imagine, there is great interest in our institution in that debate. There is a long history of cross-pollenisation of ideas in this area between our two countries, and we liaise closely and regularly with our colleagues at the FCC. I would say that the more we look around the world and study different markets in detail, the more certain we are that there is no single policy prescription for all countries. But it can be, we believe, very instructive to compare notes on what has worked and what has not worked in our respective countries. I hope that our insights on UK experience can be of some value to the work of your committee.

Before we get into the substance, I would like to some words of introduction about Ofcom. We are a relatively new institution which commenced operations at the end of 2003. We were formed as a response to the phenomenon of convergence – the increasingly close relationship between the formerly discrete areas of broadcasting and telecommunications. We are a sector regulator for telecoms, television broadcasting and radio, the UK's spectrum management body, and we also apply UK competition law in the sectors that fall within our remit. We have a headcount of around 800 people, and an annual budget of £125m, that's just under $250m.

Whilst we cover similar territory to the Federal Communications Commission, there are some significant differences in the way we are structured. Most obviously, at the top of the organisation we do not have Commissioners affiliated to political parties. Instead we have a Board, modelled on that of a public company, consisting of a non-executive chairman, Lord Currie, appointed by the UK Government; a Chief Executive Officer – myself, appointed by the non-executive members of the board which includes the Chairman; and a mix of other executive and non-executive members, with the non-executives always in the majority. All are appointed on the basis of relevant business or policy expertise, rather than from a party ticket. This structure was a significant innovation in Britain and has generated a lot of interest throughout the world. We think it is working well.

And I would like to emphasise that we are an *independent* regulator, not part of the Government or the civil service, and we are, to all intents and purposes, self-financing, drawing our income from licence fees, although within financial parameters set by our finance ministry. I am here before you today representing the views of the Board of Ofcom and not on behalf of her majesty's Government. I am not a civil servant or in any capacity a Government official. Ofcom does however enjoy a close and positive working relationship with the Government and in particular the department of Trade and Industry, and department of Culture, Media and Sport, though Ofcom is accountable to Parliament not the respective Ministers. This enables Ofcom to have close understanding of Government policy but to operate independently from them.

Let me turn then to our approach to telecoms regulation. First, I want to explain a bit about the market context we are now facing in the UK.

Second, I would like to briefly compare the history of our regulatory model with yours. I hope this will make sense of some of the other points of divergence in regulatory approaches that we may discuss later.

And third, I want to talk about how in the UK we are addressing some key regulatory issues which I believe are of interest to this committee including promoting competition in telecoms, stimulating investment in next generation broadband and wireless, addressing concerns about 'net neutrality', and using new spectrum management techniques to create greater scope for innovation and competition in the telecoms arena.

About the UK telecommunications market

Perhaps it might be useful to provide a brief snapshot of the UK telecommunications market.

We estimate that telecoms service revenues in the UK are around $50bn a year, compared with around $250 here in the US. UK consumers spend a little less per capita on telecoms services than here in the States – $820 per annum compared with $855 per annum.

Fixed line penetration in our two countries is again pretty comparable, but as the committee will no doubt be aware, for historical reasons the UK and EU mobile or wireless markets are more heavily penetrated. Our figures for 2005 indicate 108 mobile subscriptions per 100 people in the UK, compared with our estimate of around 70 mobile subscriptions per 100 people here. Though your numbers will also have changed since then.

Behind these numbers lie some important shifts in consume behaviour which are themselves now affecting the market. Fixed line voice revenues – for many years the bread and butter of telco businesses – are in decline partly because of declining prices spurred by competition but also as a result of substitution to wireless voice and to fixed and wireless data services. In the

UK in 2001, fixed voice revenues were at $24bn and mobile service revenues were at $16bn By 2005, these numbers were $20bn and £26bn respectively. Within the mobile or wireless industry there is a separate, significant shift of revenues from voice to data services.

Perhaps the most interest statistics for this Committee relate to broadband. Our latest research on the UK market suggests that our figure has now grown to over 50% of households in the year since the last survey, and there was a 31% increase in the number of connections over the course of the last year.

Part of the growth spurt can be attributed to a sharp increase in the competitiveness of pricing of broadband. Basic 2M/bit broadband is now widely available for $30, compared with $100 in 2003. Faster speeds are becoming widely available and services offering headline speeds of 8 M/bits per month are now being offered by some providers for as little as $20 a month. Increasingly we are seeing bundled offerings, in which broadband is offered in a triple or quad play alongside fixed voice, pay TV, VoD and mobile services.

Evolution of the UK regulatory approach in telecoms

So that is where we are today in headline terms. How did we get here?

The UK was one of the first countries in the world to follow the US lead and introduce competition into the telecoms market back in 1984.

Although our policy has always been strongly influenced by the US, there were some features of your policy that we chose not to replicate in the UK. There was no equivalent of the 'Bell Break Up'. Our incumbent, BT was left as a single, vertically integrated business when it was privatised in 1984. Partly because of this we have not had the kind of segmentation of the market that was a feature of US policy. We abolished all vertical restrictions between local, long-distance and international markets in 1991 and allowed unrestricted local access competition, something which was permitted here in your 1996 Telecommunications Act. Cable and telecoms have also been subject to an essentially identical regulatory regime, so we have not had the same long-running issues that you have faced over the classification of cable services.

I should also say that we removed all foreign ownership restrictions in telecoms in the 1990s and US investment has been a continuous and highly welcome feature of our market in consequence.

So from a common root in a desire to introduce the forces of liberalisation and competition into telecoms, our markets and regulatory strategies have evolved along slightly different paths. Seen from outside, the US approach fostered early and dynamic growth and competition in the telecoms market, but over time it has become progressively more important to remove certain artificial segmentations of the market. Your story, as we read it, is one of a series of

deregulatory phases of policy which have allowed convergence to take place and which have led – as demonstrated most recently in the AT&T-SBC merger – to a significant vertical reintegration of your market.

The UK on the other hand, has had a market substantially free of artificial restrictions on competition. But, lacking the decisive 'big bang' of the Bell Break-Up, we have struggled for some twenty years to create the conditions for really effective and sustainable competition in the face of the continued market dominance of our incumbent.

The 2004-2005 Strategic Review of Telecommunications

Therefore, in 2004 Ofcom, as one if its first major tasks, began a strategic review of telecoms regulation in the UK.

The strategic review was designed to answer some very simple questions. Why, after twenty years of regulatory intervention, were we still struggling to create the conditions for effective competition in our UK market? In particular, why had broadband services – seen as strategically important to our long-term competitiveness - been rolled out more slowly in the UK than in other comparable countries? And why was BT still a dominant player across so many market segments?

The conclusions we came to were stark. The many regulatory interventions introduced over years had not had the effect of creating sustainable, effective competition. Quite the opposite in fact – they had created a culture of weak, fragmented competitors dependent on regulation for their ongoing survival, whilst the regulation had not preventing BT from discriminating in favour of its own downstream businesses.

And the regulatory model was not only sub-optimal but probably unsustainable. The alternative carriers were reliant on profit from voice and narrowband data traffic across the old Public Switched Telecoms Network. But these profits were being competed away, and the industry was also facing a transition from a business predominantly based on narrowband voice revenues to a business predominantly about broadband and data services, which would require new investment and would not provide any guaranteed future returns.

Whilst one might expect the incumbent telco, BT, to be nominally a beneficiary of ineffective regulation, BT was itself struggling with the regulatory burden. It too wanted to meet the new broadband challenge head on through investment in new infrastructure – specifically, a new all-IP network. But it needed greater regulatory coherence and certainty to make this investment.

So the question was, how could we exit this muddle.

We looked very closely at the work conducted in 2003 by the FCC in its Triennial Review. The option of simply deregulating – removing all or most of

the regulation introduced in the previous twenty years and seeing how the market would react – had considerable attractions.

This might have led us to follow the FCC lead and remove all wholesale access and unbundling requirements from BT, relying instead on inter-platform – as it is sometimes called, inter-modal – competition between vertically integrated end-to-end access infrastructure providers.

But we had two problems with this approach. First, the position of the *existing* infrastructure competitor to BT, the cable industry, was (and is) very different in the UK to here in the US. Cable is rolled out to around 50% of the UK population compared with over 80% here. And at the time we started out review, both the principle UK cable players were either in or had recently completed financial restructuring exercises and their future competitive strategies were highly uncertain.

Second, we examined the scope for competition to the incumbent from wireless infrastructure providers, using both the existing cellular operators' infrastructures and those that might follow down the technology upgrade path in the next few years. We concluded that wireless networks would always lag wired networks in their ability to shift bandwidth-hungry services and applications from one fixed location to another. Wireless is very important to us – and there is a premium on getting the right policy approach to spectrum management, which I shall discuss shortly – but wireless services were unlikely to compete head on with fixed, broadband enabled networks. We also looked at all the more radical technology ideas such as Powerline, but for varied and complex reasons these are unlikely to be viable in the UK.

Forbearance in the application of unbundling style regulation would have led not to liberated inter-modal competition, but to a reinforcement of the incumbent telcos existing monopoly. Not a desirable outcome.

At the other end of the range of policy options, we looked at the desirability – twenty years down the track – of our own 'Bell' break-up of BT. The argument for doing this was that by separating the natural monopoly elements of the BT business – the access infrastructure – from the remainder, we would at a stroke remove the ability and incentive that BT had to discriminate in favour of its own downstream business. To achieve such as split, Ofcom would have had to make a case to the UK Competition Commission, our most senior competition authority, which would itself have had to conduct an investigation which could have lasted up to two years. So this would be a slow and uncertain route.

But it also was not clear that this was a necessary or even desirable course. The core problem of discriminatory treatment by BT in favour of its' own downstream businesses might be achievable in a less irrevocable and more proportionate fashion through the introduction of operational or sometimes known as functional separation. This would be a re-organisation of the natural monopoly elements of the BT business into a separate business unit, subject

to separate governance arrangements and required to abide by tough non-discrimination rules.

Following consultation, in September 2005, BT agreed to make a series of changes along these lines. It created a new business unit, Openreach, which is responsible for its bottleneck access infrastructure, has its own management board, brand, management team offices, and employee incentive schemes. It is, in large measure, a fully separate business operating within BT Group. The Openreach structure and governance provides a guarantee of non-discriminatory treatment, though this is backed up by detailed obligations on Openreach in the way that it provides equivalence of input to specific wholesale products. By equivalence of input we mean that BT's own downstream businesses and those of its rivals should receive the same products at the same prices, same quality of service and terms and conditions. With these measures we had a comprehensive solution to both price and non-price discrimination by the incumbent on behalf of its own downstream businesses.

These guarantees of competition in the upstream wholesale market have allowed us to significantly deregulate downstream markets, and to provide considerably more certainty on the trajectory of future regulation – critically important, as I shall explain, to encouraging new waves of investment in next generation infrastructure. BT derive some particular benefit from the process. Most obviously, it avoids the possibility of protracted competition investigation which could have led to the eventual break-up of BT. But we also undertook to review and where possible remove existing regulation, particularly of BTs retails businesses once equivalence of input was provided. On this basis for example we have now removed all retail price control from BT voice telephony services following the deletion of equivalence of input from relevant wholesale products.

We have also reinvigorated our approach on unbundling of the BT network. Unbundling is a term used in a slightly different ways in our two countries, so let me be clear that the focus of our unbundling is the physical connection between the customers' premises and the local exchange. One irony is that when unbundling was a cornerstone of US policy after the introduction of your 1996 Act, the then UK regulator, Oftel, was sceptical about whether it could be made to work and indeed, when first introduced in our market, local loop unbundling was a failure. But now, through considerable hard work and focus on both process and price issues, we believe we have developed a viable LLU model.

The creation of Openreach and the reinvigoration of local loop unbundling has already had a significant effect on the UK market. It has revived investor confidence and has led to major new investments by a range of players. I have already mentioned the strong top-line numbers for broadband. There is now a particular focus on using unbundled broadband lines to offer retail bundles of broadband, telephony and entertainment services. A price war has commenced in which broadband is being offered in some cases 'free' as part of a bundle which also includes such telephony and entertainment elements.

The Ofcom approach is attracting a lot of interest in other countries. The European Commission has recently indicated that it is considering making UK-style Functional Separation a regulatory approach available to all EU regulators.

Tackling the challenges of next generation investment

As I am sure you have seen in the US market, convergence is accelerating the need for change, with the proliferation of uses and technologies and the erosion of traditional boundaries. Next generation networks will accelerate the convergence of services and technologies. Any changes in our policy approach provide a solid basis for promoting further investment and innovation in the UK market. But we face some specific challenges.

In all developed markets, infrastructure companies are now planning major investments in new infrastructure, often termed next generation networks or NGNs. NGN plans around the world are taking different forms. We are of course well aware of the plans announced by a number of companies here. In the UK, BT announced an upgrade of its core network to a next generation network, what it terms the 21st Century Network. This is a huge undertaking, involving the complete replacement of the PSTN network throughout the UK with an all-Internet P infrastructure. When it's completed in 2012, the 21st Century Network will have cost BT some $30-36bn in total. That investment only covers the core Next Generation Network – BT has not yet confirmed any plans for a Next Generation Access Network, involving new fibre or wireless connections to customers.

The 21CN plans require Ofcom to find a policy which creates the right incentives for investment <u>and</u> for ongoing competition. On the investment side, we recognise that regulation can create sufficient uncertainty to deter investments which are highly desirable from a market and consumer perspective. We are seeking to reduce regualtory risk by:

- Stating in advance howe we will calculate the cost of capital in any future regulated wholesale prices for use of the 21CN.
- Agreeing how long wholesale products on the existing network should be made available in parallel with the new ones.
- And agreeing how we would treat the costs of operators migrating from PSTN wholesale products to new NGN wholesale products.

These measures may not seem particularly dramatic, but they significantly remove risks and uncertainties that would otherwise exist. We have looked at going much further and introducing policies of regulatory forbearance. Some incumbents in Europe, though not BT, have called for 'regulatory holidays' for NGN investments – essentially the removal of all pro-competition rules. We do not agree that this is necessary to secure NGN investments, and we think the price of such a policy in a UK context would be extremely high. We would be sacrificing competition in return for an investment that BT can and will make in any event. Again, I return to the differences between our market

conditions and yours. The forbearance policy here assumes widespread intermodal competition between cable, telco and wireless systems. This is not realistic in UK market circumstances.

We have also followed carefully the debate here in the US about the principle of net neutrality. So far this has not really resonated in the UK or EU discussions of the future of telecoms policy. As we see it, the core of the debate is the extent to which discrimination, whether between different types of traffic or between different service providers is acceptable business practice. We believe that discrimination is not a bad thing per se. Indeed, we strongly believes that some forms of traffic discrimination will be essential in an all-IP environment. The key issue for us in judging whether discrimination is likely to be a good or a bad thing for consumers is whether the parties engaging in discrimination possess a degree of *market power.* In the UK (and Europe generally) our powers to intervene in markets are, in the main, subject to a requirement to show that such market power exists. If an infrastructure operator with market power nakedly discriminated in favour of its own downstream business, clearly we would intervene to prevent this from happening in accordance with the general regualtory approach I outlined earlier.

It is, however, vitally important that consumers have access to information that allows them to track differences between suppliers and switch easily to alternative providers – otherwise the ability to punish discriminatory behaviour is lost. This is likely to be an area of significant work for us.

It follows that we are not convinced by the case for an over-arching net neutrality law, at least in our market conditions. But I look forward to further discussion on this.

Spectrum policy

I would like to say a little about the area which Ofcom believes offers potentially the greatest long-term benefits from our regulatory approach – the area of management of the radio spectrum.

The UK and the USA share a similar vision of the importance of spectrum as an economic resource for a future generation of convergent applications and services. We share a belief in the need for flexibility in the terms on which spectrum is released to the market, in a complex and fast-moving environment where pre-selecting successful technologies is not possible. And we both believe in the importance of creating secondary trading markets for spectrum, allowing users to swap or sell spectrum to maximise its economic potential.

How are we progressing this issue in the UK? The basic groundwork was created by a 2001 report written by Professor Martin Cave, commissioned by the Government, which recommended a move to a predominantly flexible and market-led approach. As I have already mentioned, Ofcom is the agency responsible for managing the civil spectrum in the UK. The UK's 2003

Communications Act gave us a specific mandate to optimise the efficient use of spectrum, and enabled us to introduce a spectrum trading regime, in accordance with the conclusions of the Cave Review.

In November 2004, we set out our strategic approach to spectrum management. Historically, most of the UK radio spectrum (around 95%) has been subject to what we call a 'command and control' approach where the uses to which spectrum can be put are predetermined, in many cases along with the technology that may be deployed. Our vision is to move, by 2010, to a predominantly market-led approach, with some 70% of spectrum available for use for any purpose and with any technology, subject only to the minimum necessary restrictions to prevent harmful interference.

As part of this, we announced a major programme of spectrum auctions. Collectively, these auctions will release some 350 MHz of prime spectrum below 3 GHz to the market. In each case the auctions will be open to all companies, regardless of nationality, and licences will be granted that allow flexible use, freedom of choice of technology and the right to trade spectrum. The programme is well advanced, with a number of significant auctions planned to be held this year and next. Alongside this programme, we will look to progressively remove unjustified restrictions from other, existing licences already issued.

One important element of the UK's approach has been the introduction of what we term Administered Incentive Pricing (AIP) fees for many existing classes of user, including those in the public sector. AIP seeks to reflect the opportunity cost of spectrum being used for its current purpose as opposed to other possible uses on the open market. This has created significant momentum for users to relinquish holdings of spectrum that they do not need, enabling these to be made available for reuse via the spectrum auction programme mentioned above.

More recently, following an independent audit of public sector holdings of spectrum in 2005, Ofcom is looking to further extend these principles to public users of spectrum. This includes the wider application of AIP and the introduction of spectrum trading and greater flexibility to a number of bands used by the public sector.

We are of course encountering significant complexities in the move toward our spectrum vision. In particular, the UK cannot operate in a vacuum but most both co-ordinate usage of spectrum with our nearest geographic neighbours and, to an increasing extent, co-ordinate our activities with the rest of the European Union. However, the EU itself is placing increasing emphasis on the need for the forms of liberalisation that we have pursued in the UK.

Conclusions

Mr Chairman, we see many points of similarity between our two nations in relation to the challenges we face in the area of communications policy. We are both deeply committed to market-based policies which promote innovation, investment and competition. Our countries have benefited

historically from high levels of inter-penetration of capital, of companies, and of ideas. I hope that we can maintain a strong and fruitful dialogue over the coming months and years and for our part Ofcom is committed to strengthening our close ties with our counterparts here in the United States.

Testimony of
The Honourable Paul Swain, MP
New Zealand Parliament

Before the
Subcommittee on Telecommunications and Internet
Committee on Energy and Commerce
United States House of Representatives

April 24, 2007

Mr. Chairman,

Thank you and the members of the Sub-Committee for inviting me to participate in this hearing related to international perspectives on the provision of broadband services. My name is Paul Swain and I have been a Labour member of the New Zealand Parliament for nearly 17 years. During my tenure, I have held a number of ministerial positions including the Minister of Communications and Information Technology where I introduced a number of substantial changes to New Zealand's telecommunications policy and regulatory environment. Today I welcome the opportunity to provide the Committee with an overview of New Zealand's experience with broadband policy and deployment.

New Zealand Telecommunications Market – A Snapshot

Currently, New Zealand's telecommunications market is characterised by the following:

Fixed Services Market: The incumbent, Telecom New Zealand, has national coverage including the 'local loop' (about to be unbundled). A second tier carrier, TelstaClear, provides national backhaul, coverage in the city centres and around 20 percent of residential customers in two major cities. Small service providers depend on access to the fixed network wholesale services.

Mobile Services Market is a duopoly – Vodafone and Telecom – with approximately 50 percent market share each.

Market Share by Revenue has Telecom New Zealand with around 65 percent, with Vodafone holding 14 percent, TelstraClear 9 percent and all others making up the remaining 12 percent (including 57 ISPs).

Internet Market: There is 93 percent broadband **deployment** via xDSL, and the remaining 7 percent via wireless and satellite. Broadband **penetration** is 11.9 percent with New Zealand currently ranked 22nd out of 30 OECD countries. Overall internet subscription, including dial-up and broadband, is 33 percent. The dial-up market is still quite strong due mainly to price given free local calling areas.

International Price Comparison is difficult, but prices for residential low grade (128kbs upload, 1-2mbs download) are relatively low (2nd in OECD) but prices for higher grade small business services (512kbs upload, 2mb download) are around the OECD average. Both services have data caps imposed.

As can be seen, there is still a long way to go before New Zealand catches up with the rest of the world leaders in broadband usage.

Telecommunications Prior to 2001

Telecommunications development in New Zealand was originally a government endeavour that was operated in conjunction with the postal services and banking. In the late 1980's, telecommunications activities were separated from postal and banking and the telecommunications operator was commercialized in the form of Telecom Corporation (Telecom). In 1990 Telecom was privatized and the telecommunications sector was opened to competition. At that time, the government decided not to create specific telecommunications regulation (apart from a Universal Service Obligation (USO) of free local calling) and instead opted to take arguably the most light-handed regulatory approach in the

world, relying largely on generic competition legislation and the Commerce Commission – an economy wide anti-trust regulator.

During the 1990's, partial competition developed in the **fixed line services** with the entry of Clear Communications (now Australia-owned TelstraClear) while competition of **mobile services** developed with the entry of Bell South (now Vodafone). Other small service providers emerged.

Competition in infrastructure tapered off in the late 1990s, due to, among other things, the cost of deployment, the reduction in global telecommunications investment, the size of New Zealand's population and its geography.

There was also growing resentment from competitors at the inability of the generic competition regulator to deal with issues such as interconnection and wholesaling arrangements and number portability. An incoming Labour-led Government in 1999 resolved to deal with these issues, and I was appointed Minister in charge of overhauling the regime

Shift to Sector Specific Regulation – the Telecommunications Act of 2001

An industry specific regulatory regime was introduced in 2001 by way of the Telecommunications Act. The development of this Act was driven by a number of principles, including long term end user benefit, preference for commercially negotiated outcomes, flexibility for the regulator to resolve disputes at the request of the parties, transparent formulation and operation of regulations, consistently applied to provide certainty for industry, maintaining incentives for investment, compliance with international rules on telecommunications, and technology neutral regulation.

The first of these principles has primacy and is the basis of the purpose statement in the 2001 Act. All decisions made by the regulator or the Government have reference to the purpose statement.

The 2001 Act established a Telecommunications Commissioner in the Commerce Commission (the FCC equivalent), and identified three types of regulated services: a) **designated services**, with pricing principals, such as interconnection and wholesaling Telecom's retail offerings; b) **specified services**, with no pricing principals but where access was required, such as cell-site co-location and national cellular roaming; and c) **designated multi-network services**, such as number portability. In addition, the Act established a dispute resolution process, a Telecommunications Carrier Forum, and the cost allocation of the Telecommunications Services obligations (primarily free local calling) which is New Zealand's equivalent of a universal service framework.

It was decided **not** to unbundle the local loop (LLU) at that time, but required the Telecommunications Commissioner to undertake a review of LLU by 2003.

A Government Broadband Initiative – Project Probe

It was recognised that the post-2001 reforms would not deliver the broadband outcomes quickly enough for all consumers, given the geography of New Zealand (two thin islands with mountain ranges down both) and small populations in provincial/rural areas outside the main centres (given New Zealand's agricultural base).

It was clear that the business case for nationwide broadband deployment was difficult to make, so the government introduced a major initiative – Project Probe – which made available **$NZ45m** of taxpayer funds to speed up the delivery of broadband services. A government purchasing/demand aggregation model was used, and regional tenders were sought to provide 512kbs access to all 3000 schools in New Zealand. The objectives of the project were to increase deployment, (which has risen from 70% to 93% coverage of population), to lower prices (which resulted in what is now considered to be low grade broadband being more affordable in the regions) and to promote greater competition. While 4

of the 15 tenders were awarded to non-incumbent providers, new facilities–based competition, particularly wireless, did not emerge.

The Regime under Review (2001-2005)

While the 2001 reforms had had a positive impact on competition issues such as interconnection and wholesale pricing, and Project Probe had improved deployment, there was growing concern at the penetration of broadband in New Zealand. Given New Zealand's geographic distance from major markets, broadband is rightly seen as the equivalent of the introduction of the first freezer ship 125 years ago, which allowed New Zealand's beef and lamb to be delivered to the British market. Broadband penetration was low relative to other countries due to, among other things, the lack of facilities-based competition, no local loop unbundling and poor price and service quality relative to dial up.

In 2002 -2003, a major investigation was undertaken by the Telecommunications Commissioner into local loop unbundling. At the conclusion of this investigation the Telecommunications Commissioner advised **against** implementing full local loop unbundling (LLU) and instead recommended the introduction of a limited speed Unbundled Bitstream Service (UBS). The Government reluctantly agreed with this recommendation so as not to delay the process further, on the basis that the decision would lead to the development of a competitive broadband wholesale market, and would provide incentives for Telecom to deliver greater penetration rates and to quickly deploy its Next Generation Network (NGN). During the same period, the Government issued "The Digital Strategy", which sets out enhanced development of e-content, user confidence and telecommunications connectivity, as necessary parallel requirements for a world class information and communications technology (ICT) environment.

The Prime Minister's 'Speech from the Throne' (similar to the U.S. State of the Union Address) in November 2005 set out a broad goal of ensuring that New Zealand enjoyed a competitive, world-class telecommunications environment, and emphasised the need to make up lost ground in broadband penetration relative to OECD peers.

An investigation of the processes under the 2001 Act, and a stocktake of the New Zealand telecommunications sector, revealed problems with the regime. These included difficulties of access to the regime by small players because of cost, the gaming of the regime by the incumbent, the lack of enforcement provisions, the failure of the incumbent to meet its voluntary penetration and investment targets, and the low broadband penetration rates relative to other OECD countries. It was clear more reform was needed.

The Need for More Reform (the 2006 Act)

Bearing in mind the need to strike a balance between facilitating increased competition in service provision (by improving access to Telecom's network and in particular the 'last mile' of the copper-based network) and retaining incentives for investment in new facilities such as fibre, wireless and satellite, a comprehensive package of measures to improve New Zealand's performance on the availability and uptake of telecommunications services, particularly broadband, was introduced. The key component of the package, which resulted in the Telecommunications Amendment Act 2006, included the introduction of **local loop unbundling**, the removal of the constraints on the regulated unbundled Bitstream Service (UBS), including providing for "Naked DSL", and the **requirement for Telecom to establish operationally separate access network, wholesale and retail groups**, with strong equivalence of inputs (EOI) regulations, similar to the model adopted in the UK by OFCOM and British Telecom.

The detail of these arrangements are currently being progressed, with agreement to be reached before the end of the year. We are anticipating more competition, faster speeds and lower prices for New Zealand broadband consumers as a result.

Conclusion

Broadband deployment and penetration is as fundamental to all countries as was the development of roads, railroads and electricity in bygone eras. Open, competitive economies are dependent on it for growth. We are all searching for the best ways to provide for greater investment in, and competition between, facilities and non-facilities based providers. Competitive pricing for consumers, based on competition, with regulation where necessary is, in my view, the best way to drive broadband uptake.

The type of regulation required will need to be determined according to local conditions. For example New Zealand, with a relatively low-level of facilities based competition, has gone from government ownership prior to 1990, extreme deregulation following privatisation from 1990 to 2001, and has been moving towards international orthodoxy since 2001.

The United States, or the other land, which enjoys high levels of facilities-based competition, appears to have moved from a heavier handed approach with local loop unbundling and other measures from 1996 and is now pursuing a lighter handed regulatory path since 2004. What is appropriate for one county is not necessarily so for another.

However, if consumers are to be the ultimate winners, regulation needs to remain an option, given entrant benefit is a necessary, but not always sufficient, condition for consumer benefit, and incumbent facilities-based providers will be seeking new ways to protect and promote the interests of their shareholders, and not always the interests of all consumers. In other words, incumbents do what incumbents always do.

On some occasions it may be necessary for governments to partner with the private sector (Project Probe) to achieve outcomes that cannot be delivered through the market model.
In an environment where technology is changing rapidly governments need to be vigilant that regulation of those markets does not restrict innovation and competition. On the other hand, markets need to be monitored constantly to ensure that government objectives are being met. If new regulation is required, early signals are important so that markets, which require certainty, are able to adjust accordingly.

The provision of broadband to any nation is a critical and complex issue. Thank you for the opportunity to share New Zealand's broadband experience at this hearing, and I wish you well with your endeavours.

Next Generation Network Development in Japan

Shin Hashimoto, Executive Vice President,
Nippon Telegraph and Telephone Corporation (NTT)

Information and Communications Trends in Japan and NTT's Broadband Development

The telecommunications industry is in the middle of a major paradigm shift as Internet Protocol (IP)-based networks, broadband access, and ubiquitous networking evolve. There has been an intensive debate within the Japanese government (and in Japanese industry) regarding the future of telecommunications networks. For the last few years, the Japanese government has formulated national broadband strategies called "e-Japan" and "u-Japan", with the specific goals of broadband deployments aimed at promoting innovative business models such as e-commerce. NTT has played a crucial role in developing fiber-optic-based broadband in line with these government strategies as a leading and responsible network infrastructure provider.

NTT's Medium-term Management Strategies and Next-generation Network Initiative

On the basis of NTT's medium-term management strategy, which the company has announced in November 2004, NTT is now engaged in building a next-generation network named 'NGN'. In recent years, there has been an increasing momentum of utilizing fiber-based broadband access

services with much higher speed and more stable connectivity. While the demand for the fiber-based services has been significantly increasing, NTT still owns large legacy public switched networks which need to be upgraded in the near future. In view of these circumstances, NTT has decided to build its own Next-generation Network in conjunction with optical fiber-based broadband access--as new network infrastructure-- through which, a wide variety of broadband ubiquitous services could be delivered.

Our Next-generation Network will bring together the features of a conventional fixed-line telephone network, such as quality, and reliability, but with the greater convenience and the economies of scale of the Internet.

NTT's Fundamental Policy and Plan on the NGN Initiative

(1) Technological Features of the NGN

One of the key technologies of the NGN is "Quality of Service (or QoS)" control technology. This enables us to provide quality voice telephony services over IP networks at the level of existing landline telephone services. Our Next-generation Network will be able to meet various needs of our customers by providing a wide range of quality services, from 'best-effort' to 'guaranteed' services, which are enabled by QoS control technology. In addition to this feature, the NGN is equipped with robust security functionalities that protect against malicious activities such as network intrusion.

The NGN by NTT complies with international standards adopted by international organizations

such as the ITU and IETF, and our company will continue to work with these organizations to seek international standardization.

(2) Developing new business models for Next-generation Networks

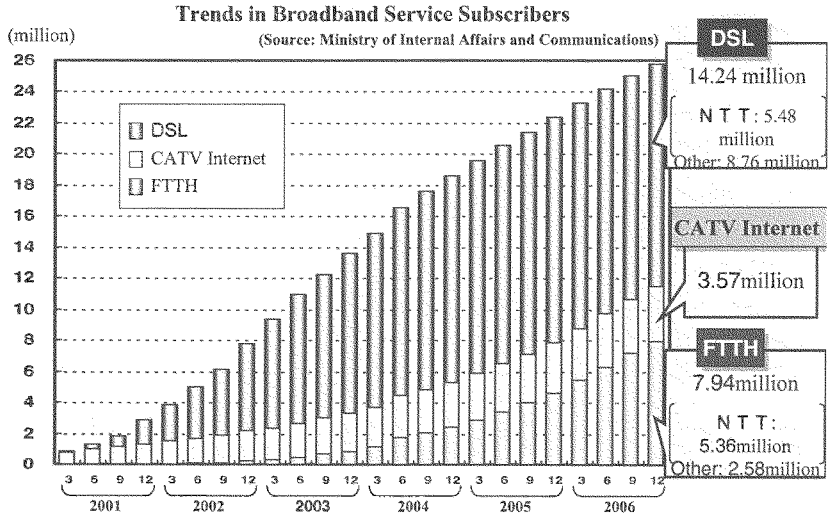
It is our belief that our NGN, as new communication infrastructure, should have interconnectivity with other service providers inside and outside of Japan. Partnerships with Internet service providers (ISPs) and other customers, including enterprises, are also of great importance as has been the case in the past. Furthermore, NTT wishes to develop new business models that best utilize our NGN for collaboration with partners, in a relationship of mutual trust, to create a rich diversity of new businesses and services. Placing a great emphasis on the importance of open access to our NGN, specifications of interfaces for connecting endpoints and application servers with other NGNs, as well as interconnections with other service providers, have been made available to the public.

The public Internet will continue to embrace the freedom of the net and to evolve as an important business platform for innovation. At the same time, a more secure and high-quality network is required for the mature services needed as indispensable social infrastructure. NTT's NGN will enable our customers to choose from a variety of connectivity and network platforms based on their business and other interests.

(3) Perspective on Field trials and NGN Commercial Deployment

As the first step of our NGN implementation, NTT began field trials in December of 2006. These field trials are intended to verify the technological and operational issues of our NGN's commercial deployment. A number of companies have been participating in our field trials, conducting interoperability testing with open interfaces. They have been developing new business models and discovering numerous collaborative opportunities by using various applications and endpoints over NGN platforms. Our field trials are open to anyone who is willing to collaborate with us, inside and outside of Japan, and the trials will continue for a one year-period. Field trials will be completed after thorough evaluations of the findings and tentatively commercial deployment of our NGN is targeted for the spring of 2008. As our NGN and other NGNs mature in the future we envision the migration of switched networks to NGNs, interworking between NGNs and cellular networks, and the convergence of broadcasting and telecommunications services. We will be closely working with various stakeholders in various industries in developing comprehensive plans for our network integration in the future.

Current State of Broadband Services in Japan (DSL/FTTH/CATV)



NTT service subscribers

(End of Dec, 2006)

Mobile phone		52.21million
	3G	32.11million
FTTH		5.36million
	IP phone	2.53million

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Outline of NGN (next-generation network) Field Trials by NTT

Aims

- Verifying technologies and assessing trial user needs prior to full roll-out.
- Seeking broad participation by electronics vendors, service providers and other carriers.

Trial areas and targeted users

- In metropolitan areas of Tokyo and Osaka; approx. 1,000 users

Examples of services

- Internet Access
- IP Phone
- Wideband IP Phone
- IP High-Definition Videophone
- High-Definition IPTV Service
- High-Definition Visual Communication
- Retransmission of Digital Terrestrial Television (DTT) over IP
- Telepathology System
- Home security & control
- Healthcare
- Ubiquitous Network Service for Kids' Safety
- Gentle-touch supervision by robot

Participating companies

- Total 29 companies (as of Apr. 2007)
  ex. Cisco Systems, Inc., NEC Corporation, Hitachi, Ltd., Matsushita Electric Industrial Co., Ltd., and others.

Equipment vendors

- Cisco Systems, Inc., Juniper Networks, Inc., NEC Corporation, Hitachi, Ltd., FUJITSU LIMITED, Oki Electric Industry Co., Ltd., ALAXALA Networks Corporation

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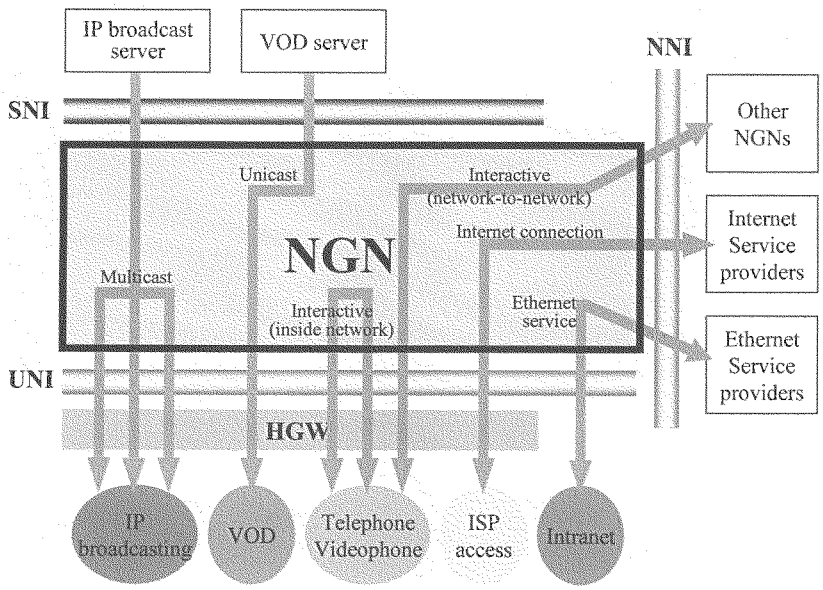
Disclosed Interfaces of NGN by NTT



- UNI : User-Network Interface
- SNI : Application Server-Network Interface
- NNI : Network-Network Interface

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President and CEO

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April 23, 2007

The Honorable Daniel K. Inouye
Chairman
Committee on Commerce, Science,
and Transportation
United States Senate
Washington, DC 20510

The Honorable Ted Stevens
Vice Chairman
Committee on Commerce, Science,
and Transportation
United States Senate
Washington, DC 20510

The Honorable John D. Dingell
Chairman
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

The Honorable Joe Barton
Ranking Member
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

The Honorable Edward J. Markey
Chairman
Subcommittee on Telecommunications
and the Internet
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

The Honorable Fred Upton
Ranking Member
Subcommittee on Telecommunications
and the Internet
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Mssrs. Chairmen, Mr. Vice Chairman, and Mssrs. Ranking Members:

As your committees examine broadband deployment in the U.S. and abroad, we wanted to share with you our perspective regarding the significant progress that has been made in this country with respect to both broadband deployment and adoption. As detailed below, the news on both fronts is far better than commonly asserted.

Broadband deployment in this country continues to grow at a robust rate, and the number of consumers who have signed up for high-speed Internet service in the U.S. far exceeds that in any other country in the world. In the case of cable, which is the largest provider of broadband services in the United States, deployment is the result of our having invested over $110 billion in the last decade in order to provide high-speed Internet access and other advanced services.

Based on company data collected by the Federal Communications Commission (FCC), as of June 30, 2006, cable high-speed Internet service was available to 93 percent of households that could access cable TV service. We think that number is even higher: a recent report by Kagan Research shows that cable broadband service is available to more than 94 percent of all U.S. homes. In addition, the phone companies' Digital Subscriber Line (DSL) service was available to 79 percent of households who could access ILEC telephone service.

Moreover, the availability of broadband service continues to grow, and the price-per-megabit continues to drop, due to a highly competitive marketplace that will only be more competitive as new technologies are deployed. Research and Markets estimates that within five years, there may be as many as 20 million WiMax (high-speed wireless) subscribers and Parks Associates estimates that by the year 2011 there will be 2.5 million broadband-over-power line subscribers.

While the price for high-speed Internet access is on the decline, broadband speeds continue to increase. In 1996, when cable first offered high-speed Internet service as an alternative to dial up access, the speeds were approximately 1-1.5 Mbps. Today, most cable operators offer broadband speeds topping 5 Mbps and some operators, such as Cablevision, offer speeds up to 50 Mbps. Others, like Comcast, offer a service that provides for "boosts" of higher speeds ranging from as high as 10-20 Mbps on an on-demand, capacity-available basis. Many cable operators will soon deploy a new architecture (DOCSIS 3.0) which will allow speeds above 100 Mbps.

Other indicators of the great success of broadband in this country include its impact on commerce. A Jupiter Research analyst has estimated that by 2010, the Web will affect half of all retail sales, encompassing consumers going online for pricing and product research in addition to actually making purchases. Forrester Research predicts that U.S. e-commerce will account for 13% of total retail sales by 2010. The U.S. Census Bureau recently announced that e-commerce sales were an estimated $109 billion in 2006, accounting for 2.8% of total retail sales.

Unfortunately, the high rate of broadband deployment and availability in the United States is often overshadowed by figures that indicate broadband adoption rates in the U.S. lag behind other countries. While the U.S. ranks 15^{h} in some listings[1], when it comes to broadband adoption, this country has the largest total number of broadband subscribers in the world, representing more than 30 percent of *all* the broadband connections in Organization for Economic Co-operation and Development (OECD) countries. According to the *Networked Readiness Index* that was recently released by the World Economic Forum, the U.S. "maintains its primacy in innovation, driven by one of the world's best tertiary education systems and its high degree of cooperation with the industry as well as by the extremely efficient market environment displayed."[2] In addition, the U.S. led or was second in market environment, number of Internet hosts, e-government readiness, infrastructure environment, Internet sever security, low-cost broadband, research institution quality, cluster development, and number of PCs.[3]

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[1] OECD Broadband Statistics to December 2006, released: 23 April 2007. http://www.oecd.org/document/7/0,2340,en_2649_34223_38446855_1_1_1_1,00.html
[2] World Economic Forum press release, March 28, 2007, http://www.weforum.org/en/media/Latest%20Press%20Releases/gitr_2007_press_release
[3] Communications Daily, March 29, 2007, page 14.

Kagan Research estimates that there were more than 49 million households with broadband service at the end of 2006, and the number of broadband customers continues to grow dramatically. The FCC reports that between June 2001 and June 2006, the number of U.S. broadband subscribers grew by 600%. The U.S. also ranks number one in the world in total Internet users (205 million) and Wi-Fi hotspots (40,000, or one-third of all the hotspots in the world).

Broadband adoption rates in the U.S. reflect a number of economic, cultural and demographic characteristics that are unique to this country. First, more than 26 percent of U.S. households still do not own a computer. Second, it is estimated that more than 21 percent of U.S. households continue to rely on dial-up Internet access for basic email and limited browsing functionality, even though most of them have one or more high-speed Internet service options available to them. And while it may seem inexplicable, not every consumer yet sees the need to switch to broadband – a recent Pew Internet and American Life project survey reported that nearly 60 percent of these dial-up users said they are not interested in switching to broadband.

Finally, I believe that it is important to resist comparing the U.S. with much smaller regions like Hong Kong, which is 422 square miles, or Iceland, where almost 93 percent of its inhabitants live in urban areas. Compared to most of the nations that rank "ahead" of the U.S. in broadband penetration, the U.S. is geographically vast and significantly less dense. Korea, often mentioned as a leader in broadband, is 16 times more densely populated than the United States, and more than half of Koreans live in large apartment buildings, while 75 percent of Americans live in single-family dwellings. It is clear that factors like geography, distance, and population concentration and urbanization are critical to the pace and success of investment in any network, not just broadband.

We believe that there is an appropriate role for the government to continue to roll back barriers to broadband deployment, particularly in the area of spectrum policy. But we also believe that we should take care to make sure we have correctly identified the "problem" that needs to be solved – which, first and foremost, should be the availability of broadband services in areas of the country currently unserved. We recognize that there are still remote rural areas across the United States that lack access to affordable broadband service. We would thus urge that existing and future federal initiatives to promote ubiquitous broadband availability should be more carefully targeted to these unserved areas of the country.

To that end, the cable industry supports a number of legislative initiatives and government programs designed to promote broadband deployment to areas that lack access to high-speed Internet service:

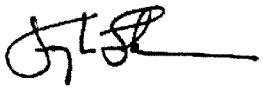
- Tax credits or other tax incentives to providers that build out in rural areas that are unserved by an existing broadband provider.
- Reform of the RUS broadband loan program so that funding is targeted specifically to unserved areas.
- Any use of USF money to support broadband deployment should be targeted to unserved areas.
- Expansion of the FCC's Lifeline and Link-Up Programs to help ensure that broadband access is extended to low-income households.
- Public-private partnerships to provide broadband in unserved areas.

- Passage of H.R. 743 and S. 156 that would make permanent the current moratorium on Internet access taxes and unfair taxes on electronic commerce.

Lastly, we are concerned that various proposals to regulate the Internet – particularly those advanced in the name of "net neutrality" – would hinder the widespread investment in and deployment of broadband that everyone says they want, both in new competing technologies as well as in advanced networks provided by cable and other industries.

Thank you for the opportunity to more fully explain our perspective on this important issue. We look forward to working with you on constructive solutions that promote investment and innovation.

Sincerely,



Kyle McSlarrow

cc: Members of the Committee on Commerce, Science, and Transportation, United States Senate
Members of the Committee on Energy and Commerce, U.S. House of Representatives

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U.S. Falling Behind in Broadband Penetration

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By Chloe Albanesius

The United States Senate will be told Tuesday that the U.S. is barely above the midpoint of broadband deployment within developed nations – and it's getting worse.

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The United States continues to slide in high-speed Internet rankings, dropping three places in six months to 15th out of 30 developed nations, according to a study authored by the International Organization for Economic Cooperation and Development (OECD).

The U.S. placed fourth in 2001 in terms of the number of per-capita broadband subscribers, but fell to number twelve just six months ago. Now, the U.S. stands in fifteenth place. Denmark captured the top spot ahead of the Netherlands and Iceland. Korea, Canada, the United Kingdom, France and Japan all ranked ahead of the U.S.

Approximately 40 percent of U.S. households subscribe to broadband services, compared with 67 percent of those in Denmark. If the U.S .reached a 67 penetration rate, that would translate into an additional 33 million subscribers, the agency said.

The news prompted Ben Scott, director of policy for Free Press, to call for a national broadband policy. "We are failing to bring the benefits of broadband to all our citizens, and the consequences will resonate for generations," he said in a statement. "If we watch and wait, trusting that today's marketplace will magically solve the broadband problem ... the digital divide will widen."

Scott will appear Tuesday before the Senate Commerce Committee for a hearing on broadband and competitiveness in the U.S. Committee members will also hear testimony from the ConnectKentucky broadband initiative, the Telecommunications Industry Association, and Qualcomm, among others.

Sen. Hilary Clinton, D-N.Y., last month introduced a bill intended to speed broadband access to rural areas. It also would create a Rural Broadband Innovation fund to examine new broadband delivery technologies to reach underserved rural areas. It has been read twice and has been referred to the Committee on Agriculture, Nutrition, and Forestry.

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JOHN C. DVORAK

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THE DIGITAL FUTURE OF THE UNITED STATES

THE FUTURE OF VIDEO

THURSDAY, MAY 10, 2007

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON TELECOMMUNICATIONS
AND THE INTERNET,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 9:30 a.m., in room 2123 of the Rayburn Building, Hon. Edward J. Markey (chairman of the subcommittee) presiding.

Members present: Representatives Doyle, Gonzalez, Inslee, Boucher, Eshoo, Stupak, Green, Capps, Solis, Dingell, Upton, Stearns, Deal, Shimkus, Radanovich, Bono, Walden, Terry, and Ferguson.

Staff present: Johanna Shelton, Colin Crowell, Maureen Flood, Tim Powderly, Mark Seifert, David Vogel, Kyle Chapman, Neil Fried, and Courtney Reinhard.

OPENING STATEMENT OF HON. EDWARD J. MARKEY, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF MASSACHUSETTS

Mr. MARKEY. Thank you, ladies and gentlemen. Good morning. Today we have an all-star lineup to help this subcommittee learn about the next part in our series of oversight hearings on the Digital Future of the United States. Today's focus is on the future of video.

We have already had a few hearings that address the topic of the transition of free over the air broadcast television to digital technology. Twenty years ago I chaired the first hearing on high definition television in this subcommittee in this room, so this transition has been a long time in coming. But now we can see a light at the end of the tunnel or rather at the end of the tuner. And our hope is that if we plan comprehensively and the relevant agencies work diligently the broadcasting industry can switch over in February of 2009 to full digital service.

Today the subcommittee will explore the future of video more broadly. This inquiry will run the gamut from high resolution, high definition digital on big screens to digital wireless video services on mobile gadgets and finally to the video services and technologies enhanced by a high speed open architecture Internet. It is a future characterized by services that may compete with the movies or traditional television as well as by services and technologies that will

compliment the video experience consumers have been using for years.

New technology such as TiVo and the Slingbox are fascinating technologies that help to make consumers the masters of their video universe, no longer tethered to the networks' time schedules or the physical space of the living room. Moreover, broadband wireless technologies will give consumers even greater chances to have video on the go as they roam.

These technologies often supplement efforts by existing TV networks and content creators themselves to find other apertures and distribution mechanisms for their video content.

In our inquiry today we will examine how the explosion of video services and technologies affect consumers, as well as existing businesses, practices, rules and regulations. All of this is happening at a breathtaking pace.

For instance, 2 years ago in January 2005, YouTube didn't even exist. Today there are 100,000,000 downloads per day on the site. The openness of the broadband Internet helps to ensure that innovation can continue to drive opportunity, entrepreneurial investment and economic growth in this area.

The fact that today any consumer can be a programmer and get their video content up on the Internet is changing the way consumers view the Web, their creative opportunities and even how politicians run for President of the United States.

Last December Time magazine named you as the Person of the Year in a salute to consumer-generated media. In that spirit, today we are going to film a brief clip that we will put up on YouTube because we have all become programmers. And I thought that perhaps we could have the first ever YouTube video of a committee hearing from the chairman's perspective. Could the witnesses waive for a second just so that everyone will know that we are—and how about the audience? The audience is looking great today.

So what we will do is we will file this. We will put it up on YouTube later on, and it will show that congressional expert is an oxymoron, like jumbo shrimp or Salt Lake City nightlife. There really is no such thing. But anyone can put their video up on YouTube, and we are going to prove that later on today or in a few more days. So we thank all of you. We look forward to your testimony.

I am going to the gentleman from Illinois, Mr. Shimkus, for his opening statement.

OPENING STATEMENT OF HON. JOHN SHIMKUS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. SHIMKUS. Thank you, Mr. Chairman. I see you have your makeup on, but I did not quite get there, that is the disadvantage of being a minority. You do not get advice about all these great plans coming up here. But we do thank you for holding this hearing. And the Ranking Member is going to be a few minutes late. Hopefully he will get here to share his opening comments. But this is a very exciting and important hearing as we continue to follow-up on these series of hearings.

The video industry truly has flourished over the last several years. And one of the big reasons for this has been minimal regula-

tion. Just think back about 10 years or so when TiVo came out. That is coincidently when I got elected into Congress. Just think about those periods of time and all the changes. TiVo has allowed viewers to watch what they want when they want. Back then TiVo was a novelty. Now it and other DVRs are on many cable boxes and satellite receivers.

TVs certainly have changed as well. Remember back to TVs that weighed a ton and were the size of a small refrigerator. In fact, if I were to ask the audience to raise their hand and see how many still have those big TVs that are the size of small refrigerators they would probably raise their hand. But that debate is really for another hearing and how we deal with those leftover analog TVs. Now we have the flat panels that hang on the wall, various sizes and various cost prices. And we can find these TVs in all sizes and price ranges. It has really been remarkable to watch and very, very exciting.

As the video industry continues to develop and we move into an increasingly digital world we need to continue investment into the network and bring quality and competition to consumers. We must revisit old rules and make sure they apply to a new playing field. What we do not need is heavy regulation that stifles growth, access and competition.

The future of video is very bright and I look forward to working with the industry and my colleagues to make sure that it continues to make great strides. Thanks again, Mr. Chairman, for holding this hearing and thanks to the witnesses for sharing their testimony. I yield back my time.

Mr. MARKEY. The gentleman's time is expired. The gentlelady from California, Ms. Eshoo.

OPENING STATEMENT OF HON. ANNA G. ESHOO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Ms. ESHOO. It is always exciting, Mr. Chairman, to come to the subcommittee meetings that you chair. Thank you.

I would particularly like to welcome Mr. Hurley and Mr. Krikorian from YouTube and Slingbox and congratulate, again, the Chairman on continuing to attract the best and the brightest from my district to these excellent hearings.

We are witnessing an upheaval in the evolution of video programming, and this hearing, I think, is yet another exciting opportunity to explore many of the implications of this creative disruption of the video marketplace.

Until recently, video has been transmitted to the public in a push fashion, delivered to consumers at certain times and limited instances and in restricted formats. The broadcast media, motion picture producers determine the content they would develop. They would present it when they chose. And viewers could decide to watch it or not. Digital technology and the Internet have changed all of that. Now Internet users pull the information they want to use, they want to see, whenever they choose in whatever format they decide to watch it in. When a TV show is broadcast at 8 o'clock tonight I could watch it live. I can watch it next week on

my TiVo. I can download it onto my iPod, and I can watch it when I fly home tomorrow.

Disintermediation of the delivery of video is also transforming the diversity and the types of content available. User-generated content is exploding on YouTube and other Web sites. And we no longer have to be attached to a global media conglomerate to broadcast interesting video to the masses.

I am concerned that the almost limitless diversity of voices on the Internet is threatened and that the power to control access to information and content is becoming increasingly concentrated in a handful of large media and telecommunications companies. It is this issue, the development of gatekeepers to content and information on the Internet that I think is at the heart of an issue that has been intensely debated in this subcommittee and the Congress, net neutrality.

I think the future of video will depend in large part on how we resolve this issue, and I think Congress has to ensure that the voices of the many can continue to speak to the many. Consumers have to be able to access the content of their choice, and they must also be able to access that content in the manner in which they choose. Internet access providers and video providers should not be able to dictate to consumers how they will view content and programming and they should not be able to force them to buy equipment from them to view it if other equipment is available.

I have worked hard during this committee's consideration of the 1996 Telecom Act, that seems like almost a century ago today, to secure the inclusion of a provision in the Act, section 629, to enable cable customers to buy set-top cable boxes from someone other than their local cable companies. While there have been repeated delays in the implementation of this law, cable operators are required to comply with the standard set forth by that section by supplying interoperable cable cards by July 1 of this year.

I am concerned that despite the implementation of this mandate many cable operators will either hobble or render competitive set-top boxes unusable by deploying new channel switching technology that will not work with other boxes. This is but one example of how content providers can limit the use of technology by creating artificial barriers to access that impede competition and innovation. So I look forward to the testimony. I welcome all the witnesses and also the response to our questions. Thank you again, Mr. Chairman, for these terrific hearings.

Mr. MARKEY. Thank you. The gentlelady's time has expired. The gentleman from Oregon, Mr. Walden.

Mr. WALDEN. Mr. Chairman, thank you for holding the hearing. I am going to waive my opening in lieu of additional time for questions.

Mr. MARKEY. Thank you. The gentleman from New Jersey, Mr. Ferguson.

OPENING STATEMENT OF HON. MIKE FERGUSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. FERGUSON. Thank you. Mr. Chairman, thanks for holding this hearing and for putting together a really distinguished panel. Thank you all to all of our witnesses for being here today.

This subcommittee can serve an important and constructive role in examining the area of digital video content, ensuring that a playing field exists that fosters competition in the marketplace and encourages creativity and innovation. These are exciting times for consumers, from IP video to digital cable, from webcasting to wireless. There are more video options in the digital marketplace than ever before on multiple platforms.

But the American consumer has a wealth of video content to enjoy, and it is in this committee's interest to ensure that options for the consumer continue to grow. How do we achieve the most options? Avoiding burdensome regulatory policy is naturally one route to take. However, of equal importance is encouraging creativity and innovation by ensuring that intellectual property rights are not only protected by law but respected by those who deliver content to our constituents.

The consumer enjoyment and ultimate success of digital video content was not born out of unauthorized uploading nor was it achieved by circumventing copy protection technology under the banner of fair use. Thankfully, the majority of U.S. companies have done the right thing and ensured that the video content that they carry is indeed legal. I am sure the video you are creating today, Mr. Chairman, will be a completely legal upload. A great example is Verizon Wireless's VCAST technology, a company I am pleased to say is headquartered in my district in New Jersey. But unfortunately not everybody in our country has followed suit.

With all of the exciting options for consumers that the consumers have to access video on the Web, it is all too easy to overlook the fact that much of this content is being transmitted illegally. The plain fact is this: If we want to continue to see a flow of new and exciting technology to our constituents, if we want to ensure that the most options are available, if we want to encourage creativity and innovation, if we want to have truly a pro-consumer digital marketplace, then creative content must be respected.

I thank you again, Mr. Chairman. I thank you for putting together this very distinguished panel of witnesses. I look forward to their testimony. I look forward to the opportunity for questions.

Mr. MARKEY. The gentleman's time has expired. The Chair recognizes the gentleman from Michigan, the full committee chairman, Mr. Dingell.

OPENING STATEMENT OF HON. JOHN D. DINGELL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. DINGELL. Mr. Chairman, I thank you, and good morning. I also want to thank you for holding the hearing. And I wish to also welcome the distinguished panel of witnesses who will appear before us today.

This is the fifth in a series of important oversight hearings that are going to examine the digital future of the United States. Each of these hearings is focused on how digital technologies are changing the communications marketplace.

Like many of my colleagues, I have embraced the new digital technologies. My iPod holds the kind of music not normally heard enough on the airways: Classical music. And I hope someday I can find a way to watch the History Channel more than I do now. I suspect a number of the witnesses here could help me with that.

Today's hearing focuses on digital video. I have paid particular attention to the impact of digital video on local media outlets. This committee has worked in the past to see to it that local media outlets, including television broadcasters, adequately serve the local communities. It is clear that the advent of digital video is both an opportunity and a challenge for local broadcasters. It is an opportunity to better serve local communities with increased coverage and more delivery options. It also presents challenges to a business model which is centered on advertising.

The growth of Internet video and the upcoming digital TV transition will make more content available to consumers through many avenues: over the air, cable, satellite, Internet and wireless handsets. I am interested in how this growth could affect consumer access to programming no matter how they receive it.

And not only must we examine the consumer access to programming, but also what the growth of digital video means to those who create it. Broadband is just starting to flex its muscles in the marketplace. A successful broadband policy will focus on how we are to foster increased investment by both network operators and those who provide content over these networks.

I have been witness to more than a few fundamental changes in the telecommunications technology. I have had the opportunity to see video move from black and white to color to HD to fiber optic cables and to cell phones. The core principles of localism, diversity and competition in the local market have guided our decisions in the past. And I would note they must continue to do so now.

No matter the method or matter of delivery, these people and these issues and the way that we provide what we need in the way of service through the media is always going to be an important responsibility that we have to American citizens.

Again, Mr. Chairman, I thank you for your courtesy. I commend you for the hearing, and I look forward to the testimony of our witnesses.

Mr. MARKEY. The gentleman's time has expired. The gentleman from California, Mr. Radanovich.

Mr. RADANOVICH. I will waive.

Mr. MARKEY. The gentleman will waive. The gentleman from Texas, Mr. Green.

OPENING STATEMENT OF HON. GENE GREEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. GREEN. Thank you, Mr. Chairman, for recognizing me and for holding the hearing on the future of video. And I would like to welcome our witnesses like our other members.

Just 15 years ago consumers had to set up their VCRs to record a program if they wanted to watch it later. Today they do not even need television access because of products like digital video recorders, Slingboxes and technology like Cable on Demand, giving consumers more options to view the programming they want, when and how they want to view it. Programs like iTunes allow users to download unlimited previously broadcast programs for small fees.

When you look at the future of video, one issue I think is uncertain and I plan to ask our witnesses about is the viability of delivering full screen broadcast quality video over the Internet. It is still unclear how feasible or desirable this would be. If demand increases dramatically down the road it could strain the network capacity, especially in that last mile.

Applications like Joost are coming online and offer full screen broadcast quality programming. Many other sites, like Amazon and Netflix are offering downloadable movies to buy or rent directly over the Internet and sent to a computer hard drive or a TiVo player. Unfortunately, many Internet users are also sharing the downloaded video content and other media files illegally over peer-to-peer networks.

Not only are they illegally downloading the content but with the price of hard drives and storage dropping dramatically, they can store and share large quantities of it that clog the network and could degrade service for the legitimate Internet users.

While there are legitimate uses for peer-to-peer, it consumes large amounts of bandwidth in an area where it is limited, that last mile of the network.

These are issues the industry and the Congress must work through to ensure that illegal uses of the Internet do not affect the network as a whole and users that pay to use the Internet for legitimate applications.

Again, Mr. Chairman, thank you for holding these hearings.

Mr. MARKEY. The gentleman's time has expired. The gentleman from Texas, Mr. Gonzalez.

Mr. GONZALEZ. I waive.

Mr. MARKEY. The gentlelady from California, Ms. Capps.

Ms. CAPPS. Thank you for having the hearing. I will waive my opening statement.

Mr. MARKEY. So we will turn to our panel. Mr. Terry?

Mr. TERRY. I will waive.

Mr. MARKEY. Who will waive. Thank you. Any other statements for the record will be accepted at this time.

[The prepared statements follow:]

PREPARED STATEMENT OF HON. LOIS CAPPS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Thank you Chairman Markey for holding what I'm sure will be another informative hearing on the digital future of our country.

This is an exciting time to be a consumer of video.

TV remains vibrant, and new technologies—like those represented by TiVo and Slingbox at our hearing today—allow consumers to watch video when they want and increasingly where they want.

And video on the Internet has arrived, as all of us saw in the last election. Today you can find videos for any taste or interest on the Internet.

The new technologies, however, raise many questions for us as policymakers.

We must balance the rights of copyright holders with the principle of fair use, especially on the Internet.

We must examine the erosion—perceived or real—of network television's advertising base and the subsequent rise of product placement within programs.

We should explore if the regulations on broadcast television that have been in place for many years are still prudent in today's media environment.

Finally, we must also consider what policies will encourage innovation and consumer choice in video services.

Finally, we must also consider what policies will encourage innovation and consumer choice in video services.

For every consumer of video to benefit from the range of offerings, we need to increase broadband access.

I trust we will explore these questions today.

STATEMENT OF HON. J. DENNIS HASTERT, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Thank you, Mr. Chairman.

I would like to welcome the panel here today, and I look forward to hearing about the future of video.

Competition in the video marketplace has dramatically changed since 1984 when I first got involved in telecommunications issues. Video is now available through competing platforms such as cable, satellite, wireline and wireless. In addition, video is now present on the Internet on video sharing Web sites like ABC and JOOST. Innovative products, like the ones that will be showcased today, are key players in the future of video.

This diversity requires a robust infrastructure. Cable, phone and satellite providers are already making large investments in upgrading and deploying broadband. Broadcasters and programmers, likewise, are incurring large costs to create and transmit their product digitally.

Congress must continue to promote policies that encourage investments in technology and not set policies that will stifle competition. Consumers benefit from new innovative products and services. Market forces do work. It is critical that we do not enact regulatory burdens that hinder investment and delay the roll out of video services to consumers.

Thank you and I look forward to hearing from our witnesses today. I yield back my time.

PREPARED STATEMENT OF HON. JOE BARTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Thank you, Chairman Markey, for holding this hearing on the future of video.

The video market has never been more competitive. ABC, CBS, and NBC are no longer the only networks. From 1992 to 2005, cable operator share of the multichannel video market has dropped from 96 percent to 69 percent while direct broadcast satellite share has grown from zero to 28 percent. Add video over the Internet, over phone lines, and over cell phones and you get even more programming outlets.

As the video industry moves to a digital environment, what we need is investment. Downloading a single, half-hour television show uses more bandwidth than receiving 200 e-mail messages a day for a year. A high-definition movie requires more bandwidth than 35,000 Web pages or 2,300 songs. Without significant additional investment, the public Internet will not be able to provide streaming, full-length video programming—let alone high-definition content—to a mass audience in a way that will be acceptable to consumers. Even apart from the Internet, offering digital programming over existing video platforms is requiring broadcasters, cable operators, and satellite providers to incur large costs for equipment, capacity, and content.

Last month's international broadband hearing reminded us once again, however, that regulation stifles investment, especially in markets with multiple, evolving platforms. If new and old platforms are going to grow into viable outlets for digital video, we must resist the temptation to create new regulations.

We must also question our existing regulations. They were built around old business models, and to a certain extent protect those business models. They may have been created in the name of promoting diversity and competition, but they often end up just advantaging one company over another and preventing consumers from getting what they really want.

The must-carry rules, for example, simply set aside shelf space for broadcast programming as compared to non-broadcast programming, regardless of whether anyone really wants to watch it. The program access rules make it easier for cable and satellite providers to all carry the same existing content produced by others, rather than create their own diverse and innovative programming to compete. Should existing regulations continue to apply to video services in a competitive, digital age? Should YouTube and video on cell phones be regulated like cable and satellite service when they offer multiple channels of broadcast-quality video? How will geography-based rules that were designed around the physical reach of broadcast signals work when content can be sent anywhere using Internet-based services or devices? What happens to our broadcast model when networks and affiliates are putting programming on Web pages?

In an increasingly competitive market, it is not the role of government to level the playing field with regulations. We don't want a level playing field; we want a fair playing field. That means removing regulations that are hindering competition; not adding regulations that give particular participants a leg up in the guise of promoting competition and diversity. Market forces will promote competition and diversity, and it will do so on consumers' terms, not regulators'.

PREPARED STATEMENT OF HON. NATHAN DEAL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF GEORGIA

I thank our witnesses for joining us today. The future of video certainly is an interesting topic to explore. I find it interesting to learn more about new technologies which are revolutionizing the way in which consumers receive the video content they most desire. I am pleased anytime I learn of instances in which the consumers are being provided more choice and opportunities. After all, fostering a free video market where distributors have the ability to provide consumers with the content they demand is the goal we should seek to achieve.

As these witnesses will attest, rapidly evolving services and technologies are creating a whole new forum by which viewers can access video content. There now exists a whole host of tools by which a viewer can, at the time and place of their choosing, watch his or her favorite television show. These realities are forcing change and adaptation within the video industry.

The question for members of this committee is how Government regulations are affecting the video marketplace. As one who has studied these issues, I have come to believe that much of the current regulatory regime is designed to prop up old, outdated, business models which do not necessarily reflect consumer demand.

In contrast to such old models, we have new technologies such as the Slingbox which allow viewers to watch their local news when they are away from home. The success of the Slingbox indicates to me that consumers enjoy and demand being able to watch their local broadcast stations even when they are not within the boundaries of the local DMA. I have heard rumors that Members on this committee make use of the Slingbox. I am even considering it for myself. Yet, oddly enough it is exactly this service, the ability to provide consumers with out of market broadcast stations, which we specifically deny to other distributors of video content. Because of two components of the current retransmission consent regulatory regime—the network non-duplication rule and the syndicated exclusivity rule—neither satellite nor cable companies can negotiate to provide out of market broadcast signals to their subscribers. It seems that if this committee were to be consistent it would find the Slingbox in violation of the spirit, if not the letter, of these rules. Yet, I don't think any of us here want to do that. We want to encourage these new technologies which are pro-consumer and drive new innovation. Why then, do we continue to impose anti-market and anti-consumer rules on other video distributors? It is my hope this hearing will serve as a catalyst for change in the current regulatory regime toward rules which are more market and consumer friendly so that it is not simply these new and unique technologies which allow consumers to enjoy the services they demand.

PREPARED STATEMENT OF HON. BARBARA CUBIN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WYOMING

Thank you Mr. Chairman. I must admit that I am in awe of the technologies available today in the video marketplace. Not speaking for myself, of course—I'm much too young—but many up here on the dais well remember when it was a big deal for a family to own one television. Before we knew it, two televisions and a home personal computer was the height of luxury. Now we're talking about tele-

vision broadcasts from satellites, in high definition, that can be saved for later viewing and "slung" to my laptop. These are truly exciting times for consumers of video content.

But while these new technologies continue to be released at breathtaking speeds, the Federal Government moves at its usual turtle's pace. Our laws and regulations that govern the video market were designed for a bygone era, even though that bygone era was only a decade ago in some cases. In an age of mobile, digital video, it is high time we look again at these laws and regulations to determine if they are best for consumers.

One of these arcane laws is the current system by which we define our local markets for video broadcasts. In a previous hearing I discussed the absurdity of Direct Market Areas in Wyoming, where the "local" markets in some communities originate from broadcasts almost 400 miles away. That would be like Washington DC's local market originating in Boston. While I'm sure the chairman would be just fine with that idea, I think we can agree it would be absurd in practice.

That is why Representative Mike Ross from Arkansas and I will be introducing a bill to change the definition of what a local market is, in effect, to allow cable and satellite companies the option to offer customers broadcasts not from 400 miles away, but from an adjacent market that offers true local programming. The bill is a reasonable approach that still protects local broadcasters from national intrusion, but makes a heck of a lot more sense in this digital age. Just like most folks have the choice of what service and device they use to enjoy video broadcasts, they also ought to have the choice of viewing content that is truly local.

PREPARED STATEMENT OF HON. MARY BONO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Good Morning. I would like thank to Chairman Markey and Ranking Member Upton for holding this very important hearing. Today we have an extremely diverse panel and I would like to welcome each of you to our committee. As a result of this panel's diversity, our hearing has the potential to go in a variety of directions. This will certainly lead to a lively discussion.

When I look at today's panel one area of particular interests and concern comes to mind. The issue surrounds the treatment of intellectual property in the digital age—specifically when that property is online.

Most people who know me realize that I am a moderate when it comes to a lot of issues. However, when it comes to the protection of intellectual property rights I have very strong and uncompromising beliefs. The copyright industries are a significant part of our economy. For instance, according to the International Intellectual Property Alliance the United States "total" copyright industries accounted for an estimated $1.38 trillion or 11.12 percent of GDP in 2005. Protecting this industry is directly connected to the overall health of our economy.

This is why I am so concerned with the behavior Google, and particularly YouTube, when it comes to its approach and apparent arrogant disregard for copyright protections. The idea behind YouTube is very innovative. However, its business practices leave room for improvement. Let's examine YouTube's business and economic models in light of the Digital Millennium Copyright Act. First, there is little doubt that YouTube is a for profit organization. If it wasn't, I seriously doubt Google would have invested $1.6 billion into acquiring YouTube. In short, YouTube makes a lot of money by attracting people to its Web site and selling ads. The ad revenue increases when traffic increases. Thus, the more entertaining the content, the more visitors to the site. It's not rocket science.

Second, with respect to that content, "Does YouTube have knowledge of the material on its site?" The facts point to yes. If YouTube's managers know when hate content is posted or when pornography is posted on its site, then it is easy for me to believe that they know when copyrighted material such as NBC's "The Office" or the latest music video from MTV is posted.

Third, "Does YouTube have the power and ability to remove content posted on its Web site?" Again, the answer is yes. When that same hate content or pornography is posted, it gets pulled down. All of these facts—financial benefit, actual knowledge, and power and ability—in my opinion lead to legal liability for YouTube in its failing to provide adequate copyright protections on its Web site. Now, YouTube may cry foul and claim that it is the responsibility of the content owner to patrol its site and request that the content be removed. This seems backwards and overly burdensome on the individual copyright holders. If large media companies can't find all of their content on YouTube then how does an independent artist stand a chance?

As freelance journalist Robert Tur put it: It's past time for the Tony Soprano online business model—Where:

- You don't pay for anything;
- You get your content for nothing; and,
- You sell to the highest advertiser

To come to an end; and for companies who don't comply to suffer the legal consequences.

Thank you, and I yield back my time.

PREPARED STATEMENT OF HON. MARSHA BLACKBURN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TENNESSEE

Good morning Mr. Chairman. I thank you and Ranking Member Upton for once again allowing me to participate in today's proceedings.

The topic of today's subcommittee hearing on the future of video is of paramount importance to Tennessee's seventh district and is of great interest to me personally. And while our esteemed witnesses will cover a wide variety of important subject matters, I want to focus my brief comments on two issues that currently face the FCC and Congress: video choice and intellectual property protection in the digital age.

Simply put, constituents in the seventh district do not have access to the breadth of competitive choices in the video market that they would like.

In most of my counties consumers typically have three choices for video access; cable, satellite, and over the air rabbit ear signals. While this is a vast improvement from a bygone era where consumers had no choice at all, it is still a far cry from what is possible if deregulation and market forces are allowed to carry the day. Yet complex, arcane franchise agreements at the municipal level are holding that process back.

That is why I introduced H.R. 3146, the Video Choice Act of 2005, in the 109th Congress along with my good friend Rep. Wynn. The legislation sought to promote the deployment of competitive video services and eliminate redundant and unnecessary regulation that holds back competition.

While Rep. Wynn and I were unsuccessful in passing the legislation last year, our effort has yielded a state-by-state effort to deregulate local franchise agreements that is already bearing fruit. Eight States adopted centralized franchise agreements between 2005 and 2006, and at least 12 bills are currently circulating through legislatures around the country. These state-based franchise agreements are already promoting a competitive landscape and offering consumers more choice, low prices and increased service.

It is a shame that our panel does not include a witness prepared to speak to this important issue. However, it is my hope the subcommittee will refocus on video franchise in the future and include appropriate witnesses who can speak to the matter before Members take up any potential legislation regarding video service.

I also want to focus on the intellectual property concerns that impact the creative community in the digital era. While more and more content is available to consumers on television, the Internet, and personal digital recording devices attached to computers and TVs, Congress and the FCC must ensure that the innovators who create this content are properly compensated and protected.

I share my colleagues' desire to prepare for a not-so-distant future where consumers will make full use of the Internet for their entertainment needs. However, the content our constituents download—be it streamed video from the Country Music Channel or live music from the Grand Ole Opry—must remain safe, legal, and subject to the same intellectual property laws that we adhere to today.

I look forward to the testimony of our witnesses and yield back the remainder of my time.

Mr. MARKEY. We will turn to our panel. It is an exceptionally distinguished panel. And I am honored to have our first witness with us, Mark Cuban.

Mark Cuban was the founder of *Broadcast.com*, the co-founder of HDNet. He is a revolutionary in this media and for all of us who watch big sports, big productions in HD quality, your support, your investments in high definition are most welcome here. And by con-

sumers across the country, it really is a pleasure to have you here, Mr. Cuban. And whenever you feel comfortable, please begin.

Mr. CUBAN. Thank you.

STATEMENT OF MARK CUBAN, CHAIRMAN AND PRESIDENT, HDNET, DALLAS, TX

Mr. CUBAN. Chairman Markey, Ranking Member Upton, other members of the subcommittee, my name is Mark Cuban. I appreciate the introduction, so I will leave out my bio here.

New technology can be incredibly exciting. It seems to always be improving, getting faster, cheaper, smaller, with seemingly no end to that trend in site. While that was always the case in the 1980s and 1990s and early 2000, it is no longer the case that all technology improves with age.

What I am about to tell you will sound like heresy to many, particularly some of us here at the witness table, but the reality is that the consumer Internet as it is constructed today has matured and its future, unless there is significant investment, will constrain economic development in this country.

First, let me say that there is plenty of bandwidth and upside for the backbone of the Internet. Those fibers that connect the networks of Internet providers have plenty of room to grow. Unfortunately, the quality of the Internet experience to consumers and the opportunity to provide products and services, particularly using video, over the Internet to the consumer are only as good as its weakest link. Right now, with limited exceptions, those links are pretty weak.

The vast majority of broadband users in this country today are connected via coaxial cable or copper wiring. Coaxial cable was exciting in the 1970s and early 1980s, but was used as the foundation of major cable system upgrades in the 1990s. For telco broadband users, basic phone wiring is still the primary method of access for DSL subscribers. Although Verizon's FiOS product and some other companies have installed fiber to or close to the home, they are still small in number.

Both of these technologies are limited not only by their intrinsic bandwidth capacity, but also by the networks they can be attached to and the distances over which they can deliver bits. The bottom line is that the future of broadband and consumer connectivity for more than 95 percent of broadband users is built upon ancient, I use this word lightly, technology. That is a problem for our country.

This bandwidth limitation for the last mile of consumer Internet connectivity means we are severely limited in heavy bandwidth consuming applications that exist today, such as video, and completely precludes and excludes unique applications that could positively impact not only our economy but our quality of life.

The issue of Internet neutrality is the perfect example of how constrained bandwidth creates conflicts between the interests of consumers and broadband providers. Internet consumers are concerned that their favorite Web sites will either cost more due to increased hosting costs or will be slow or erratic when accessed because they are not given the priority of those who pay more. This issue goes away completely if bandwidth constraints go away. In an all fiber network as an example, bandwidth is gigabits per second

to the home and throughout the network, making network neutrality a non-issue.

I will give the analogy—it is not in my testimony—our highway system. If you have a highway system with 100 lanes or 1,000 lanes, there is no need for an HOV. There is plenty of room for everybody. Unfortunately right now in our broadband environment there is not enough room for everybody.

In our current bandwidth constrained environment, the concept of Internet video replacing standard definition TV is laughable. The perspective that it could replace HDTV programming is not even on the radar. With the current design of the Internet, every single video stream must be delivered individually to the consumer. It does not matter if the video stream is transported from a centralized host server, from a locally hosted server, or from a peer or a P2P network. You may have noticed that CBS made a big deal of delivering 300,000 simultaneous video streams at 350k of bandwidth, less than TV quality, of the NCAA final four games this year. They said the demand was far greater, but 300,000 was the most they could support at a single time. They could have served many, many more had they been able to, but the Internet does not have the capacity nor are the costs reasonable to be able to deliver live TV over the Internet. That is not going to change in our current environment.

Now there are some that will tell you that Internet video will replace TV using peer-to-peer technology but it will not happen. Peer-to-peer technology does not reduce the amount of bandwidth required to deliver video content over the Internet. In fact, it moves much of the requirement for bandwidth from the backbone, which is built primarily on fiber and has basically no bandwidth limits, to the individual consumer where the user must not only receive the entire amount of bits required for the delivery of the video they have chosen but must retransmit it to peers on the network, resulting in significant inefficiencies and overconsumption of bandwidth. The reason this method of delivery has become so popular is that it shifts the cost from the distributor of the video to the consumer of the video.

This is not to say that consumers will not want and will not consume video and TV programming over the Internet. They will. In particular, Internet video consumption is very high during the day. At work, people will watch their favorite shows that they missed at lunch or hopefully at lunch or on breaks. They can stream it, they can download it, and they may save it to their iPods or phones. There is certainly a market for video content on PCs, but it is a complementary market, not a primary market for content. People of all ages will watch video on their PCs, their mobile devices and phones or PDAs, whatever devices happen to exist when they do not have access to their TVs. It is in essence a convenience.

Over the last few years the technology industry and the media have become fixated on Internet video. The explosive success of YouTube has convinced many that it foreshadows a future of people sitting in front of their PCs watching user generated videos. It does not. The area of consumer video consumption that is going through the most significant change and upheaval is not Internet video. It is high definition television.

If you look at the PC on your desk at home or at work it looks and works pretty much exactly like it did 5, 10 even 20 years ago except that it is faster. There was a time when people felt that upgrading their PC was a rite of passage that happened every few years. We all went through that period where we said oh, if I just buy it now it is just going to get better, cheaper, faster. Why am I doing this? Well, that period is gone. It is no longer in existence. There was a time when new PC based software was coming out on a regular basis impacting our work productivity or creating new entertainment options for us. Not anymore. It is stagnant. If you go through the list of top-selling personal computer software, it has not changed in years, particularly in the office environment.

The same applies to Internet applications. What we call Web 2.0 is not a reflection of new and exciting technology. It is a reflection of the maturity of the Web from Web 1.0 to 2.0. MySpace, Facebook, YouTube, Digg, any Web 2.0 site you can think of are certainly not technological breakthroughs. They are applications developed with mature programming tools that users feel confident to use. They are very excitable. They are very innovative. But from a technological basis, there is nothing new there.

Contrast that with what is happening in the high definition television market. Like the PCs of yesteryear, HDTVs are getting bigger, faster, cheaper, better on almost a monthly basis. It was just 3 years ago that if you were in the market for a new television you would expect to go to the store and pay $800 or more for a 27-inch tube TV that could weigh 300 pounds or more. It was just 3 years ago that if your friend had a big screen TV, which probably was a 40-inch or more monstrosity that cost $3,000 or more, you went over to his or her house for the big game or the big show.

Today, those types of TVs cannot even be found on retailers' shelves. They are gone. They are no longer even being made. They are part of history. Instead, tens of millions of homes have purchased LCD and plasma TVs that hang on the wall such as we see here. And you might remember when that was a Jetsons-like fantasy that we could hang a TV across the wall.

Mr. MARKEY. Mr. Cuban, I am feeling a little bit like David Stern here and I apologize for that. But you are 8½ minutes into it and it is all fabulous. I have read it and it is great. I think you are going to have plenty of interest from the Members——

Mr. CUBAN. No problem. I read slower than I practiced.

Mr. MARKEY. So if you can summarize.

Mr. CUBAN. I will summarize very quickly here at the bottom of the testimony. The reality is that technology improves where there is the greatest opportunity. And where the greatest opportunity and change is happening is in acquisition devices for digital video. You are starting to see 3D movies. You are starting to see 4k cameras. You are starting to see 4k cinema. That is where we are heading in terms of digital video. If we are trying to support that as a community, as a country, and broadband buyer to the home we will see medical and security and all kinds of unique applications. Then that is what we have to look at. The Internet today is not prepared to do that.

[The prepared statement of Mr. Cuban appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, Mr. Cuban, very much. Our next witness, another revolutionary, Blake Krikorian, who is chairman and chief executive officer of Sling Media, Incorporated. This new technology is changing the consumer experience. It has taken off like wildfire. It is an honor to have you here today, Mr. Krikorian. Whenever you are ready, please begin.

STATEMENT OF BLAKE KRIKORIAN, CHAIRMAN AND CHIEF EXECUTIVE OFFICER, SLING MEDIA INC., FOSTER CITY, CA

Mr. KRIKORIAN. Thank you very much, Chairman Markey and the members of the subcommittee. It is a great, great opportunity. I never thought I would find myself here, but it is an honor. I am just an everyday consumer and really just want to explain to you a little bit about what we have been doing and how we even came about. It is all based on consumer frustration, this thing called a Slingbox, place-shifting.

In fact, a few years ago in the summer of 2002, my brother and I, we were born and raised in the Bay area, big San Francisco Giants fans. And it was the year the Giants were actually doing quite well and headed to the Series. Unfortunately, they choked in the sixth game, which is a different story. But it is a 5-month thing, by the way, or four outs away, I believe. So we found ourselves though sitting in the office quite a bit working day and night in the consulting practice we had. But we also found ourselves traveling quite a bit.

I remember vividly one day in the summer they were playing the Cubbies and it was a day game, and we wanted to watch this game. Got to see it. And we looked around to try to see if there was various ways we could do it when we were in the office or when we were abroad. At this point we were in the office. And we ended up realizing there was no way we could get our Giants game.

We said well, wait a second, here. Here we are as consumers. We are spending more and more time outside of our living room. We are spending more and more time in front of display devices other than that TV. Like, we are more in front of PCs and laptops, mobile phones, media players. And everything is connected via the Internet. Why the heck can we not just watch our home living room television regardless of where we are, regardless of what displays we happen to be on. And at the same time, of course, I was also a big TiVo user, still am. And a lot of the content that I love to watch actually, besides sports, a lot of it was time-shifted. And so it was actually sitting in my living room on my TiVo hard drive. I said I just want access to the stuff. Why the heck can't I watch it? And so we came up with this product called the Slingbox.

And really, this is one of the versions of the Slingbox. We sell it in over 5,000 stores now, retail: Best Buy, Circuit City, CompUSA. And it is a very low-priced product. It is about $149 to $249, depending on which model you get. And the way that it works is you put this little box in your home and you plug your TV signal into it. Now we do not care if that is your TiVo or if it is your analog cable for those of you who still have it or your DirecTV or cable. It does not matter. Plug your TV signal in and connect it to your home network. Now you need to have broadband. But as we know,

most people do, so we can have faster and faster uploading speed. We would have even better and better experiences.

But you plug it into your home network. Once you have done that you leave that guy there. And then regardless of location, whether you are in China, whether you are in the district office—Congressman Dingell could actually watch the History Channel when he is here at the office during lunch break. You can be really anywhere in the world and you can watch and control your living room TV off of your laptop or even on your mobile phone. And in fact, right now on my Treo with the Sprint Network I am watching live Good Morning America from my home in San Mateo right now. And I can change the channels. I can pause. I can rewind and so forth.

So I want to give you a few different recent examples of how I have used it and also how we are seeing the product being used via the marketplace. I just had this this last Sunday, my wife and I went with some friends to the Kentucky Derby, which was an amazing experience. The one downside was Saturday night we were with a bunch of friends and the de la Hoya/Mayweather fight was on. And we were scrambling around downtown trying to find out where it might be on. We went back to the hotel room and found out there was no Pay Per View in the hotel room either for the fight. So I fired up my little laptop. And yes, I would have loved it to be a 16-inch plasma. My friends gave me grief even though I gave them the game anyway. We fired up the laptop. We had 30 people around. I connected that to my Comcast back home via my Slingbox, ordered the Pay Per View, and we watched the fight.

Another example that we see used quite a bit is hundreds if not thousands of our servicemen and women are using the product actually in Iraq where they put the Slingbox in their family's home here in the States and they are able to watch their television programming when they are over there. That has been really fun. We have been doing some pretty cool things with some of the troops' mother groups in the Bay area.

In addition to that, you as Congressmen and women, I think the Slingbox is something that would be great for you guys as well. In fact, you could stay connected to your district office back home. You could put a Slingbox there and you could be watching your local news every single day.

Now last but not least, I know I am just about out of time here, the thing that is kind of really interesting is we found all sorts of interesting new applications that we had never thought of. There was an article in CNet yesterday. It was a video article where they gave an example of the CBS local affiliate in the Bay area who is actually using Slingboxes around the Bay area on ferries, by the Golden Gate Bridge. They are plugging cameras into the Slingbox and it created basically an ability to have traffic cameras scattered around the Bay area at a fraction of the cost of what it cost them before. So we are seeing all sorts of interesting applications.

I would conclude here just by saying as Mr. Munoz from CBS had pointed out, the Slingbox is one of these technologies that turns local to global. And thank heaven for the notions of fair use and for allowing us to basically create this company in the begin-

ning and innovate without asking for a whole bunch of permission. Thank you very much.

[The prepared statement of Mr. Krikorian appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, Mr. Krikorian, very much. And just for the Members, there is a roll call on the House floor at this time. We cannot, however, use the Slingbox yet to vote over in the House floor and be here simultaneously, so we will try to make a determination as to what our exact status is over there.

Our next witness is a Hollywood legend, a real creative genius, the creator and executive producer of "Everybody Loves Raymond". He is testifying on behalf of the Writers Guild of America and the Screen Actors Guild, Phil Rosenthal. It is an honor to have you here today. Whenever you feel comfortable, please begin.

STATEMENT OF PHILIP ROSENTHAL, WRITERS GUILD OF AMERICA WEST AND THE SCREEN ACTORS GUILD, LOS ANGELES, CA

Mr. ROSENTHAL. Thank you. Good morning, Chairman Markey and members of the subcommittee. Thank you for the opportunity to appear today. My name is Philip Rosenthal. I am a writer and an actor in the television industry. I did create and was executive producer of the comedy "Everybody Loves Raymond," which ran on CBS for 9 years. I am here today on behalf of the Writers Guild of America, West, that is the Guild that represents Hollywood's screen and television writers, and the Screen Actors Guild which represents Hollywood's performers. I am a member of both guilds and the Directors Guild of America. At home I have no say whatsoever.

My brief testimony discusses our concerns about three issues: fair compensation for new platform content; independent production; and product integration. But for time's sake today, I will just limit my remarks to product integration.

Now we are all accustomed to seeing an actor in a movie or a TV show hold a beverage with its label clear for the entire world to see. This is commonly referred to as product placement. On an artistic level I am not crazy about this, but the story flows regardless of whether the drink is a Pepsi or a Yoo-hoo or an unmarked can.

The new policy now hoisted upon the creative community by production companies and studios is product integration. This is the practice of not only placing the product in a scene but making the product a part of the story line and the character is required to talk about the product as well. The studios and production companies claim that no one is watching commercials anymore because of the DVR. So they have decided to just turn the shows that sell into commercials.

In 2006, product integration occurred more than 4,000 times on network prime time television. A recent episode of Desperate Housewives, for instance, featured characters discussing the cool features of a Nissan Xterra. On Smallville, contact lenses helped one crime fighter with her duties, prompting another character to say, "Acuvue to the rescue." Oreo cookies were a major part of the

plot in two separate episodes of the family drama Seventh Heaven. We have a clip.

That is a beautiful story, yes? Maybe if the writers and actors were not so worried about covering that engagement ring in creamy filling they could have taken a look at the line: "Will you marry me on our wedding day?" surely a nominee for "Most Terrible Anything."

In addition, reality television programs are chock full of integrated props. The poor contestants on American Idol must make Ford commercials every week which are then presented on the show as hip videos. And the judges cannot say anything about it because their mouths are full of Coca-Cola.

If we are concerned about the effect commercials identified as commercials have on our children, how much more insidious is this new practice? This is a level of corporate pressure that impinges upon free expression over the airwaves and the long-established protection of viewers against stealth advertising.

As writers, we believe our creative rights are affected when we are told we must incorporate a commercial product into the story lines we have written. Actors are subjected to forced endorsement when their character must extol the virtues of a product within a television program, a practice that can seriously impact an actor's ability to get endorsement and commercial deals.

For the public, product integration exploits the emotional connection viewers have with shows and their characters in order to sell merchandise. It also raises the serious issue of adequate disclosure. We believe that writers and actors as creators of television should have the opportunity to refuse integrations if they believe it will harm the integrity of the program.

To protect viewers, we support disclosure that both adequately reveals product integration, is legible, and held on the screen long enough for viewers to read. Maybe at the beginning of such shows it could say, "This program contains references to 'Reynolds Wrap.' The network has been paid for this inclusion. The writers and actors have not." Maybe this would end the problem.

But right now, individual writers and actors are nearly powerless against the companies who require them to perform these commercial services and consumers are often unsuspectingly deceived in the process.

The problem of product integration is exacerbated by the fact that 20 years ago there were 29 dominant entertainment firms and today there are six. Our kids are watching. We are watching. Would we have wanted our memories of Casablanca to be Bogart saying to Ingrid Bergman as they said goodbye, "You're part of his life, the thing that keeps him going. Now get on that plane and enjoy United's non-stop three-class service to Paris with seats that recline to a full 180 degrees."

Thank you for the opportunity to testify.

[The prepared statement of Mr. Rosenthal appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, Mr. Rosenthal, very much. Our next witness, Gina Lombardi, is the president of MediaFLO USA, which is a division of QUALCOMM. This is a world-class innovative com-

pany which is bringing video to wireless. We welcome you, Ms. Lombardi. Whenever you feel comfortable, please begin.

STATEMENT OF GINA LOMBARDI, PRESIDENT, MEDIAFLO, USA, INC., SAN DIEGO, CA

Ms. LOMBARDI. Thank you. Good morning, Chairman Markey, Ranking Member Upton, members of the subcommittee. I am Gina Lombardi, and I am the president of MediaFLO USA. We are a wholly-owned subsidiary of QUALCOMM, Incorporated, which is a technology-innovative company.

And I want to start by thanking members of the subcommittee for the DTV hard transition date. February 17, 2009 is quite an important date for us. We have acquired spectrum UHF Channel 55 nationwide, and we are building a multi-cast network to bring live television to the mobile phone. So the DTV transition date has been very important to us as many more markets will be available to consumers to experience our service as that date rolls around.

We are currently launched in 27 markets across the country with our launch partner, Verizon Wireless. The service is called VCAST Mobile TV. We will be launching with AT&T this fall providing that same type of service to consumers.

So the way our service works is we have come up with the technology that is unique to the cell phone. QUALCOMM is a company who has prided themselves in coming up with mobile technologies and how to bring more and more value to the consumer. So in creating this technology, there were several attributes we wanted to focus on. Mobility from the ground up. We wanted to make sure that consumers had the same TV experience they have in their homes. We wanted fast channel-switching time so they could feel like they were holding their remote control in their hand. And we wanted to make sure the battery life of the device was equivalent to talk time. So there are two devices in the marketplace today. One by LG that has a swivel phone. Another one by Samsung, much smaller, and has a cute little TV-type antenna.

So to enable this, we thought the easiest thing for a consumer would be to have a button on the phone, a TV button. The consumer hits that TV button and very quickly will be able to access the many different channels that are available. And what we have done is we have launched with Verizon on March 1 in 27 markets with brand-name content providers. So our partners from a content point of view are ESPN, CBS, FOX, the VIACOM properties, as well as NBC. And so we have eight different channels available today for consumers from live sports with ESPN and CBS and FOX, as well as live news with NBC who has combined a NBC/CNBC/MSNBC news channel along with the Today Show.

And so many of the shows are simulcast live. And what the content providers have done is created unique content made for mobile offering. We only have 6 MHz on UHF channel 55, so we are limited on how many actual channels and services we can have. We have got eight. We can go up to 20 video channels and 10 audio channels.

So what I thought I would do is share with the subcommittee a video that kind of puts this all in perspective on what we are actually doing.

To give you some additional perspective, QUALCOMM and MediaFLO USA is spending over $800 million to bring this type of service to consumers and we plan to add more and more carriers and content providers as well as consumers to the service.

So thank you very much for the opportunity.

[The prepared statement of Ms. Lombardi appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, Ms. Lombardi, very much. Our next witness is Benjamin Pyne. He is here representing the Disney Company and ESPN Networks, which is a major content creator and embracing new media strategies. And we are very glad to have you here with us, Mr. Pyne. Whenever you are ready, please begin.

STATEMENT OF BENJAMIN PYNE, PRESIDENT, DISNEY AND ESPN NETWORKS, AFFILIATE SALES AND MARKETING, NEW YORK, NY

Mr. PYNE. Thank you, Congressman Markey and Congressman Upton and other members of the subcommittee this morning. My name is Ben Pyne, and I am president of Disney and ESPN Networks Affiliate Sales and Marketing. I appreciate the invitation to talk with you today about the future of video.

At Disney, we recognize that technology has empowered the consumer more than ever before, and we create and use technology to create and deliver quality content. Consumers today want to access content from Disney, ABC, and ESPN in so many different ways and we have made responding to that demand in new and innovative ways one of the highest priorities in our company.

Now and in the future, getting the balance right between convenience and pricing is a challenge facing all of us who create and distribute content. Adding to that challenge is the problem of piracy. While there is no one answer to the challenge of piracy, we believe the best place to start is to bring content to market on a well-timed and well-priced basis.

We are now firmly in the "Consumer Era," where consumers want their content to be available anytime, anywhere, on devices ranging from TVs to cell phones. Disney led all video producers in moving this "on demand" digital era from theory to reality with our groundbreaking agreement to make television content available for video downloading from iTunes 18 months ago. That deal allowed consumers not only to download their favorite shows but also to make them portable between shared devices on a single iTunes account.

Today, the variety of Disney video content available on iTunes continues to expand: movies, TV shows, sports and news. Over 20 million episodes of our series have been downloaded on iTunes, including many of our most popular shows. Everything from ABC's Grey's Anatomy to Lost to Disney Channel's Hannah Montana and High School Musical and to ABC News. Here is a screen shot from iTunes to give you a sample of some of the content available. And also from ESPN.

On the movie studio side, last year Disney was the first movie studio to announce a deal with Apple to enable downloading a full-length feature film through iTunes, including copies to multiple PCs and portability using iPod devices. We have also reached sepa-

rate digital distribution deals with Wal-Mart, Movielink, and CinemaNow here in the United States.

Disney's next innovation was its Emmy award-winning full episode broadband player. We have made our most popular content, including much of ABC's prime time schedule and original programming from the Disney Channel and ABC Family, available on the Internet in high quality video streaming format. Right now a consumer can go to the Internet to *ABC.com* and watch individual episodes of ABC or Disney Channel programs if they want to for free. This is an effort to continue the evolution we started with iTunes but is different in a number of ways. Specifically, unlike iTunes, content on *ABC.com* is free to viewers but it also includes limited commercial breaks. Since the fall of 2006, the *ABC.com* media player alone has served over 87 million episode requests.

Notably, in support of our local broadcasters, we work with our ABC affiliates to design a version of the media player for ABC content in which both the network and the affiliate are able to participate. Affiliates can brand the player with their station's channel number and call letters including local advertising and provide links to local news and information that broadcasters provide their communities. Here are a few screen shots of the ABC broadband player that show the variety of programming, the advertising experience, and how the media player is accessible from our local stations' Web sites. Here is the player. Some pause functionality. And then how you get in from your local broadcaster's Web site.

And finally, just this January Disney announced its latest Internet innovation, this time in the Web space, Disney XD. Disney XD is broadband entertainment taken to the next level: Disney-style content with safety in mind. It is a customizable experience with Disney games, music, trivia, and high quality engaging videos including kids' favorite Disney Channel shows plus movie clips and previews. I think one more slide. There you go.

Video on Demand is yet another way we make Disney, ESPN, and ABC content available for viewers to watch whenever they want. Just this week we announced an agreement with Cox Communications to allow Cox customers to watch our most popular ABC television content, including Grey's Anatomy and Lost, on demand. Similarly, we are discussing opportunities with our local affiliates to help monetize this.

Disney has moved aggressively to ensure that our content travels with our viewers, wherever they are, including on their cell phones and mobile devices. ABC News Now is available to 4 million subscribers. ESPN is also available through MediaFLO with Verizon.

Finally, Disney consistently has been a leader in high definition television. ABC was the first network to produce its morning news show, Good Morning America in HD. Now virtually the entire ABC prime time schedule is broadcast in high definition.

With the launch of ESPN HD and ESPN2 HD, between the two of them ESPN will provide 9,000 hours of original HD content. And in early 2008, we will add to that with ESPN News HD, Disney Channel, ToonDisney HD, and ABC Family HD.

Disney is also a leading supporter of high definition content on next-generation high definition packaged media. We have already

announced more than 50 titles for release on Blu-ray Disc, which we believe will further drive HD adoption.

Finally, at Disney we will continue to work to be the first choice for digital and interactive entertainment and information in the most convenient and timely ways possible.

Thank you again for inviting me to testify today.

[The prepared statement of Mr. Pyne appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you very much, Mr. Pyne. Our next witness, Tom Rogers, is the president and chief executive officer of TiVo Incorporated. Mr. Rogers and his company are revolutionary. I know it has revolutionized my life, TiVo. These west coast basketball games, Mr. Cuban, I have to TiVo. At a certain point you get into a negotiation with your wife around 11:30, 11:45. And I have lost every one of them so far. But I gamble with the pickup, because of TiVo, the rest of the action at some future point in my life.

But Mr. Rogers is an alumnus of this committee. He was the chief counsel of the Telecommunications Subcommittee long ago and far away in another life. He was a visionary then in terms of the changes that he felt had to be made in American law in order to open up this innovation which we have seen today. We welcome you back, Tom. Whenever you are ready, please begin.

STATEMENT OF THOMAS S. ROGERS, PRESIDENT, CHIEF EXECUTIVE OFFICER, TIVO, INC., ALVISO, CA

Mr. ROGERS. Thank you, Mr. Chairman. I have to say I am exceedingly uncomfortable sitting here. You have no idea. I feel like I should be up there passing you notes. And being down here just does not seem quite right. I do feel like this is my alma mater. I am not quite sure if it is like being a cheering love returning for a football game or a former student returning for disciplinary action. But in any case, I am very pleased to be here. Actually, in deference to you and Mr. Cuban I should have said returning for a basketball game. Excuse me.

Mr. MARKEY. I was going to ask you to tell the truth, the whole truth, and nothing but the truth.

Mr. ROGERS. I had to do that as a staffer and I will continue to do so. Thank you. I guess going back 25 years ago—and to be truthful and honest I was counsel to this subcommittee from 1981 to 1986, so I can actually speak in terms of 25 years ago of what the subcommittee was looking at. We were asking the same question. What is the future of television and how can this subcommittee guide it?

I have to say, I think this subcommittee has had an unbelievably strong legacy in guiding the future of television. I go back to the 1984 Cable Act, which I had some hand in. And that certainly helped to very much encourage the number of cable channels that developed over the course of the 1980s. The 1996 Telecom Act, of course, has had a major impact on the growth of the Internet.

And along the way, the subcommittee has always had a clear view of not letting incumbents choke off competition. And I think back to distant broadcast signals being carried by cable and how the subcommittee avoided competition by cable broadcast being choked off by ensuring access to those broadcast signals. The issue

came up again with satellite and cable and making sure that direct broadcast satellite had access to cable channels. More recently, the issue of requiring cable to open up consumer access to cable set-top boxes. And I will return to that point in a minute.

But the last 25 years both in terms of TV policy and the business arena, in terms of both, it has been all about getting viewers more choices. And now we are going from an era of consumer choice to an era of consumer control, where the consumers' decision of what they see, when they see it, where they see it, how they see it, that is all decisions now that the consumer can make about how they take television into their lives.

TiVo has been a pioneer in terms of leading the way with this. Many other innovators are contributing to this. Sling is a perfect example. We made it much easier for people to find and record any show. A number of innovations since the initial development, such as you are out to dinner, a friend mentions to you a great show and you say I wish I had recorded that, you can pull out your cell phone now, type in a code, talk to your TiVo from dinner and make sure it records it at home. Or you are late at work at the office and you can do the same thing over the Internet. And many other innovations which I will not go into now.

But I think for purposes of this subcommittee, maybe our most important innovation goes to an issue that you have been grappling with even before my time, which is kids' television and all aspects of kids' television: quality kids' television; violence on kids' television; how to keep inappropriate content out of the view of kids. And this has been a really, really tough issue in terms of the Government's ability to solve. How do you get all the great kids' TV that is actually out there, Disney being a perfect example of somebody that provides it. How do you get all that great television that is actually out there and make sure when the child turns on the television set that—those TV shows are actually the ones sitting there in front of the set and at the same time how do you block all the bad stuff from coming in? It is a double order. And if the future of TV in this country, in my opinion, having toiled heavily in these issues going back to my subcommittee days—if that future is going to be bright one this issue has to be solved. And we believe that TiVo may have solved it.

Congressman Upton last year actually took the lead in helping us announce this new feature called TiVo Kids Zone. Supporters include Senators Clinton and Obama. We also have support from the National Evangelicals Association, the YWCA and the NEA. And you say how do you put together a group like that? And I guess my answer is we came up with a private sector technology-based non-regulatory approach to solving the kids' TV issue.

And we recognize there are limits as to just how far the Government can go in solving any problem, and that is why we felt we had to take it upon ourselves to help try to solve it. And what we did is we created a really easy way for parents to create the ideal kids' world in the household. The V-chip has gone unused and all this great television programming that you have helped encourage be out there for kids has largely gone unseen. So how did we do that?

Well, we allow various groups, Parents Television Council, Common Sense Media are two groups I know the subcommittee is well aware of—on a daily basis try to give parents guidance on what are the best shows to watch. And we let them create menus, maybe 30 shows a week, that are delivered automatically to the television set and nothing else gets through unless the parent wants something else to get through.

So we have created this way of an ease for a parent. You have got to let the kids use the remote control. You cannot deny them that. And anything the parent wants is behind a wall that the children cannot see. And it is a free service as part of the TiVo service. One great innovation that we think has a lot to do with making the video future bright.

Let me just close by going back to the CableCARD issue. Because if a company like TiVo as an independent consumer electronics company is going to continue to flourish, companies like us need to continue to have access to the digital signals that are being provided. And CableCARDs in that respect are key. Our new boxes are going to be CableCARD based. And CableCARDs, of course, are the regulatory response to the policy this subcommittee created in terms of opening up set-top box competition.

But a potential problem has emerged. And that is that CableCARDs could be rendered useless. And why could they be rendered useless? Because cable companies are beginning to send their signals with a new technology called switched digital that the CableCARDs cannot read. And that creates a real problem. It creates a potential black eye for the FCC, for this subcommittee, for NCTA, for TiVo, for other consumer electronics companies.

And I will close by simply saying there is good news. We pointed out this problem to the cable industry and to their great credit they said we want to work this out. We want to work this through. Consumers should be able to get this kind of expectation, the CableCARDs and new technologies like this will work. And we are hopeful it will be solved. And Mr. Chairman, I well remember how mad I got when people went over their allotted times, so I profusely apologize.

[The prepared statement of Mr. Rogers appears at the conclusion of the hearing.]

Mr. MARKEY. He got the former staffer courtesy testimony extra minute and 54 seconds. And we thank you, Mr. Rogers.

Our final witness is an innovator and an entrepreneur who has put his stamp on the Internet and its history. He is a historic figure. He stands with Jerry Yang at Yahoo! and Jeff Bezos at Amazon and Sergey Brin and Larry Page at Google as someone who has revolutionized the relationship between not only the American people but the people of the world and this technology. We really are so glad that you are able to come here today.

YouTube has revolutionized the complimentary video media, empowered consumers. Chad Hurley is the chief executive officer and co-founder of YouTube. We welcome you here today, Mr. Hurley. Whenever you are ready, please begin.

STATEMENT OF CHAD HURLEY, CHIEF EXECUTIVE OFFICER, YOUTUBE, SAN BRUNO, CA

Mr. HURLEY. Chairman Markey and members of the committee, it is a great pleasure to be with you this morning. My name is Chad Hurley, and I am the CEO and co-founder of YouTube. This is my first appearance before a congressional committee and hopefully I will not mess this up. Because if I do, it could end up on YouTube. I thought we would open with a YouTube video that you in particular would enjoy.

So today I am here specifically to talk about three of YouTube's goals: promoting community, advancing democracy, and driving economic growth.

Let me start with a few facts about YouTube. YouTube is the world's leading online video community. YouTube allows people to watch, discover and share originally created videos. We started the company after realizing there is no easy way to share homemade videos with our friends. Two years later things have changed. Every day people upload hundreds of thousands of videos to YouTube and watch hundreds of millions of videos on the platform.

The way YouTube works is simple. An individual creates a video, then posts it to our site. The community of viewers then decide what rises to the top. They connect and engage around videos that inspire, teach and entertain them. Videos that are less compelling to the masses, for an example a video about how to make omelets in a Ziploc bag, still will find an audience on our site.

Videos that include unauthorized copyrights are removed as soon as we are made aware by the rights holder. And those that violate our community guidelines come down minutes after users flag them. And as a father of two, that last part is particularly important to me.

YouTube is helping a wide range of video producers reach a new audience in a changing marketplace. For example, we currently have more than 1,000 partnerships with organizations ranging from the NBA to 10 Downing Street.

Now let me turn to our goal of promoting community. Content creators such as entertainers, educators, authors, medical students and U.S. military are building audiences on YouTube. You can even learn how to remove a tree from your sewer drain by tuning in to "Ask the Builder."

Then there are stories like that of Leigh Buckley, a mother of two from Derry, NH, who discovered that she was suffering from leukemia. A family friend made and posted a video about Leigh's search for a bone marrow donor on YouTube. That video helped draw more than 1,000 people to a registry drive. A donor was found and she underwent treatment. Through the power of video, people came together to help a complete stranger.

Now I will turn to advancing democracy. YouTube is a new platform for putting democracy in action, a great forum for the free exchange of ideas where everyone is provided equal opportunity to be heard.

Our new You Choose '08 platform creates the world's largest town hall. 17 presidential candidates are currently on YouTube, and they have combined to post over 500 videos, and they have been viewed millions of times.

We believe that YouTube provides another way to promote the values of freedom and liberty, to strengthen democracies and to let citizens from other countries give an authentic voice to their most urgent needs and common dreams.

Turning to economic growth, many examples arise. Owners of small businesses, such as real estate agents and music teachers, have a much less expensive way of finding new customers on YouTube. Musicians are selling their own CDs and in some cases signing with record labels, as Terra Naomi did with Island Records.

YouTube would never have launched had it not been for this country's commitment to an open Internet. We share with many the belief that access to the Internet must be open to all users and services on fair and equal terms.

So where is online video headed next? If I had to identify a few trends to watch for in the future I would point to the following. First, originally created video content will continue to establish itself as a new form of communication. Second, a critical mass of content will continue to be built from small communities online. Third, YouTube will increasingly empower users to take control of how they create and consume media.

Finally, as more and more countries utilize YouTube, citizens from around the world will have the opportunity to communicate across borders. Even when nations disagree, video brings a human element to our dialog that enhances understanding.

Mr. Chairman and members of the committee, thank you for letting me appear here today. And I look forward to answering your questions.

[The prepared statement of Mr. Hurley appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, Mr. Hurley, very much. The Chair will now recognize myself for a round of questions. And my first question will go to you, Mr. Rosenthal. Do you think the television industry should be permitted to use programming—not advertising but programming—in order to sell Oreos or other unhealthy products knowing that it is targeting a child audience and knowing that we have a childhood obesity epidemic in the United States? Do you think that the industry should be allowed to do that?

Mr. ROSENTHAL. There would be a conscience that would self-regulate it. But in lieu of that there might have to be some kind of restrictions placed in the same way that you cannot sell alcohol on television or cigarettes anymore on television. This is a major health issue and maybe it should be looked at.

Mr. MARKEY. OK. And thank you, Mr. Rosenthal. Do you think it is harmful for movie producers to include the use of tobacco products in their movies knowing that they cannot advertise on television and knowing that in certain G and PG movies that the kids are going to be looking up at this huge screen seeing the actor or the actress smoking cigarettes? Do you think that that is an appropriate thing for movies that are specifically targeted at the G and the PG audience?

Mr. ROSENTHAL. I think the ratings should dictate whether or not this is to be allowed. I think that is a very good point.

Mr. MARKEY. I thank you, Mr. Rosenthal. My next question goes to the panel. And that is a question that refers back to our first

hearing this year where Sir Tim Berners-Lee, who is the creator of the World Wide Web, was our first witness this year. And here is what he told the committee. He said that if the Internet had not been open, and he likened the Internet to a white piece of paper, that he would not have been able to create the World Wide Web because someone would have told him no, that his idea was not acceptable.

Mr. Cuban, Mr. Rogers, Mr. Krikorian, Mr. Hurley, do you agree with that assessment? And please give us an example, if you have any, of how openness actually helps in the creative process to revolutionize the Internet on an ongoing basis. Mr. Hurley?

Mr. HURLEY. Yes. I mean, you can take our own site as a perfect example. It did not exist over 2 years ago. Because of an open Internet we were able to look at problems that we were personally faced with and that was how to deal with video online, how to make that easy. And we were trying to address those needs. And we were able to develop a service that was able to compete with other competitors in the market. And because of that we have been able to provide a service that has been helpful for people and have been able to spur innovation in the video market online.

Mr. MARKEY. Mr. Krikorian?

Mr. KRIKORIAN. I will just give you just our example. First off, we clearly have enough large industry folks who would rather see us go away, so we had some challenges there from the start. But just quite simply, we got laughed at a lot of different capital firms for just talking about building a hardware product with a U.S. based company—questions about copyright and so forth. If we had another going on there in the business plan which would set—the first thing we need to accomplish is get approval from AT&T or something like that to do this, I mean, we would have been kicked in the pants on the floor. I mean, there is just no way that any of these new technologies would make it.

It is not to say anything bad about AT&T. It is just the fact of the matter is that things are being created every day that none of us ever even thought about before. And without having that open flexibility there is just no way in heck this stuff could ever come to life.

Mr. MARKEY. Mr. Cuban?

Mr. CUBAN. I guess I am always the contrary. Before the Internet there was CompuServe. There was The Source. There were a variety of companies that offered services that were host-based computers that offered content but none of them were graphically driven—and offered hyperlinks which Mr. Burn and the folks that put together Mozilla/Mosaic originally used as a step forward.

So in essence, our beautiful capitalistic system is really what propelled us to this point. And I do not think that it can be constrained at this point because communications and telecom activity was here and will continue to be here no matter what happens.

Mr. MARKEY. And a quick word, Mr. Rogers?

Mr. ROGERS. We look at the Internet in terms of the combination of your two jurisdictions. Where does the Internet meet television? And ultimately the Internet connected directly to the television set is what is going to give people the ability to choose what they want to see when they want to see it anytime.

In addition to YouTube via broadband on the Internet, every movie company, every television company, every program company today is putting its content on the Internet. Most of it is only viewable on a PC. What we have started to do is make it viewable straight to the TV set. We look through Amazon today directly to your TV. You can download any number of movies to your television set. If the Internet is not open that promise of ultimate choice to the TV will totally be frustrated.

Mr. MARKEY. Thank you, Mr. Rogers. My time is expired. The Chair recognizes the ranking member of the subcommittee, the gentleman from Michigan, Mr. Upton.

Mr. UPTON. Thank you, Mr. Chairman. I appreciated too the testimony of all of you. And I have got a couple questions before these long series of votes here this morning.

Mr. MARKEY. If the gentleman would yield just briefly. What we have is, for the Members, a 15-minute vote followed by two 5-minute votes. Then there will be 10 minutes of debate and a vote on recommital.

The plan that the Chair is going to try to execute would be to continue for an additional 10 minutes to recognize Mr. Upton and then to recognize Ms. Eshoo, then to break so that we can make the 15-minute vote and then the two 5-minute votes. I will then immediately return to reconvene the hearing and then try to get in 20 minutes of additional questioning before the vote on recommital.

So any members that wish to be recognized should return. I will try to recognize them there in that 20-minute period. The gentleman from Michigan is recognized.

Mr. UPTON. Thank you. Mr. Hurley, am I correct that YouTube proactively filters out adult content and child pornography?

Mr. HURLEY. We provide those tools to our users. We made it very clear to our community what it is about and not to violate our Terms of Use. And we have been able to provide the tools where they are easily able to flag content that they can identify as——

Mr. UPTON. And when that appears, a consumer can actually report in. Is that right?

Mr. HURLEY. That is correct.

Mr. UPTON. And then take it off? Now is there a reason why you wouldn't think about looking at filtering out copyrighted content as well? Can you address that at all?

Mr. HURLEY. Visually when you get a piece of video content you cannot tell who owns the rights, so a perfect example is marketing departments within studios and networks uploading content to our site and then the next day we receive the calls from the lawyers to take it down.

Mr. UPTON. Did it work?

Mr. HURLEY. Yes. We take it down when it is requested to do so. But it is hard for our users to make that decision. And we are working with thousands of media companies that are fighting us for officially licensed content.

Mr. UPTON. Mr. Rogers, it is a good welcome back. It is good to see you. And I was pleased to participate last summer. You talked about TiVo consumers being able to send messages from their cell phones as it related to taping and then viewing content from their

homes. I wonder if TiVo devices, and maybe the Sling devices as well, ought to be perhaps regulated to ensure that they comply with existing geographic limitations, whether it be network non-duplication, syndicated exclusivity or something that Mr. Markey and I care deeply about, that is sports blackouts as it relates to our Cubs and Red Sox and Wolverines.

Mr. ROGERS. From TiVo's point of view, those are really not issues for us because TiVo can only be used within the household. You can watch things on your television set or transfer something within your house to another consumer electronics device, but we do not provide for the ability to transfer things out of the household. They must be part of the same subnet.

Mr. UPTON. Mr. Krikorian, do you want to comment on that?

Mr. KRIKORIAN. We absolutely enable a consumer to watch their TV wherever the heck they are, so a few things there. One is if you look at one of the examples I gave you earlier, it was Saturday night and we were watching the de la Hoya fight. I paid $50 while I am sitting in a Kentucky hotel room. It was pretty good for me and pretty good for the industry I would say.

If you look at the appearance perspective first off, does the Internet and the Slingbox bring in the question the decades old notion of geographic boundaries? Absolutely. And that cat is out of the bag. Now if we look at it from a true perspective, an industry perspective, think about what is happening. First off with the Slingbox—I have a Slingbox at my home. Things such as blackouts, let us say the San Francisco 49ers are blacked out. If I am sitting here in Washington, DC——

Mr. UPTON. I believe that.

Mr. KRIKORIAN. What is that?

Mr. UPTON. Based on their record, that might be a good thing.

Mr. KRIKORIAN. Yes. Tell me about it. The Raiders are blacked out, thank gosh. If I am sitting here in my hotel room in Washington, DC and I want to watch the 49ers game, I am thinking back home. The blackouts are basically maintained just as they were intended for me as a consumer. So it sort of follows you. If you look at it from the local broadcaster perspective, when the technology first came out there was a lot of concerns.

But if you stop and you really look at what we are doing, we are turning local into global. We are giving the consumer the ability to watch and control their, like, local television programs wherever they are. That for the local broadcasters is a wonderful thing. And by the way, it is actually very measurable with the existing Nielsen rating system.

Now some people do not like it because it brings into question these boundaries that were thought about 50 years ago. But from a pure economic perspective, I think it is a great thing.

Mr. UPTON. Mr. Cuban, I wanted to finish up. Can the Internet currently handle the free streaming of live full length digital high def programming on that scale?

Mr. CUBAN. No.

Mr. UPTON. How much investment do you think that would take? I do not want to watch a sports game on a screen that is this small and look for that little ball constantly.

Mr. CUBAN. The costs are declining, but the reality is the amount they need to deliver is limited by that last mile. If we get fiber to the home—and from my perspective of everything we should encourage that, then not only can you get high definition as we know it today with ATSC standards but you will get ultra high definition. At some point, that will enable a 4k camera that will be sitting in front of Grandpa with that picture transmitted to a doctor somewhere around the world at the best hospitals and enable health care. So there is not only high definition applications for sports but for our welfare as well.

Mr. MARKEY. The gentleman's time has expired. The Chair recognizes the gentlelady from California, Ms. Eshoo.

Ms. ESHOO. Thank you for recognizing me, Mr. Chairman. First, I just want to make an observation. In Silicon Valley we like to talk about disruptive ideas. And we have heard some of them today. And the technologies that make the shifts to new paradigms and fundamentally change the status quo. YouTube has certainly had this affect on the Internet, on media and on politics and our culture generally. And I might say that the new majority party in the Congress owes something to YouTube as well. It helped change another shift in our country.

What I would like you, Mr. Hurley, to just comment briefly on because I have another question to ask is how an open Internet really facilitates all of this. There are some here on the committee that really tend toward gate keeping and chokepoints. And I think what the testimony today really highlights and underscores is that that really is a thing of the past. We cannot afford to sit on old platforms and old ideas. So would you just comment on that, Mr. Rogers?

Mr. MARKEY. Was that to Mr. Hurley or Mr. Rogers?

Ms. ESHOO. I mean Mr. Hurley. I am sorry.

Mr. HURLEY. Yes. I believe an open Internet allows the ability for not only businesses to participate and be innovative, but it is giving consumers choice and it has allowed them also to participate, allowed them to look for media, to distribute their media through services like our own and a chance to decide what they want to consume, not only when but where they want to do that. So I feel because of that open Internet this is all possible.

Ms. ESHOO. And to Mr. Rogers, I was taken with your phrase that we are moving from consumer choice to consumer control. And I did mention in my opening statement the part of the Telecom Act that I worked so hard on to enact, section 629. You only were able to spend just a few seconds on that. Would you elaborate, please, and maybe refresh the memory of the committee about that and what that means and where it is going now and if it is not fully realized, that section, the effect that it will have?

Mr. ROGERS. Well, I will try to be very brief. It is a very important provision of legislation to appoint some time for the FCC actually to construct the policies that they are supposed to put together from that legislation. What emerged from it was a way to open up set-top box competition to allow independent players like Barcel to be able to provide alternative ways for people to think about controlling their media life in their home. The CableCARD emerged as the way to do that. The CableCARD has just begun to roll out. It

is a one-way CableCARD, meaning it was worked out by the FCC with the industry. It does not allow for two-way services to be read. The new technology that cable is using to transmit signals to the home, I referred to as switched digital, is a two-way technology that cannot be read by a one-way CableCARD. That is the conflict. All of the sudden this whole promise that this committee created is going to be frustrated to the extent an issue like that is allowed to continue. As I said, I am hopeful it will be worked out because I do not think any of us want the black eye that comes from a bunch of consumers who rightfully went out to buy consumer electronics devices dependent on these new CableCARDs and not have them work. So the good will of ourselves and the cable industry, which I said indicated a willingness to work this out, will hopefully take care of this problem for consumers. But it is obviously one this subcommittee needs to keep a close eye on.

Ms. ESHOO. I think some cable operators in some parts of the country are doing a better job than others.

Mr. ROGERS. There is no doubt. There are some cable operators that comply easily with CableCARDs. There are other consumers that call up and they are told, what, a CableCARD? Jeez, to get a CableCARD we have to come out to your house and we have to hand deliver it to you and you have to be there when we say you have to be there and all kinds of things that causes people to jump through hoops simply to get a card that could be mailed to easily operate a set-top box.

Ms. ESHOO. Thank you very much. I commend all of you on terrific and creative testimony today. Thank you.

Mr. MARKEY. The gentlelady's time is expired. There are 3 minutes left on the House floor for this roll call so what we will do is we will adjourn right now. I urge the Members to come back after we have the second 5-minute vote. We will reconvene. So to the witnesses, you have about an 18-minute break right now. Thank you. This hearing is recessed.

[Recess.]

Mr. MARKEY. The hearing is reconvened and the Chair recognizes the gentleman from Illinois, Mr. Shimkus.

Mr. SHIMKUS. Thank you, Mr. Chairman. I will just move rapidly. First of all, I want to thank the panel for being here. And I also want to especially recognize the Disney representation. It just highlights something that the chairman and I have been working on, our *kids.us*, *ABC.kids.us*. You have been there on that site for many years. My 4-year-old actually said it is the fall site, so he thinks he is going on the Internet. He is in a limited way—protected. He cannot get out of it.

I want to use this opportunity to thank you. I also encourage you to put a Disney lineup on there and an ESPN lineup on there. We are working with NTIA to restructure some of the cost, but for good corporate citizens like yourself, I do not think it is much to ask. And I want to encourage all of you to use your ability to leverage your positions to help explore the *kids.us* Web site, which is one way that you can really protect kids and give them that initial experience. And they really do think they are on the Web. They are but they cannot get out of it there. So I just wanted to raise that.

Mr. MARKEY. I have worked together with the gentleman over all these years. I think it is excellent work.

Mr. SHIMKUS. Thank you. The other issue that is the real elephant in the room of this hearing is net neutrality. And this is the way I tried to explain it to folks, and you can correct me if I am wrong. I want Mr. Cuban to talk. I have my notes here, but since I had to run from microphone to microphone I have kind of lost them.

There are a lot of things that have been said. There is open Internet. There is gate keeping. There is choke points, fiber to the home, and I like the highway analogy. What I use to talk about it to constituents or people that are saying oh, we want to have an open access and net neutrality so innovation can aspire, I talk about the pipeline. And the fear is that someone is going to choke off innovation.

I have always came to the premise that you really have to—if Mr. Cuban is right and technology is going to be driven by digital video—I think in his opening statement he said there is not enough broadband. There is not enough spectrum. So the public policy debate that we need to hear from you is how do we expand more pipeline.

Mr. CUBAN. Right.

Mr. SHIMKUS. And Mr. Cuban, if you could follow up on that. Because I am a supply guy. The more supply we have the greater opportunity we have. The limited supply we have you all are always going to be fighting over this part.

Mr. CUBAN. Thank you, sir. There is no question bandwidth will cure it all. I think in all these discussions we are recognizing that the Internet family itself is actually a utility. Like other utilities, whether it is transportation over a highway, whether it is electricity, you have to have enough to power the applications that the entrepreneurs, that the innovators in this country envisioned.

Unfortunately right now because of what is happening here via the witnesses and other companies, we are consuming all the utility that is available. And we are arguing about the fact of who gets it when in reality we should be focusing on how do we get bandwidth to the next level so that any constraints go away.

And so if we are saying where to start and how to do it, I cannot sit here and give you dollar figures. But I can tell you from an application perspective and as an entrepreneur, an opportunity perspective, that until we get to 1 gigabit per second switched to the home we are not going to really entertain competitive opportunities that make us a power in the global economy. We will find ourselves always fighting limitations, and that is unfortunate.

Mr. SHIMKUS. Let me follow up. Do you think regulation limits that ability to get to that 1 gigabit?

Mr. CUBAN. I do not think regulation limits it per se. I think it misdirects. I think it puts a focus where it should not be. I think it is just the nature of where we are that everybody is trying to get something. I think we have got to just supersede that and just say what we need. And right now people are trying to get more bandwidth but more bandwidth is not enough.

Mr. SHIMKUS. One thing I love about this committee is that technology, you guys are all proof of it, it moves faster than we can regulate.

Mr. CUBAN. The reality is the fact that we are here, we jumped the shark, to use some Hollywood terminology. It would move so fast that, like you said, you could not keep up with it, but we are keeping up with it. We are putting constraints of 10 minutes of video. We are happy to have Slingbox because there is not enough bandwidth to go around. We are happy to store it to our TiVos because we cannot just get it when we want it, how we want it, where we want it. Those are all responses to constrained bandwidth. If we had the gigabits at home who knows how long that would last—all those constraints go away.

Mr. MARKEY. All right. The gentleman's time has expired. The Chair recognizes the gentleman from Texas, Mr. Green.

Mr. GREEN. Thank you, Mr. Chairman. And I think all of us experience amazement with our panel and what they have done on the cutting edge of technology. We just need somebody to show us how to turn on the button, to make our lights even work. But Mr. Hurley, there is a difference in video on YouTube and full screen and broadcast quality video, but many people, especially you, who believe there is a future in the service you started. I know there are limitations on the video length and quality users post on YouTube. Do you see YouTube trying to get into longer, better quality video?

Mr. HURLEY. No, not at this time. We are offering a different experience than the TV. We are offering low quality short clips that can easily be viewed by everyone and ways for them to interact with that video. It is far from full length high quality television programming. What we do, we provide this chance for people to get in front of media that they would not have otherwise had an opportunity to do. But the cases with our partners, like CBS for example, providing clips on our site, they have probably said that it has helped increase their ratings by 5 to 7 percent. So we are just seeing that it is just an opportunity for them to enjoy basic content and provide them the best experience possible without being TV.

Mr. GREEN. Do you have comments on Mr. Cuban's concern about the past view, the limitations on the current consumer Internet infrastructure?

Mr. HURLEY. No. We are not seeing those limitations.

Mr. GREEN. Mr. Cuban, before you did HDNet—I am from Houston. Obviously, I am a Rockets fan. I am glad at least both of our teams made it to the playoffs, but we did not make it after the first round. I know you more as the Mavericks' owner, but when you mentioned in your answer just now that the utility of it—that the Internet is a utility—and I guess as a lawyer that comes from a different side.

A utility is something that needs to be regulated, needs to be shared with everyone. But I go from 1996 and the Telecom Act. And since then it is to try and eliminate that utility and have lots of competitors in there with comparable service, so I can have a competition between my cable and satellite. So that is why I am glad our Bells are getting into it so we do have a competition and not necessarily "a utility."

But you started your testimony discussing current capacity limitations on the Internet. I think you made a good point, especially regarding P2P. Do you think software applications can become more efficient or will the real problem be the capacity, the actual lines into my home?

Mr. CUBAN. The real problem is in the capacity in the actual lines into your home. You cannot fit more into it than what it has capacity for.

Mr. GREEN. OK. The broadband speeds in a number of countries overseas dwarf the speeds that we have. And do you see anything that Congress should or should not do to help the U.S. close that gap and do we think the competition with DSL, cable, and wireless will force those increased speeds and solve our capacity problems?

Mr. CUBAN. It is hard to say. I will tell you that if we do not go much further than where we are, we will not be able to compete in the global environment. We will see an exodus of people who deliver content to those countries who can. And that is how eventually we want to be.

Mr. GREEN. Because my colleague from Illinois says these are so much Telecom issues and not partisan issues, because I have a concern about that last mile and the net neutrality issue. My concern is how do we pay for that? If it is AT&T that last mile then they are going to charge me if they happen to be my Internet service provider instead of the folks who end up making money on it, whether someone else through—and I guess that is our bottom line. I do not want them to control your access or YouTube. How do we pay to get that last mile there? And if they are going to charge us as a utility, and I have a district that tends to be underserved by Internet, I want the monthly charge to be cheap so I can encourage our families to get on it.

Mr. CUBAN. I understand completely. What I would tell you is what we can see is all we can see. But if we start as an economic policy, I do not understand how you guys do all that you do unfortunately.

Mr. GREEN. We do not either.

Mr. CUBAN. But if we start an economic policy of 1 gigabit to the home then you will start to see other applications that will pay for it. So in other words, there will be medical applications that insurance companies will look to pay for, that hospitals will look to pay for, that pharmaceutical companies will look—because their costs drop dramatically. There will be security applications that will enable us to better monitor our neighborhoods. There will be other applications that I cannot even envision.

When we went from no PCs to PCs, we started to see applications. When the PCs started becoming practical, smart people came up with new applications we never envisioned. The platform for our future of this country is bandwidth.

Mr. MARKEY. OK. The gentleman's time has expired. The Chair recognizes the gentleman from New Jersey, Mr. Ferguson.

Mr. FERGUSON. Thank you, Mr. Chairman. I want to go back to a line of questioning, Mr. Hurley, that Mr. Upton had been talking about before.

When someone posts something on YouTube that is not appropriate, do you have a way of just pulling it down?

Mr. HURLEY. Yes. First of all, that is not what our site is about and we are not experiencing those problems because we have been able to have effective policies. We also have effective technology that we provide to our users. And we leverage the power of millions of people on our site to police it.

Mr. FERGUSON. If someone does not follow the rules, they put something up there that is obviously offensive or pornographic or something inappropriate, what do you do? Do you have some people viewing it?

Mr. HURLEY. Our community understands that that is not what our site is about. They flag that piece of material. We have people 24/7 reviewing what is being flagged, and they are removed from the site within minutes.

Mr. FERGUSON. Now before, when Mr. Upton asked what about something that is copyrighted that is put up there you said that it is impossible for someone to know everything that is copyrighted or not copyrighted. But clearly that is probably technically in all cases may be true, but clearly if somebody puts a clip of a movie or a show from FOX or ABC or some copyrighted basketball game or something that is very obviously copyrighted, why would——

Mr. HURLEY. Well, we have a lot of partners. And in the case of the NBA, we do have a partnership with them. So we are relying on our users as like a content to correctly——

Mr. FERGUSON. What about someone who you do not have a partnership with?

Mr. HURLEY. Well, we provide them with industry leading tools to let us know and make it more easily identifiable to let us know.

Mr. FERGUSON. But I could get on a computer right now and go to YouTube and I could pull up hundreds more clips of copyrighted work that is very obviously copyrighted work. Why do you not take that stuff down?

Mr. HURLEY. Because the DMCA has a cooperation between content creators and——

Mr. FERGUSON. That leads me to my next question, actually. Mr. Cuban, I keep reading and I have heard many times in the press and other places that Google, who now owns YouTube, they are protected by the DMCA. You are obviously a successful business person. You are a high tech person. You have had a lot of experience in this regard. Is that your opinion as well?

Mr. CUBAN. No, it is not.

Mr. FERGUSON. Why?

Mr. CUBAN. No, I do not feel they are. Again, I am not going to try to play the lawyer here. But we had *Broadcast.com* and we were active in the initial thoughts of the DMCA. It was just the concept of hosting or being a service provider was so that Comcast or any ISP could post whatever a user wanted to upload and not be liable for it. And there were constraints put in. They were saying we generated revenue or if something was red flag obvious that you had to be responsible for it just for cases like YouTube.

And what is happening now is that YouTube/Google has a choice. They can hide there behind the DMCA or be proactive, and I do not think they have the right to hide behind the DMCA. They are earning revenue. There is obviously red flag knowledge. Chad, all he has to do is go on to his site. I am sure if he searched for Com-

edy Central or whatever he could bring it down. And so I think it is just a misapplication of the DMCA.

And as a content owner, the concept of takedown, it was not so that we had to continuously monitor the host and service providers every single one of them on a 24/7 basis. One of our most is Enron, the smartest guys in the room, and others goodnight, good luck. We have to monitor continuously. For some of our smaller movies we spent more monitoring than we made on the movies. And so I think it is a definite misapplication and they do not fall behind the DMCA.

Mr. FERGUSON. Mr. Hurley, back to you. Eric Schmidt, who is a CEO of your parent company, Google, recently said at an investor conference, this is a quotation, "Traditional media argue that content has a certain intrinsic value while Google says, 'Prove it.' Ultimately, product value is determined if people view it," Schmidt argued. "They vote with their clicks. They vote where they go." Do you agree with him that—or with Google that the number of clicks should determine the value of somebody else's property? I mean, it just seems to me that is a very dangerous road to go down.

Google's search engine technologies, they have invested a good bit of money in developing that and something that is their property, if someone got access to that and just put it out there for free for everyone else to use would you say or would Eric Schmidt say that that is a violation of Google's intellectual property rights or would they say that is really just a big motion for people?

Mr. MARKEY. The gentleman's time has expired. Mr. Hurley, you can answer the question.

Mr. HURLEY. Our site is not about copyrighted material.That is what it has never been about. The word YouTube is about you, the people.

Mr. FERGUSON. But it is. I understand that. It is a great product. I use it all the time.

Mr. MARKEY. The gentleman's time has expired. I want to be able to recognize Mrs. Capps, if you can you answer, Mr. Hurley?

Mr. HURLEY. What we are doing, we go up and be on with DMCA and we have always been proactive because we want it to be about the community. And we put 10-minute limits on our videos. So it does discourage people uploading full length content of copyrighted material. We also take a half of each individual file we take down from the site so it does not make it back into our system. And then we strictly enforce our policy to keep people off of our services that violate our Terms of Use.

Mr. FERGUSON. Thank you. Mr. Chairman, just for the record, if somebody wants to watch a 30-minute TV program they could go to three different sections of Google and watch three 10-minute clips.

Mr. MARKEY. The gentleman's time has expired. There are 10 minutes left to go on the roll call on the floor. The gentlelady from California has 8 minutes to be recognized. I am going to leave it with her discretion as to when she leaves to go make the vote on the floor. We will then have two votes and then we will return approximately 10 minutes after the point at which the gentlelady completes her questions. And the gentlelady is recognized for 8 minutes.

Mrs. CAPPS. Thank you, Mr. Chairman. This has been a fascinating hearing. I am kind of dreaming of a sequel hearing, more like a round table. These entrepreneurs, I would love to see them talk with each other as well as to us. It would be fascinating. I am going to try to do three sets of questions.

Mr. Rosenthal, you raised some important questions about product integration in TV shows and the decline of independent producers. As you know, there are FCC regulations providing for children's programming during certain hours. The United Kingdom has also limited advertising for unhealthy foods during children's programming. Do you think that product placement during children's programming could undermine current and potential regulations about advertising?

Mr. ROSENTHAL. Let us get back to you in writing on that.

Mrs. CAPPS. All right.

Let me try this. I was going to say anybody else, but I think we may be flooded. Do you believe that the rise of YouTube and other user-generated content mostly available on the Internet will counteract the trends of product placement and the consolidation of the media? And can new media pressure old media then to reform its practices?

Mr. ROSENTHAL. Well, where I am coming from whether you are watching on TV or a big screen or a little screen or your computer or your phone, it is all content. And the people who create that content should be compensated. So that is our concern.

Mrs. CAPPS. I understand.

Mr. ROSENTHAL. Yes.

Mrs. CAPPS. Well, how about the new media pressuring old media to reform its practices? Do you think there is any validity there or——

Mr. ROSENTHAL. I do not know.

Mrs. CAPPS. You do not know?

Mr. ROSENTHAL. No.

Mrs. CAPPS. Well then, Mr. Hurley, we are talking about you maybe. Would you comment on that question and what effect do you think YouTube will have on TV programming, especially with regard to the issues that I attempted to get out of Mr. Rosenthal?

Mr. HURLEY. Well, in terms of our effects on television programming—and like I said, I think we are a great promotional platform, a way for people to experience media and drive them to a better experience, which would be on TV. And we are committed to that. And we are committed to allowing everyone the opportunity to participate in that process where before they would not have had the opportunity to.

Mrs. CAPPS. Do you feel that YouTube and other non-traditional video providers would prod mainstream? Is it a push or a pull into increasing the diversity of its—can you make them be better, mainstream? And curtailing what some would see as perhaps excessive product placement?

Mr. HURLEY. I think so, because you are allowing more people to participate in the process. And you are also allowing talent to be discovered, to take what they are creating to the next level. We have had many examples on our sites, users that are signed not

only with record labels but with major television networks. And this is just a new resource for people to expose their talents on.

Mrs. CAPPS. Thank you, Mr. Hurley. And one more round, but I will maybe have time to go back to that, my first question, and open it up.

I would like to ask you, Mr. Krikorian. The Slingbox sounds like a fascinating device. I can hardly imagine how it happens but I can only appreciate it. As you say in your testimony, it is a great example of American innovation. You also state that it is extremely important for companies creating new devices to know that consumers are able to attach any device they please to broadband networks.

How do you see the balance between the ability of consumers to attach devices to the network, the potentially large demands on the network made by these devices, and the network providers' desire to maintain high quality of service for all?

Mr. KRIKORIAN. These products are in demand. I would actually call that a high class problem.

Mrs. CAPPS. What do you mean by high class?

Mr. KRIKORIAN. It is a high class problem. I mean, what drives innovation? What drives investment? What drives broadband, newer services, higher tiers? They can charge more and so forth. Without innovation they commonly become stagnant. If you are a service provider—and let us say—on a contrary view, let us say you are a service provider and we are the business—you believe you are the business of selling gym memberships, so to speak, where you are going to charge consumers and hope to gosh they do not use the product. Well certainly having more and more products using the network is a bad thing.

I will give you a specific case in point with the Slingbox. So in my local area, Comcast has one service that they charge, let us say it is $29 and it is for 3 megabits down and 384 kilobits up. Now they also have a service that they call the Plus Pack, or something like that, that they charge another $10 a month for and you actually get 6 meg down and 768 up.

Now we actually get complaints from our customers who call us and tell us hey, I see this product called the Slingbox that you guys have. When I am sitting at work I realize that if I have higher speed I get a better quality. I am calling my local cable company and telling them I want to pay them that money, I want to pay them $10—and how often do you hear that, by the way? Right?

Mrs. CAPPS. Exactly.

Mr. KRIKORIAN. And I get in an argument with the customer service operator because they do not even know the thing exists.

Mrs. CAPPS. I guess that is a good definition of high class.

Mr. KRIKORIAN. That is a high class problem, I would say.

Mrs. CAPPS. Now I am going to run real fast and vote so I am going to take a little bit more time. A lot of parents and many of us are concerned about advertising on kids' programs. We have an obesity problem. We have lots of kids being bombarded with—even though the show—the content might be OK, that the advertising of food products is anything but OK in terms of their healthy lifestyle. So the United Kingdom has limited advertising for unhealthy foods. Do you think that this kind of product placement during chil-

dren's programs could undermine current and potential regulations about advertising? Anybody. Yes, Mr. Pyne?

Mr. PYNE. Just a couple of points here. One is that product placement in children's programming is—our understanding is it is illegal so we do not do any at the Walt Disney Company for any of our services, product placement within children's programming. In addition, the one——

Mrs. CAPPS. Well, do you think we should make it legal?

Mr. PYNE. No.

Mrs. CAPPS. OK.

Mr. PYNE. In addition, the Walt Disney Company, as I think many of you know, has taken a real leadership role from Bob Iger, our CEO, on down to change its licensing practices to really take on the challenge of obesity and really revamped how it works.

Mrs. CAPPS. Even though the advertising might run counter to that goal?

Mr. PYNE. We have changed throughout the company, our licensing, our advertising, throughout the whole company. We would like to try to take a proactive step to address the issue that you raised.

Mrs. CAPPS. OK. Mr. Rogers?

Mr. ROGERS. I will say since I was with the subcommittee when the issue was there were too many commercials attached to kids' programming and those commercials were influencing kids in ways that was not healthy, TiVo and DVRs have dealt with that because what we find is that the people who fast forward through ads more than anyone else are kids. They know how to do that. And so then you face other issues once that happens, none the least of which is the product placement issue you mentioned, although there are regulations related to product placement in kids' programming. But kids have gotten really smart about figuring out what they do not need to see or want to see and commercials are first on that list.

Mrs. CAPPS. So you think that is taking care of the problem. Of course, you have to have a TiVo.

Mr. ROGERS. I will not say it is taking care of the problem but it does show how new technology, to your original question, can influence old media in a way that may have a good public policy impact.

Mrs. CAPPS. I think I am out of time. Thank you.

Mr. MARKEY. All right. The hearing is recessed for 10 minutes.

[Recess.]

Mr. MARKEY. The hearing is reconvened. Without objection I would like to submit a statement from the National Association of Broadcasters into the record. Hearing no objection it is so ordered.

Let me now turn and recognize the gentleman from Texas, Mr. Gonzalez.

Mr. GONZALEZ. Thank you very much, Mr. Chairman. And welcome to the witnesses. The first observation is I know that my colleague from Illinois said that the elephant in the room is net neutrality. I do not believe that it is. It is to the extent that the Congressman has put it in the room. It is really not necessary. It is not relevant. It is not material to what we are discussing and the common goals that we all share.

All of you represent a different actor or player in a system. And innovation will determine, as Mr. Krikorian has indicated, whether

you are successful or not. The obligation of Congress is that we have a level playing field and that we encourage investment and such. I think Mr. Cuban has touched on that.

This is a delicate balancing act for us. We are talking about buildout of broadband and the expense that it takes. And who are the individuals know that are going to do that and who is going to make those investments? And then now it is whether it is going to be backboned infrastructure or are we going to be talking about peer to peer? You know more about it than any of us up here.

But we also still would like to apply those historical principles of law that have served this country so well. And I am talking about patents. And I am talking about copyrights. I am talking about trademarks. And I am talking about the sanctity of contract. Technology does not really change any of that.

We have had individuals in court that have said it does. It was not that many years ago that somebody in this universe of the Internet and computers said we really ought to have temporary monopolies in this country because technology allows that and it will thrive if we have monopolies. That is not true. It was not true in that case and it is not true today.

The other issue I know that Mr. Markey said he was going to have a statement submitted by the National Association of Broadcasters, and I think that is an important point here. In this whole debate, Congress's nexus—what it authorizes us to pass laws that truly impact what is out there for the people because we represent the people. And they do have use and they do have values. And they would like those somehow translated and reflected in some programming. And it is really the broadcasters out there. That is the only nexus is the public use of this spectrum by the broadcasters. And we have to, I think, be real sensitive as to as we proceed if we diminish their role and make them less competitive then what impact do the people have? All of that.

Then we go into something else that you also discussed. The international impact of this, to allow us to continue to be competitive and not let other countries that maybe do not safeguard this business environment. I will ask Mr. Rogers. This is really interesting. Because we have had I guess the effect of what TiVo has done in essence, which I think is a wonderful, wonderful device. But nevertheless it impacts ad revenue, does it not? And so if we have these new business models out there that are changing basically how people do business, who pays for the production? Who pays for the product and such? So how do you all view your role in changing that particular landscape?

Mr. ROGERS. Well, that is a great question, Congressman. The first thing I would say is that the trend related to local over-the-air broadcasting has been one of audience erosion for the last 25 years as cable has emerged and Video on Demand, satellite channels have emerged. It has met a steady erosion of audience from broadcasting.

And what TiVo has meant is for the first time there is the new technology which has actually caused an increase in broadcast viewing, which is critically important, I think, from a policy point of view. Today when you look at prime time shares, it is about 50 percent broadcast, 50 percent cable. When you look at replay of

programming, about 70 percent of what gets replayed in TiVo homes is of a broadcast nature. So what we actually see is broadcast viewing increasing.

That leads to another question, which is OK, the viewing may be increasing, but if the commercials are not necessarily getting seen, what is the revenue impact for the public licensees that you are concerned about. And there we are seeing some very positive things as well.

What we have introduced is all kinds of new advertising inventory which allows advertisers to find ways to engage viewers when they might otherwise be fast forwarding through an ad to do something to prompt a response, to get them to go deeper, to get them to instead of seeing something for 30 seconds see a 2 or 3-minute clip of some kind which may be a much deeper way to engage with that advertising product or service.

And we are getting the kind of response from advertisers that suggests that makes television advertising more valuable, not less. So the combination of higher viewing on broadcast and greater opportunities to engage the viewer and create a more valuable advertising experience makes me quite optimistic, actually, that this technology is going to help broadcasting.

Mr. GONZALEZ. Mr. Rogers, I hope you are right. But it also leads to other things, as Mr. Rosenthal has pointed out. We are hoping that the marketplace and you guys will be able to figure it out and you all survive because we need each and every one of you.

In my last 2 minutes, Mr. Cuban—and it is wonderful to see you here as opposed to on the floor of the Spurs' arena. I wish the Mavericks were in there, and I wish the Rockets had made it. It would be wonderful.

In the time that is remaining, you likened or you made a comparison to a thousand-lane highway and how do we encourage the builder of that highway to make that kind of investment? And we say, an open Internet, net neutrality. It all sounds good. And we are not at that crisis state at this point. But we are also, by the same token, not building out as we should broadband applicability and the new technologies.

If you were the one that was going to build that thousand-lane highway and I told you well, someone can buy 85 percent of your lanes. You cannot do anything about it. I still want you to make that investment. 90 percent of your lanes. 95 percent of your lanes. Would you still go and make that investment? And those individuals that are occupying the 85, 90 percent or whatever it is of the lanes, you may not be able to negotiate anything with them. You are a businessman. Where are we in that debate?

Mr. CUBAN. Well, I think our problem is we are looking at consumer-driven applications as how we fill that family pocket as opposed to commercial applications. I think we have got a lot of issues in this country with technology. Although it may not be able to solve it, it could have an impact on it. I alluded to this one earlier: health care.

If I was being an entrepreneur and there were 1 gigabit platforms, then as I mentioned earlier, I would be going to health care providers commercially—in other words, I would look at commercial applications and say if we were to enable a 1 gigabit platform,

what type of new commercial application could you provide, put your thinking caps on, and how would you be willing to contribute to paying for this? Because you can move the cost from physical and other types to digital. I think that is the unique opportunity we have to leverage.

Mr. GONZALEZ. Thank you very much. Yield back.

Mr. MARKEY. The gentleman's time has expired. The gentleman from Nebraska, Mr. Terry.

Mr. TERRY. Thank you, Mr. Chairman. And may I suggest, Mr. Chairman, that for future hearings we take Mr. Rosenthal's testimony, download it to YouTube and e-mail that testimony to any of our potential witnesses so they can see the new standards that have been set for this subcommittee.

Mr. MARKEY. Can I just augment what you said without taking away from your time is that Mr. Rosenthal probably is not aware that he is the first witness to ever be applauded by the Members of Congress.

Mr. TERRY. Yes.

Mr. MARKEY. So that is an unprecedented moment in my 31 years.

Mr. ROSENTHAL. I am going to come here more often.

Mr. MARKEY. I have never seen that. Anyway, the gentleman is recognized for 8 minutes.

Mr. TERRY. Thank you, Mr. Chairman. And just to follow up, Mr. Rosenthal, to your comment that at home we all seem to have our neutral setting. And I understand that. Our spouses' sometimes missions are to humble us and mine does a great job.

With that, I do not think I have ever felt as inadequate with the panel. I mean, all of you are impressive and successful. And I am a Congressman, and I am glad my wife did not see this because she is going to say why can't you be more like them. But with that, let me, Mr. Rosenthal, just throw something out to you.

I have noticed the trend of embedding into scenes commercial products. I think one of the first ones I saw was maybe it was a Sprint phone where they got to download their music and in one of the many cop shows on they were sitting there talking about downloading and naming a product specifically. But then on the other side of that, let us not talk a product of Oreos or specific phones but political speech.

For example, I do not watch Law and Order. I got tired of that entertainment and me being told as a conservative Republican how bad I am for supporting certain ideals. And then even in the speaking parts of the characters would take slaps at specific Republicans in Congress. Is that OK but Oreos are bad?

Mr. ROSENTHAL. In that case you are talking about honestly an exchange of ideas and free speech.

Mr. TERRY. Oreos are not?

Mr. ROSENTHAL. Well, you are selling a product. If you have Rush Limbaugh for the other side. Right?

Mr. TERRY. All right. I just wanted to lay that out, because I think that is an irony that needs to be discussed.

Mr. ROSENTHAL. We are in America. Thank God for that we can do that.

Mr. TERRY. So as long as it does not involve an Oreo but it involves——

Mr. ROSENTHAL. The moment Law and Order says that you should eat these Oreos, then I think it——

Mr. TERRY. OK. But as long as you vote for Hillary Clinton and Republicans are bad then it is OK politically?

Mr. ROSENTHAL. I am actually fine with that.

Mr. TERRY. Yes. I thought you would be. So is Dick Wolf, and that is why I do not watch that show anymore because there is a lot of other good shows on that do not slap my politics while I am watching it.

I appreciate that. I just wanted to lay that out there. It has been one of my frustrations with nighttime television is how political they have become, especially that show.

Speaking of shows, I really appreciate ABC making a commitment to 9,000 hours of HD programming. I think as we move to the digital switch with our hard date in place, the programming has to be there in place. So I compliment you on that. I am going to ask you for some help on something. I have an HD set at home and I cannot watch my HD programming on my HD set because your local affiliate refuses to allow it to be shown. Would you help the HD roll out and tell your affiliates to quit hijacking their HD signal from me? Will you do that?

It is Hearst Argyle, Omaha, Nebraska. I will give you their phone number.

Mr. PYNE. We only have 10 owned stations for which we have retransmission consent. And all of our stations have digital retrans that will give the signal to all those consumers in those areas. ABC has 215 affiliates, Hearst being one of them, that could control that conversation and negotiation between them and your Omaha station.

Mr. TERRY. Well, we are going on almost a 1-year anniversary. And I think it is atrocious. And I do think you have a say with your affiliates. But does it not disturb ABC, your national company, that you are denying me something that you are bragging about? Or not you but your affiliate is doing it. Are they not hurting our relationship by doing that? Are they not hurting the HD rollout by doing that?

Mr. PYNE. I mean, clearly as I think from the testimony and I think practice with the 9,000 hours, our goal is to get as broad an HD roll out of our viewership of all of our programming as we possibly can. But there are also local negotiations that take place that quite frankly our relationship with the affiliate is——

Mr. TERRY. So it is OK with ABC national, the corporate, that this is going on? That I am being denied, my constituents are not——

Mr. PYNE. We do not——

Mr. TERRY. I am going to move on because I only have 2 more minutes. Mr. Rogers, you brought up the CableCARD and it has come to my attention that the CableCARD is becoming an issue between the consumer and the cable companies. I have been told by our cable company what a huge problem these CableCARDs are. That they do not work. They are losing a lot of time having to work

with them. Are you aware of this problem? Is that a separate one than the CableCARD that enables the product to work?

Mr. ROGERS. No. It is the same CableCARD. And the CableCARDs generally do work. There are issues getting the CableCARDs into consumers' hands, which are really cable company operational issues relating to their own marketing and how easily they want to make it for customers to access those cards. And most of the friction for customers has been on actually getting their card in their hand from their cable company, the requirement that you schedule a visit from your cable operator to actually come and hand you the card, as opposed to being able to get it through the mail, easier ways to access it.

The issue I was pointing to is actually an operational issue relating to the CableCARD where cable operators are moving to a technology called switched digital. And that is beginning to create actual issues with the CableCARDs not functioning, which would undermine the entire ability of CableCARD technology and CableCARD set-top boxes such as ours to work. Though as I said earlier, the cable industry has indicated——

Mr. TERRY. Do you think the cable company is doing this to eliminate your product in that the consumer can only buy their DVR?

Mr. ROGERS. No. The particular issue that I was referred to is actually one where the cable operators are going to switched technology to be more efficient with the use of their bandwidth. It just happens to be a technology that isn't able to work with CableCARDs and somehow that is going to end up being a big problem for consumers that support that.

Mr. MARKEY. The gentleman's time has expired. The Chair recognizes the gentleman from Michigan, Mr. Stupak.

Mr. STUPAK. Thank you, Mr. Chairman. And thank you for putting together this panel and this hearing. It has been an excellent hearing. I apologize for being in and out as we were doing other things with food safety and gas price gouging. But I did catch a lot of it and read the testimony.

So I would like to start with Mr. Hurley if I may. I understand that YouTube has a feature that allows users to designate the video they upload as private and that users can then share them with friends of their choosing. Right now is there any way for a copyright owner to search through private videos to determine whether any of them are unauthorized copies of copyrighted owners' works?

Mr. HURLEY. Yes. We provide a tool where they are able to easily identify content in our system. And they are industry leading tools that we have been working on for quite some time. We provide them to everyone that is working with us. And what we are doing is giving a choice for them to not only have the opportunity to remove material from the site but after——

Mr. STUPAK. But who is making the determination that—if it is in violation of copyright laws?

Mr. HURLEY. Well, under DMCA, they notify us that something is rigid.

Mr. STUPAK. Who are "they"?

Mr. HURLEY. The media company, the rights owner.

Mr. STUPAK. If they are private, how would they access them on YouTube?

Mr. HURLEY. Yes. With private videos in particular, they are not accessible through the tools. It is a private feature that is limited to the user.

Mr. STUPAK. It is limited to the user but not possibly the owner of the copyrighted works. And they have no way of determining whether or not their copyrighted work was being put on this private videos then, right?

Mr. HURLEY. Yes. We are working on technology to make it more effective to those——

Mr. STUPAK. OK.

This leads to my next question. Violating private or copyrighted stuff, we have got copy laws to take care of that. Last year we held 10 hearings on child pornography, exploitation of children on the Internet. What we saw was disgusting. We have sexual predators now taking part in peer-to-peer sharing of videos of children, babies often being sexually exploited. They trade these images and now videos just like baseball cards. So can you or can you not monitor this?

Mr. HURLEY. Yes.

Mr. STUPAK. There is no way you can underneath your privates, in these so-called private videos. How would you monitor that?

Mr. HURLEY. Well, we made very clear in the Terms of Use we do not tolerate any of that content in our system.

Mr. STUPAK. Well, no one does.

Mr. HURLEY. Yes.

Mr. STUPAK. But there is literally millions of them out there. So how do you do that at YouTube?

Mr. HURLEY. We monitor the activity that is happening on the site. And we, when notified of anything inappropriate—and our users have done a very good job of letting us know when something should not belong.

Mr. STUPAK. Well, let me ask you this. In your testimony you said that videos that violate Community Guidelines come down minutes after users flag them. So what are these Community Guidelines? You never mention them in your testimony. Who determines Community Guidelines?

Mr. HURLEY. We have a very clear set of Community Guidelines that clearly states things such as adult content, violent content, hate. All of these are against our Terms of Use and our Community Guidelines and also make it very clear to our users that is what we are about.

Mr. STUPAK. So it is really up to the users to flag the violations?

Mr. HURLEY. Yes. We are seeing that not being an issue on our site. Very few of the videos that are being uploaded to our system are actually private. The main drive for people putting video on our system is to be seen and to be heard, to get views, to get comments and to interact with our community.

Mr. STUPAK. Sure. Do you monitor these private videos? Having these Community Guidelines is like the FDA on food safety giving the industry voluntary non-binding non-enforceable management practices. But if no one is enforcing, how are they being enforced? What are the consequences?

Mr. HURLEY. Well, we enforce our Terms of Use, and we eliminate users that violate that. And what we are seeing is that it is not a problem, and we are aggressively working on technology to address all the issues potentially with our system.

Mr. STUPAK. OK. Thanks. Mr. Cuban, a number of questions, but first of all, I come from a very, very rural district. In addition to the satellite cable we have several wireless broadband efforts. We literally have water towers instead of cell towers being used to provide wireless broadband. But the upcoming 700 MHz auction—everyone is talking about wireless broadband becoming the true third pipe for Internet content. And you talked and you discussed about the need to upgrade the infrastructure of the current cable and copper-based Internet system to fiber to regrow the Internet into the future. So a couple questions. Do you think the Government has a role in encouraging fiber to the home?

Mr. CUBAN. Yes.

Mr. STUPAK. And including investment, to encourage that investment to get that last mile as we talked about?

Mr. CUBAN. Yes, I do. As much as I would like to call myself a Libertarian, just like building highways, just like putting the right of way in place for electrical wires and telephone wires, I think there is a place simply because from a competitive perspective if we find ourselves without it we will have problems. I am not qualified to say that we cannot get there on the road we are on already but it would be something that would be appropriate.

Mr. STUPAK. Well, let me ask you this, if I may. Is it in your view going to be a true competitor to fiber? Can it offer the same quality in bandwidth? And how do we build a wireless network that is forward looking that can handle videos, gaming and other high bandwidth applications?

Mr. CUBAN. I think it is an interim competitor but not a long-term competitor. It is a shared medium, which means the more people that use it and the more heavy the use, the slower everybody gets. And that has a point of diminishing returns.

Mr. STUPAK. Thank you. Thank you, Mr. Chairman.

Mr. MARKEY. The gentleman's time has expired. The Chair recognizes the gentleman from Florida, Mr. Stearns.

Mr. STEARNS. Thank you, Mr. Chairman. This is for Mr. Pyne. I have a headline from the Internet here which says, "Walt Disney Sells 23.7 Million TV Shows and 2 Million Movies via Apple iTunes Store."

So my question is a little bit tied in to what Mr. Terry talked about when he asked Mr. Rosenthal about the product placement. Just give me maybe a personal opinion here. Is this subscriber model that I just read from this headline, how far is this away perhaps where you can actually see a day when consumers would say I am just not going to watch the TV. I am just going to go to my shows here, download it, and then I will have it.

And advertising people say golly, we cannot even get to this person. Now we have got to get to them through the Internet. So the first question is do you think this subscriber model is going to replace anything in the near future and if so, when?

Mr. PYNE. I do not think it will replace our current broadcast model, whether for ABC or for any of our cable and satellite net-

works. I think our view and what we have seen through all of our research is that today's audience—and 10 years ago, 15 years ago, people would come home from whatever they were doing during the day, school, work, whatever, and they would go to the TV set.

Mr. STEARNS. Yes.

Mr. PYNE. In today's world, given all the plethora of technology that has been enabled, that is out there, our audience just gets it in so many different ways. They still, whether it is at their 52-inch HD set, they still go to the TV. But what we have found is whether it is what we do with Apple, what we do with our *ABC.com* player, or what we are testing now with Cox with via free VOD, all of that we have found is complimentary to the broadcast. In fact, we have seen ratings go up. We have seen increased viewership.

Mr. STEARNS. You have heard Mr. Rosenthal. He suggested that product placement should be regulated. I think that is what we are hearing from you. Did you agree with his idea?

Mr. PYNE. I do not agree.

Mr. STEARNS. This has probably already been covered, if you will bear with me here.

Mr. PYNE. For the record, the Nissan ad that was referred to before we checked with our sources and in fact the actual dialog that was referred to did not take place. Our standards and practices took that out of the broadcast. In addition, we have no product placement in children's programming and following the rules any time we integrate, and this is a producer's decision. It is not our companies'. It is the producer's who is very entwined with the creative process. There are something called a 317, so that there are specific——

Mr. STEARNS. But you do not think we need to have product placement regulated by the Government?

Mr. PYNE. I do not.

Mr. STEARNS. OK. And Mr. Rosenthal, is there a point, though, where you pick up a show and you watch maybe a man and woman pick up a cigarette and it is a Lucky Strike and that actual use of that cigarette at that moment creates the authority and the drama which carries full scene? And maybe it is not a Lucky Strike. It is a Marlboro. Or maybe it is a Coke or maybe it is whatever. Isn't there some creative freedom here that should be allowed instead of having product placement under Government——

Mr. ROSENTHAL. I think what Mr. Markey was talking about, and I concur, is that we are only talking about in the—in terms of how it looks to kids who are watching. So he—what he is suggesting is that for rated G and PG movies that the "cool" character is not portrayed as smoking because that is what the kids are responding to.

Mr. STEARNS. OK.

Mr. ROSENTHAL. I just want to apologize if there was any misinformation in the last thing. The other thing is I do not think we are talking about regulating. I think we are only coming from, and I speak for the WGA and SAG, is disclosure.

Mr. STEARNS. I have this Treo and sometimes it is frustrating because there is so much information on it and I get fooling with it and really I am wasting a lot of time.

And I guess the other question that goes for I guess Blake Krikorian and Mark Cuban. Use of the bandwidth is intensely used when you have streaming video. What is the best way for wireless carriers to manage the various funds—voice, video, data traffic? Because I cannot imagine if this had video it is even more addictive. How do you even as a consumer go about disciplining yourself so that you are not fooling with it?

I see Members on the floor, and I see them on the subway, everywhere. They are just fooling with this thing. How do wireless carriers go about managing all those various forms of voice, video, and data traffic?

Mr. KRIKORIAN. First off, you get a Sling player on there because that will make you more educated as opposed to destroying your productivity. Yes. I think first off there is probably a couple of questions in there. No. 1, in terms of these applications that are going to drive or are going to require more and more bandwidth—again, back to my earlier point, I view a lot of that as a high class problem. I think that the way that a mobile operator should deal with it is to certainly not discriminate between services they are providing and other ones that are available on the Internet.

But for those people who are actually using the bandwidth quite a bit, it is all about a pricing game. Something we just did in the UK, actually, with Three and Hutchison, they are the first mobile operators to really embrace the Slingbox. And what they did is they created another tier of service called the X-Series. I cannot remember exactly what it was because it was in pounds. But you paid an incremental amount and you basically get things such as Slingbox functionality and even Skype, believe it or not. And they found that to have quite a bit of good amount of success.

Mr. STEARNS. My time is expired. Is it possible to have Mr. Cuban answer that question?

Mr. CUBAN. Just very quickly, kind of the mantra of the management is bits for bits. In the digital world, it does not matter what the application is. To the provider, it is all just digital bits. On the consumption side, though, it gets to be an issue because there once you start filling up the pipe other people suffer. And right now we are in the scenario where most bandwidth is being priced on an all-you-can-eat basis. And that might change to a revenue per bit or a cost per bit basis. And that will have different implications.

Mr. STEARNS. Thank you.

Mr. MARKEY. The gentleman's time has expired. I do not know if any other members are going to return. But what I am going to do is I am going to ask each one of you to give us your summation, 1 minute that you want us to retain out of your visit here to the Subcommittee on Telecommunications and the Internet. While you are thinking about that, let me just ask you, Ms. Lombardi. Channel 55 all across America is going black on February 17, 2009. No more Channel 55. You will have MediaFLO on that. How long after February 17, 2009 will it take for you to be up and fully operational across the whole country?

Ms. LOMBARDI. We have 27 markets today. We will be continuing to buildout, and by the time we get to early 2009 we hope to have the top 100 cities in the United States fully functional.

Mr. MARKEY. Excellent. Thank you. And you, Mr. Pyne, you are an old business but without an old business model. How do you negotiate this relationship between your affiliates that are the old model and this new business strategy which you have? How do you negotiate that tension?

Mr. PYNE. Carefully. We have in terms of our local broadcast affiliates, again we have over 210 of them. We have tried to work with them collectively as we delve into this new media. So for instance, our dot com player, our *ABC.com* player, we include them in the advertising so that they can monetize it. They can take advantage. And in addition, we allow them to co-brand their local station with the ABC brand. So the viewers in that community can actually access through the local Web site. You can see local news but that can be brought to the *ABC.com* player.

In addition to what we just announced this week with Cox Communications on a VOD model that was broadband, we look forward to doing a similar type of thing and we have got a strong interest.

Mr. MARKEY. Mr. Shimkus, do you have a final question?

Mr. SHIMKUS. Just two follow ups.

Ms. Lombardi, what does the free spectrum from the DTV transition mean for MediaFLO and for wireless video innovation generally?

Ms. LOMBARDI. Sir, QUALCOMM is a company that continues to innovate and look at new wireless technologies. And the fact that the United States Government had spectrum available that we could acquire and utilize to bring consumers more choice, every content, like ESPN, to consumers wherever they go on their handset—the picture quality is fantastic. People up to 70 years old are willing to watch the screen. And to be able to do that across the country is very compelling, we think, to the marketplace.

Mr. SHIMKUS. Ms. Lombardi, could MediaFLO have gotten off the ground if the spectrum auction it participated in had rigid conditions on how the spectrum could be used?

Ms. LOMBARDI. No. The rules have been very good to us, and we have complied with the requirements of the FCC, and that has enabled us to launch this service across 27 markets.

Mr. SHIMKUS. Thank you, Mr. Chairman.

Mr. MARKEY. The gentleman's time has expired. So we will turn now to the members of our witness panel. You have been outstanding. We thank you for that. Your one-minute summation to the committee is very much appreciated. Mr. Cuban, we will begin with you.

Mr. CUBAN. I will try to get to the one minute. First, in terms of the February 2009 cutoff date, I think what has not been anticipated is that it is going to be a retail bonanza for consumers. As cable competes with satellite, TV manufacturers try to take advantage of the conversion, we are going to see some of the best deals for multi-video distribution that we have ever seen in our lifetime, so it is going to be interesting.

Two, I think there needs to be significant respect for copyrights because if we do not deal with it, whether it is YouTube, whether it is other video-hosting environments, that content providers are going to look to get very Draconian in how they protect their con-

tent and that is going to be a significant negative for consumers over the long haul.

And three, in terms of bandwidth for consumers, we need to start thinking in terms of 1 gigabit and up, not just merely incremental increases, simply because the consumers benefit, the commercial opportunities that are created with that platform will propel this country in a competitive basis in all things we have been considering at this point.

Mr. MARKEY. Thank you, Mr. Cuban. Mr. Krikorian?

Mr. KRIKORIAN. OK. So I think if I could leave you with one thing I would say that when we talk about disruption, disruption and invasion are very much synonymous. You hear them mentioned in the same breath many times. And one thing that I really thank you guys for giving us the opportunity to come here. I encourage you to keep doing that because as you really see things that can be viewed as disruptive end up becoming actually great things for the people who were threatened by it.

And I do not need to remind you too much, but I will just a little bit. Remember when radio came out. People were saying no one was going to provide music. We all know what happened with the Betamax issue and where we went there. And in fact, we saw last year $9 billion in movie ticket sales and $24 billion in this little thing called DVD and VHS. There are certainly challenges, even TiVo brings up in terms of people skipping commercials. But at the same time I am confident that in fact what Mr. Rogers was saying that there is going to be new innovations there that are going to address that and perhaps make advertising even more successful.

I urge you to keep the forums that you are having here because a lot of times—I am a big believer in copyright, as an example, but I am not a big believer in using copyright to protect business models.

And so I think it is very important that all of us really understand what this technology means, what it does, and keep an open mind on how it can be used to the industry's advantage as well as the consumers' advantage. Thank you.

Mr. MARKEY. Thank you. Mr. Rosenthal?

Mr. ROSENTHAL. I just want to thank you for having these. I learned a lot today and it has been such a pleasure listening to these brilliant people.

I disagree a little bit with Marsha Blackburn's statement that "the medium is the message." I believe that the message is still the message. And all I would ask of these geniuses is that as new technology is implemented that they continue to respect the creators of the cup.

Mr. MARKEY. Thank you, Mr. Rosenthal. Ms. Lombardi?

Ms. LOMBARDI. Sir, one thing that I would like to put on the record, mobile TV has existed in the world for a while. In Korea they have had mobile TV and now Europe is rolling it out. What we have done here in the U.S. is leapfrog what exists in the marketplace today. And with the flexibility, with the DTV transition date, with the flexibility here in the United States, we are able to innovate, create a new technology, create a new service, and provide consumers a real value. And so I want you to realize that the

U.S. is driving things faster than other countries because of your flexibility. Thank you.

Mr. MARKEY. Thank you, Ms. Lombardi. Mr. Pyne?

Mr. PYNE. Thank you. Clearly I think the technologies have enabled the consumer to access content in so many ways that I think 5 years ago were completely unthought of. And we as a company and content creators want to make sure that we are in the forefront of that and to work with, to be out funding, and to be proactive. Clearly creating quality content the way we do every day is expensive, it requires a tremendous commitment of resources and time. And we are committed to looking for new models to make all of this possible.

Just to reiterate one point, section 317 of the Communications Act actually already requires disclosure of product placement. So just to reiterate the point before, we do not believe any new law is needed. Thank you.

Mr. MARKEY. Thank you, Mr. Pyne. Mr. Rogers?

Mr. ROGERS. I would simply say that this subcommittee has always been guided by creating more competition and creating more consumer choice. And you do not create innovations. But this committee does define the future in terms of whether those innovations are going to succeed.

And I must simply say as you always have done, do not allow incumbents to choke off new competition, new choice, be it in broadband or new set-tops or wherever it might emerge. This subcommittee has always been a great guider of innovations being able to emerge in that sense. And I think if you continue in that role the video future will be a bright one.

Mr. MARKEY. Mr. Hurley?

Mr. HURLEY. Yes. I would like to say first of all thank you for having me here today. And secondly, that YouTube is more than an entertainment destination. YouTube is truly a site that informs, inspires and empowers people to communicate their messages to the world.

We hear stories about children in Africa having the opportunity to go to computer centers. And they are actually viewing YouTube. And this is acting like a window to the world for them, where they have a chance to see what is happening beyond their borders. And we really feel in the future it is going to be able to really promote understanding between cultures.

Another thing with what we are working on is we take copyright seriously. We are going to continue to work on technologies and work with our rights holders and partners that are currently working with us to create new markets to exist for them to promote and create new revenue services. Thank you.

Mr. MARKEY. Thank you, Mr. Hurley, very much. I cannot tell you how much the subcommittee appreciates the incredible expertise that this panel represents. And I cannot tell you how many times I have been complimented during the breaks by the members. They very much appreciated your testimony and really feel illuminated.

Mr. Krikorian, even going back before radio, the disruptive technology, when they moved from silent movies to talkies it put 20,000 piano players out of business who were playing in each theater

across America as the movie was up there. It was probably a very tough time for piano players in America in 1928 and 1929.

When I arrived here 31 years ago on the Telecommunications Subcommittee we had one phone company that had 1.2 million employees. It was bigger than the next five companies in America combined. And we were all using a rotary dial phone even though they had invented touchtone phones 20 years before.

The cable industry was in its nascent form. So was FM radio. There was no Internet. Cell phones were just something that was in the imagination of telephone companies but not of the inventors.

And so this subcommittee over the years has played a role in breaking down these barriers—as Mr. Rogers said, moving over 200 MHz of spectrum in 1993 so that a third, fourth, fifth, and sixth cell phone company could be created; passed the 1996 Telecom Act, the 1992 Cable Act, all of them with the intention of further making it possible for technological innovation. And I think to a very large extent this hearing would not have been possible without all of those changes.

And hopefully we will be guided by your testimony so that we can continue to adapt and change in a way that in another 5 or 10 years there is a whole new panel of people who are sitting down here that the committee members can basically say wow, look at those people down there. Look how they are changing not only our country but the world.

With the thanks of the subcommittee, this hearing is adjourned. Thank you.

[Whereupon, at 12:55 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

Testimony of Chad Hurley,

Chief Executive Officer and Co-Founder, YouTube

House Subcommittee on Telecommunications and the Internet

"The Digital Future of the U.S. – The Future of Video Technology"

May 10, 2007

Chairman Markey, Ranking Member Upton, members of the committee.

It's a great pleasure to be with you this morning to talk about the future of video technology. My name is Chad Hurley, and I'm the CEO and co-founder of YouTube.

I'm here specifically to talk briefly about our company and about three of YouTube's goals: promoting community, advancing democracy, and driving economic growth.

I also want to spend a few moments talking about the online video revolution and what's coming next.

YouTube: Facts

Let me start with a few facts about YouTube.

YouTube is the world's leading online video community. YouTube allows people to discover, watch and share originally created videos. In keeping with a Silicon Valley cliché, we started the company after realizing there was no easy way to share homemade videos with our friends. Thanks to the open Internet, we were able to launch with little but credit card debt backing our plan.

That first month, about **30 videos were uploaded** onto the site. Eight months later, when we launched the full-fledged site in December of 2005, 3 million videos were being watched, and 8,000 videos uploaded, on a daily basis. Today, only two years later, things have changed a bit.

Here are a few facts to give you an idea of what our users have created:

- Every day, YouTube viewers watch hundreds of millions videos.

- Every day, hundreds of thousands of videos are uploaded onto YouTube.

- We are ranked as the 9th most visited site in the U.S., according to Nielsen NetRatings, with more than 45 million unique users per month.

The way YouTube works is simple by design. An individual or group of friends creates a video and then posts it to our site. They create these videos with their camcorders, digital cameras, and mobile phones. Videos cannot be more than 10 minutes long.

The community of viewers then decides what rises to the top. They connect and engage around videos that inspire them, teach them, or make them laugh or cry. These videos are the ones you've maybe seen and heard about. They create their own momentum and speak to millions of people around the world -- sometimes in just a matter of minutes. We are now seeing broad adoption of our service with adults of all ages. One of our most popular users, who calls himself Geriatric 1927, is 79 years old and has more than 41,000 subscribers to his channel. Videos that are less compelling to the masses, for example a video about how to make an omelette in a Ziploc bag,[1] still find a niche audience on the site.

Videos that include unauthorized copyrights are removed as soon as we are made aware by the rights holder. Those that violate our Community Guidelines come down minutes after our users flag them. As a father of two, that last part is particularly important to me.

[1] http://youtube.com/watch?v=NJ2NfUbbQWE

YouTube is helping a wide range of video producers reach a vast, new audience, promote their work, and stay relevant in a marketplace that is changing quickly. For example, we currently have more than 1,000 partnerships with content-creating organizations ranging from the BBC, the NBA, and the Sundance Channel, to 10 Downing Street and the State Department.[2]

Promoting community

Now let me turn to our goal of promoting community.

YouTube is much more than a library of video clips or an entertainment destination. It's also a community made up of people who are engaging with short-form video in a brand new way. Our vision is to create meaningful human connections through original video among people and communities worldwide. And there is something for everyone on the site.

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[2] BBC: www.youtube.com/bbc
NBA: www.youtube.com/nba
Sundance Channel: www.youtube.com/sundancechannel
10 Downing St: www.youtube.com/downingst
U.S. Department of State: www.youtube.com/statevideo

Content creators such as entertainers, educators, authors, medical students and the U.S. military are building audiences on YouTube; meanwhile, millions of people including readers, home buyers, travelers and art enthusiasts are watching videos on YouTube. We have seen a vast increase in the number of videos that offer recommendations, remedies, and other how-to's. Far more than a trend, You Tube has become a resource where people can learn new skills or simply share experiences with others. You can learn how to remove tree roots from your sewer drain by tuning in to "Ask the builder."[3] You can get European travel secrets from a user who calls himself, "Dr. Chuck."[4]

Then there are the stories like that of Leigh Buckley, a mother of two from Derry, New Hampshire, who discovered that she was suffering from leukemia. A family friend made and posted a video[5] about Leigh's search for a bone marrow donor on YouTube; that video helped draw more than a thousand people to a registry drive. A donor was found, in Denmark, and Leigh began treatments last Friday to prepare her for the transplant. Through the power of video, people came together to help a complete stranger.

Advancing democracy

[3] http://www.youtube.com/watch?v=ep6wQqSXSYk
[4] http://www.youtube.com/watch?v=CmV78Fj6PeY
[5] http://www.youtube.com/watch?v=i1azm1oNRbk

Now I'll turn to advancing democracy.

YouTube is a new platform for putting democracy in action—a great forum for the free exchange of ideas where everyone is provided equal opportunity to be widely heard. YouTube is a shared megaphone in the 21st century public square, where our First Amendment rights are most precious.

On a more concrete level, our new You Choose '08[6] platform – built specially for the 2008 campaign – essentially creates the "World's Largest Town Hall." Seventeen presidential candidates are currently on YouTube, and already they've combined to post over 500 videos that have been viewed millions of times. In addition, many Members of Congress have an active YouTube presence that they use to educate and interact with voters.

We're helping bring a level of authenticity to politics that both voters and candidates are thirsting for, leveling the playing field for political dialogue in this country by connecting voters and candidates in new ways. YouTube is a campaign game-changer, shifting the dynamics of how to reach voters and build intimate relationships. [7]

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[6] http://www.youtube.com/youchoose
[7] Political video content on YouTube is highlighted at: www.youtube.com/citizentube

On a global basis, we are working toward building a community where people from around the world can broadcast and express themselves by sharing their ideas. We believe that YouTube provides another way to promote the values of freedom and liberty, to strengthen new democracies, and to let citizens from other countries give an authentic voice to their most urgent needs and common dreams.

Driving economic growth

Turning to economic growth, new stories are emerging every day about the positive impact our service has on promoting creative and entrepreneurial talent.

YouTube has created a new forum for filmmakers and video bloggers who previously had few distribution options. For example, many of our users have signed contracts with TV networks, film studios and advertisers. These include YouTube users like Brooke Brodack (aka "Brookers"[8]), who signed with TV personality Carson Daly; Joe Bereta and

[8] http://www.youtube.com/brookers

Luke Barats (aka "Barats and Bereta"[9]), now with with NBC Universal; and Lisa Donavan (aka "LisaNova"[10]), who now appears on the popular MadTV.

Musicians are selling their own CDs and, in some cases, signing with record labels, as Youtube user Terra Naomi did with Island Records, a division of Warner Music Group. And owners of small businesses, such as real estate agents[11] and music teachers[12], have a significantly less expensive way of finding new customers who would not have known about their services prior to YouTube.

Since its inception, YouTube has been focused on growing its community and fostering creativity. I spoke about our partnerships with many companies and users who create content. Most recently we announced that we have elevated several of our most popular users to partner status. We've seen the videos of many of these creators evolve to become elaborately developed series, concept videos, and sitcoms with tens of thousands of subscribers. Many of these users have gone from creating a single video to becoming YouTube celebrities with fans and audiences all over the world.

Let me make two more general observations about YouTube and economic growth.

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[9] http://www.youtube.com/BaratsAndBereta
[10] http://youtube.com/lisanova
[11] http://www.youtube.com/profile?user=HamptonHomeTours
[12] http://www.youtube.com/profile?user=pianovillage

First, YouTube and many other successful new Internet businesses would never have launched had it not been for this country's commitment to an open Internet. We share with many the belief that access to the Internet must be open to all users and services on fair and equal terms.

Second, we see originally-created content and free online expression as competitive advantages for American business. Companies large and small, such as Dove, Nike, Coca-Cola, Blendtec, The Travel Linguist and 1-800-FLOWERS[13] are all harnessing the power of YouTube to connect and engage with consumers.

We hope to see the U.S. government become more engaged in protecting free online speech as a core component not just of our democratic ideals, but also of the global economy.

What's Next

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[13] Dove "evolution" campaign: http://www.youtube.com/watch?v=iYhCn0jf46U
Nike: http://www.youtube.com/profile?user=Nikesoccer
Coca-cola's holiday wish cast: http://www.youtube.com/greeting_browser
Blendtec: http://www.youtube.com/profile?user=Blendtec
Travel Linguist: http://www.youtube.com/profile?user=travellinguist
1-800-Flowers: http://www.youtube.com/profile?user=1800flowers

So where is online video headed next? The bottom line is no one knows for sure where the medium is going. After all, a couple of years ago the idea of millions of people using an Internet video platform seemed more than a little far-fetched.

However, if I had to identify a few trends to watch for the future, I would point to the following:

- First, originally-created video content will continue to establish itself as a new form of communication. Just as blogs and e-mail transformed written communication, sites like You Tube are creating new opportunities in the world of video. What blogs and e-mail did for text, services like YouTube are now doing with richer and more immediate forms of expression.
- Second, a critical mass of content will continue to be built from small, niche communities online, allowing nearly ubiquitous coverage of the world we live in from many unique perspectives.
- Third, digital media will increasingly empower users to take control of *what* they watch, *where* they watch it, *when* they watch it – and *how* they make media.. Busy consumers want to access media on their own schedules, and in shorter increments. They also want to share their own creativity in quick, convenient

ways. We aim to make it easier for people to upload video to YouTube from their mobile devices, in order to capture timely videos that document events ranging from Hurricane Katrina to a high school graduation.

One final point about the future of video. As YouTube expands globally, I believe there is tremendous potential for video to enhance public diplomacy. Already, the content on our platform demonstrates the freedom of expression that exists within our borders. As more and more countries utilize YouTube, citizens from around the world will have the opportunity to communicate across borders. Even when nations disagree, video brings a human element to our dialogue that enhances understanding.

Mr. Chairman and members of the Committee, thank you for letting me appear here today. I look forward to answering your questions.

ADDENDUM:

A "Snapshot" of YouTube: Additional Video Links

- Ask the Decorator: How to Make Stencils
  http://www.youtube.com/watch?v=gvYU3bqlwH8

- Ignite Learning Channel: http://www.youtube.com/profile?user=igniteleaming
- US Coast Guard: Largest Maritime Drug Seizure in World History

  http://www.youtube.com/watch?v=fuGBSARNYtc
- Ford Models: Arm balancing with Tara

  http://www.youtube.com/watch?v=PHdqJgtUE2c
- Video blogger Jacquelyn Mitchard:

  http://www.youtube.com/profile?user=HopeShay
- Val's Art Diary: http://www.youtube.com/watch?v=zZ-jLh4NEKo
- US Army: Finally... Back Home

  http://www.youtube.com/watch?v=EVPMCrtRPJ0
- Videos from the Multi-National Force in Iraq: www.youtube.com/mnfiraq
- Videos depicting life in Baghdad: www.youtube.com/chattheplanet

STATEMENT OF MARK CUBAN

CO-FOUNDER, HDNET

New technology can be incredibly exciting. It seems to be always improving. Getting faster, cheaper, smaller, with seemingly no end to that trend in site. While that was always the case in the 1980s and 1990s and early 2000s, it is no longer the case that all technology improves with age.

What I am about to tell you will sound like heresy to many, but the reality is that the consumer internet, as it is constructed today has matured and its future, unless there is significant investment will constrain economic development in this country.

First, let me say that there is plenty of bandwidth and upside for the backbone of the internet. Those fibers that connect the networks of internet providers have plenty of room to grow. Unfortunately, the quality of the internet experience to consumers and the opportunity to provide products and services, particularly using video, over the internet to the consumer are only as good as its weakest link. Right now, with limited exceptions, those links are pretty weak.

The vast majority of broadband users in this country today are connected via coaxial cable or copper wiring. Coaxial cable was exciting in the 1970s and early 80s, but was used as the foundation of major cable system upgrades in the 1990s. For Telco broadband users, basic phone wiring is still the primary method of access for DSL subscribers. (Although Verizon's FIOS product and some other companies have installed fiber to or close to the home, they are still small in number)

Both of these technologies are limited not only in by their intrinsic bandwidth capacity, but also by the networks they can be attached to and the distances over which they can deliver bits. The bottom line is that the future of broadband and consumer connectivity for more than 95 pct of broadband users is built upon ancient "technology".

That is a problem for our country.

This bandwidth limitation for the last mile of consumer internet connectivity means we are severely limited in heavy bandwidth consuming applications that exist today, such as video, and completely excludes unique applications that could positively impact not only our economy, but our quality of life.

The issue of net neutrality is the perfect example of how constrained bandwidth creates conflicts between the interests of consumers and broadband providers. Internet consumers are concerned that their favorite websites will either cost more due to increased hosting costs, or will be slow or erratic when accessed because they are not given the priority of those who pay more. This issue goes away completely if bandwidth constraints go away. In an all fiber network, bandwidth gigabits per second to the home and throughout the network, making net neutrality a non issue.

In our current bandwidth constrained environment, the concept of internet video replacing standard definition TV is laughable. The perspective that it could replace HDTV programming isn't even on the radar. With the current design of the net, every

single video stream must be delivered individually to the consumer. It doesn't matter if the video stream is transported from a centralized host server, from a locally hosted server, or from a peer on a P2P network. You may have noticed that CBS made a big deal of delivering 300k simultaneous video streams at 350k of bandwidth each (less than TV quality) of the NCAA final four last year. They demand was far greater, but 300k was the most they could support at a single time. They could have served many, many more had they been able to, but the net does not have the capacity, nor are the costs reasonable to be able to deliver live TV over the net.

Now there are some that will tell you that internet video will replace TV using P2P technology, but it will not happen. P2P technology doesn't reduce the amount of bandwidth required to deliver video content over the net, in fact, it moves much of the requirement for bandwidth from the backbone, which is built primarily on fiber and has no bandwidth limits, to the individual consumer, where the user must not only receive the entire amount of bits required for the delivery of the video they have chosen, but must retransmit it to peers on the network, resulting in significant inefficiencies and over consumption of bandwidth. The reason this method of delivery has become so popular is that it shifts the cost from the distributor of the video, to the consumer of the video.

This isn't to say that consumers won't want and won't consume video and TV programming over the internet. They will. In particular, internet video consumption is very high during the day. At work, people will watch their favorite shows that they missed at lunch or on breaks. They may stream it, they may download it, and they may save it to their IPods or phones. There is certainly a market for video content on PCs, but it is a complementary market, not a primary market for content. People of all ages will watch video on their PCs, mobile devices and phones, their PDAs, when they don't have access to their TVs.

Over the last few years the technology industry and the media have become fixated on internet video. The explosive success of YouTube has convinced many that it foreshadows a future of people sitting in front of their PCs watching user generated videos. It doesn't.

The area of consumer video consumption that is going through the most significant change and upheaval is not internet video, its HDTV.

If you look at the PC on your desk at home or work, it looks and works pretty much exactly like it did 5 and even 10 years ago. There was a time when people felt that upgrading their PC was a rite of passage that happened every few years. Not any longer. There was a time when new PC based software was coming out on a regular basis impacting our work productivity or creating new entertainment options for us. Not anymore. It's stagnant.

The same applies to internet applications. What we call Web2.0 isn't a reflection of new and exciting technology. It's a reflection of the maturity of the Web from Web 1.0. MySpace, Face book, YouTube, Digg, any Web 2.0 site you can think of are certainly not

technological breakthroughs. They are applications developed with mature programming tools that users feel confident to use.

Contrast that with what is happening in the HDTV market. Like the PCs of yesteryear, HDTVs are getting bigger, faster, cheaper, better on an almost monthly basis. It was just 3 years ago that if you were in the market for a TV, you would expect to go to the store and pay 800 or more dollars for a 27" tube TV that weighed 300 or more pounds. It was just 3 years ago that if your friend had a big screen TV, which probably was a 40" or more monstrosity that cost 3,000 dollars or more, you went over to his or her house for the big game.

Today, those types of TVs can't even be found on retailers' shelves. They are no longer even being made. They are part of history. Instead, 10s of millions of homes have purchased LCD and Plasma TVs that hang on the wall (remember when that was a Jetsons like fantasy?). Today's 42" flat screen can cost under $1,000 dollars. That's today. Screens are getting bigger and bigger. We can expect that a 70" flat screen will cost under $1500 dollars within 3 to 4 years. It is expected that more than half of all households will have HDTVs by 2010.

This leads to a simple question. If more than half of all households are buying HDTVs, and I expect HDTVs to be ubiquitous by 2012, why would someone buy an HDTV and then want to watch TV on their PC?

Of course they wouldn't. Which is exactly the reason I started HDNet and HDNet Movies and continue to invest in developing programming like Dan Rather Reports, HDNet World Report and movies like Good Night and Good Luck. The future of digital video and programming isn't on the net; it's on HDTV and in movie theaters.

The excitement in Digital Video will come not on the internet, but in programming for HDTV, Digital Cinema, 3D Cinema, medical and security video developments and other new applications that some kids will come up with while laughing at "the old internet"

Right now there are cameras that can capture 4k resolution video that are being readied for sale for fewer than 20k dollars. There are 3D cameras and rigs being sold and enhanced on a daily basis. I wish I had more time to discuss the upside here.

These new and exciting applications could potentially be delivered over the net, but not as it's built out today. Not even close. Until we see fiber to the home as a prerequisite for broadband we face the real risk of the internet becoming this century's equivalent of the highway system or electrical grid. Revolutionary when built. Impactful beyond belief while expanding. A limitation and source of traffic backups and irritation when mature.

Testimony of Benjamin N. Pyne
President, Disney and ESPN Networks Affiliate Sales and Marketing
May 10, 2007

Thank you, Mr. Markey and members of the Subcommittee. My name is Ben Pyne, I am President, Disney and ESPN Networks Affiliate Sales and Marketing.

I appreciate the invitation to talk with you today about the future of video. At Disney, we believe the greatest danger to our future business would be to cling to a model based on "old" thinking. We recognize that technology has empowered the consumer more than ever before, and we create and use technology to deliver quality content. Consumers today want to access content from Disney, ABC, and ESPN in so many different ways, and we have made responding to that demand in new and innovative ways one of the highest priorities in our company.

In doing so, Disney has been a pioneer in numerous ways I will discuss today – through video downloads on iTunes, video streaming on ABC.com and our other media players, video-over-broadband websites like ESPN 360, video-on-demand through our cable partners, video-on-mobile devices, and our production of high definition video content on broadcast, cable, satellite and DVD. We will continue to find ways to get our content to screens consumers use: computers, mobile phones, iPods, and of course, television.

Now, and in the future, getting the balance right between convenience and pricing is a challenge facing all of us who create and distribute digital content. Adding to that challenge is the problem of piracy. While there is no one answer to the challenge of piracy, we believe the best place to start is to bring content to market on a well-timed and well-priced basis.

Video Downloads

We're now firmly into the "Consumer Era" – where consumers want their content to be available anytime, anywhere, on devices ranging from TVs to cell phones. Disney led all video producers in moving this "on demand" digital era from theory to reality with our agreement to make television content available for video downloading from iTunes 18 months ago. That deal allowed consumers not only to download their favorite shows, but also to make them portable between shared devices on a single iTunes account.

Today, the variety of Disney video content available on iTunes continues to expand: movies, TV shows, sports, and news. Over 20 million episodes of our series' have been downloaded on iTunes, including many of our most popular shows – everything from ABC's Grey's Anatomy and Lost to Disney Channel's Hannah Montana and High School Musical.

ABC News' "World News with Charles Gibson" has set the standard in network digital offerings as the first and only evening newscast to produce an original program for the Internet audience. Anchored by Charles Gibson, the "World News" webcast airs live on ABCNEWS.com and ABC News Now, and is available shortly thereafter as a video podcast on iTunes or mobile phones. That nightly program has been played and downloaded more than 65 million times since launching last year. ABC News' digital-only original video series, "The Day It Happened," which includes broadcast footage from historic events of our time, launched first on iTunes last year and is critically acclaimed.

In addition to Disney and ABC content, ESPN offers condensed versions of games and other sports content on iTunes. ESPN's condensed version of the 2006 Rose

Bowl between Texas and USC was downloaded by 150,000 fans. Other content on iTunes has included highlights from our action sports X Games events, The Belmont Stakes horse racing, ESPN Original Entertainment series like *The World Series of Poker* and *The Contender*, and great college sports rivalries like North Carolina versus Duke basketball and Ohio State versus Michigan football. Online at ESPN.com, we offer as many as 450 new pieces of ad-supported, short form video each week -- including highlights, interviews, analysis, Emmy-winning original animation and our signature, twice-daily *SportsCenter Minute* news and information wrap-up. Our "sportsnation" of fans view these videos, on average, tens of millions of times each week.

This just gives you a flavor for some of what we are doing in the television space here in the United States. It does not begin to get in to digital distribution deals abroad. Nor does it begin to highlight what we are doing on the movie studio side. For example, last year Disney was the first movie studio to announce a deal with Apple to enable downloading of full-length feature films through iTunes, including copies to multiple PCs and portability using iPod devices. Consumer reaction has been strong. We are now approaching two million downloads of Disney films from iTunes since our announcement in September. We've also reached separate digital distribution deals with Wal-Mart, Movielink and CinemaNow in the U.S., with some similar to the iTunes model and others quite different, as we try to explore new and improved ways to reach consumers with our content. This is a nascent but rapidly growing area, and we look forward to many exciting new offerings and opportunities in this space.

Video Streaming

Disney's next innovation was its Emmy-award winning full-episode broadband player. We have made our most popular content – including much of ABC's prime time schedule and original programming from the Disney Channel and ABC Family – available on the Internet in high-quality video streaming format. Right now, a consumer can go on the Internet to ABC.com and watch individual episodes of ABC or Disney Channel programs when they want to, for free. This means that fans of our hit show "Lost" can log onto their computers and watch last night's or last month's episode of "Lost" – *for free.*

This effort continues the evolution we started with iTunes, but it's different in a number of ways. Unlike iTunes, content on ABC.com is free to viewers, but it includes limited commercial breaks. Viewers cannot download and save the episode – but are able to pause, fast-forward or rewind. Since fall 2006, the ABC.com media player alone has served over 87 million episode requests. And ABC News video content generates up to 50 million plays per month across ABC News Digital properties and partner sites.

Notably, we have worked with the local ABC affiliates to design a version of the media player for ABC content in which both the network and the affiliates are able to participate. Affiliates can brand the player with their station's channel number and call letters, include local advertising, and provide links to local news and public information that broadcasters provide their communities. To date, ABC affiliates covering 80% of the country, including major affiliate groups as well as the ten ABC owned television stations, have launched or have committed to launch the player on their own websites and are taking advantage of the opportunity to incorporate local advertising into the programming.

Broadband

Just this January, Disney announced its latest innovation, this time in the web space – Disney XD. Disney XD is broadband entertainment taken to the next level – Disney style content with safety in mind. It's a customizable experience with Disney games, music, trivia and high-quality engaging videos, including kids' favorite Disney Channel shows plus movie clips and previews.

Disney also has developed a number of broadband sites in partnership with Internet Service Providers – or ISPs. ESPN 360 is the sports broadband product, featuring an online video player and access to a broad array of sports content. ESPN360 is available to more than 15 million homes. A great example of ESPN 360's potential was its wall-to-wall coverage of every game of the World Cup last summer. Disney's similar broadband destinations with tailored content include DisneyConnection, ABC News Now, and Soapnetic, all of which offer distributors and consumers unique Disney Channel, ABC News, or SoapNet content.

Video on Demand

Video on Demand is yet another way we make Disney, ESPN, and ABC content available for viewers to watch whenever they want. We have entered into many different VOD licensing agreements with our cable partners that reflect different VOD business models, as we all experiment to find what works best for consumers.

Just this week, we announced that we are negotiating an agreement with Cox Communications to allow Cox customers to watch our most popular ABC television content -- including Grey's Anatomy and Lost -- on demand. We're currently discussing

this with our broadcast affiliates and we will be including some of our affiliates in a test.

Video on Mobile Devices

Disney has moved aggressively to ensure that our content travels with our viewers, wherever they are, including on their cell phones and mobile devices. ABC News Now's mobile offering reaches over 4 million subscribers with 75 percent of the total mobile TV audience. ABC's prime-time programs offer clips, teasers, and special content in a special format for mobile devices.

ESPN is available in a number of mobile formats – including not just clip-based video, but also a full-linear streaming video channel (ESPN Mobile TV) through MediaFLO currently available on Verizon Wireless and soon available on AT&T. And, ESPN's Mobile Web site gets 8 million unique visitors each month from a wide variety of carriers.

High Definition Television

Disney consistently has been a leader in high definition television. In 1998, ABC became the first network to televise a regular scheduled program in HD – "The Wonderful World of Disney." In fall 2005, ABC was the first network to produce its morning news show – "Good Morning America" – in HD. Now, virtually the entire ABC prime time schedule is broadcast in high definition, including all of ABC's scripted entertainment programming.

The ten ABC Owned Television Stations also are leaders in HD. Six of ABC's ten owned stations already are producing and airing local news in HD, with two more stations to follow in the coming months.

We all thought that sports in high definition would be a key driver of the digital transition. At ABC and ESPN, we're leading the transition with nearly 900 national HD telecasts in 2007 of Monday Night Football, the Rose Bowl, NASCAR, college football and basketball, Major League Baseball, the National Basketball Association and the Little League World Series plus even the National Spelling Bee.

The launch of ESPN HD in 2003 has proven to be one of the significant drivers in the adoption of high definition television. The service is now available to over 88 million households across the country. ESPN2 HD launched in 2005, and between the two services ESPN will produce over 9,000 hours of original HD content in 2007, featuring SportsCenter, the nation's leading sports news and information program.

In 2008, Disney will continue to lead the industry by launching four additional HD channels, ESPNNEWS HD, Disney Channel HD, Toon Disney HD, and ABC Family HD.

Disney is also a leading supporter of high definition content on next-generation high-definition packaged media. Disney is one of the founding members of the Advanced Access Content System (AACS) Licensing Administration, which has developed the technology specification for managing content in the next generation high-def packaged media formats. We have already announced more than 50 titles for release on Blu-ray Disc, which we believe will further help drive HD adoption by offering unprecedented, full-HD (1080p) quality and advanced interactivity. AACS also promises a future with new, enhanced functionality for consumers, including, among other things, secure managed copying within home networks and among portable devices.

Conclusion

At Disney, we'll continue to work to be the first choice for digital and interactive entertainment and information in the most convenient and timely ways possible. As our CEO Bob Iger has said, "Our history of bringing our storytelling and our roster of characters to the frontiers of technology is unrivalled. Since the day a previously-mute mouse dared to speak in a "talkie," Disney has fearlessly taken its content to the cutting edge. Wherever the path of unfolding technologies and imaginative new platforms may lead, Disney will be there."

Statement by

Ms. Gina Lombardi
President, MediaFLO USA, Inc.
QUALCOMM, Incorporated

Prepared for the

Hearing on

Digital Future of the United States: Part V: The Future of Video

Before the Subcommittee on Telecommunications and the Internet
Committee on Energy and Commerce
U.S. House of Representatives

Thursday, May 10, 2007

Introduction

Good morning Chairman Markey, Ranking Member Upton, and Members of the Subcommittee. My name is Gina Lombardi, and I am President of MediaFLO USA, Inc., a wholly-owned subsidiary of QUALCOMM, Incorporated. It is an honor to appear before this Subcommittee to testify about MediaFLO and the future of video.

Let me begin by thanking the Members of this Subcommittee for your role in the enactment in 2006 of a hard date for the digital television transition. The firm date of February 17, 2009 for completion of the DTV transition has allowed innovators, such as QUALCOMM, to plan for and invest in exciting new technologies for deployment in the

spectrum that will be cleared by the broadcasters. MediaFLO, which I will discuss further in this testimony, is one such technology.

QUALCOMM Overview

MediaFLO's parent company, QUALCOMM, was founded in 1985 with a vision to innovate and develop advanced wireless services for commercial markets. Today, pursuant to that vision, QUALCOMM is a leader and innovator in the development of digital wireless technologies including those based on Code Division Multiple Access (CDMA), Orthogonal Frequency Division Multiplexing (OFDM), and other advanced digital technologies. These solutions are used for a number of communications applications, including mobile cellular, fixed wireless access, broadband wireless access, and satellite services.

The "third generation" (3G) CDMA family of wireless technologies, including CDMA2000 and WCDMA/HSPA, is used in 3G wireless networks and devices here in the United States and around the world to enable consumers to enjoy advanced, high speed, and ubiquitous wireless services. QUALCOMM broadly licenses its technology to over 140 handset and infrastructure manufacturers around the world.

Evolution of Mobile Multimedia

Today, with the digital revolution well underway, the most common distribution paths for multimedia content such as video, music, and games are traditional cable, broadcast, fiber, and satellite. The advances that have been made in wireline bandwidth, as well as computing power, have unleashed explosive consumer demand for multimedia content. These technological advances have allowed the wired Internet to deliver more data-

intensive forms of multimedia content, such as streaming video, interactive graphics like Macromedia Flash, and digital audio.

The mobile Internet is also evolving, and we believe, represents the next frontier in the delivery of multimedia content. In a relatively short period of time, we have seen upgrades in the cellular networks from the data speeds of 9.6 kbps in wireless networks of just a few years ago to today's 3G networks, such as those based on CDMA2000 1xEV-DO and WCDMA/HSPA, which provide high speed, fully mobile broadband service at data rates comparable to DSL and cable. Today, there are 268 wireless carriers in 110 countries who have deployed one of the 3G CDMA technologies. Worldwide, there are over 441 million subscribers using a 3G CDMA device, and these devices are proliferating at a very rapid rate in wireless markets around the world. In the last 12 months alone, 93 devices using 3G CDMA have been brought to market by 28 different device manufacturers. The dramatic increases in computing power, memory and high-end graphics functionality have accelerated the development of new and exciting wireless services.

QUALCOMM believes there is significant consumer interest in mobile multimedia services, including video, both in the United States and in other countries around the world. Independent market research supports this view. For example, ABI Research estimates that there will be 250 million mobile video users worldwide by 2010, and the Yankee Group estimates the market for mobile video will be $11 billion by 2010.[1]

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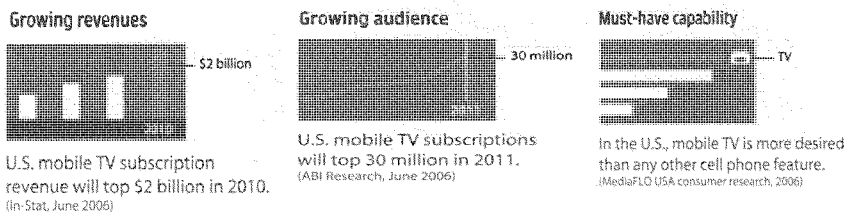
[1] Allied Business Intelligence Inc., June 2006; "Mobile Video/Broadcast TV Market Assessment: Will Operators Get the Picture Right," Yankee Group, November 2006.

In addition, we at MediaFLO USA have conducted our own consumer research encompassing more than 4,000 consumers across the United States. This research revealed that consumers' desire for mobile TV outstrips any other cell phone feature. Specifically, we found that:

- 1.5 times as many cell phone users would prefer video to a camera.
- 1.6 times as many users would prefer video to an Internet connection.
- 2.3 times as many preferred video to push-to-talk.
- 3 times as many preferred video to instant messaging.
- 6 times as many preferred mobile TV to games.

Figure 1.

The Next Big Thing



In addition, MediaFLO has conducted a number of focus groups to better understand the role that mobile TV will play in viewers' lives. We found that the audience for mobile TV encompasses both men and women over a wide range of ages who have an interest in many genres of TV content, including children's programming and specialty programs, in addition to news and sports. Our focus groups also found that consumers are interested in watching mobile TV during planned and unplanned breaks, such as on their lunch hour and while waiting to pick up their children, as well as during planned downtime, such as

commuting. One interesting use we found is parents who, while grocery shopping and driving, gave the phone to their children to occupy them. In fact, perhaps for that very reason, our research indicated that consumers are interested in full-length content of 30 minutes or more, not just 5 or 10 minute clips.

Our focus group findings show great promise for mobile video and contrast starkly with what has been the conventional wisdom regarding mobile video to date.

Consumer multimedia, however, poses a unique challenge in the wireless environment. In particular, the cost to deliver these data-rich services makes profitability especially challenging. QUALCOMM put considerable thought to these issues, and has devised a unique solution for mobile multimedia to address considerations of quality, consumer experience and cost. Our technical know-how, combined with favorable policies adopted in the U.S. for spectrum that have fostered a climate of innovation has led to this exciting development.

MediaFLO

MediaFLO was designed literally from the ground up to address the unique technological and economic requirements for delivering high quality mobile multimedia content to mobile phones at mass market prices. Our system aggregates and delivers premium, TV-quality information and entertainment services to mobile phones over a dedicated, nationwide wireless network. The user experience with MediaFLO is dramatically different from other mobile multimedia services on the market today, due to its faster channel switching, superior picture quality, and longer battery life.

As we have disclosed previously, we estimate that we will invest approximately $800 million in MediaFLO, including providing the funding for the necessary research and development, network infrastructure costs, and in designing, building, and operating a system uniquely suited to deliver high quality video content to mobile phones. Our business began with the purchase of spectrum licenses in an auction conducted by the FCC in 2003. The FCC auctioned a portion of the UHF band (referred to as the "Lower 700 MHz") and applied flexible technical and service rules to this band, including allowing up to a 50 kW transmit power to facilitate new operations, such as MediaFLO. We hold licenses for 6 MHz on UHF Channel 55 (716 – 722 MHz) covering the entire nation.

With the enactment of the Digital Television Transition and Public Safety Act of 2005, this spectrum will become fully available to new licensees such as QUALCOMM in February 2009. In the meantime, we are permitted to operate in certain markets, provided we do not cause harmful interference to incumbent TV stations on the same or immediately adjacent channels, or if we reach agreement with an affected TV station subject to FCC approval. UHF spectrum is well suited to mobile TV because of its inherently favorable radio propagation signals and the higher power levels allowed compared to traditional cellular frequency bands. These factors allow us to keep our costs down, so that our service can be sold to consumers at mass market prices.

MediaFLO USA has deployed a nationwide network based on our FLO (Forward-Link-Only) technology, a new mobile broadcast air interface that QUALCOMM invented for mobile television. FLO is designed and optimized to increase capacity and coverage, while reducing the cost of multimedia content delivery to mobile handsets. In the same

way that TV is aired to many households at once, MediaFLO USA distributes programming to many mobile phones simultaneously. This means that, no matter how many people are watching, the signal quality is excellent.

Our network consists primarily of high power, high tower transmitters, re-using, in most cases, existing tall towers to optimize network cost and design. Our prime frequency band, together with the inherent efficiency of the FLO technology, means that our network is using a fraction of the number of transmitters that a cellular system would require at either 800 MHz or 1.9 GHz, thereby enabling the delivery of mobile TV service to consumers at mass market prices.

Figure 2 below shows an example of how the FLO technology is deployed.

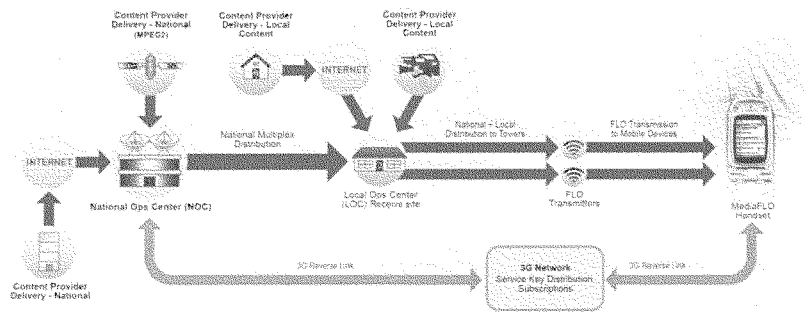


Figure 2.

MediaFLO USA is delivering our services as a wholesaler to wireless carriers. We have contracted with major broadcast and cable networks and content providers (e.g., ESPN, CBS, Fox, NBC and Viacom), to deliver their content, which includes news, entertainment, sports, and children's programming. We also hope to offer local content,

such as local news, sports, weather, and other programming as the service evolves and expands.

MediaFLO USA has entered into commercial agreements with both CDMA and GSM/WCDMA wireless carriers, whereby such carriers have agreed to offer the MediaFLO mobile TV service to their subscribers on a retail basis. To date, MediaFLO USA has entered into these agreements with the top two wireless carriers in the United States – Verizon Wireless and AT&T/Cingular. These two carriers combined have over 120 million wireless subscribers. The availability of the MediaFLO network and service on a retail basis is determined by our wireless operator partners.

On March 1st 2007, Verizon Wireless began offering commercial mobile TV services under the brand name "V CAST Mobile TV" to its subscribers using the MediaFLO USA network. As of today, this service is available in a total of 27 major markets, including Dallas – Fort Worth, Seattle, Los Angeles, Orlando, Atlanta, and Chicago. AT&T has also announced plans to launch commercial MediaFLO services later this year.

MediaFLO has been designed to replicate the traditional TV viewing experience for the mobile environment. MediaFLO subscribers have access to an easy-to-use program guide on their phones, from which they can select a wide range of programming options. No buffering is required to access the content; a simple push of a button activates the programs. Further, consumers can accept calls and messages on their phones without interrupting the programs. The service gives content providers a major new distribution channel that complements their current offerings. Consumers are gaining access to compelling multimedia services when and where they want them.

A video is being provided as part of my oral testimony to provide a visual demonstration of how MediaFLO operates.

The Importance of the DTV Hard Date

As I mentioned, MediaFLO USA is being launched on Channel 55, in the UHF spectrum. This spectrum will be cleared by the broadcasters according to the provisions of the Digital Television Transition and Public Safety Act of 2005 (P.L. 109-171). This Subcommittee is to be commended for its foresight in advancing this critical legislation, which is aimed at putting the vacated 700 MHz band to its highest and best use, and creating a climate in which innovators can plan for the uses of this valuable, "beachfront" spectrum. In addition to the exciting new commercial services, such as MediaFLO, that will result from this auction, public safety will gain access to the 24 MHz of spectrum that has already been allocated, creating opportunities for improving interoperability and deployment of new wireless broadband capabilities. Finally the auction of the 60 MHz of unassigned spectrum will generate billions of dollars for the federal Treasury.

As I noted above, we estimate that QUALCOMM will invest approximately $800 million to bring this new technology to market in reliance on Congress's commitment that the DTV transition will end once and for all on February 17, 2009, so that we will then be able to use our spectrum fully, all over the country. The single most important thing that this Congress can do to ensure that consumers receive the full benefit of compelling new services such as ours is to keep faith with the many innovators such as MediaFLO USA who have invested heavily based on that commitment. Moreover, to fulfill the statutory commitment to the February 17, 2009 hard date for the end of the DTV transition, it is

essential that the unassigned spectrum be auctioned on the statutory schedule so that the funds to carry out the DTV transition are collected in time.

Conclusion

Mr. Chairman and Members of the Subcommittee, one of the key benefits from the release of the 700 MHz spectrum is mobile video. The world is at the beginning of a revolutionary change in this exciting new service, with many possibilities for increasing consumer choice. As has been the case in many of our technological advancements, the U.S. is a world leader in the market. Policies pursued by this Subcommittee, in particular the decision to enact a hard date for the digital television transition and to release the commercial spectrum, are helping to assure our continued position as a world leader in technology advancement.

Thank you for the opportunity to appear today, and I look forward to any questions you may have.

Attachment

Summary of Written Testimony

Ms. Gina Lombardi
President, MediaFLO USA, Inc.
QUALCOMM, Incorporated

Prepared for the
Hearing on
Digital Future of the United States Part V: The Future of Video

Before the Subcommittee on Telecommunications and the Internet
Committee on Energy and Commerce
U.S. House of Representatives

Thursday, May 10, 2007

MediaFLO USA Inc., a wholly-owned subsidiary of QUALCOMM, Incorporated, has developed an exciting new service that delivers high quality mobile multimedia content to mobile phones. Our system aggregates and delivers premium, TV-quality information and entertainment services to mobile phones over a dedicated, nationwide wireless network.

Independent research has shown that there is robust consumer interest in mobile multimedia services, including video, in the U.S. and around the world. ABI Research estimates that there will be 250 million mobile video users worldwide by 2010, and the Yankee Group estimates the market for mobile video will be $11 billion by 2010.[2]

MediaFLO USA is delivering our services as a wholesaler to wireless carriers. We have contracted with major broadcast and cable networks and content providers (e.g., ESPN, CBS, Fox, NBC, and Viacom), to deliver their content, which includes news, entertainment, sports, and children's programming. We also hope to offer local content, such as local news, sports, weather and other programming, as the service evolves and expands.

On March 1st, 2007, Verizon Wireless began offering commercial mobile TV services under the brand name "V CAST Mobile TV" to its subscribers using the MediaFLO USA network. As of today, this service is available in 27 major markets. AT&T has also announced plans to launch commercial MediaFLO services later this year.

MediaFLO USA is being launched on Channel 55 in the UHF spectrum. This spectrum will be cleared by the broadcasters according to the provisions of the Digital Television Transition and Public Safety Act of 2005 (P.L. 109-171). In the meantime, we are permitted to operate in certain markets, provided we do not cause harmful interference to incumbent TV stations on the same or immediately adjacent channels, or if we reach agreement with an affected TV station subject to FCC approval.

QUALCOMM will invest approximately $800 million to bring this new technology to market in reliance on Congress's commitment that the DTV transition will end once and for all on February 17, 2009 so that we will then be able to use our spectrum fully, all over the country. The single most important thing that this Congress can do to ensure that consumers receive the full benefit of compelling new services such as ours is to keep faith with the many innovators such as MediaFLO USA who have invested heavily based on that commitment.

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[2] Allied Business Intelligence Inc., June 2006; "Mobile Video/Broadcast TV Market Assessment: Will Operators Get the Picture Right," Yankee Group, November 2006.

Before the
House Committee on Energy and Commerce
Subcommittee on Telecommunications and the Internet
The Digital Future of the United States, Part V: The Future of Video
May 10, 2007

Testimony of Thomas S. Rogers
President and Chief Executive Officer
TiVo Inc.

Chairman Markey, Ranking Member Upton, and other members of the Subcommittee, my name is Tom Rogers. I am President and Chief Executive Officer of TiVo. I want to thank the Subcommittee for inviting me to testify on the future of video. As an innovator, TiVo depends equally on the continued creation of compelling video content and the ability to access that video content on TiVo products which include using our Emmy award-winning user interface and other innovative features. Accordingly, I applaud your willingness to consider the issues of innovation, competition, and access to video signals as the committee contemplates legislative changes needed to create the proper environment for an even brighter television future for the American public.

Founded in 1997, and located in Alviso, California, TiVo pioneered a brand new category of products with the development of the first commercially available digital video recorder (DVR). Sold through leading consumer electronic retailers, the TiVo DVR is revolutionizing the way consumers watch and access home entertainment. TiVo's DVR not only allows consumers to find and record traditional television programming but it can also receive and record video programming delivered over broadband for display right on the TV set. TiVo gives consumers simple but powerful features such as the ability to pause live television so you won't miss a single part of the program because the phone rings or the delivery person is at the front door, as well as advanced but easy to use features as: SeasonPass® which remembers to record your

favorite series so you won't miss an episode; WishList® that will automatically record all the movies by a favorite director or actor you have told your TiVo DVR to record, so that you won't miss the program because you weren't home; Online Scheduling which allows you to "phone home" and remotely program your TiVo DVR if you are stuck at work and will miss a special program you wanted to watch. These and many other features have brought unprecedented value to consumers. They can enjoy their TV programs when they want and not miss a single program because they had to work late or were tied up in traffic. Moreover, the same TiVo box enables consumers to store and easily access their personal photographs, home videos, and their music collection.

Summary

This subcommittee is uniquely positioned to shape the future of television. It did so in the past by enacting legislation that has led to an immense amount of consumer choice in television content, and it has the opportunity to create the right environment for an even brighter television future where consumers get to choose what they want to watch, when they want to watch, and where they want to watch it. This is the new era where control by the consumer will have a significant impact on current business models, particularly advertising, but will lead to substantial opportunities for advertisers and broadcasters to engage with viewers on a much deeper basis. However, this subcommittee must ensure that the promise of consumer choice it has long championed, and consumer control which has now emerged as the key trend, are allowed to flourish and is not derailed by incumbent interests that are threatened by innovation and competition.

Access to Television Programming

We've gone from an era of consumer choice in distributing more and more channels, to an era of consumer control. That means allowing viewers to view content on their schedule, at their convenience, when and where they want, be it at home, on a laptop or an iPod. The consumer controls the experience, not the distributor. To provide a sense of the scale of this trend towards choice and user control, digital video recorders are used in over 17% of American households today and over 10 million iPods were sold in the last three months alone.[1]

TiVo has been at the forefront of creating that consumer control by providing a device that allows people to record and view the television signals they want to see, when they want to see it. In order for that type of consumer control to be maintained in a digital world, independent consumer electronic companies like TiVo must continue to have access to the cable and broadcast television signals provided by cable, satellite, and other multi-channel video programming distributors.

CableCARDs have been a key step taken to guarantee that devices like TiVo have access to those television signals and continue the ability for consumers to control their television experience in a digital world. Congress recognized in 1996 that, with television signals beginning to become scrambled, consumer electronics companies would not be able to make devices that received television signals without access to descrambling technology. Without access to television signals by consumer electronics companies, consumers would have no alternative to cable supplied set-top boxes. And without competitive alternatives, there would

[1] See Crupi, Anthony, "TiVo Ratings Data to Shed Light on Commercial Avoiders," MediaWeek, April 30, 2007, http://www.mediaweek.com/mw/news/recent_display.jsp?vnu_content_id=1003577813 ("By Nielsen's reckoning, DVRs have worked their way into 17.2 percent of all American television households"); Apple Reports Second Quarter Results (10,549,000 iPods sold during the past quarter, 24% growth in iPods over the year-ago quarter). http://www.apple.com/pr/library/2007/04/25results.html

be nothing to drive innovation and consumer choice. Section 629 of the Telecommunications Act was thus enacted to ensure that consumer electronics companies could make set-top boxes that could access all cable television channels, whether scrambled and unscrambled, which consumers could purchase at retail. As part of the implementation of Section 629, the Federal Communications Commission required the cable industry to separate the security module from the rest of the set-top box and make this security module available to consumer electronics companies so that consumers could purchase a competitive television receiving device at retail, bring it home, plug it in to their television source and it would work. The CableCARD is what the cable industry developed to fulfill this requirement.

One of the biggest threats that we see to innovation and consumer choice that the Committee must focus on is the prospect of CableCARDs being rendered useless by the implementation of technologies by video distributors that limit the number of television channels that can be received by consumers with retail CableCARD devices. Retail CableCARD devices must not be placed at a competitive disadvantage versus cable supplied set-top boxes. So the first step in guaranteeing that consumer choice and control is not frustrated at the outset is to make sure that CableCARDs are adequately supported and consumers have confidence that that they'll receive the television channels they want to receive. The subcommittee must ensure that competitive retail set-top boxes have access to all of the television programming that consumers would expect to get from a cable set-top box.

Advertising

We know that the deployment of TiVo and other digital video recorders cause at least one major shift in all households in which they are used: consumers fast-forward through

advertisements. This has certain implications for the future of television. But first and foremost, it will have an impact on over-the-air broadcasting, since that industry depends totally on advertising for its revenues.

What is often overlooked here is that for the first time in 25 years, the TiVo DVR, a new technology, is actually contributing to an increase in broadcast television viewership as opposed to facilitating a decline. In primetime today, broadcast viewing shares represent about 50% and cable/satellite shares represent about 50%. Yet in TiVo households, approximately 70% of what is recorded and played back is broadcast programs. That is a big deal for free over-the-air television.

On the other hand, because we're in an era of consumer control, the advertisements attached to the television programs are being fast-forwarded through and, therefore, broadcasters say they cannot monetize this additional viewing. We do know that in most TiVo households, consumers fast-forward through over 50% of advertisements in television programs watched on a time-delayed basis.

So the entire advertising-supported model for programming is going to have to change, and that has major implications for program ratings as well. While the Nielsen program rating used to be a rough proxy for how many people were watching an advertisement, in a world of DVR fast-forwarding, that is no longer true. So in addition to advertising, audience measurement is also going to have to significantly change to capture who is actually watching the advertisements.

Despite these changes, I am not pessimistic about advertising support for television programming in this futuristic world. First of all, viewers have been skipping advertisements for

a long time – going to the kitchen or bathroom, or switching channels with the remote. But this new era of consumer control over the television experience will certainly mean a change from a 30 second advertisement that attracts viewers merely because it happened to be attached to a program someone is seeing. In an age of consumer control, advertisers will need to find ways to engage the viewer to choose to watch an advertisement, just like readers of magazines and newspapers have always had to be engaged to spend time on an advertisement. The good news is that when the viewer is so engaged, there will be so many more opportunities to let viewers spend more time being informed about an advertised product and be more deeply impacted by the advertising offered that the value of those impressions to those advertisers will substantially increase, and the ability of broadcasters to more successfully profit by this greater level of advertising engagement is very real..

TiVo is at the forefront of providing all of the advertising inventory solutions, as well as audience measurement tools, to help advertisers increase their depth of engagement in this age of consumer control.

Broadband Video

The third major trend, defining the future of television is one that goes back to the notion of more consumer choice that this subcommittee championed, and combines it with the defining trend today of consumer control.

With the advent of YouTube, no one needs to be reminded that there is an immense amount of video available to consumers by broadband Internet connections today. However, that user-generated content has been augmented with all kinds of professional and premium content being made available via broadband connections to the personal computer as well. In fact, when

you start considering how much video of all kinds is available via broadband, the amount of choice available to consumers is staggering.

But broadband video is not television for most people because for most people it's not television unless it's on the television set. In an age of consumer control, the future of television is one in which the consumer will connect his or her broadband wire directly to the television receiving device, as any recent TiVo subscriber can today. Whether you want user-generated clips or the latest movies, you will be able to access it directly on your television set and go vastly beyond what even the best video-on-demand cable offerings might make available. Consequently this Committee should be focused on promoting the widespread adoption of broadband and ensuring that consumers can purchase consumer electronics devices at retail, connect them to their broadband wire, and receive any video content that they wish to receive over that broadband connection.

Now the devices that make possible the delivery of broadband video to your television set need to make it really easy to allow the television viewer to search and find what they want to see quickly and easily – which are the critical elements of enabling the viewer to truly be in control of his or her video experience. Which comes back to one of the key reasons that users have gravitated to TiVo products. TiVo makes it easy to find what you want to see when you want to see it. Searchability and ease of use will only become more important in a future of infinite viewing choices.

Copyright

Finally, no discussion of the future of video would be complete without touching on the role of copyright and fair use. Innovation in the area of television and broadband video has and

will continue to depend upon the fair use doctrine's balance between the copyright holder's exclusive rights and the promotion of progress by innovators.

New inventions have always challenged existing business interests and innovators require a legal environment which permits them to innovate without fear of being sued out of existence as long as their invention has substantial, non-infringing uses with respect to the use of copyrighted content.

As a result of the fair use language and the Supreme Court's interpretation of the Copyright Act, particularly in the famous *Sony Betamax* case, innovators like TiVo have been able to develop new and innovative devices such as TiVo's DVR which has given consumers the ability to control their television viewing experience as well as sparking a new and increased legitimate consumption of content. As I mentioned previously, TiVo's innovative technology has resulted in consumers watching more broadcast television. Yet at the time TiVo debuted in the market, many in the television industry predicted the demise of free over-the-air TV. Indeed one DVR manufacturer was sued into bankruptcy. But once again it turns out that the innovation has not only been a boon to consumers but to important trends for the content industry as well. As with the VCR before it, a new innovation has increased the demand for content and the creation of new business models around that content.

TiVo believes that the reasonable balance between innovation, content, and consumers does not mean anyone should engage in piracy. Rather, commercial piracy can, has, and will continue to be fought while at the same time preserving fair use for consumers and innovators. Such a balance will continue to create incentives for content providers by expanding markets and increasing demand.

Conclusion

The Committee should not underestimate its ability to shape the future of television. It has done so before and it can do it again. We are entering a world of consumer control where independent set-top boxes with access to television signals which require CableCARDs that actually work is a critical underpinning of providing consumer choice and control. The whole notion of CableCARDs in fact should be extended to the satellite industry. Consumer choice and control means more viewing of broadcast television and less forced viewing of advertisements, and brings with it a great opportunity to create advertising engagements that preserve and expand the value of television advertising for advertisers. Finally, through the opportunity to connect broadband directly to the television set, the era of true a la carte on-demand television is here and it will give consumers both the ultimate choice of television programming that this subcommittee has fostered, and the ultimate control as to what to watch, when, and on what device. We are at a critical stage where all of that promise must be allowed to flourish and be protected against incumbent interests that are threatened by innovation and competition. I urge this subcommittee and Congress to preserve the ability of independent television receiving devices such as TiVo to have access to all of the television programming that consumers would expect to get from a cable set-top box.

Digital Future of the United States: Part V: The Future of Video

Statement of Philip Rosenthal

Creator and Executive Producer, "Everybody Loves Raymond"

On behalf of the Writers Guild of America, West and The Screen Actors Guild

Before the Subcommittee on Telecommunications and the Internet Of the Committee on Energy and Commerce

May 10, 2007

Good morning, Chairman Markey, Ranking Member Upton, and Members of the Subcommittee. Thank you for the opportunity to appear before you and to comment on the important topic of the future of television in this digital age.

My name is Philip Rosenthal and I am a writer and an actor in the television industry. I created and was executive producer of the comedy *Everybody Loves Raymond* which ran on CBS from 1996 through 2005. I have worked on a variety of television series since 1989. I am here today on the behalf of the Writers Guild of America, West, the Guild that represents Hollywood's screen and television writers, and the Screen Actors Guild, which represents Hollywood's performers. I am a member of both Guilds and the Directors Guild of America, a triple threat.

The Writers Guild of America, West (WGAW) represents over 7,500 writers in the motion picture, broadcast, cable, and new media industries in both entertainment and news. The Union conducts numerous programs, seminars, and events throughout the world on issues of interest to, and on behalf of writers

Screen Actors Guild (SAG) is the nation's premier labor union representing actors. With twenty-two branches nationwide, SAG represents over 122,000 actors in films, television programs and commercials, industrials and all new media formats. SAG exists to enhance actors' working conditions, compensation and benefits and to be a powerful, united voice on behalf of actors' rights.

Today I would like to highlight three subjects that are extremely relevant to the future of video and are especially concerning to writers and actors.

The Promise of New Content Distribution Technologies

The first issue that I would like to highlight for the committee is the promise of the Internet and related technology. The emergence of new platforms and delivery systems for content holds great promise for the creative

community and consumers. The viewing public is no longer restrained by the television schedule to decide what and when to watch. Now they can purchase TV shows on iTunes or watch free replays on dozens of websites, allowing them to enjoy the content on their schedule.

However, these non-traditional media platforms and cutting-edge delivery systems are only as good as the creative content they feature. Whether it's shown on a television set, a computer screen or a mobile phone - it's all TV - and writers, actors and other creative talent must receive fair compensation for the content they help create.

Product Integration

The second issue I would like to discuss is product integration. We are all accustomed to seeing an actor in a movie or television show hold a beverage with its label clear for the entire world to see. This is commonly referred to as product placement. On an artistic level I'm not crazy about this, but find little to complain about as there is little difference to my product, that product being a television show or motion picture, whether you see a label or not. If a character is required by the writer, director or actor to drink a soft drink, the story flows regardless of whether the drink is a Pepsi or a Yoo-Hoo or an unmarked can.

The problem began when production entities starting making product placement deals for items that were not initially intended to be a part of a scene. Writers tried to find ways to incorporate the product after the fact, but in certain instances the actors ultimately were required to use props that made them appear awkward. As with all slippery slopes it was bothersome, but the creative community could still take solace in the fact that it was not directly endorsing a product, and that it would please those financing television show and movies.

As with all principles that are not vehemently protected the slope has begun to disintegrate from beneath our feet. The new policy foisted upon the creative community by production companies and studios is product integration. This is the practice of not only *placing* the product in the scene, but making the product *a part* of the storyline with characters required to talk about the product as well. Thanks to the somewhat specious concerns that the DVR has resulted in no one watching commercials, the studios and production companies have concluded its best just to turn the television and motion pictures themselves into commercials.

In 2006, product integration occurred more than 4000 times on network primetime television.

On NBC's *The Office*, a main character spent one episode working at a Staples store and Staples products have been integrated into another characters job. An episode of *Desperate Housewives* featured characters discussing the "cool" features of a Nissan Xterra. On *Smallville*, contact lenses helped one crime fighter with her duties, prompting another character to say, "Acuvue to the rescue." Oreo cookies were a major part of the plot in two separate episodes of the family drama *Seventh Heaven*. Here's a clip: (SHOW CLIP). A beautiful story. Maybe if the writers and actors weren't so worried about covering that engagement ring in sugar paste, they could've taken a look at the line: "Will you marry me on our wedding day?", surely a nominee for "Most Terrible Anything."

Product integration in reality programming is even more gratuitous. The poor contestants on *American Idol* must make Ford commercials every week which are then presented on the show as hip videos.' And the Judges can't say anything about it because their mouths are full of Coca-Cola.

Some of these commercial insertions could be dismissed as trivial. Others, however, are a dangerous incursion of commercial interests into a story where the writer would not place it and the viewer does not expect it. This often subtle but always insidious blurring of the line between content and commerce is an issue not just for the creative community, but for the American viewing public as well.

As writers, we believe our creative rights are affected when we are told we must incorporate a commercial product into the story lines we've written. Actors are subjected to forced endorsement when their character must extol the virtues of a product within a television program -- a practice that can seriously impact an actor's ability to get endorsement and commercial deals.

For the public, product integration exploits the emotional connection that viewers have with shows and their characters in order to sell merchandise. It also raises the serious issue of adequate disclosure.

If we are concerned about the effect commercials identified as commercials have on our children how much more insidious is this new practice? Product integration is a level of corporate pressure that impinges upon First Amendment free expression over the airwaves and the long-established protection of viewers against stealth advertising.

With few limits on broadcast advertising practices in place, the Guilds that I represent support a place for artistic discretion in product integration. We believe that writers and actors as creators of television should be consulted about potential product integrations as early as possible in the creative process and have the opportunity to refuse integrations if they believe it will harm the integrity of the program.

To protect viewers, we support disclosure that both adequately reveals product integration and is legible, and held on the screen long enough for viewers to read. A disclosure of such shows could say, "This program contains references to 'Reynolds Wrap' which is a brand of aluminum foil. The network has been paid for this inclusion. The writers and actors have not. Inclusion should not be considered an endorsement by the writers or actors." (Maybe this would end the problem.) We also support a ban on product integration in news.

But right now, individual writers and actors are nearly powerless against the companies who require them to perform these commercial services, and consumers are often unsuspectingly deceived in the process.

Independent Content/Production

The problem of product integration is exacerbated by the stranglehold that a few corporations have over the production and distribution of television programming. Due to the unparalleled vertical consolidation caused by the merger of TV broadcast networks with movie studios and cable television networks, the number of distinct voices contributing to mainstream television programming has dwindled to a handful. This means that Americans are seeing more television programming from fewer voices than ever before.

Because of the current consolidation there are not many, if any, places to go and not be pressured into incorporating product integration. Twenty years ago there were 29 dominant entertainment firms sharing 100 billion dollars in annual revenue. Today there are six conglomerates sharing 400 billion. Twenty years ago six firms controlled just a third of the employment of writers in Hollywood. Today they control 80 percent of employment. This control has lead to near elimination of the independent television production community.

Gone are the independent production companies that brought us such beloved shows as *Gunsmoke, All in the Family, M*A*S*H*, the Waltons, the Cosby Show*, and *The Wonder Years*, to name but a few.

During the 1992-1993 television season (just before the FCC's Financial/Syndication rules were repealed), only 33% of the network primetime lineup was comprised of network-produced programming. The rest was independently produced by companies not owned by the networks. By contrast, more than 75% of the current 2006-2007 network primetime lineup will be dominated by network-produced programming. And many of the independently produced content is reality programming. The total number of independent producers supplying primetime programming to the networks has shriveled from twenty-two in 1992 to two independent producers today. The remaining two, Warner Bros. and Sony Pictures TV, are affiliates of major

motion picture studios. Several companies have exploited this opportunity. The message is becoming clear, either you play ball or someone else will.

One remedy to this concentration of ownership is to enable access for independent program sources. Consequently, we propose a requirement that at least 25% of non-news and non-reality programming should come from independent sources not owned by one of the four broadcast networks

Our kids are watching. We are watching. Would we have wanted our memories of *Casablanca* to be Bogart saying to Ingrid Bergman as they say goodbye, "You're part of his life, the thing that keeps him going. Now get on that plane and enjoy United's non-stop, three-class service to Paris with seats that recline to a full 180 degrees."

Thank you for this opportunity to testify.

House Subcommittee on Telecommunications and the Internet

Digital Future of the United States:
Part V, The Future of Video

Statement of Blake Krikorian
CEO
Sling Media

May 10, 2007

Chairman Markey, Ranking Member Upton, and other members of the Subcommittee, my name is Blake Krikorian, and I am co-founder and CEO of Sling Media, a privately held company based in San Mateo, California.

My brother Jason and I started prototyping our first product, the Slingbox, in the summer of 2002. The Slingbox concept arose from our shared consumer frustration. Jason and I are die-hard San Francisco Giants fans. Late in the 2002 season, the Giants looked as if they might make the playoffs for the first time in five years. While this was good news, it was also hugely frustrating. My brother and I were either working late in the office or on business travel -- everywhere but in our living rooms watching our favorite team. So after some experimentation with various commercial products, we quickly realized that there was nothing that would let us do want we wanted – simply watch our own TV while we were not at home.

The result of this realization and frustration was the Slingbox, a small device that looks like an oversized, silver chocolate bar. When attached to your cable or satellite service, it sends -- or "slings" -- your signal to any broadband-connected PC, laptop, or mobile phone.

While the VCR and digital video recorder enable a consumer to "timeshift" – record a TV program for viewing at a more convenient time – the Slingbox adds a revolutionary new dimension to TV viewing, which we call "placeshifting". Think of Sling as a long virtual "cable", leading from your living room TV to wherever you are – in your bedroom, in your office, or halfway around the world.

While this sounds like a simple concept, this technology has been put to an extraordinary variety of uses. Consumers use the Slingbox to "placeshift" their living room TV to other rooms in their home, to their desktop computer at the office, and to their laptops and mobile phones while on the road...anywhere in the world with a broadband Internet connection.

I have been as far away as a hotel room in China watching my favorite TV shows from my TV in my living room. I have even been on a Wi-Fi equipped commercial airliner at 40,000 feet above the Atlantic viewing my home TV from my seat in 37C!

And of course, members of Congress could set up a Slingbox in a district office in Medford or Kalamazoo, and watch their local news from the comfort of their desk in the Rayburn building.

We poured much of our life's savings into this idea, and fortunately, in October 2004 we were able to raise our first round of venture financing. This funding provided us the opportunity to bring the Slingbox to the market.

Upon introduction, the Slingbox took off beyond our wildest expectations. Our nationwide launch in July 2005 was unprecedented for a new product coming from a new U.S.-based consumer electronics company. Today, the Slingbox is available at over 3,000 retailers nationwide. It costs $249 at retail and does not require any additional monthly fees or subscriptions.

In addition to empowering tens of thousands of consumers to enjoy their local TV programming beyond the confines of the living room, the Slingbox has been widely recognized as an important innovation. TIME Magazine named it one of the best inventions of the year. Popular Mechanics and Businessweek put the Slingbox on its best products list, and Fortune Magazine named Sling Media one of the 25 Breakout Companies of 2005. This January, we were even awarded the Technology and Engineering Emmy Award by the National Academy of Television Arts & Sciences.

While we are still a young startup company, Sling has succeeded because we meet the needs of today's digital consumers, who expect to view their video content when and where they wish. The Slingbox captured viewers' imaginations because it gives them greater power and choice over the content they have paid for.

While the Slingbox offers new value to consumers, it also provides huge benefits for local broadcasters by giving them a foothold in today's multi-platform, multi-location world. At work, at home or on the go, today's viewers spend most of their time in front of a screen other than their living room TV. Sling gives broadcasters a way to get their content onto these new screens, increasing their audience and boosting their advertising reach beyond a traditional, fixed location.

As the numerous benefits become apparent, broadcasters are increasingly embracing the opportunities provided by Slingbox. At the recent International Consumer Electronics Show in Las Vegas, we unveiled some exciting new functionality on stage with CBS. As part of our relationship, CBS will allow Slingbox to use its content for our new "Clip and Sling" service, which will empower consumers to "clip" parts of television programming and send it to a friend over the Internet.

This new way to experience content provides benefits to not only consumers, but to content providers and the U.S. economy. Clip and Sling promises to create an

entirely new set of targeted and measurable advertising inventory - something the TV networks are certainly interested in – as well as providing a great promotional vehicle to lead consumers back to the viewing of the long form versions of the shows.

Sling's story proves that, if allowed to flourish, American innovation and ingenuity can prevail even in today's hypercompetitive global economy. However, in order to promote continued innovation and consumer choice in video delivery technology, we urge this Committee to consider the following challenges and proposals:

First, in order for our company and other device manufacturers to succeed, it is vitally important that service providers do not prevent or limit consumers' ability to attach devices to their networks. Consumers expect to go to an electronics store and select their choice of product, with certainty that the product will be compatible and easily connected to their video, voice, or data service.

To foster competition and new technologies, legislators and regulators must ensure that service providers cannot exercise absolute control over the innovative devices at the edge of the network. Nor should we have a permission-based "mother, may I" approach to using or attaching new products. Provided that the device does not harm the network, manufacturers must have the

freedom to build new devices and consumers must have the freedom to attach them to their choice of service.

In a related issue, it is essential that a mechanism be quickly developed for the delivery of two-way cable service, and that this solution is adequately supported by the cable industry. Sling technology need not be a stand alone box – it also can be easily integrated into other devices, including cable set-top boxes. These products will be most attractive if consumers are assured that they will have access to two-way "upstream and downstream" cable service.

Finally, we urge this Committee to maintain an appropriate balance between the rights of consumers, copyright holders and innovators. As part of this balance, this Committee should protect consumers' rights to record, timeshift, and place-shift their lawfully acquired content for personal use.

New inventions challenge existing business models and sometimes generate opposition by incumbent interests. Innovators must know that they can introduce new products without securing permission or being litigated into oblivion, so long as their product has substantial and non-infringing uses.

Sling has been extremely cognizant of our responsibilities with respect to copyright. To protect the rights of the copyright holder, we have embedded limitations into the Slingbox to ensure that it can only stream to one device at a

time. In addition, each Slingbox has a 32-bit unique ID, password protection, and encrypted communication between the Slingbox and the client device.

Yet even having taken these responsible measures, the persistent specter of lawsuits made it challenging for us to raise our initial venture capital. Unfortunately, this is an increasingly common situation for American innovators and venture capitalists.

Because of the fair use doctrine and the Supreme Court's Betamax decision, innovators have been able to develop new devices like the Slingbox which have provided immense benefits to American consumers. Unfortunately, as we witness the recent onslaught of lawsuits and burdensome legislative proposals, we fear that both the fair use doctrine and the marketplace certainty provided by the Betamax decision are being seriously eroded. We ask this Committee to ensure that copyright is protected, but that fair use and the right to innovate are preserved.

While times and technologies may change, one thing stays constant – success comes from meeting and exceeding the wants of your consumers. Today's digital consumers have a set of very specific and challenging demands: to the greatest extent possible, they want to control how, when, and where they will enjoy their lawfully acquired content. Industries and businesses who meet that

demand will thrive, and those that refuse will have a difficult time surviving in the competitive marketplace.

The opportunities provided by these new digital distribution technologies are transformative and beneficial. If they succeed and flourish, then everybody wins. Consumers are empowered, content companies access more viewers, and America continues as the world's technology leader. This Committee can most effectively bring this future to realization by enhancing consumer choice, promoting competition and resisting calls to stifle new innovation.

Thank you for the opportunity to appear before this Subcommittee to address these important issues. We appreciate the invitation to appear here today and look forward to working with you and your staff as you examine the important issues that have been raised for discussion today.

HENRY A. WAXMAN, CALIFORNIA
EDWARD J. MARKEY, MASSACHUSETTS
RICK BOUCHER, VIRGINIA
EDOLPHUS TOWNS, NEW YORK
FRANK PALLONE, JR., NEW JERSEY
BART GORDON, TENNESSEE
BOBBY L. RUSH, ILLINOIS
ANNA G. ESHOO, CALIFORNIA
BART STUPAK, MICHIGAN
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TOM ALLEN, MAINE
JAN SCHAKOWSKY, ILLINOIS
HILDA L. SOLIS, CALIFORNIA
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TAMMY BALDWIN, WISCONSIN
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ANTHONY D. WEINER, NEW YORK
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CHARLIE MELANCON, LOUISIANA
JOHN BARROW, GEORGIA
BARON P. HILL, INDIANA

DENNIS B. FITZGIBBONS, CHIEF OF STAFF
GREGG A. ROTHSCHILD, CHIEF COUNSEL

ONE HUNDRED TENTH CONGRESS

U.S. House of Representatives
Committee on Energy and Commerce
Washington, DC 20515–6115

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MICHAEL C. BURGESS, TEXAS
MARSHA BLACKBURN, TENNESSEE

June 5, 2007

Mr. Chad Hurley
CEO and Co-Founder
YouTube
1000 Cherry Avenue, Suite 200
San Bruno, CA 94066

Dear Mr. Hurley:

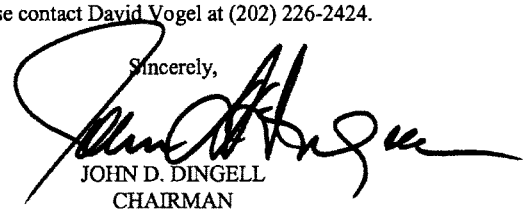
Thank you for appearing before the Subcommittee on Telecommunications and the Internet on Thursday, May 10, 2007, at the hearing entitled "Digital Future of the United States, Part V: The Future of Video." We appreciate the time and effort you gave as a witness before the Subcommittee.

Under the Rules of the Committee on Energy and Commerce, the hearing record remains open to permit Members to submit additional questions to the witnesses. Attached are questions directed to you from certain Members of the Committee. In preparing your answers to these questions, please address your response to the Members who have submitted the questions and include the text of the Member's question along with your response. In the event you have been asked questions from more than one Member of the Committee, please begin the responses to each Member on a new page.

To facilitate the printing of the hearing record, your responses to these questions should be received no later than the close of business **Thursday, June 21, 2007**. Your written responses should be delivered to **316 Ford House Office Building** and faxed to **202-225-5288** to the attention of David Vogel, Legislative Analyst/Clerk TI. An electronic version of your response should also be sent by e-mail to Mr. David Vogel at **david.vogel@mail.house.gov** in a single Word formatted document.

Thank you for your prompt attention to this request. If you need additional information or have other questions, please contact David Vogel at (202) 226-2424.

Sincerely,



JOHN D. DINGELL
CHAIRMAN

Attachment

cc: The Honorable Joe Barton, Ranking Member
Committee on Energy and Commerce

The Honorable Edward J. Markey, Chairman
Subcommittee on Telecommunications and the Internet

The Honorable Fred Upton, Ranking Member
Subcommittee on Telecommunications and the Internet

The Honorable J. Dennis Hastert, Member
Subcommittee on Telecommunications and the Internet

The Honorable Marsha Blackburn, Member
Subcommittee on Telecommunications and the Internet

June 25, 2007

The Honorable John Dingell
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Dingell,

Thank you for providing me with the opportunity to testify before the Subcommittee on Telecommunications and the Internet on the future of online video. Please find attached my answers to questions submitted by Members of the Subcommittee.

Sincerely,

Chad Hurley
CEO and Co-Founder
YouTube

The Honorable J. Dennis Hastert

Does your company find ways to balance the dual interests of protecting content while promoting innovation in video services?

Yes. In fact, we do not see these two interests as mutually exclusive: we take pride in being a leading innovator in content-management technologies, which are beneficial to copyright holders large and small. We have developed many tools which help copyright holders claim and protect their content. These include our Content Verification Program, which is available to ALL copyright holders to search for their content and, by simply clicking a checkbox, indicate that they would like to have it removed. We have also long had in place digital "hashing" technology, which prevents the re-upload of videos that have been removed previously – and which also benefits all copyright holders. Our goal is to continue to innovate and provide copyright holders maximum choice.

Early in YouTube's history, we imposed a ten-minute limit on uploads, a feature that has proven very popular with media companies. Since YouTube's founding and through today, we have staff on call 24/7 to facilitate copyright takedowns. We have also gone out of our way to educate users about their rights and responsibilities under the law, with numerous warnings against copyright infringement and a unique "copyright tips" page.

Most recently, we have begun using different kinds of fingerprinting technology to help copyright holders identify their work on YouTube and then make a choice about how they want it to be used: whether they want to take it down, leave it up for promotion's sake, or place advertisements on it for revenue-sharing purposes. Our efforts in *audio* fingerprinting began last summer, when we signed partnerships with the major music labels: Warner Music, Sony BMG, Universal, and most recently, EMI. Our audio fingerprinting technology, offered to us by Audible Magic, helps recognize unique patterns in audio files associated with YouTube videos and has been in place for many months. Our efforts in *video* fingerprinting – the most cutting-edge area of content identification technology – is in the testing phase with companies like Disney and Time Warner. Once it is ready for widespread commercial use, and when the complex policy and technological issues involving many overlapping rights-holders are resolved, we plan to make the video fingerprinting technology available to *any* copyright holder who is interested.

Meanwhile, we'll continue our focus on delivering a great user experience. YouTube's no-fuss upload lets video artists collapse the gap between the creative moment and its worldwide publication. It helps our hundreds of media partners – as well as marketers and advertisers – spread their hottest work while it's still hot. And it enables presidential candidates participating in our YouChoose 2008 program to engage in a direct, open dialogue with voters, bringing transparency, access and authenticity to the political process. We're carefully designing our new identification technologies to not impede those free and fast forms of expression.

The Honorable Marsha Blackburn

Mr. Hurley, in the February 3, 2007 edition of the New York Times, you stated that YouTube has agreed to use filtering technology "to identify and possibly remove copyrighted material from Warner Music," and that YouTube is still working on the technology. What filtering technology were you referring to? Is YouTube currently using this filtering technology to identify all infringing content on the YouTube site? If not, why not?

The following YouTube technologies and policies are available to *all* copyright holders, partners and non-partners alike:

– Our *Content Verification Program* helps any interested copyright holder search for their content and, by simply clicking a checkbox, indicate that they would like to have it removed in a short period of time, and automatically.

– We have also long had in place *digital "hashing" technology*, which prevents the re-upload of videos that have been removed previously – and which also benefits all copyright holders.

– Early in YouTube's history, we imposed a ten-minute limit on uploads, a feature that has proven very popular with media companies, including our thousands of partners as well as non-partners.

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We should emphasize a few important principles about all of the technologies YouTube has rolled out – and will roll out:

1) There is no one-size-fits-all solution.

Rights holders themselves do not have a uniform view of how they would like their content to be used (or not) on the site. When it comes to spotting pornography and graphic violence, and other content prohibited by our terms of use, nothing beats our community flagging. Once a user flags a video, we immediately review it and remove it if we find a violation. But our community can't identify infringing content. We all know pornography and violence when we see them. But copyright status can only be determined by the copyright holder. That is because almost anyone who creates an original video has the copyright for that work, and such a wide range of copyright holders' preferences vary widely. Some copyright holders want control over every use of their creation. Many professional artists and media companies post their latest videos without telling us, while some home video-makers don't want their stuff online. Some legal departments take down a video one day and the marketing department puts it up the next, which is their right, but our community can't predict those things, and neither can we. The same is true for technology. No matter how good our video identification technology gets, it will never be able to read copyright-holders' minds. Given this, all YouTube technologies are and will be designed to maximize copyright holder choice, to make it possible for them to exercise their wide range of preferences under the law.

2) Speed and ease of use are important for free expression, happy partners and robust community. We plan to continue our focus on delivering a great user experience. YouTube's no-fuss upload lets video artists collapse the gap between the creative moment and its worldwide publication. It helps our hundreds of media partners – as well as marketers and advertisers – spread their hottest work while it's still hot. And it enables presidential candidates participating in our YouChoose 2008 program to engage in a direct, open dialogue with voters, bringing transparency, access and authenticity to the political process. We're carefully designing our new identification technologies to not impede those free and fast forms of expression.

3) Video fingerprinting is a brand new technological challenge, and YouTube is alone today in leading testing of the technology. Google and YouTube turned to creating our own video fingerprinting technologies when we realized that no satisfactory video fingerprinting technology was commercially available on the market. The technology extracts key visual aspects of uploaded videos and compares that information against reference material provided by copyright holders. Achieving the accuracy to drive automated policy decisions is difficult, and requires a highly tuned system. Once accuracy is achieved, the challenge becomes speed and scale to support the millions of people who use YouTube every day. We are working with some of the major media companies to test what we have developed. We're excited about the progress so far, and we're dedicated to making these tests successful, but as always with cutting-edge technologies, there's no guarantee of perfection.

4) All of the YouTube tools discussed here go above and beyond the requirements of the law. The Digital Millennium Copyright Act, which shields hosting services like YouTube from liability for the actions of its users, makes clear that copyright owners bear the responsibility for notifying hosting services of infringing content and ordering takedowns, and that sites like YouTube have no obligation to offer any of the tools that we do. We offer those tools out of a desire to keep infringements off our site, to meet the needs of partners and non-partners, and to help guarantee that YouTube remains what it set out to be – a site for original expression, from the dorm-room comedy skit to the most sophisticated multimedia art today.

What additional steps is your company taking to ensure that content producers intellectual property is not violated by your users?

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2) Speed and ease of use are important for free expression, happy partners, and robust community. We plan to continue our focus on delivering a great user experience. YouTube's no-fuss upload lets video artists collapse the gap between the creative moment and its worldwide publication. It helps our hundreds of media partners - as well as marketers and advertisers - spread their hottest work while it's still hot. And it enables presidential candidates participating in our YouChoose 2008 program to engage in a direct, open dialogue with voters, bringing transparency, access and authenticity to the political process. We're carefully designing our new identification technologies to not impede those free and fast forms of expression.

3) Video fingerprinting is a brand new technological challenge, and YouTube is alone today in leading testing of the technology. Google and YouTube turned to creating our own video fingerprinting technologies when we realized that no satisfactory video fingerprinting technology was commercially available on the market. The technology extracts key visual aspects of uploaded videos and compares that information against reference material provided by copyright holders. Achieving the accuracy to drive automated policy decisions is difficult, and requires a highly tuned system. Once accuracy is achieved, the challenge becomes speed and scale to support the millions of people who use YouTube every day. We are working with some of the major media

companies to test what we have developed. We're excited about the progress so far, and we're dedicated to making these tests successful, but as always with cutting-edge technologies, there's no guarantee of perfection.

4) All of the YouTube tools discussed here go above and beyond the requirements of the law. The Digital Millennium Copyright Act, which shields hosting services like YouTube from liability for the actions of its users, makes clear that copyright owners bear the responsibility for notifying hosting services of infringing content and ordering takedowns, and that sites like YouTube have no obligation to offer any of the tools that we do. We offer those tools out of a desire to keep infringements off our site, to meet the needs of partners and non-partners, and to help guarantee that YouTube remains what it set out to be – a site for original expression, from the dorm-room comedy skit to the most sophisticated multimedia art today.

I understand that in many ways YouTube relies on its online community to police against illicit use of copy written material. However, it appears to many that the "honor system" does not appropriately protect a creators' product from copy write violations in light of the pending lawsuit against your company and parent company. Given this experience and what you now know, would you build in a different structure for guarding against copy write violations if you had to start your company again from scratch?

YouTube does not rely on an "honor system" when it comes to copyright protection. We strictly adhere to the notice-and-takedown provisions of the Digital Millennium Copyright Act and lead the industry in takedown response times. We terminate the accounts of repeat violators and offer an industry leading set of tools to all copyright holders to help them exercise their rights under the law.

When it comes to spotting *pornography and graphic violence, and other content prohibited by our terms of use*, nothing beats our community flagging system. Once a user flags a video, we immediately review it and remove it if we find a violation. But our community can't identify infringing content, and we do not ask them to. We all know pornography and violence when we see them. But copyright status can only be determined by the copyright holder. That is because almost anyone who creates an original video has the copyright for that work, and such a wide range of copyright holders' preferences vary widely. Some copyright holders want control over every use of their creation. Many professional artists and media companies post their latest videos without telling us, while some home video-makers don't want their stuff online. Some legal departments take down a video one day and the marketing department puts it up the next, which is their right, but our community can't predict those things, and neither can we. The same is true for technology. No matter how good our video identification technology gets, it will never be able to read copyright-holders' minds.

The Digital Millennium Copyright Act wisely reflects this reality. The law's notice-and-takedown provision – and its clear placement of responsibility upon copyright holders to tell hosting sites like YouTube what they do and do not want users doing with their content – has enabled everything from photo hosting sites, to your favorite blog software, to online auctions and classified advertising services. If a content owner identifies material that she doesn't want on YouTube, she can request its removal with the click of a mouse. If particular users repeatedly infringe copyrights, we terminate their accounts. We have long made a practice of creating a unique "hash" of every video removed for alleged copyright infringement and blocking re-uploads of the hash. We educate users on what is and isn't permissible under the law. Our upcoming video identification system will be our latest way of empowering copyright holders, going above and beyond legal requirements.

What tips can you offer other companies that will no doubt follow your online model – based on your experience and the legal battle you are now facing – to avoid protracted lawsuits in the future?

We are pleased with the numerous content partnerships we have forged with companies and organizations around the world – from the NBA to 10 Downing Street. By providing clear, workable tools for copyright owners to claim their content, we have created a foundation for productive, win-win relationships with content partners large and small.

We have thousands of partnerships with media companies large and small. These include music companies like EMI, Warner Music, Sony BMG, and Universal as well as television titans like the BBC and NBA and sports teams like the Football Club of Barcelona and Real Madrid.

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U.S. House of Representatives
Committee on Energy and Commerce
Washington, DC 20515–6115

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MARSHA BLACKBURN, TENNESSEE

September 20, 2007

Mr. Chad Hurley
CEO and Co-Founder
YouTube
1000 Cherry Avenue, Suite 200
San Bruno, CA 94066

Dear Mr. Hurley:

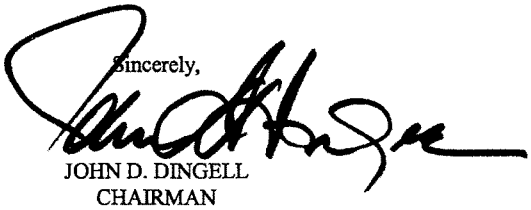
Thank you for appearing before the Subcommittee on Telecommunications and the Internet on Thursday, May 10, 2007, at the hearing entitled "Digital Future of the United States: Part V: The Future of Video." We appreciate the time and effort you gave as a witness before the Subcommittee.

Under the Rules of the Committee on Energy and Commerce, the hearing record remains open to permit Members to submit additional questions to the witnesses. Attached are questions directed to you from certain Members of the Committee. In preparing your answers to these questions, please address your response to the Members who have submitted the questions and include the text of the Member's question along with your response.

To facilitate the printing of the hearing record, your responses to these questions should be received no later than the close of business **Thursday, October 4, 2007**. Your written responses should be delivered to **316 Ford House Office Building** and faxed to **202-225-5288** to the attention of Philip Murphy, Staff Assistant. An electronic version of your response should also be sent by e-mail to Mr. Philip Murphy at **phil.murphy@mail.house.gov** in a single Word formatted document.

Thank you for your prompt attention to this request. If you need additional information or have other questions, please contact Philip Murphy at (202) 226-2424.

Sincerely,



JOHN D. DINGELL
CHAIRMAN

Attachment

cc: The Honorable Joe Barton, Ranking Member
Committee on Energy and Commerce

The Honorable Edward J. Markey, Chairman
Subcommittee on Telecommunications and the Internet

The Honorable Fred Upton, Ranking Member
Subcommittee on Telecommunications and the Internet

The Honorable Mary Bono, Member
Subcommittee on Telecommunications and the Internet

October 4, 2007

The Honorable John D. Dingell
Chairman
U.S. House of Representatives Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515-6115

Mr. Chairman:

Attached please find my responses to the additional written questions directed to me following the Subcommittee on Telecommunications and the Internet's May 10, 2007 hearing entitled, "Digital Future of the United States: Part V: The Future of Video."

Thank you for the opportunity to testify.

Sincerely,

Chad Hurley
Co-Founder, YouTube

Attachment

cc: The Honorable Joe Barton, Ranking Member
Committee on Energy and Commerce

The Honorable Edward J. Markey, Chairman
Subcommittee on Telecommunications and the Internet

The Honorable Fred Upton, Ranking Member
Subcommittee on Telecommunications and the Internet

The Honorable Mary Bono, Member
Subcommittee on Telecommunications and the Internet

1000 Cherry Ave, 2nd Floor San Bruno, CA 94066 ★ p. 650 827-6000 ★ f. 650 872-8646 ★ www.youtube.com

Chad Hurley
Co-Founder, YouTube
October 4, 2007

Responses to additional questions submitted by the Honorable May Bono
U.S. House of Representatives Committee on Energy and Commerce
May 10, 2007 hearing before the Subcommittee on Telecommunications and the Internet –
"Digital Future of the United States: Part V: The Future of Video"

1. *Content Protection Technologies*

According to a February 22, 2007 Reuters report, Google CEO Eric Schmidt said, "We are definitely committed to (offering copyright protection technologies). It is one of the company's highest priorities." Schmidt told Reuters, when asked what Google was doing to make anti-piracy technologies widely available to video owners, that "It is going to roll out very soon . . . It is not far away."

a. What technologies was Mr. Schmidt referring to?

Since its launch in late 2005, YouTube has been an industry leader in the tools that it offers to copyright owners to manage their content on YouTube. In addition to these tools, we also have adopted strict anti-infringement policies, engaged in user education efforts and entered into multiple business partnerships to ensure that rights holders are able to maximize choice in how their content is made available on YouTube, whether their preference is to monetize their content or remove it.

Our industry-leading tools include an MD5 hash technology that recognizes identical file copies to prevent the re-upload of infringing videos, an automated notice and takedown process, audio identification technology and, shortly also, video identification technology. Our effort in video identification technology -- the most cutting-edge area of content identification technology -- is currently in the late stages of lab testing with several content companies, including Disney and Time Warner. Once it is ready for widespread commercial use, and when the complex policy and technological issues involving many overlapping rights holders are resolved, we plan to make the video identification technology more widely available.

Chad Hurley
Co-Founder, YouTube
October 4, 2007

Responses to additional questions submitted by the Honorable May Bono
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"Digital Future of the United States: Part V: The Future of Video"

b. He made those comments on February 22, 2007. It is now May 10, 2007. Has Google rolled out any anti-piracy technologies? If not, when are these technologies going to be rolled out?

As explained above, since its inception, YouTube has been consistently rolling out industry-leading technologies that simplify the ability for rights owners to manage their content on YouTube. For example, the MD5 hash technology and the automated notice and takedown tools were released in early 2006. In the second half of 2006, we began working on audio and video identification technology and, in early 2007, were able to launch a beta version of the audio identification technology.

Consistent with YouTube's ongoing best-in-class efforts to provide anti-piracy tools, YouTube is currently actively developing and testing a video identification technology in conjunction with participating content companies. The ability to automatically identify video content is challenging because it requires frame-by-frame matching and the ability for the technology to recognize content irrespective of different file formats or quality. Unlike audio identification technology, which is more advanced in technical capability and industry adoption, video identification is a nascent technology with no recognized industry leader and no large scale deployments. Furthermore, all identification platforms require a library of known reference material to match against. While some audio libraries do exist, no one has yet created a large database of video reference material. This requires the cooperation of video content owners, which YouTube is actively doing.

We plan to roll out the video identification technology once it has been adequately developed and tested. We must assure an easy-to-use process for copyright holders that scales in an effective way to a platform as large as YouTube, that respects fair use and the rights of consumers, and that works for the large number of rights owners that exist around the world.

Chad Hurley
Co-Founder, YouTube
October 4, 2007

Responses to additional questions submitted by the Honorable May Bono
U.S. House of Representatives Committee on Energy and Commerce
May 10, 2007 hearing before the Subcommittee on Telecommunications and the Internet –
"Digital Future of the United States: Part V: The Future of Video"

2. Content Protection Technologies

a. According to a May 1, 2007 Reuters report, Michael Kwun, Google's managing counsel for litigation, said in an interview that Google already offers copyright holders several technologies to identify pirated video. What technologies was Mr. Kwun referring to?

YouTube has consistently offered a variety of tools to rights owners to allow them to manage their content. These tools include:

- An automated notice and takedown tool, called the Content Verification Program (CVP), that helps any copyright holder search for their content and, by simply clicking a checkbox, indicate that they would like to have it removed consistent with the DMCA.

- Our MD5 digital "hashing" technology designed to prevent the re-upload of videos that have been removed previously as infringing. This industry-leading tool ensures that when a copy of a video is taken down, that copy cannot be re-uploaded.

- Our audio identification technology, offered through a partnership with Audible Magic, that helps recognize unique patterns in audio files associated with YouTube videos and has been in place since the beginning of the year.

In addition to these tools, reflective of YouTube's strong culture of enabling copyright owners to easily maximize their choice in how their content is made available on the YouTube site, there is a ten-minute length limit on uploads, a feature that has proven very popular with media companies, including our thousands of partners as well as non-partners. Additionally, since YouTube's founding, we have staff on call 24/7 to respond to and act on takedown notices from copyright owners.

Chad Hurley
Co-Founder, YouTube
October 4, 2007

Responses to additional questions submitted by the Honorable May Bono
U.S. House of Representatives Committee on Energy and Commerce
May 10, 2007 hearing before the Subcommittee on Telecommunications and the Internet –
"Digital Future of the United States: Part V: The Future of Video"

b. Are those technologies applied to all videos on the YouTube website? If not, why not?

Yes, the technologies described above are applied to all videos uploaded to the site.

Chad Hurley
Co-Founder, YouTube
October 4, 2007

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According to the same Reuters report, Mr. Kwun declined to specify a timeline for when Google will make so-called "video-fingerprinting" technologies available to media rights owners.

c. When is Google going to make those technologies available to media rights owners?

As explained above, today YouTube is already making numerous technology tools available to copyright holders. YouTube anticipates beginning the roll-out of its video identification technology shortly. Because this technology is cutting edge and has yet to have been successfully deployed by any other company, we expect the rollout will be staggered to enable it to scale and be effective.

Chad Hurley
Co-Founder, YouTube
October 4, 2007

Responses to additional questions submitted by the Honorable May Bono
U.S. House of Representatives Committee on Energy and Commerce
May 10, 2007 hearing before the Subcommittee on Telecommunications and the Internet –
"Digital Future of the United States: Part V: The Future of Video"

d. Why hasn't Google already made those technologies available?

As outlined above, YouTube has been consistently making new, industry-leading tools and policies available for use. YouTube is less than three years old. But we have been working on industry-leading audio and video identification technology that can be deployed on a widespread level. YouTube has already deployed a beta version of the audio identification technology. We have also spent significant time and effort in designing and developing a video identification technology that assures an easy-to-use process for copyright holders while scaling in an effective way to a platform as large as YouTube. That technology is currently in testing to ensure its successful operation, which requires a careful balancing of the rights of all content owners and our user community and a high degree of technical accuracy. The system is highly complex and has required months of tuning to achieve required levels of accuracy. Given our advanced efforts in developing this cutting-edge content identification technology, we are eager to roll it out in an appropriate manner once it is ready.

Chad Hurley
Co-Founder, YouTube
October 4, 2007

Responses to additional questions submitted by the Honorable May Bono
U.S. House of Representatives Committee on Energy and Commerce
May 10, 2007 hearing before the Subcommittee on Telecommunications and the Internet –
"Digital Future of the United States: Part V: The Future of Video"

3. Content Monitoring

Mr. Hurley, in your testimony you state that unauthorized copyrights are removed from your website as soon as you are made aware by the rights holder. You also state that those websites that violate your "Community Guidelines" come down minutes after your USERS flag them.

a. I have read in the press that companies such as Viacom spend over $100,000 a month to monitor your website for their content so that they can request that their content be removed or flagged. Can you tell me how an individual copyright holder without large sums of money and time to spend searching for content is supposed to monitor your site to make sure that content is not on the site illegally?

We take pride in being a leading innovator in content-management technologies, which are beneficial to all copyright holders regardless of their size. Many content owners, large and small, understand the value that our platform provides. Many use it as a tool for promoting their content. We have developed many tools to help copyright holders of all sizes claim and protect their content. These include our Content Verification Program (CVP), which is available to any and all copyright holders to search for their content and, by simply clicking a checkbox, indicate that they would like to have it removed. Indeed, over 1000 content owners have signed up for CVP.

Congress struck an appropriate balance in the Digital Millennium Copyright Act (DMCA), giving content owners the new capabilities to protect their works, while protecting consumers and the Internet as an innovative communications frontier. The *copyright holder* is in the best and only position to know who has their permission to use the work and who does not. Indeed, copyright holders of all sizes and sorts regularly upload their content to YouTube to promote their content and generate buzz, and often do so without our knowledge. Many filmmakers and video bloggers who previously had few distribution options have found in YouTube a new forum to distribute their material. Other creators have used YouTube as a way to showcase their talent with the aim, sometimes successfully, of being signed by a major record label or of entering into contracts with content studios. We've been successful in entering into thousands of partnerships with content owners of all sizes, including Warner Music, Sony/BMG, Universal Music, BBC, and the NBA.

Chad Hurley
Co-Founder, YouTube
October 4, 2007

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U.S. House of Representatives Committee on Energy and Commerce
May 10, 2007 hearing before the Subcommittee on Telecommunications and the Internet –
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4. Copyright Infringement

Mr. Hurley, I am very concerned about the reports of copyright infringement by YouTube. These reports allege that YouTube not only stores copyrighted material on its website without permission but that YouTube actively engages in infringement itself. It has also been alleged that YouTube protects the copyrighted content of its business partners using technology that is not made available to the copyrighted material of non-partners.

a. Are these allegations true, and, if so, when is YouTube going to start protecting copyrighted material across-the-board?

As explained above, YouTube respects the rights of copyright holders and is committed to enabling copyright owners to easily maximize their choice in how their content is made available on the YouTube site. We don't want infringing material on our site. In accordance with the Digital Millennium Copyright Act (DMCA), any content that is infringing is removed as soon as we are made aware of it by the rights holder.

We work with countless copyright owners every day to help them distribute, publicize and monetize their content or remove infringing content. As explained above, YouTube has been consistently rolling out tools to enable rights owners to easily manage their content and we have been consistently enforcing policies and education campaigns that combat copyright infringement. We will continue to take the lead in providing state-of-the-art tools and processes available to all copyright holders.

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MICHAEL C. BURGESS, TEXAS
MARSHA BLACKBURN, TENNESSEE

September 20, 2007

Mr. Phil Rosenthal
c/o Jody Frisch
WGAW
7000 West Third Street
Los Angeles, CA 90048

Dear Mr. Rosenthal:

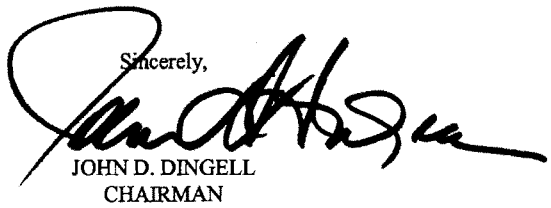
Thank you for appearing before the Subcommittee on Telecommunications and the Internet on Thursday, May 10, 2007, at the hearing entitled "Digital Future of the United States: Part V: The Future of Video." We appreciate the time and effort you gave as a witness before the Subcommittee.

Under the Rules of the Committee on Energy and Commerce, the hearing record remains open to permit Members to submit additional questions to the witnesses. Attached are questions directed to you from certain Members of the Committee. In preparing your answers to these questions, please address your response to the Members who have submitted the questions and include the text of the Member's question along with your response.

To facilitate the printing of the hearing record, your responses to these questions should be received no later than the close of business **Thursday, October 4, 2007**. Your written responses should be delivered to **316 Ford House Office Building** and faxed to **202-225-5288** to the attention of Philip Murphy, Staff Assistant. An electronic version of your response should also be sent by e-mail to Mr. Philip Murphy at **phil.murphy@mail.house.gov** in a single Word formatted document.

Thank you for your prompt attention to this request. If you need additional information or have other questions, please contact Philip Murphy at (202) 226-2424.

Sincerely,



JOHN D. DINGELL
CHAIRMAN

Attachment

cc: The Honorable Joe Barton, Ranking Member
Committee on Energy and Commerce

The Honorable Edward J. Markey, Chairman
Subcommittee on Telecommunications and the Internet

The Honorable Fred Upton, Ranking Member
Subcommittee on Telecommunications and the Internet

The Honorable Mary Bono, Member
Subcommittee on Telecommunications and the Internet

October 8, 2007

The Honorable Mary Bono
Committee on Energy and Commerce
U.S. House of Representatives
216 Ford House Office Building
300 D Street, S.W.
Washington, DC 20515
Attention: Philip Murphy, Staff Assistant

Dear Representative Bono:

Thank you for giving me the opportunity to testify on behalf of the Writers Guild of America, West and the Screen Actors Guild before the Subcommittee on Telecommunications and the Internet on May 10, 2007 at the hearing entitled "Digital Future of the United States Part V: The Future of Video." I am pleased to answer the question below, regarding product integration and our concerns over its proliferation on television.

> Question:
>
> Mr. Rosenthal, during your testimony to the Committee, you referenced the impact product placement has on the creative work of writers. Can you please provide m with an example of pressure, or necessary influence writers may feel to include product placement within their scripts? Additionally, what suggestions do you have for solving this problem? Finally, are there instances of appropriate product placement in scripts?

While product placement has existed for decades in the United States, product integration has seen considerable growth in recent years. This blurring of the line between content and commerce has prompted concern in the talent community. Product placement is the use of real commercial products as *props* on TV and movie sets. Product integration goes further by weaving commercial products *into the plot* of an entertainment program, making the product *a part* of the storyline.

No writer wants to compromise story to accommodate selling a product or service. In addition to those examples cited in my testimony, writers on the FOX sketch comedy show, "Mad TV," have expressed concern over having to shoehorn products into sketches. Writers on a hit CBS television program have also expressed concern to the Writers Guild over being forced to integrate a major advertiser into their program. In a 2006 press conference, John Wells, Executive Producer of "West Wing" and "ER," discussed the challenges for writers in integrating products into programs because "it's very difficult to do dramatic stories in which you've got a major product and nothing ever goes wrong with the product."

Continued...

Writers are the creators of television programs and are responsible for the content; we also have a responsibility to our viewers – the consumers. Consumers have a right to be told when they are being sold. To protect viewers we support disclosure. Disclosure that adequately reveals the product being integrated (not the corporate parent company), is legible and held on the screen long enough to be read.

As the creators of content, writers should be consulted about potential product integrations as early as possible in the creative process. In order to protect the integrity of their story content, writers should have the right to refuse product integration if they determine it will harm the integrity of the story. Writers should have the authority to determine the prevalence and prominence of a product that is integrated into a program.

If you have any further questions, please do not hesitate to have your staff contact me through Jody Frisch, WGAW Director of Public Policy & Government Affairs at 202-412-1282 or 323-782-4576 or at the address below.

Sincerely,

Philip Rosenthal

c/o Jody Frisch
Director of Public Policy & Government Affairs
Writers Guild of America, West
7000 West Third Street
Los Angeles, CA. 90048

cc: The Honorable John Dingell, Chairman
Committee on Energy & Commerce

The Honorable Edward J. Markey, Chairman
Subcommittee on Telecommunications and the Internet

The Honorable Fred Upton, Ranking Member
Subcommittee on Telecommunications and the Internet

Patric M. Verrone, President
Writers Guild of America, West

Alan Rosenberg
Screen Actors Guild

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ONE HUNDRED TENTH CONGRESS

U.S. House of Representatives
Committee on Energy and Commerce
Washington, DC 20515–6115

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June 5, 2007

Ms. Gina Lombardi
President
MediaFLO USA, Inc.
QUALCOMM, Inc.
5775 Morehouse Drive
San Diego, CA 92121

Dear Ms. Lombardi:

Thank you for appearing before the Subcommittee on Telecommunications and the Internet on Thursday, May 10, 2007, at the hearing entitled "Digital Future of the United States, Part V: The Future of Video." We appreciate the time and effort you gave as a witness before the Subcommittee.

Under the Rules of the Committee on Energy and Commerce, the hearing record remains open to permit Members to submit additional questions to the witnesses. Attached are questions directed to you from certain Members of the Committee. In preparing your answers to these questions, please address your response to the Members who have submitted the questions and include the text of the Member's question along with your response.

To facilitate the printing of the hearing record, your responses to these questions should be received no later than the close of business **Thursday, June 21, 2007**. Your written responses should be delivered to **316 Ford House Office Building** and faxed to **202-225-5288** to the attention of David Vogel, Legislative Analyst/Clerk TI. An electronic version of your response should also be sent by e-mail to Mr. David Vogel at **david.vogel@mail.house.gov** in a single Word formatted document.

Ms. Gina Lombardi
Page 2

Thank you for your prompt attention to this request. If you need additional information or have other questions, please contact David Vogel at (202) 226-2424.

Sincerely,

JOHN D. DINGELL
CHAIRMAN

Attachment

cc: The Honorable Joe Barton, Ranking Member
Committee on Energy and Commerce

The Honorable Edward J. Markey, Chairman
Subcommittee on Telecommunications and the Internet

The Honorable Fred Upton, Ranking Member
Subcommittee on Telecommunications and the Internet

The Honorable J. Dennis Hastert, Member
Subcommittee on Telecommunications and the Internet

1. It is exciting that video services are arriving on mobile devices. However, the primary use of cell phones by most Americans is to make phone calls, especially in a crisis. What do wireless carriers need to do to ensure that voice services are not affected by video and other bandwidth-intensive services?

The enactment of the Digital Television Transition and Public Safety Act of 2005 has presented innovators, such as QUALCOMM, with an opportunity to design exciting new wireless services that expand both the capacity and diversity of services that the wireless industry can provide without sacrificing its existing capabilities. As an example, the delivery of high quality multimedia content to mobile phones presents unique technological and economic challenges for network operators. QUALCOMM, recognizing the unique propagation characteristics of the 700 MHz spectrum, made a decision to address these specific challenges with an innovative system, designed from the ground up to provide carriers with the ability to deliver mobile multimedia content at mass market prices without degrading their existing voice and data services. With MediaFLO USA, content is delivered over an entirely separate network, which utilizes the nationwide spectrum licenses that QUALCOMM purchased in the 700 MHz band (716-722 MHz; UHF Channel 55). As such, MediaFLO USA's video service has no impact on voice services. In other words, MediaFLO USA delivers its services as a wholesaler to wireless carriers, enabling them to provide their subscribers this high quality content without sacrificing capacity from their own networks, thus ensuring that the voice and data services their subscribers depend on will not be negatively impacted by the addition of the new mobile multimedia content. Furthermore, as subscribers view MediaFLO USA services/video content, voice services are given first priority to interrupt the video to ensure phone calls are supported especially in a crisis situation.

2. From your testimony, I understand that your company has heavily invested in providing mobile television. How does MediaFLO get content? What types of policies will hinder your ability to provide consumers with these new innovative products?

MediaFLO USA has been successful in negotiating content deals with some of the major broadcast, cable network and content providers in the U.S, including ESPN, CBS, Fox, NBC and Viacom. As our business expands and grows, it's possible that we would recommend to Congress changes to specific polices related to content that would enhance our ability to allow the carriers to provide consumers with new, innovative services. However, the single most important thing that this Congress can do to ensure that consumers receive the full benefit of compelling new services such as ours is to maintain the existing hard date of February 17, 2009 for the DTV transition.

HENRY A. WAXMAN, CALIFORNIA
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FRANK PALLONE, JR., NEW JERSEY
BART GORDON, TENNESSEE
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TIM MURPHY, PENNSYLVANIA
MICHAEL C. BURGESS, TEXAS
MARSHA BLACKBURN, TENNESSEE

September 20, 2007

Ms. Gina Lombardi
President
MediaFLO USA, Inc.
QUALCOMM, Inc.
5775 Morehouse Drive
San Diego, CA 92121

Dear Ms. Lombardi:

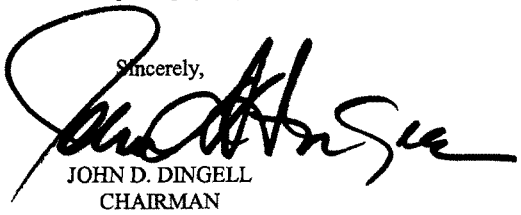
Thank you for appearing before the Subcommittee on Telecommunications and the Internet on Thursday, May 10, 2007, at the hearing entitled "Digital Future of the United States: Part V: The Future of Video." We appreciate the time and effort you gave as a witness before the Subcommittee.

Under the Rules of the Committee on Energy and Commerce, the hearing record remains open to permit Members to submit additional questions to the witnesses. Attached are questions directed to you from certain Members of the Committee. In preparing your answers to these questions, please address your response to the Members who have submitted the questions and include the text of the Member's question along with your response.

To facilitate the printing of the hearing record, your responses to these questions should be received no later than the close of business **Thursday, October 4, 2007**. Your written responses should be delivered to **316 Ford House Office Building** and faxed to **202-225-5288** to the attention of Philip Murphy, Staff Assistant. An electronic version of your response should also be sent by e-mail to Mr. Philip Murphy at **phil.murphy@mail.house.gov** in a single Word formatted document.

Thank you for your prompt attention to this request. If you need additional information or have other questions, please contact Philip Murphy at (202) 226-2424.

Sincerely,



JOHN D. DINGELL
CHAIRMAN

Attachment

cc: The Honorable Joe Barton, Ranking Member
Committee on Energy and Commerce

The Honorable Edward J. Markey, Chairman
Subcommittee on Telecommunications and the Internet

The Honorable Fred Upton, Ranking Member
Subcommittee on Telecommunications and the Internet

The Honorable Mary Bono, Member
Subcommittee on Telecommunications and the Internet

The Honorable Mary Bono

1. Digital Piracy

a. What do wireless carriers need to do to ensure that the video applications provided over mobile networks are not subject to piracy?

MediaFLO was designed literally from the ground up to address the unique technological and economic requirements for delivering high quality mobile multimedia content to mobile phones at mass market prices. As such, ensuring the protection of multimedia content over wireless networks is one of the core innovations of the MediaFLO system.

Protection of content rights in the wireless environment shares many of the same challenges as over the wired Internet. MediaFLO's Digital Rights Management system addresses these challenges with a conditional access feature that uses cryptography to protect content and ensure the right service offering is distributed only to authorized subscribers. Under MediaFLO's system, content is encrypted at the content distribution point and remains encrypted on the mobile device until it is accessed to play. In addition, programs have a defined period that they are available for viewing.

To date, MediaFLO USA has contracted with major broadcast and cable networks and content providers (e.g., ESPN, CBS, Fox, NBC, Viacom and MLB) to deliver their content, which includes news, entertainment, sports, and children's programming. MediaFLO also hopes to offer local content, such as local news, sports, weather, and other programming as the service evolves and expands.

b. How would wireless carriers prevent theft of video applications delivered over-the-air if consumers were permitted to attach any device of their choosing that "did not harm the network?" How would wireless carriers verify that all devices protected copyrighted content from unlawful distribution? Devices that steal copyrights content may not "harm the network," but they certainly harm content owners.

Protection of mobile multimedia content would face challenges if consumers were permitted to attach any device of their choosing that purportedly "did not harm the network."

First, it's not clear what it would mean for wireless networks if consumers were permitted to attach absolutely any device of their choosing, or how the Government or even the carriers themselves could ensure that such a regime "did not harm the network." Wireless carriers have raised concerns about a proliferation of harmful viruses, increased theft of mobile devices, and an inability of wireless carriers to comply with important governmental mandates, such as E911, under an open access regime.

Second, with respect to protection of multimedia content, the Conditional Access System (CAS) that MediaFLO employs and that has been developed using industry standard

security methods with knowledge of wireless carrier systems (e.g., how they authenticate, how device memory can be accessed, etc.) is predicated on the existing network configuration, whereby devices are locked to the network. Therefore, there are undoubtedly challenges that are not fully clear regarding whether such a system could operate under an open access regime.

Last, it's important to point out that MediaFLO, which is currently commercially available in approximately forty markets across the country -- thereby placing the U.S. at the forefront of mobile multimedia services -- is a concrete example of exactly what many of the open access proponents claim is lacking in the wireless industry: innovation. The enactment of the hard date of February 17, 2009 for the DTV transition has led to this important innovation. Maintaining the hard date will ensure many exciting new wireless services into the future.

STATEMENT OF THE NATIONAL ASSOCIATION OF BROADCASTERS

The National Association of Broadcasters (NAB) respectfully submits this statement for the record in the subcommittee's hearing on Digital Future of the United States: Part V: The Future of Video. NAB is a trade association that advocates on behalf of more than 8,300 free, local radio and television stations and also broadcast networks before Congress, the Federal Communications Commission and other Federal agencies, and the Courts.

The future of video clearly includes free over the air television. The broadcast television industry has invested and continues to invest very significant time, effort and financial resources to complete the transition to digital broadcasting successfully, expeditiously, and in a consumer-friendly manner. The local television stations that today keep their communities—and your constituents—informed and connected intend to remain a vibrant part of the media landscape in the 21st century. Innovations such as digital broadcasting will enhance broadcasters' competitiveness and ability to serve local communities and viewers in numerous ways.

Beyond ensuring a smooth digital transition by February 17, 2009, broadcasters must also look towards a future where the Internet and its myriad applications will alter profoundly the video marketplace. Despite rumors of their demise, however, local television broadcasters and national networks will also play an important role on new distribution platforms, including Internet delivery, vodcasting, and mobile video. In the coming years, with local programming as the backbone, broadcasters will effectively compete in a "wherever, whenever" video environment.

BROADCASTERS HAVE MADE TREMENDOUS STRIDES TOWARD COMPLETION OF THE DIGITAL TELEVISION TRANSITION, TO THE BENEFIT OF CONSUMERS

Broadcast stations have made remarkable progress and are fully committed to completing the digital television (DTV) transition in a timely manner—and in a manner that is as seamless as possible for consumers. As of May 7, 2007, 1600 full-power television stations in 211 Designated Market Areas across the United States were providing programming in digital. Why have television broadcasters embraced DTV? In short, because digital technology is the future of video—it will enable us to better serve our local viewers and communities and to remain competitive in a marketplace where all communications services and media will be digital.

Digital technology offers service of far higher quality—high definition (HD) pictures, improved sound, and screen dimensions better suited to the human eye. This technology also allows broadcasters to offer additional, free programming streams within each television licensee's six MHz channel. Because digital technologies are more robust than traditional analog technology, stations can be packed closer together without causing destructive interference to the public's over the air service, thereby reducing the amount of spectrum needed for over the air television stations. At the end of the DTV transition, this "left-over" spectrum will be returned to the government. Some of the returned spectrum will be used for vital public safety needs—needs we have all become acutely aware of in light of the events of September 11, 2001. Some of the freed spectrum will be auctioned for other innovative uses at substantial benefit to the U.S. Treasury.

Indeed, even though the digital transition is not yet completed, consumers have already benefited from it. The major broadcast networks provide their most popular programming, including prime-time programming and major sporting events, in HD. About 45 local stations throughout the country, including WUSA-TV here in Washington, broadcast their local news in HD. Hundreds of local stations are also using their digital channels to provide multiple program streams within their digital signal, and many more are considering doing so in the future. Decisionmark, a media technology and software and information firm, estimated in late 2006 that approximately 780 television stations were offering multiple program streams, including news, weather, entertainment, sports, religious and ethnic-oriented programs. Even local stations in medium and small markets, including markets as small as Boise, Idaho, are providing numerous news, sports and weather services to their local communities over their digital signals.

Clearly, the public—even those who view television through cable—would be served by access to these new program streams. So far, however, many broadcasters have encountered resistance from cable operators who have denied, delayed or otherwise impeded delivery of the full digital signal to cable consumers. Stripping out these services is contrary to the terms of the 1992 Cable Television Consumer Protection and Competition Act, and threatens the health and vitality of broadcast services for all viewers. Congress should accordingly direct the Federal Communications

Commission (FCC) to prohibit cable and satellite operators from stripping out programming streams from broadcasters' digital transmissions.

Congress, the FCC and the National Telecommunications and Information Administration (NTIA), as well as all sectors of the television industry, must also work to educate the public about the DTV transition. In particular, members of the public need to know what steps they must take to continue to have access to the television programming they rely upon after the analog television cut-off on February 17, 2009.

NAB has formed a Digital Television Transition Team to spearhead the broadcast industry's efforts to provide information about digital transition issues. Managed by a new Vice President of Digital Television Transition, with a full-time media relations director, two directors of outreach, and a multimillion-dollar budget, this team will coordinate a national public affairs and consumer education campaign with the goal of ensuring that no consumer is left unprepared, by lack of information, for the end of analog broadcasting. Specifically, the NAB consumer education campaign has and will continue to utilize both survey research and focus groups to identify and market to those impacted by the transition. The campaign's media relations director will be making sure DTV has a presence in local, as well as national, publications and programming. With the help of local affiliates, NAB will spearhead a national speaker's bureau aiming for thousands of local speaking engagements throughout the country about the transition. NAB will produce and distribute high-quality public service announcements for play on networks and local stations. NAB's digital transition team will also help coordinate the Digital Television Transition Coalition, a coalition of (to date) about 85 member organizations that have joined together to raise consumer awareness of the digital transition.[1]

This Coalition, which intends to work closely with NTIA and the FCC, will launch public education efforts (including media placements) to convey accurate, consistent and needed information to the public.

Broadcasters Continue To Explore New Distribution Platforms For News, Information and Entertainment

Traditionally, broadcasters have relied on transmission through the television signal to reach local communities with national and local news and entertainment. That distribution medium will remain, and in fact thrive, in the digital future, as outlined above. In addition, broadcasters are actively embracing a future where video is consumed through multiple outlets, including the Internet, cell phones, portable gaming devices, iPods and personal digital assistants (PDAs). Each of these distribution channels provides broadcasters with new opportunities, both to extend their current business model, and to create new models that will take advantage of each medium's unique characteristics.

Broadcasters have long used the Web to provide local news, both in text form and through video clips. The Web offers broadcasters more flexibility to provide deeper coverage of their local communities. Concurrent with the expansion of broadband penetration in the United States, broadcasters have accelerated Web video offerings, including longer versions of stories that originally appeared on their local newscasts. Plus, many broadcasters are providing live local news simulcasts through their Web sites. As the convergence of television and the Internet comes to fruition, broadcasters expect to provide a virtual bridge between the technologies, so that in the future, as the so-called "I Generation" matures, the local television brand will extend seamlessly across multiple platforms.

Much of the attention at today's hearing focuses on "new media" initiatives in the video marketplace, and with good reason. The remarkable rise of YouTube, for example, illustrates the volatile nature of an industry that for decades has relied upon established, larger media companies. Today, a 16-year-old auteur in Des Moines can film a clip of his friends skateboarding that could be viewed by thousands, even millions, of global viewers within a week. The Internet is breeding "video stars" like Lonelygirl15 who have never appeared on television or in the movies. And with the combination of more powerful computing, faster broadband speeds and lowering costs of storage, this trend will only continue and quicken.

In many households, appointment television has been replaced by recorded television with the increasing use of personal video recorders like the Tivo. And consumer expectations are shifting with the technology. For example, digital cable con-

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1 Members of this Coalition include the Association for Maximum Service Television, Inc.; the National Cable and Telecommunications Association; the Consumer Electronics Association; the Association of Public Television Stations; the Consumer Electronics Retailers Coalition; the Leadership Conference on Civil Rights; and many others.

sumers can count close to 4,000 programs available through on demand services, most of which are free to cable subscribers. With Apple TV or Sling Media's SlingCatcher, consumers with a wireless home network can stream almost anything they see on the Internet directly to their television. In a virtual sense, the broadband Internet connection is now just a few inches away from the television. And when it finally gets plugged in, it will open an infinite channel universe through which consumers will merely point-and-click, rather than change the channel.

But, even in the face of increased competition, broadcasters remain confident that the very best products and programming will still draw the most eyeballs. High-definition television is the killer application for television in the digital age. It may be more than a decade before the Internet can provide a comparable quality picture to an over the air signal. As the price of high-definition televisions continues to drop, consumers will look for the very best signal to fill their screens. And broadcasters will be there, providing local and national news, high-quality entertainment, and, when necessary, life-saving emergency information.

Broadcasters are not satisfied to merely provide the best signal to your television, however. They are actively looking to extend their content to other devices, including cell phones, as well. In the last six months, major technology companies have announced two exciting standards that could help broadcasters reach millions of consumers when they are away from their home televisions. Samsung's Advanced Vestigial Sideband (AVS) standard, and the LG/Harris MPH In-Band Mobile DTV System, each enable portable devices to receive broadcaster signals independent of a cellular network. Local broadcasters, with little infrastructure investment, can use capacity in their digital stream to accommodate each new standard, and reach on-the-go consumers with real-time, high quality video signals. Soon consumers will be able to catch American Idol or The Office on their cell phones just as they can on their home televisions. The new technology will also work well with Mp3 players like the iPod, PDAs, and in-vehicle television screens, even at speeds as fast as 80 miles per hour. While latency issues and low quality have impeded adoption of mobile television by consumers in the United States, these new standards foretell a revolution for broadcasters and cellular companies alike.

Even in this Web 2.0 world, broadcasters will play a prominent role in the way consumers watch video long into the future. With the promise of digital television, and the advent of new distribution streams, broadcasters are well positioned to provide top quality video programming to every American, just as they have for the past 60 years. The National Association of Broadcasters, local television stations, and national networks look forward to working with Congress to ensure that free, over the air television remains an important part of any conversation about the future of video.

THE DIGITAL FUTURE OF THE UNITED STATES

THE FUTURE OF TELECOMMUNICATIONS COMPETITION

TUESDAY, OCTOBER 2, 2007

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON TELECOMMUNICATIONS
AND THE INTERNET,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 9:37 a.m., in room 2123 of the Rayburn House Office Building, Hon. Edward J. Markey (chairman) presiding.

Members present: Representatives Doyle, Harman, Gonzalez, Inslee, Boucher, Towns, Pallone, Eshoo, Stupak, Engel, Green, Capps, Dingell, Upton, Stearns, Deal, Shimkus, Pickering, Fossella, Radanovich, Walden, Terry, and Ferguson

Also present: Representative Blackburn.

OPENING STATEMENT OF HON. EDWARD J. MARKEY, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF MASSACHUSETTS

Mr. MARKEY. Good morning. Today's hearing is about the future of telecommunications competition in the United States. But I also feel a certain sense of deja vu. In April, the subcommittee held a hearing on broadband deployment competition and consumer adoption in other nations, including Japan, New Zealand, the United Kingdom and Rwanda. That hearing took place the day after the United States dropped from 12th to 15th out of the 30 countries in the OECD broadband rankings. And mind you there is no excuse for the fact that America is falling behind. This is because the United States started out on the right path by implementing provisions in the 1996 Telecommunications Act designed to jumpstart competition both between and among technology platforms. Gradually, however, we lost our way. As regulators became convinced that competition within a platform actually hindered overall broadband deployment and took market opening rules off the books, it is as if the FCC several years ago picked up a loose football on the field after a collision and started running with the ball full speed towards the wrong end zone.

Our international competitors look on at what we are doing and must be stunned, and that is because we started this Internet game ranked No. 1 in the world because we invented it and now we are No. 15. People quibble with the methodology of the OECD

rankings, but regardless of how you slice it, price, speed, percentage of subscribers, the United States is no longer in the top tier and we continue to drop.

Many other nations took one look at our broadband situation, learned from our experience and took the opposite approach. Japan and the United Kingdom implemented the very polices that the FCC had gradually eliminated in recent years such as local loop unbundling and broadband resale which facilitate competition using the incumbents' plan regardless of technology.

These foreign competitors are now enjoying broadband success stories. The United States, however, continues taking the opposite approach. We are digging ourselves a hole, and now we are in violation of the first law of holes, which is if you are in one, stop digging. Take the issue of forbearance. Some incumbent phone companies have asked the FCC to eliminate their essential network sharing arrangements under section 10 of the Act. One of today's witnesses, Cavalier Telephone, leases copper phone lines for the last mile and provides residential consumers with the triple play bundle of voice, 150 channels of cable TV, and high speed broadband for approximately $80 a month. But if the forbearance petitions are granted, Cavalier, Time Warner Telecom and other broadband competitors will lose access to the critical bottleneck facilities that they need.

A related issue is special access. Special access circuits are the lifeblood connections for wireless carriers such as Sprint Wireless, and as a result wireless carriers depend on special access which will grow as they deploy broadband networks that deliver greater bandwidth but correspondingly require more capacity.

The GAO found that the FCC's deregulatory pricing regime for special access has resulted in higher prices and little competitive choice for special access circuits. Because prices today are higher than what a truly competitive market would support, current and future wireless providers will expend funds on special access that would be better spent reducing prices to consumers or deploying more and better broadband facilities. Unless this market failure is corrected, special access could have a negative impact on all wireless broadband deployment, including deployment that facilitates interoperability between public safety organizations.

But the most outrageous issue is copper retirement. In this sense interpret the word retirement the way Luca Brasi used to retire competitors to the Corleone family. Some incumbent telephone companies are disabling perfectly functioning copper loops that could be used by competitive broadband providers such as Cavalier after the incumbent deploys its own fiber facilities. Like Sherman's march to the sea these incumbents leave scorched earth in their wakes cementing the broadband duopoly between the incumbent phone company and the cable company.

In the final analysis, today's hearing goes to the core of our nation's broadband policy. How many apertures will consumers have to reach the broadband Internet, one, two or many more? At what speed? At what price? Will municipalities be permitted to serve their citizens and provide the best broadband service they can? I have certainly battled for such rights. These choices are vital.

For example, we recently saw Verizon's initial and quick reversal of a decision to block certain text messages on its service, as well as the fine print in AT&T's contract terms which seem to indicate it might censor messages it finds unpleasant.

Network neutrality rules could safeguard consumer rights in such instances, but more and better broadband choices would help, too. And we are simply not going to reach that goal if regulators keep knee-capping those who would provide consumers such much needed broadband choice.

I look forward to hearing from our witnesses.

I turn to recognize the ranking member of the subcommittee, the gentleman from Michigan, Mr. Upton.

Mr. UPTON. Well, thank you, Mr. Chairman. I might just ask initially that all members be able to submit their statements for the record. We have a Republican conference this morning that runs until a little bit after 10:00.

Mr. MARKEY. Without objection.

OPENING STATEMENT OF HON. FRED UPTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. UPTON. Good morning. I would like to start by welcoming our witnesses and particularly you for holding yet another hearing on the digital future of the U.S.: today's installment, the future of telecommunications competition.

The trend in the telecommunications sector is towards deployment of advanced technologies and increased competition. Deregulation has successfully promoted investment, innovation and more competition, benefiting consumers. The growth statistics are impressive and further bolster the arguments for a deregulatory posture. VoIP subscribers grew an eye-popping 709 percent from 1999 to 2006. The number of wireless subscribers grew 372 percent from 1996 to 2005. The number of competitive local exchange carrier lines grew 263 percent from 1999 to 2006. And meanwhile the number of incumbent local exchange carrier lines dropped 5.6 percent from 1996 to 2005. And as the saying goes, the numbers do not lie. And even more telling about the strong state of competition, as of June of last year the number of high-speed data lines was nearly equally split between incumbent phone companies on one hand and non-incumbent cable providers on the other.

The business market is particularly competitive for computer networking, Ethernet services, with no one entity having more than a fifth of the market. Time Warner Telecom, the third largest provider with 14 percent behind AT&T and Verizon, and the rest spread among many other entities. The number of consumer choices and services available has significantly grown as we trend away from regulation. Where competition is present we must continue the course away from regulation. As new services and technologies become available we must avoid the lure of government red tape.

Another issue that will be addressed today is municipal broadband. Chairman Boucher and I have recently introduced H.R. 3281, the Community Broadband Act of 2007. Our legislation preempts States from prohibiting municipalities from providing broadband, voice data or other video service. It is important to note

that the bill requires municipalities to apply all of their regulations to their own broadband service without any preference. And before a municipality may provide broadband service it must seek public and industry comment on the cost and benefits of the proposal and any alternatives.

While there are clearly risks associated with municipalities offering broadband services, it may prove to be a value in communities where there is no commercial provider. Municipalities and their citizens should have the right to decide for themselves whether to enter the market and should be allowed to succeed or fail like any other broadband provider.

Lastly, I would like to again recommend the auctioning of white spaces. The market is much better than the regulators at determining the value of and best uses for this spectrum. There are likely a number of possible uses, and one that has recently been raised is an alternative to special access. All potential providers and services should be given an opportunity to compete for this spectrum in a fair auction. Licensing would also have the added benefit of protecting against any interference with digital TV should it arise. The recent test results released by the FCC demonstrate that that indeed may be a problem. At a minimum, additional FCC testing is needed.

Again, I thank our witnesses for joining us today, and I look forward to your testimony. I yield back the balance of my time.

Mr. MARKEY. Gentleman's time has expired. The Chair recognizes the gentleman from Pennsylvania, Mr. Doyle.

OPENING STATEMENT OF HON. MIKE DOYLE, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF PENNSYLVANIA

Mr. DOYLE. Thank you, Mr. Chairman. Mr. Chairman, it is kind of funny. Everyone downtown is worried that I might be up here this morning with an ax to grind. I just want to let everybody know that I woke up on the right side of the bed this morning. I had my Starbucks and I had a rather delicious bacon, egg and cheese sandwich on multigrain toast and I am feeling pretty good.

I just want to take a step back and talk about the future of competition. I read an article by Art Brodsky in The Huffington Post about a man in the United Kingdom who built a spreadsheet to compare his options for broadband services. And some estimate that there are now over 200 ISPs in the UK. Across the pond there is competition on price, speed, installation cost, Web storage space and more.

Mr. Chairman, have you ever been to a grocery store and you see a hundred different bottles of wine on the shelf fighting their way into your basket? That is the kind of choice this guy has, except wine is better than broadband in that it doesn't hit you with a $200 early termination fee if it is not any good. Give Americans the same choice for Internet providers that the people in England have. Isn't as catchy a slogan as "one if by land, two if by sea" or "the Redcoats are coming." But it is an important question I hope my colleagues on the committee have considered.

Now I wouldn't blame the CEOs and executives on today's panel if they had been afraid of having to compete with 200 Internet

service providers. But we don't live in that world. Instead, Cavalier has to hope that Verizon isn't successful in killing the competition rules that will allow it to survive until 2008. And Sprint Nextel and T-Mobile have to hope that special access rates don't eat a hole in their bottom line so big that it will slow them down from rolling out faster technology.

Now I suspect there will be much talk about Verizon Wireless blocking pro-choice groups sending text messages to its supporters, and they quickly changed their policy, a smart move. But I say to my friends who oppose net neutrality because competition will take care of any problems, we can't cut competition off at the knees and then expect it to save us.

A few months ago I said the debate over special access should really be called critical access, that these special access lines are critical to broadband deployment and competition. These lines allow America's businesses to bring growth and development to far-flung areas. They allow us to stay connected to our data and to the world around us. These are not small issues with funny names. They are our link to the broadband future, Mr. Chairman, and we can't get this one wrong.

I yield back.

Mr. MARKEY. The gentleman's time has expired. The Chair recognizes the gentleman from Georgia, Mr. Deal.

OPENING STATEMENT OF HON. NATHAN DEAL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF GEORGIA

Mr. DEAL. Thank you, Mr. Chairman. I want to thank our witnesses for joining us today. I think the future of telecommunication competition is certainly one of the more important issues facing our committee and one that we should continue to explore.

As I have expressed in the past, I believe it is critical for our telecommunications infrastructure to be grounded in competition where market forces create proper incentives and pricing. We should strive to avoid regulation whenever possible. The Government should not interfere when competitive forces are at work, but at the same time where a free competitive market has yet to evolve it remains necessary to uphold protections which ensure the public interest is met while promoting increased competition.

The forbearance petitions currently pending before the FCC are excellent examples of how these questions are being played out in the marketplace. We here in Congress do not have the expertise to know which particular markets are competitive and which are not. This responsibility rests with the FCC, which has been tasked with encouraging competition whenever possible while simultaneously ensuring that deregulation does not occur where competition is absent.

I am interested to hear from today's witnesses as to their views on how the forbearance petitions allow them to work with the Commission to ensure that adequate data and information is provided in a timely manner. The various industry participants feel they are afforded sufficient time and opportunity to respond to data and statements submitted to the FCC in the forbearance petitions. Do they feel that the FCC is doing a good job of analyzing competition in all aspects of the market, both residential and business?

In large part these questions also apply to the special access market. I know certain industries have expressed concern that the special access market is broken. These companies describe a pervasive problem where a lack of competition in certain segments of their local markets, where inflated prices are increasing as are anti-competitive terms and conditions.

Finally, I would note the pending retirement of the copper facilities. I am interested to learn if the incumbent carriers, when they decide to retire the copper wire, are open and willing to sell the copper network in the last mile to allow for another carrier to purchase them. It doesn't seem beneficial to the public interest if we simply allow this valuable network to be retired when numerous companies have expressed interest in purchasing it.

Thank you, Mr. Chairman. I look forward to hearing from our witnesses, and I yield back my time.

Mr. MARKEY. The gentleman's time has expired. The Chair recognizes the gentleman from Washington State, Mr. Inslee.

Mr. INSLEE. Thank you. I just look forward to the testimony about these multiple forbearance issues and I hope we can reach a consensus on the truth of special access. That will be a bright day. Thank you.

Mr. MARKEY. The Chair recognizes the gentleman from Virginia, Mr. Boucher.

OPENING STATEMENT OF HON. RICK BOUCHER, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF VIRGINIA

Mr. BOUCHER. Well thank you very much, Mr. Chairman. And I particularly want to express my appreciation to you for making a part of today's hearing the subject of State barriers to the provision of broadband and other commercial telecom services by municipalities.

A century ago as the electricity industry was emerging it was deemed to be in the public interest to permit local governments to offer the new electricity services to their residents in places where the investor-owned utilities had declined to make investments. Broadband today, I would argue, is as essential to the economic future of communities as the new electricity services were to the people of America 100 years ago. And where broadband is either not available or is available only at unaffordable prices, municipalities clearly have a role to play in filling the gap.

We stand, as the chairman pointed out in his opening statement, fifteenth in the world in the deployment of broadband, and for the sake of our national economy we have got to do a lot better. Freeing local governments to offer the service is one way in which we clearly can do better. Today 14 States bar in whole or in part the provision of telecommunication services in commercial form by local governments. The ranking member, Mr. Upton, and I have introduced the Community Broadband Act of 2007, which would bar States from enacting laws that prohibit or have the effect of prohibiting the offering of these services by their localities. This measure is very similar to a provision in the telecommunications legislation that was approved in this committee and passed by the full House during the course of the last Congress. And my recollection is that

when that measure was a part of the base bill that was approved in this committee there were no amendments offered to remove it. In fact, it was not even the subject of debate or further discussion beyond a mere description of its presence in the bill. So that provision was not controversial last year, and I think this year it clearly deserves to be enacted on a freestanding basis.

Across the Nation there are many examples of municipal networks that have stimulated economic growth. And I would note the presence on our panel today of Mr. Wes Rosenbalm, who is the chief executive officer of Bristol Virginia Utilities. That is a municipal broadband provider with a great story to tell about how that investment has stimulated the arrival of a very large number of technology-based jobs and we welcome Mr. Rosenbalm and look forward to his presentation of that testimony.

The Community Broadband Act would open the door for additional communities to enjoy that progress. I appreciate the subcommittee's focus on this need, and I very much look forward to the testimony of our witnesses.

And that said, Mr. Chairman, I yield back.

Mr. MARKEY. The gentleman's time has expired. The Chair recognizes the gentleman from Nebraska, Mr. Terry.

Mr. TERRY. Mr. Chairman, thanks for calling this hearing. It is an important one but I want to waive to reserve enough time for questions.

Mr. MARKEY. The Chair recognizes the gentleman from New Jersey, Mr. Pallone.

OPENING STATEMENT OF HON. FRANK PALLONE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. PALLONE. Thank you, Mr. Chairman, and thanks to the witnesses here today. I am happy to take part in what is sure to be an interesting look at the telecommunications marketplace and what lies in its future.

Studies have increasingly shown that consumers benefit tremendously from competition in the telephone marketplace. I have continually been a firm believer that all consumers, both individuals and businesses, deserve to have many choices when deciding on their telecommunications services. I also believe that there is a role for the Government in the telecommunications sector to ensure that competition is vibrant. That role, however, is a tricky one as we must make sure that the level of regulation is appropriate to the level of competition. And I am hoping that our witnesses will shed some light on this and flesh out the debate on some of the issues we have been hearing so much about this past year including special access services.

The FCC began decreasing regulation of special access to increase competition and investment, and I am interested to hear whether some of our witnesses think that this approach is working. But I suspect that our panel will present compelling evidence on both sides.

And finally, Mr. Chairman, I would like to bring a letter to my colleagues' attention. Last week the Communications Workers of America filed a letter at the FCC with respect to special access

services, and I would like to ask unanimous consent that this letter be made part of the record of this hearing. I believe their position on the issue deserves a place in this debate.

Thank you, Mr. Chairman.

Mr. MARKEY. Gentleman's time has expired. The Chair recognizes the gentlelady from California, Ms. Eshoo.

OPENING STATEMENT OF HON. ANNA G. ESHOO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Ms. ESHOO. Thank you, Mr. Chairman. Welcome to the witnesses, and thank you for yet another important hearing that you are holding this year.

The preamble of the Telecommunications Act of 1996 states, "An Act to promote competition and reduce regulation in order to secure lower prices and high-quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies."

So I think that we need to ask ourselves if the 1996 Act has lived up to its preamble. I don't believe that it has fully, in most frankly, in any way, shape or form. That may be a harsh judgment but we are more than a decade past the passage of that, and what I think many of us have observed is a crest of a wave that is unprecedented consolidation in the telecommunications market in our country.

Now I recognize that not all consolidation and mergers are bad. And realignment of a dynamic industry such as telecommunications is inevitable. But the course of events that has led us here, I think is really rather distressing. So I am very glad we are having this hearing this morning.

The competition that I envisioned and I think that many of us envisioned in the 1996 Act has largely been frustrated. One bottleneck to the competition is the last mile and I think many of us are going to raise questions about this this morning.

Michael Powell, the previous FCC Chairman, and others had their solutions to the last mile, broadband over power lines. Proponents of this technology assured us it was just years away. Well, we are years away from those rather bold pronouncements and broadband over power lines has just 0.008 percent of the broadband market. I want to repeat that, 0.008 percent of the broadband market. I really don't think that's the American way and I don't think anyone can say that we have leapfrogged into the future. That is a dismal percentage. So surely this isn't the answer that we bring competition to the last mile.

This morning I want to hear the assessment of our witnesses that are here today about competition in the last mile, and, also, on special access lines. These two parts of the network are critical bottlenecks that can be used by incumbents to actually strangle competition. I think that Congress has the responsibility to ensure that nascent competition is given the opportunity to take root and that emerging avenues of access to potential customers remain open to innovators and new entrants.

So thank you again, Mr. Chairman, for holding this hearing. I look forward to the testimony and the answers to the questions that we pose to the witnesses.

Mr. MARKEY. The gentlelady's time has expired. The Chair recognizes the gentleman from Florida, Mr. Stearns.

OPENING STATEMENT OF HON. CLIFF STEARNS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Mr. STEARNS. Thank you, Mr. Chairman. I am not sure I agree with the gentlelady from California. Where there once were separate phone companies and cable companies and wireless and other industries all providing distinct services, we now see, I think, a blur, convergence, all competing against each other offering broadband, voice and video services and more. I think we see the iPhone now is moving us all ahead in terms of our cell phones and what we will see in the future. Even the copper network once thought a dinosaur for traditional voice services can now offer triple play services and up to 100 megabits per second.

So I think the future looks good and I think we are moving in the right direction. I think after the Internet bubble burst, the core investment dropped to about 85 billion at the end of 2002 but that has rebounded to almost 120 billion in 2005. And I think that is due in no small part to the deregulatory framework that we had in Congress and the FCC.

Furthermore, it's not just one set of companies investing billions in new technologies. The witnesses before us today all are investing, bringing new innovation and applications that will drive tomorrow's digital economy.

And my colleagues, against this backdrop the proper course is to continue the trend away from regulation of new services and towards deregulation of traditional services where competition is present. At minimum we must be mindful of re-regulation of particular services absent a compelling showing of market failure for certain services.

At our hearing in July I questioned the FCC's implementation of the forbearance statute in section 10 of the 1996 Act. As I said then, I am well aware of Congress's intent in this matter to deregulate based on proper analysis of the competitive market. However, I am concerned about whether or not adequate procedures are in place to ensure that a rigorous analysis is conducted. Are there adequate rules in place? If not, what should the FCC do to ensure an equitable process? I understand that there is a pending petition before the FCC to adopt a certain set of rules for forbearance petitions. I think this might be a good idea.

So I look forward to our witnesses' views on this subject in particular because they are in one way or the other obviously going to be affected by the outcome. Let me be clear, I am not taking a position one way or another on the merits of the actual petitions. I am merely saying that there needs to be a proper process in deciding whether or not these petitions should be granted.

So, Mr. Chairman, I thank you for this hearing. I look forward to hearing from our witnesses and ensuring that a tremendous technological growth continues in a deregulatory environment. Thank you.

Mr. MARKEY. The gentleman's time has expired. The Chair recognizes the gentleman from Texas, Mr. Green.

OPENING STATEMENT OF HON. GENE GREEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. GREEN. Thank you, Mr. Chairman, and I want to thank you for holding the hearing and I want to thank, like my colleagues, I want to thank our witnesses for being here. But I am not going to share with you what I had for breakfast.

In the series of hearings the subcommittee has had over the last 9 months, and I frequently talked about promoting competition to consumer choice, last month in my hometown of Houston, like many other cities around the country, experienced its plans for a municipal WiFi network fall through. The Houston system was planned to be the largest in North America, covering 600 square miles and it would have offered low-income individuals and households with reduced rates for the service. It also would have greatly benefited public safety and our city employees as well as increasing broadband coverage and local competition.

Our Houston system would vary significantly from Mr. Rosenbalm's, who is on our second panel. I look forward to hearing from him on the fiber optic system deployed in Bristol, VA and hope we can take away some of the ideas for building a successful municipal network.

I look forward to hearing from today's panels on another issue. There seems to be a lot of interest in special access. I believe the Federal Communications Commission should make a thorough review and analysis of the special access marketplace in competition as well as significant impacts on rolling back phase 1 and phase 2 flexibility could have on this market and on the jobs it creates. Many of these companies are the same companies investing significantly in residential and next generation broadband networks, investment necessary to meet consumer demand for broadband bandwidth now and in the future.

Additionally, I look forward to hearing from our witnesses on the issue of forbearance. As the technology and telecommunication industry evolves, I think the forbearance process is important both from the industry side and the Commission side as regulations become unnecessary and outdated. And I am concerned, however, that with other procedural issues at the Commission right now that if a lot of these conditions are not acted on, Congress may have to revisit the issue.

And, again, I thank the chairman for holding the hearing. I look forward to the testimony.

Mr. MARKEY. The gentleman's time has expired. The Chair recognizes the gentleman from Mississippi, Mr. Pickering.

Mr. PICKERING. Mr. Chairman, I want to thank you and commend you for having this hearing. I would yield the balance of my time, reserve those for the questions, please.

Mr. MARKEY. The gentleman's time is reserved. The Chair recognizes the gentleman from New York, Mr. Towns.

OPENING STATEMENT OF HON. EDOLPHUS TOWNS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. TOWNS. Thank you very much, Chairman Markey, and of course, Ranking Member Upton for holding this hearing. I also want to thank the witnesses. And it is also good to see a former member, Tom Tauke, who is here. It shows you that there is life after this place. It is good to know.

I am sure many of my colleagues on this committee will agree with my views when I say that I hope that the future of telecom competition is vibrant, sustainable and beneficial to the consumers. Hailing from New York it is safe to say that the consumers and businesses probably benefit from as much competition as any city in the United States. New York City's dense population and heavy concentration of businesses make it a target rich environment for telecommunication carriers, especially for business customers.

I do believe that facilities-based competition is very healthy for the market, beneficial to the consumers and sustainable in the long term. And it illustrates why the FCC needs to stay the course set by former chairman Bill Kennard back in 1999, and ignore the calls to re-regulate the special access market.

Mr. Chairman, thank you again for holding this hearing today, and I look forward to hearing from our witnesses, and on that note I yield back.

Mr. MARKEY. The gentleman's time has expired. The Chair, by unanimous consent, will recognize the gentlelady from Tennessee, Mrs. Blackburn, who is not a member of the subcommittee. Welcome.

OPENING STATEMENT OF HON. MARSHA BLACKBURN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TENNESSEE

Mrs. BLACKBURN. Thank you, Mr. Chairman, and I thank you and Ranking Member Upton for allowing me to continue to participate in the hearings that we have. And I thank you for the hearing that you are going to have today because I do believe it is a timely and really a critical matter that there should be a discussion about.

Over the weekend I did what a lot of Americans do, I watched a little bit of football. The Tennessee Titans were off for the weekend, but Indianapolis had to come to Tennessee to find them a quarterback, and I had to check in on him and make certain that he was carrying forth in the appropriate manner. And like a lot of Americans I kind of glanced through the football game but I pay a lot of attention to the commercials. I like to see what is being marketed out there, and I was struck this weekend with how much time was being spent on telecommunications providers and the new options that are being rolled out there. My goodness, traditional video services, their expanded triple-play options, voice video, phone, broadband, voice-over Internet protocol, everybody was marketing their low-cost service. And it just seemed to go on and on for the weekend. I think it does say a couple of things. Number 1, competition is robust. It is quite robust and there is a market that is there and there is a void to be filled. If it was not, you all wouldn't be advertising like you are advertising on Sunday football.

Until recently, as Mr. Stearns said, everybody operated in a stove pipe, providing one or the other. But now companies that are both large and small companies can compete with one another on a regulatory playing field that doesn't force competitors to line up and choose sides. Today's industry leaders are playing a different game in an environment that provides for robust telecommunications competition and the American consumer is the winner in this. VoIP subscribers grew by 709 percent from 1999 to 2006, the number of wireless subscribers by 372 percent from 1996 to 2005, local exchange lines grew by 263.5 percent.

So the companies are increasing. A lot of this has happened because of the Telecom Act of 1996 and the framework that it put in place. The current deregulatory regime seems to be working. I am looking forward to hearing from our witnesses and I appreciate the courtesy of the chairman and ranking member, I yield back.

Mr. MARKEY. We thank the gentlelady for participating. We also thank her for raising college football. We Boston College football fans are quite dismayed, actually, that we have now risen to No. 7 in the Associated Press Poll. But Boston College football fans are also dismayed that the United States has dropped to No. 15 in the OECD broadband rankings and those two subjects have been commanding my attention for the last 2 days.

Any other statements for the record will be accepted at this time.

[The prepared statements of Mr. Stupak and Mrs. Capps follow:]

PREPARED STATEMENT OF HON. BART STUPAK, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Thank you, Chairman Markey for holding this hearing on the future of telecommunications competition.

The timing of this hearing could not have come soon enough, with the recent developments regarding pending forbearance petitions at the Federal Communications Commission. The FCC's decision on these petitions will have far reaching consequences for Competitive Local Exchange Carriers.

I am concerned that the FCC is implementing section 10 of the Communications Act, which allows forbearance, in a manner that is inconsistent with sound agency practice. I am specifically interested in how the FCC's failure to act results in a petition to be "deemed granted."

If the granting of forbearance is supposed to be in the public's interest, it is difficult for me to believe that failure to act can ultimately serve that purpose.

In the case of the 2006 Verizon petition for forbearance, the FCC was under gridlock with a split 2–2 vote because it had only 4 commissioners at the time.

The lack of majority should have resulted in a rejection of the petition. However, because the rules governing the process by which forbearance petitions are handled are not clearly stated, the petition was "deemed granted."

I find it troubling that according to the GAO, decisions to deregulate are guided by insufficient data used to predict future market competition.

Another issue that we are discussing today is the implications of "copper retirement."

I understand the difficult position of companies that invest large sums of money in deploying fiber optic lines while maintaining their old copper network. However, I feel that the current "Copper Retirement Procedure" can use some slight modifications to be more fair and open.

I welcome suggestions from the witnesses here today in how to properly address the issue, so that Americans don't suddenly find that their rights to competitive choice were pre-emptively disconnected.

Lastly, the issue of barriers to municipality provided broadband. It is unfortunate that communities that need broadband the most, rural communities such as the ones I represent, are swept up in the legal and lobby battles between big cities, States, and the telecom companies.

How can we expect rural Americans to compete and their communities to thrive if we do not ensure them broadband access to the Internet?

The reality is, broadband access is as essential to an economy as electricity. It is my belief that communities simply will not be able to survive and thrive in the 21st century without high-speed, broadband Internet access.

Mr. Chairman, thank you again for holding today's hearing. I look forward to the testimony of our witnesses, and I hope we can find answers to these very important questions.

PREPARED STATEMENT OF HON. LOIS CAPPS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Thank you, Chairman Markey, for holding this important and timely hearing on competition in telecommunications.

As we are all aware, pending FCC decisions regarding special access and forbearance petitions will play a major role in shaping the competitive landscape of the telecommunications industry.

My district experiences changes in the telecom industry rather distinctly. Not only because of its urban and rural settings, but also because of its geographic composition.

Mountain ranges and remote areas can restrict access to communications technology for my constituents.

With that in mind I am especially interested in ensuring that competition remains vibrant and fair, so that smaller telecom companies can continue to provide services where others may not recognize an opportunity.

In particular, I am concerned that special access costs may present a barrier to entry for some broadband companies and may stifle deployment.

As I have stated in the past before this committee, the FCC should continue to work for greater transparency in the special access market, and I commend it for reopening the record on this issue.

The FCC should ensure that these fees are fair and not set or collected in a manner that reduces competition.

Finally, I would like to take a moment to address the need to reform the forbearance process.

Deregulation requires careful consideration and an active response to the realities of the market—not tacit approval borne of insufficient time or consideration. I am concerned that the "deemed granted" language in the statute makes it difficult for the FCC to make good decisions. And since we are talking about the core competition provisions of the Act, I believe we may need to take a look at forbearance.

As technology and media continue their convergence toward advanced communications technologies that we cannot know, robust oversight of competition is necessary to ensure market fairness and consumer protection.

I again want to commend Chairman Markey for holding this hearing and look forward to hearing from the witnesses.

Thank you.

Mr. MARKEY. And our panel here today can help us to unravel the mystery of the second phenomenon which is of great consequence for our Nation's future. And we are going to begin our distinguished panel today with Mr. Parley Casto. Mr. Casto is an assistant vice president in the AT&T Business Marketing Division. He is responsible for all aspects of AT&T's pricing for a dedicated Internet line sold to competitors, can't be a more important person in the country in terms of these issues. We welcome you, Mr. Casto. When you are ready, please begin.

STATEMENT OF PARLEY CASTO, ASSISTANT VICE PRESIDENT, AT&T BUSINESS MARKETING, AT&T OPERATIONS

Mr. CASTO. Thank you. Chairman Markey, Ranking Minority Member Upton and other distinguished members of this subcommittee, thank you for the opportunity to testify at today's hearing on the future of telecommunications competition.

My name is Parley Casto, and I am assistant vice president, Strategic Pricing, AT&T Business Marketing. I am responsible for

all aspects of pricing for AT&T wholesale products and services, including services sold to interexchange carriers, wireless carriers, CLECs, content providers, systems intergrators and Internet service providers. Insofar as I am responsible for wholesale products and services, I am well aware of the competitive alternatives that are available to and utilized by AT&Ts wholesale customers. Since the FCC implemented its pricing flexibility framework for special access services in 1999, that competition has dramatically increased.

AT&T faces both intra-modal competition and increasingly intermodal competition from wireless and cable-based technology platforms. I will focus my testimony today on the competition AT&T faces in the wholesale enterprise market. AT&T faces intense business market competition from a very large number of competitors. Traditional wireline CLECs have continued to expand their fiber networks to virtually all areas where there is demand for special access services. Indeed, CLEC fiber blankets most major metropolitan areas of the country where large businesses that use special access services are concentrated and increasingly in more remote areas, as well. This intense competition is recognized by analysts, one of which recently reported that CLEC competition for wholesale private lines services rates a 9 out of 10.

In recent years CLEC competition has been accompanied by the advent and rapid growth of inter-modal competition from cable and broadband wireless providers. With fiber and coaxial networks that blanket nearly all locations where people live and work, cable operators can and increasingly do provide all levels of service including to business customers.

Broadband wireless providers likewise are actively and successfully competing against AT&T. All the major wireless carriers now rely heavily on wireless backhaul. According to one study, roughly 20 percent of mobile base stations in the United States are already served via wireless technology, and that percentage is expected to double by 2011.

AT&T has responded aggressively to these competitive pressures. AT&T has significantly lowered its prices for DS1 and DS3 circuits including where rates have been deregulated. Rates are far lower today than they were at the time the FCC established its pricing flexibility regime. Moreover, AT&T is taking other steps to meet its customer specialized needs, including dramatically increasing investments in its network and deploying more innovative service offerings.

These trends, characterized by declining prices, increased investment and increased innovation, demonstrate that re-regulation of special access services is unnecessary and inappropriate. To be sure, any large business would welcome a Government mandate of price reduction in the cost of its input. But the FCC was right in 1999 to introduce pricing flexibility where AT&T faced competition. Eight years later competition for special access services are even fiercer and the justification for pricing flexibility is even greater.

AT&T special access customers constantly remind AT&T that they can turn to alternative providers. In fact, Sprint has repeatedly pointed out that it has many other options to meet its backhaul needs, especially from cable and broadband wireless pro-

viders, as well as its ability to self-supply special access via microwave solutions.

These are not hollow threats. In August, Sprint announced that fiber power will provide backhaul services in seven of Sprint's initial WiMax markets and that is just one example of this competition. As a result, my team at AT&T is constantly looking for ways to provide special access service to our customers more efficiently at lower cost and higher quality in ways that are better tailored to customers' individual and diverse needs.

It is not necessary for me to rely solely on customers to confirm that there are a myriad of special access alternatives throughout the country. My colleagues in AT&T Mobility have confirmed that AT&T Mobility generally has multiple alternatives for backhaul suppliers at its many cell sites. AT&T purchases thousands of backhaul facilities from broadband wireless and cable companies outside of AT&T's local service territory.

The reality is that prices are lower and differentiation is greater, both of these thanks to the introduction of robust, facilities based competition. This competition obviates the need for re-regulation which would destroy the incentives that all companies currently have to constantly approve their service offerings and enhance their networks.

Mr. Chairman, thank you for the opportunity to testify today.

[The prepared statement of Mr. Casto appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, sir, very much. Our next witness is Ms. Larissa Herda. Ms. Herda is the chairman, president and chief executive operator of Time Warner Telecom. She also serves on the Economic Advisory Council of the Federal Reserve Board of Kansas City. We welcome you, Ms. Herda. Whenever you are ready, please, begin.

STATEMENT OF LARISSA HERDA, PRESIDENT, CEO, AND CHAIRMAN, TIME WARNER TELECOM

Ms. HERDA. Thank you, Mr. Chairman. Thank you, members of the subcommittee.

My name is Larissa Herda. I am chairman, president and CEO of Time Warner Telecom. And let me be perfectly clear. We have absolutely no association with Time Warner, Inc. or Time Warner Cable. We are a separately traded company, and we simply lease their name. That lease runs out next summer.

It is an honor to appear before you here today to discuss the future of broadband in this country. This is an issue that not only impacts my business but the bottom line of every American business that wants to take advantage of the additional bandwidth cost-savings and efficiencies that broadband technology provides.

In order for American businesses to have access to this technology, the FCC must not forbear from regulating the ILECs because unlike the residential market the ILECs still control the only last mile transmission facility or local loop to the vast majority of office buildings nationwide. Instead, the FCC needs to revise the current regulatory regime to recognize the fact that the ILECs still control the last mile connection to the business customer regardless of what technology is used to provide the service.

Time Warner Telecom has invested billions of dollars to connect approximately 8,000 buildings with our own fiber network, more than any other non-incumbent telecommunications carrier in the country. But there are many locations where it is simply uneconomical to build our own network facilities. In such locations we have no choice but to rely on facilities we lease from the ILECs to meet customer demand. In fact, we have no choice but to serve a high percentage of our customer locations by leasing incumbent facilities.

At Time Warner Telecom we are focused on serving the data and communications needs of enterprise customers. We are particularly focused on providing those customers a service that is called Ethernet. I want to explain a bit about Ethernet because it is such an important tool for business and the ILEC petitions for forbearance that are currently pending at the FCC threaten the potential economic benefits of Ethernet.

Ethernet is a plug and play transmission technology that allows customers to converge all of their data communications needs on to a single transmission facility. Older technologies like ATM and frame relay require a piece of equipment to translate between various different kinds of equipment used by end users and carriers. Ethernet technology eliminates the need for these translations making it simple and cheap for customers to add new services and capacity to their communication services. The qualitative difference for businesses between Ethernet and older and more complicated technology such as ATM and frame is like the difference between dial up broadband and cable modem or DSL service.

Ethernet allows businesses to function more efficiently in countless ways. For example, Ethernet enables medical institutions to send urgent messages and information between locations in seconds. It also enables banks to improve response times and process more information in significantly less time. It supports all customers with data and disaster recovery capabilities crucial to protecting the electronic files critical to both business and public institutions.

Despite the great benefits of Ethernet, most businesses are unable to purchase this service today. It is an economic burden on business development that businesses across the country don't have access to the benefits of this technology. It places the United States at a disadvantage vis-a-vis other countries. In striking contrast to what is available to American businesses, Ethernet is widely available in the UK. The question is then why aren't more businesses receiving the benefits of Ethernet in this country? The answer is quite simple. The ILECs have relatively no incentive to promote Ethernet aggressively because it cannibalizes their huge legacy, the old generation of frame-relay and ATM services.

Not only is Ethernet unavailable from the incumbents in most office buildings, the cable companies generally do not offer it to a significant degree. And in reality, we are in more business buildings than they are. That means it is up to competitors like Time Warner Telecom to drive the rollout of Ethernet.

In fact, Time Warner Telecom is the No. 3 provider of Ethernet in the country. But we are the third biggest fish in a very small pond, and we do not have the power to make it much bigger be-

cause we cannot economically reach most business locations without our own network. Only 25 percent of our customer locations are on our network. For the remaining 75 percent of customer locations I rarely have a choice but to lease the ILEC network facilities in order to provide service the customers demand.

Even where the ILECs offer Ethernet on a wholesale basis, they charge extremely high prices for services as illustrated in the charts that are supposed to show up on that up there. Well, they should be showing up there, and what you will see, there we go, the color code there is ivory is Time Warner Telecom and the red are the various different incumbent local exchange carriers. And I think we have got Qwest, Verizon and AT&T up there.

In most cases, as you can see, our prices are considerably lower. In most cases it is not economical to purchase wholesale Ethernet and combine it with our non-Ethernet product, in order to sell customers the complete service offering they need to manage their communications needs most effectively.

Mr. MARKEY. If you could summarize your statement, please.

Ms. HERDA. Yes, I have been told countless times, well, I have been told countless times from a diverse group of customers that they could not purchase Ethernet until it was offered by Time Warner Telecom. And the reality, let's see, that won't happen if the FCC forbears Ethernet services, we will not be able to have a discussion on special access because Ethernet is special access. Thank you.

[The prepared statement of Ms. Herda appears at the conclusion of the hearing; because of its length, the appendix of her statement is on file with the committee.]

Mr. MARKEY. Thank you so much, Ms. Herda. And now we will hear from one of the most distinguished alumni of this committee, Tom Tauke, who was a member of this subcommittee for 12 years, and he is now the executive vice president at Verizon for Public Affairs, Policy and Communication. Welcome back, Tom. Whenever you are ready, please, begin.

STATEMENT OF HON. THOMAS J. TAUKE, EXECUTIVE VICE PRESIDENT, VERIZON

Mr. TAUKE. Thank you very much, Mr. Chairman. I first must note I spent the weekend, parents weekend at Boston College, watching the soaring Eagles, and I do want you to note that the poll that counts is the Coaches Poll, that counts in BCS and there we are No. 6.

Mr. MARKEY. There BC is No. 6.

Mr. TAUKE. BC is No. 6.

Mr. MARKEY. Let me just tell the audience this that Tom, this is not, can we go back to 5 minutes, that Tom is actually a graduate of Loras College, which is a Jesuit school in Iowa, and up until there was an unbundling of Notre Dame's control over Catholic high school graduates playing football for them there was no chance that somebody from Iowa was going to Boston College at the campus, so it just shows you what happens when a competitive football marketplace opens up and kids are allowed to make their own decisions as to where they are going.

Mr. TAUKE. And we are grateful for that, Mr. Chairman.

Mr. TERRY. Mr. Chairman, as the gentleman from Nebraska and maybe the gentleman from Michigan, this football talk is making us a little uncomfortable.

Mr. TAUKE. Here I thought I was watching the Iowa-Indiana game this last week.

Mr. TERRY. Well you notice how I moved from Iowa to Boston College very quickly.

Mr. MARKEY. So the gentleman is recognized for 5 minutes.

Mr. TAUKE. Mr. Chairman, members of the committee. The world of telecommunications keeps changing ever more rapidly. Since Congress and the FCC have adopted policies that permit adaptations to the market technology in the marketplace have unleashed a host of new communications services and we have seen the development of a highly competitive telecommunications market.

Now we have TV services being offered by companies like Verizon and AT&T. Phone services from Comcast, Cox, and other cable companies. And, of course, we have the most aggressive and most advanced wireless mobile communications market in the world. Not only do we have four national carriers but we have dozens of regional carriers like Alltel, U.S. Cellular, Leap, that are providing a host of new services to consumers. Not just voice, not just data, but text-messaging, video, and now even live broadcast services.

The U.S. wireless consumer is not only benefiting from this advancement of new services, but the wireless market is also driving down prices and serving consumers well. When you look at the U.S. versus Europe, for example, here consumers pay 60 percent less for their wireless services and they use, not surprisingly, twice as much service on a per capita basis.

Similarly the investment in broadband has been a good success story. The adoption rate for broadband is remarkable. The fact is that the adoption rate for broadband is faster than it was for TV or even cell phones, and prices are going down. Consumers in most parts of the country have at least three competing platforms for broadband, and the speeds that those platforms are offering go up, up, up.

But is it good enough? Definitely not. We do need to be No. 1, Mr. Chairman, not only in deployment and availability but also in the innovation and the services that are offered. It is important that the Congress and the FCC do two things, I think, as you look to the future. First, stick with those policies that are working, and secondly, adopt new policies that will address challenges in certain areas. Two that I will mention briefly are universal service and broadband adoption.

First, let us talk about the existing policies, the forbearance petitions. Creating broadband service for the underpriced market with the light regulatory touch is working. It has been demonstrated by the forbearance Verizon received a year ago and what has happened as we have entered into agreements with hundreds of companies since then to offer services to those entities. This kind of market-based competition allows for investment, innovation and competition.

Second, the traditional special access services policy is on target. These are services that connect business locations obviously to each

other and cellular services to the landline network. What Chairman Bill Kennard did has proven to be successful. Prices in this market are falling 5 percent a year in real terms since he adopted these policies, and more players are entering the market, and there is more competition in the special access market.

Now let me mention a couple of those issues that need attention, first, broadband deployment to underserved areas. We support Congress's effort to create programs to gather more information. We need to know who is not being served in order to focus attention on those areas. We believe the Connected Nation process has been a good process. It was used as Connect Kentucky in Kentucky, and as you know, it found out where the problems existed. It focused attention on those areas, and it created a public/private partnership, and Kentucky leaders tell us they will be at 100 percent availability for broadband by the end of the year.

As we look elsewhere in the country, it is not just broadband availability, however, it is also adoption that is a problem. And as the Consumer Electronics Association study recently showed part of the problem is that 26 percent of households have no home computer. That also is an issue that needs to be addressed.

The second issue, Mr. Chairman, is the Universal Service Fund. This fund is badly in need of reform. In the past 8 years the high-cost funding has grown from $1.7 billion to $4.1 billion. And we are seeing a distortion in the way this money is distributed which we can talk more about later. The bottom line is this needs urgent action or that percent that is in the bottom of the bill, which is currently 11.1 percent the consumers are paying for universal service is going to move to 15 percent in a few years, and 22 percent 5 years out. Something needs to be done to correct this issue, and it is going to be easier if Congress acts now. We urge the FCC to adopt the recommendation made by the joint board to try to put some kind of a cap on the Universal Service Fund. And we support a reverse auction to try to fairly distribute these funds in the future.

The bottom line, Mr. Chairman, Congress, and the FCC have generally done a very good job in creating policies which are allowing this marketplace to grow, and to bring new services. Is it good enough? No, but we are making good progress.

[The prepared statement of Mr. Tauke appears at the conclusion of the hearing.]

Mr. MARKEY. We thank the gentleman, and now we turn to Gary Forsee who is the chairman and chief executive officer of Sprint Nextel Corporation. He is also the chairman of the President's National Security Telecommunications Advisory Committee. We welcome you, Mr. Forsee. Whenever you are ready, please, begin.

STATEMENT OF GARY D. FORSEE, CHAIRMAN, CEO, AND PRESIDENT, SPRINT NEXTEL CORPORATION

Mr. FORSEE. Good morning, Chairman Markey, and Ranking Member Upton, members of the subcommittee. Thank you for the invitation to be here.

I am Gary Forsee, chairman, and chief executive officer of the Sprint Nextel Corporation. I would like to thank you for the opportunity to testify about a substantial barrier to bringing broadband

to the American public. As Chairman Markey recently wrote to the FCC, the special access market failure directly affects the pace of broadband deployment, and I urge you to let the FCC know that it must fulfill its statutory obligation to ensure that special access rates are just and reasonable.

Let me point out that Sprint takes a backseat to no one when it comes to advocating free markets, and we commend you for your key role in creating the competition we see in telecommunications today. Thanks to your efforts over time Sprint brought competition to the long-distance market with the first all-digital fiber optic network in the 1980s. Sprint and Nextel brought competition in the 1990s to the wireless market that had been a duopoly, and we continue to invest in our wireless markets to the tune of $5.7 billion this year.

We are also investing an additional $5 billion to bring competition to the broadband marketplace through our announced plans to deploy the world's first mobile broadband network using WiMax technology. However, when markets fail the Government must act to protect consumers. This is a primary obligation of the FCC.

As someone who has been in this industry for 35 years, I have been around the block and including a few chairs at this table, I can tell you that the failure in the special access market is obvious and I think it is also unique given what would also be considered the hyper-competitive aspect of this industry. But it is obvious due to the overwhelming and increasing market share of the two dominant special access providers, AT&T and Verizon. It is obvious in their vast and increasing special access revenues and their inflated special access prices and in their exclusionary lockup terms and conditions.

The FCC relied on its hopes and predictions of competition for special access in granting the dominant providers pricing latitudes. But special access competition has not developed. The incumbent LECs' share of the wholesale market as shown on this chart grew to more than 94 percent in 2005, 94 percent. Having acquired AT&T and MCI, the two biggest proponents of special access reform in addition to Sprint and the two biggest alternative providers of special access, AT&T and Verizon now account for 81 percent of the incumbent LEC special access revenues. Even in the largest markets, including New York, the incumbent LECs dominate. As this map shows, nearly 98 percent of our connections to our over 60,000 cell sites are provided by incumbent LECs, again, primarily AT&T and Verizon. With no competition, special access prices are substantially inflated.

So compare the prices for similar capacity services in competitive markets. As this table shows, Verizon's FiOS service is $39.99 a month. But DS1s, which we rely on substantially for our cell sites and for our ability to provide commercial services to our retail customers are nearly 10 times that price. Again, for a similar capacity oriented service.

As the next slide shows, with no competition AT&T's after tax special access return grew from an already excessive 40 percent in 2000 to 100 percent in 2006. Verizon's more than tripled in that same period in growing from 15 percent to 52 percent. In 2006

alone, AT&T and Verizon brought in $6.3 billion over what they would have earned in an 11.25 percent rate of return.

I understand that there is some assertion that there is not sufficient data available to analyze the market. I respectfully disagree. The data on this chart combined with the fact that Sprint purchases 98 percent of its special access, which is about $2 billion, from one source, meaning the ILECs, is more than sufficient to demonstrate that this market has indeed failed.

As Sprint Nextel and the other independent providers are being over-charged, we are subsidizing AT&T and Verizon, our largest wireless and long-distance competitors. These subsidies directly affect the availability of broadband and other special services that we provide.

Let me give you an example. Special access represents about 33 percent of our cost to operate a cell site. Since we are paying at least twice a cost-based price, that 33 percent figure includes funds that are going to be diverted from our deploying this fourth generation WiMax global broadband network.

There is a ready solution to the obvious special access market failure. The FCC has the tools, the evidentiary record, and the congressionally mandated obligation to ensure that special access prices are just and reasonable. I urge this subcommittee to let the FCC know that it must meet its obligations to reduce special access rates to reasonable levels and supply effective incentive-based regulation until the LECs face competition for special access services. That is not, by the way, accomplished by granting forbearance and giving them even greater latitude to overprice special access service.

Addressing the special access market failure will produce tangible benefits for consumers today, including a choice of providers into the future, other than AT&T and Verizon, improved service quality, and faster rollout of broadband markets in the United States.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Forsee appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, Mr. Forsee, very much. Our next witness is William Cheek. He is the president of the Wholesale Markets Division of Embarq. Embarq is a local phone and wireless company with operations in 18 States. Welcome, Mr. Cheek.

STATEMENT OF WILLIAM E. CHEEK, PRESIDENT, WHOLESALE MARKETS, EMBARQ

Mr. CHEEK. Mr. Chairman, Ranking Member Upton, and members of the subcommittee. Thank you for the opportunity to testify today.

I am Bill Cheek, president of Wholesale Markets for Embarq. Headquartered in Overland Park, Kansas, Embarq is a full-service communications provider delivering voice, Internet, wireless, and entertainment products to about 6.5 million access lines in 18 States. We serve primarily rural communities, which typically have higher cost to serve, and we are always mindful of the role robust communications networks play in enhancing rural economies. Embarq was established 16 months ago when Sprint Nextel spun

off its local exchange operations, and we have been operating independently since that time. It is also a privilege for me today to testify on the same panel as my former chief executive, Mr. Forsee. While we may now approach telecom policy from different perspectives we continue to enjoy a relationship of great mutual respect. We commend the subcommittee for convening this hearing on the future of telecommunications competition.

One particularly timely topic for this hearing is the call by some for the FCC to reverse the trend of deregulation and reimpose price controls and other regulations on the market for special access. While we fully appreciate and participate in the Commission's recent steps to refresh the record in its special access rule-making, we find the prospect of re-regulating the market that was initially deregulated 8 years ago to be inconsistent with competitive conditions in the marketplace today.

To put the issue in perspective, about 71 percent of Embarq's special access revenues are still subject to price cap regulation because they are provided in geographic areas where the Commission has not found the indicia of competition under current law. At the same time, 75 percent of our special access lines are subject to either CLEC or cable competition. In a more densely populated, low-cost market we typically face five or more competitors. Also, more than 70 percent of our special access revenues come from sales to carriers that are at least twice our size. And in fact, in most cases they are six times our size or larger.

Increasingly, large buyers are putting their special access needs out for competitive bids, especially in the wireless backhaul markets where Embarq bids against multiple competitors, all of whom can see our public price schedules and few of whom are regulated to the same extent we are.

Just this past month we submitted competitive bids for two multi-million dollar backhaul contracts in Nevada and the Carolinas. In both cases more than a dozen competitors submitted bids. Unfortunately, our most aggressive competitors aren't counted under the current competitive trigger analysis the FCC uses to determine when a particular geographic market should be deregulated.

The problem is that current rules only count competitors who physically co-locate their equipment in the incumbent's central office. But many of the new generation of competitors, cable, fixed wireless, and other new entrants, bypass Embarq's network altogether and are never included when competition is measured. Despite the FCC's recent invitation to refresh the record, our top cable and fixed wireless competitors did not file their data. In fact, our own analysis indicates at least one of our currently regulated markets would merit pricing flexibility in deregulation if all of our competitors were counted because we are in direct competition with a cable provider, a fixed wireless provider, and a local electric utility that has entered the special access business in that city.

In August and September, Embarq filed substantial data with the FCC showing our special access competitive losses as well as the continuing impact of price cap regulation on our rates. In fact, Embarq demonstrated that our DS1 channel terminations which are often used to connect cell towers are on average priced below

forward-looking economic costs to providing the service. Prices for our high capacity DS3 services have declined 35 percent since deregulation in 2001. Just this year, to meet growing competitive threats, Embarq more than doubled fiber investment plans for wireless backhaul even as our prices have generally held steady or declined in some cases. Perhaps most tellingly, a November 2006 study by the GAO found that since the beginning of deregulation the average price per unit actually paid for special access has declined.

Ultimately we believe that if the Commission were to take action on the special access rule-making a necessary prerequisite would be to close a gaping hole in the record by obtaining data from all new competitors in our filings and those of other ILECs in ensuring that services provided by such providers were considered in any eventual rule change.

On the question of regulatory forbearance our chief concern is that once a market has become competitive and new entrants are strong and healthy, it is unfair to impose extensive economic regulations on just one provider even if only by regulatory inertia while others grow their share unburdened. Congress seemed to anticipate this danger, and deliberately structured such intents so regulators would periodically reaffirm the public interest in maintaining economic regulations or otherwise pare them back.

In conclusion, ultimately we believe the best course for policymakers is to pursue a technologically neutral approach that lets the market choose winners, and losers, not government, and recognizes that competition often comes about in ways very different, excuse me, from how it was originally predicted.

We thank you for the opportunity to appear and look forward to working with the members of this subcommittee. Thank you.

[The prepared statement of Mr. Cheek appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, Mr. Cheek, very much. Our next witness is Brad Evans. He is the chairman of Cavalier Telephone. Cavalier is the third successful competitive carrier that Mr. Evans founded. We now turn to you for 5 minutes. Whenever you are ready, please, begin.

STATEMENT OF BRAD EVANS, CHAIRMAN, CAVALIER TELEPHONE

Mr. EVANS. Thank you, Mr. Chairman, and members of the committee.

I am Brad Evans, founder and chairman of Cavalier Telephone. Thank you for the opportunity to testify here today. I will briefly introduce Cavalier and then discuss the threat to competition posed by forbearance petitions pending at the FCC. We need congressional help to stop these petitions filed by AT&T, Verizon, and Qwest.

Our company is a success story of the new, competitive marketplace mandated by the Telecommunications Act of 1996. Cavalier, we launched voice service on its first switch in Virginia in 1999. Since that humble beginning we have grown to become a profitable company with over $650 million in revenues and over 2,000 employees. Cavalier, we embrace the residential market, and we are

adding approximately 25,000 new customers each month. We have made significant capital investments, and we now own over 11,000 miles of fiber, and we have saved customers untold millions on their telephone bill.

Cavalier is a facilities-based provider. The only part of the network that we don't own is the so-called last mile. These are the copper lines that run from a local central office directly to a customer's home or office. These last mile facilities are essential for telecom competition and were the underpinning of the 1996 Telecom Act, and it is access to these facilities that forbearance threatens to eliminate.

Cavalier has super charged the legacy copper network with the latest technology. Our super charged broadband provides up to 15 megabits to the home, to users. And Cavalier is an industry pioneer in competitive TV service that uses IP technology to provide 150 channels of television over Cavalier's broadband network.

Unlike Verizon's FiOS, our TV service runs over existing copper loops. That means we can serve the older neighborhoods with copper facilities, not just the gated, suburban communities with the newly built fiber networks. Cavalier is a low-cost provider. Most of our 400,000 residential customers are in the lower-income brackets and enjoy the 20 percent monthly savings Cavalier offers. Our triple-play customers save $70 per month compared to the monopoly prices.

As part of its FiOS rollout, Verizon is removing copper loop facilities built with rate-payer dollars. Why? Because Verizon wants to remove the copper facilities that competitors can use, replacing it with a fiber that the FCC has exempted from any unbundling requirements.

We believe Congress and the FCC should not allow the dismantling of a valuable American asset, America's copper network. Forbearance permits the FCC to consider changes to the Act if those proposed changes will promote competition. Our problem is not with section 10. Our problem is that the FCC has permitted changes to occur using a process that is deeply flawed. Last minute evidence dumped into the record with no opportunity for other parties to respond. Orders being issued so no one even knows what relief was granted, and an agency process riddled with confidentiality and secrecy that makes a mockery of administrative transparency.

Verizon has admitted using E911 data that was flawed in overstating competition in a proceeding before the Virginia State Corporation Commission. The word is now out. The way you get the relief you want from market opening protections in the Act is simply to file forbearance petitions. There is no due process. The forbearance proceedings are effectively a kangaroo court.

Past forbearance petitions have been limited to small markets like Omaha, Nebraska, and Anchorage, Alaska. However, the Bells are now seeking forbearance in major markets like New York, Boston, and Denver.

Cavalier alone has over 90,000 residential customers and another 50,000 business lines affected by the pending Verizon petitions in Philadelphia and Virginia Beach. All told 47 million Americans live in areas affected by these petitions, and no one should kid themselves. Just as we saw in the grant of the Qwest forbearance peti-

tion, the Bell companies will not offer meaningful commercial terms. Once our right to access is removed through forbearance it will only be a matter of time before they choke off the remaining competition. Congress did not intend such intent of the Telecommunications Act to be a weasel clause for the Bells to eliminate competition.

In conclusion, we ask Congress to urge the FCC to just say no by rejecting the pending petitions and setting clear standards or processes by which future forbearance petitions will be judged.

Thank you.

[The prepared statement of Mr. Evans appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, Mr. Evans, very much. And our final witness is Mr. Wes Rosenbalm. He is the president and chief executive officer of Bristol Virginia Utilities. He is responsible for managing the municipal broadband network in Bristol, Virginia. Welcome, sir.

STATEMENT OF WES ROSENBALM, PRESIDENT, AND CEO, BRISTOL VIRGINIA UTILITIES

Mr. ROSENBALM. Good morning, Mr. Chairman, Representative Upton, and subcommittee members.

My name is Wes Rosenbalm. I am president and CEO of Bristol Virginia Utilities. I would like to thank you for this opportunity to be here today.

Bristol Virginia Utilities is a city owned, public utility offering water, sewer, electricity, phone, data, and cable television. We manage over 50,000 traditional utility and telecom accounts with an annual budget of $64-plus million. Bristol Virginia Utilities began a process of entering the telecom and information service business in 1999 because Bristol and its region were losing population. It was losing most of its manufacturing base. It was losing its most lucrative cash crop, and it was losing its highest paying jobs. Sharing Congressman Boucher's vision, city leaders decided that the city should install an infrastructure that would permit this area to compete in the information society if the city was to survive. It was not otherwise going to happen.

We felt it was important that the people of our community have broadband options sooner rather than later. At an expense of $2.5 million in legal and regulatory costs plus capital expenditures, Bristol Virginia Utilities began offering services. The $2.5 million is equivalent to the approximate cost of initiating service to an additional 2,000 customers. By July 1, 2003, Bristol Virginia Utilities was able offer all three of its current services, phone, cable, and data, via a state-of-the-art fiber to the premise network.

Have we been successful? We believe our success can be seen in the following facts. We currently enjoy a 65 percent residential penetration rate within the city of Bristol, Virginia. We have recently won the prestigious 2007 Cornerstone Award for customer service. We have stabilized rates in our community, thereby improving the quality of life. Because this infrastructure is now in place, we have launched a comprehensive economic development effort titled "Access Bristol." It is our belief that broadband is the new essential infrastructure. That point was re emphasized re-

cently by Virginia's Secretary of Commerce and Trade Patrick Gottschalk, who supported the launch of this economic development effort.

Most recently we have been noticed on a regional basis. Economic development partnerships in the southwest Virginia counties of Washington, Smith, Wythe, Buchanan, Russell, Tazewell, and Wise have all requested that our infrastructure be expanded from Bristol into their communities with the help of economic development money and encouragement from State and Federal legislators. Many of them now have the broadband access that they so desperately need to thrive in the high-tech 21st century.

Last, and potentially most important is regional outreach has brought new companies and jobs to our region. Fortune 500 companies Northrop Grumman and CGI Group, two highly broadband dependent companies, are locating 700 jobs in Russell County alone. They pay an annual average salary of $50,000, significantly higher than the region's current average salary. Both companies attributed their decision to locate in our region in part to Bristol Virginia Utilities high capacity fiber optic infrastructure. The president of CGI Group stated in a letter to the editor of the Bristol Herald Courier that the fiber optic infrastructure was just like those found in northern Virginia.

Because of this we have been contacted by as many as 50 public entities with the assistance of the American Public Power Association, most of whom are facing the same lack of broadband technology opportunities in their communities. These municipalities are seeking from us solutions for their communities that will allow for the same level of choice and economic availability that we have now. They are telling us that the infrastructure in their city to provide broadband technology opportunities is not developing. The Community Broadband Act of 2007 will empower other communities to bring these same advantages to their residential and corporate citizens without delay and added expense.

As has been noted this morning, according to the Organization for Economic Cooperation Development, the United States has dropped to fifteenth place on the global list. The Community Broadband Act of 2007 will remove the legal and regulatory barriers that prevent communities from uniformly providing the essential broadband infrastructure they so desperately need. For the hundreds of small, rural communities that want a robust broadband network available at a fair and stable price, providing for that infrastructure is a top priority. The Community Broadband Act of 2007 will allow municipalities to improve the quality of life in their communities, and enhance their economic development opportunities.

I cannot say enough to express the debt we owe Congressman Rick Boucher for his efforts not only on behalf of Bristol but on behalf of all our country's needs for this new essential utility, high speed broadband service.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Rosenbalm appears at the conclusion of the hearing.]

Mr. MARKEY. Thank you, Mr. Rosenbalm, very much. That completes the time for opening statements from our witnesses, so we will now turn to questions from the subcommittee.

Let me just begin by saying that at our international broadband hearing I asked an executive from NTT, Japan's incumbent telephone company whether NTT was allowed to disable copper loops after it deployed fiber to a home or business. He responded that as much as NTT would like to do so, to dismantle the copper, that the Japanese Government had not allowed this practice because it would prevent broadband competitors from using the copper. So let me begin by asking you Mr. Tauke, does Verizon have a legitimate business reason for disabling the copper loops, or is Verizon just simply afraid of a truly competitive broadband market with more than two competitors the way it exists in Japan?

Mr. TAUKE. Let us start, Mr. Chairman, with the fact. The fact is that we don't disable the copper loops. We have not disabled copper loops to any home to which we have extended fiber, and we continue to provide services to competitors over copper loops in areas where we provide fiber. The FCC has established a process that we would have to go through if we decided to disable copper loops. Now there are instances where because of connections to the home or something, the last wire from the pole to the home, in some cases aesthetics and some cases other issues such as poor wire, is taken down. But we have an obligation under current rules to provide that copper loop or last wire from the pole to the home to a competitor if they choose to purchase that service from us.

Mr. MARKEY. Well let me go to——

Mr. TAUKE.I will just say that we have a timeframe within which that must be installed as we do for other duties.

Mr. MARKEY. OK. So would you oppose any efforts to disable such loops?

Mr. TAUKE. Well, Mr. Chairman, I think that the bottom line is that this is the technology that is getting older. We are replacing the network. At some point down the road there will be a point where either you have to put a lot of money into rebuilding the copper network or you decide to not continue to maintain it. And our view of that is a decision that we should be able to make down the road depending on what is going on in the marketplace, what customers want, and so on.

Mr. MARKEY. So let us go to——

Mr. TAUKE. It is not an issue that we think is, frankly, ripe right now.

Mr. MARKEY. Who owns that copper wire? Is it Verizon or the consumer?

Mr. TAUKE. Verizon owns the copper wire.

Mr. MARKEY. You don't think the consumer owns it?

Mr. TAUKE. No, the consumer doesn't own it. The shareholders of Verizon are the ones that put up the money to continue to invest in the infrastructure.

Mr. MARKEY. Well, again, I disagree with that. I do believe that the consumers have through their rates spent billions of dollars in helping to create that lifeline to their homes, a competitive lifeline to their homes as well in the future. And I think therein lies the

core of this debate, and I would like to go to Mr. Evans who depends upon this copper wire as a means of competition.

Mr. EVANS. Yes, Mr. Chairman. Verizon is knowingly cutting off the wire into the homes when they put in the fiber. They are removing the NID, the box that interconnects the copper wire, and totally disconnecting the customer's home. They are putting a roadblock upon the local road so we can't get access. And so in order to do that then they would have to go back. We would have to issue a special order. Have a truck roll to pay charges for and re-put a box on a customer's house. There is no reason to take that box off the house. They are just doing it so that it is not easy for competitors to get to use that copper network.

Mr. MARKEY. So Mr. Tauke says that that would just be an accident or aesthetics that would have the removal.

Mr. EVANS. We have had proceedings in Virginia and Pennsylvania. It is not an accident. It is happening all the time. It is commonplace.

Mr. MARKEY. It is commonplace. So let me then move on to a question for Mr. Casto. You assert that special access prices have declined since 1999, but the GAO found that list prices and average revenues are higher in areas where AT&T and Verizon were granted unconstrained pricing authority then in those areas where prices are still capped by Federal regulation. How do you explain that outcome, Mr. Casto?

Mr. CASTO. Well, Mr. Chairman, I would at first reiterate that, in fact, prices have declined since the advent of pricing flexibility, in fact, double digit declines over that period of time. I think what the report indicates is that list prices as outlined in the deregulated section of tariff, which by the way are analogous to the prices on the sticker of a car are the prices that are, in fact, perhaps slightly higher. And those list prices are not prices that very many customers pay at all.

Mr. MARKEY. OK. Where you have been given so-called phase two flexibility to set your own special access rates, those rates have actually risen. Ms. Herda, could you deal with that question?

Ms. HERDA. I would love to comment on that actually. I think that the statement that their prices have gone down is extremely misleading. In fact, that sticker price has gone up but what they have done is they have been locking up companies, customers, and user customers, as well as carriers into these long term contracts that I not so affectionately refer to as the heroin drip. The more you buy the more you have to buy in order to be able to get the discounts where you can be competitive. And every year the requirement gets higher and higher and higher, and this is a very anticompetitive practice. In fact, Mr. Forsee over there has major commitments. We have major commitments. I have tried to sell to Sprint, and the problem is that we can't bring our prices low enough to make up for the penalties that Sprint would have to pay if they move some of their services to us because they are not meeting those commitments. So it may appear, I think what is important is context here. If you see the prices look like they are going down, it is the result of these long term contracts that are very, very bad for us. One of the issues we have today is that as the world is moving to Ethernet, and Ethernet is special access. Even

the incumbents have it in their tariffs as special access, in the category of special access. As the world is moving to Ethernet they are not even allowing us to put Ethernet into these revenue commitments so that, as we have to get bigger, and bigger commitments every year for special access, and the world moves to Ethernets, we are all going to be stuck with these big commitments with huge penalties at the end of the day without having any kind of recourse.

Mr. MARKEY. Let me just conclude by saying that in the United Kingdom, in Japan, and other countries around the world they are using the age of copper to move to a bright broadband future for their countries. And I think it is very important for us to understand that this copper is invaluable in ensuring that there is real competition out in the marketplace.

Let me turn now and recognize the gentleman from Michigan for his questioning.

Mr. UPTON. Thank you, Mr. Chairman. I just want to go back to the dialog between Mr. Evans and Mr. Tauke. Mr. Evans, you seem to indicate that, in fact, the copper is, in fact, disconnected, disabled. Mr. Tauke, you said it was not.

Mr. TAUKE. First, let us have definitions. The loop is from the central office to the home.

Mr. UPTON. Right.

Mr. TAUKE. The bulk of the loop is up to the pole. If you disconnect the wire from the pole to the home, which we do regularly——

Mr. UPTON. When you put in the fiber.

Mr. TAUKE [continuing.] When we bring in the fiber, in part for aesthetic reasons and in part because it reduces maintenance costs we do that on a periodic basis. Not in all parts of the country, but we do that in many areas. However, if the customer wants the copper or if a customer wants another carrier to use copper we put that copper back in, and we have rules that require us to do it within the same timeframe as we provide any unbundled network element. So there is no instance in which we are denying a carrier access to copper infrastructure to a consumer.

Mr. UPTON. You don't remove that last mile copper.

Mr. TAUKE. We are not removing the last mile. In no instance have we removed the last mile. Now I will say down the road as you know, obviously we are putting our investment into fiber. It is tough to invest and maintain two networks. We are putting the investment into fiber, but we are continuing to use the copper ourselves. Some others use copper but, frankly, not many customers want the copper services after they have the fiber available.

Mr. UPTON. So, Mr. Evans, what is wrong with that?

Mr. EVANS. Well the last mile loop is pretty useless if it stops at the telephone pole. I can't, haven't had many of my customers like on Green Acres.

Mr. UPTON. Yes, but they are able to reconnect it though is what Mr. Tauke is saying.

Mr. EVANS. It never works as easy as what he makes it out to be. When you try to order a loop they will say they do not have one available. We have to expedite and go around the process, and they have very stringent processes. They charge us truck rolls.

They charge us reconnect fees for a piece of cable that should just stay in the ground and be where it is. They are only doing it to hamper competition. They don't have to maintain it if it is not in use. It just sits in the ground.

Mr. UPTON. Mr. Tauke.

Mr. TAUKE. There is no charge for reconnecting the drop from the pole to the home. We do not charge for that. For the customer we don't charge, and we don't charge the CLEC for it.

Mr. UPTON. All right. This question is for Mr. Tauke, Mr. Casto, and Mr. Cheek. There has been some confusion about whether the forbearance petitions at the FCC also apply to the facilities and the special access proceeding. The facilities and special access proceedings are called DS1s and DS3s. If the forbearance petitions were granted would either of these two be affected? Mr. Tauke or you can go ahead, Mr. Casto.

Mr. CASTO. Although I am not familiar with all the procedural aspects of it I can tell you from AT&T's perspective we are only seeking relief on switched and packet based services. In fact, DS1s, and DS3s will continue to be made available pursuant to the existing tariffs today.

Mr. UPTON. Go ahead.

Ms. HERDA. I would love to be able to respond to that. As I said earlier, Ethernet is special access. It is simply an access technology that takes a customer from one location to the other. It is less expensive than special access. It doesn't require all the equipment. We have Ethernet in this building, and most business buildings have Ethernet. You go to another building, and they have Ethernet in their LAN. What special access does is convert Ethernet to another technology to just turn back into Ethernet in the next building. What we have done is created a product that allows customers to take Ethernet all the way through so it reduces the electronics. The technology is slightly different. It is less expensive but it is the same concept, and Ethernet is part of the forbearance proceedings. If they allow it to forbear Ethernet then we will not be able to address Ethernet in the forbearance proceedings.

Mr. UPTON. Mr. Tauke.

Mr. TAUKE. Mr. Upton, again, I think definitions are helpful here. Just understand that under FCC terms you have a switched access bucket and you have a special access bucket, and everything that isn't in switched is thrown in special. But as you go further things like DSL have been taken out in our forbearance petition. The FCC further refined its definitions so that there are two categories. Special access is the traditional ATM services such as DS1 and DS3. The more advanced services like IP based services, Ethernet services, those things were put into the high speed broadband category, as the FCC did with the broadband marketplace, and residential, they looked at a nationwide market for broadband for the high speed business market. Now understand this is for the high speed customer. The Fortune 500 companies, these aren't the poor residential customers, these are the Fortune 500 companies. And, yes, that category of services, those high speed services are the subject of the forbearance petition. But they are not traditional special access services such as DS1, and DS3.

Ms. HERDA. I want to correct one thing that Mr. Tauke just said. The FCC did not redefine anything in their forbearance petition. It was strictly done by default. There was no process. There was no discussion. There was no debate. It just happened, and no decision was made.

Mr. FORSEE. And those DS1, DS3 services are the exact services we rely on today to get access to our networks for wireless, and for our retail customers, so it is at the heart of broadband deployment in this country, and again, to let that lapse, and not take action, again, will ensure that we will be, again, on the slow road to 18th place instead of 16th.

Mr. MARKEY. The gentleman's time has expired. The Chair recognizes Chairman Dingell from the State of Michigan.

Mr. DINGELL. Mr. Chairman, I commend you for holding this hearing. I believe it is both timely, and valuable. I ask unanimous consent that my opening statement appear in the record in an appropriate fashion.

Mr. MARKEY. Without objection, it will be.

[The prepared statement of Chairman Dingell follows:]

PREPARED STATEMENT OF HON. JOHN D. DINGELL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. Chairman, thank you for holding this hearing. I am pleased that we have this distinguished panel before us today, and I thank the witnesses for being here.

The focus of today's hearing is on the future of telecommunications competition. We will hear about four issues concerning broadband, and the pace of broadband deployment. Underlying any decision must be the twin goals of promoting greater broadband deployment, and greater choice for consumers.

The first issue I wish to highlight is that of regulatory forbearance. Section 10 of the Communications Act permits the Federal Communications Commission to forbear from applying certain statutory requirements to telecommunications carriers. It is unusual for Congress to vest such power with a regulatory agency. For that reason, when Congress passed section 10, we included several provisions to protect consumers, and protect the ability of Congress to conduct oversight.

Unfortunately, to date, I believe that the forbearance process lacks the necessary level of transparency. In one instance the FCC permitted a petition to be "deemed granted," and did so without issuing a written order. I am not expressing an opinion on the merits of that petition. However, the lack of a written order renders unclear the scope of relief, prevents the Congress from conducting appropriate oversight, and may hinder the FCC's ability to defend such action in court. This cannot be permitted to happen again.

Second, entities petitioning for relief have been permitted to make substantive changes to their petitions at a very late date—so late that opposing parties have been denied a meaningful chance to respond. I believe that we must make sure that the forbearance process is fair, open, and transparent in the future.

Next on the list is special access. The FCC granted providers a measure of regulatory relief in 1999 and is now reviewing the marketplace to determine what, if any, changes are necessary to protect consumers, and promote continued investment in infrastructure. Much has changed since 1999. The market structure changed when the largest local, and long distance companies merged. And the incumbents are facing new competition from cable, and wireless companies, and others.

The FCC must have all the relevant data if it is going to make an informed decision. I am troubled by reports that those seeking re-regulation have thus far been less forthcoming than they might be with data about their facilities. I expect to hear commitments from the witnesses today that they will make sure that the FCC is kept properly informed.

Similarly, it is not the business of the Government to simply effect the transfer of funds from one set of private actors to another. Therefore, I also hope to hear specific commitments concerning how consumers will benefit from any reductions in special access rates.

Finally, I want to mention municipal broadband.

Municipal broadband networks are becoming more important in ensuring that all Americans have access to advanced broadband services. Provided that all competitors are treated fairly, it makes little sense for the law to prohibit investment in advanced broadband networks by municipalities, particularly in those areas least likely to attract private sector investment. I wonder if the panel, and the Members of this Committee can reach agreement around that simple principle.

Again, I am pleased that we are holding this hearing today, and I look forward to the testimony of the witnesses.

Mr. DINGELL. I may have a lot of questions here, and so I am going to have to hurry the process. I am going to ask these questions in this way. Does anyone at the table disagree that the public has a right to know specifically which statutory and regulatory provisions the FCC is forbearing from? I take it that you all then agree with that statement. Do you all agree that the FCC should issue a written order to clearly set out the exact scope of the relief granted and to set forth the rationale underlying the agency's decision?

Mr. TAUKE. Mr. Chairman.

Mr. DINGELL. Yes.

Mr. TAUKE. If I may, let me comment on that. The statute that Congress passed suggested that if the FCC did not issue an order that the forbearance petition was granted. That was designed to force the FCC to address the issue.

Mr. DINGELL. Is that a quite different result though? The different result is that all of a sudden we have orders issued by the FCC which are unappealable, which are unwritten, which no one has an opportunity to comment on, and which no one has a right to get any justice on simply because the FCC has failed to act. That is very wrong, isn't it?

Mr. TAUKE. Mr. Chairman, I don't think that is the right process either. But under the statute that is what happened, and what my concern would be is if you require an FCC order, and the FCC doesn't issue one, and many of us have waited years for the——

Mr. DINGELL. Well, I am aware of that.

Mr. TAUKE. Then the forbearance piece falls apart.

Mr. DINGELL. But it is quite probable that there are better ways of addressing this problem, and that is one of the things that I intend for this committee to do. Now, does anyone disagree with this? Because the deemed granted language of the statute has resulted in petitions being granted without a written order would you agree that the deemed granted language should be removed from the statute? Is there anyone who disagrees with that statement? Would you want to tell us why?

Mr. TAUKE. Mr. Chairman, without knowing how you are going to force the FCC to act within the 15 months and issue an order I am reluctant to agree that the deemed granted piece should be removed because in essence what that does is put us back to where we were in the past where the FCC, there was no forcing mechanism to require the FCC to address an issue.

Mr. DINGELL. And so would you agree that we have substituted one abomination for another?

Mr. TAUKE. That could be, but I guess that the point is, Mr. Chairman, is what we want to do is to have some mechanism to force the FCC to act. If we can get an order that is even better.

Mr. DINGELL. Does anyone disagree with this statement: Any interested party should have a fair opportunity to comment on the merits of the petition? No disagreement. Would any disagree that if a petitioner revises its petition in the midst of a proceeding all interested parties should have a meaningful chance to comment on the change? I assume that all, therefore, agree. And then would anyone disagree that the FCC should adopt procedural safeguards to ensure that interested parties have sufficient opportunity to weigh in on revised forbearance petitions? No disagreement. And I want to be fair, but you have got to understand time is limited here. Now would any disagree with the statement that the FCC needs a clear picture of the state of the telecommunications market to make informed decisions concerning special access?

Mr. FORSEE. Mr. Chairman, I would submit that in disagreement with the GAO report that, in fact, that record has been established, and the facts that we have showed today that represent a $16 billion market for the ILECs, with excess profits that we would estimate in the $8 billion range, that that record is clear, that the market hasn't developed, and that the FCC should act on.

Mr. DINGELL. Of course, it should be observed that the FCC does need that clear picture, does it not?

Mr. FORSEE. They had the picture. The record has been established.

Mr. DINGELL. Are you satisfied that they had that?

Mr. FORSEE. They don't need more data to make that determination.

Mr. DINGELL. Now is there any disagreement with this statement, that to get a clear picture of the market the FCC needs to know where some of these exist, and where they do not exist, is that a fair statement? Anybody disagree with that? All right. Now then let me ask this, would each of you commit to ensuring that your company provides the FCC with all the data it needs to make an informed decision? Is there anyone who will do that?

Ms. HERDA. Yes, Mr. Chairman, if I may? At Time Warner Telecom we are the largest competitive provider in terms of actual buildings connected with fiber in the country. We have 8,000 buildings connected with fiber, and we have participated in all of the proceedings. We have given our information to the GAO. We have given it to the FCC as recently as last month, and last year, and whenever they ask for it. And as part of the Department of Justice process with regard to the merger activities they had subpoena power.

Mr. DINGELL. The question, however, is just this, would all of you commit to ensuring that your company provides the FCC with all the necessary data it has to have to move forward with an informed decision?

Ms. HERDA. We do, and we have. Absolutely.

Mr. DINGELL. Very good. Is there anyone who would not agree to file periodic reports to the FCC providing data that the Commission determines it needs to remain informed about the telecommunications marketplace, and the state of affairs there? Very well. Now is there anyone there who would not agree that if the FCC decides to lower special access rates the amount your company spends on special access will decrease?

Mr. TAUKE. Could you repeat that?

Mr. DINGELL. Well in other words, if the FCC decides to lower special access rates the amount that each of the companies there will spend on special access will, in fact, decrease? Is there any disagreement with that statement?

Mr. FORSEE. Well, in fact, if prices were decreased as you suggest that may allow faster deployment of broadband, and our special access deployment may accelerate as a result of that so on an apples to apples basis the prices roll back.

Mr. DINGELL. So you qualify the statement but you——

Ms. HERDA. Actually that depends because a lot of the commitments that the incumbents have required us to commit to have our rates down as a result of those so it would depend on where the rates would actually go.

Mr. DINGELL. Now which of the companies at the table will pass the savings on to the consumers in the form of lower rates, and which will use the savings for other purposes? Starting at your right, ladies and gentlemen, at your left and going across to your right.

Mr. ROSENBALM. This really is not an issue for Bristol Virginia Utilities. We are facilities-based and defined in geographic region so it is not our issue.

Mr. DINGELL. Sir.

Mr. EVANS. Cavalier would pass it on. We have lower access rates in Detroit, for example, because AT&T charges us about half of what Verizon charges us for special access already.

Mr. DINGELL. Sir.

Mr. CHEEK. As a local exchange carrier, Embarq, we are not really faced with the pass on question. That is really for those that would be charged the rates that we have for special access if our rates go down.

Mr. DINGELL. Sir.

Mr. FORSEE. Yes, in some cases today as we provide retail services to Fortune 1000 customers, in fact, we are not competitive today because we are having to rely on special access services so there could be an opportunity for us to pass that along and to be more competitive and ensure that there is robust competition for long distance. Related to wireless, it is our opportunity to be more innovative, to deploy more broadband services, and to deploy a more robust wireless network, and we would intend to use those sources for that purpose.

Mr. DINGELL. Mr. Tauke.

Mr. TAUKE. Mr. Chairman, we would be paying less to some carriers obviously for special access services, but we would be receiving less on the other side, so I suspect it is something of a wash for us.

Mr. DINGELL. Ma'am.

Ms. HERDA. If the rates actually do go down below what we are paying today it would allow us to be more competitive and would also allow us to make more investment in adding fiber into more buildings across the country so that there actually are distinct, separate alternatives for the local exchange carriers.

Mr. DINGELL. Sir.

Mr. CASTO. AT&T is in much the same position as Verizon, as we are both a seller and a purchaser of special access so it depends. I think it probably would be a wash. I would be interested in making one observation and that is that the prices that all of these customers currently pay for special access with AT&T is going down. I would be interested if they would pass those on to the consumers.

Mr. DINGELL. All right. I guess that is the questions that I have. Mr. Chairman, thank you for your courtesy.

Mr. MARKEY. The Chair recognizes the gentleman from Nebraska, Mr. Terry, for 8 minutes.

Mr. TERRY. Thank you, Mr. Chairman. I am going to start off with you, Tom. Actually, your opening statement piqued this question regarding the Universal Service Fund, and I appreciate your comments in bringing it up, and I simply say that I think I would agree with all of the principles that you brought up from prior conversations. We may have disagreements about details of how to implement those principles, though. But I did want to express my appreciation for you bringing up the Universal Service Fund. Now in comparison to the special access issue and the forbearance petitions, if Congress had to act on one thing this year, in your mind, in your opinion should we be focusing on the special access issue or the Universal Service Fund?

Mr. TAUKE. Well the special access issue has to deal with the high end of the marketplace, and we can discuss these statistics that have been offered, but the way I look at the marketplace it is highly competitive. We have seven or eight national carriers who are providing special access services. There is vast deployment of new capability every year. So we see this as a very highly competitive market that serves the high end of the market, and there the customers, by the way, are driving down prices because they have choices. I think the biggest area of concern that the Congress should address is this area of broadband deployment. While we have made great progress on broadband deployment the fact remains that we have some areas of the country that don't have broadband capability yet. And as several of the Members said in opening statements, this is the future. This is how you are connected to the world. This is how you grow your economy. This is how you are going to get health services and various other education services. So I think that is what is most important, and that is why we would like to see Congress move on these efforts to do mapping, to try to establish public/private partnerships to get this broadband deployed in the hard to serve areas.

Ms. HERDA. Congressman, may I just make one correction in what Mr. Tauke said when he said special access is.

Mr. TERRY. We will just allow you to make a correction to Mr. Tauke for the request.

Ms. HERDA. I just want to give you the names of a couple of businesses of the 25,000 or so that we have that are served via special access, and these are not the Fortune 500 companies of the world. Blue River Hardware.

Mr. TERRY. Before you start, would you endorse my USF bill? That is really where I was going with the question.

Ms. HERDA. You have Duke School for Children in Raleigh which is a preschool. You have Robert's Printing which is a printing com-

pany in Tampa. You have Amsterdam Family Practice which is a healthcare organization. You have Michael Willis Architect which is an architect firm. These are small business customers that are impacted by special access. This is not a big business issue. This is an all business issue.

Mr. TERRY. All right. Reclaiming my time. Mr. Evans you mentioned, I am not going to ask you a question but I do appreciate you bringing up my hometown, Omaha, Nebraska. It is interesting because the incumbent company there, Qwest, is the minority provider both of residential, and it is probably close to a 50–50 split on business, and you have Cox Cable that is now the Cox Communications, sorry, wrong name. Now as I am frequently corrected by them. Cox Communications has been very aggressive. They run commercials about their small business package. They brag about the Fortune 500 companies in Omaha that they provide service to, and as I understand in the special access, Cox Communications doesn't have to open up their systems to anybody but the incumbent, Qwest, does, is that an accurate understanding of the status quo?

Mr. EVANS. Yes, the Telecom Act was aimed at unbundling the copper network that rate payers had paid for over the last 100 years. Cox being a private company didn't have the benefits of all the subsidization and the rate of return to build that copper network.

Mr. TERRY. All right. Would you agree with the level of competition in Omaha, Nebraska that forbearance should have been granted?

Mr. EVANS. No, I do not agree.

Mr. TERRY. All right.

Mr. EVANS. Forbearance didn't help Qwest compete. It just took out another competitor or multiple competitors, and if that happens everywhere there will just be Cox and the telephone company, and so all the smaller guys that really get innovative, really save consumers more money, it will be a duopoly, and that is what they want. They want to go back to a duopoly where they both can have a big share of the market and both can charge exorbitant rates.

Mr. TERRY. Well I would have to say that by observation the vicious competition between the two have driven down prices.

Mr. EVANS. Well if those two were so great in Richmond they will wipe us out anyway so we still find a way to have 25,000 customers. When I compete in Virginia Beach with Cox, I compete with Verizon. We do not compete with Qwest.

Mr. TERRY. I understand the point, although I would somewhat disagree. Mr. Cheek, Embarq is in a unique position from all the other folks at this table today, for which I will have to compliment our chairman. Once again, this is a pretty blue ribbon panel for us to have this level of discussion with. But it seems my interpretation is that you agree with Verizon and AT&T on the forbearance and special access issues but you come at it from kind of a rural position, or thought process, or philosophy versus theirs. And I just want you to go through for me, as kind of the rural protector, of why your position is different. Your position is different from the other companies on forbearance.

Mr. CHEEK. From forbearance we did file a forbearance petition that is very similar to the forbearance that was granted to Verizon and the other petitions that are filed. It only applies to the higher capacity broadband services that is above the DS3 level. So in our case the answer to the Congressman's question earlier this morning, DS1 and DS3, we are not seeking forbearance for those regulatory services. We are different than Verizon and AT&T in that we are not an integrated carrier. All right. We don't own a long distance company. We buy long distance minutes from Sprint. We also are not a wireless company. We have to buy every minute that we sell through our wireless company that we have formed. We have to sell every minute that we purchase from another provider as an MVNO provider. So we are different in those regards. We do operate in rural territories as I said. USF is extremely important to us, and to answer your previous question, we believe that should take front, and center attention by this subcommittee and, frankly, by the FCC.

Mr. TERRY. I appreciate it. Now, well my time is almost up so I will yield back my 13 seconds.

Mr. DOYLE [presiding]. Thank the gentleman. The Chair now recognizes himself. This question is for Mr. Tauke, Mr. Casto, Mr. Forsee, Mr. Evans, and Mr. Cheek, and very quickly just a yes or no answer. By Labor Day next year over 53 million numbers will be automatically removed from the Federal do-not-call list. And since many of you have to report numbers that disconnect to scrub the do-not-call list clean, and since a few of you sitting there are responsible for calling me at dinnertime to ask me if I am happy with my long distance carrier, I just want to know will you support the bill that I introduced with my good friend, Chip Pickering, making the do-not-call registry numbers permanent? It is just a quick yes or no, folks.

Mr. TAUKE. Yes.

Mr. CASTO. I am not familiar with the bill, but I will tell you that from a consumer standpoint I am on a do-not-call list, but that is about the extent of my expertise in that area.

Mr. DOYLE. I will take that as a yes.

Mr. FORSEE. Yes.

Mr. CHEEK. Yes.

Mr. DOYLE. OK. Very good. Mr. Evans.

Mr. EVANS. Yes.

Mr. DOYLE. Now I understand Cavalier is launching service in the Pittsburgh area next week. Can you tell me where you are offering service?

Mr. EVANS. Yes, we just built a new switching center, deployed fiber to 18 Verizon central offices throughout the Greater Pittsburgh area from downtown to East Liberty to Northside, Oakland, Squirrel Hill, Perrysville, Sharpsburg, Robinson, and Wilkinsburg. So we build very big networks so we can offer services to all the consumers in that region. Once we get established and start getting successful then we typically expand out to even more offices to provide greater coverage.

Mr. DOYLE. And you are going to be able to do that by what date?

Mr. EVANS. We are turning on the service the 10th of October.

Mr. DOYLE. The 10th of October. Mr. Tauke, can you pledge on behalf of Verizon, that you will roll out FiOS to all those areas that Mr. Evans just described in my district by, what is it, October what, Mr. Evans?

Mr. EVANS. Tenth.

Mr. DOYLE. October 10.

Mr. TAUKE. We won't make it by October 10.

Mr. DOYLE. Well I see, well, listen I want you to know I appreciate the progress that Verizon is making. I saw your initial build-out plans in Allegheny County, and I sort of felt hurt that it seemed like all the FiOS was going north and south of me, but more recently I see a little bit more of my district is being included. But tell me, Mr. Tauke, how do I explain to my constituents and small and midsize business owners that I sit here on the Telecommunications and Internet Subcommittee and I sat back and saw Verizon kill their new Internet provider by playing games with these FCC rules on forbearance?

Mr. TAUKE. I am not sure what carrier we killed.

Mr. EVANS. If your forbearance is successful we will have to shut down Pittsburgh. Without the last mile loops we have nothing to offer.

Mr. DOYLE. So how do I explain that back home to the folks?

Mr. TAUKE. Mr. Chairman, let us just be clear here. Just because there is forbearance doesn't mean that we aren't selling services to our carriers. We have had forbearance, and we have had removal of rules of selling services——

Mr. DOYLE. So you negotiate rates with Cavalier.

Mr. TAUKE. We have negotiated contracts. When the UNE-P went away the view was, oh, the world is going to collapse because there will be no UNE-P. We negotiated contracts with all of the carriers who were using UNE-P, and we still have four or five.

Mr. DOYLE. But you are the only game in town so if they can't pay your rates they have got to walk, don't they?

Mr. EVANS. I can give you a great example of that. We just bought a company in December of last year that was one of the largest UNE-P providers. They had contracts with Verizon. It basically put them in a negative cash flow so they had to be sold. They were a public company. Cavalier bought them, and the rates for UNE-P went from around $18 on average before Verizon did their commercial agreement to around $35 per customer. There is no economic model that we can pay a cost of $35 and recover that in the chart. That is just for a plain phone service. So we are harvesting those customers. They are going away. We are not adding new customers or marketing new customers. It is not a viable business when Verizon does their commercial agreement.

Ms. HERDA. We have had the same experience. We recently bought a company that had UNE-Ps, and we have had to let those customers go because you just can't make any money on it, in fact, it is a money loser.

Mr. FORSEE. Just to go back to the time UNE-P rates were changed both Sprint, AT&T, and MCI were the largest providers of UNE-P services, and all three of those companies dramatically exited that business as soon as that rule changed because it wasn't economical to stay in it.

Mr. TAUKE. If I might point out, Mr. Chairman, all of those companies went under or were forced to sell at a time when the rates were heavily regulated by the FCC and the State Commissions. Rate regulation was not the problem with the UNE-P. It was that the business model was a faulty business model.

Mr. DOYLE. Yes, thank you, Mr. Tauke. I have a little bit of time left, and I don't want Mr. Casto to feel left out. Mr. Casto, in your testimony I saw where you said that you are "not aware of any significant commercial area where AT&T does not face facilities based special access competition today." And I think that is great because I love competition but I am confused. Could you describe to me what you mean by the term significant commercial area?

Mr. CASTO. Sure, they are generally the MSAs within our 22 State footprint. You can look at our pricing flexibility record, and we have been granted pricing flexibility in a number of these MSAs and, in fact, in areas where we haven't been granted pricing flexibility we run into competition and were unable to respond because we haven't been granted flexibility pursuant to the——

Mr. DOYLE. But within an MSA would you concede that there are some areas where there is obviously some places where you don't have significant conversations?

Mr. CASTO. If you mean is there a building that is not lit or something like that?

Mr. DOYLE. Yes.

Mr. CASTO. Absolutely, there are instances like that.

Mr. DOYLE. OK. So there are some areas obviously where AT&T is indeed the only supplier of special access, right?

Mr. CASTO. Consequently there are areas where we are not the supplier within our territory.

Mr. DOYLE. There are some areas where you are the only provider, is that correct?

Mr. CASTO. In a particular building that may be the case.

Mr. DOYLE. So in cases where AT&T is the only game in town, do you use that to leverage other areas where you do face competition?

Mr. CASTO. It actually works quite the opposite. When customers come in and negotiate broad master agreements with us they utilize that to get us to extend prices across the entire MSA or across the entire region, including favorable terms and conditions across every area. And that is traditional practice that is occurring in the negotiations, and in fact, the way the pricing flexibility rules work we are not allowed to price down to a building level. We, in fact, have to extend this pricing either to an MSA level or broader on a State or regional level.

Mr. DOYLE. Thank you. Ms. Herda and Mr. Forsee, isn't this really one of the most important parts of this special access debate, that the big guys can sort of leverage where they are the only game in town to take business in areas where there is competition?

Mr. FORSEE. We sent out in February of this year a request to 77 supposed alternative access providers for our 52,000 cell sites. We had a response from 16 of the 77 that could cover 1 percent of our 52,000 cell sites. The market has not developed with all the efforts of this committee, of the Commission, of competitors around the table, the market has not developed, 52,000 cell sites, 16 re-

sponses covering 1 percent of our cell sites. The market has not developed.

Mr. DOYLE. Ms. Herda.

Ms. HERDA. Yes, sir, it is all about the buildings. At the end of the day if there is not another provider who actually has a physical infrastructure into a building there are no other alternatives than the incumbents. Even the Department of Justice as part of the Verizon/MCI case indicated that the vast majority, and this is after getting all the data that they got from everybody through subpoenas, the vast majority of commercial buildings in its territory that they were the only last mile provider. That they controlled the access, and that is really the key to competition not a central office. It actually amazes me that the FCC used the central office co-locations as a means to determine that there was competition. The only reason why companies build into central offices is to use the loops that the local exchange carriers have out of the central offices. So when you deregulate them you have essentially killed competition because now they can no longer get reasonable prices on those loops.

Mr. DOYLE. OK. Thank you, Ms. Herda. I am well past my time. The Chair recognizes the gentleman from Florida.

Mr. STEARNS. Thank you, Mr. Chairman. And perhaps you might be willing to offer some more time as we go along here, to others on this side.

Mr. DOYLE. We will see.

Mr. STEARNS. OK.

Mr. DOYLE. Depends on the questions you are asking.

Mr. STEARNS. Mr. Forsee, if you don't mind I wouldn't mind you putting your charts up again. If you could have your staff put your charts up.

Mr. FORSEE. I would be pleased to.

Mr. STEARNS. The beauty about this situation is that you have offered your charts, and you have made some pretty charges. And in an open forum like this I think people like myself are actually, honest to goodness, we are trying to understand this and also see who is right. And I think it is an opportunity. Keep moving the charts down. Keep the next one. Get to the one where they say they are paying 10 times the rate, yes. Yes, this is the one, that you make these claims, and I think most members are looking at this and saying is this true? So I was going to give Mr. Tauke and Mr. Casto an opportunity to respond to these charts. You have made these claims, and I think, judging from sitting up here it is a pretty dramatic chart, and what you are indicating in this chart is you are paying 10 times what AT&T and Verizon FiOS is paying, and so I want to give Mr. Casto an opportunity to respond to that.

Mr. CASTO. Sure, thank you.

Mr. STEARNS. And not a lot but I mean just——

Mr. CASTO. Let me just offer a couple observations.

Mr. STEARNS. Yes, maybe you could tell us first of all, do you agree with the chart?

Mr. CASTO. I disagree with the number completely.

Mr. STEARNS. OK.

Mr. CASTO. Looking at that number, and I have done an analysis personally and had my team do an analysis of the rates, Mr. Forsee

and his company paid AT&T, and that is not the rates. In fact, they are much lower than that. I know that is a representative example. I would also take exception with the example that it is not characteristic of the way the network is actually architected or purchased from AT&T, in fact, there is not generally two channel terminations, there is one. The average distance is shorter, so I think it is a mischaracterization of the facts. And, in fact, the rates are much lower than that.

Mr. STEARNS. Is there a discrepancy instead of 10 times? Is there a three times or one time or what is your opinion? If we used your figures.

Mr. CASTO. Right. They may be half.

Mr. STEARNS. Half, so instead of $390 it would be roughly $200.

Mr. CASTO. The other point that I need to make is it is not really an apples to apples comparison example.

Mr. STEARNS. One is fiber, one is copper, you are saying.

Mr. CASTO. Not necessarily, but one is a best effort. Ethernet broadband service that is servicing consumers, Mr. Forsee's business has very sophisticated needs in terms of carrying both data and voice, and he needs services that are more a dedicated nature and therefore, they are more reliable, and there are different characteristics to the provisioning of the services that drive.

Mr. STEARNS. But I hear you characterizing the graph as incorrect but the proportion would be half of that. OK. Mr. Forsee, I am going to let you respond after Mr. Tauke. So I will let Mr. Tauke, your response.

Mr. TAUKE. The chart is meaningless in my view.

Mr. STEARNS. OK.

Mr. TAUKE. It is like saying that well, we have Chevys and we have John Deere tractors and comparing the prices for them. I mean they perform different services. They perform different functions. One is to a residential customer that has much less usage then for a business customer that has larger usage. But the biggest factor is that there are quality of service requirements that are much tighter on a DS1 than it is for a residential customer, and the second is that it is asymmetrical, while the residential customer is symmetrical. So they are just different services, and suggesting that there is a comparison between the two is wrong.

Mr. STEARNS. So in your opinion the chart is not only wrong but the information is being used improperly because they are comparing apples, and oranges.

Mr. TAUKE. Right. It is like the John Deere tractor and the Chevy. They are used for different purposes and different functions, and, yes, the John Deere tractor costs a whole lot more than that.

Mr. STEARNS. OK. But Mr. Casto says that the chart approximately makes the argument that instead of $390 it is roughly twice or $200. So he is at least giving.

Mr. TAUKE. I would stipulate the price is squarely more for a DS1 because it is a totally different service then it is for broadband connection to the home.

Mr. STEARNS. OK. Mr. Forsee, your opportunity to respond.

Mr. FORSEE. Yes, I will try to follow the tractor analogy. I think we are talking a different kind of tractors here than we are tractors

and sedans. We are talking about broadband pipes. And we are talking about services that on the end that I——

Mr. STEARNS. But aren't these broadband pipes that these folks have put in?

Mr. FORSEE. Absolutely, and they put them in over 100 years of infrastructure and switches and all of the participation and the regulatory framework, but the pipes at the end of the day, as you can see by how much traffic is being carried, it is the same technology. It is the same stuff that is going out there, and the fact that they acknowledge, Verizon has acknowledged in their filings that FiOS represents similar services which is a term I used in my testimony, it is similar services using the same technology bandwidth going out to consumers and business customers. It is the same stuff and to be charged 10 times as much in one case because it is their competitive market that is special access that is still, again, being dealt with in a different environment where competition hasn't developed. That is the issue.

Mr. STEARNS. On one of your charts I think you talked about the profits to competitors. You folks made a profit too, didn't you?

Mr. FORSEE. Yes, and my margins are 100 basis points less than AT&T and Verizon's today, part of which is the result of the $6 billion of special access profits that they enjoy beyond the rate of return that would otherwise be calculated. That is the difference.

Mr. STEARNS. OK. Thank you, Mr. Chairman. I wonder if I have forbearance here just to ask one more question?

Mr. DOYLE. We are not granting any forbearance petitions here on this committee. Yes, one more, Mr. Stearns, and make it quick.

Mr. STEARNS. This question is for the entire panel. Have special access rates gone up or down? Is the market keeping rates competitive or is it the regulation? Just left to right.

Mr. DOYLE. Very quickly left to right.

Mr. STEARNS. Yes, very quickly, and have special access rates gone up or down? Is the market keeping the rates competitive or is it the regulation?

Mr. CASTO. Special access rates are dramatically down, and it is the result of the competition we face in the marketplace. Period.

Mr. STEARNS. OK. Ms. Herda.

Ms. HERDA. Our special access rates are down, but the incumbent rates are significantly up.

Mr. STEARNS. Mr. Tauke.

Mr. TAUKE. That is interesting because the rates where we are saving are going dramatically down; the payments have been averaging over 5 percent reduction a year in real terms.

Mr. FORSEE. Retail customers and a filing to the FCC earlier this year estimated that in 2007–09 that special access pricing could cost as much as 234,000 jobs and $66 billion in economic profit. That was filed by the Ad Hoc Telecommunications Users Committee earlier this year.

Mr. CHEEK. As I said in my testimony our special access rates for DS3 have gone done 35 percent since price flexibility was implemented. And also, our DS1 prices are actually below cost as we also have testified to today.

Mr. EVANS. They have gone down slightly and more so in competitive buildings, but the technology cost, the capital cost to pro-

vide DS1 now is so much lower than it was 3 years ago. It is a fraction of what it was. So it should be down much greater if there was true competition in all buildings.

Mr. ROSENBALM. We do not operate in that market, so I can't answer your question.

Mr. STEARNS. Thank you.

Mr. DOYLE. The gentleman's time has expired. The Chair now recognizes the gentlelady from California, Ms. Harman.

Ms. HARMAN. Thank you, Mr. Chairman. I am impressed to see you in the Chair and appreciate your good humor. This is a fascinating hearing. It is good to take this kind of broad look at where the industry is, but it also offers some lessons, at least it does to me for a short-term issue or a shorter term issue, which is the 700 MHz band auction. I think a lot of the issues we are talking about now, what is happening with competition and innovation, what is happening with access are playing out there, and in fact, at least one of the companies sitting here is also playing a big role there. So since at least for this member that auction is absolutely critical because it will either make us have an interoperability solution for public service agencies or it won't, I am paying close attention to what you are saying here. And let me say while I am at it that I hope the FCC is paying close attention to what is being said here because I think the FCC rulemaking is highly innovative and highly significant. And I worry that because of lawsuits and other actions that some companies are taking that highly innovative proposal may be changed, and changed so significantly that we don't have a chance to have the innovation and have the access for our first responders that I think their situation requires. So having said that let me just ask if anybody has a comment on this 700 MHz auction. Any of the witnesses. I am surprised that Verizon wouldn't have a comment.

Mr. TAUKE. I presume your comments were directed my way so I do want to at least offer a couple of observations. One instance that we have filed suit against the provisions relating to the C-block, that did not do anything on the provisions relating to the segment of the block that dealt with public safety. We have asked the court to expedite the proceeding because we, too, want the auction to go forward as rapidly as possible.

Ms. HARMAN. Well, I hope your lawsuit, whatever its merits are, does not delay this auction. It has already been delayed by Congress at the request of many outside once, and I don't think we can wait for an inoperability solution. But let me just ask you about access, the subject of access. I just recently changed my carrier for my BlackBerry, and I am an addicted crack berry operator, but I am not the most skilled operator, and I am struggling with the features of this new device. And every time I ask somebody a lot smarter than I, who could be almost anyone who works for me, "why do I have to do this?" The answer is because that is what you have to do if you want this device, and if you want to do what you did with your other device then you got to go back to the other device. So I feel trapped in this piece of technology that I would like to change to be more friendly to me. And I think a lot of people feel the same way. My access to features that I would prefer is denied, and I am not accusing any of your companies. I am saying

I think that this is generally true. So, again, taking that, and applying back to trying to have these first responders structure a solution that would work best for them. Would anyone like to comment on the subject of access? Again, practices that you have. My understanding, well, let me ask Verizon. Is it true that for the foreseeable future your customers will not be able to access your network with any device or run any application over it? For Sprint Nextel, you are building a new WiMax network which will bring a fourth generation broadband Internet technology to a hundred million American consumers. Are you going to let consumers use devices of their choosing, such as computers and all kinds of cell phones to access your WiMax network?

Mr. TAUKE. Well first on the relating to Verizon and the open access, two things. One is that yesterday, in fact, we issued a news release announcing a new policy related to changing devices which if you happen to have your BlackBerry from us maybe you can use because you can change your devices without doing a new contract. So that may be something that part of the ongoing effort I think to try to facilitate more consumer movement in the marketplace. We, also, by the way have a phase out system for our early termination fees. In response to the second issue of open access, in most cases the blocking of access is contained in the device, not in networks. Our issue, not to get into too much detail here, but our issue with the FCC on the open access provisions relating to the C-block is that they do not accommodate devices that are manufactured by other companies and that block access to certain things on the Internet. And we didn't believe that because we had a customer base that has devices that we don't make that deny access to certain services on the Internet that that should preclude us from being able to bid, and use that spectrum.

Mr. DOYLE. The gentlelady's time has expired.

Ms. HARMAN. Mr. Chairman, could I just get the Sprint Nextel witness to respond to the question?

Mr. DOYLE. Sure.

Ms. HARMAN. I appreciate it.

Mr. FORSEE. There is a lot of good news coming as we begin the deployment of our WiMax which is a mobile broadband network. We will start turning up markets as early as the first part of next year, and that will allow, again, for the first time in this country and actually worldwide a mobile broadband network. That model is a different model. It will allow open access for those chip sets that are deployed and embedded in computers and in devices because the network and the technology will be unique. So they will be able to be bought by service, be able to be activated on occasion as opposed to contracted force. It will be a different model, and I think will be very much in tune with the line of your questions.

Ms. HARMAN. Thank you, Mr. Chairman, for indulging me. I do worry though about the 700 MHz auction, and I hope we will all pay careful attention. Thank you.

Mr. DOYLE. I thank the gentlelady. Thank you. The Chair now recognizes my friend from Mississippi, Mr. Pickering, for 8 minutes.

Mr. PICKERING. Mr. Chairman, thank you. Please forgive me if I reminisce. When I first came to Washington at the young age of

26, I was working for the first President Bush, and working on East European and Soviet programs, and reforms for economic, and political freedom, and as I came to the Hill in 1991 to begin working on telecommunications reform, hoping to take monopoly telecom policy to an economic policy of freedom choice competition. And as you look at the parallels between the two, we see across Eastern Europe and in the former Soviet Union primarily success, more freedom, more political freedom, stronger democracies. You look at the Ukraine, you look at Eastern Europe. But if you look at Russia we can probably say that we have seen some setbacks or rollbacks. And so just like in economic policy or political policy you can have success and progress or you can have failures, rollbacks, setbacks. And so as we look at telecommunications competition and the state of where the industry is today I think we can see a number of successes. If we look at the IP applications and market increasing competition towards freedom. You look at wireless, a fairly strong, healthy, vibrant competitive sector. But as we go forward, how do we assure or guarantee that we don't have rollbacks or setbacks as far as economic freedom, telecommunications and competition and choice. And before us we have some key policy areas that I think will assure that we go forward in the right direction and path and continuing to see greater competition and choice. But we can also have setbacks and failures if we choose wrongly or poorly. I think on the forbearance petitions that are before the FCC right now, if we take away the access the competitors now have for the last mile and for the last loops then we could see, just like we lost in the early part of 2000 an entire sector of telecommunications long distance, we could see the loss of C-sector that gives very important competition and choice to competitors.

In 1999 when special access was granted those reforms, you had AT&T and MCI. You had hundreds of other long distance providers, and facilities based competition in special access. Well since that time all those companies have either disappeared or been acquired, and four regional Bells are now two national carriers of consolidation and concentration, local, and long. And so if you look at that market we could say there is actually less choice today then we had when the reform was adopted in 1999. And what do we need to do to make sure that special access stays competitive and economically priced?

As the FCC looks at forbearance I would like to ask the political dissidents at the table, Mr. Evans, and Ms. Herda, what would happen if the FCC granted the current forbearance petitions to your business model and your ability to compete?

Mr. EVANS. Our business model would be decimated. Without the local loops we cannot offer service. There are no other alternatives. We are paying Verizon $11 a month just to rent a pair of wires. For every wire, we have over 500,000 loops that we are paying. We pay Verizon alone $72 million dollars a year. So it is just to eliminate competition. We have no other choices. We tried wireless. We tried WiMax. We have been working with broadband over power. There is no other solution. The copper network is the best network available to give us the lowest prices.

Ms. HERDA. We are primarily concerned with the forbearance of Ethernet services and OCN services. In the case of Ethernet serv-

ices today we have been unable to get any agreements with the various different incumbents, large incumbent carriers to be able to buy wholesale Ethernet services and in fact, the prices that they are charging which were on the slides that I showed earlier are higher than the retail prices that we are seeing them charge to retail customers in the market. So it is very uneconomic for us to buy those services. We can't be everywhere. We have spent billions of dollars building infrastructure in 75 markets across the country. We have 8,000 buildings connected with fiber. We are feverishly making investments every single day to build more fiber into more buildings, but our customers want us to be able to serve them where they want us to be. Wherever their services they have a need. If it is in Fargo, ND or if it is in Boise or whatever markets. If we are not in that particular building we have to acquire the service from someone, and that someone is inevitably always the incumbent carrier. So the problem with forbearance particularly of Ethernet services is that we will not be able to have a discussion about that pricing of Ethernet services during the special access proceedings, which is critical to the future of telecommunications service.

Mr. PICKERING. Mr. Tauke, one of the points of your testimony was on broadband deployment and how USF can either be used to help that or hurt that. You also talked about wireless broadband as a competitive force in the market and as a substitute for the incumbent Y-line capability. But you support a cap or a reverse auction. Wouldn't that actually restrict wireless broadband, especially in the small and rural markets, eliminating competition and choice in broadband deployment especially as we get ready for the 700 auction. So how do you reconcile your USF position with broadband objectives of increasing that across the country?

Mr. TAUKE. Here is the problem that we face today. You have in many areas of the country now 4 or 5, 6, in some cases 9 and 10 carriers who are receiving universal service support to serve hard-to-serve areas. OK. Generally the amount that each carrier receives is based on the cost to the wireline carrier. So let us say there is a community with 500 homes. The wireline carrier when it had 500 homes maybe was receiving $10 a month in subsidy. As other carriers come in and take customers from the wireline carrier maybe now they have 250 homes. So then they get a subsidy of $20 a month because their costs haven't declined. Not only do they get $20 a month but the other five carriers all get $20 a month, and this is driving up the amount of money that is going into the community. The community obviously isn't that hard to serve because it has multiple carriers, and these multiple carriers are getting ever larger amounts of money to serve the community. This system is broken. Our suggestion has been a reverse auction. I am not saying it is the only one, by the way. And I think that you raise a point that should be taken into consideration when we look at a reverse auction.

Mr. PICKERING. A reverse auction could go to just one carrier. Would you agree that the only thing worse then subsidizing competition would be subsidizing monopoly?

Mr. TAUKE. Well I think that this is an important public policy decision for the Congress. If you have a hard-to-serve area, how

many carriers do you want to serve? How many carriers do you want to support to serve that area? I would argue that in the past the position of the objective of universal service has been to provide service to areas. I don't know how many carriers you think would be sufficient. But I do think that in that town of 500 people or many of the communities that we are familiar with in our native States that four, five, six, seven carriers in the community makes no sense. Economically it only is supported by the strangeness of the Universal Service Fund.

Mr. PICKERING. Mr. Chairman, my time is up, but I do hope that as a panel that we work. I don't think the outcome of two to three competitors in a market is a good outcome, and I do hope that we look to have policies that promote multiple choices for the greatest degree of economic freedom in telecommunications. Thank you, Mr. Chairman.

Mr. DOYLE. I thank my friend. The Chair now recognizes Mr. Inslee for, Jay did you have an opening statement or did you wait?

Mr. INSLEE. I had a brief opening statement.

Mr. DOYLE. For 5 minutes.

Mr. INSLEE. Thank you. I wonder if someone could help me put that chart up again that we were looking at because I wanted to make sure that I understood everybody's position on it. I understood Mr. Casto, Mr. Tauke basically you were saying this is an apples and oranges or Cadillacs and John Deeres, and I wanted to ask them both is there a comparison actually it was the other one. We were looking at the bar graph showing the various costs, the various services. Is there a non-Cadillac to John Deere comparison associated with this type of matrix that we should be familiar with, Chevy as, excuse me.

Mr. CASTO. Not that I am aware of. I really do think it is, again, it is the Cadillac and the John Deere, they are completely different services and serve different purposes, and they are provisioned differently, architected differently, and purchased differently.

Mr. TAUKE. It seems to me that we have to recognize that a company like Verizon is a major purchaser of special access services, as well as a seller of special access services. So our Verizon Wireless company in 75 percent of the country is in the same boat as Mr. Forsee's company. We have to go and buy special access services from other carriers. So what do we do? Well first in many instances we use microwave in order to not have to go with any of the incumbent carriers. Then we look at the carriers that are available in that marketplace, and usually there are several, and we bargain with them to try to figure out what is the best price we can get. But we are in the same boat as a wireless company that he is in 75 percent of the country because we don't have wireline facilities, special access facilities in all of those areas. And so I guess the point that I want to make is that our wireless company figures out how to compete, and we do it by buying services from a wide variety of people, and there are a wide variety of people who offer those services. I have sheets of names if you would like me to put them in the record. And we don't see that this is a market where as a wireless company we have few choices.

Mr. INSLEE. Mr. Forsee, do you want to comment on their responses?

Mr. FORSEE. I would reiterate what I said earlier that we put out a request to 77 providers, probably most of the same names that were on that list. We got 16 responses that covered 1 percent of our cell sites. There is no alternative except to go the incumbent local exchange companies. They built out these networks over 100 years. They are dispersed. They are deployed where cell sites have to be located in order to serve and provide better service to municipalities. That is the fact. And our WiMax network plan which is now being launched, we put out a request for microwave support because we want an alternative. But at the end of the day we will move the needle ever so slightly. We will move that needle from 98 percent over 3 years or 4 years to 93 or 94 percent. That is the fact. There is no other alternative except to rely on the regional Bells, now the ILECs, for that type of service.

Mr. CASTO. I would just like to extend an offer to Mr. Forsee that if he is interested we would certainly be interested in talking about providing special access in the New York and Boston area. And in the Verizon territories, as I am sure Verizon would be willing to extend that same offer in Chicago, and other markets where they provide service.

Ms. HERDA. I think the difference here, and when you look at that chart and forget about the numbers for a second and think of the difference in the prices, and even if that is $100 under the DS1 line, I know in the 8,000 buildings that we have connected with fiber we sell special access in those buildings. But in every single one of those buildings we have a competitor, and it is the incumbent local exchange carrier. In all the buildings that were buying services if we had another alternative than the incumbent carrier, I could tell you right now I would love to buy from someone else. We try to buy from someone else. We have gone to other competitive carriers. We have gone to the cable companies. The problem is that we are in more buildings than they are, and they can't really help us. We continue to look for alternatives in those buildings but in order to even get the kinds of rates that are on those charts you have to make big commitments and ever-growing commitments to the local exchange carriers to get the discount.

Mr. TAUKE. Mr. Inslee, we get the impression here that all these prices are deregulated. Let me just make this simple point. If there is any failure in the FCC process it is that the last mile prices for special access remain heavily regulated under price caps. In Boston, New York, Washington, DC, Baltimore, Philadelphia, five of the most competitive places in the country we are still under price cap for the last mile for special access, DS1s and DS3s. We still have all our rates regulated by the FCC. This is when Cablevision is advertising in New York they have more fiber than any phone company reaching more buildings then any phone company. Time Warner says to Wall Street they have access to 900,000 buildings. Now how can it be that she says 8,000, and they say to Wall Street 900,000? Well it is because the issue is not whether you have lit a building, the issue is do you have access to that building?

Ms. HERDA. And you are providing the access.

Mr. TAUKE. No. What happens is if what you are telling others, and what is the story that the investment community is told and what the Department of Justice uses in its assessments is you put

on a fiber ring. And when you put on a fiber ring you don't go light a building if there is no customer there to order the services. But once a customer comes to order the services you split off fiber from that ring and you go to the building. If I have a 50 square foot building and three tenants in that building, and nobody is choosing Time Warner as a carrier, of course they are not going to take fiber to the building. They aren't going to light the building. But if it is close to their fiber ring, are they going to light the building when a customer wants service? Of course. So I think that you have to understand that there is a lot of competition in these urban areas in particular. The rates are still capped by the FCC. The failure has been that the process used at the FCC has been so slow in freeing this market.

Ms. HERDA. I think it is important to understand. We are physically in around, a little less than 8,000 buildings with our network. If we have a building right here, and our fiber is going right by the building right next to it, we may never be able to economically go into that building. We have to get a return on our investment. When we go into a building we have to have a customer contract, and it can cost anywhere on the low end of say $50,000 to build fiber into a building even if the fiber is going right down the street. And it can cost as much as $300,000, and so you have to be able to get enough revenue in that building. And I can tell you if we can't build into the building with as big as our networks are that do go in so many different places, nobody else is going to be building. The capital markets are not going to fund another competitive player to do that.

Mr. MARKEY [presiding]. The gentleman's time has expired. The Chair recognizes the gentleman from Illinois, Mr. Shimkus.

Mr. SHIMKUS. Thank you, Mr. Chairman. I am going to ask Ms. Herda if she will respond to questions that I pose to her and not jump in on questions that I don't pose to her. I have seen that frequently this morning, and I find that troubling and disconcerting. And I would like to start with Mr. Tauke, another problem which really troubled me with Mr. Markey was his comment about who owns what. So Mr. Tauke, assume my friend rents an apartment, and he has been paying rent for multiple years. A lot like many Members here. Does he own that apartment any more than your customers who rent part of your network or the last mile as Mr. Markey made the assumption?

Mr. TAUKE. I notice we pay the taxes on the network.

Mr. SHIMKUS. It is a very real problem. This is the keyhole of telecommunications. If you pay rent on an item do you own it? And I am not for takings. And the chairman of this committee has talked numerous times about when the Federal Government takes things the Federal Government has to compensate. Just because you pay rent doesn't mean you own it. Now there may be other ways to address this concern, but assuming that someone who pays rent owns the property, that obviously struck a tough cord in a personal property rights Member like I like to be. But let me go to Mr. Tauke, Mr. Casto, and Mr. Cheek, and you tried to identify this before. When you sell special access services to business customers how much leverage do these customers have, and Mr. Casto why

don't you go first. If you go briefly I have a couple of other questions.

Mr. CASTO. They are really carrying the cards given the environment that we operate in today, and they are very sophisticated customers, are well aware of their options, and they utilize those options, including the customers the representatives at this table when they purchase special access from us.

Mr. SHIMKUS. Thank you, Mr. Tauke.

Mr. TAUKE. I will simply repeat what he said.

Mr. SHIMKUS. And Mr. Cheek.

Mr. CHEEK. Along the same lines, if you look at our territory in Florida alone, we have in excess of 24 active competitors. I should say all of our Florida markets, the majority of our Florida markets. So there is plenty of leverage in the marketplace because it is a competitive marketplace.

Mr. SHIMKUS. And I appreciate, you have been pretty quiet on the panel compared to the opening statements and stuff, and I think the frustrating thing is if we were in the old days of a monopoly instead of seven people sitting up here we would have one. Now comments have been made during the break. I walked off the floor. I met with some constituents, and I kind of told them over the TV what we were doing. And he says, boy, I yearn for those old Ma Bell days. Talking about the frustration of dealing with the billing, and for consumers to have choices, and I said but if we were in the old Ma Bell days what would we have? We would have no cell phones. We would have no broadband. We would have no competition. And my fear is that people who yearn for the old days of a monopoly provider, you all are perfect examples of the competitive market trying to deal in the arena that we have obviously there is some regulations still there. Regulations that Mr. Tauke has mentioned. Regulations that Mr. Forsee has mentioned. And so my final point based upon these questions, Mr. Evans you talked about your triple play option. How much do you charge for that?

Mr. EVANS. Seventy-nine dollars.

Mr. SHIMKUS. Mr. Rosenbalm, and I appreciate because you are a provider by the local municipality, correct?

Mr. ROSENBALM. Correct.

Mr. SHIMKUS. What does yours cost?

Mr. ROSENBALM. Around $80.

Mr. SHIMKUS. Around $80. I need you all to deploy to my area. I have the triple play, the one thing about this committee, too, is we all deal with these services that we are fighting about, right? And right now mine is $99.97 for my phone, voice, my video broadband, and home phone services, but I have other options, too. AT&T is trying to roll out to get in my neighborhood. So I would ask Mr. Rosenbalm because if it is a utility does the other aspects of the utility help subsidize or roll out or was there any Government real development or State development loans that helped you do this?

Mr. ROSENBALM. There were no loans from the State. We launched our network in Bristol itself with bond issue back from the venture. Since then we have received some EDA grant funding to expand in southwest Virginia, as well as the Virginia Tobacco Commission has extended funding.

Mr. SHIMKUS. I just want to applaud that. I have 30 counties in southern Illinois, and I think going that direction where it is more difficult for other people to provide is a good answer. Thank you, Mr. Chairman.

Mr. MARKEY. Thank you. The gentleman's time has expired. And, of course, the reason Mr. Rosenbalm is here is that many States are now, well at the behest of large incumbent companies trying to prohibit municipalities like Mr. Rosenbalm from deploying their broadband which gives an extra option for the community, and that is something that Mr. Boucher and myself and many others here are going to try to make sure it doesn't happen. Up until the 1992 Cable Act it was most of the local cable contracts actually prohibited the municipality from allowing another company to come into that community, which the 1992 Act voided so that communities could bring in other competitors to compete against the incumbent cable companies. So this is not a new phenomenon. It is something that this committee has had to deal with over the years. I have a letter here from the Consumers Union addressed to the subcommittee on the issues before us today which by unanimous consent I would like to have it included in the record and turn and recognize the gentlelady from the State of California, from Silicon Valley, Ms. Eshoo.

Ms. ESHOO. Thank you, Mr. Chairman. And thank you to all the witnesses. I have had the advantage of being here since 9:30 this morning and having heard the give and the take certainly the testimony, and I think it has been highly instructive. I can't help but think of something that my father used to say, and it is the following. That it is a great deal if you are willing to buy back what you are offering. And so I think that for everyone at the table that is a consideration to make. I doubt that most frankly the incumbents would do that. Honestly, I think that there is a tilted case here. It is somewhat rigged for a variety of reasons, but I come down on that side as I have for sometime, not because I don't have any friends that work with the incumbents. I respect the American companies but there is not a fairness to this. And I think that it really is American to have competition, and when you look at the numbers it is not there. Do we have a proliferation of services in our country? We do, and I welcome that, and I want to see more of it. But I don't think there should be only two or three that get to have a leg-up on it. So I want to ask Mr. Casto, you are in the business marketing end of your company, and I learned something that is in section 5 of your terms of service. There are a couple of things in it that I don't have any problem with, but part of it says that AT&T may immediately terminate or suspend all or a portion of your service, this means the consumer, any member ID, electronic mail address, IP address, universal resource locator or domain name used by you, again the consumer, without notice for conduct that AT&T believes tends to damage the name or reputation of AT&T or its parents, affiliates, and subsidiaries. Now my question to you: have you booted anyone's service as a result of this policy in your terms of service? I think it is really disturbing. I thought that people can pretty much say and write their opinions even if they are harsh. Have you booted anyone's service?

Mr. CASTO. I will apologize in advance. This is not my area of expertise.

Ms. ESHOO. OK. Whose is it?

Mr. CASTO. I am in the marketing side of special access, but I would be glad to take this back and find out.

Ms. ESHOO. I would really, I think we need an answer to that. It is menacing I think to have a stated policy like that. To Mr. Forsee, according to the GAO report on special access in a particular case in San Jose, CA, while that is not in my district, it is in my region, competitors only have access to only 6.2 percent of all buildings. That is a paltry percentage I think by anyone's measure. To put it another way, the incumbent provider is the only provider of access in 93.8 percent of all the buildings. How would you reverse this?

Mr. FORSEE. I think the policy opportunity before this committee and before Congress to understand forbearance, understand what it means to this very specific area. We talked earlier about competition has developed. Developed very robustly across a wide range of services. In this particular case in special access it hasn't developed. It is an opportunity to ensure that competition can develop by ensuring that the right balance of rate structure, and competition as a result of FCC action takes place.

Ms. ESHOO. OK. To Mr. Tauke, those who are forced to buy special access services from you claim that in order to receive the deep discounts, because there are discounts, that they have to sign long-term contracts that lock them into revenue guarantees and requirements for shifting business away from competitors and severe termination penalties. Can you tell us how these practices encourage competitive investment? Or do you just not agree with the terminology that describes these practices?

Mr. TAUKE. There is no question but that if you are willing to sign a long-term contract and if you are willing to give assurances as to the volume that you will purchase from Verizon that you get a lower price than if you are purchasing a smaller volume. No question about that or for a shorter term.

Ms. ESHOO. What is considered short term, what is considered long term?

Mr. TAUKE. I think we are talking 1 to 3 years.

Ms. ESHOO. Short term?

Mr. TAUKE. No, I mean that would be the range of these contracts.

Ms. ESHOO. I see.

Mr. CASTO. Can I comment on this point? At least with AT&T's experience since the advent of pricing flexibility back in 1999 we filed between three and four hundred contracts. We have more than half of those do not have any kinds of those terms that are required in terms of a spend commitment. They are very circuit specific. These agreements are really tailored based on the negotiations on a business to business basis between the parties. The other comment I wanted to make was that over the last 6 months AT&T has received roughly 700 RFPs or bid responses for special access. You can look at the public record. We filed about 90 to 95 contract tariffs which are the vehicle to effectuate the pricing and

the terms and conditions associated with those contracts which is a very low win rate.

Ms. ESHOO. OK. Mr. Chairman, just 10 seconds to say something. I just want to say to Ms. Herda that if there are any young people that are tuned in to this hearing today, I think it is very powerful for girls and young women to see a woman testifying as a president, as a CEO, and a chairman. Thank you. Thank you, Mr. Chairman.

Mr. MARKEY. And to be questioned by a woman who represents the Silicon Valley I think is especially because of that. Let me turn and recognize the gentleman from California, Mr. Radanovich.

Mr. RADANOVICH. Thank you, Mr. Chairman for holding this hearing, and I do have a couple of questions of some of the folks. Mr. Tauke, thank you for being here today. I wanted to ask that even under the current pricing flexibility regime can't competing carriers file complaints if there is a problem, and if so how many have been filed?

Mr. TAUKE. I don't know how many have been filed. Complaints can be filed, but I don't know how many of them, I guess I am not aware of any at the current time.

Mr. RADANOVICH. Can you, there is time for a written comment on this, can you respond, I believe, that regular time is within 10 days or so with a written response to that question?

Mr. TAUKE. I would be happy to.

Mr. RADANOVICH. If you would that would be most helpful. Also, I have a question for Ms. Herda, Mr. Forsee, and Mr. Evans. Mr. Casto states in his testimony that AT&T has lowered its prices for DS1 and DS3 circuits and that rates are lower today then they were when the FCC established its pricing flexibility regime. Did you agree with that statement?

Ms. HERDA. Specifically, with AT&T's rates, no, they have their wholesale rates, and they have been locked out. They have had their restrictions as a result of the acquisitions that they've made on increasing rates. We have seen carriers like Qwest for instance who raised their rates in 2004, 17 to 18 percent across their entire region. So we have seen a slow rise, or actually in that case that was a rather large rise. It was quite expensive to our business that we couldn't do anything about it because they were allowed to make those changes.

Mr. RADANOVICH. Thank you. Mr. Forsee.

Mr. FORSEE. We try to distinguish between rates, in fact, may have come down. I can't speak specifically to the rates of return that the companies are earning as a result of the rates that remain in place. So while the cost of providing that service has come down more dramatically as was represented earlier, more dramatically, yet the rates may have come down disproportionately not as much.

Mr. RADANOVICH. All right. Thank you. Mr. Evans, please.

Mr. EVANS. Yes, I am not personally familiar with whether they have gone up or down. They are lower in AT&T's region then they are in Verizon's region.

Mr. RADANOVICH. Thank you very much. One last question. Mr. Forsee, your company used to own what is now Embarq, and is it true that you sold off the special access facilities in a spin off?

Mr. FORSEE. Yes, we spun off Embarq to our shareholders. Embarq represented about 6 percent of the access lines in the country and was a small footprint on a national company, and again, it wasn't sufficient to have made a difference in our overall special access pricing on that particular question.

Mr. RADANOVICH. OK. Because my question is if you do need special access as you had stated in your testimony, why would you sell off Embarq?

Mr. FORSEE. It was a small 6 percent of our total requirements of 100 percent of the country.

Mr. RADANOVICH. OK. All right.

Mr. FORSEE. It wasn't large enough.

Mr. RADANOVICH. Thank you very much, and I yield back my time, Mr. Chairman.

Mr. MARKEY. I thank you, Mr. Radanovich, very much. And we thank, oh let me turn and recognize the gentleman from San Antonio, Mr. Gonzalez.

Mr. GONZALEZ. Thank you very much, Mr. Chairman, and I will start off and probably start and end with my questioning of Mr. Forsee because I think your testimony has been very forceful. When you view what is going on here, and I really think when you have a contest among AT&T, Verizon, and Sprint, there are no little guys involved in this one. And my general understanding is that they usually can take care of themselves pretty well. There are a lot of other people that can't, and that is when I think Government needs to come in. But, Mr. Forsee, you seem to indicate that special access fees could almost spell doom for Sprint. I don't think you really intend to say that, but if you read your testimony it is pretty dire. But is it to the extent where maybe Google and Clearwire should reconsider the partnership they have formed with you in rolling out this whole new system in which I really sincerely wish you great success. I venture to guess when the smart guys from Google and the brilliant guys from Clearwire got together with you they looked at pretty much what special access fees constituted and said guess what? You are still going to do well. We are going to do well together. I think you understand the concept that if someone uses someone else's infrastructure or system there should be some fair compensation. I don't think that the issue here truly is then one of what is fair.

In San Antonio I had a little tier-two provider, Cricket, come to me complaining about roaming charges that AT&T, Verizon, and Sprint charge. Now they don't think those are fair, just as you don't think the special access fees are fair. They also alluded to, were not complaining at this point about what they pay to rent or lease space on a cell tower. My understanding is that you lease them, you got them, and then you can sublease or you own them, and you can lease space on those things. But I am not sure they think that is a fair arrangement but they are not much in a position to contest a lot of this. And I think sooner or later we are going to go and talk about the Crickets and the Pockets of this world, but today I am just trying to establish conceptually you understand that AT&T and Verizon are due something. And what is that? What determines what is fair, and what you charge someone like Cricket for roaming? Or what you charge someone like Cricket

for renting space on a cell tower that you may own? Is there regulation out there that establishes some parameters? Because this is what you state in your testimony about the access fees. This figure is at least twice what it should be if special access prices were even remotely related to the cost of providing special access.

So I want you to apply your same standard and test to what you charge for roaming fees and what you charge for basically rent on cell towers. Should it really be any more than what is the cost of providing that particular service or access? It is very interesting because I think Cricket and others would say, no, it is not related at all. And they would mimic pretty much what you are saying about AT&T and Verizon here today. I am going to stop there because I am using up most of my time. If you can go ahead and just respond.

The other thing is it is interesting when we had the chart up there, are you saying that you would like to be treated and placed in the same shoes as an AT&T or Verizon customer of a particular service rather than being charged, it is contested, $390. Maybe it is $200. Because if you adopt that reasoning then why don't you treat the Cricket customer in the same way? In other words don't charge them any more, piecemeal it out, than you would charge someone that you provide that service for. Why charge Cricket any more or their customers for that cell tower. I am just saying let us just go in and apply all the same reasoning that you wish for us to apply today to AT&T and Verizon, and remember Cricket is complaining about all three of you. But I am just saying today do you have one philosophy in how you deal with a Cricket and another philosophy or business model when you deal with Verizon and AT&T?

Mr. FORSEE. What we know today is that 100 percent rate of return is what is being applied to this market called special access. And as you mentioned we are, in fact, going to deploy a WiMax network that will rely on the special access, and our ability to deploy that network could, in fact, and the speed of that deployment could be impacted by the rates that we are being charged. So what we are looking for is fair and reasonable. A 100 percent rate of return is not fair and reasonable.

Mr. CASTO. May I comment? I want to comment on the returns comment made by Mr. Forsee in the chart placed up there. Similar to the special access pricing that was placed up there, there are serious flaws with the margin analysis presented. My assumption is that is based on ARMIS, and ARMIS basically has frozen the cost allocations associated with the inputs while the revenues have not been frozen. Albeit the revenues have increased, demand has greatly outpaced the revenues, which is a direct result of pricing coming down. Also, based on my experience with the competitive opportunities across my desk, I talked about 700 of them, the returns do not get anywhere near the returns presented on those charts.

Mr. RADANOVICH. Thank you, Mr. Chairman.

Mr. MARKEY. The gentleman's time has expired, and all time for questions from the subcommittee members has expired. I think everyone will agree that this has been a fascinating hearing or as fascinating as a hearing on special access and forbearance can be to anyone.

But I thought that I would note that a lot has changed since 1999 when pricing flexibility went into place. And at that time we still had the seven Bell companies that had been born out of Ma Bell. When it was broken up Pac Bell, Southwestern Bell, BellSouth, U.S. West, Ameritech, Bell Atlantic, Nynex, and we had an incredible battle going on against AT&T, MCI, Sprint, and dozens of other companies. But today to quote Paul Simon, and his famous song we have seen a mother and child reunion with Ma Bell bringing the children back together, and while they were doing it, gobbling up AT&T and MCI, and then SBC changing its name to AT&T. As Sergeant Joe Friday would say to protect someone. And so AT&T is now over SBC so a lot has changed, and I think the FCC obviously has to recalibrate its rules in order to deal with that change in the marketplace.

We can't be looking at the future in a rearview mirror, and I think what we are seeing here is that this examination of key building blocks in our competition policy is vital so that we can ensure that as time goes on that we have enough people at the table to have a real conversation about competition in the telecommunications marketplace. And so it is not right for the FCC to forbear without giving real justification. It is not right to allow incumbents to modify their petitions without allowing the other competitors a right to be able to respond in a timely fashion. It is not right to have special access fees that aren't allowing for competitors to be able to buildout their own competitive systems. These are all central questions in terms of the long term marketplace in the United States.

And the reason it is important is that we are in an international competition. We are actually becoming the Notre Dame of international broadband policy where we are dropping like a rock, and our goal has to be to find a way to become No. 1 again looking over our shoulders at Nos. 2, 3, and 4 in pricing, in access, and in the power of the broadband which we are providing. And this hearing today, I think, has gone a long way in helping to illuminate those somewhat arcane and obscure issues but in a way that makes it quite clear that all Americans have a stake in its outcome.

I know that at 7 Towson Street in Malden, Massachusetts, we have paid thousands and thousands of dollars to New England Telephone and its successors to have that copper wire coming down our street. And we didn't really have a choice because that is all there was, was New England Telephone. So we didn't have any competitors that we could have given our money to, and so we did kind of have a feeling that we owned it too. And I for one don't like the idea that it can just be ripped up and so limits my ability to have other competitors that my family and other families can choose.

And so these are all very important debates about what the relationship between competition and consumers and innovation is. We are going to continue in this series as the months go by.

We couldn't have had a better panel. We thank you all for coming, especially you Tom Tauke returning to our committee once again. Thank you. This hearing is adjourned.

[Whereupon at 12:37 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

Statement of Parley Casto
Assistant Vice President, AT&T, Inc.
Subcommittee on Telecommunications and the Internet
House Committee on Energy and Commerce
October 2, 2007

I. Introduction

Chairman Markey, Ranking Minority Member Upton, and other distinguished Members of this Subcommittee, thank you for the opportunity to testify at today's hearing on the future of telecommunications competition. My name is Parley Casto, and I am Assistant Vice President – Strategic Pricing – AT&T Business Marketing for AT&T. I am responsible for all aspects of pricing for AT&T Wholesale products and services to interexchange carriers, wireless customers, content providers, CLECs, and ISPs.

Having been in the telecommunications business for more than one hundred years, AT&T is uniquely aware of the history of telecommunications in the United States. But AT&T is also uniquely aware of the present and future of telecommunications competition, as our company increasingly faces competition from new technologies and new services, which have radically changed the telecommunications sector in the United States.

AT&T faces vigorous competition in all of its areas of operation: retail and wholesale, local and long-distance voice, wireless, broadband, video, and enterprise services that include one or more of these services. AT&T faces both intra-modal competition and, increasingly, inter-modal competition from wireless and cable-based technology platforms. The growth of inter-modal competition is a trend that is occurring, not only in consumer services, but also in enterprise services, as wireless and cable providers are making fast inroads in the provision of services to large businesses. I will focus my testimony today on the competition AT&T faces in the wholesale and enterprise market.

AT&T today faces intense competition for special access and other wholesale and enterprise services from a very large number of competitors. As discussed below, traditional wireline CLECs have continued to mature, consolidate, and dramatically expand their fiber networks. Those networks now reach virtually all areas of the country with appreciable special access demand. The precise level of CLEC competition is, unfortunately, unknown because as the GAO pointed out in its recent report, CLECs have refused to reveal to the FCC where they have deployed their own facilities, the buildings they already serve, and the buildings they are capable of serving. Nevertheless, based on the publicly available information that AT&T has been able to obtain from third parties, which documents some CLEC facilities, as well as my own experience selling to customers, multiple CLECs are competing wherever there is appreciable special access demand. This intense competition is recognized by analysts, one of which recently reported that CLEC competition for wholesale private line services rates a "9" out of a possible "10".[1]

While CLEC competition has grown steadily during the last decade, the most dramatic developments in special access are of more recent vintage. In the past few years, inter-modal competition, particularly from cable and broadband wireless providers, has taken off. Cable providers, looking for new sources of revenue, have made business services a priority. Indeed, Comcast has announced that "offering services geared to small and mid-sized businesses will be its top priority in 2007 and 2008." With widespread fiber and coaxial networks that blanket nearly all locations where people live and work, cable operators can and increasingly do provide all levels of service, including DS1 and DS3 service throughout the country.

Broadband wireless providers likewise are actively and successfully competing against AT&T and other LECs in the provision of special access services. Indeed, all of the major wireless carriers, including those that continue falsely to claim that they have no alternatives to

[1] *North American Wholesalers Private Line Services Markets,* Report by Frost & Sullivan, at 1- 11 (2007).

LEC services, now rely heavily on wireless backhaul. According to one study, roughly 20% of mobile base stations in the United States already are served via wireless technologies, and that percentage is expected to double by 2011. Those data, moreover, should come as no surprise. Wireless providers already have captured the *majority* of the backhaul market globally and nearly two thirds of mobile base stations are linked via wireless broadband. Wireless special access alternatives indisputably are here now, are expanding rapidly, and are being adopted in a big way by those that claim they are entirely dependent on price cap LECs.

AT&T has responded aggressively to these competitive pressures. Indeed, contrary to the rhetoric of certain proponents of special access re-regulation, AT&T has significantly lowered its prices for DS1 and DS3 circuits – including where rates have been deregulated – and rates are far lower today than they were at the time the FCC established its pricing flexibility regime. Those are the facts and they are undisputed. Moreover, at the same time it is lowering rates, AT&T is taking other steps to meet its customers' specialized needs, including dramatically increasing investment in its network and developing more, innovative service offerings.

These trends – declining prices, increased investment, increased innovation, and increased output – are hardly the trends one would expect to see in a market in which competition is lacking. To the contrary, these are the hallmarks of competition. They demonstrate, beyond dispute, that re-regulation of special access services is unnecessary and inappropriate. To be sure, any large business would welcome a government-mandated price reduction in the cost of its inputs. But the unrefuted facts demonstrate that the Federal Communications Commission (FCC) was right in 1999 to introduce pricing flexibility into markets in which AT&T and other ILECs faced special access competition, and that there is no

need to go back to the past. Eight years later, competition for special access services is even fiercer, and the justification for pricing flexibility is even greater.

II. Competition from Traditional CLECs

Traditional wireline CLECs have deployed their own fiber to blanket the downtown, office park, and other dense commercial areas where special access demand is concentrated. Consequently, the majority of DS1 and DS3 circuits that AT&T sells could readily be supplied by these CLECs over their existing fiber building connections or with short extensions (a few blocks or less). Through both consolidation and expansion, the CLEC industry has grown even stronger. The geographic scope of CLEC fiber networks has significantly expanded, and, as a result, even more commercial buildings are connected or very close to CLEC fiber. In fact, I am not aware of any significant commercial area where AT&T does not face facilities-based special access competition today.

It is clear just from industry analyses and the CLECs' own press releases in the past two years that CLECs have added thousands of fiber miles and building connections to their networks. In addition, through consolidation, they have strengthened their market positions. For example, Level 3 now has completed acquisitions of WilTel, Progress Telcom, Telcove, Looking Glass, ICG Communications, and Broadwing.[2] In each case, the acquisition greatly expanded Level 3's fiber network and the number of buildings connected to that network. Level 3 further expanded its network by purchasing 1,600 miles of metropolitan fiber facilities, with

[2] Level 3, SEC Form 10-Q, at 38 (filed May 10, 2007), available at http://lvlt.client.shareholder.com/sec.cfm?DocType=Annual,Quarterly.

connections to 200 buildings, divested by AT&T in connection with the AT&T/SBC merger.[3] As of April, 2007, Level 3 reported having more than 25,000 route miles of fiber, and connections to more than 6,500 buildings throughout the country.[4]

Likewise, Time Warner Telecom, which is represented on this panel today, informed investors in 2006 that its "primary objective" was to be a "leading provider of high quality managed data and telecommunications services in each of our service areas, principally utilizing our fiber facilities and our national IP backbone network to offer high value voice, data, Internet, and dedicated services to become the carrier of choice for . . . business enterprises, governmental agencies, and other carriers."[5] To this end, Time Warner Telecom acquired Xspedius Communications, thereby expanding its fiber footprint in 75 markets.[6] Time Warner also added facilities obtained from AT&T in connection with AT&T's divestiture of channel terminations and transport that were conditions of the AT&T/SBC merger. These acquisitions, and Time Warner Telecom's other capital investments, increased Time Warner Telecom's "fiber network by approximately 4,000 route miles and into approximately 1,500 additional buildings."[7] Time Warner Telecom now has nearly 8,000 on-net buildings.[8]

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[3] Denise Pappalardo, Other Carriers Benefit From AT&T, Verizon Acquisitions; Level 3 and AboveNet pick up Divested Assets, Network World (April 4, 2007), available at http://www.networkworld.com/news/2007/040407-att-verizon.html. Level 3 Press Release, Level 3 Completes Purchase of AT&T Divestiture Assets (April 4, 2007), http://www.lvlt.com/newsroom/pressreleases/2007/20070404.html.
[4] *Id.*
[5] Time Warner Telecom, Annual 10-K Report, at 3 (March 2006).
[6] *Id.* Time Warner Press Release, Time Warner Telecom Closes Xspedius Communications Acquisition (Nov. 1, 2006), available at http://www.twtelecom.com/news_info/twtc_news_06.html.
[7] *Id.* at 2-3.
[8] *Id.*

III. Competition From Cable Operators and Broadband Wireless Providers

I am sure that this additional evidence of widespread facilities-based competition will be met with complaints that there still is not enough competition, because not every single commercial building is or immediately could be supplied by a wireline CLEC today. These complaints are red herrings. Irrespective of whether competitive fiber facilities already have been deployed ubiquitously (and, as maps of known CLEC fiber submitted to the FCC by AT&T clearly establish, CLECs have deployed fiber virtually everywhere there is significant demand for dedicated, high capacity services[9]), purchasers of high-speed, dedicated-access services have a wealth of alternatives available – including burgeoning cable and broadband wireless solutions that are tailor-made to address locations, such as cell tower and other locations, that may be remote, even if they have relatively lower demand. These providers have proven ready, willing and capable of providing DS1 and DS3 services, as well as advanced OCn level and Ethernet-based services.

Moreover, as noted, the competitive alternatives available to wireless providers are rapidly growing. As wireless usage has exploded, and wireless carriers transform themselves into providers, not only of voice services, but also Internet, music, video, and myriad other entertainment and data services, the amount of traffic that must be carried over cellular "backhaul" facilities likewise has grown exponentially. Hence cellular carriers now require DS3s or many multiples of DS1s for backhaul connections that formerly required only one or

[9] Those maps do not include a significant amount of competitive fiber that by-passes the ILECs' networks. Nevertheless, the map of known CLEC fiber in San Francisco establishes that Sprint's reliance on the ILEC for all of its high-capacity facilities and services in that market simply reflects its buying decisions – not a lack of alternatives.

two DS1s. The increased bandwidth requirements for backhaul facilities have fueled an explosion of competition in the provision of backhaul services. Cable operators and broadband wireless providers are now competing vigorously in this space, and they are uniquely equipped to provide DS1 as well as higher capacity services. These inter-modal competitors have aggressively targeted DS1 and DS3 demand, including demand at relatively remote locations such as cellular towers, that often has been a focus of advocates of increased regulation.

Outside of its local service area, AT&T itself now purchases literally thousands of DS1 and DS3 circuits from broadband wireless companies (including FiberTower and TTMI) and cable companies (including Comcast, Time Warner, Cox and Cablevision). My own business experience also confirms that cable and wireless providers are firmly established in the market: AT&T's special access customers constantly remind AT&T that they can turn to these alternatives and, if AT&T wants to retain their business, AT&T must be willing to ensure that its prices and services remain competitive.

Cable companies continue to expand their offerings, and to introduce new services, particularly to small and medium-sized businesses. Indeed, industry analysts consistently emphasize the significant opportunities for cable companies in the small and medium-sized business market.[10] By all accounts, cable companies are moving aggressively to take full advantage of these opportunities.[11]

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[10] *See, e.g.*, Tim McElgunn, Pike & Fischer, *Cable Commercial-Services Strategies*, at 4 (May 2007) ("Pike & Fischer has no doubt that the largest [cable] MSOs and many smaller operators will indeed achieve meaningful and rapid penetration into the $65 billion annual SMB revenue stream"); Sterling Perrin, Heavy Reading, *Cable vs. Telcos: The Battle for the Enterprise Market*, at 12 (Feb. 2006) (*"Heavy Reading"*) ("SMEs – roughly speaking, companies employing between 10 and 499 people – are widely seen as the market sweet spot for the [cable] MSOs"); The Insight Research Corporation, *Cable Telephony: The Threat To Small Business ILEC Markets, 200 7-2012* (April 2007).

[11] *See, e.g.*, Bob Wallace & Paula Bernier, *Cablecos Voice their Business Strategies* (June 21, 2007), available at http://www.newtelephony.com/news/76h20193231.html (*"Wallace & Bernier"*) ("Having established beachheads in many local markets, the five largest U.S. cablecos are launching a new offensive to attack the unprotected flank of incumbent telcos, and secure SMB customers"); *see also id.* ("The big five cablecos note that SMBs provide fatter

Cox, for example, reports that it provides service to "more than 100,000 business customers" in "more than 36 markets, from California to New England."[12] Moreover, a significant portion of Cox's customers are small and medium sized businesses located in areas outside the densely populated downtown areas, and its market share is growing at double digit rates annually.[13]

Time Warner Cable is also competing aggressively in the special access market. Time Warner Cable is the second-largest cable provider in the United States and provides business customers with fiber-based competitive alternatives. As the company states on its website:

> We offer point-to-point, point-to-multipoint and multipoint-to-multipoint fiber optic connectivity for a high-capacity connection between multiple offices over your existing Ethernet lines – meaning you will have a dedicated fiber connection, not a shared network with costly complicated upgrades. In fact, our cost-per-Mbps is typically less than traditional telecommunications companies' solutions.[14]

Time Warner Cable's footprint extends throughout major U.S. urban and suburban areas, including Los Angeles, San Antonio, Austin, Columbus, Cincinnati and other markets in AT&T's service area. As of December 31, 2006, Time Warner Cable had 245,000 commercial high-speed data subscribers.[15] Further, Time Warner Cable has deployed an integrated "Ethernet-to-TDM network" and provides services to "nationwide cellular telephone"

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margins than do residential customers, boast larger ARPU [average revenue per unit] and lower churn rates"); Peter Grant, The Wall Street Journal Online, *Cable Firms Woo Business In Fight for Telecom Turf* (Jan. 18, 2007), available at http://startup.wsj.com/runbusiness/relationships /2007011 8-grant.html?refresh=on ("Some cable-industry executives predict there are billions of dollars of new revenue to be made from serving business clients.").

[12] *See* Cox Business Services, http://www.coxbusiness.com/aboutus/index.html.

[13] *See, e.g., Wallace & Bernier.*

[14] *See* Time Warner Cable BusinessClass, http://twcbc.com/corporate/products/data/metroethernet.html.

[15] Time Warner Cable, Inc., 2006 Form 10-K, at 8 (filed Feb. 23, 2007).

providers.[16] "Time Warner Cable's solution not only reduces '2G' access costs by providing T1 circuits for backhaul, but also provides the high-speed Ethernet necessary to position the cellular provider for further '3G' network expansion."[17]

In the case of broadband wireless carriers, their ability to provide cost-effective DS1, DS3, and higher-capacity services just about anywhere derives from the fact that broadband wireless services can be deployed to most locations without the need to lay fiber. These technologies are deployed using antennae, usually attached between the rooftops or windows of the customer buildings receiving the service and another building connected to a CLEC, ILEC or other carrier's fiber network, and thus at much lower cost than comparable wireline services. Equally important, installation of these facilities can be completed in as few as 24 to 48 hours – far less than the four to six weeks required to build a conventional wireline circuit. Fixed wireless services also are highly flexible. They can be installed on a temporary basis, and bandwidth can be scaled with demand. Prior limitations on fixed wireless, such as distance and line-of-sight, are being overcome by new technologies, such as WiMAX, which does not require clear line-of-sight, and has a potential coverage area that spans 30 miles with little regard to topography.

Fibertower, for example, offers "carrier-grade performance, point-to-point and point-to-multipoint capabilities, and TDM-to-Ethernet service platforms,"[18] including "wireless equivalents of []T1, DS3, OC3 and Carrier Ethernet."[19] In addition to providing service to "leading wireless carriers" and "enterprise and government partners" in many of the leading

[16] RAD Data Communications, Case Study, Cellular Backhaul over Metro Ethernet (Nov. 2005) available at http://www.rad.com/RADCnt/MediaServer/19960_TWC-Cell_Backhaul_Metro_ Eth_CS.pdf.
[17] *Id.;* Lynette Luna, *Getting Back Backhaul Costs,* Tellabs (Winter 2005-2006), available at http://www.tellabs.com/news/reprints/backhaul_winter05-reprint.pdf.
[18] FiberTower Corp. – About FiberTower, http://fibertower.com/corp/company.shtml.
[19] FiberTower Corp. – Access, http://fibertower.com/corp/solutions-access.shtml.

metropolitan areas,[20] FiberTower owns wireless spectrum throughout the country and continues to rapidly expand its network to serve virtually any location.

IV. What Vigorous Competition Means to AT&T's Customers

As I have shown today, throughout MSAs of all sizes and types, including those with Phase II pricing flexibility and those that remain subject to price caps, AT&T competes with many strong facilities-based providers. That undeniable reality means that my team and others at AT&T are constantly looking for ways to provide special access services to our customers more efficiently, at lower cost and higher quality, and in ways that are better tailored to customers' individual and diverse needs.

I would note that a recent study by the General Accountability Office ("GAO") found that prices in pricing flexibility areas (Phase I and Phase II) have decreased significantly since pricing flexibility was granted, and that "the decrease appears to be consistent with the prospect of competition that FCC predicted."[21] Nor are those lower prices limited to businesses in densely populated urban areas. To the contrary, customers located in buildings where there may be fewer or no existing competitive fiber alternatives to AT&T's special access pricing get the full benefits of the intense price competition that exists in most other areas. This is because AT&T provides special access under tariffs and contracts that are available throughout a particular MSA, state or region. It would be impractical for AT&T to set its prices for its services on a building-by-building basis. Consequently, price decreases designed to meet competition in areas with the

[20] These areas include DC Metro, Boston, Chicago, Cleveland, Dallas/Fort Worth, Denver, Detroit, Houston, NJ/NY, Pittsburgh, San Antonio/Austin/Waco, Tampa, Atlanta, and others. *See* FiberTower Corp. – About Fiber Tower, http://fibertower.com/corp/company.shtml.

[21] GAO, *FCC Needs to Improve Its Ability to Monitor and Determine the Extent of Competition in Dedicated Access Services,* at 13 (Nov. 2006).

largest number of competitive alternatives are generally available to *all* customers in that area, regardless of the number of competitors serving any particular customer location.

In addition to continuing to compete aggressively on price, AT&T has sought to improve and expand upon its current services. For example, to meet the ever-increasing demand by current and future wireless backhaul customers, AT&T has been increasing its deployment of fiber facilities to replace existing copper facilities to serve the numerous cell site locations located outside the areas where AT&T already has deployed fiber networks. To distinguish its services from the many competitive alternatives to its special access services, AT&T has devoted additional resources to provide customers even greater opportunities to purchase customized services that best meet their needs. AT&T's sophisticated customers desire agreements that are tailored to their specific business needs, and less, not more, regulation is necessary to allow AT&T to meet those demands.

And our customers constantly remind us that, if AT&T does not offer them what they want, they have plenty of special access alternatives. During negotiations with AT&T for the purchase of backhaul special access services (in pointed contrast with its representations to lawmakers and regulators), Sprint has repeatedly pointed out to the AT&T team that Sprint has many other options to meet their backhaul needs. Sprint has discussed in detail with AT&T its ability to utilize cable and broadband wireless suppliers as well as its ability to self-supply special access via microwave solutions if AT&T does not offer terms Sprint finds acceptable. These are not hollow threats. In August, Sprint and FiberTower announced that "FiberTower had entered into an agreement with Sprint Nextel . . . to provide backhaul services [to Sprint Nextel] in seven of the wireless carrier's [Sprint Nextel's] initial WiMax launch markets."[22]

[22] Press Release, FiberTower Announces Backhaul Agreement With Sprint Nextel for WiMax Buildout (Aug. 6, 2007), available at http://www.bbwexchange.com/pubs/2007/08/06/page1423- 647177.asp.

It is not necessary for me to rely solely on our customers and industry reports to confirm that there are myriad special access alternatives throughout the country. My colleagues in AT&T Mobility have confirmed that AT&T Mobility generally has multiple alternatives for backhaul suppliers at its many cell sites, and that AT&T in fact purchases thousands of DS1 and DS3 capacity backhaul facilities from broadband wireless and cable companies outside of AT&T's local service territory. In addition to these cable and broadband wireless alternatives, my AT&T Mobility colleagues report that traditional wireline CLECs such as Time Warner Telecom and Level 3 (which reports that it provides services to all five of the largest wireless carriers today) also compete to serve these wireless backhaul needs.

V. Conclusion

Competition from traditional wireline CLECs, cable operators, and wireless broadband providers has provided special access customers with multiple options, which has resulted in lower prices and greater service innovation. This competition is not theoretical; it is a demonstrated fact, despite the concerted effort by our competitors to deprive the FCC and Congress of accurate information regarding the locations of their networks and the availability of their services. And, in an attempt to mislead policymakers about special access prices, our competitors continue to harp on ARMIS-based special access "rates of return" that have repeatedly been shown to reflect arbitrary and long-frozen allocations that render them meaningless.

AT&T's own network deployments out-of-region demonstrate that the current regulatory framework has produced an environment that is conducive to investment in new technologies

and services. And AT&T Mobility enjoys multiple backhaul options outside of the AT&T ILEC footprint.

The reality is that prices are lower, and differentiation is greater, both thanks to the introduction of robust facilities-based competition. This competition obviates the need for re-regulation, which would destroy the incentives that all companies currently have to constantly improve their service offerings and enhance their networks.

Mr. Chairman, thank you for the opportunity to testify today. I would be happy to answer any questions from Members of the Subcommittee.

Before the United States House of Representatives

Committee on Energy and Commerce

Subcommittee on Telecommunications and the Internet

Testimony of

Larissa Herda

Chairman, CEO and President of

Time Warner Telecom

October 2, 2007

Good morning, Chairman Markey and members of the Subcommittee: My name is Larissa Herda and I am the Chairman, CEO and President of Time Warner Telecom. It is an honor to appear before you today to discuss the future of business broadband in this country. This is an issue that not only impacts my business but the bottom line of every American business that wants to take advantage of the additional bandwidth, cost savings and efficiencies that broadband technology provides.

Company Overview

Time Warner Telecom, headquartered in Littleton, Colorado, is a leading provider of managed networking solutions to a wide array of businesses and organizations in 75 U.S. markets, spanning 30 states and the District of Columbia. As one of the country's premier competitive service providers, Time Warner Telecom integrates data, dedicated Internet access,

and local and long-distance voice services for long-distance carriers, wireless communications companies, incumbent local exchange carriers ("ILECs"), and enterprise organizations in healthcare, finance, higher education, manufacturing, and hospitality industries, as well as for military, state and local government. Time Warner Telecom delivers intelligent solutions to solve the most critical communications needs of businesses. These solutions maximize communications system efficiencies, increase employee productivity, and minimize bottom-line costs.

The Future Of Business Broadband

In several petitions for forbearance currently pending before the FCC, the incumbent local exchange carriers ("ILECs") such as AT&T and Qwest have asked the FCC to deregulate their Ethernet and other business broadband service offerings. Unlike the residential market, the ILECs still control the only last mile transmission facility, or local loop, to the vast majority of office buildings nationwide. The ILECs have exploited this market power in a manner that harms businesses. Accordingly, the should therefore deny the pending forbearance petitions and revise the current regulatory regime to recognize the fact that the ILECs still control the last mile connection to the business customer, regardless of the technology used to provide the service.[1]

Time Warner Telecom has invested billions of dollars to connect approximately 8000 buildings with our own fiber network – more than any other non-incumbent telecommunications carrier in the country. But there are many locations where it is simply uneconomical to build our

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[1] *See Comments of Time Warner Telecom, Special Access Rates for Price Cap Local Exchange Carriers*, FCC WC Docket No. 05-25 (Aug. 8, 2007), attached hereto as Appendix A, in which Time Warner Telecom explains why the FCC must prescribe lower ILEC prices for both Ethernet and other services such as DS1 and DS3 services demanded by businesses.

own network facilities. In such locations, we have no choice but to rely on facilities we lease from the ILECs to meet customer demand. In fact, we have no choice but to serve approximately 75 percent of our customer locations by leasing incumbent facilities.

At Time Warner Telecom, we are focused on serving the data and communications needs of enterprise customers. We are particularly focused on providing those customers a service called Ethernet. I want to explain a bit about Ethernet because it is such an important tool for business and because the ILEC petitions for forbearance currently pending before the FCC threaten the potential economic benefits of Ethernet.

Ethernet is a "plug and play" transmission technology that allows customers to converge all of their data and communications needs with a single transmission facility. Older technologies like Asynchronous Transfer Mode ("ATM") and Frame Relay require a piece of equipment to "translate" between the various different kinds of equipment used by end-users and carriers. Ethernet technology, the same technology that has been used in the networks inside of buildings for years, eliminates the need for these "translations" making it simple and cheap for customers to add new services and capacity to their communications services. The qualitative difference for businesses between Ethernet and older and more complicated technologies, such as ATM and Frame Relay, is like the difference between dial-up broadband and DSL and cable modem service. Importantly, the inherent efficiencies of Ethernet permit carriers to offer Ethernet at a lower price per bit than legacy technologies like ATM and Frame Relay. As a result, Ethernet provides better features at a lower cost.

Ethernet allows businesses to function more efficiently in countless ways. For example, Ethernet enables medical institutions to send urgent images, and information between locations

in seconds. It also enables banks to improve response times and process more information in significantly less time. It supports all customers with data and disaster recovery capabilities needed to protecting the electronic files critical to both business and public institutions. I have attached as Appendix B hereto some customer case studies that we created with our customers that further highlight the value customers obtain from a competitive alternative utilizing Ethernet.

Despite the great benefits of Ethernet, most businesses in the United States are unable to purchase this service today. The absence of widespread availability of Ethernet increases the costs and reduces the efficiency of businesses across this country, and places the United States at a disadvantage *vís-a-vís* other countries. For example, As British Telecom has recently explained in a filing at the FCC, "Ethernet is more widely deployed in Europe than in the U.S., even though enterprise customers want it wherever they do business." Moreover, British Telecom explained that, "[w]holesale Ethernet access in the UK is also cheaper than it is in the U.S. For example, basic 10 Mbps point to point wholesale Ethernet in the UK is available at a quarter to one half of the prices charged by AT&T and Verizon."[2]

The question, then, is why aren't more businesses receiving the benefits of Ethernet in this country? The answer is quite simple. To begin with, the ILECs have relatively little incentive to promote Ethernet aggressively because Ethernet cannibalizes their huge legacy -- the old generation of Frame Relay and ATM services for which ILECs receive a higher revenue per bit than they would receive for Ethernet services. This is not the first time that the ILECs have

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[2] *See Comments of British Telecom, Special Access Rates for Price Cap Local Exchange Carriers*, FCC WC Docket No. 05-25 at 20-21 (Aug. 8, 2007).

warehoused better, cheaper technology because they wanted to milk the profits from older, higher priced, legacy technologies. For example, DSL technology had been around for years before its eventual widespread deployment in the late 1990s, but the ILECs did not want to make the substantial network investment required to offer a high bandwidth service for $50 per month when they could continue to offer high-priced legacy plain old telephone service lines. It took the entry of competitive LECs like Covad into the DSL market and the cable companies' deployment of cable modem services for the ILECs to finally begin selling DSL service on their own. The ILECs' foot dragging prevented consumers from receiving the benefits of low-priced broadband for years.

Moreover, not only is Ethernet unavailable from the incumbents in most office buildings, but the cable companies (with the exception of Cox) generally do not offer Ethernet to any significant degree either. This makes business broadband fundamentally different from consumer broadband, in which cable companies are aggressive competitors.

As a result, it is up to competitors like Time Warner Telecom to drive the rollout of Ethernet. In fact, Time Warner Telecom is currently the number three provider of Ethernet in the country. But we are the third biggest fish in a small pond and we do not have the power to make it much bigger because, as explained above, we cannot economically reach most business locations with our own network.

Even where the ILECs offer Ethernet on a wholesale basis, they charge extremely high prices for these services, as illustrated in the pricing charts attached hereto as Appendix C. In most cases, it is not economical to purchase wholesale Ethernet and combine it with our on-net

Ethernet product in order to sell customers the complete service offering they need to manage their communications needs most effectively.

I have been told countless times by a diverse group of customers that they could not purchase Ethernet until it was offered by Time Warner Telecom. But I am effectively restricted to offering service in only the limited number of locations I can serve on my network. Meanwhile the ILECs need only respond with their own competitive offerings of Ethernet in locations served by a competitor's network. The ILECs need not, and often do not, offer Ethernet in the hundreds of thousands of locations where they control the only broadband connection to the building. It is American businesses and the American economy that lose out because of the current situation.

This reality forces the conclusion that the only practical means of expanding the availability of Ethernet to more businesses is for the FCC to mandate lower ILEC Ethernet wholesale prices to ensure that the ILECs charge prices that are more in line with those charged by competitive wholesale providers like Time Warner Telecom.

That will not happen if the FCC grants the forbearance petitions that are now pending before the agency. In those petitions, AT&T, Qwest and other ILECs have asked that the FCC reclassify their Ethernet service offerings as subject to effective competition. The effect of such a reclassification is that it would be virtually impossible to regulate the ILECs' Ethernet prices. This is obviously the wrong direction for businesses and the American economy.

In fact, there is no basis for the distinction that the ILECs seek to make between Ethernet and older special access services, such as DS1 and DS3 services, for which they do not seek reclassification in their forbearance petitions. Ethernet is simply a form of special access loop,

just like the DS1 and DS3 (*i.e.* TDM) facilities that are justifiably the focus of much attention at today's hearing.[3] In fact, the FCC has consistently regulated Ethernet as special access and the ILECs themselves offer Ethernet as special access in their publicly filed tariffs. The only difference between a fiber loop facility that carries an Ethernet signal and a fiber loop facility that carries a TDM signal is the electronics placed on each end. Most of the expense of loop construction goes into digging and laying the fiber. Therefore, just as Time Warner Telecom often cannot economically build fiber to provide a TDM service, it cannot in many cases build fiber to provide Ethernet service. As a consequence, all of these facilities -- Ethernet, DS1 and DS3 facilities -- must be available as a viable wholesale input.

Finally, many ILECs argue that there is no need to regulate Ethernet because competitors can profitably use DS1 and DS3 loops to provide Ethernet. This is simply not the case. The numbers speak for themselves. While Time Warner Telecom can serve 75 percent of its customer locations using ILEC special access, ***only a small fraction*** of its Ethernet customers are served using ILEC TDM special access facilities.

While *theoretically* Time Warner Telecom could use TDM special access services to serve any location (*i.e.* the technology is available), high prices and other inefficiencies mean that *in practice* Time Warner Telecom *cannot* rely on these inputs in the vast majority of cases to provide Ethernet. Similarly, I could theoretically get a small two-door compact car to haul a trailer, but I could only do so if I heavily modified the car, switched out the engine and transmission. It is far more efficient and sensible to buy a truck in the first place.

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[3] As explained in Time Warner Telecom's comments in the FCC's special access rulemaking proceeding, attached hereto as Appendix A, Time Warner Telecom strongly supports the reduction of ILEC DS1 and DS3 special access prices. *Comments of Time Warner Telecom.*

In sum, Time Warner Telecom cannot profitably use TDM special access services to provide Ethernet in most situations for four main reasons:

First, when Time Warner Telecom purchases TDM transmission facilities to provide Ethernet, it must pay for two distinct sets of electronics: TDM electronics (as part of the TDM circuit) and Ethernet electronics. In addition, Time Warner Telecom must send an installation engineer to install the Customer Premises Equipment needed to support Ethernet over TDM. In contrast, where Time Warner Telecom purchases Ethernet transmission facilities, it only pays for one set of electronics (Ethernet electronics) and it need not send an installation engineer to the customer premises. In addition, reliance on TDM transmission facilities imposes extra, and otherwise unnecessary, integration costs on Time Warner Telecom.

Second, TDM transmission facilities *are not available* in the transmission increments needed to provide Ethernet. For example, if Time Warner Telecom wishes to provide a 50 Mbps Ethernet connection via TDM, it must buy at least two DS3s, each of which delivers 45 Mbps of capacity. This is because TDM circuits (because of the inherent limitations in the technology) cannot be provisioned in 50 Mbps increments. As a result of purchasing two DS3s, therefore, Time Warner Telecom receives 90 Mbps of capacity, 40 Mbps of which it must pay for but cannot use. In contrast, if Time Warner Telecom relies on Ethernet transmission facilities purchased at wholesale, Ethernet electronics enable the wholesaler to offer the Ethernet facilities at precisely the capacity levels needed by the retail customers.

Third, reliance on TDM transmission facilities creates serious service quality problems. The use of an extra set of electronics introduces extra potential points of technical failure. Moreover, where a circuit experiences technical problems, Time Warner Telecom must incur the

extra delay and expense of determining whether the source of the problem is the extra set of TDM electronics before even addressing a problem that may have been caused by its Ethernet electronics. In contrast, reliance on ILEC Ethernet local transmission facilities reduces both the number of potential points of failure and the time and expense of resolving such problems. For services such as Ethernet that businesses rely on to deliver critical functionalities, this service quality differential is extremely important.

Fourth, in the longer term, as Ethernet services evolve -- and they are doing so very quickly -- it will become increasingly difficult to ensure compatibility between TDM transmission inputs and Ethernet finished services. It is inevitable that the service characteristics of Ethernet offered over TDM will become increasingly less robust than the Ethernet service provided using Ethernet transmission facilities.

In light of this discussion, it should be clear that the future of business broadband in this country will be severely harmed if the FCC were to grant the ILEC petitions for forbearance from regulation of Ethernet and other business broadband services. Already, as a result of its failure to act by the statutory deadline, the FCC allowed Verizon's Ethernet service to become completely deregulated. This is the wrong direction for competition and the economy. I therefore respectfully urge the Committee to provide any assistance it can in its oversight role to ensure that the Commission not only rejects the pending forbearance petitions, but acts during the pending special access proceedings in the best interest of businesses across America by establishing reasonable constraints on ILEC prices for Ethernet, DS-1, DS-3 and other business broadband services.

Prepared Testimony of Verizon EVP Tom Tauke
U.S. House Energy and Commerce Subcommittee on Telecommunications and the Internet
Tuesday, October 2, 2007

Chairman Markey and Members of the Committee:

Thank you for inviting Verizon to participate in this hearing to discuss the future of telecommunications competition.

The world has changed. The policies adopted by this Congress and the Federal Communications Commission over the last decade have unleashed a flood of new communications services and crafted a highly competitive telecommunications marketplace.

Today residential customers think nothing of getting TV service from Verizon, phone services from Comcast, and – with sophisticated new handsets – phone, television and broadband services from one of several national wireless companies.

What is happening is amazing. Consider mobile communications:

- **American consumers choose from among four national carriers – AT&T, Sprint-Nextel, T-Mobile and Verizon Wireless – and numerous regional carriers,**

such as Alltel. These companies all offer a wide variety of service plans.

- Consumers get remarkable value from their devices and service. The cost per minute has dropped from 37 cents per minute to 7 cents per minute in the last 10 years. In fact, 13 percent of consumers make their cell phone their *only* phone. Some analysts predict one out of three homes could rely exclusively on wireless service for voice by 2012.
- U.S. wireless consumers pay considerably less – more than 60 percent less – than European consumers, and have a more robust array of services. As a result consumers use their wireless communications more than twice as much each month.
- And the cellular communications industry has invested more than $175 billion over the past two decades to serve its customers, creating 4 million jobs in the process.

I would add that policymakers have historically focused on traditional wireline voice services and wireline providers. But thanks to technology and innovation the landline is no longer the primary means that people use to communicate. Today there are more wireless phones than wireline connections, and people are on those phones much longer. And, consumers are increasingly using instant messaging, VoIP and email

increasingly to communicate. Furthermore, the companies providing these services are not just the telcos you have represented before you today, but also cable companies and VoIP providers, such as Skype.

Investment in broadband is a similar success story:

- **The adoption rate for broadband is remarkable. Broadband use has grown faster than such ubiquitous technologies as the TV and the wireless phone. The price of broadband continues to drop and prices for some broadband services are now well under half of what they were was just a few years ago.**
- **Consumers in most parts of the country have at least three competing platforms to choose from for broadband Internet service, and additional forms of broadband competition continue to come online.**
- **Today, broadband access is available in some form to just about every consumer in the United States, whether through home, work, schools or libraries.**
- **A report from the Consumer Electronics Association recently found that 75% of households with Internet connectivity now rely on broadband. (On the other hand, the same report found that the number one reason for not subscribing to broadband was the lack of a home computer, not lack of available broadband. The survey found that 26% of households have no**

home computer – the majority of households not already subscribing to broadband.)

- In the 1990's, modem speeds of 300 or 1200 baud were commonplace, and 56K was considered fast for residential customers. Speeds have doubled on average about every twenty months, and today residential customers of Verizon's FiOS service are downloading at speeds up to 50 megabits.
- And for every job created for broadband investment, four additional jobs are added to the overall economy. I would note that despite these successes, there is more to be done.

Services to large business customers have also evolved, with lower prices, faster services and increased innovation in product offerings.

Now it's important that Congress and the FCC stick with those policies that are working and adopt new policies that will address the challenges affecting two pressing issues: universal service and broadband adoption. So let's look at some instances where current policy should be reinforced.

First, forbearance petitions. The FCC is currently considering petitions asking its forbearance in applying traditional common carriage regulation to high-end enterprise

broadband services sold by several carriers to their big business customers.

Verizon believes the FCC should grant these petitions. Similar freedoms granted to Verizon almost a year and a half ago have been a dramatic success story. Verizon's forbearance petition focused on some of the most sophisticated and competitive services on the market, services that are purchased by some of the most savvy and demanding customers of communications services. Since then, the market has worked and no one has pointed to any problems to be addressed. Verizon has had the flexibility to craft customized solutions to better meet the needs of our customers and to compete more effectively.

Verizon has entered into nearly 200 private carriage contracts for these enterprise broadband services. We have also introduced innovative new enterprise broadband services without jumping through unnecessary regulatory hoops, and prices paid for these services have gone down. Verizon's experience has demonstrated that it would be appropriate for the FCC to grant similar regulatory relief to all competitors, and allow market forces to work without distortion from unnecessary and outdated regulations.

Second, I'd like you to consider the "traditional special access" services that connect business locations to each other

and cellular services to the landline network. This is a case where companies are trying to use regulatory measures to undermine a successful market-based business environment.

By just about any measure, special access is a competitive market: prices are declining, output is growing and customers are benefiting from discount-pricing plans and increasingly individualized service arrangements more than ever before. Between 2002 and 2006, prices for these services have declined by 5 percent per year in real terms. Facilities-based competition has emerged wherever there is appreciable demand for high-capacity services, and intermodal alternatives such as cable and fixed wireless are greatly expanding the competitive supply of high-capacity facilities.

These price decreases and expansion in output reflect an intensely competitive market for high-capacity services, due in large part to the growing availability of alternative technologies. In virtually every area where that high-capacity demand is concentrated, there are multiple alternative fiber networks as well as rapidly emerging competition from both cable operators and fixed wireless providers.

For example, there is an average of more than nine competitive fiber providers in each of the 25 metropolitan statistical areas ("MSAs") that account for 80 percent of Verizon's special access revenues. Within these MSAs, this

fiber is concentrated in the wire centers with the greatest amount of demand, including the locations of wireless cell sites.

Competition has also emerged from cable operators and fixed wireless providers, who are providing both high-capacity services directly to enterprise customers and wholesale services to wireless and other carriers. For example, Cablevision has claimed to have "more fiber in the [New York/New Jersey/Connecticut] tri-state area…than any phone company," including fiber service to twice as many buildings in its metropolitan New York footprint as Verizon.

Competitive providers are also using alternative technologies to self-supply their high-capacity links, including not only these companies' own fiber networks, but also alternative technologies such as microwave and fixed wireless.

In short, the market is working. The FCC has this issue before it and should affirm the current special access policy that removes government-regulated pricing where competition exists in the market. In applying this policy, the FCC should adapt to the changing world and ensure that it considers competition from all providers – not just traditional wireline collocators, but also providers using alternative technologies, including cable and fixed wireless.

Now let's examine a few issues that need attention. First, broadband deployment to underserved areas.

While the marketplace has largely met the broadband needs of urban, suburban, rural and business customers, there is more that must be done to connect all Americans to this transformative technology.

Verizon believes strongly in this goal. We also believe that in developing policies for broadband deployment, Congress and the FCC should keep in mind the pro-market approach that has encouraged Verizon and others to invest heavily in this still-evolving technology.

To ensure greater broadband deployment, we must first have a better understanding of where consumers are underserved. That is why we support Congress' efforts to create programs to provide more information concerning where broadband already has been deployed, as well as the gaps where it has not.

It is also why Verizon is working with one such program called Connected Nation, which we believe provides a useful model for this approach. Connected Nation is modeled on the successful Connect Kentucky program. Through public-private partnerships, Connect Kentucky will have achieved close to 100

percent access throughout the Commonwealth of Kentucky by the end of this year.

The Connect Kentucky program began by compiling an inventory of the current and planned investment in broadband networks in the state. It then determined if sufficient demand existed in unserved or hard to serve areas for private investment. Where private investment was not likely, the program focused on public-private partnerships and securing public funding from various sources to build broadband facilities.

This program is working because it's focused on infrastructure investment and consumer adoption.

In most places, the market is working to meet the needs of customers through private capital investment. We should not implement any policies that impede this process. Where we determine that broadband is not available and the private sector is not making the needed investment in network facilities, we should target programs to support infrastructure investment, perhaps through a combination of loans, tax credits, or grants.

The second issue that requires the attention of policy makers is the Universal Service Fund. We believe this fund is badly in need of reform. As competition and technology bring consumers more choices and lower prices, one would expect

that the cost of providing universal service would go down. But it's not. Instead, the burden on the consumer to pay the cost of the universal service program is going up. The percentage rate of the surcharge on phone bills has tripled, with more increases on the horizon, and in the past eight years, high-cost funding has grown from $1.7 billion to $4.1 billion – a 142-percent increase. Support to competitive eligible telecommunications carriers (CETCs), which are mostly wireless carriers, has grown from $1 million in 2000 to nearly $1 billion in 2007.

This increase is driven, in part, by the proliferation of new communications options for consumers. For example, when a family with one wired line buys a wireless family plan with four handsets, the universal-service funding provided for that family increases by a factor of five.

The problem is not just that the fund is getting bigger. Within the fund, the support for each recipient is also becoming unstable. A telco with cost increases that are more than the nationwide average can increase its support, while one that spends less can lose support. This doesn't provide very good incentives for carriers.

Verizon believes that modernization of the fund should be guided by the following principles:

- First, funding should be targeted to geographic areas where consumers will be denied service without universal support.

- Second, the fund should ensure affordable service in high-cost areas, while limiting consumer costs to no more than is required to accomplish that goal.
- Third, a new policy should recognize the need to maintain a rural wireline infrastructure even as the number of wireline voice customers declines.
- Fourth, a new and fairer system is needed to fund universal service support.

Reform should start with the way money is collected for the universal service fund. Verizon believes this mechanism should be based on phone numbers. Tying payments to telephone numbers ensures that the fund is supported by all voice customers, and it substantially reduces the administrative burden.

We also must reform the way money is paid out of the high-cost fund. Earlier this year, Verizon filed with the Joint Board and the FCC a proposal to modernize high-cost funding. Verizon proposes a "reverse auction" for the distribution of universal-service-support funds. We suggest:

First, stabilizing funding in each geographic area, by initially capping the fund in each area at current levels. The Joint Board has proposed an interim cap on support going to competitive carriers, pending long term reform. We support the Joint Board's recommendation and urge the FCC to adopt this

recommendation as an important first step in reforming universal service.

Second, the FCC should adopt a framework for competitive bidding – a common approach by government to procure services – through a reverse auction. Companies would bid to provide universal service to a given area, and the lowest – and most efficient – bidder would win the support.

Third, this market-based process should begin in areas where there are already at least two wireless ETCs. The wireless carrier that submits the lowest bid would enter into a contract, with a specified term, that spells out its obligations. Once these auctions have been completed, we suggest that auctions among wireline carriers be held in those few areas where there is a competitive wireline carrier receiving support.

Fourth, after these initial auctions, the FCC should open a new proceeding to review the auction process, and to determine next steps. The FCC might also use the results of areas where auctions have been held to adjust high-cost support for other areas.

We believe this approach puts in place a more market-oriented system that also sustains universal service in this competitive marketplace.

We look forward to exploring various issues that ensure competition in this dynamic marketplace. But we believe that the principles of consumer-focused and open markets should always be among our goals. These are the principles that have promoted new services and innovative technologies, served consumers well, encouraged investment in America's dynamic communications infrastructure, and created new opportunities for our citizens and businesses alike.

Thank you.

WRITTEN TESTIMONY OF
GARY D. FORSEE
CHAIRMAN AND CHIEF EXECUTIVE OFFICER
SPRINT NEXTEL CORPORATION
ON
THE DIGITAL FUTURE OF THE UNITED STATES:
PART VI: THE FUTURE OF TELECOMMUNICATIONS COMPETITION
OCTOBER 2, 2007

I. Introduction

Good Morning, Chairman Markey and Members of the Subcommittee. I am Gary Forsee, Chairman and CEO of Sprint Nextel Corporation. Thank you for the opportunity to testify about the future of telecommunications competition and something that goes to the heart of today's topic: the special access market failure.

Sprint Nextel offers a comprehensive range of wireless and wireline communications services and brings the freedom of mobility to consumers, businesses and government users. Sprint Nextel is widely recognized for developing, engineering and deploying innovative technologies, including two robust wireless networks serving 54 million customers, industry-leading mobile data services, instant national and international walkie-talkie capabilities, and a global Tier 1 Internet backbone. Special access is a critical input to every one of Sprint Nextel's businesses – broadband, wireless, long distance, and enterprise.

Like Internet Service Providers, competitive local exchange carriers, and other wireless and long distance companies, Sprint Nextel uses dedicated circuits, known as special access, to connect its networks and reach its customers.[1] Each of these providers

[1] *See* Appendix.

must rely on special access to link different parts of its network and to link its network to the networks of others.[2] At Sprint Nextel, for example, we use special access to connect our cell sites to our switches.

Special access is the lifeblood of the telecommunications industry and touches virtually every communications product. It is a critical part of the services consumers use every day. When consumers make wireless calls, access the Internet, send e-mails, swipe their credit cards at stores, or use automated teller machines, they are using services that rely on special access. As Chairman Markey has recognized, special access also directly affects the pace of deploying the Nation's next generation broadband services.[3]

Despite this central role in telecommunications and broadband deployment, the special access market is a failure. The special access market failure is apparent in the overwhelming and increasing market share of the two dominant special access providers, AT&T and Verizon. It is apparent in their vast and increasing special access revenues, in their inflated special access prices, and in their anti-competitive contract terms and conditions. The special access market is a textbook example of a market failure, and consumers are suffering the consequences of this failure. The future of competition in telecommunications hinges on whether we address the special access market failure.

Fortunately, the Federal Communications Commission (FCC) has the tools and the evidentiary record to forge a solution to the special access market failure. Congress has

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[2] *See, e.g., AT&T Inc. and BellSouth Corporation Application for Transfer of Control*, Memorandum Opinion and Order, 22 FCC Rcd 5662, ¶ 27 (FCC 06-189) (2007).

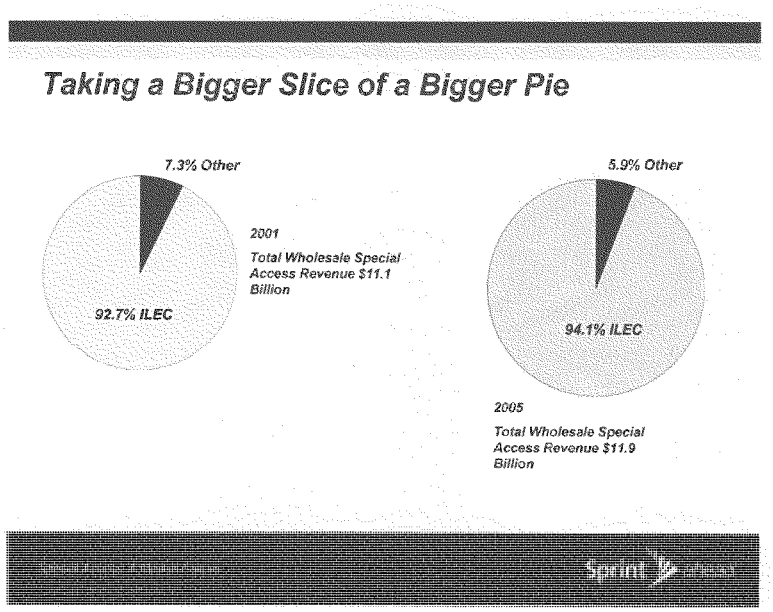
[3] *See* Letter from The Honorable Edward J. Markey, Chairman, House Subcommittee on Telecommunications and the Internet, to Chairman Kevin J. Martin and Commissioners Michael J. Copps, Jonathan S. Adelstein, Deborah Taylor Tate, and Robert M. McDowell (May 23, 2007), *available at*: <http://markey.house.gov/index.php?option=com_content&task=view&id=2859&Itemid=46>.

given the Commission the statutory authority and, indeed, the *statutory obligation* to ensure that special access prices are just and reasonable. I urge this Subcommittee to let the FCC know that it must fulfill this statutory obligation.

II. Special Access Market Failure

A. Overwhelming Market Share

The incumbent local exchange carriers (LECs) overwhelmingly dominate the special access market. This dominance has grown in recent years even as the Commission was relaxing its regulation of many special access services. The incumbent LECs' share of the wholesale special access market has grown from 92.7% in 2001 to 94.1% of an even larger market in 2005.



In 2001, for example, Sprint obtained 88% of the DS1 circuits[4] and 74% of the DS3 circuits[5] for its wireline business in the top 50 metropolitan statistical areas (MSAs) from an incumbent LEC. By 2006, those numbers had risen to over 96% and over 84%, respectively.[6]

The Bell Operating Companies (BOCs) in particular dominate the special access market. When SBC merged with AT&T (to form the "new AT&T") and Verizon merged with MCI, the BOCs not only eliminated two of the leading proponents of special access reform, they also acquired the two largest competitive providers of special access services. After these mergers, AT&T and Verizon now account for 81% of incumbent local exchange carrier special access revenues nationwide.[7] In 1990, when the FCC first adopted incentive regulation for incumbent local exchange carriers, special access only accounted for $2.5 billion of the BOCs' interstate access revenues. Today, the BOCs annually generate $15.6 billion from interstate special access services, which is over half their total revenues from interstate telecommunications services.

Although Sprint Nextel actively pursues alternatives to BOC-provided special access, such alternatives are rarely available. For example, many of our cell sites are located outside the residential areas where cable companies typically deploy alternative facilities. A recent Sprint Nextel survey confirmed the BOCs' dominance, finding that

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[4] A DS1 circuit is equivalent to 24 voice-grade (DS0) circuits and has a capacity of 1.5 Mbps.

[5] A DS1 circuit is equivalent to 672 voice-grade circuits and has a capacity of 45 Mbps.

[6] *See* Comments of Sprint Nextel Corporation, WC Docket No. 05-25, at 29-30 (Aug. 8, 2007) ("Sprint Nextel Comments") and attached Declaration of Gary B. Lindsey, ¶ 8.

[7] 2006 FCC ARMIS Report 43-01, Table 1 – Cost and Revenue, Row 1090 (Total Operating Revenues), Column (s) (Special Access).

there were *alternative special access facilities available at less than two percent of our cell sites.*

Nor is Sprint Nextel the only company captive to the BOCs' special access market dominance.[8] The Ad Hoc Telecommunications Users Committee, an organization of major U.S. businesses, has also shown that the LECs remain the sole source of dedicated access at roughly 98% of all business premises nationwide, even for the largest corporate users.[9] Similarly, T-Mobile has shown that it has few if any alternatives to incumbent LEC special access, especially for initial links connecting its base stations to wire centers.[10]

Even in large urban areas, the incumbent LECs continue to dominate the provision of special access service, particularly for the DS1 and DS3 circuits that Sprint Nextel needs to connect our cell sites to our network. As the chart below shows, Sprint Nextel remains heavily dependent on the incumbent LECs for DS1s in the top 50 markets.

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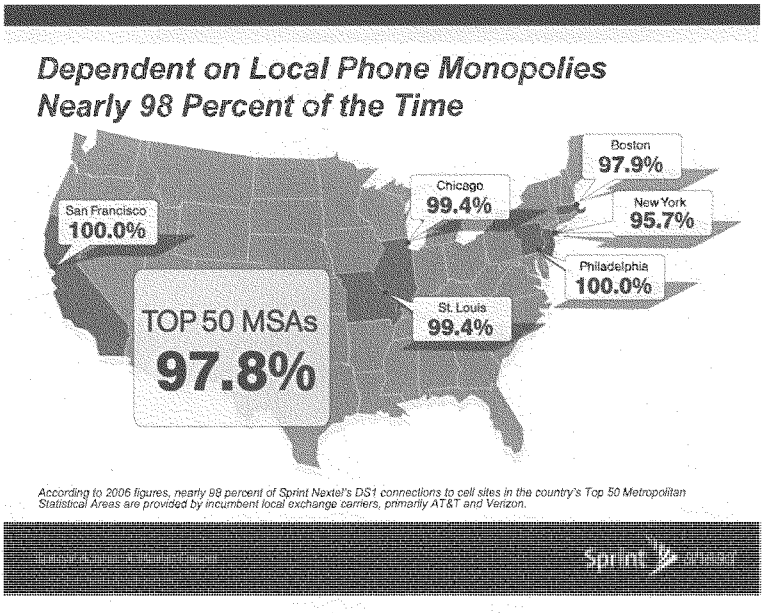
[8] *See* AT&T Reply Comments, RM-10593, at 12-16 (Jan. 23, 2003) ("AT&T 2003 Reply Comments"); Economics and Technology, Inc., "Competition in Access Markets: Reality or Illusion, A Proposal for Regulating Uncertain Markets," at 16-22 (Aug. 2004) ("ETI Report"), appended as Attachment A to Ad Hoc Telecommunications Users Committee Reply Comments, WC Docket No. 05-65 (May 10, 2005) ("Ad Hoc 2005 Reply Comments"). In addition, Ad Hoc's analysis shows that intermodal technologies do not offer competitive alternatives to high speed special access services. Declaration of Susan M. Gately, appended as Attachment B to Ad Hoc 2005 Reply Comments, ¶¶ 19-25 ("2005 Gately Decl."). It appears undisputed that competitive alternatives are available only at a "tiny percentage" of commercial buildings. AT&T 2003 Reply Comments at 13 (stating that the BOCs do not dispute the conclusion that competitive alternatives are available only in a small number of buildings).

[9] 2005 Gately Decl. ¶ 18.

[10] Comments of T-Mobile USA, Inc.WC Docket No. 05-25, at 6-7 (Aug. 8, 2007) ("T-Mobile Comments").



In the Boston metropolitan area, for example, Sprint Nextel provides wireless service to its subscribers through our network of over 1,500 cellular radio towers and five mobile switching offices. To move our traffic from cell sites to our switches, and then ultimately to the Public Switched Telephone Network, we purchase dedicated DS1 and DS3 circuits to interconnect the towers and switches and link our Boston customers to our national and international telecommunications network. In 2006, Sprint Nextel purchased 98% of the special access circuits for its Boston cell sites from Verizon. That percentage is only slightly lower for Sprint Nextel's purchases for access to buildings – 91.5% of the DS1 and DS3 circuits we purchased in Boston were from one company: Verizon. And the story is the same in Chicago, San Francisco and northern New Jersey.

Even the New York City metropolitan area serves as a striking example of the special access market failure. Nextel, before its merger with Sprint, tried to reduce its

dependence on Verizon's special access service, but found that there was almost no alternative. When it sought bids for special access services for its cell sites in the New York metropolitan area – widely considered to be one of the nation's most competitive markets for wireline services – competitors bid to serve fewer than 3% of the required locations.

B. Exorbitant Prices

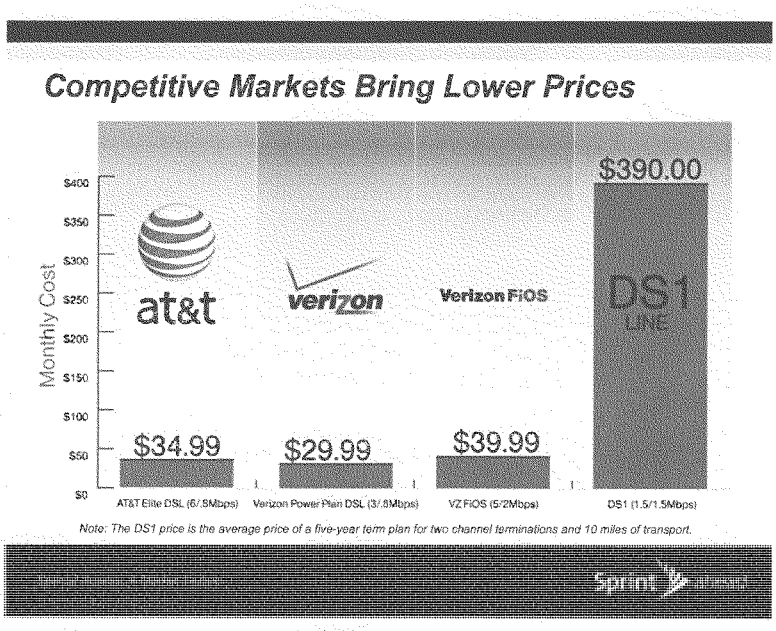
The BOCs' astounding special access earnings have coincided with the FCC's decisions to grant the BOCs greater freedom to set special access prices and keep them high regardless of declining costs. According to the United States Government Accountability Office (GAO), the FCC has given the BOCs some form of special access pricing flexibility in 97 of the 100 largest markets.

The Commission *expected* competition for special access to develop. In fact, it used this *predicted competition* as the basis for its special access pricing flexibility rules. Unfortunately, the Commission's predictions, hopes and aspirations were not met. As the former AT&T noted, "[t]he Commission adopted its aggressive deregulation of the Bells' special access services based on a predictive judgment that competition would provide sufficient safeguards to protect against the Bells' exercise of monopoly power over special access customers. Years of data now confirm that the Commission's predictive judgment was wrong."[11]

Competition for special access did not materialize and the already-excessive special access prices *increased*. In many instances, the BOCs' special access prices are nearly twice as high as the cost of the comparable unbundled network elements (UNEs).

[11] AT&T Petition for Rulemaking, RM-10593, at 38 (Oct. 15, 2002).

Tellingly, prices set in competitive markets for similar capacity connections are a fraction of special access prices. For example, compare the price for Verizon's FiOS service, $39.99 a month for speeds of up to 5 Mbps, to the $390 average monthly charge for the much lower-capacity (1.5 Mbps) DS1 circuits we need.[12] Granted, there are some differences between the services, but certainly not sufficient to justify a price almost ten times the competitive price.



Compounding the problem is that, as we are being overcharged, we are subsidizing the very companies with whom we compete. AT&T and Verizon, the largest providers of

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12 *See ex parte* presentation attached to letter from Anna M. Gomez, Sprint Nextel, to Marlene Dortch, FCC Secretary, at 3 (Aug. 22, 2007) (AT&T's Elite DSL service provides speeds of 6/.8 Mbps, Verizon's Power Plan DSL service provides speeds of 3/.8 Mbps, Time Warner's Road Runner Service provides 5 Mbps, and Verizon's FiOS provides speeds of 5/2 Mbps; a DS1 provides speeds of 1.5/1.5 Mbps.).

special access, are also the largest providers of long distance and cell phone services (Commercial Mobile Radio Services or CMRS). Sprint Nextel and the other long distance and wireless carriers have no choice but to purchase over-priced special access from our two biggest competitors.

The BOCs have a strong incentive to raise the special access costs of their wireless, long distance and broadband competitors. Given the stranglehold they have on the special access market, the BOCs also have the ability to act on this incentive. Moreover, the mergers and increased integration of the BOCs have only heightened their incentive and ability to raise their rivals' special access costs

C. Anti-Competitive Terms and Conditions

The incumbent LECs, particularly AT&T and Verizon, have reinforced their dominance in the special access market by engaging in a number of practices that thwart competition.[13] For example, they use exclusionary "lock up" and pricing arrangements that require customers to commit to purchasing virtually all of their access needs from the incumbents.[14] They tie their special access prices in one area to acceptance of terms in other services and other areas; furthermore, they impose restrictions on the use of their services. AT&T and Verizon link pricing to historical purchase levels and require long-

[13] *See* GAO Report to the Chairman, Committee on Government Reform, House of Representatives, "Telecommunications: FCC Needs to Improve Its Ability to Monitor and Determine the Extent of Competition in Dedicated Access Services," at 14, 18, 27, 30 and Table 4 (Nov. 2006), *available at*: <http://www.gao.gov/new.items/d0780.pdf> ("GAO Report").

[14] *See, e.g.,* GAO Report at 30-31. Other strategies involve poor performance in the ordering, provisioning, maintenance and repair of special access services (*see Performance Measurements and Standards for Interstate Special Access Services*, Notice of Proposed Rulemaking, 16 FCC Rcd 20896 (2001)), and practices designed to discourage or slow customers from migrating circuits from the BOC network or "grooming" circuits to reduce circuits or transport mileage costs.

term commitments to continue spending with them at or above those historical levels.[15] In a market that lacks competition, these exclusionary "lock up" terms and conditions reinforce the BOCs' dominance and deter new entry.

D. Windfall Special Access Earnings

With their overwhelming special access market share, exorbitant prices, and anti-competitive practices, the BOCs are reaping windfall earnings from special access. Unconstrained by effective competition, the two largest BOCs – AT&T and Verizon – take in billions of dollars in excess earnings from special access. These windfall earnings are increasing year after year. The after-tax rate of return that AT&T reported to the FCC for interstate special access services grew from an already-excessive 40% in 2000 to 100% in 2006.[16] Verizon's reported rate of return for interstate special access more than tripled over the same period, growing from 15% to 52%.[17]

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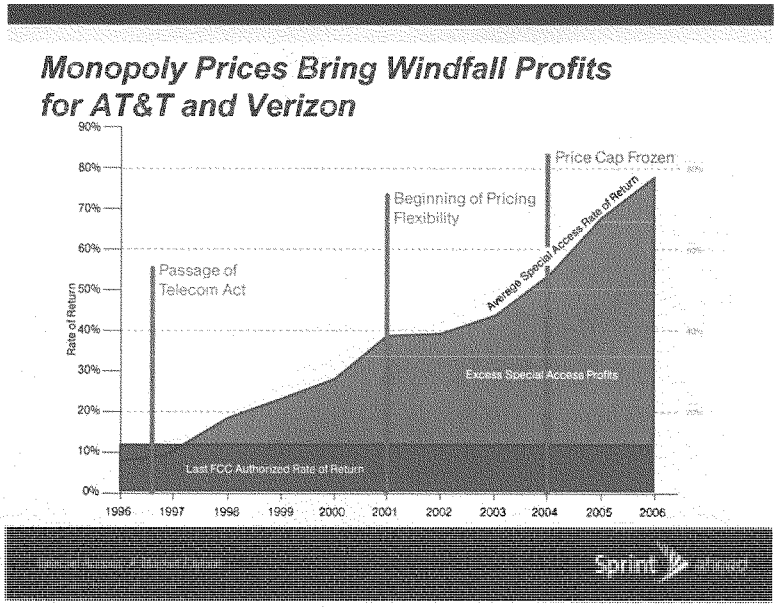
[15] *See* Sprint Nextel Comments at 24-29.

[16] FCC ARMIS Report 43-01, Table 1 – Cost and Revenue, Column (s) (Special Access), Row 1915 (Net Return) divided by Row 1910 (Average Net Investment).

[17] *Id.*



SOURCE: ECONOMICS AND TECHNOLOGY, INC., "SPECIAL ACCESS OVERPRICING AND THE US ECONOMY," APPENDIX 1 TO COMMENTS OF AD HOC TELECOMMUNICATIONS USERS COMMITTEE, WC DOCKET NO. 05-25, AT A-2 (AUG. 8, 2007).

In dollar terms, the magnitude of the over-earnings is astounding. In 2004, the difference between what the BOCs actually earned and what they would have earned at a healthy 11.25% rate of return[18] was more than $6.3 billion. By 2006, the annual over-earnings grew to $7.4 billion, with Verizon and AT&T accounting for over $6.3 billion of that total.[19]

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[18] The most recent rate of return that the Commission prescribed for cost-of-service incumbent local exchange carriers is 11.25%. *Policy and Rules Concerning Rates for Dominant Carriers*, Second Report and Order, 5 FCC Rcd 6786, ¶ 7 (1990), *aff'd sub nom. Nat'l Rural Telecom Ass'n v. FCC*, 988 F.2d 174 (D.C. Cir. 1993); *Represcribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers*, Order, 5 FCC Rcd 7507, ¶ 1 (1990).

[19] Over-earnings were computed using Automated Reporting Management Information System ("ARMIS") data ((Reported rate of return – 11.25)*ANI*Tax Factor).

As MCI (now Verizon) informed the FCC in 2004, "[t]he ILECs' market power over the market for DS1 and DS3 facilities, coupled with the Commission's decision largely to deregulate the pricing of those facilities, has resulted in prices that are far in excess of cost. The result is that special access has become the ILECs' most profitable line of business."[20]

III. The Special Access Market Failure Harms Consumers and Deters Broadband Deployment

While competition is thriving on the retail consumer level for wireless and long distance services, AT&T and Verizon's grip on the wholesale special access market ultimately harms consumers. The incumbents have parlayed the special access market failure into an overcharge-bonanza of $7.4 billion dollars a year. These overcharges for critical network connections have a material effect on the prices, quality and availability of consumer goods and services.

Let me give you an example. Special access is a major component of Sprint Nextel's costs of providing CMRS and wireless broadband services. In fact, special access represents about one-third of our monthly network cost of operating a cell site. This figure is at least twice what it would be if special access prices were even remotely related to the cost of providing special access. Reasonable special access prices would free up funds for the construction of additional cell sites and other network improvements, to the benefit of consumers.

A particularly pernicious effect of the special access market failure is that it slows the Nation's broadband deployment. The high cost of special access, without which competitive broadband providers cannot provide service, acts as a significant barrier to

[20] MCI Comments, WC Docket No. 04-313, at 154 (Oct. 4, 2004).

broadband deployment. Sprint Nextel is committed to broadband. We are investing $2.5 billion through the end of 2008 to deploy our fourth generation network, as well as millions more to upgrade our EVDO network. But forcing us – as well as Internet Service Providers, competitive local exchange carriers, and other long distance carriers and wireless companies – to subsidize the BOCs through overpriced special access slows the rollout of broadband.

The Commission's offices are filled with reams of filings demonstrating the detrimental effects of the special access market failure on broadband deployment.[21] The Organization for the Promotion and Advancement of Small Telecommunications Companies (OPASTCO), has pointed out that special access prices affect the availability of broadband services in rural areas in the United States.[22] Time Warner Telecom has explained that there is "evidence that ILECs are exploiting their control over bottleneck end user connections to control the pace at which competitors roll out next-generation facilities, thereby frustrating the goals of Section 706," which mandates the deployment of

[21] *See, e.g.,* Reply Comments of Clearwire Corporation, WC Docket No. 05-25, at 6 (Aug. 15, 2007) ("If the Commission declines to address the current and increasingly serious market failure in the provision of special access, the future success and availability of alternative wireless broadband networks and other wireless services could be substantially hindered."); Reply Comments of Mobile Satellite Ventures Subsidiary LLC, WC Docket No. 05-25, at 1-3 (Aug. 15, 2007); Reply Comments of BT Americas, Inc., GN Docket No. 07-45, at 15 (May 31, 2007) ("The result of . . . premature deregulation [of broadband infrastructure bottlenecks] has been the dramatic decline in competition and with that a decline in broadband investment and innovation"). T-Mobile Comments at 8 ("Consumers ultimately suffer from the high cost of special access as companies like T-Mobile must expend their limited resources on exorbitant fees in lieu of investing in improved services, including wireless broadband, and expanded coverage areas."); Reply Comments of National Telecommunications Cooperative Association, WC Docket No. 06-125, at 3-4 (Aug. 31, 2006) (describing the consequences if the Commission grants forbearance for special access services, specifically for access to the Internet backbone).

[22] Comments of the Organization for the Promotion and Advancement of Small Telecommunications Companies, GN Docket No. 07-45, at 10-11 (May 16, 2007).

"advanced" services to all Americans.[23] Consumer groups have also sounded the alarm about the adverse effect of high special access prices on broadband deployment.[24] As the New Jersey Rate Counsel stated: "Artificially high special access rates are jeopardizing the Commission's ability to achieve its broadband deployment goals."[25]

If it remains unaddressed, the special access market failure will continue to act as a barrier to the Nation's broadband deployment.

IV. The FCC Can and Must Address the Special Access Market Failure

There unquestionably is a market failure for special access services. Unlike many problems that policymakers face, however, this one has a readily available solution. The Federal Communications Commission has the unambiguous statutory authority *and obligation* to ensure that special access prices are just and reasonable.[26]

To fulfill its obligation of ensuring that special access prices are just and reasonable, until the BOCs face competition for special access services, the Commission must reduce special access rates to reasonable levels by (1) applying its incentive regulation to all special access services, revised to reflect the BOCs' cost savings, and

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[23] Comments of Time Warner Telecom, Inc., GN Docket No. 07-45, at 11-12 (May 16, 2007).

[24] Reply Comments of the New Jersey Division of Rate Counsel, WC Docket No. 05-25, at 5 (Aug. 15, 2007) ("To deny the mismatch that now exists between lax regulation and exorbitant rates would harm consumers and thwart efficient investment in the nation's telecommunications infrastructure"); Reply Comments of the National Association of State Utility Consumer Advocates ("NASUCA"), GN Docket No. 07-45, at 15 (May 31, 2007) ("NASUCA recommends that the Commission heed Sprint's concern about the dampening effect of high special access rates on broadband deployment goals."); Reply Comments of NASUCA, WC Docket No. 05-25, at 10 (Aug. 15, 2007) ("None of this is good for competition or good for consumers."); *see also, e.g.*, Comments of Ad Hoc Telecommunications Users Committee, WC Docket No. 05-25, at 7-8 (Aug. 8, 2007); Comments of the American Petroleum Institute, WC Docket No. 05-25, at 6-9 (Aug. 8, 2007).

[25] Comments of the New Jersey Division of Rate Counsel, WC Docket No. 05-25, at 16-17 (Aug. 8, 2007), quoting Reply Comments of the New Jersey Division of Rate Counsel, GN Docket No. 07-45, at 14 (May 31, 2007).

[26] 47 U.S.C. § 201(b).

(2) by requiring special access rates to be based on costs[27] or targeted to earn no more than an overall 11.25% interstate rate of return. Moreover, the Commission must reject transparent attempts by the BOCs to use the "forbearance" authority granted to the Commission to obtain even greater deregulation of special access services.[28]

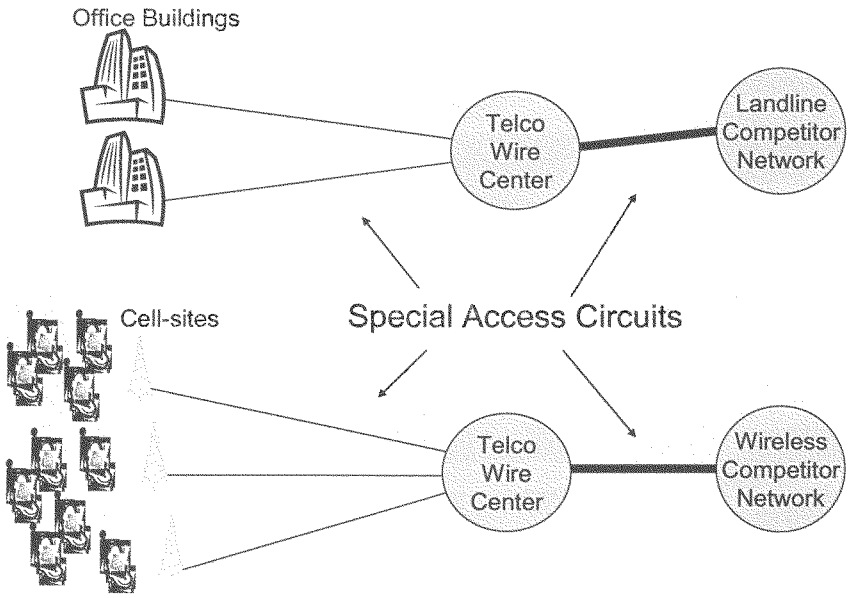
The FCC has an obligation to remedy the special access market failure. There can be no doubt that the BOCs have long exercised – and continue to exercise – market power in the provision of the special access services that are a critical component of virtually every communications service. Addressing the special access market failure will produce significant, tangible benefits for consumers, including improved service quality and faster rollout of broadband networks.

[27] As Verizon Wireless itself has stated, the charges for telecommunications services should be based on "the cost of providing service, not serve as an uncapped, unending revenue source for certain carriers by requiring their competitors to subsidize them." *See* Comments of Verizon Wireless, CC Docket No. 01-92, at 11 (Oct. 25, 2006).

[28] *See* 47 U.S.C. § 160.

Appendix

Special Access Arrangements



Testimony of
William E. Cheek
President, Wholesale Markets
EMBARQ

before the
Subcommittee on Telecommunications and the Internet
Energy and Commerce Committee
United States House of Representatives

Digital Future of the United States:
The Future of Telecommunications Competition
9:30 a.m., Tuesday, October 2
2123 Rayburn House Office Building
Washington, DC 20515

Mr. Chairman, Ranking Member Upton and members of the Subcommittee, thank you for the opportunity to testify today. I am Bill Cheek, President of Wholesale Markets for Embarq. Headquartered in Overland Park, Kansas, Embarq is a full-service communications provider delivering voice, Internet, wireless and entertainment products to about 6.5 million access lines in 18 states. We serve primarily rural communities, which typically have higher costs to serve, and we are always mindful of the role that robust communications networks play in enhancing rural economies.

Embarq was established 16 months ago when Sprint Nextel spun off its local exchange operations, and we have been operating independently since that time. It is also a privilege to testify on the same panel as my former chief executive, Mr. Gary Forsee. While we may now approach telecom policy from differing perspectives, we continue to enjoy a relationship of great mutual respect.

Competition & Innovation

We commend the Subcommittee for convening this hearing on the future of telecommunications competition. The vision of the 1996 Telecommunications Act, crafted by many members of this subcommittee, was to transform the telecommunications landscape into a dynamic, deregulated, competitive marketplace. As a result, over last 11 years, we've seen unprecedented waves of innovation and investment, albeit often not in the shape and form we anticipated.

Embarq entered the competitive landscape last year at a time when few recognized the value of our local telephone network as a strategic asset, especially as wireless customers were "cutting the cord," cable TV providers were expanding their voice offerings and basic telephone subscriptions were (and still are) declining at a rate of

more than six percent per year. Since then, we have leveraged that asset through various investments and partnerships and made innovation, continued network investment and superior customer service the linchpins of our ongoing transformation as a company.

- Just last week, we began offering 10 Mbps broadband in Las Vegas by pushing more fiber into the network and using new technologies to boost the maximum bandwidth we can deliver to our customers, with plans to expand it other parts of the country.
- Shortly after our spin-off, we rolled out our SmartConnect phone, a dual-mode mobile handset which acts as a cordless WiFi phone in the home or office, and as a fully mobile wireless phone when customers are on the go.
- Every Embarq high-speed Internet customer gets a 25 gigabit virtual storage vault for music, video, photos, mail and other files that can be accessed from anywhere.
- Our VideoClicks service offers customized video-on-demand over the Internet with news, movies, music videos and other content – all free.
- And we have more innovative products in the pipeline that will ultimately allow communications and digital content to move seamlessly with our customers wherever they go.

I believe we've achieved some level of success, but the truth is that in today's competitive market, all these things are just table stakes. They are only the beginning.

Special Access

One particularly timely topic for this hearing is the call by some for the Federal Communications Commission (FCC) to reverse the trend of deregulation and re-impose price controls and other regulations on the market for special access.[1] While we fully

[1] Special access refers to high capacity connections that Embarq and others sell to wireless and long-distance carriers, to competitors and to large corporate and government buyers. Sometimes they are retail

appreciate and participated in the Commission's recent steps to refresh the record in its special access rulemaking, we find the prospect of re-regulating a market that was initially de-regulated eight years ago to be inconsistent with competitive conditions in the marketplace today.

To put the issue in perspective, about 71 percent of Embarq's special access revenues are still subject to price cap regulation because they are provided in geographic areas where the Commission has not found the indicia of competition under current law. At the same time, 75 percent of our special access lines are subject to either CLEC or cable competition, and in more densely populated low-cost markets we typically face five or more competitors. Also, more than 70 percent of our special access revenues come from sales to carriers that are at least twice our size, and in most cases they are six times our size or larger.

Increasingly, large buyers are putting their special access needs out for competitive bids, especially in the wireless backhaul markets, where Embarq bids against multiple competitors, all of whom can see our public price schedules and few of whom are regulated to the extent we are. Just this past month, we submitted competitive bids for two multi-million dollar wireless backhaul contracts in Nevada and the Carolinas. In both cases, more than a dozen competitors submitted bids.

Unfortunately, our most aggressive competitors aren't counted under the current competitive trigger analysis the FCC uses to determine when a particular geographic

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offerings, like those we sell to casinos in our largest market of Las Vegas, and sometimes they are wholesale offerings that form a part of another carrier's product, like the wires that connect wireless cell towers to the underlying phone and data networks. The designations you'll hear for different special access products, such as DS1, DS3 and OCn, generally correspond to various levels of bandwidth or capacity. For example, a DS1 line can carry about 24 simultaneous voice conversations, whereas a DS3 can carry about 672 and an OCn can carry orders of magnitude more.

market should be deregulated. The problem is that current rules only count competitors who physically collocate their equipment in the incumbent's central office. But many of the new generation of competitors – cable, fixed wireless and other new entrants – bypass Embarq's network altogether and are never included when competition is measured. Despite the FCC's recent invitation to refresh the record, our top cable and fixed wireless competitors did not file their data.

In fact, our own analysis indicates that at least one of our currently regulated markets would merit pricing flexibility and deregulation if all our competitors were counted, because we are in direct competition with a cable provider, a fixed wireless provider and a local electric utility that has entered the special access business in that city.

In August and September, Embarq filed substantial data with the FCC showing our special access competitive losses, as well as the continuing impact of price cap regulation on our rates. In fact, Embarq demonstrated that our DS1 channel terminations (often used to connect cell towers) are, on average, priced below the forward-looking economic cost of providing the service. Prices for our higher capacity DS3 services have declined 35% since deregulation in 2001. Just this year, to meet growing competitive threats, Embarq more than doubled fiber investment plans for wireless backhaul, even as our prices have generally held steady or declined in some cases.

As a predominantly rural carrier, Embarq faces additional challenges. Re-regulation advocates have pointed to their substantial costs in purchasing special access, but providers like Embarq also face substantial costs in providing it. The vast majority of special access involves dedicated infrastructure, which means that once we build that

infrastructure, it can't be used for any other purpose, even if the buyer eventually switches to fixed wireless or provisions the special access himself. And costs are significantly higher when the connection stretches more than three miles from the central office, as is often the case in rural areas where Embarq primarily serves.

Perhaps most tellingly, a November 2006 study by the Government Accountability Office (GAO) found that since the beginning of deregulation, the average price per unit actually paid for special access has declined.[2] Ultimately, we believe that if the Commission were to take action in the special access rulemaking, a necessary prerequisite would be to close a gaping hole in the record by obtaining data from all the new competitors in our filings and those of other ILECs, and ensuring that services provided by such providers were considered in any eventual rule change.

Forbearance

On the question of regulatory forbearance, our chief concern is that once a market has become competitive and new entrants are strong and healthy, it is unfair to impose extensive economic regulations on just one provider, even if only by regulatory inertia, while others grow their share unburdened. Congress seemed to anticipate this danger and deliberately structured Section 10 so regulators would periodically reaffirm the public interest in maintaining economic regulations or otherwise pare them back.

Embarq filed for forbearance from regulation of high-capacity broadband services, a market where Embarq does not have market power. Moreover, competitors like Time Warner Telecom and Cox Communications are already in the top tier (numbers 4 and 5) of the national market for Ethernet, easily surpassing Embarq's share. Truth be told, there is little or no incumbent advantage when it comes to building a SONET ring

[2] Government Accountability Office, Report 07-80, (Nov. 2006), at page 32.

around a metro area or providing Ethernet services. Cities have done it. Independent firms have done it. These are generally build-to-order systems where numerous firms can compete in any region. We understand the concerns expressed by Subcommittee members about the importance of clarity when the FCC acts and avoiding premature deregulation. We only urge you to also consider the burden of over-regulating firms like ours long after the conditions to justify it have ceased to exist in the market.

Municipal Networks

Regarding municipal networks, the nexus between municipal networks and competition is actually the source of our concern on this issue. Many communities view municipal networks as a tool of economic development, especially where private sector networks are not available. In other cases, however, the local government has made itself a competitor against companies like Embarq who have already invested our own private capital. While our personal preference is to let each state decide its particular approach to municipal networks, we look forward to a productive dialogue with the members of this Subcommittee.

Internet Regulation

Finally, I'd be remiss if I didn't address the issue of Internet regulation, also referred to as "net neutrality" by some. This is an issue of tremendous concern because the future of our company is so tied to the capital intensive network investment needed to build the Next Generation Web.

The Internet occupies an ever more central place in Americans' home and work lives. For example, online videos are supplanting traditional entertainment like cable and broadcast TV with dynamic video-on-demand options, more Americans are

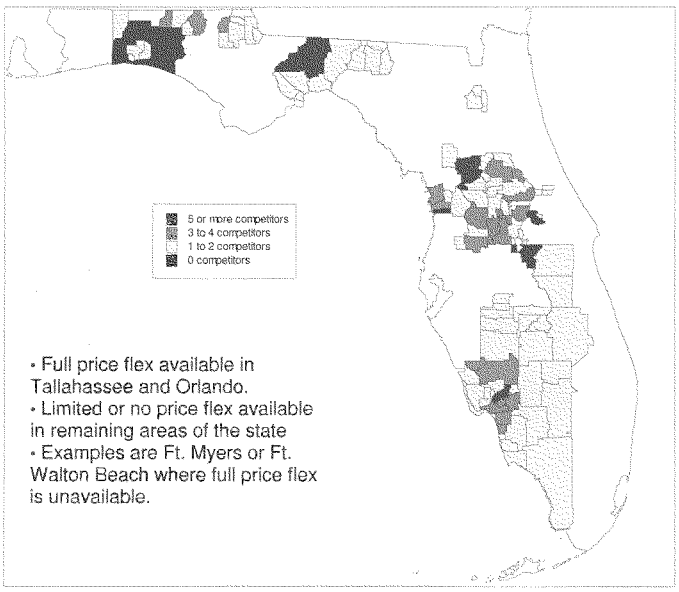
telecommuting and many consumers want to be ubiquitously connected. But keeping up with growing bandwidth demand requires tremendous network investment. Even a comparatively small company like ours has budgeted about $900 million in capital expenditures for 2007 to build out and upgrade the network.

Prescriptive network rules that substitute regulatory processes for engineering decisions are especially damaging for rural communities where the cost of network investment must be measured by the time it will take to recover it and eventually turn a profit. We understand policymakers have concerns about potential and alleged abuses, but the best way to balance competition concerns with investment incentives is to address each issue on a case by case basis and avoid additional unwarranted prescriptive rules.

Conclusion

Ultimately, we believe the best course for policymakers is to pursue a technology neutral approach that lets the market choose winners and losers, not government, and recognizes that competition often comes about in ways very different from how it was originally predicted. We thank you for the opportunity to appear and look forward to working with the members or this Subcommittee.

Competition Flourishes -- Embarq Wholesale Competitive Intensity - Florida September 2007



- Full price flex available in Tallahassee and Orlando.
- Limited or no price flex available in remaining areas of the state
- Examples are Ft. Myers or Ft. Walton Beach where full price flex is unavailable.

Wholesale Competitors

Adelphia Business
Armstrong Utilities
AT&T Local Services
Brighthouse Networks
Charter
Comcast
Cox
Deltacom
FiberTower
Florida Digital Network
FPL Fibernet, LLC
Intermedia
Level 3 Communications
Mediacom
MFS Telecom
New Edge Networks
Newsouth
Smart City Solutions
Southern Light
Suddenlink
Time Warner
Time Warner Telecom
Tower Cloud
US LEC Corp
XO Communications

TESTIMONY OF BRAD EVANS

CHAIRMAN OF CAVALIER TELEPHONE & TV

BEFORE THE

COMMITTEE ON ENERGY AND COMMERCE TELECOMMUNICATIONS

AND THE INTERNET SUBCOMMITTEE

UNITED STATES HOUSE OF REPRESENTATIVES

ON

THE FUTURE OF TELECOMMUNICATIONS COMPETITION

OCTOBER 2, 2007

Mr. Chairman and Members of the Committee, I am Brad Evans, Chairman of Cavalier Telephone. Thank you for the opportunity to testify here today before this committee. I will briefly introduce Cavalier and then discuss the threat to competition posed by the forbearance petitions pending at the FCC. We need Congressional help to stop these forbearance petitions filed by AT&T, Verizon, and Qwest.

Introduction to Cavalier

Cavalier Telephone is a competitive telephone company headquartered in Richmond, Virginia. We provide local, long distance, broadband, and IPTV services in about 20 states in the Middle Atlantic, Midwest, and Southeastern United States.

Our company is a "success story" of the new, competitive marketplace mandated by the Telecommunications Act of 1996. Unlike many other competitors, Cavalier embraces the residential market and is adding approximately 25,000 new customers each month. Our high-speed Internet access is second to none, offering speeds of 15 megabits per second for a low monthly price of $24.95.

Cavalier launched voice service over its first switch in Virginia in 1999. Since that humble beginning, it has grown to become a profitable company with over $650 million in revenues. We have made significant capital investments, and now own over 8,000 miles in long-haul fiber and 3,000 miles in metro fiber. We have fiber rings in most of our cities, including Richmond, Virginia Beach, Detroit, and Philadelphia. We have also invested enormous amounts in equipment that unleashes the full potential of existing, last mile copper loop plant. In 2007, we are continuing to expand our service area. In fact, Cavalier will expand next week into Pittsburgh, followed by Syracuse and Albany later in the year. See Exhibit A.

Since the breakup of the "Ma Bell" in 1985, much has changed and yet we see history repeating itself. Initially, the breakup resulted in 7 Bell operating companies. By 2007, the Bells had recombined into three Bell operating companies—AT&T, Verizon, and Qwest. In many of the mergers, the Bells promised to compete across region in order to get merger approval. Despite those promises, the Bells have not only refused to compete outside their home regions, preferring to divide the country into three Bell monopoly territories, they have actually strengthened their in-region monopolies.

The three Bell companies—AT&T, Verizon, and Qwest-- continue to hold a *de facto* monopoly on traditional wireline services—local and long distance. Through extensive marketing, mergers and acquisition, and regulatory manipulation they have become the largest providers of broadband and wireless services as well. To that end, in a recent conversation with an analyst, Verizon bragged it would achieve a penetration of 90% in the 30 million homes it passes. See Exhibit B. The Bells control the movement of local telephone traffic across the United States—through control of special access and most transport. As a result, virtually every time an American picks up a phone, wireline or wireless, a Bell operating company gets paid for some portion of that call or service—either by the end user customer or its provider who must pay for access to some part of the Bell network. For the Bells, however, the situation is intolerable because in some places cable and some small ambitious competitive providers—such as Cavalier—have dared to challenge their market dominance.

Overall the Telecommunications Act of 1996 has been a success, bringing competition into many areas. I am surprised to see the Bells, despite having achieved re-monopolization, now challenging some basic provisions of the Act, which were the foundations of Cavalier's success. I speak of unbundled access to the "last mile" of the legacy facilities that have been in place, in some cases, for over 100 years. The Telecommunications Act requires Verizon, AT&T, and Qwest to not just interconnect their networks with Cavalier's network, but also to provide Cavalier with access to local loops to reach individual customers. These last-mile facilities are essential to Cavalier's

ability to compete. They have also allowed Cavalier to provide new innovations, by deploying startling, new uses for existing copper loop plant.

Cavalier's IPTV Over Copper

Cavalier is an industry pioneer in a competitive TV service that uses MPEG 4 video compression to provide over 150 channels of television over Cavalier's existing DSL network—all delivered over traditional copper loops. The service has clear digital picture quality, an interactive programming guide, video on demand, and other advanced features. We offer video and music channels, local telephone service, and high-speed broadband, all at a significant savings to consumers compared to current alternatives. A Cavalier IPTV customer can add premium channels or just stick to a basic package that includes cable standards like MTV, ESPN, and CSPAN alongside broadcast networks like ABC, NBC, CBS, and Fox.

The Cavalier TV network currently has thousands of customers in Richmond and Virginia Beach. We are bringing that service to Detroit and Philadelphia over the next year, and then to all of our major markets. Unlike Verizon's FiOS, our TV service runs over existing copper loops. That means that we can serve older neighborhoods with copper facilities, not just gated suburban communities with newly built fiber networks. We simply stream our TV signal over the existing DSL network. If you can get Cavalier's high speed DSL service, then you can get Cavalier TV. We serve the inner city, not just McMansions in the exurban fringe.

Consumers Save With Cavalier

Cavalier also offers significant savings to customers, as shown in the chart below, and thereby makes high speed DSL services more affordable to consumers. For example, we offer a promotional package of telephone and high-speed Internet service for under $40 a month, compared to almost $70 for similar packages from Verizon, AT&T, and Comcast.

A similar promotional package that adds Cavalier's IPTV service sells for under $80 a month, compared to about $100 a month with the larger competitors.

	Verizon	AT&T	Comcast	Cavalier
Bundle for phone & Hi-Speed Internet				
Best Rate for New Customer	$69.99	$69.95	$66.00	$39.90
Modem Fees & Voice Mail (AT&T)	$29.99	not included	$3.00	$0.00
Total for Promotional Period	$99.98	$69.95	$69.00	$39.90
Promo period covers:	Six months, after 1st month free.	ongoing	12 months	Six months. Other promotional offers apply.
Then customer pays:			$97.90	$49.90
Restrictions:	Two year term		No term	No term
	Customer must pay partial install fee if disconnects all services before 12 months.	Modem shipment fee of $19.95 + purchase of modem at $49.95	Installation charges apply.	No restrictions.

	Verizon FIOS	AT&T	Comcast	Cavalier
Bundle for phone, Hi-Speed Internet, TV				
Best Rate for New Customer	$99.00	$102.98	$99.00	$79.95
Set Top Boxes & Modem Fees	$4.99	$5.00	$3.00	$0.00
Total for Promotional Period	$103.99	$107.98	$102.00	$79.95
Promo period covers:	12 months	ongoing	12 months	12 months
Then customer pays:	Unspecified increases		$135.40 - $212.95	$99.95
Restrictions:	Two year term	One year term	No term	No term
	Lease of additional equipment required for digital programming.	$49.95 activation fee. 100 channel Dish Network package. Pricing available only for on-line orders.	Installation charges apply.	Customer must pay partial install fee if disconnects all services before 12 months.

Threats to Copper and Competition

These customer savings and innovations are in jeopardy. As part of its FiOS rollout, Verizon is threatening to remove, or removing, copper loop facilities built over the past century at the expense of customers who paid monopoly rates for telephone service. It is the copper facilities that served as the critical support beam upon which the 1996 Telecom Act was based and continues to be the essential link for our nation's coast-to-coast telecommunications infrastructure. As it rolls out FiOS, Verizon is ripping copper out of the ground or disconnecting it from consumers' homes. Why? Because Verizon

wants to remove the copper facilities that competitors can use, replacing it with fiber that the FCC has exempted from any unbundling (sharing) requirements. We believe the FCC should clarify that "retirement" as set forth in current rules refers to the actual physical removal of copper and that in all other circumstances copper loops remain subject to unbundling.

Competitive carriers do not expect Congress to cure its concerns with regard to copper retirement. Instead, in January, 2007 17 competitive carriers, including Cavalier, filed a petition for rulemaking and clarification with the FCC. That petition asks the FCC to revise its rules to assure that the public interest in provision of competitive services over legacy copper loops is protected from ILEC incentives to harm competition.

Copper retirement is a slowly evolving threat, driven by the Bell operating companies, especially Verizon's, own internal timeline of fiber deployment. I'd like to contrast that and turn my attention now to, the Bells' use of "forbearance" which poses an immediate threat to competition.

A number of forbearance deadlines are rapidly approaching. For example, October 11, 2007 is the statutory deadline for the FCC to decide AT&T's broadband so-called "me, too" forbearance petition. These petitions seek deregulation of certain broadband services based on the theory that Verizon was granted the same relief in a petition that was "deemed granted" on March 20, 2006. The statutory deadline for Verizon's "six MSA" forbearance petition is on December 5, 2007, followed by the statutory deadline for Qwest's "four MSA" forbearance petition on April 28, 2008. These petitions all present grave threats to competition, and all are based on insufficient evidence and—in the case of Verizon—completely inaccurate evidence, even as admitted by Verizon itself.

Unless the FCC rejects the pending forbearance petitions, consumer choice in ten major cities will be in jeopardy. Nationwide access to advanced broadband services provided by AT&T will be in jeopardy. Past forbearance petitions have been limited to much smaller markets like Omaha, Nebraska and Anchorage, Alaska. However, the Bells are now

seeking forbearance in major markets like New York, Boston, and Denver. See Exhibit C. Cavalier alone has over 90,000 residential customers and another 50,000 business lines affected by the pending Verizon petitions in the Philadelphia and Virginia Beach MSAs. Those customers will lose the benefits of the innovative services and the savings mentioned above, if Cavalier loses its current access to copper "last-mile" facilities. Those petitions should therefore be rejected, for reasons that I will elaborate below.

What Forbearance Means

When we first looked at Section 10 of the Telecommunications Act, we were encouraged. Forbearance seems designed, on its face, to promote competition and foster just and reasonable pricing. As an entrepreneur, I generally favor free markets and a robust competitive marketplace. Section 10 enables the FCC to grant forbearance from enforcement of the standards of the Act if:

(1) Enforcement is unnecessary for just and reasonable rates;
(2) Enforcement is unnecessary to protect consumers;
(3) Grant of forbearance is consistent with the public interest and will promote and enhance competition.

To determine how a grant of the forbearance petitions would affect our customers, Cavalier has repeatedly asked Verizon what it will offer, and at what price, in place of the current access to unbundled copper loops. Verizon has offered no answer. There is simply no substitute for those loops today. Resale is no substitute, because it is not real competition and because Cavalier is a facilities-based company that uses its own fiber rings and equipment. As such, we cannot just shift to a resale mode—that would not allow us to offer our full range of innovative, high-speed DSL services or to continue developing new services over existing copper loop plant.

This brush-off is surprising given that Cavalier is a very large customer of Verizon. For plain copper two wire loops (over which we can provide IPTV and other advanced services), Cavalier pays Verizon on average $3.3 million a month or $36 million

annually. For high capacity T1 unbundled loops and transport, we pay an additional $1 million a month, or $12 million annually. For other services for which Verizon has a monopoly—collocation, special access, switched access—we pay an additional $2 million a month or $24 million annually.

Yet even as a $72 million-a-year customer of Verizon, we are offered no opportunity for a face-to-face negotiation with Verizon on loop access or even a commitment that it will respond by a certain date—basic courtesies that customers of that scale could reasonably expect. Basic economics suggests that a monopolist does not have to negotiate, but can simply dictate. We are seeing that behavior by Verizon with its "six MSA" Forbearance Petitions.

McLeodUSA's Experience

The experience of McLeodUSA Telecommunications ("McLeod") vividly illustrates the consequences of "life after forbearance" and "wait for a commercial agreement." After the FCC granted Qwest's forbearance petition for Omaha, McLeod was unable to get a suitable commercial agreement from Qwest. McLeod learned that critical evidence on which the FCC relied was filed the day the petition was granted. McLeodUSA was never given an opportunity to respond.

McLeod thus lost Omaha, not based on a fair and open evidentiary proceeding, or even a complete record. Instead, the FCC's decision seems to have been based on a single piece of evidence that was submitted 15 months after the initial proceeding was filed, evidence that was submitted at the last minute by a cable company with no direct stake in forbearance. McLeod continues to battle for Omaha in a petition for modification filed before the FCC, but that petition has not received any response from the FCC. With no other alternative, McLeod has announced that it will withdraw from that market. And other CLECs, Eschelon and Integra, abandoned their business plans to enter Omaha at all as a result of that Commission Order. Cavalier does not want to be in that same boat in Philadelphia, Pittsburgh, and Virginia Beach.

Opposing Mass Market Forbearance

The Bell companies like to complain (falsely) that competitive carriers never disclose their numbers, so Cavalier wishes to present the following figures for your consideration:

- 140,000 Cavalier telephones lines (including over 90,000 residential customers) will be affected if the FCC does not reject Verizon's "six MSA" Forbearance Petitions by December 5, 2007.

- Cavalier pays Verizon about $72 million per year. Verizon consistently seeks higher prices for copper last mile "loops" and other services, but then claims that in other proceedings that the copper facilities are "worthless" or should be abandoned.

- Cavalier buys $12 million per year in special access from each of Verizon and AT&T for our business services. Cavalier only purchases special access where we do not have our own facilities, unbundled access is unavailable, and other competitive alternatives are not available. Cavalier does not do business in the Qwest region. Cavalier is almost exclusively dependent on the Bells for "last mile" access. In the mass market, focusing on residential customers, special access is not available as there is no available special access for the types of copper loops we buy. Resale services, a state established discount off the Bell retail offerings, are not a viable offering for a small business trying to compete with the Bells because of insufficient margins and they are not suitable for our full suite of products.

- Months ago, at the beginning of the Verizon Six MSA forbearance proceeding, competitive providers purchased and filed commercially available data from

GeoResults that show the amount of CLEC "last mile" facilities to commercial buildings in each MSA by wire-center. For the price of approximately $5,000 per market, that information, which is from a neutral source, is readily available and has, in fact, been used by Verizon and the other Bells in other FCC proceedings. Thus, it is untrue that the Bells could not have produced detailed market data about the extent of competitive facilities deployment. We can only surmise that their failure to buy it and submit it is an admission that the markets are far from being competitive.

- Verizon's business is booming. On July 30, 2007, Verizon reported a 3.4% increase in Second Quarter revenues in legacy Verizon consumer markets, more than double the rate of growth in First Quarter, 2007. In addition, Verizon reported a 10.9% growth in average revenue per unit in these markets. These results indicate that not only is Verizon growing in traditional wireline markets, it is getting more profitable in those markets. More recently, Verizon informed analyst Tim Horan with CBC Times that neither the economic or regulatory environment is currently impacting the company. **In fact, Verizon reports that it now passes 30 million homes and expects to provide service to 90% of these homes.** See Exhibit D.

- 43 other small business companies from all over the country have joined Cavalier in opposing the forbearance petitions, because they threaten all true competition to the Bells. If you add together the customer counts of the competitors opposing the pending forbearance petitions, you can see that the FCC has an imminent national crisis on its hands, one that cannot be remedied by hollow promises of "commercial agreements" offered by *de facto* monopolist with no incentive to negotiate.

- The Public Service Commissions of Massachusetts, New Hampshire, New Jersey, New York, Delaware, Pennsylvania, Virginia, Arizona, Colorado, Minnesota, and Washington have all filed strong comments in opposition of the pending

forbearance petitions. In addition, 11 state agencies and departments including, the National Association of Consumer Advocates has opposed the pending forbearance petitions. Sixteen other parties have filed in opposition of these forbearance petitions. No public service commission or consumer advocate group has filed in support of the pending forbearance petitions.

- Between the pending Verizon Six MSA Forbearance Petitions and Qwest Four MSA Forbearance Petitions 47 million Americans are affected by the pending petitions. See Map Exhibit B.

Congress Should Fix the Forbearance Process.

What is happening here is that the forbearance process is deeply flawed. We understand that Section 10 is part of the Telecom Act. Its requirements are clear—the statute lays out the requirements. Yet Cavalier believes that forbearance has been abused by the Bell companies who are seeking to turn back the clock on large portions of the Telecommunications Act of 1996. We are also very concerned that the forbearance petitions filed by Verizon, AT&T, and Qwest will simply be "deemed granted" – eliminating "last mile" facilities – unless three FCC Commissioners vote against them.

The "deemed granted" language in Section 10 of the Telecommunications Act means that the FCC can change the law, and change the very foundation of the Act, without ever voting, without considering the evidence, and without giving competitors a chance to refute the allegations of the Bell companies. Even if the Bell companies fail to make the showing required under Section 10, the pending forbearance petitions can still be granted simply by the FCC's inaction. As the founder of a successful company created on the promise of the Telecommunications Act, I find such a possibility to be astounding.

The specter of "deemed granted" petitions might seem hypothetical or improbable to you. It should not, because it has already happened. On March 20, 2006, a forbearance petition filed by Verizon was "deemed granted" without an FCC vote. According to later information provided by the FCC's General Counsel, it turned out that the FCC was deadlocked in a 2-2 tie. What exactly was granted? What was an affected carrier allowed to appeal? No one knows, because the scope of the grant was never articulated in a formal order. I doubt that Congress intended Section 10 to permit such an illogical result. Now, with a full complement of five commissioners, we believe that a better chance exists that a majority vote will occur and that a written order will be issued. However, if one commissioner recuses himself or herself, or does not believe that the record is sufficient, then another petition could again be "deemed granted."

The question I ask is whether Congress really intended to hand the FCC the ability to terminate basic interconnection requirements of the Telecommunications Act of 1996 using a short cut process. Did Congress really intend that the FCC could reach such a result without any showing of data by the petitioner, any meaningful analysis of data submitted at the 11th hour, or without the benefit of a vote or formal order?

In addition to these two issues, the forbearance process has been tainted with procedural irregularities, including those summarized in the table below.

Petition	Date Granted	Procedural Irregularity
Qwest Omaha Petition	September 16, 2005 (order not released until Dec. 2, 2005)	Geographic market definition was based on evidence by Cox Cable filed at 8:11 on the evening of the grant; parties never given chance to refute or even examine evidence upon which FCC relied
Anchorage Alaska UNE Petition	December 28, 2006 (order not released until Jan. 30, 2006)	Parties to case without service in Anchorage deemed to lack standing to appeal; yet precedence stands
Verizon Broadband Petition	March 20, 2006 by press release	"Deemed Granted" when FCC failed to release an order

Congress must require the FCC to remedy such procedural deficiencies before more harm is done. Omaha was an unusual market, with few landline competitors other than

McLeodUSA. Alaska had even fewer competitors- a lone cable company that may have had more lines than the Bell and could ultimately use its own facilities in lieu of "last mile" copper.

In stark contrast, the pending petitions strike at the core of the U.S. telecommunications market, reaching coast-to-coast and embracing Boston, Denver, Minneapolis, New York, Philadelphia, Phoenix, Pittsburgh, Providence, Seattle, and Virginia Beach. These petitions affect not just the named municipalities, but also the surrounding Metropolitan Statistical Areas, some of which stretch across several states. For example, the Philadelphia MSA includes wire centers in New Jersey and Delaware as well as Philadelphia and all of its suburbs. In sum, over 47 million customers across the Unites States will be affected by the pending forbearance petitions, as summarized in the table below.

Put another way, Omaha and Anchorage involved 9 and 4 wire centers respectively, while approximately 800 wire centers (791 to be exact) are at issue in the Verizon Six MSA Forbearance Petitions.

Petition	Statutory Deadline	Affected Area	Affected People	Services	Procedural Irregularity
AT&T Petition	October 11, 2007	Nationwide-AT&T refused to provide local data	ENTIRE US	All packet-switched and dedicated high-cap services except "TDM" DS1 and DS3	No local data filed, no showing of affect on competition, just and reasonable pricing, or other forbearance standard
Qwest Petition* (Refilled day after withdrew identical petition)	September 12, 2008	Nationwide-despite refilling petition no local data has been provided	ENTIRE US	All packet-switched and dedicated high-cap services except "TDM" DS1 and DS3	7 day notice and comment proceeding-no reply comments; identical to prior petition except word "recently" deleted
Verizon Six (6) MSA Petitions	December 5, 2007	NYC, Boston, Philadelphia, Pittsburgh, Providence, and Virginia Beach	34.4 million	Services Available Under Section 251 including DSO, DS1, DS3 loops and transport;	Despite Omaha Precedent, no reliable wire center data presented 13 months after petition filed;

		MSAs		interstate switched access	Verizon has admitted e911 data is overstated by 100% for business market.
Qwest Four (4) MSA Petitions	April 28, 2007	Seattle, Phoenix, Minneapolis, and Denver MSAs	12.75 million	DSO, DS1, DS3 loops and transport; interstate switched access	Despite Omaha precedent, no reliable wire center data presented

Congress Must Act

Congress cannot ignore this situation, given the geographic scope, the number of consumers and businesses that will be affected, and the harmful impact on competition under the Telecommunications Act of 1996. Access to "last mile" facilities is critical to Cavalier and other competitive providers. Because we use our own facilities and control our own telephone infrastructure up to the last mile, we are able to bring new and innovative services to our customers at considerable savings. I am here today to ask that you urge the FCC to reject the brazen attempts of Verizon, AT&T, and Qwest to use the forbearance process to end run the Telecommunications Act and its requirements that the Bell companies provide access to the "last mile" as set forth in Section 251 of the Act.

Without access to copper "last mile" facilities, innovations like competitive IPTV will not continue. Moreover, our ability to provide service to our substantial base of over 750,000 customers will be in jeopardy. In addition, the service of approximately 47 million other Americans will be left to the whims of the duopoly of Bell-cable duopoly.

Congress should thus demand from the FCC how the public interest will be served, and how just and reasonable pricing can possibly be preserved, if competitors like Cavalier can no longer access the copper network, or can access it in limited areas and only at overblown prices.

We ask Congress to urge the FCC to "just say no" to the Bell misuse of the Section 10 forbearance standard by:

(1) rejecting all pending forbearance petition based on failure to meet the statutory standards when filed;
(2) establishing a rule confirming that APA notice-and-comment rules apply to petitions for forbearance;
(3) establishing a rule specifying that the forbearance petitioner has the burden of proof;
(4) establishing rules governing the format and content of forbearance petitions, including a "complete-as-filed" requirement and a requirement that the petitioner demonstrate that it has satisfied each and every component of the Section 10 test;
(5) establishing Rules governing protective orders and *ex parte* filings; and
(6) establishing Rules encouraging state commission input.

Only action by Congress will require the FCC to take the foregoing actions, which are necessary to preserve the public interest, promote just and reasonable prices, and to prevent the evisceration and untimely demise of competitive alternatives spawned by the Telecommunications Act of 1996.

Mr. Chairman and Members of the Committee, thank you again for this opportunity to share our views with you. We look forward to working with you in any way that might be helpful in preserving competitive choice for all Americans.

CITY OF BRISTOL, VIRGINIA
BRISTOL VIRGINIA UTILITIES
15022 LEE HIGHWAY
BRISTOL, VIRGINIA 24202

October 1, 2007

The Honorable Edward J. Markey, Chairman
Subcommittee on Telecommunications and the Internet
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

Re: Bristol Virginia Utilities testimony
October 2, 2007
Written Statement – Rule 4(b)(1)

Dear Chairman Markey:

In 1999, The City of Bristol, Virginia d/b/a Bristol Virginia Utilities (BVU) began planning a fiber-optic system that would eventually become known by its branding name, BVU OptiNet, the City Utilities' telecommunication and information services operation. After a storm-related full system shutdown, BVU developed its fiber-optic infrastructure to provide telemetry for BVU's electric substations, designed to prevent such a shutdown in the future. After the foundational infrastructure was in place, BVU actively investigated additional ways to utilize the fiber-optic network for the benefit of the City and BVU's electric service area.

In early 2001, broadband and PCX telephone services were provided to local schools and government offices. As local businesses learned of BVU's broadband capabilities, their interest rapidly grew. The economic development opportunities available to BVU (expanded electric customer base), the City of Bristol, Virginia, and Washington County,

Virginia became immediately apparent. However, before the decision to move forward with a city-wide deployment of telecom and information services was made, BVU conducted two surveys to verify consumer interest levels. Both surveys confirmed that there was significant local consumer interest in BVU providing competitive telecom and information services. Having verified consumer interest, BVU commissioned the development of two business plans. Both plans showed success by achieving a 30 – 35% market penetration. Armed with this data, BVU quickly resolved to move forward.

BVU's telecommunication and information system (hereinafter "OptiNet") was charged with a dual mission: 1) to enhance economic development opportunities in Bristol, Virginia and surrounding areas by providing access to cutting-edge services and future-proof technology, and 2) to improve the quality of life for local citizens and small businesses by offering broadband access at affordable and stable prices.

Community interest had been quantified, the mission had been identified and a management team was in place. Work began immediately on expanding the state-of-the-art fiber-optic network and preparing it for business and residential access. OptiNet's network architects chose to deploy a passive optical network (PON). A PON contains no active elements in the signals' path between the central office optical line terminal (OLT) and the customer's optical network terminal (ONT). The only components used in such networks are optical combiners, couplers and splitters. The main application of a PON is in the local access network; or 'last mile', before reaching the customer. This specification is an approved ITU (International Telecommunications Union) standard,

published for any telecom vendor to use in developing products. This allows multiple vendors to develop and sell products that are operationally compatible with each other, thereby driving competition in pricing, service, and features. Proprietary designs, on the other hand, lock a network operator into a particular vendor's idea of features and service, not to mention removing the major factor in price competition - the threat of buying it from someone else for less. This translates to better service at lower cost for OptiNet customers.

As OptiNet's engineers progressed through the technical aspects of preparing the network, BVU's legal counsel and management team were working on a completely different aspect of the business. Before BVU could offer telecommunication and information services, it had to work for two years to change Virginia law and to complete necessary regulatory compliance to obtain state approvals.

In early 2001, BVU filed a complaint asking the federal court to declare invalid the Virginia statute that expressly prohibited a municipal entity from offering the proposed telecom services. On May 16, 2001, the court declared the statute superseded by federal law and therefore unenforceable. During the 2001 legislative session, the Virginia General Assembly passed SB245 authorizing localities to provide telecom services. In addition to legislative challenges, just weeks before BVU OptiNet's scheduled service launch, the incumbent CATV provider, Charter Communications, obtained a permanent injunction that enjoined BVU from offering CATV services because that was beyond the

City's express powers. However, during the 2003 legislative session, the Virginia General Assembly passed SB875 authorizing BVU to offer CATV services.

In addition to these legal challenges, BVU OptiNet also faced opposition from the incumbent telephone provider. On December 12, 2002, United Telephone-Southeast, Inc. ("Sprint"), filed a petition with the Virginia State Corporation Commission (Commission) for Declaratory Judgment Interpreting Various Sections of the Code of Virginia, for Injunction Prohibiting the City of Bristol from Providing Telecommunications Services and for Other Relief. Specifically, Sprint requested that: (1) its complaint against the City of Bristol d/b/a/ Bristol Virginia Utilities be upheld; (2) the Commission determine that Bristol had failed to comply with Virginia Law and find Bristol in violation of 15.2-2160 A and D, 56-241.1, and 56-265.4:4 of the Code of Virginia: (3) the Commission issue an injunction against Bristol prohibiting it from providing telecommunications services to the public until it had complied with the conditions set forth in Virginia law regarding the offering of telecommunications services by municipal electric systems; (5) Bristol's proposed tariff be rejected, or in the alternative, suspended by the Commission until the tariff is compliant; and (6) the Commission grant such other relief as is just and proper.

On December 10, 2002 the Commission issued an order, in which it: (1) denied Sprint's request for injunctive relief; (2) rejected Bristol tariff submitted on November 27, 2002; (3) ordered Bristol to file a revised tariff on or before December 26, 2002; (4) assigned the matter to a hearing examiner; (5) directed the VSCC Staff to participate in the case;

and (6) ordered Bristol to file cost studies to support the prices for its basic local exchange service on or before January 31, 2003.

On August 15, 2003, Bristol filed its cost studies with the Commission. A hearing on the matter was held on April 14 and April 15, 2004. The hearing examiner's report was filed on November 30, 2004 whereby it was found that:

(1) The cost studies filed by Bristol in the case, provided the information required to determine that Bristol's local telephone service, in the aggregate, meets the requirements of 15.2-2160 A and D, 56-241.1, and 56-265.4:4 of the Virginia Code: and

(2) Bristol's cost studies demonstrate that in the aggregate it does not subsidize local telephone services provided via its OptiNet System.

In the end, BVU won in all its legal and regulatory cases. However, it should be noted that the legal battles fought to defend BVU's position against the incumbent operators cost approximately $2.5 million. This money could have been used for additional "last mile" service to benefit customers.

In January 2003, BVU electric customers throughout the City of Bristol, Virginia and in a small area in Washington County, Virginia were officially notified that they could sign up for telephone, long distance and data services provided by BVU OptiNet. Because of the statutory revisions necessitated by the incumbent CATV provider's injunction, BVU

did not begin making cable television services available until July 1, 2003, the effective date of the legislative changes. Within the first year of offering service, BVU OptiNet secured over 30% of the available market (i.e. homes and businesses passed by fiber-optic backbone infrastructure).

Today, after just four years, BVU OptiNet has attained high market penetration rates and is forming partnerships which have allowed for expansion of fiber-optic backbone throughout Southwest Virginia. BVU OptiNet has approximately 65% residential market penetration in the primary service area (city limits of Bristol, Virginia). It is also notable that BVU OptiNet provides service to over half of all local businesses which are serviceable.

As previously stated, one of BVU's primary goals was to increase economic development opportunities in Bristol, Virginia and throughout Southwest Virginia. The Coalfield Coalition, a non-profit organization comprised of the LENOWISCO and Cumberland Plateau Planning District (CPPD) Commissions have begun a multi-million dollar project to expand high-capacity fiber-optic cable along a 155 mile route in Buchanan, Dickenson, Lee, Russell, Tazewell and Wise Counties. BVU was chosen to manage this project. Cumberland Plateau Company (CPC) also selected BVU to provide telecommunications services within its planning district. With a connection to this essential infrastructure, businesses will have access to broadband data services, which are currently unavailable in many areas of Southwest Virginia. Telephone services will also be available to these customers. This vital infrastructure work was possible due to federal funding secured by

Congressman Rick Boucher with the cooperation of State Senator William Wampler and other elected officials throughout the region.

In Bristol, Virginia, a new marketing effort was recently implemented. "Access Bristol" utilizes the availability of a fiber-optic infrastructure as one of the primary attractions for new industry. In nearby Russell County, where BVU has collaborated with the Cumberland Plateau Planning District, two new major employers have broken ground. High-speed data-reliant employers Northrop Grumman and CGI will hire more than 700 workers. The average salary for positions within these companies will be $50,000. These salaries are significantly higher than the region's average. Both companies attributed their decision to locate in Southwest Virginia to the availability of data products delivered via a fiber-optic infrastructure.

Has this investment in infrastructure accomplished BVU's initial goals? These goals have been met and exceeded. Local residents and businesses not only pay less for their standard priced services, but they also enjoy world-class customer service. This was quantified recently as BVU was named the winner of the prestigious 2007 Cornerstone Award in the category of outstanding customer service, an award bestowed annually by *Broadband Properties Magazine.*

BVU was the only United States utility to receive one of six Cornerstone awards this year. The Cornerstone Award recognizes companies and agencies that have achieved notable deployments of fiber-optic networks reaching directly to the home. *Broadband*

Properties Magazine recognized BVU in the customer service category because of its continuous efforts to upgrade services, manage and address the needs of more than 50,000 customer accounts, and provide a growing diversity of products.

Several factors have led to the success enjoyed by BVU OptiNet. First, BVU has provided excellent service to their community as the traditional utility service provider for over 60 years. This solid foundation was necessary to compete in this new industry. Second, customers appreciate friendly, locally provided customer service and technical support. Many, if not most, regional and national telecommunication operators do not provide local customer service. Finally, BVU offers quality products and services at affordable and stable prices over a state-of-the-art fiber-optic network.

BVU was the *first* municipality in the United States to offer the triple-play of services (telephone, cable and Internet) over a fiber-to-the-user network. Many entities, both public and private, from the U.S. and abroad, have sought knowledge and direction from the seasoned professionals at BVU. This ongoing interest in BVU's extensive knowledge base led to the April, 2007 formation of a new branding name BVU FOCUS. Under the name, BVU FOCUS, BVU provides innovative consulting, operations and management services. BVU's goal is to assist other municipal entities across the United States to find comprehensive solutions to deploy telecommunications and information services to benefit their own communities.

BVU believes that its investment in infrastructure, particularly fiber-optic infrastructure, will lead to profound long-term benefits for the City and BVU's other customers. Helping other municipal entities allows BVU to play a role in achieving a much bigger objective for our country. As the United States continues to lag behind in broadband deployment, our citizens, and businesses suffer a competitive disadvantage. In a global economy, the U.S. needs to support those who have an interest and ability to lay the solid foundation for the most important infrastructure roll out in our country's history. The lack of uniformly available high-speed broadband access in today's society is comparable to the lack of electricity, and high-speed, high-traffic highways in the past, deficiencies that were met by both private and public efforts.

The Internet is a global connection to which everyone deserves access. That means it must be affordable and available to all. Competition in the marketplace is essential for this to happen.

Sincerely,

Wes Rosenbalm, President

Bristol Virginia Utilities

EXHIBIT A

- Government Enterprise fund of the City of Bristol, VA
- Managed by President/CEO and Board of Directors
- Integral part of the City of Bristol, Virginia
- Offering electric service since 1945
- Bristol Virginia Utilities (BVU) currently provides the following services:
  - Electric to 16,141 customers
  - Water to 7,991 customers
  - Wastewater to 7,740 customers
  - Telecommunications and information services
- BVU, through its branding name, BVU OptiNet, currently provides fiber-to-the-premise (FTTP) triple-play services.
  - 7986 FTTH customers
  - 5865 Telephone customers
  - 6751 CATV customers
  - 6154 Data customers
- Manage over 50,600 accounts

102 employees

Communications Workers of America
AFL-CIO, CLC

501 Third Street, N.W.
Washington, D.C. 20001-2797
202/434-1110 Fax: 202/434-1139

Larry Cohen
President

Via Fax

September 26, 2007

The Honorable Kevin J. Martin
Chairman
Federal Communications Commission
445 12th Street S.W.
Washington, D.C. 20554

Ex Parte. WC Docket No. 05-25 and RM-10593. In the Matter of Special Access Rates for Price Cap Local Exchange Carriers.

Dear Chairman Martin:

The Commission is currently reviewing whether to re-regulate special access rates for price cap local exchange carriers. Special access services are dedicated transmission links used to distribute high capacity voice and data traffic. These dedicated access services are a growing segment of the telecommunications market, representing more than $16 billion in revenues for the largest providers of these services.

The Communications Workers of America (CWA) urges the Commission to conduct a thorough analysis of the marketplace for dedicated access services *before* taking any action to re-regulate what appears to be a highly competitive service. Any precipitous action would pose serious harm to good jobs in the industry and telephone companies' investments in high-speed Internet networks.

Skilled technicians and customer service personnel represented by CWA provision, install, maintain, sell, and service the special access lines provided by AT&T, Qwest, Embarq and other unionized telecommunications carriers.[1]

Some of the largest customers of special access services are wireless carriers that are not affiliated with wireline carriers – such as Sprint and T-Mobile – that use these dedicated lines to connect their wireless customers to the backhaul networks. These carriers would like nothing more than mandatory price reductions on their major inputs. These carriers have made no commitments to flow the benefits of such reductions to consumers. And since these are non-union companies, employees have no collective voice to ensure that a portion of the increased profits would be shared with the workforce.

[1] At Verizon, this work has traditionally been performed by union-represented employees. Verizon now contends that the company may permit employees of its Verizon Business affiliate to perform the work at wages and conditions which differ from those specified in the CWA-Verizon contract. This dispute is subject to the dispute resolution mechanism of the contract.

In contrast, the major providers of special access services are the same companies that are investing billions of dollars in next-generation high-speed Internet networks. Re-regulation and price reductions in special access services would reduce cash flow to the very companies that are investing in bringing next-generation Internet to the home. AT&T is building U-Verse capable of delivering 25 megabits per second and Verizon is deploying its FiOS fiber-to-the-home network capable of delivering 100 megabits per second in its region. These networks are essential to economic growth, and to reverse the alarming fact that the U.S. has fallen to 16th in the world in high-speed Internet penetration.

It has been nearly two decades since the Commission first recognized competition in the provision of special access services and began the process of deregulating those services. In 2001, acknowledging the highly competitive nature of this market, the Commission began granting pricing flexibility to price-cap incumbents. Since then, according to a recent Government Accountability Office (GAO) report on dedicated access services, prices have fallen by five to six percent.

The GAO report concluded that the Commission does not have sufficient data to determine the level of competition in the special access market. Competitors to the traditional phone companies are under no obligation to disclose where they have deployed their facilities that offer special access services and have not done so. Therefore, the number of competitors in the market is seriously understated. Most significant, the GAO report did *not* recommend re-regulation of the special access market.

CWA urges the Commission to ensure that it has complete and comprehensive information regarding the state of competition in the special access market *before* taking any action to re-regulate these services.

Sincerely,

Larry Cohen
President

cc: The Honorable Jonathan S. Adelstein
The Honorable Michael J. Copps
The Honorable Deborah Taylor Tate
The Honorable Robert M. McDowell

The Honorable John Dingell, Chairman
Committee on Energy and Commerce
United States House of Representatives
Washington DC 20515

October 1, 2007

Dear Chairman Dingell:

On behalf of Consumers Union, I am writing to you to express our strong support for efforts to address the incumbent local exchange carriers' (ILECs') stranglehold over numerous critical special access services. As has been already clearly stated in the FCC record in this proceeding, special access services are important to consumers because many of their daily activities are dependent upon these services. When consumers place wireless calls, access the Internet or email, or use an automated teller machine (ATM), special access services often knit those transactions together.

Unfortunately, as reinforced by the November 29, 2006 GAO Report to the U.S. House Committee on Government Reform Chairman, little competition exists for these critical special access connections in much of the country, particularly for DS-3 (and below) levels. As such, the ILECs can affect consumers' ability to access services at reasonable rates. In addition, and perhaps more perniciously, the high cost of numerous special access services can also retard the innovation and introduction of new cutting edge technologies.

The record in the special access docket shows that ILEC overcharges are growing and now amount to a significant portion of the approximately $16 Billion per year that the ILECs receive for special access services—some estimates show these overcharges at almost $8 billion per year. To be clear, consumers pay for these excessive ILEC special access overcharges, through higher rates, lost competition, and lost innovation.

The Commission's record is replete with evidence that the ILECs dominate significant portions of the special access market, and are exploiting their market power to the detriment of consumers and competition. The record in this proceeding clearly documents numerous ways ILECs have used their dominance in the special access market. A number of these examples were articulated by carriers now silenced through

ILEC acquisitions – AT&T Corp. and MCI. In addition to execessive rates, one of the examples of ILEC abuses included ILEC special access "lock-in." Tariff provisions which the ILECs called "volume discounts" were really dependent upon long term commitments of nearly 100% of the customers' existing communications traffic. The common effect of these ILEC abuses was to ensure that the customer's traffic was not available to a potential competitor if one were available.

These anti-competitive contract clauses should be scrutinized; the agency should not countenance ILEC abuse of market power. We urge Congress to act to ensure that the interests of consumers, not the bottom line of phone monopolies, are made paramount in this important proceeding.

Respectfully submitted,

Chris Murray, Senior Counsel
Consumers Union